Attachment 7

4 Elements Consulting Technical Reporting

Ecological Constraints Assessment

Material Change of Use – Lot 2 SP106972

August 2024

Ecological Constraints Assessment

Material Change of Use – Lot 2 SP106972

Revision History

Version	Purpose	Issued by	Date	Reviewer	Date
1.0	Draft	R Hughes	27-08-2024	M Brown	28-08-2024
1.1	Alignment Update	J. Coase	04-09-2024	M. Brown	06-09-2024

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Appendices

1.0 Introduction

Four Elements Consulting was commissioned by the Bengali Land Pty Ltd to undertake an environmental constraints assessment for a proposal seeking approval for Reconfiguring a Lot (1 Lot into 2 Lots and Easement), Preliminary Approval for a Variation Request for a Material Change of Use for specific uses - Currunda Creek Trades and Services Precinct, and a Preliminary Approval for Reconfiguring a Lot (1 Lot into 4 Lots, Road Reserve and Drainage Reserve), on land at 626R Redlynch Intake Road, known as Lot 2 on SP106972 (the subject site). This assessment focuses wholly on the second and third components of the application, which seek to provide a framework for establishment of the Currunda Creek Trades and Services Precinct (Figure 1).

This ecological constraints assessment was undertaken to identify the potential for any significant impact to Matters of National Environmental Significance (MNES), Matters of State Environmental Significance (MSES) and Matter of Local Environmental Significance as a result of potential vegetation clearing that may be required to establish the proposal. Results from this constraints assessment will inform strategies to avoid or mitigate impacts to any potential environmental constraints present within the project site. Recommendations will outline which relevant permits and approvals will be required to be obtained through federal, state and local council regulators.

For the purposes of this report,

- The proposed clearing alignment is the disturbance footprint for the subdivision.
- The project site is entire eastern portion of Lot 2 SP106972.
- The locality is within ~10 km of the project site and;
- The region is the Wet Tropics Bioregion

1.1 Project Site Description

The project site is located on the eastern half of Lot 2 SP106972 (see **Figure 1**). This boundary is delineated by the cleared edge of a ~250 m wide remnant vegetation band on the western boundary (see **Figure 2**). No remnant vegetation category B is present within the proposed alignment. As such the proposal is located within category X non remnant and category R Regrowth. Most of the vegetation requiring clearance is mapped as category X non-remnant vegetation under the Vegetation Management Act 1999.

A single third order waterway (Currunda Creek) flows from Dinden National Park to the west of the property where the waterway catchment originates. This then flows southeast through the property continuing east into the project site before flowing into Freshwater Creek east of Redlynch Intake Road. The riparian vegetation along the east of Currunda Creek is highly disturbed and is largely cleared or exists as a narrow band (~20 m) with a high proportion of exotic canopy trees present. Further to the west of the property, immediately outside of the proposed clearing alignment, the riparian corridor is of much higher ecological condition as it broadens to ~50 m width. Existing bed-level crossings provide access to the southern portion of the project site where woody vegetation is present on steep banks and gullies bordering cleared grazing paddocks.

1.1.1 Historical Project Site Use

The historic use of the project site was for rock extraction and stockpiling of rock under a quarrying operation. This has resulted in significant disturbance to the original ground profile and historic removal of native vegetation. After quarry operations ceased, the property was then subject to low intensity cattle grazing prior to the current landowner acquiring the property.

1.1.2 Existing Project Site Land Use

The existing project site usage is for a horse agistment and riding facility where a series of fenced grazing paddocks are located either side of a 3rd order waterway named Currunda Creek. Additional infrastructure supporting this operation includes an open side shed (~75 m x 35m), carpark, site office and toilet block facility. An unsealed internal vehicle track runs parallel to Currunda Creek, along its northern bank and functions as the entry to the property from Redlynch Intake Road. An unsealed vehicle track connects grazing paddocks to the south via two existing bed level crossings through Currunda Creek.

1.1.3 Proposal Description

The proposal is seeking to establish a 4-lot subdivision on the eastern portion of Lot 2 SP106972 (see **Figure 1**). Existing access will be maintained/upgraded via the Redlynch Intake Road. A sealed access road will be constructed immediately north of the existing unsealed vehicle access with formalisation of a bridge crossing over Currunda Creek to the south. On the south of Currunda Creek an existing rough vehicle track will be formalised to a sealed road.

The existing Currunda Creek riparian corridor will be revegetated (Drainage reserve legend item in Figure 1).. In the southwest of the project site an ephemeral drainage easement will retain existing regrowth vine forest to a width of 30 m. A 20 m width visual amenity buffer will incorporate an ephemeral drainage line on the far southwest of the project site which will further retain regrowth vine forest. A 10 m vegetation buffer will be planted fronting the Redlynch Intake Road for visual amenity.

1.2 Scope of Works

The objectives of this assessment were to:

- Undertake a desktop review to identify the potential for the proposed project to impact on Matters of State Environmental Significance (MSES) and Matters of National Environmental Significance (MNES) within the property.
- Assess the likelihood of the proposal having a significant impact on any threatened community, or flora and fauna species or populations listed under Queensland's *Nature Conservation Act 1992* (NCA 1992) and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act 1999).
- Provide recommendations to reduce impacts to environmental values, sensitive environments, and populations of threatened flora and fauna; and

- Identify the necessary approvals and any additional works required to meet statutory requirements related to managing ecological assets within the property.

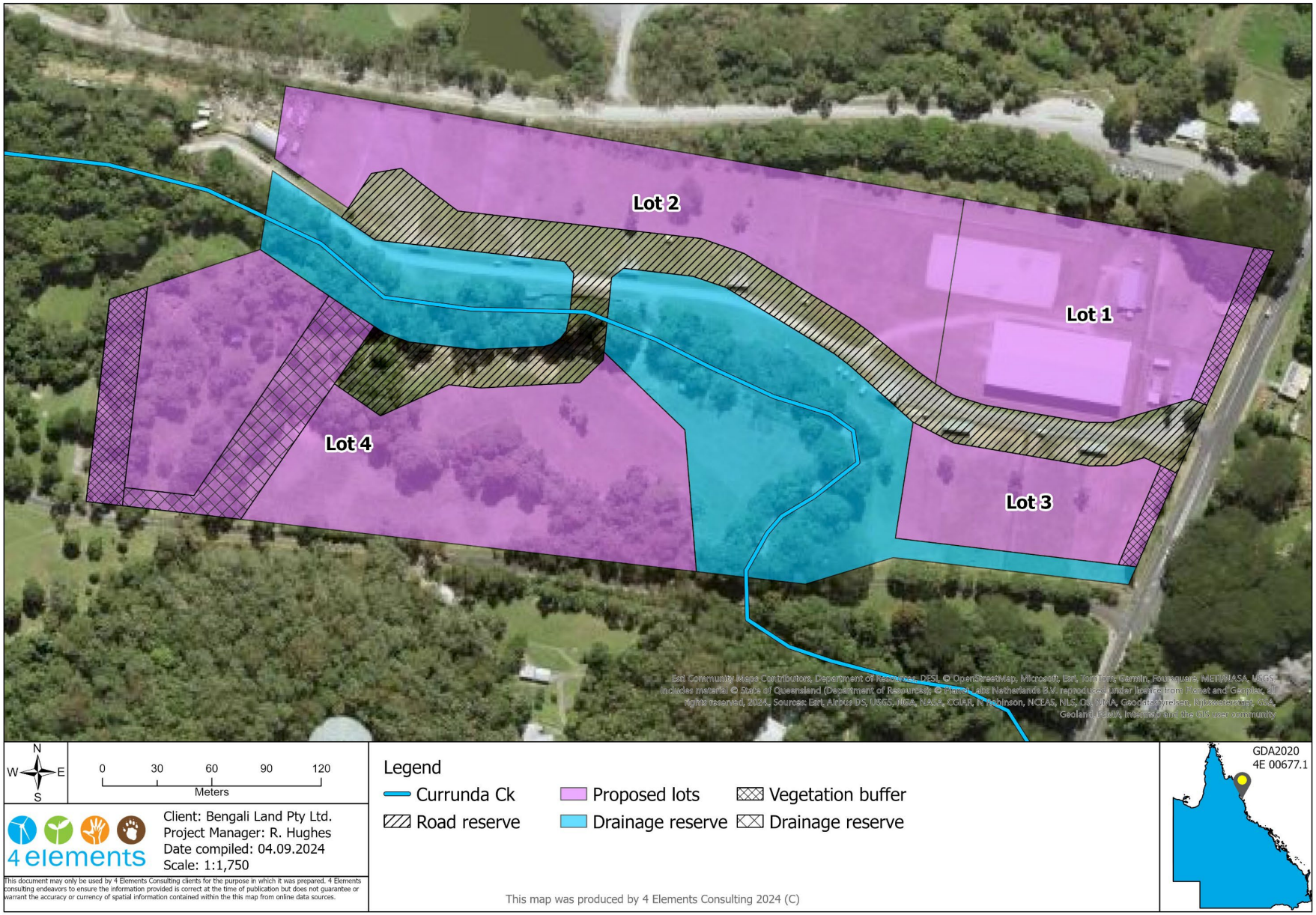

Figure 1. Proposed Subdivision Alignment

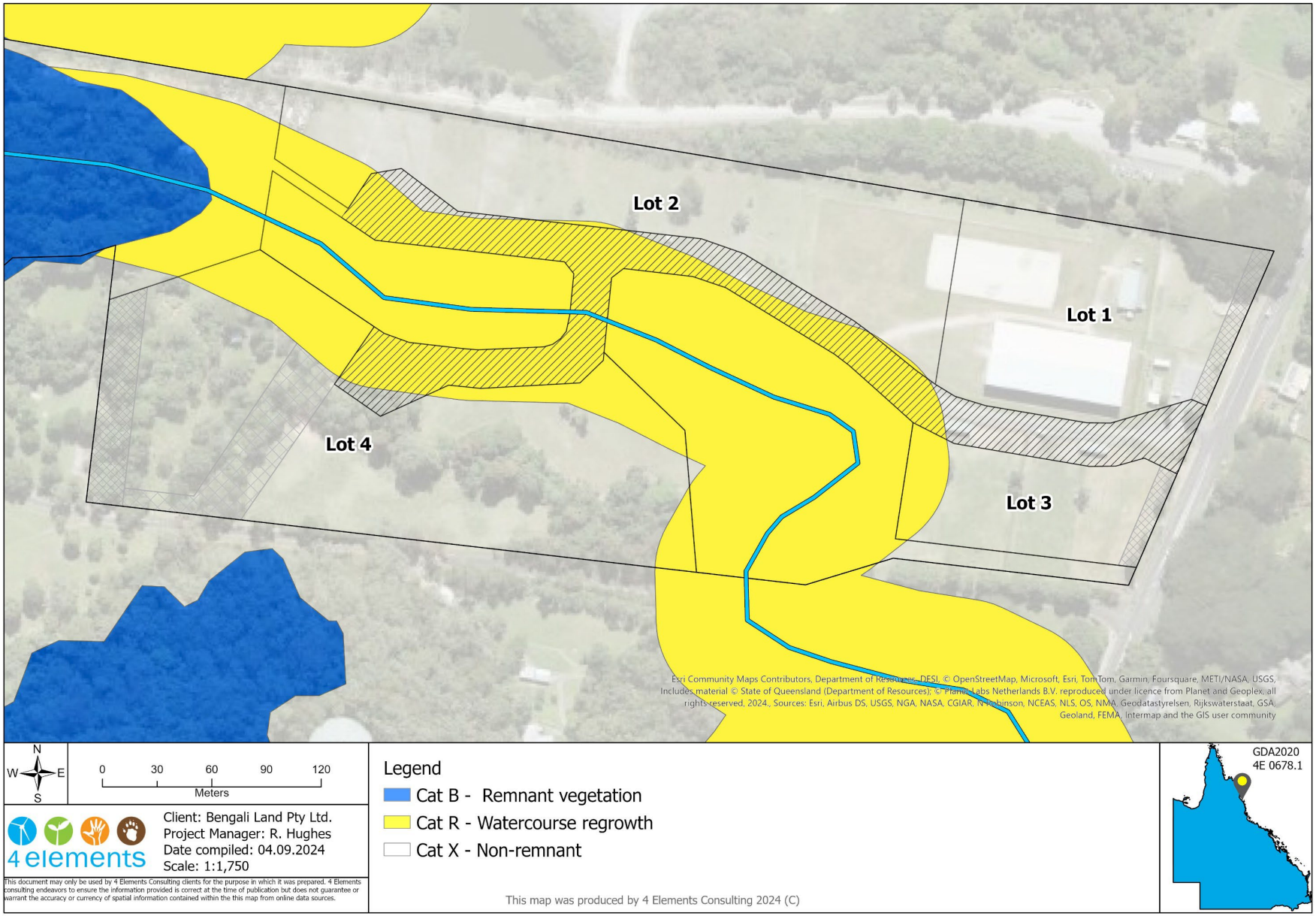

Figure 2. Project Site Regulated Vegetation Mapping

1.3 Statutory Considerations

The following legislation, provided in **Table 1,** are relevant to identifying ecological values and provide guidance for the assessment of potential project impacts and environmental constraints to project activities.

Table 1. Statutory Legislation Applied to the Property and Project Site

Legislative Act	Brief Description
Commonwealth Legislation	
Environment Protection and Biodiversity Conservation Act 1999	The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a mechanism for assessing the environmental impact of activities and development where "Matters of National Environmental Significance" (MNES) may be significantly affected. The Act identifies nine matters of NES, which require consideration and analysis, namely: Ramsar wetland of international importance; World Heritage properties; National Heritage places; Commonwealth Marine areas; Great Barrier Reef Marine Park; Nationally listed threatened species and ecological communities; Nationally listed migratory species; Nuclear actions (including uranium mining); and Water resources in relation to coal seam gas and large coal mining development. Where a project or action is believed to potentially cause a significant impact on a matter of NES, it is to be referred to the Australian Government Department of Climate Change, Energy, Environment and Water (DCCEEW) for assessment as to whether the action is a 'controlled action' requiring Commonwealth approval for the proposed action. The *EPBC Act* processes also allow voluntary referral of a project to seek confirmation that a Project will not have significant impacts on matters of NES. Where an action requires Commonwealth approval, a formal assessment process is undertaken in accordance with provisions of relevant legislation.
State Legislation	
Vegetation Management Act 1999	The *Vegetation Management Act 1999* (VMA) is the planning initiative underlying regional management of vegetation in Queensland, including clearing of vegetation types, termed Regional Ecosystems (REs). The RE classification is a hierarchical system formed by a three-part code with the primary subdivision being bioregion, followed by land zone, and then vegetation. The biogeographic region or bioregion is the primary level of classification for biodiversity values in Queensland describing where the RE is found on a state-wide basis. Land Zones are geological and geomorphic categories that describe the major geologies and landforms of Queensland. The system is based primarily on geology, with geologic age considered an important determinant. The status of REs is based on their pre-clearing and remnant extent and is gazetted under the Act and listed in the RE Description Database (REDD) maintained by the Queensland Department of Resources (DR).

Legislative Act	Brief Description
	The VMA aims to conserve remnant endangered and of concern REs, prevent land degradation and further loss of biodiversity, manage the environmental impacts of clearing vegetation and reduce of greenhouse emissions. The VMA status of a RE is described in line with the following: Endangered. A RE that is prescribed under the regulation and has either of the following attributes: ❖ Less than 10% of its pre-clearing extent remaining; or ❖ From 10% to 30% of its pre-clearing extent remaining and the remnant vegetation remaining is less than 10,000 ha. Of concern. A RE that is prescribed under the regulation and has either of the following attributes: ❖ From 10% to 30% of its pre-clearing extent remaining; or ❖ More than 30% of its pre-clearing extent remaining and the remnant vegetation remaining is less than 10,000 ha. Least concern. A RE that is prescribed under the regulation and has more than 30% of its pre-clearing extent remaining and the remnant vegetation remaining is more than 10,000 ha. The biodiversity status of a RE is classified by DES based on the condition of remnant vegetation. A RE will have a vegetation management status and/or a biodiversity status of endangered, of concern or least concern. Essential Habitat. The VMA also has provision for the regulation of essential habitat for species of state significance. Essential habitat (mapped by DES) is vegetation in which a listed species has been known to occur. Clearing or disturbance to areas of essential habitat will require compensatory habitat measures to be developed. For the project development area, core habitat has been used to describe the combination of critical or essential habitat for both national or state listed significant species.
Planning Act 2016	The Planning Act (2016) (Qld) establishes the framework for the Queensland planning system. The purpose of the legislation is to establish an efficient and accountable system of land-use planning and development assessment that will lead to ecological sustainability. The Planning Act defines ecological sustainability as a balance between: The protection of ecological processes and natural systems at local, regional, state and national levels; Economic development; and The cultural, economic, physical and social wellbeing of Queenslanders. The Planning Regulation (2017) and the State Planning Policy (2017) are to guide local and state government in land use planning and development by defining the Queensland Government policies relating to matters of State interest.
Nature Conservation Act 1992	**The Nature Conservation Act 1992 (NCA)** aims to conserve nature through strategies such as dedicating and declaring protected areas for those parts of Queensland with outstanding biological diversity, natural features and wilderness values. The NCA provides for the protection of special least concern, near threatened, vulnerable and endangered animals and plants. **Nature Conservation (Animals) Regulation 2020** has replaced the Nature Conservation Wildlife Regulation (2006) and introduces a new wildlife licensing framework but incorporates and streamlines existing provisions from the regulations that it replaces. In general, an animal authority under the Animals Regulation must not be granted where activities are likely to adversely affect

Legislative Act	Brief Description
	conservation or ecological sustainability of native wildlife. The demerit points system for offences against the Act has been retained. There is now one overarching offence provision for breaching the conditions of an authority, with a higher offence for failure to comply with a record-keeping or return of operations condition. **Nature Conservation (Plants) Regulation 2020** transfers all existing plant provisions into a single stand-alone regulation that were contained in the previous Nature Conservation Wildlife Regulation (2006). The new Plants Regulation retains and streamlines many of the existing provisions in the Administration, Wildlife and Wildlife Management Regulations. The allowances for taking protected plants, including under a conservation plan, an authority (such as a clearing permit) or an exemption are retained in the Plants Regulation and there are no significant amendments to these provisions.
Queensland Fisheries Act 1994	The *Fisheries Act 1994* (Fisheries Act) provides for the use, conservation and enhancement of the community's fisheries resources and fish habitat by providing for, amongst other things, the protection of fish habitats. The *Fisheries Act* has been integrated into the *Sustainable Planning Act 2009* (SP Act) so development permits under the SP Act are required for certain operational works that are assessable development under the SP Act. Operation works that are assessable development under the SP Act include waterway barrier works and works in a declared fish habitat.
Biosecurity Act (2014)	The Queensland Government's *Biosecurity Act 2014* is administered by the Department of Agriculture and Fisheries (DAF). The Act provides management measures to protect agricultural and tourism industries and the environment from pests, diseases and contaminants. Under the Act, invasive plants and animals are categorised as either a 'Prohibited Matter' or a 'Restricted Matter' and replace the 'Declared' status under the Land Protection (Pest and Stock Route Management) Act 2002 which has been superseded.
Environmental Protection Act 1994	The *Environmental Protection Act 1994* (EP Act) provides the key legislative framework for environmental management and protection in Queensland. The EP Act utilises a number of mechanisms to achieve its objectives. Relevant to this project is the requirement for the establishment of a general environmental duty, under Section 319 of the EP Act. Section 319 of the EP Act places a general environmental duty on Bengali Land Pty Ltd to ensure 'it does not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm'. By undertaking the preparation of this detailed ecological investigation, Bengali Land Pty Ltd demonstrates that it is cognisant of the responsibilities for environmental protection and management in Queensland.

Legislative Act	Brief Description
Water Act 2000	The purpose of the *Water Act 2000* is to provide for the sustainable management of water and other resources. Under Section 266 of the *Water Act 2000*, a riverine protection permit is generally required from the DR to: Destroy vegetation in a watercourse; Excavate in a watercourse; and Place fill in a watercourse. Additionally, water supply for construction purposes (e.g. access track construction/compaction, dust suppression etc) may be required. Where this water supply is proposed to be sourced from nearby watercourses, a permit in accordance with Section 237 of the *Water Act 2000* will be required from DR prior to any water being extracted from the watercourse.
Environmental Offsets Regulation 2014	Matters of State Environmental Significance (MSES) are referenced in the biodiversity State interest under the State Planning Policy (SPP) and are mapped by the Queensland Government. The Environmental Offsets Regulation 2014 also prescribes MSES for the purposes of the environmental offsets legislation in Queensland. Many of the MSES in the Environmental Offsets Regulation 2014 coincide with the MSES listed under the SPP, however, there are additional items listed under the Environmental Offsets Regulation 2014 that are not listed in the SPP. The MSES mapping includes certain environmental values that are protected under Queensland legislation such as State conservation areas, marine parks, waterways and wetlands, protected habitat, fish habitat, regulated vegetation, connectivity areas and offset areas. MSES defined under the SPP and Environmental Offset Regulation 2014 include the following: protected areas (including all classes of protected area except coordinated conservation areas) under the NC Act; marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the Marine Parks Act 2004; marine plants areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008 waterways providing fish passage, threatened wildlife under the NC Act and special least concern animal under the Nature Conservation (Animal) Regulation 2020 regulated vegetation under the Vegetation Management Act 1999 (VM Act) that is: ❖ Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems. ❖ Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems. ❖ Category R areas on the regulated vegetation management map. ❖ areas of essential habitat on the essential habitat map for wildlife prescribed as 'endangered wildlife' or 'vulnerable wildlife' under the NC Act. ❖ regional ecosystems that intersect with watercourses identified on the vegetation management watercourse map. ❖ regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map. ❖ high preservation areas of wild river areas under the Wild Rivers Act 2005.

Legislative Act	Brief Description
	connectivity areas containing remnant vegetation Category B as depicted in the Environmental Offset Landscape Connectivity Assessment Tool. ❖ Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Referable Wetlands under the Environmental Protection Regulation 2008. ❖ Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water and Wetland Biodiversity) Policy 2019) ❖ Legally secured offset areas

1.4 Weed Management Legislation

Weed species can interrupt natural landscape function and may lead to significant economic impacts. Weeds are managed by being declared under on or all the three (3) relevant legislation and or local law outlined below.

1.4.1 Weeds of National Significance

The Australian state and territory governments have compiled a list of invasive plant species based on an assessment process that prioritised these weeds based on their invasiveness, potential for spread and environmental, social and economic impacts. Consideration was also given to their ability to be successfully managed. A list of 20 WoNS was endorsed in 1999 and a further 12 were added in 2012.

1.4.2 Biosecurity Act 2014 (Queensland)

1.4.2.1 Prohibited Invasive Plant

Prohibited matter includes a range of invasive plants and invasive animals and other types of pests and diseases listed in the Act. These plants have the potential to have significant impacts and are currently not present or known to be present in Queensland. It is an offence to deal with prohibited matter or fail to report its presence.

1.4.2.2 Restricted Invasive Plants

These species are established in Queensland and seriously threaten Queensland's primary industries, natural environment, livestock, human health and people's livelihoods.

Under the *Biosecurity Act 2014*, there are 7 categories of restricted matter (i.e., restricted matter may include matter such as plants, animal diseases, noxious fish, insects, pest animals and weeds).

Restricted invasive plants may fall into 1, a combination of, or all of priority categories 1 to 5 (listed below). Under each, the restricted invasive plant has listed restrictions. The specific restriction requirements also apply to a person when dealing with restricted invasive plants unless they have a restricted matter permit.

Restricted invasive plant categories and restrictions:

Category 1: relates to biosecurity matters other than plants.

Category 2: the invasive plant must be reported within 24 hours Biosecurity Queensland on 13 25 23.

Category 3: the invasive plant must not be distributed either by sale or gift or released into the environment.

Category 4: the invasive plant must not be moved.

Category 5: the invasive plant must not be kept.

All landowners have a general biosecurity obligation (GBO) under the *Biosecurity Act 2014 to* take reasonable and practical steps to minimise the risks associated with invasive plants and animals under their control *regardless of its category status.* Weeds that are not listed under the *Biosecurity Act 2014* may still be declared at the local government level.

1.4.3 Cairns Region Biosecurity Plan (2019-2024)

The Cairns Region Biosecurity Plan has been developed to provide a framework for management of declared and non-declared pest plants and animals in the Cairns Regional Council Local Government area.

The plan also outlines areas of responsibilities for individuals, agencies and organisations involved in pest management. It provides landholders with strategic direction and some simple tools to enable them to set priorities for pest management on their own property.

Under the plan, weed species are allocated a ranking, where weeds with the highest score are given the highest priority for control. The highest score an individual pest plant can receive is 40.5. This score is based on the listing under national and state legislation, the current distributional extent and potential economic, social and environmental impacts as well as the likelihood of a beneficial control outcome.

The Cairns Regional Council priority weeds, WoNS and declared weeds *Biosecurity Act 2014* occurring within or near the site are listed in Section 4.3.

2.0 Methodology

2.1 Desktop review

4 Elements Consulting completed a review of relevant mapping, databases, legislation and associated plans and policies to identify potential matters of ecological significance. These include listed threatened species and vegetation communities, and other ecological features that may occur on or within proximity to the site. This review included an assessment of the following:

- Wildlife Online database of flora and fauna (DES 2024a). This database holds records of plants and animals that have either been sighted or collected within a given radius of the property (a search parameter was prescribed limiting the search area to a 10 km radius around the property. The records held in this database are maintained by DES.
- Protected Matters database of MNES (DCCEEW 2024). This database applies a range of bio-models to predict the presence of species of flora and fauna and other MNES within a given radius of the property (a search parameter was prescribed limiting the search area to a 5 km radius) as cited under the Commonwealth's EPBC Act.
- Protected Matters database of MSES (DES 2024b). This database applies a range of bio-models to predict the presence of species of vegetation and other MSES within a given radius of the property (a search parameter was prescribed limiting the search area to 10 km).
- Review of relevant legislation and associated plans and policies, including but not limited to the QLD NC Act, VM Act, EPBC Act, and the Water Act.
- Literature review. A range of scientific papers, recovery and conservation plans and other ecological assessment and literature were reviewed for a number of related matters (such as targeted threatened species).
- Digital mapping on Queensland Globe to determine vegetation communities within and surrounding the property, and to review the extent of historical clearing and land use, and any other significant environmental features such as watercourses and wetlands.
- Australian Virtual Herbarium (for voucher notes and distribution records of threatened flora species).

2.2 Field Survey Methodology

2.2.1 General Field Survey

A field investigation was undertaken by 4 Elements Consulting Botanist Ryan Hughes over a single day Thursday 15 August 2024. The purpose was to assess the ecological condition of the project site and provide information on the following;

- Presence/absence of suitable habitat for threatened flora and fauna species.
- Condition and disturbance history of habitat.
- Location of site within known distribution of threatened species.

- Connectivity assessment with habitat where threatened species have potential or are known to occur.
- Structural and floristic characteristics of the vegetation.
- Soil type and structure and dominant landform description (visual only).
- Presence of water in any form e.g., rivers, dams, creeks, drainage lines, soaks.
- Size and abundance of hollows and coarse woody debris (CWD).
- Presence of sandbanks, shallow wading areas, rock walls, saltmarsh, roost areas, etc; and
- Presence of mistletoe, nectar, gum, seed, sap sources, browse trees.

2.2.1.1 Regional Ecosystem Verification

Delineation of regional ecosystem distributions across the project was achieved using quaternary level assessments, or rapid plots, as per the QBEIS methodology v7.0 (Neldner *et al* 2023). These assessments are designed to capture information quickly targeting soil and landform and key species within each vegetation structural layer. This information is generally sufficient to determine the identity of a regional ecosystem. This then allows the confirmation or alteration of regional ecosystem polygon boundaries when mapping vegetation communities across the project site. A total of nine (9) quaternary surveys were undertaken throughout the project site (**Figure 3**).

2.2.1.2 Weed Assessment

Weeds were identified during the field survey. All records were GPS located and notes on infestation size and ecological impacts noted. Any legislative requirement for management of weed species are addressed in **Section 4.3** below.

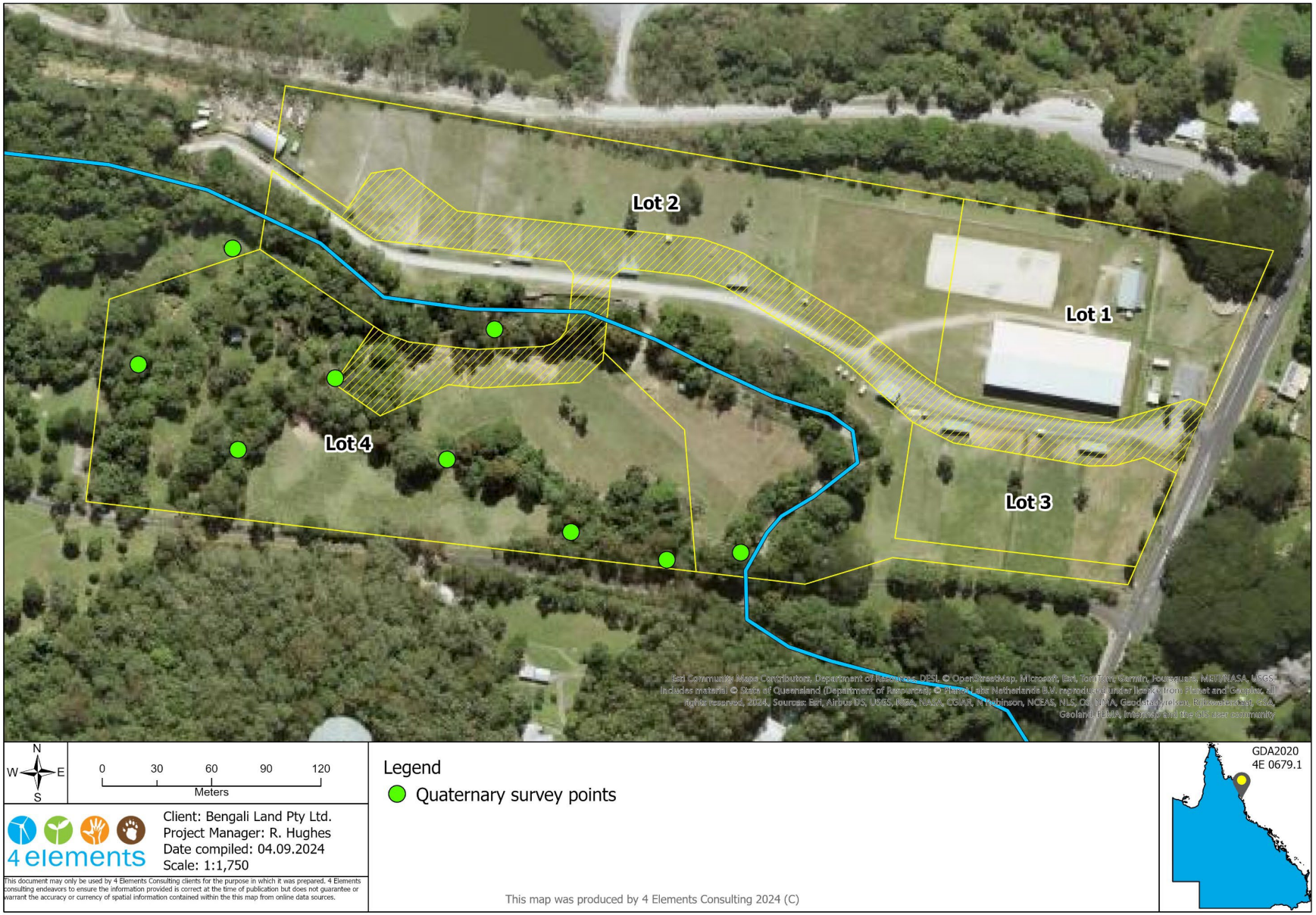

Figure 3 Quaternary Plot Survey Locations

3.0 Results

3.1 Desktop Analysis Results

3.1.1 EPBC and NCA Database Search

Desktop searches were made of the:

Environment Protection and Biodiversity Act 1999 (EPBC Act) Protected Matters database (**Appendix A**).
Nature Conservation Act 1992 (NCA Act) Environmental Reports online:

- Protected Matters Search Tool (**Appendix A**)
- Wildlife Online (**Appendix B**)
- Potential Occurrence Assessment (**Appendix C**)

3.1.2 EPBC Act Protected Matters Search Tool

A 10 km radius from a central point (-16.9327, 145.6890) within the project site was applied in the search tool to identify the locality. Searches of the EPBC Act Protected Matters Search Tool returned records of 65 threatened fauna and 30 threatened flora potentially occurring within the locality. All species dependent on estuarine or marine environments have been excluded in this assessment given the distinct lack of suitable habitat within the project site. A refined list was therefore complied which included 30 plants, 4 frogs, 5 birds, 1 reptile and 13 mammals (refer **Table 2** below). The complete online EPBC protected matters search tool output results are provided in **Appendix A**.

3.1.3 NC Act Wildlife Online

The *Nature Conservation Act 1992* (NC Act) Wildlife Online database search was based on a 10 km radius from a central point within the project site (-16.9327, 145.6890). The search returned a total of records of 55 threatened species within the locality. All species dependent on estuarine or marine environments have been excluded in this assessment given the distinct lack of suitable habitat within the project site. A refined list was therefore complied which included six (6) frogs, four (4) birds, seven (7) mammals, one (1) reptile and 26 plants (refer **Table 2** below). The complete online search results are provided in **Appendix B**.

3.1.4 Combined Potential Occurrence

Condensed results *which summarise the results of all search outputs* are combined in (**Table 2**) and identify that 41 flora and 26 fauna which are endangered, vulnerable or near threatened (EVNT) species which have potential to occur within or near the proposed site.

Appendix C assesses the risk of EVNT species known to occur within the locality and their potential of occurring on the project site. This risk was considered after the property assessment was completed.

Table 2: Potentially occurring threatened species (EPBC Act and NC Act)

Common Name	Scientific Name	Status EPBC Act	Status NC Act
Threatened fauna			
Birds			
Southern Cassowary	*Casuarius casuarius johnsonii*	E	E
Macleay's Fig Parrot	*Cyclopsitta diophthalma macleayana*	-	V
Red Goshawk	*Erythrotriorchis radiatus*	V	V
White-throated Needletail	*Hirundapus caudacutus*	V	V
Grey Falcon	*Falco hypoleucos*	V	V
Northern Masked Owl	*Tyto novaehollandiae kimberli*	V	V
Amphibians			
Australian Lacelid	*Litoria dayi*	V	V
Waterfall Frog	*Litoria nannotis*	V	E
Kuranda Tree Frog	*Litoria myola*	CR	CE
Mountain Mistfrog	*Litoria nyakalensis*	CR	CE
Common Mistfrog	*Litoria rheocola*	-	E
Green-eyed Tree Frog	*Litoria serrata*	-	V
Sharp-snouted Day Frog	*Taudactylus acutirostris*	EX	PE
Tinkling Frog	*Taudactylus rheophilus*	CR	CE
Freshwater Fish			
Cairns Rainbowfish	*Cairnsichthys rhombosomoides*	E	-
Lake Eacham Rainbow Fish	*Melanotaenia eachamensis*	E	-
Opal-cling Goby	*Stiphodon semoni*	CE	-
Reptiles			
Estuarine Crocodile	*Crocodylus porosus*	-	V
Merten's Water monitor	*Varanus mertensi*	E	E
Mammals			
Northern Bettong	*Bettongia tropica*	E	E
Northern Quoll	*Dasyurus hallucatus*	E	LC
Spotted-tail Quoll	*Dasyurus maculatus gracilis*	E	E
Diadems leaf-nosed Bat	*Hipposideros diadema reginae*	-	NT
Semons Leaf-nosed Bat	*Hipposideros semoni*	V	V
Ghost Bat	*Macroderma gigas*	V	E
Black-footed Tree Rat	*Mesembriomys gouldii rattoides*	V	LC
Tube-nosed insectivorous bat	*Murina florium*	-	V

Common Name	Scientific Name	Status EPBC Act	Status NC Act
Northern Greater Glider	*Petauroides minor*	V	V
Yellow-bellied Glider	*Petaurus australis brevirostrum*	V	V
Koala (Qld, NSW & ACT)	*Phascolarctos cinereus*	E	E
Spectacled flying-fox	*Pteropus conspicillatus*	E	E
Large-eared horseshoe Bat	*Rhinolophus robertsi*	V	V
Bare-rumped Sheathtail Bat	*Saccolaimus saccolaimus nudicluniatus*	V	E
Coastal Sheathtail Bat	*Taphozous australis*	-	NT
Water Mouse	*Xeromys myoides*	V	V
Threatened Flora			
-	*Acalypha lyonsii*	V	-
-	*Alpinia hylandii*	-	NT
Red Silky Oak	*Alloxylon flammeum*	V	V
-	*Archontophoenix myolensis*	E	E
-	*Argophyllum curtum*	-	NT
Hairy-Joint Grass	*Arthraxon hispidus*	V	V
-	*Austromuellera trinervia*	NT	-
-	*Bryobium dischorense*	V	-
Haines's Orange Mangrove	*Bruguiera x hainesii*	CR	CR
-	*Canarium acutifolium* var. *acutifolium*	V	V
-	*Carronia pedicellata*	E	E
-	*Coleus gratus*	E	E
-	*Crepidomanes majoriae*	-	CR
Thin Feather Orchid	*Dendrobium callitrophilum*	V	V
Dark-Stemmed Antler Orchid	*Dendrobium mirbelianum*	E	E
-	*Dendrobium nindii*	E	E
	Dinosperma longifolium	E	-
-	*Diplazium cordifolium*	V	V
-	*Diplazium pallidum*	V	V
-	*Eleocharis retroflexa*	V	V
-	*Grevillea glossadenia*	V	V
-	*Leichhardtia araujacea*	CR	CR
Ant Plant	*Myrmecodia beccarii*	V	V

Common Name	Scientific Name	Status EPBC Act	Status NC Act
-	*Parsonsia largiflorens*	E	-
Lesser Swamp Orchid	*Phaius australis*	E	E
Forest Swamp Orchid	*Phaius pictus*	V	V
Moth Orchid	*Phalaenopsis rosenstromii*	E	E
Blue Tassel Fern	*Phlegmariurus dalhousieanus*	E	CR
Water Tassel Fern	*Phlegmariurus delbrueckii*	V	V
Rat's Tail Tassel Fern	*Phlegmariurus filiformis*	CR	E
-	*Phlegmariurus lockyeri*	V	V
Rock-tassel Fern	*Phlegmariurus squarrosus*	CR	CR
Square Tassel Fern	*Phlegmariurus tetrastichoides*	V	V
Middle Filmy Fern	*Polyphlebium endlicherianum*	V	E
-	*Polyscias bellendenkerensis*	V	V
-	*Prostanthera athertoniana*	-	CR
-	*Prostanthera clotteniana*	CE	E
-	*Randia audasii*	-	NT
Iron Malletwood	*Rhodamnia sessiliflora*	E	-
-	*Rhodomyrtus canescens*	E	-
-	*Rhodomyrtus pervagata*	E	-
-	*Spathoglottis paulinae*	-	NT
-	*Tomophyllum walleri*	V	V
Cooktown Orchid	*Vappodes lithicola*	V	V
-	*Vinetoxicum rupicola*	E	E
-	*Whyanbeelia terrae-reginae*	-	NT
-	*Wetria australiensis*	-	V
Velvet Jewel Orchid	*Zeuxine polygonoides*	V	V
Key: Ex: extinct, CE: Critically Endangered; E: Endangered; V: Vulnerable; NT: Near Threatened			

3.1.5 EPBC Act MNES Search Tool

Matters of National Environmental Significance (MNES) are matters pursuant to the *EPBC Act*. The results of the MNES search are provided in **Table 3**. The search was undertaken using a 10 km radius from the centre of the project site. Total counts for listed migratory and marine species have been adjusted to exclude those species that are entirely dependent on pelagic/marine ecosystems.

Table 3 Protected Matters Search Tool (PMST) Results

Category	Result
Matters of National Environmental Significance	
World Heritage Properties	2
National Heritage Places	3
Wetlands of International Importance	None
Great Barrier Reef Marine Park	None
Commonwealth Marine Area	None
Listed Threatened Ecological Communities	2
Listed Threatened Species	64
Listed Migratory Species	40
Other Matters Protected by the EPBC Act	
Commonwealth Land	2
Commonwealth Heritage Places	None
Listed Marine Species	37
Critical Habitats	None
Commonwealth Reserves Terrestrial	None
Commonwealth Reserves Marine	None
Nationally Important Wetlands	1

3.1.5.1 Migratory and Marine Species

A total of 68 species, listed under the *EPBC Act 1999* as either migratory and or marine species, were identified in the search area by the PMST. A summary list which excludes all exclusively marine and estuarine dependent species given the distinct lack of suitable habitat within the project site. The refined list of potential occurrences for migratory and marine species is provided in **Table 4** and assessment of their potential occurrence within the property is presented in **Appendix E**. The comprehensive migratory species list including marine dependent species is provided in the PMST output in **Appendix A.**

Table 4 Potential Occurrences – EPBC Migratory and Marine Species

Common Name	Scientific Name	EPBC Act Status	NC Act Status
Fork-tailed Swift	*Apus pacificus*	Mi, Ma	SL
Oriental Cuckoo	*Cuculus optatus*	Mi	SLC
White-throated Needletail	*Hirundapus caudacutus*	V, Ma, Mi	V
Barn Swallow	*Hirundo rustica*	Mi, Ma	SL
Black-faced Monarch	*Monarcha melanopsis*	Mi, Ma	SL
Yellow Wagtail	*Motacilla flava*	Mi, Ma	SL
Satin Flycatcher	*Myiagra cyanoleuca*	Mi, Ma	SL
Eastern Osprey	*Pandion cristatus*	Ma, Mi	SL
Rufous Fantail	*Rhipidura rufifrons*	Ma, Mi	SL
Spectacled Monarch	*Symposiachrus trivirgatus*	Ma, Mi	SL
Saltwater Crocodile	*Crocodylus porosus*	Mi, Ma	V
Mi: Migratory, Ma: Marine, CE: Critically Endangered, E: Endangered, V: Vulnerable, NT: Near Threatened, SL: Special Least Concern			

3.2 Matters of State Environmental Significance (MSES)

3.2.1 Essential Habitat

Areas of the greater property are mapped as Essential habitat (regulated vegetation) under the Vegetation Management Act 1999. Species include:

- Southern Cassowary (*Casuarius casuarius johnsonii*),
- Common Mist Frog (*Litoria rheocola*)
- *Wetria australiensis*
- *Acalypha lyonsii*

Although essential habitat is mapped within the property no portion of the project site contains Essential habitat.

3.2.2 Protected Plant Trigger Area

All remnant category B within the property is mapped within the Protected Plant Trigger mapping. However, no portion of the project site is a mapped protected plant trigger area under the Nature Conservation Act 1992 (**Appendix C)**.

4.0 Field Survey Results

Four distinct vegetation communities were recorded within the project site during the site assessment. All portions of the project site were subject to varying levels of historic and current disturbances. Two (2) distinct vine-forest communities were recorded along Currunda Creek and minor ephemeral drainages in the southwest. Two (2) highly disturbed vegetation communities were present in the open grazing paddocks and a steep hillslope south of Currunda Creek. These communities are mapped in (**Figure 4)** and individually described below.

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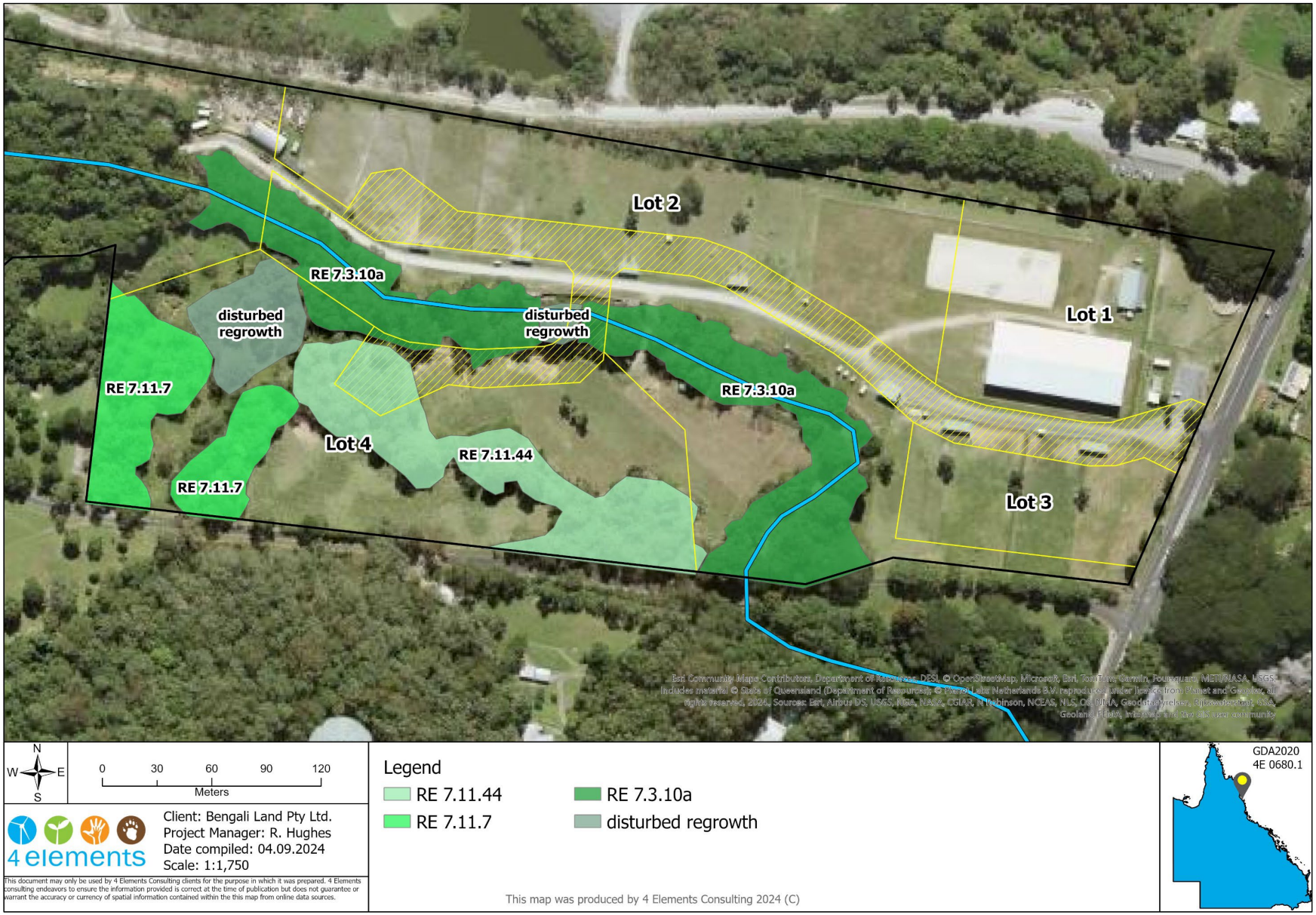

Figure 4. Location of Vegetation Community Types Within the Project Site. RE codes Assigned to Identify Types Only. No Remnant Condition Vegetation Present (VMA Act 1999)

4.1.1 Regrowth Vine Forest RE 7.3.10a

A single disturbed vine-forest vegetation community on alluvial soils was recorded along the Currunda Creek riparian corridor. It was often very narrow consisting of one or two trees across and some parts of the northern bank were entirely cleared. The canopy (18-20 m) consisted of *Mangifera indica, Nauclea orientalis, Chionanthus ramiflorus, Carallia brachiata, Pisonia umbellifera, Ganophyllum falcatum, Ficus racemosa, Terminalia sericocarpa* and *Aleurites rockinghamensis*. A dense understory 6-12 m in height comprised *Syzygium tierneyanum, Mallotus philippensis, Myristica insipida, Litsea leefeana, Cryptocarya triplinervis* and *Glochidion philippicum.* The shrub layer consisted of *Macaranga tanarius, Phyllanthus cuscutiflorus Homalanthus novoguineensis* (1-4 m). The large vines, *Faradaya splendida* and *Freycinetia scandens* were a common component of all structural layers. Large rock boulders have accumulated in the creek bed which likely provide important instream complexity to a number of amphibian species (**Plate 1**). The proposal has designed the bridge crossing to avoid these areas as far as practical by placing it through a section of the creek which consists of concrete blocks and exotic canopy vegetation.

This vegetation community has potential to conform to the EPBC Act 1999 listed Tropical Lowland Rainforest of the Wet Tropics. A vegetation assessment of this community will be required to determine if clearing this vegetation is a trigger for an EPBC referral. It is estimated that <0.1 ha of this vegetation community will be cleared immediately to the south of Currunda Creek for an access road (see Figure 4). The proposal seeks to provide a net gain to this community by planting ~1.4 ha through revegetation works of Currunda Creek.

Plate 1 Regrowth RE 7.3.10a Within Currunda Creek Riparian Corridor (-16.93237, 145.68832)

4.1.2 Regrowth Vine Forest RE 7.11.7

In the southwest corner of the project site a disturbed regrowth vine forest community was present. This was associated with narrow ephemeral gullies which flow from metamorphic slopes to the south. These ephemeral drainages feed into the Currunda Creek riparian corridor (see **Plate 2** below). Within this community the canopy consisted of *Terminalia sericocarpa, Albizia procera, Alstonia scholaris, Trichospermum pleiostigma, Alphitonia petriei, Ganophyllum falcatum, Carallia brachiata, Chionanthus ramiflorus* 10- 16 m in height. A dense understory (2-6m) consisted of *Mallotus philippensis, Cryptocarya murrayi* and the Nature Conservation Act 1992 listed Endangered *Rhodamnia sessiliflora.* A sparse ground layer consisted of ferns and native grass (*Oplismenus* sp). The invasive weed African Tulip (*Spathodea* campanulata) was an occasional component of all structural layers within this community.

This vegetation community has potential to conform to the EPBC Act 1999 listed Tropical Lowland Rainforest of the Wet Tropics. A vegetation assessment of this community will be required to determine if clearing this vegetation is a trigger for an EPBC referral. It is estimated that up to ~0.28 ha of this vegetation community may be cleared to establish lot 4 (see Figure 4). Under the current proposal planting of up to .009 ha through revegetation works along a drainage easement.

Plate 2 Regrowth RE 7.11.7 Within Retained Ephemeral Drainage (-16.93319, 145.68788)

4.1.3 Regrowth Eucalypt Forest RE 7.11.44

In the south of the project site a vegetated steep slope consisted of highly disturbed regrowth Eucalypt Forest partially representative of the pre-clearance regional ecosystem mapped as RE 7.11.44. The canopy to 18 m in height consisted of *Eucalyptus tereticornis* and the invasive African Tulip (*Spathodea campanulata*). The understorey comprised *Eucalyptus tereticornis* and *Lophostemon suaveolens* or an early successional vine forest community including *Albizia procera, Trichospermum pleiostigma, Alphitonia petriei, Ganophyllum falcatum, Carallia brachiata, Chionanthus ramiflorus* open forest on alluvial soils. The ground layer consisted of invasive grass *Megathyrsus maximus* in open canopy areas and edges and the invasive herb Singapore Daisy (*Sphagneticola* trilobata) dominated closed canopy areas. The lack of *Eucalyptus* spp. recruitment in much of this vegetation community that the regrowth of this vegetation community has been excluded from fire since initial clearing.

Primarily due to the predominant *Eucalyptus* canopy, this community is not considered to conform to the EPBC Act 1999 listed Tropical Lowland Rainforest of the Wet Tropics. A referral under the EPBC Act 1999 is not required for this vegetation community.

Plate 3 Disturbed Regrowth RE 7.11.44 (-16.93369, 145.68987)

4.1.4 Cleared Exotic Grasslands

A number of cleared grazing paddock are present throughout the project site and comprise all of the areas cleared of woody vegetation. In the north of Currunda Creek paddocks are intensively managed and dominated by low cut exotic pasture grasses including *Axonopus compressus.* To the south of Currunda Creek cleared areas were less intensively managed and a mix of exotic herbs and grasses dominated. These primarily included, *Megathyrsus maximus, Ageratum conyzoides, Crotalaria pallida, Cenchrus purpureus, Hyptis capitata* and *Cyperus aromaticus* (see **Plate 4** below).

Plate 4 Exotic Grasslands South of Currunda Creek (-16.93235, 145.68763)

4.2 Threatened Flora

Searches for potentially occurring threatened flora species targeted the canopy, shrub and ground layer within the project site. A total of three (3) threatened flora species were recorded within the project site during the field investigation (see **Figure 4**). These species were:

- *Canarium acutifolium* EPBC Act 1999 and NC Act 1992 Vulnerable
- *Wetria australiensis* NC Act 1992 Vulnerable (**no current EPBC listing**)
- Iron Malletwood (*Rhodamnia sessiliflora*) NC Act 1992 Endangered (**no current EPBC listing**)

Both *Wetria australiensis* and *Canarium acutifolium* were located outside of the proposed clearing alignment within the remnant vegetation to the west of the project site (RE 7.3.10a). *Rhodamnia sessiliflora* was only located within the project site within the steep gully regrowth in the southwest of the project site.

The recording of *Rhodamnia sessiliflora* within the project site will require a protected plant survey and impact management plan be submitted to the Qld Department of Environment, Science and Innovation (DESI). Approval of the impact management plan will see the issue of a protected plant clearing permit from the department. This permit must be obtained prior to clearing vegetation within 100 m of these records. This species has no federal listing and is not relevant under the EPBC Act 1999 as of 26-08-2024.

There are no federally listed threatened plants that will be impacted as a result of the proposal.

Canarium acutifolium – Vulnerable EPBC Act 1999 and NC Act 1992

Canarium acutifolium was recorded along the low bank of Currunda Creek approximately 50 m west of proposed Lot 22 (see **Figure 5**). A single individual was recorded, although it is likely that this population is continuous with the known Freshwater Creek population to the east. This individual was a large tree (20 m in height) (see **Plate 5**) with pale spongy bark with large distinctive corky lenticels. The leaf shape is distinctive for this species with a pointed (acuminate) leaflet tip (see **Plate 5**). The tree was in fruit at the time of survey which was observed in the canopy. No individuals were located within the project site despite a targeted search.

It is expected that, as no existing habitat will be impacted by the proposal, that this species will benefit from the planned revegetation works which will see an improved riparian corridor linkage to the Known Freshwater Creek population.

Plate 5 *Canarium acutifolium* 50 m West of Proposed Lot 22

Wetria australiensis- Vulnerable NC Act 1992

Wetria australiensis was recorded at a single location on the high northern bank of Currunda Creek approximately 50 m to the west of proposed Lot 4 (see **Figure 5**). A population of approximately 50 individuals was recorded with a diverse age class noted from young shrubs to 0.5 m in height to small tree up to 5 m in height. This is a slight range extensive of approxiamtely 400 m for this very rare rainforest tree. Only two (2) populations of this species are known globally. One of these populations occurs in the lower reaches of Stoney Creek. The second population extends from the lower Currunda Creek catchment immediately adjacent to the property on the western border for approxiamtely 400 m to the west within the property boundary. This range extension for the survey, although minor in area, is likley significant given the limited distribution of the species.

This species was identified in the field by two (2) pale glands at the base of the leaf, reddish juvenile leaf growth and hairy sub-dentate leaf margins (see **Plate 6**). No individuals were located within the project site despite a targeted search.

It is expected, that as no habitat will be impacted by the proposal that this species will benefit from the planned revegetation works which will potentially see an improved riparian corridor linkage to the east.

Plate 6 *Wetria australiensis* Recorded 150 m Outside the Clearing Alignment on Currunda Creek

Rhodamnia sessiliflora- **Endangered NC Act 1992**

Rhodamnia sessiliflora was recorded at two (2) locations within the south west of the project site. One (1) location is entirely within a steep sided gully (RE 7.11.7 regrowth) which will be retained entirely within a drainage reserve within lot 4 (see **Figure 5**). An additional two (2) indivuals are located within the proposed clearing alignment for Lot 4. A population of approximately 15 individuals were recorded with a diverse age class noted from small shrubs to 0.5 m in height to small tree up to 8 m in height. This species is identified primarily by its distinctive three veined leaves which are clothed in dense white hairs when developing (Snow 2007). The bark is red brown in colour and peels off the trunk in long fibrous strips. When flowers are present, they are stalkless (sessile) which is another key distinguishing feature of this species. This species is commonly recorded in naturally disturbed areas within vine forest communities such as along watercourses in near canopy gaps and edges.

Despite being relatively common and widespread within the region, this species is threatened primarily due to the impact of myrtle rust (*Austropuccinia psidii*). This infection is a recent introduction to Australia that impacts

a high number of Myrtaceae species within moist forests. Myrtle rust impacts new season growth and flower and fruit material which reduces the ability of plants to grow and reproduce. Most specimens encountered in the field are older plants that were present prior to the arrival of myrtle rust. Flowering, fruiting and recruitment of this species is uncommonly encountered since the introduction of myrtle rust. As mature plants in a population die, they may not be replaced at a sufficient rate to maintain the population, leading to extinction.

Plate 7 *Rhodamnia sessiliflora* Located in the South West of the Poject Site

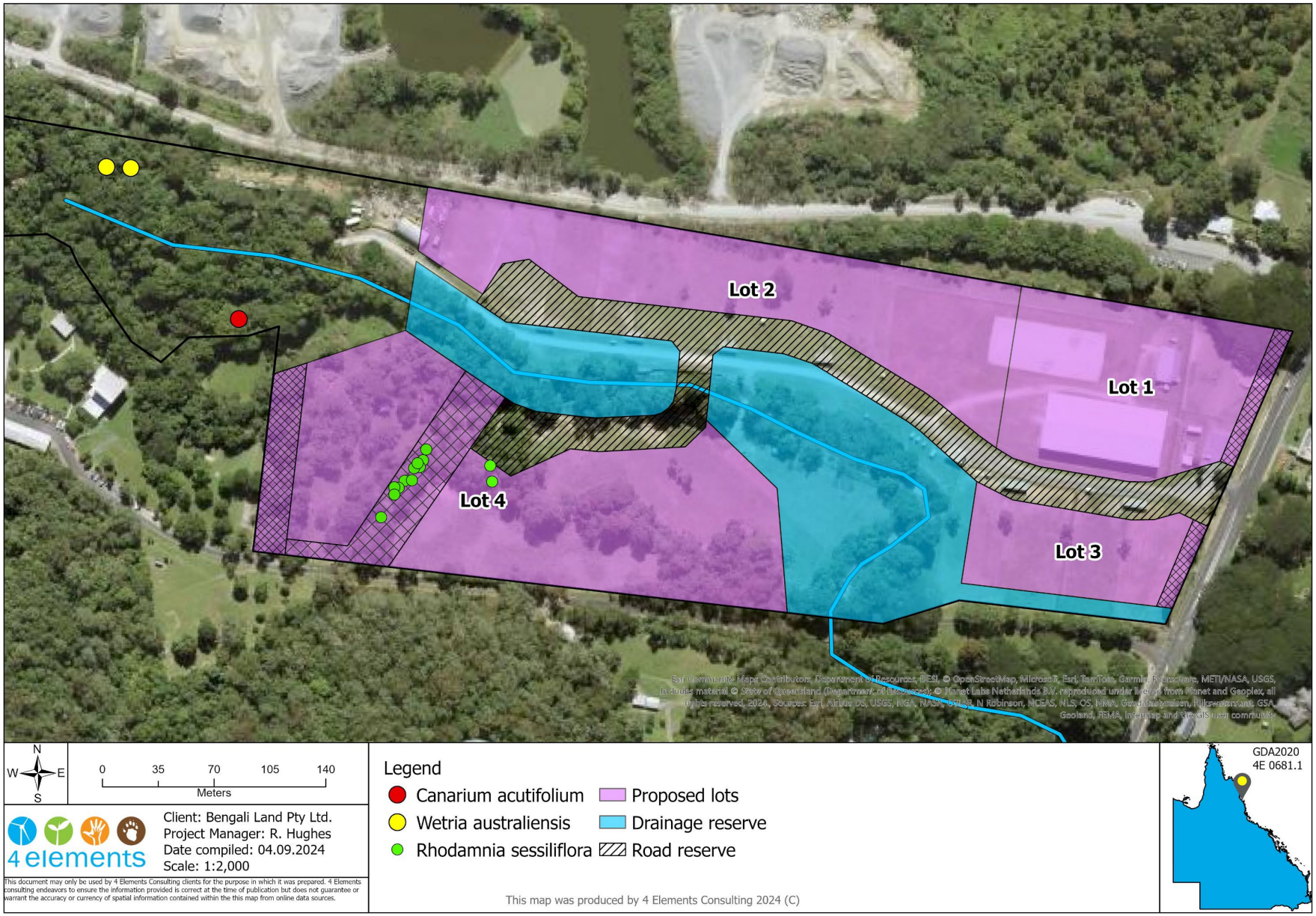

Figure 5. Locations of Threatened Flora Within the Property

4.3 Invasive Weeds

In terms of relative abundance, weeds were a common component of all structural layers of the project site.

A total of one (1) Weed of National Significance, *Lantana camara* (Lantana), was commonly recorded across the project site.

No prohibited invasive weeds listed under the *Biosecurity Act 2014* were recorded during the survey.

A total of four (4) category 3 restricted invasive plants listed under the *Biosecurity Act 2014* were commonly recorded across all areas of the project site. Under the act these species must not be given away, sold or released into the environment. These species recorded within the project site are listed below,

- *Senna obtusifolia* (Sicklepod)
- *Sphagneticola trilobata* (Singapore Daisy)
- *Spathodea campanulata* (African Tulip)
- *Mimosa diplotricha* (Giant Sensitive Weed)

There are no constraints on the removal exotic vegetation from the property. Removal of these species would be considered good property management and would not require approval at local, state or federal level. Removal of these plants will be an important component of the planned re-vegetation works for the proposal.

Dense Thicket of African Tulip in the South of the Project Site (-17.02795, 145.71834)

4.4 Opportunistic Fauna

During the site investigation (15 August 2024) all fauna species were recorded opportunistically. A total of 17 bird species were recorded.

A single threatened fauna species, Macleay's Figparrot, listed Vulnerable under the *NC act 1992* was recorded.

A single migratory species listed, Spectacled Monarch, listed under the *EPBC act 1999* was recorded.

A full list of all fauna species is provided in the below **Table 5**.

Table 5. Opportunistic Fauna Recorded Within the Project Site

Common Name	Scientific Name	NC act 1992	EPBC act 1999
Birds			
Australian Swiftlet	*Aerodramus terrae-reginae*	LC	-
Australian Brush Turkey	*Alectura lathami*	LC	-
Metallic Starling	*Aplonis metallica*	LC	-
Pacific Emerald Dove	*Chalcophaps longirostris*	LC	-
Olive-backed Sunbird	*Cinnyris jugularis*	LC	-
Black Butcherbird	*Cracticus quoyi*	LC	-
Macleay's Fig-Parrot	*Cyclopsitta diophthalma*	V	-
Spangled Drongo	*Dicrurus bracteatus*	LC	-
Orange-footed Scrubfowl	*Megapodius reinwardt*	LC	-
Cryptic Honeyeater	*Microptilotis imitatrix*	LC	-
Green Oriole	*Oriolus flavocinctus*	LC	-
Wompoo Fruit-Dove	*Ptilinopus magnificus*	LC	-
Australian Figbird	*Specotheres vieilloti*	LC	-
Yellow Honeyeater	*Stomiopera flava*	LC	-
Rainbow Lorikeet	*Trichoglossus moluccanus*	LC	-
Spectacled Monarch	*Symposiachrus trivirgatus*	SLC	Ma, Mi

4.5 Project Site Habitat Attributes

The below **Table 6** identifies habitat attributes that are present within the project site and the value that may be attributed to any potentially occurring threatened fauna.

Table 6 Habitat attributes present on the Project Site

Habitat Type	Project Site	Potential Value for Threatened fauna Species
Connectivity	The project site provides part of a riparian corridor between the coastline (Barron River Mouth) and the foot hills of the wet tropics world heritage area. This corridor is highly disturbed and narrow in places within the Barron River Floodplain. Despite the degradation of Currunda Creek as it flows through the project site there remains existing connectivity for threatened flora and fauna.	However, within the project site, the corridor is in relatively poor condition with disturbed vegetation present and parts of the riparian corridor cleared. Generic foraging habitat is present for the, • **Macleay's Fig Parrot** • **Southern Cassowary** • **Spectacled Flying-fox** • **Green-eyed Tree Frog** • **Waterfall Frog** • **Australian Lacelid Frog** • **Common Mistfrog** Where the proposed bridge crossing is located, no impact to native vegetation will occurs. Clearing is restricted to Mango Trees only. The habitat has been selected specifically to avoid impacting threatened species.
Leaf Litter	Leaf litter accumulation was dominated by a dense covering of canopy leaf debris where vegetation cover was present. This would likely build up during the dry season as semi-deciduous species drop old leaves. Wet season flooding events would likely remove large areas of litter accumulation periodically. relatively low throughout the project site.	Limited utilisation along the margins of Currunda Creek for, • **Green-eyed Tree Frog** • **Waterfall Frog** • **Australian Lacelid Frog** • **Common Mistfrog** Where the proposed bridge crossing is located, no impact to native vegetation will occurs. Clearing is restricted to Mango Trees only. The habitat has been selected specifically to avoid impacting threatened species.

Habitat Type	Project Site	Potential Value for Threatened fauna Species
Ground Cover	The ground layer was relatively sparse throughout due to the closed canopy structure. A weedy ground layer was common along the proposed clearing alignment.	No specific threatened species value
Coarse Woody Debris	The canopy layer provided an occasional source of fallen timber across the project site.	No specific threatened species value.
Tree Hollows	Tree hollows with an opening <10cm were occasionally recorded within the project site. No hollow bearing trees will be impacted as a result of the proposal.	No specific threatened species value.
Shrub layer containing Melaleuca, Acacia, Banksia, Xanthorrhoea species	The shrub layer was sparse throughout the project site due to the closed canopy structure. The shrubs present were rainforest species which are not important nectar sources for bird and mammal species.	No specific threatened species value.
Primary Nectar Sources	*Syzygium* spp. and *Alstonia* spp. were commonly present within the canopy and would provide a useful albeit generic source of nectar	This resource is not considered significant for any potentially occurring threatened species. May occasionally be used by small numbers of the • **Spectacled Flying-fox.**
Fleshy fruiting Species including *Ficus spp*.	The dry Eucalypt Forest structure provides limited opportunity for large fleshy fruiting species to establish. Some small *Ficus opposita* and *Ficus racemosa* were commonly recorded within the project site.	This resource is not considered significant for any potentially occurring threatened species. May occasionally be used for foraging by, • **Macleay's Fig-parrot** • **Southern Cassowary** • **Spectacled Flying-fox.**
Rock Outcrops	Absent	N/A

Habitat Type	Project Site	Potential Value for Threatened fauna Species
Water bodies	Currunda Creek is a third order stream the flows west to east through the centre of the project site. This creek is spring fed and likely flows continuously though the project site. An intact riparian rainforest community is present along all section except for the direct clearing alignment where native vegetation is absent. Metamorphic mudstone boulders add complexity to the stream although this is much reduced at the direct clearing alignment due to the removal of the northern bank for remediation works (concrete blocks).	This is a valuable resource for • **Green-eyed Tree Frog** • **Waterfall Frog** • **Australian Lacelid** • **Common Mistfrog** • **Southern Cassowary** However, the direct clearing alignment value is much lower than all other sections of the waterway within the project site. Where the bridge crossing is proposed it is not considered that these species would be present. Works will need to ensure that downstream impacts are adequately managed to ensure residual impacts do not occur for these amphibian species. The above listed species are known further to the south east of Currunda Creek/ Freshwater Creek.

5.0 Identification of Impacts

The proposed works are to subdivide the project site into 4 lots with the balance reserved for revegetation of Currunda Creek and steep ephemeral gullies in the southwest. This proposal will not require the removal any remnant category B vegetation. The proposal maximises existing vegetation clearing and where clearing will occur the vegetation condition generally highly disturbed. The crossing of Currunda Creek will clear non-native canopy trees (Mango) to formalise a bridge crossing and remediate two existing bed level crossings. However, once construction is completed the current ongoing low-level impacts will be reduced with a formal bridge crossing. The direct and indirect impacts of this proposal are provided in the below **Table 7** and **Table 8**.

Table 7. Direct impacts of the Proposal

Threat	Potential Impact	Project Site Mitigation
Direct Removal of Remnant Vegetation	The proposal does not require the removal of any remnant vegetation. The proposal will avoid all areas important to threatened fauna which potentially occur within the project site. All clearing is within highly disturbed regrowth vegetation.	Avoidance of the highest-quality vegetation along Currunda Creek is a key mitigation strategy for the proposal. The proposal has sought to avoid impacts to high quality vegetation present within the riparian corridor for this waterway. This was confirmed during the field survey. Additionally the ephemeral gullies in the south west which are also non-remnant vegetation will largely be retained to preserve existing drainage patterns as far as practical across the project site.
Direct removal of Threatened Ecological Community (TEC) EPBC Act 1999	Two (2) disturbed vegetation communities were recorded within the project site; - Regrowth RE 7.3.10a - Regrowth RE 7.11.7 Both of these mapped areas are considered to be likely to conform to the TEC determination for Lowland Tropical Lowland Rainforest of the Wet Tropics.	Avoidance of these areas is a key consideration of the proposal. The proposal seeks to impact up to ~0.4 ha that potential conform to the TEC and provide revegetation of 1.1 ha of suitable habitat in addition to managing the existing areas not impacted for weed cover. This will see an overall increase the cover of this TEC over time. The proposal will also see a long term stabilisation of the Currunda Creek riparian corridor which will improve significantly over time without continual disturbance through routine property maintenance etc. and unsealed access tracks.
Direct Clearing of threatened flora	The project site contains (3) confirmed threatened flora species. - *Wetria australiensis* - *Canarium acutifolium* - *Rhodamnia sessiliflora*	The proposal will entirely avoid *Canarium acutifolium* and *Wetria australiensis* and the planned retention of Currunda Creek riparian corridor and revegetation works will likely see an improvement to the habitat for these species

		allowing dispersal further to the east closer to Freshwater Creek. *Rhodamnia sessiliflora* is present within the project site within regrowth RE 7.11.7. Approximately 15 individuals were recorded. Two of these plants are located in the existing clearing alignment. A comprehensive protected plant survey is required under the NC Act 1992. No EPBC listed flora are potentially impacted by the proposal.
Direct mortality via clearing works	The proposal does require the removal of mostly disturbed regrowth vegetation. No significant hollow bearing trees will be impacted as a result of the proposal. Minor potential for common fauna species to be present within the direct clearing area.	The presence of a fauna spotter/ catcher during vegetation clearing operations will prevent direct mortality of fauna. To avoid potential impacts to fauna a fauna spotter/ catcher will be required to be present during vegetation clearance. Disturbance of rocks within Currunda Creek can be mitigated for impact onto threatened frogs by a pre-clearance check prior to ground disturbance. It is considered unlikely that threatened frogs will be present in the bridge crossing due to its placement where the northern bank is engineered with concrete blocks and the lack of native canopy vegetation present.

Table 8. Indirect Impacts of the Proposal

Threat	Potential Impact	Project site Mitigation
Weed Invasion	Disturbance of soil provides the opportunity for weed invasion. Weeds may also be transported to the site from vehicle, people (e.g., on clothing) and potentially via introduced fill material for civil works.	There is the potential for weed propagules to be introduced on vehicles and earthmoving equipment. Exposed soil from earthworks will also be prone to weed invasion. Measures to reduce new weed introductions and further spread on site should be undertaken during the construction phase works. This would include weed and seed declarations for any new machinery working within the project site. Visual delineation of the clearing area must be applied prior to work so that machinery do not go outside the works area.

Noise and Vibration	Noise effects on fauna in Australia are relatively poorly studied. Most evidence presented is anecdotal, but suggests most fauna have at least a fair degree of tolerance and adaptation at least to residential noise depending on species, situation, habitat/lifecycle stage affected, habitat significance, etc.	Noise impacts will be temporary in nature (construction only). The potentially occurring threatened frog species are sensitive to noise impacts during the breeding season. These species are mostly nocturnal. Conducting the proposed works during daylight hours will mitigate potential interference with vocalisation of these species.
Edge Affects and Fragmentation	The fragmentation and/or isolation of currently intact vegetation via partial/mosaic clearing and establishment of building envelopes and roads can lead to edge effects. Ingress of weeds into areas not previously found. Alterations to microclimate i.e. drying, altered humidity levels, increases light penetration. Increased exposure to wind.	The project will see formalisation of an existing vehicle crossing through Currunda Creek and revegetation of Currunda Creek riparian corridor which will see an improved outcome from edge disturbances over time. Existing connectivity will be maintained and the proposal is not considered a barrier to dispersal for any potentially occurring threatened species. No further mitigation proposed.
Pollution	Pollution or contamination of aquatic ecosystems through spillage of or inappropriate usage of petrochemicals, fertilisers and herbicides. These chemicals generally reach adjacent habitats via contaminated runoff, groundwater, sedimentation and erosion. Without adequate controls, degradation of Currunda Creek has the potential to be a significant impact for a number of threatened species.	Risk of pollution of aquatic ecosystems in the project site is reduced if care is taken when refuelling machinery associated with the works. Refuelling must not occur with a catchment area for water ways or drainage areas.
Altered Hydrological Regimes	Alterations to topography, vegetative cover can increase water shedding rates, concentrate runoff, and affect flood peaks. Soil compaction and construction of hard surfaces can also influence these factors, plus reduce infiltration, which can adversely impact plant growth, aquifer recharge and wetland regimes.	Surface water runoff as a result of establishing a sealed surface is addressed in the proposal design. The proposal seeks to improved altered hydrology through the formalisation of the two bed level crossings over Currunda Creek.
Erosion and Sedimentation	Sedimentation and erosion impacts can occur both during the construction and establishment phases. Erosion and sedimentation may occur via fill material and disturbed soils, scouring of exposed soil, earthen banks and habitats adjacent to the development area via stormwater flow.	Implementation of an erosion and sediment control plan will be required prior to commencement of works. The proposal seeks to improve erosion and sediment inputs into Currunda Creek through the formalisation of the pathway.

6.0 Significant Impact Assessment

6.1 Matters of National Significance (MNES) continued

The following table details the guidelines to which a certain application may have a significant impact on a sensitive environmental matter pursuant under the EPBC Act. **Table 9** below details the impact the current project may have for places of national environmental significance. The PMST search tool identified three (3) Threatened Ecological Community (TEC) that may potentially occur on the study. These TECs include:

- Littoral Rainforest and Coastal Vine Thickets of Eastern Australia
- Broad-leaved Tea-tree (*Melaleuca viridiflora*) woodlands in high rainfall coastal north Queensland and;
- Tropical Lowland Rainforest of the Wet Tropics.

The field survey determined that Tropical lowland rainforest of the wet tropics was potentially present within the project site and direct clearing area. (see **Table 9** below).

6.1.1 Threatened Ecological Communities

The DCCEEW notes an action is likely to have a significant impact on a critically endangered, endangered, or vulnerable (threatened) ecological community if there is a real chance or possibility that it will:

- Reduce the extent of an ecological community
- Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines
- Adversely affect habitat critical to the survival of an ecological community
- Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns
- Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting
- Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:
    - assisting invasive species, that are harmful to the listed ecological community, to become established
    - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or interfere with the recovery of an ecological community.

6.1.1.1 Tropical Lowland Rainforest of the Wet Tropics Impact Assessment

A single TEC (Tropical Lowland Rainforest of the Wet Tropics) was present within the project site (mapped as category R high-value watercourse regrowth and category X non-remnant vegetation under the Vegetation Management Act 1999. Two disturbed regrowth communities were recorded within the project site which conform to the TEC. These were RE 7.3.10a within Currunda Creek riparian corridor and RE 7.11.7 within the steep ephemeral gullies to the southwest (see **Figure 4**). Within the proposed clearing alignment, this vegetation community was located on the southern bank of the Currunda Creek riparian corridor within the road reserve and and Lot 4. The proposal seeks to preserve this community within the proposal design and no area mapped as category B will require disturbance. A detailed description of the determination for the TEC are provided in the below.

The minimum thresholds for identifying a vegetation community that conforms to the EPBC-listed TEC is provided below:

- Located from immediately south of the Cardwell Range up to the northern boundary of the Endeavour Catchment (Cooktown) and typically confined to the east of the coastal ranges (< 100 m asl but mostly < 40 m asl)
- Occurs primarily on fertile soils (alluvial and basaltic parent materials)
- Mean rainfall > 1,300 mm to > 3,500 mm per annum clustered around the period December to March
- Key structural characteristics include an uneven canopy 20 – 40 m in height which is relatively open when in an undisturbed state. Trees are mostly evergreen and can have well developed buttress roots. The leaf length is generally between 12.5 cm – 25 cm (mesophyll)
- The structure can vary from structurally simple (1-2 growth forms dominate) to complex where many growth forms are present without any particular growth form dominating
- Diverse growth forms include palms, vines and robust lianas, epiphytic ferns and orchids, climbing aroids, rattans and gingers
- Relatively low abundance of species from the genera *Eucalyptus*, *Corymbia, Melaleuca* and *Casuarina*. Where there is a dominance of these species in the canopy it is unlikely that the vegetation community can be considered a rainforest community.

If a patch meets the above listed criteria, then further factors for legal protection are determined, outlined in Table 9 and below:

- A patch must be a minimum of 0.1 ha in area
- A patch is given a condition rating dependent on the size of patch/diversity and canopy cover present and the continuity to other native vegetation it provides the landscape

- Therefore, small, isolated patches are not considered legally protected under the EPBC Act 1999 as a TEC.

Table 9. Condition classes, categories and thresholds for inclusion of Lowland Rainforest TEC

Biotic thresholds	**Patch size thresholds**			
	Large patch is at least 5 ha (it may or may not be contiguous with other native vegetation)	**Medium-sized patch is at least 2 ha and < 5 ha** (it may or may not be contiguous with other native vegetation)	**Small contiguous patch is at least 0.1 ha and < 2 ha and is contiguous with a larger area(s) of native vegetation totalling at least 5 ha**	**Small contiguous patch is at least 0.5 ha and < 2 ha which is isolated, or is part of a small native vegetation remnant < 5 ha total**
High condition Cover* of native tree** species is ≥ 50% and/or tree species richness*** ≥ 20 species	**Class A** A large patch that meets key diagnostics and has a high native tree cover and/or high tree species richness	**Class B** A medium-sized patch that meets key diagnostics and has a high native tree cover and/or high tree species richness	**Class C1** A small patch that meets key diagnostics and has a high native tree cover and/or high tree species richness**** and is contiguous***** with another large area(s) of native vegetation	**Class C2** A small patch which meets key diagnostics and has a high native tree cover and/or high tree species richness
Good condition Cover of native tree species is ≥ 30% and/or tree species richness ≥ 10 species	**Class B2** A large patch that meets key diagnostics and has a good native tree cover and/or good tree species richness	**Class C3** A medium-sized patch that meets key diagnostics and has a good native tree cover and/or good tree species richness	Not protected	Not protected
Moderate condition Cover of native tree species is ≥ 30% and/or tree species richness ≥ 10 species	**Class C4** A large patch that meets key diagnostics	Not protected	Not protected	Not protected

Biotic thresholds	Patch size thresholds			
	Large patch is at least 5 ha (it may or may not be contiguous with other native vegetation)	**Medium-sized patch is at least 2 ha and < 5 ha** (it may or may not be contiguous with other native vegetation)	**Small contiguous patch is at least 0.1 ha and < 2 ha and is contiguous with a larger area(s) of native vegetation totalling at least 5 ha**	**Small contiguous patch is at least 0.5 ha and < 2 ha which is isolated, or is part of a small native vegetation remnant < 5 ha total**

* Tree cover is measured along a 100 m transect (Eyre *et al.* 2015), if patch size and geometry allow, cover can be assessed along a shorter transect if required. Crown cover is considered opaque (i.e. solid crown cover) for the purposes of this assessment.

** A native tree is a woody plant > 2 m tall with a single stem or branches well above the base (Eyre *et al.* 2015).

*** Tree richness is measured in 100 x 50 m plots (0.5 ha) (Eyre *et al.* 2015).

**** Note that for patches 0.1 – 0.5 ha in size, and where patches have not already met the threshold for high native tree cover, tree species richness can be assessed in a smaller plot and may allow for a tree richness threshold of 15 species. Note also, assessment includes trees that are < 2 m tall due to their growth stage (e.g. seedlings or saplings).

***** Contiguous with another patch of native vegetation means the patch is continuous with, or in close proximity (within 100 m) to other area(s) of native vegetation.

Based on the initial site assessment it is considered that the vegetation present as RE 7.3.10a and RE 7.11.7 has potential to conform to the determination of the threatened ecological community floristically and structurally. However, a detailed field survey of the vegetation is required to determine the relevant condition class. A connectivity and patch size assessment is critical to categorizing this and may require consideration of the quality of vegetation on adjoining properties.

Table 10. Matters of National Environmental Significance (MNES)

Matters of National Environmental Significance	Triggers
Listed Threatened Ecological Communities	
An action is likely to have a significant impact on a critically endangered or endangered ecological community if there is a real chance or possibility that it will: ▸ reduce the extent of an ecological community ▸ fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines ▸ adversely affect habitat critical to the survival of an ecological community ▸ modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns ▸ cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline	A single Threatened Ecological Community (TEC) is potentially present within the proposed clearing alignment (**Tropical Lowland Rainforest of the Wet Tropics) listed Endangered** under the EPBC Act 1999. The proposal seeks for the removal of some areas of vegetation that potentially conform to lowland rainforest (RE 7.3.10a and RE 7.11.7) Determining the quality of the vegetation as per **Table 9** above will be critical to determining whether a significant impact is likely for this matter. **Potential Referral For this matter under the EPBC Act 1999**

Matters of National Environmental Significance	Triggers

or loss of functionally important species, for example through regular burning or flora or fauna harvesting
- cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:
  - assisting invasive species, that are harmful to the listed ecological community, to become established, or
  - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or
interfere with the recovery of an ecological community.	

World Heritage Property/National Heritage Places	
An action is likely to have a significant impact on natural heritage values of a World Heritage property if there is a real chance or possibility that the action will: Values associated with geology or landscape - damage, modify, alter or obscure important geological formations in a World Heritage property - damage, modify, alter or obscure landforms or landscape features, for example, by excavation or infilling of the land surface in a World Heritage property - modify, alter or inhibit landscape processes, for example, by accelerating or increasing susceptibility to erosion, or stabilising mobile landforms, such as sand dunes, in a World Heritage property - divert, impound or channelise a river, wetland or other water body in a World Heritage property, and - substantially increase concentrations of suspended sediment, nutrients, heavy metals, hydrocarbons, or other pollutants or substances in a river, wetland or water body in a World Heritage property. Biological and ecological values - reduce the diversity or modify the composition of plant and animal species in all or part of a World Heritage property - fragment, isolate or substantially damage habitat important for the conservation of biological diversity in a World Heritage property - cause a long-term reduction in rare, endemic or unique plant or animal populations or species in a World Heritage property, and - fragment, isolate or substantially damage habitat for rare, endemic or unique animal populations or species in a World Heritage property.	**Wet Tropics of Queensland** This project site does not intersect or contain an environmental area within the Wet Tropics Great Barrier Reef Marine Park World heritage area. **No significant impact**
National Heritage Places	

Matters of National Environmental Significance	Triggers
An action is likely to have a significant impact on the National Heritage values of a National Heritage place if there is a real chance or possibility that it will cause: ▸ one or more of the National Heritage values to be lost ▸ one or more of the National Heritage values to be degraded or damaged, or ▸ one or more of the National Heritage values to be notably altered, modified, obscured or diminished.	**Wet Tropics of Queensland** Wet Tropics World Heritage Area (Indigenous Values) are not present on the property. **Great Barrier Reef** Great Barrier Reef World Heritage Area (Indigenous Values) are not present on the property. National heritage places are not present on the property. **No significant impact**

6.2 Significant Impact Assessment for MNES

Individual significant impacts assessments (SIA) have been conducted on those species identified as potentially at risk of impact from the development (see **Table 9**).

6.2.1 Threatened Species

The Department of Climate Change, Energy, Environment and Water (DCCEEW) notes an action is likely to have a significant impact on an endangered species if there is a real chance or possibility that it will:

- Lead to a long-term decrease in the size of a population.
- Reduce the area of occupancy of the species.
- Fragment an existing population into two or more populations.
- Adversely affect habitat critical to the survival of a species.
- Disrupt the breeding cycle of a population; and/or,
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

A total of four (4) EPBC Act 1999 listed species are considered at least a moderate potential to occur within the project site. A potential occurrence assessment was completed in (**Appendix C**).

- Australian Lace-lid (*Litoria dayi*)
- Waterfall Frog (*Litoria nannotis*)
- Southern Cassowary (*Casuarius casuarius johnsonii*)
- Spectacled Flying-fox (*Pteropus conspicillatus*)

A significant impact assessment will be required to be completed for each of the above species. Given the potential for the above listed species to potentially be impacted by the proposal, greater detail will need to be provided regarding the construction of the bridge crossing, management of hydrology etc to feed into the

assessment. There is potential that management plans may be required to ensure mitigation to the frogs known to occur within the catchment are not impacted by works. These may be conditioned by the state (SARA) and or the Federal department of environment (EPBC).

The Southern Cassowary will likely require a referral under the EPBC Act 1999 due to the project likely triggering any of the below thresholds;

- Clearing of greater than 1500m^2 of habitat
- Any clearing of Cassowary habitat adjacent (within 50 m) to a watercourse
- Any action that alters water quality or flow
- Any action which reduces connectivity (fencing, roads, service infrastructure etc.)
- Any upgrade of road through a waterway

Although we will be noting in any submission that the project seeks to improve the outlook for all rainforest dependent species (revegetation of Currunda Creek), the proposal is likely to trigger at least one of the above thresholds. This will therefore require further details on traffic volumes, speed limits, connectivity, and a detailed rehabilitation plan for Currunda Creek to justify potential impacts to this species.

A referral under the EPBC Act 1999 is likely to be required for the Southern Cassowary.

6.2.2 Migratory Species

The Department of Climate Change, Energy, Environment and Water (DCCEEW) notes an action is likely to have a significant impact on a migratory species if there is a possibility it will:

Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.

Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species; or

Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.

The species considered at least a moderate likelihood to occur on site are:

- Black-faced Monarch (moderate)
- Rufous Fantail (Likely)
- Spectacled Monarch (Confirmed)

Both of the above listed species do not aggregate in significant numbers locally that could potentially lead to the disturbance of large numbers of individuals as a result of the proposal. It is considered highly unlikely that the minor proposed vegetation clearance of disturbed category C high value regrowth vegetation will impact on

ecologically significant habitat to these species such that it interferes with the breeding, foraging or roosting of migratory species. External to the project site, there are large tracts of available vegetation for these species to utilise and connectivity to these areas will not be impacted.

The results of this assessment are likely to determined there will be **no significant impact** on threatened or migratory species.

6.3 Matters of State Environmental Significance (MSES)

The following table (**Table 9**) details the guidelines to which a certain application may have a significant impact on a sensitive environmental matter pursuant under the *Nature Conservation Act 1992.*

Table 1 Matters of State Environmental Significance

Matters of State Environmental Significance	Triggers
Regulated Vegetation (VMA)	
▸ The prescribed regional ecosystems that are endangered regional ecosystems comprise a matter of State Environmental Significance. ▸ The prescribed regional ecosystems that are of concern regional ecosystems comprise a matter of State Environmental Significance. ▸ A prescribed regional ecosystem is a matter of State Environmental Significance if it is— a. a regional ecosystem that intersects with an area shown as a wetland on the vegetation management wetlands map (to the extent of the intersection); or b. an area of essential habitat on the essential habitat map for an animal that is endangered wildlife or vulnerable wildlife or a plant that is endangered wildlife or vulnerable wildlife. ▸ A prescribed regional ecosystem is a matter of State Environmental Significance to the extent the ecosystem is located within a defined distance from the defining banks of a relevant watercourse.	1. No endangered regional ecosystems are present within the property. 2. No of concern regional ecosystems are present within the property. 3. a) No portion of the project site is located within an area shown as a wetland on the vegetation management wetlands map. b) no portion of the project site contains essential habitat. Essential habitat is mapped within remnant vegetation immediately to the west of the project site for the following species. ▸ Southern Cassowary (*Casuarius casuarius johnsonii*), ▸ Common Mist Frog (*Litoria rheocola*) ▸ *Wetria australiensis* ▸ *Acalypha lyonsii* 4. The proposal seeks to formalise an existing crossing of Currunda Creek which requires works within the banks of a relevant watercourse listed under the Water act 2000. Controls related to erosion and sediment control, pollutant contamination and hydrology will be applied to mitigate impacts to this watercourse.

Matters of State Environmental Significance	Triggers
Connectivity Areas	
(1) This section applies to a prescribed regional ecosystem— a. to the extent the ecosystem contains remnant vegetation; and b. if the ecosystem contains an area of land that is required for ecosystem functioning (a connectivity area). 2) The prescribed regional ecosystem is a matter of State Environmental Significance if the administering agency is satisfied, having had regard to criteria in the environmental offsets policy about connectivity areas, that— a. the connectivity area is of sufficient size or configured in a way that maintains ecosystem functioning; and b. the prescribed regional ecosystem will remain despite a threatening process within the meaning of *the Nature Conservation Act 1992*.	1. a) no remnant vegetation is mapped within project site. b) No portion of the project site is located within a state-wide terrestrial biodiversity corridor. 2. a) As a result of the proposal it is expected that connectivity areas will be maintained as a healthy ecosystem functioning. b) No remnant vegetation will be impacted as a result of the proposal. The clearing of disturbed understory vegetation will allow the vegetation to remain intact within the project site.
Wetlands and Watercourses	
(1) Each of the following matters is a matter of State Environmental Significance — a) a wetland; ii. in a wetland protection area; or iii. of high ecological significance shown on the Map of referable wetlands; ▸ a wetland or watercourse in high ecological value waters.	1. a) i) No portion of the property occurs within a wetland protection area. ii) No portion of the property occurs within an area of high ecological significance shown on the map of referable wetlands. b) No portion of the property occurs within a wetland or watercourse in high ecological value waters.
Designated Precinct in a Strategic Environmental Area	
(1) A designated precinct in a strategic environmental area is a matter of State Environmental Significance.	The project site is not located within a strategic environmental area.
Protected Wildlife Habitat	
(1) An area that is shown as a high-risk area on the flora survey trigger map and that contains plants that are endangered wildlife or vulnerable wildlife is a matter of State Environmental Significance. (2) An area that is not shown as a high-risk area on the flora survey trigger map, to the extent the area contains	(1) No portion of the project site is located within a high-risk area mapped for NCA listed terrestrial flora. (2) *Rhodamnia sessiliflora* was recorded within the project site and direct clearing alignment for the

Matters of State Environmental Significance	Triggers
plants that are endangered wildlife or vulnerable wildlife, is a matter of State Environmental Significance. (3) A non-juvenile koala habitat tree located in an area shown as bushland habitat, high value rehabilitation habitat or medium value rehabilitation habitat on the map called 'Map of Assessable Development Area Koala Habitat Values' that applies under the Southeast Queensland Koala Conservation State Planning Regulatory Provisions is a matter of State Environmental Significance. (4) A habitat for an animal that is endangered wildlife or vulnerable wildlife, or a special least concern animal is a matter of State Environmental Significance.	proposal. Therefore, a protected plant survey is required as per the flora survey guidelines. portion of the project site contains plants that are endangered wildlife or vulnerable wildlife. (3) No portion of the property is located within an area shown as bushland habitat, high value rehabilitation habitat or medium value rehabilitation habitat on the map called 'Map of Assessable Development Area Koala Habitat Values' that applies under the Southeast Queensland Koala Conservation State Planning Regulatory Provisions is a matter of State environmental significance. The property is wholly within the state mapped Koala district C. (4) Eight (8) fauna species and Five (5) flora species listed as either *Endangered* (E), *Vulnerable* (V) or *Near threatened* (NT) under the NC Act 1992 have the potential to occur on the property, (see **Appendix B** for full list of NCA listed threatened species for likelihood of occurrence of the property).
Protected Areas	
A protected area is a matter of State Environmental Significance.	There are no protected areas under the *Nature Conservation Act 1992* present on the property.
Highly Protected Zones of State Marine Parks	
A highly protected area of a relevant Queensland marine park is a matter of State Environmental Significance.	There are no marine parks or land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone present on the property.
Fish Habitat Areas	
An area declared under the *Fisheries Act 1994* to be a fish habitat area is a matter of State Environmental Significance.	There are no fish habitat areas under the *Fisheries Act 1994* present on the property.
Waterway Providing for Fish Passage	
1) Any part of a waterway providing for passage of fish is a matter of State Environmental Significance only if the construction, installation or modification of waterway barrier works carried out under an authority will limit the passage of fish along the waterway.	The proposal seeks to cross a red high-risk waterway (Currunda Creek) providing passage for fish that may be considered waterway barrier works. The design, construction and operation of the low-level crossing will be required to comply with DAF criteria for provision of adequate fish passage.

Matters of State Environmental Significance	Triggers
	If the crossing cannot comply with the accepted development criteria then a development approval will be required from Department of Fisheries.
Marine Plants	
A marine plant within the meaning of the *Fisheries Act 1994* is a matter of State Environmental Significance.	There are no marine plants under the *Fisheries Act 1994* recorded on the project site nor are they considered likely to occur.
Legally Secured Offset Areas	
A legally secured offset area is a matter of State Environmental Significance.	There are no legally secured offset areas intersecting the property.

6.4 Significant Residual Impact Assessment

An environmental offset condition may be imposed under various State assessment frameworks (such as the Nature Conservation Act (1992), Sustainable Planning Act 2009 (SPA) and Environmental Protection Act (1994) for an activity prescribed under the Environmental Offsets Act 2014 (EO Act), if the activity will, or is likely to have a significant residual impact (SRI) on a prescribed environmental matter that is a matter of state environmental significance (MSES) (DSDIP, 2014b).

For the following eight (8) NC act 1992 listed fauna considered at least a moderate potential to occur within the project site, a significant residual impact assessment is required.

- Australian Lace-lid (*Litoria dayi*) Vulnerable
- Green-eyed Treefrog (*Litoria serrata*) Vulnerable
- Waterfall Frog (*Litoria nannotis*) Endangered
- Common Mist Frog (*Litoria rheocola*) Endangered
- Southern Cassowary (*Casuarius casuarius johnsonii*) Endangered
- Macleay's Fig Parrot (*Cyclopsitta diophthalma macleayana*) Vulnerable
- Diadem's Leaf-nosed Bat (*Hipposideros diadema*) Near Threatened
- Spectacled Flying-fox (*Pteropus conspicillatus*) Endangered

Addressing mitigation measures for these species will include the revegetation works increasing habitat in the long term and provide a list of erosion and sediment control measures etc.

For the following five (5) NC act 1992 listed flora considered at least a moderate potential to occur within the project site, a significant residual impact assessment is required.

- *Carronia pedicellata*- Endangered
- *Acalypha lyonsii*- Near threatened
- *Rhodamnia sessiliflora*- Endangered
- *Wetria australiensis*- Vulnerable
- *Canarium acutifolium*- Vulnerable

A further protected plant survey and approved impact management plant is required for the above listed flora species prior to vegetation clearing. An approved impact management plan must demonstrate no net loss of individuals as a principle. This is primarily achieved by avoidance, mitigation, translocation and offset.

6.5 Cairns Regional Council Natural Areas Overlay

The purpose of the Natural Areas Overlay is to protect the natural areas of the region through:

- avoiding development within areas of environmental significance, wetlands and declared fish habitat areas,
- minimising direct and indirect adverse impacts of development on areas of environmental significance,
- minimising adverse impacts on sensitive receiving environments,
- encouraging expansion of habitat and ecological connectivity and restoration of terrestrial and aquatic ecosystems.

An assessment of the impact to CRC non-urban waterway is required to show how it will comply with the relevant performance outcomes that apply to this matter.

7.0 Conclusions

The ecological constraints assessment for the project site identified a several constraints on the property for consideration in advancing the proposal:

7.1.1.1 Regulated Vegetation (Vegetation Management Act 1999)

The project site contains Category R watercourse regrowth and Category X non remnant vegetation. All category X vegetation is exempt clearing under the *VM Act 1999*.

For Category R regrowth (see **Figure** 4) the department of resources will require assessment of some minor areas of category R -watercourse regrowth which are proposed to be cleared under the proposal. This may be excepted as offset with the implementation of the rehabilitation works on the site which will see an improvement to the watercourse (Currunda Creek) over time.

7.1.2 Threatened Ecological Communities (EPBC Act 1999)

Based on the initial site assessment it is considered that the vegetation present as RE 7.3.10a and RE 7.11.7 (refer **Figure 4**) will potentially conform to the determination of the threatened ecological community (TEC) floristically and structurally. However, a detailed field survey of the vegetation is required to determine the relevant condition class.

A connectivity and patch size assessment is critical to categorizing this and may require consideration of the quality of vegetation on adjoining properties.

7.1.2.1 Threatened Flora (NC Act 1992)

No portion of the project site is located within a protected plant trigger area (*NC Act 1992*). A field survey undertaken by a 4 Elements botanist which targeted the project site did locate protected plants within the clearing alignment. This has triggered the need for a protected plant survey to be undertaken at the site.

The clearing of vegetation within 100 m of a protected plant will require an impact management plan approved by the Department of Environment, Science and Innovation.

7.1.2.2 Threatened Flora (EPBC Act 1999)

Two (2) EPBC Act 1999 listed threatened flora species were recorded outside of the project site. The single threatened flora species recorded within the project site is not listed as threatened under the EPBC Act 1999 and therefore, there are no EPBC Act 1999 triggers for threatened plants within the project site.

7.1.2.3 Threatened Fauna (NC Act 1992)

A total of eight (8) threatened fauna species listed under the *NC Act 1992* have at least a moderate potential to occur within the project site (**Appendix C**). As a result, a Significant Residual Impact Assessment for each species is required to determine if the project site have a significant impact on any of these species. Avoiding a significant impact on the four (4) listed frog species will be focused on details around the revegetation of Currunda Creek,

designing a bridge crossing that does not impact hydrological flow, detailing lack of vegetation clearing required at the crossing and a pre-clearance survey to look for frogs prior to ground disturbance.
Potentially occurring bat species are unlikely to be significantly by the proposal and the Southern Cassowary is likely to be mitigated as per the EPBC requirements of the referral outcome.

7.1.2.4 Threatened Fauna (EPBC Act 1999)

A total of four (4) threatened fauna species listed under the *EPBC Act 1992* have at least a moderate potential to occur within the project site (**Appendix C**). As a result of Significant Impact Assessments is required for each species

A significant impact assessment will be required to be completed for each of the above potentially occurring EPBC Act 1999 listed species. Given the potential for the listed species to potentially be impacted by the proposal, greater detail will need to be provided regarding the construction of the bridge crossing, management of hydrology etc to feed into the assessment.

The Southern Cassowary will likely require a referral under the EPBC Act 1999 due to the project likely triggering any of the below thresholds;

- Clearing of greater than 1500m^2 of habitat
- Any clearing of Cassowary habitat adjacent (within 50 m) to a watercourse
- Any action that alters water quality or flow
- Any action which reduces connectivity (fencing, roads, service infrastructure etc.)
- Any upgrade of road through a waterway

Although we will be noting in any submission that the project seeks to improve the outlook for all rainforest dependent species (revegetation of Currunda Creek), the proposal is likely to trigger at least one of the above thresholds. This will therefore require further details on traffic volumes, speed limits, connectivity, and a detailed rehabilitation plan for Currunda Creek to justify potential impacts to this species.

A referral under the EPBC Act 1999 is likely to be required for the Southern Cassowary.

7.1.2.5 Migratory Species (EPBC Act 1999)

A review of EPBC listed migratory species identified two (2) species with a moderate likelihood of occurrence (**Appendix C)** of these species the Rainbow Bee-eater was confirmed during the site survey.

- Black-faced Monarch
- Rufous Fantail

Assessment under the EPBCA – Matters of National Environmental Significance determined the impact as a result of establishing the proposal was unlikely to be significant. Therefore, **a referral to the Department of Climate**

Change, Energy, Environment and Water for approval is NOT considered to be required for migratory species.

7.1.2.6 Waterways (VM Act 1999 and *Fisheries Act 1999)*

The project site does not contain any mapped MSES high ecological significance wetlands or watercourses listed under the VM Act 1999.

The project requires disturbance to a red (high risk) waterway for barrier works listed under the *Fisheries act 1994*. Work that complies with the relevant code for red (high risk) waterways are considered accepted development works and do not require assessment or a permit to undertake works. If waterway barrier works do not comply with the relevant code, then the Planning Act makes it an offence to carry out such works without an approved development permit.

To prevent movement of sediment from the ephemeral drainage lines entering downstream into mapped waterways, the development of an Erosion and Sediment Control Plan (ESCP) to mitigate potential impacts on Currunda Creek must be developed by an environmental specialist and be submitted to regulators prior to construction as evidence of appropriate environmental management.

8.0 References

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Appendix A Protected Matters Report (EPBC)

Appendix B Wildlife Online (NCA)

Appendix C Potential Occurrence Assessment

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Threatened Fauna					
Birds					
Southern Cassowary	*Casuarius casuarius johnsonii*	E	E	This large and conspicuous bird generally requires dense tropical rainforest (such as complex/non-complex notophyll/ mesophyll vine forest) and associated habitat (such as mangrove Melaleuca, eucalypt woodland, swamp and swamp forest), that provides a year-round supply of fleshy fruit (DCCEEW 2023).	**Likely** Numerous records are present for this specie sin the Redlynch Valley. This species is known to frequent watercourses dissecting RE 7.3.10a, RE 7.11.7 which are present within the project site.
Macleay's Fig Parrot	*Cyclopsitta diophthalma macleayana*	-	V	A very small and fast flying parrot that feeds primarily on figs within rainforest and adjacent open forests that support these species (DES 2023). This species is common and widespread on the Cairns coastal plain.	**Confirmed** This species was confirmed to be present within the project site canopy during the field survey. Recorded in canopy trees of RE 7.3.10a along Currunda Creek riparian corridor.
Red Goshawk	*Erythrotriorchis radiatus*	E	E	The Red Goshawk occurs in coastal and subcoastal areas in wooded and forested lands of tropical and warm-temperate Australia (Marchant & Higgins 1993). It nests in large trees, frequently the tallest and most massive in a tall stand, and nest trees are invariably within 1 km of permanent water(Debus & Czechurn 1988, Aumann & Baker-Gabb 1991). Habitat must be open enough for fast attack and manoeuvring in flight but provide cover for ambushing of prey. Therefore, forests of intermediate density is favoured, or ecotones between habitats of differing densities, such as between rainforest and eucalypt forest, between gallery forest and woodland, or on edges of woodland and forest where they meet grassland, cleared land, roads or watercourses (SPRAT n.d.) (DCCEEW 2023).	**Low** No proximate records to the property. Lack of suitable habitat present within the property.
Grey Falcon	*Falco hypoleucos*	V	V	The species occurs in arid and semi-arid Australia. The species is mainly found where annual rainfall is less than 500 mm. The species frequents timbered lowland plains, particularly acacia shrublands that are crossed by tree-lined water courses (Garnett et al. 2011; Watson 2011; Schoenjahn 2013, 2018; Janse et al. 2015; Ley and Tynan 2016). The species has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter (Olsen and Olsen 1986; Schoenjahn 2018).	**Low**: Lack of suitable habitat present within the property. No proximate records to the property.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
White-throated Needletail	*Hirundapus caudacutus*	V	V	The White-throated needletail is widespread in eastern and south-eastern Australia during the summer months. In eastern Australia, it is observed in all coastal regions of Qld and NSW, extending inland to the western slopes of the Great Divide and occasionally onto adjacent inland plains. This species is predominantly aerial, ranging from heights of less than 1m to over 1,000m above the ground, rendering conventional habitat descriptions inapplicable. Nevertheless, certain preferences are exhibited, with a higher occurrence above wooded areas, including open forest, rainforest, and heathland. They may also fly between trees or in clearings below the canopy, though less commonly above woodlands, or treeless areas such as grassland or swamps. Foraging often takes place in areas with updraughts, such as ridges, cliffs, sand dunes, or along the edges of low-pressure systems. The White-throated needletail has been recorded roosting in trees within forests and woodlands, either among dense foliage in the canopy or in hollows.	**Low** This species is considered near certain to utilise the project site for aerial foraging and dispersal. However, given the lack of roosting or breeding habitat, there is considered no reasonable potential for the proposal to impact this species.
Masked Owl (Northern subspecies)	*Tyto novaehollandiae kimberli*	V	V	The masked owl *Tyto novaehollandiae kimberli* is a medium-sized owl, which inhabits sclerophyll forest and woodlands often near ecotones which exhibit open habitat such as fields and grasslands (Debus & Davies 2012, Debus & Wood 2007). Roosting occurs in tree hollows, caves, or dense foliage (McNabb et al. 2003). Rodents comprise much of the diet, with arboreal mammals such as gliders also predated upon by masked owl, as well as frogs, lizards and insects (Fitzsimons & Rose 2008). This species has large ranging patterns from 400 – 1500 ha, and some studies identifying ranging over 3000 ha (McNabb et al. 2003).	**Low:** Lack of suitable habitat within property. No proximate records to the property.
Reptiles					
Estuarine Crocodile	*Crocodylus porosus*	-	V	This species is found in Australian estuaries, coastal waters, lakes, marshes and inland swamps (DCCEEW 2023). The species can be located from Rockhampton in Queensland to Northern Territory and King Sound in Western Australia.	**Low** Lack of suitable habitat within the property.
Merten's Water Monitor	*Varanus mertensi*	E	E	The Mertens Water monitor is a semi-aquatic species distributed across northern Australia, from the Kimberley region in Western Australia, across the Top End of the Northern Territory and through north Queensland. This species is an active predator and preys on an array of fish, frogs and small mammals. The aquatic habitat s for this species includes gorges with pools and creeks, rivers, billabongs, spring's and swamps.	**Low** Lack of suitable habitat within the property.
Amphibians					
Australian Lacelid	*Litoria dayi*	V	V	The Australian Lacelid occurs throughout the Wet Tropics Bioregion from Paluma to Cooktown, at altitudes between 0 and 1,200 m. It is associated with rainforests and rainforest margins. At low elevations, the Australian Lace lid favours rock soaks, narrow ephemeral streams, and rock outcrops in larger watercourses (DES 2024).	**Likely** Numerous records of this species are present across the Redlynch Valley. Likely to be present within the Currunda Creek Riparian Corridor.
Waterfall Frog	*Litoria nannotis*	V	E	A torrent frog historically known to occur at elevations up to 1300m asl, although as a result of chytrid fungus it was considered to be restricted to lower elevation habitats. In 2013 upland populations were rediscovered at Mt Spurgeon. This suggests a potential for recovery from chytrid fungus (DCCEEW 2023). This species is a rainforest and wet sclerophyll forest stream specialist which is never found far from the stream body. Occasionally observed in stream side vegetation, most behaviours are carried out within the stream body itself.	**Likely** This species has been recorded in 2021 on Currunda Creek immediately south of the property.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Kuranda Tree Frog	*Litoria myola*	CR	CE	The Kuranda tree frog is a critically endangered frog located in the Kuranda region west of cairns, where it breeds in small rainforest streams that flow into the Barron River. The population is small and is estimated at approximately 700 individuals. There are only 12 known breeding aggregations between the localities of Kuranda, Myola, Mantaka, Kowrowa and Oak Forest.	**Low** Proximate records do not occur. This endangered frog has core populations in the Kuranda region and habitat on the study site is generally not suitable for this species, which occurs within rainforest.
Mountain Mistfrog	*Litoria nyakalensis*	CR	CE	The Mountain Mist Frog occurs in upland rainforest and wet-sclerophyll forest along fast flowing streams where there is white water from riffles and cascades (Liem 1974; McDonald 1992) where it inhabits rocks and overhanging vegetation.	**Low** This species has not been recorded since 1990 despite multiple biodiversity and targeted surveys in the region. When previously observed it was known only above 300m asl. Unlikely to occur within the project site.
Common Mistfrog	*Litoria rheocola*	-	E	The Common Mist Frog occurs from Broadwater Creek National Park (north of Ingham) to Amos Bay (south of Cooktown) in northern Queensland, at altitudes between 0 and 1,180 m above sea level. The species is restricted to fast flowing rocky creeks and streams in rainforest or wet sclerophyll forest (DCCEEW 2023).	**Likely** This species has been recorded within Currunda Creek in August 2022. IT is likely to occur within the Currunda Creek riparian corridor.
Green-eyed Tree Frog	*Litoria serrata*	-	V	A medium sized stream frog of rainforest environments that occurs from south of Cooktown to the Paluma range. Females are present high in the canopy except for breeding time (Nov – Feb) where they come down to streams where males live year-round (DES 2023).	**Likely** This species has recorded on three occasions approximately 300m to the west within Currunda Creek. Although this species is highly likely to be recorded within the project site, the value of the direct clearing alignment is not considered important to the species due to clearance on creek disturbance.
Sharp-snouted Day Frog	*Taudactylus acutirostris*	EX	PE	A small frog endemic to montane forests of the Wet Tropics occurring within small mountain streams above 300m asl. Easily distinguished from other frogs This species was recorded on rocks during the day near or within fast flowing water and in leaf litter during wet weather. During the wet season it could be recorded a distance from the stream environment (DCCEEW 2023). Declined suddenly from 1988 to 1993 with the last individuals recorded in 1997 near Mt Hartley.	**Low** Lack of suitable habitat within the property.
Tinkling Frog	*Taudactylus rheophilus*	CR	CE	This species is confined to four disjunct populations in upland rainforests between Thornton Peak and Belleden Ker. It is found beneath rocks, roots and logs in seepage and trickle areas beside fast-flowing streams (McDonald 1992).	**Low** Lack of suitable habitat within the property.
Freshwater Fish					
Cairns Rainbowfish	*Cairnsichthys rhombosomoides*	E	-	Cairns Rainbow fish (*Cairnsicthys rhombosomoides*) was also omitted from the results as this species occurs only in the lower catchments between Gordonvale and Tully.	**Low** Lack of suitable habitat within the property. No proximate records to the property.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Lake Eacham Rainbow Fish	*Melanotaenia eachamensis*	E	-	Lake Eacham Rainbow fish (*Melanotaenia eachamensis*) was also omitted from the results as this species occurs only in the upper Barron and Johnstone River catchments at altitudes above 500m.	**Low** Lack of suitable habitat within the property. No proximate records to the property.
Opal-cling Goby	*Stiphodon semoni*	CE	-	In Australia, this species is found in pristine rainforest streams that have significant flow and direct access to marine habitats (DAWE 2020).	**Low** Lack of suitable habitat within the property. No proximate records to the property.
Mammals					
Northern Bettong	*Bettongia tropica*	E	E	This small macropod is found in Eucalypt forest types ranging from tall open forest dominated by *Eucalyptus grandis* and *E. resinifera* to dry sclerophyll medium height open forest dominated by *Corymbia citriodora* (DEHP 2013).0	**Low** Recent population census for this species conclude it is restricted to the western side of the Lamb range, where it exists in open eucalypt woodlands.
Northern Quoll	*Dasyurus hallucatus*	E	LC	The northern quoll is a medium-sized carnivorous marsupial predominantly occupying rocky plateaux, open forest, and lowland savanna in Northern Australia. Den sites are generally in tree hollows, rock crevices, logs, termite mounds and goanna burrows and the diet consist of insects, mammals, birds, frogs, reptiles, and fruits (Oakwood 1997). Females have mean home ranges of 35 ha. Males adopt a 'roving strategy' regularly visiting several widely distributed females, with ranges similar to females prior to mating season, and in excess of 100 ha during the breeding season (Oakwood 2000).	**Low** Lack of suitable habitat within the property. No proximate records to the property.
Spotted-tail Quoll	*Dasyurus maculatus gracilis*	E	E	The Spotted-tail quoll northern sub-species is predominately recorded in upland closed forests of the Wet Tropics Bioregion. Historical records as far south as the Paluma Range and north to Cooktown have contracted (DES 2023).	**Low** This species is largely restricted to the higher elevation rainforest communities
Diadems leaf-nosed Bat	*Hipposideros diadema reginae*	-	NT	The distribution of the Diadems-leaf nosed bat in north Queensland extends from Cape York Peninsular, through Townsville and as far inland as Chillagoe. The vegetation communities in which this bat has been recorded are varied, and include open Eucalypt woodlands, lowland rainforests, Melaleuca forests and deciduous vine thickets. Roosting habitat consists of caves, disused mines building and culverts. There is speculation that this bat may also roost within the foliage of vegetation (Hourigan 2011)	**Moderate** Known from Dinden NP to the west. This species may utilise the site for dispersal and generic foraging habitat. No deening habitat is present for this species within the project site.
Semon's leaf-nosed Bat	*Hipposideros semoni*	V	E	The distribution for this species is poorly known having been recorded from Iron Range National Park to Cooktown (DES 2023). Foraging habitat is expected to include rainforest and savannah woodland (DES 2023).	**Low** Lack of proximate records for this species. No records occur south of Cooktown (approx. 170 km north). The direct clearing area contains no potential for denning habitat given the lack of large hollow bearing trees.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Ghost Bat	*Macroderma gigas*	V	E	The Ghost bat occurs in Queensland from Cape York to Rockhampton with a wide range of foraging habitats, from arid woodland in the Pilbara to tropical woodlands and rainforests. Key to the ecology of this species is the presence of suitable roosting habitat consisting of deep cave structures and rock crevices with reports of the species utilizing abandoned mining excavations (Threatened Species Scientific Committee 2016, Tidemann et al. 1985). Colonies may disperse >150 km during winter from colonial roost sites into smaller groups throughout the landscape.	**Low** Lack of suitable sclerophyll woodland habitat within property. No potential denning sites were present in the project site.
Black-footed Tree Rat	*Mesembriomys gouldii rattoides*	V	LC	The distribution of this species in Queensland is poorly known, however they are mostly recorded in eucalypt forests and woodlands around Mareeba (Burnett 2001; Starr, Diete *et al.* 2017) 2001, Weipa (Starr and Waller 2014) and sparsely across Cape York (Dixon and Huxley 1985). Hollow availability is likely to be an important factor in their abundance.	**Low** Lack of suitable sclerophyll woodland habitat within property.
Northern Greater Glider	*Petauroides minor*	V	V	The Greater glider occurs in a variety of eucalyptus dominated forests (Van Dyck & Strahan 2008). The species is more abundant in Higher altitude forests, preferring areas with Highly fertile soils (Braithwaite et al. 1988, Menkhorst 1995). Greater gliders are a hollow dependant species, which is reasonably sedentary due to their folivorous diet. Due to their requirement of hollows, they require mature forests for denning (Menkhorst 1995). Males and females have reasonably small home ranges, which overlap that are known to be between 1 and 11.5 ha (Smith et al. 2007).	**Low** Lack of suitable sclerophyll woodland habitat within property.
Yellow-bellied Glider	*Petaurus australis brevirostrum*	V	V		**Low** Lack of suitable sclerophyll woodland habitat within property.
Koala	*Phascolarctos cinereus*	E	E	The Koala is widely distributed in eucalypt forest and woodland along the east and south coast of Australia from Kangaroo Island to Far North Queensland (DAWE 2022). Due to complex interactions between Eucalypt trees with soil composition and water availability, palatability of food trees can vary at the local scale with soil fertility and water regimes likely influencing factors (Curtis & Dennis 2012). Preferred southern food trees such as *Corymbia citriodora* and *Eucalyptus tereticornis* are expected to be present on site.	**Low** Lack of preferred habitat within property. May utilise *Corymbia tessellaris* and *Eucalyptus camulduensis* browse species present along Gladstone Creek immediately east of the project site.
Spectacled flying-fox	*Pteropus conspicillatus*	E	E	The Spectacled flying-fox occurs in the vicinity of tropical forest in the Iron Range and Wet Tropics within Australia (Churchill 2009). This species utilises resources in a diversity of landscapes- farms, eucalypt forests, melaleuca swamps, littoral and coastal forests, mangroves and urban areas. This species generally camps within or near rainforest, however are able to easily cover 50-100 km in a single night. Young are born from October to December, and weaned at 5 months however cared for in creches for many more months.	**Likely** No evidence of roosting was observed during the field survey. The project site canopy is highly likely to be utilised for foraging of fruits and blossom throughout the year by small numbers of individuals.
Large-eared horseshoe Bat	*Rhinolophus robertsi*	V	E	This species occurs only in northern Queensland, from the Iron Range southwards to Townsville and west to Chillagoe (Pavey & Kutt 2008, Churchill 2008). The species is found in lowland rainforest, along gallery forest-lined creeks within open eucalypt forest, Melaleuca forest with rainforest understorey, open savanna woodland and tall riparian woodland of Melaleuca, *E. tereticornis* and *C. tessellaris(DAWE 2020).* It mainly roosts in caves and underground mines located in rainforest, and open eucalypt forest and woodland, however roosts have also been observed in road culverts, and it is suspected that the species also uses basal hollows of large trees, dense vegetation, rockpiles and areas beneath creek banks (SPRAT n.d.) (DCCEEW 2022).	**Low** Lack of suitable habitat within the property. No proximate records to the property.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Bare-rumped Sheathtail Bat	*Saccolaimus saccolaimus nudicluniatus*	V	E	Occasional individuals have been collected from a narrow coastal region (less than 40 km inland) between Ayr and Cooktown, North Queensland, with one isolated specimen from north of Coen on Cape York Peninsula (DEE 2018). The species inhabits tropical woodland and tall open forests where it roosts in long, wide hollows in the trunks of various Eucalypts, especially *E. tetradonta* and *E. platyphylla* (DCCEEW 2024).	**Low** Lack of suitable habitat within the property. No proximate records to the property.
Coastal Sheathtail Bat	*Taphozous australis*	-	NT	A small grey, brown Emballonurid bat occurring along the east coastline of Australia from Gladstone to CYP. It is not known to occur greater than 3km inland from the coastline. This species roosts in caves and sea cliffs although has been recorded utilising boulder piles, concrete bunkers, disused mines and occasionally buildings (Hourigan 2011).	**Low** Lack of suitable habitat within the property.
Water Mouse	*Xeromys myoides*	V	V	Although the Water Mouse had been documented in three distinct locations (Northern Territory, central south Queensland, south-east Queensland) they require similar habitat including mangroves and the associated saltmarsh, sedgelands, clay pans, heathlands and freshwater wetlands. The main habitat difference at each location is the littoral, supralittoral and terrestrial vegetation which differs in structure and composition. These differences dictate the species' nesting behaviour.	**Low** Lack of suitable habitat within the property.
Plants					
-	*Acalypha lyonsii*	-	V	A large shrub 1-4 m tall in the Euphorbiaceae family. Leaves 10-45 mm long by 8-25 mm wide within 4-9 teeth prominent along the margin. Grows in two (2) populations. One is located in the Redlynch Valley within the Currunda Creek catchment and the other is located on the Currunda Creek catchment. Both populations occur soils derived from metamorphic mudstone (AVH 2023).	**Likely** This species is recorded in the riparian corridor of Currunda Creek approximately 650m to the east. Some records are recorded within the property boundary (AVH 2024). As a result, this species was a key target of the field survey. Targeted search did not locate this distinctive large shrub.
-	*Alpinia hylandii*	-	NT	This native ginger plant is found at altitudes of 400-1000m above sea level and grows as an understory shrub in mountain rainforests	**Low** This species is not located on the lowland coastal plain except for in situations where it is cultivated.
Red Silky Oak	*Alloxylon flammeum*	V	V	A tall tree in the Proteaceae family growing to height of up to 35 m. It has dark green glossy leaves to a length of 18 cm. It produces bright red terminal clusters of flowers (DCCEEW 2023).	**Low** This species is not located on the lowland coastal plain except for in situations where it is cultivated.
-	*Archontophoenix myolensis*	E	E	Endemic to NEQ, restricted to the areas around Harvey Creek and the township of Bellenden Ker, and Hutchinson Creek, Cow Bay. Altitudinal range from near sea level to 100 m. Grows as an understory plant in +/- undisturbed lowland rain forest.	**Low** This species is not located on the lowland coastal plain except for in situations where it is cultivated.
-	*Argophyllum curtum*	-	NT	Endemic to NEQ, occurring in the Kuranda to Edmonton area, near Cairns. Altitudinal range from 120-630 m. Grows in open forest or on the edges of streams in rainforest on sandy loam from granite alluvium.	**Low** This species is not located on the lowland coastal plain below 100 m asl.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Hairy-joint Grass	*Arthraxon hispidus*	V	V	This species is found in and on the edges of rainforest and in wet sclerophyll forest, often near creeks or swamps. Within Australia, it has not been recorded north of Rolleston (it has also been recorded from Timor and Papua New Guinea) (DCCEEW 2023).	**Low** Suitable habitat is present within the project site, but this species has not been recorded north of Rolleston to the south of Townsville.
	Austromuellera trinervia	-	NT	Daintree River and the Butchers Creek-Boonjee area on the western side of Mt Bartle Frere. Altitudinal range from sea level to 800 m. Grows in well-developed lowland and upland rain forest (Zich et al. 2010).	**Low** Suitable habitat may be present on site. This species is known to occur on a variety of soils in the locality. No proximate records.
-	*Bryobium dischorense*	-	V	An epiphytic orchid of montane rainforest communities (Jones et al. 2010).	**Low** Suitable habitat is not present within the clearance impact area
Haines's Orange Mangrove	*Bruguiera x hainesii*	CE	CE	The Haines's Orange mangrove is an evergreen mangrove tree that grows to 18m tall. One population is known in the Cairns region and occurs adjacent to the Trinity Inlet (AVH 2022).	**Low** Lack of suitable estuarine habitat within the clearance impact area
-	*Canarium acutifolium* var. *acutifolium*	V	V	In Australia, *C. acutifolium* grows naturally below ca. 100 m (330 ft) altitude in the scarce remaining lowland rainforests of the Wet Tropics region of north-eastern Queensland (Zich et al. 2020).	**Confirmed** This species was confirmed approx. 40 m to the west of Lot 22 along the low bank of Currunda Creek. No individuals will be directly impacted as a result of the proposal.
-	*Carronia pedicellata*	E	E	A large woody climber of the Menispermaceae family. It grows as an epiphyte in well-developed lowland vine forest on metamorphic and granitic slopes. This species is known to occur from Bellenden Kerr to Mission Beach. A further disjunct population is known form the Noah Creek catchment (DCCEEW 2023).	**Moderate** The clearance impact area does suitable habitat. Nearest record located 1.5 km to the south t in the Freshwater Creek catchment (AVH 2012)
-	*Coleus gratus*	E	E	Plectranthus gratus, Family Lamiaceae, is a soft, woody, densely hairy shrub growing up to 1 m tall. The inflorescence is an elongated spike to 30 cm, with clusters of 10–20 small, blue to lilac, two-lipped flowers, 7–11 mm long. It is distinguished from the related P. apreptus by the more numerous flowers in each cluster, shorter leaf stalks and more densely hairy leaves. Plectranthus gratus is known from only four locations, from south of Cairns and east of the Great Dividing Range in north Queensland (DCCEEW 2023). The species inhabits rock outcrops of granite or basalt in either wet Eucalypt forest or vine forest	**Low** There is a distinct lack of suitable habitat within the clearance impact area for this species. No rock outcrops or suitable geology to support this species.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
-	*Crepidomanes majoriae*	-	CR	In Australia the species occurs in north-east QLD and Norfolk Island. In QLD the species has been recorded on the Atherton Tablelands around Tinaroo and the Malaan. Grows on damp rocks and tree trunks, often near streams or beside waterfalls. Sites are moist and shaded.	**Low** Canopy cover along Currunda Creek within the project site is unlikely to provide a suitable micro-climate for this species.
Thin Feather Orchid	*Dendrobium callitrophilum*	V	V	Occurs in rainforests and rainforest margins at high atitudes. It favours Stringybark Cypress Pine (Callitris macleayana) as a host, but also grows on various shrubby myrtles, such as *Rhodamnia* and *Austromyrtus* (Zich 2020).	**Low:** Suitable habitat is not present within the clearance impact area. No proximate records.
Dark-stemmed Antler Orchid	*Dendrobium mirbelianum*	E	E	An epiphytic orchid of mangroves and coastal swamps between the Daintree and Innisfail (AVH 2020).	**Low** Suitable habitat does not occur within the project site. No proximate records.
-	*Dendrobium nindii*	E	E	An epiphytic orchid of mangroves and coastal swamps between the Daintree and Innisfail (AVH 2020).	**Low** Suitable habitat does not occur within the project site. No proximate records.
	Dinosperma longifolium	-	E	A small tree to a height of 7 m in the Rutaceae family. Leaves are simple with a narrowly cordate base (Zich Known from high elevation vine forest communities at Lake Morris, Mt Bartele Freer and Bellenden Kerr (Zich et al 2020). .	**Low** Suitable montane rainforest does not occur within the project site. Nearest record located on the western bank of Lake Morris ~7.5 km to the west of the clearance impact area.
-	*Diplazium cordifolium*	V	V	*Diplazium cordifolium* is a small terrestrial fern with a short erect rhizome. Leaves are pale green leathery and comprised of a simple lamina. found in rainforest, along creek banks. It is usually found below 80-100 m altitude, although one population in Palmerston valley grows at 475 m altitude	**Low** Although suitable habitat is present along Currunda Creek a targeted search for this distinctive simple leaved terrestrial fern did not located any individuals. The nearest recent record is approximately 30 km to the south.
-	*Diplazium pallidum*	V	V	A small terrestrial fern with a short erect rhizome. Leaves are pale green leathery and comprised of a simple lamina. found in rainforest, along creek banks. It is usually found below 80-100 m altitude, although one population in Palmerston valley grows at 475 m altitude	**Low** Although suitable habitat is present along Currunda Creek a targeted search for this distinctive simple leaved terrestrial fern did not located any individuals. The nearest recent record is approximately 30 km to the south.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
-	*Eleocharis retroflexa*	V	V	This tufted annual sedge to 10cm in height has four-angled stems that grows in shallow inundated swamps.	**Low** Suitable habitat is not present within the clearance impact area.
-	*Grevillea glossadenia*	V	V	A shrub of open savannah woodland on dry metamorphic and granitic hillslopes.	**Low** Suitable habitat is not present within the clearance impact area.
-	*Leichhardtia araujacea*	CR	CR	A very rare woody vine in the Apocynaceae family. It grows in lowland rainforest along spring fed creeks. Recently rediscovered near Trebonne on the Herbert River west of Ingham under a canopy of *Blepharocarya sp.* (Forster 2019)	**Low** Although suitable habitat is present along Currunda Creek, this species has no regional records and was not detected during the targeted survey.
Ant Plant	*Myrmecodia beccarii*	V	V	The ant plant occurs in coastal woodland and mangrove between Cooktown and Ingham in Queensland. It is a unique epiphyte (a plant that lives harmlessly on another plant) that has a special association with the golden ant which lives in the chambers of the tuber, and the Apollo jewel butterfly which lays its eggs on the plant. The golden ants carry the butterfly eggs into the chambers where they develop into butterflies.	**Low** There is a distinct lack of suitable habitat within the project site.
-	*Parsonsia largiflorens*	-	E	A climbing vine of the Apocynaceae family. This species is distributed in South East Qld and as a highly disjunct population in the Wet Tropics.	**Low** There is a distinct lack of proximate records. Targeted survey effort did not locate this species within the clearance impact area.
Lesser Swamp Orchid	*Phaius australis*	E	E	Phaius australis grows in areas where soils are almost always damp, but not flooded for lengthy periods. Sands are generally the underlying soil type. P. australis are usually found in coastal habitats between swamps and forests or in suitable areas further inland. This includes swampy sclerophyll forest dominated by melaleucas, swampy forest that often have scleorphyll emergents, or fringing open forest and melaleuca swamp forest associated with rainforest species (DES 2024).	**Low** Distinct lack of suitable habitat within the clearance impact area. No proximate records. Well drained sloping site with closed vine forest canopy will exclude this species.
Forest Swamp Orchid	*Phaius pictus*	V	V	*Phaius pictus* occurs in north-east Queensland, sporadically from the McIlwraith Range, Bloomfield River to Kirrama Range. It is highly localised, restricted to rainforests from 0–600 m altitude, and usually occurs in sheltered humid sites close to streams and seepage among forest litter on boulders (Jones 2006).	**Low** Distinct lack of suitable habitat within the clearance impact area. No proximate records.
Moth Orchid	*Phalaenopsis rosenstromii*	E	E	Occurs within well-developed rainforest as an epiphyte within humid sections with high air movement (Jones et al. 2020).	**Low** Distinct lack of suitable habitat within the clearance impact area. No proximate records.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Blue Tassel Fern	*Phlegmariurus dalhousieanus*	E	CR	A rare and sparsely distributed epiphytic fern. The Blue Tassel-fern is known from only two collections in Queensland, both of which are in lowland swamp forest near Cairns, one of which has been lost to urban development (Queensland Herbarium, 2008). It is an epiphyte on trees or rocks and has been recorded growing in clumps of Platycerium (staghorn), and anecdotal information suggests the species still occurs in coastal swamps between Daintree River and Cooktown, and in the McIlwraith Range.	**Low** Canopy cover along Currunda Creek within the project site is unlikely to provide a suitable micro-climate for this species.
Water Tassel Fern	*Phlegmariurus delbrueckii*	V	V	Epiphytic or lithophytic fern located above 800 m asl from the Windsor Tablelands to the Kirrama Range (Field et. al. 2022).	**Low** Distinct lack of suitable habitat within the clearance impact area. No proximate records.
Rat's Tail Tassel Fern	*Phlegmariurus filiformis*	E	CR	Branches are tufted, pendulous, slender, forked at least once, to 120 cm long. The Rat's Tail Tassel-fern is an epiphyte on canopy trees in complex vine forest	**Low** Lack of suitable habitat for this species within the clearance impact area. The regrowth structure of the vegetation present did not support high numbers of epiphytes. This species is readily detectable when present.
-	*Phlegmariurus lockyeri*	V	V	A lithophyte or epiphyte of rainforest occurring along watercourses between Tully and the Daintree (Field et al 2022).	**Low** Lack of suitable habitat for this species within the clearance impact area. The regrowth structure of the vegetation present did not support high numbers of epiphytes. This species is readily detectable when present.
Rock-tassel Fern	*Phlegmariurus squarrosus*	CE	CE	A lithophyte or epiphyte of rainforest occurring along watercourses between Tully and the Daintree (Field et al 2022).	**Low** Lack of suitable habitat for this species within the clearance impact area. The regrowth structure of the vegetation present did not support high numbers of epiphytes. This species is readily detectable when present.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Square Tassel Fern	*Phlegmariurus tetrastichoides*	V	V	Endemic to NE QLD between Mt Finnegan and Eungella.	**Low** Lack of suitable habitat for this species within the clearance impact area. The regrowth structure of the vegetation present did not support high numbers of epiphytes. This species is readily detectable when present.
Middle Filmy Fern	*Polyphlebium endlicherianum*	E	V	A filmy fern that grows on rocks (often granite) in creeks and 'cool shady position' (AVH 2022). Recorded as a lithophyte in or near streams in upper montane rainforest (Field et al 2022).	**Low** Lack of suitable habitat for this species. The project site is outside the known elevational range for this species.
-	*Polyscias bellendenkerensis*	V	V	A small rainforest tree/shrub confined to Mount Bartle Frere, the Bellenden Ker Range, headwaters of Douglas Creek on the Daintree River and the Mount Pieter Botte area. Typically favours high altitude environments (Zich 2020a).	**Low** Suitable habitat is not present within the project site. The project site is outside the known elevational range for this species.
-	*Prostanthera athertoniana*	-	CR	Prostanthera athertoniana is a densely-foliaged shrub that typically grows to a height of about 1 m. It is only known from a single population at Kahlpalim Rock.	**Low** There is a distinct lack of suitable habitat within the clearance impact area for this species. No rock outcrops or suitable geology to support this species.
-	*Prostanthera clotteniana*	CE	E	A sub-shrub restricted to steep rocky habitats adjacent to or within rhyolite rock pavement habitats on the western dry edge of the Atherton Tablelands	**Low** There is a distinct lack of suitable habitat within the clearance impact area for this species. No rock outcrops or suitable geology to support this species.
-	*Randia audasii*	-	NT	Endemic to NEQ, restricted to the area between Cooktown, Cairns and Atherton. Altitudinal range from near sea level to 600 m. Grows as an understory tree in well-developed lowland and upland rain forest	**Moderate** Suitable habitat present within the Currunda Creek riparian corridor. Targeted search did not locate this species within the project site.
Iron Malletwood	*Rhodamnia sessiliflora*	-	E	Large shrub or small tree in the Myrtaceae family. It has large opposite leaves with a distinctive three veined appearance. Whitish hairs on new terminal shoots are distinctive for this species. A widespread species in the Wet Tropics growing 0-1000 m asl on a variety of sites. A characteristic component of rainforest regrowth (Zich et al. 2022).	**Confirmed** A population of approximately 15 individuals were recorded in regrowth RE 7.11.7 in the south west of the project site.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Crater Ironwood	*Rhodomyrtus canescens*	-	E	Endemic to NEQ. Altitudinal range from 500-1200 m. Grows in disturbed areas particularly road edges and snig tracks in upland and mountain rain forest, also found in wet sclerophyll forest.	**Low** The clearance impact area is outside the known elevational range for this species.
-	*Rhodomyrtus pervagata*	-	E	Endemic to NEQ. Altitudinal range from 350-1250 m. Grows in well developed upland and mountain rain forest. This species is favoured by disturbance and is a characteristic component of rain forest regrowth.	**Low** The project site is well below the known elevational range for this species.
-	*Spathoglottis paulinae*	-	NT	Altitude 300-800 m asl. Occurs in open forests in wet situations, growing among grass. It is frequently found in soaks and moist depressions, often in heavy clay soils. The plants can become deciduous in drought, but quickly regrow their leaves with the first rains. The flowers either open widely, and are insect-pollinated, or open poorly and are self-pollinated. The capsules are hairy and develop quickly.	**Low** Suitable habitat is not present within the project site.
-	*Tomophyllum walleri*	V	V	An epiphytic or lithophyte fern of upper montane rainforest. Rhizome is radial producing whorls of fronds up to 9 cm long (Jones 2010).	**Low** The project site is outside of the known range of this species.
Cooktown Orchid	*Vappodes lithicola*	V	V	A lithophytic orchid recorded from coastal ranges between Daintree and Cairns (DCCEEW 2022).	**Low** The project site is outside of the known range of this species.
-	*Vinetoxicum rupicola*	E	E	A thin stemmed twinning vine restricted to open forest communities on granitic derived soils. Grows immediately above permanent water on granite ranges in five discreet locations between Herberton Yarrabah and Gordonvale (DCCEEW 2024).	**Low** Suitable habitat is not present within the project site.
-	*Whyanbeelia terrae-reginae*	-	NT	Endemic to NEQ, restricted to the area between the Daintree and Johnstone Rivers. Altitudinal range from 100-400 m. Grows in well developed lowland and upland rain forest.	**Low** Suitable habitat is not present within the project site.
-	*Wetria australiensis*	-	V	A small tree to 15 m. A member of the Euphorbiaceae family, this species has large leaves up to 20 cm in length with distinctive light-coloured lateral venation (11-17) either side of the mid-rib. Occurs in NEQ. Known only from a few collections made in the Cairns region but also occurs in New Guinea. Altitudinal range not known but thought to be small, from near sea level to 100 m. Grows as an understory plant in seasonal lowland rain forest (Zich et al. 2024).	This species is recorded in the riparian corridor of Currunda Creek approximately 650m to the east. Some records are recorded within the property boundary (AVH 2024). As a result, this species was a key target of the field survey. Targeted search did not locate this distinctive large shrub.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Velvet Jewel Orchid	*Zeuxine polygonoides*	V	V	A terrestrial orchid with leaf bearing stems 5-10cm long with 3-5 leaves measuring 3-8cm long. It grows in rainforest sites within well-developed leaf litter. It is endemic to north-eastern Queensland on the coastal ranges between Daintree and Cairns at altitudes of 450-820m.	**Low** The project site is outside the known elevational range for this species. No proximate records.
Migratory and Marine fauna					
Fork-tailed Swift	*Apus pacificus*	Mi, Ma	SLC	The Fork-tailed swift is a non-breeding visitor to all states and territories of Australia (Higgins 1999). In north-east Queensland there are many records east of the Great Divide from near Cooktown and south to Townsville. The species is almost exclusively aerial, and mostly occur over inland plains, over dry or open habitats, including riparian woodland and tea-tree swamps, Low scrub, heathland or saltmarsh. They also occur over settled areas, including towns, urban areas and cities (SPRAT n.d.) (DCCEEW 2022).	**Low** No suitable habitat is present within the project site.
Oriental Cuckoo	*Cuculus optatus*	Mi	SLC	The Oriental cuckoo is a regular migrant to Australia, where it spends the non-breeding season (Sept-May) in coastal regions across northern and eastern Australia as well as offshore islands. The 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 (DCCEEW 2022).	**Low** No suitable habitat is present within the project site.
White-throated Needletail	*Hirundapus caudacutus*	V, Ma, Mi	V	In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground (Coventry 1989; Tarburton 1993). Because they are aerial, it has been stated that conventional habitat descriptions are inapplicable (Cramp 1985), but there are, nevertheless, certain preferences exhibited by the species. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest, and may also fly between trees or in clearings, below the canopy, but they are less commonly recorded flying above woodland (Higgins 1999).	**Low** No suitable habitat is present within the project site.
Barn Swallow	*Hirundo rustica*	Mi, Ma	SL	The Barn swallow is a non-breeding migrant to Australia and usually occurs patchily along the north coast from the Pilbara region, Western Australia, to Fraser Island in Queensland (SEWPAC 2012). It is recorded in open country in coastal lowlands, often near water, towns and cities. Birds are often sighted perched on overhead lines (Blakers et al. 1985) and also in or over freshwater wetlands, paperbark Melaleuca woodland, mesophyll shrub thickets and tussock grassland (Schodde & Mason 1999).	**Low** No suitable habitat is present within the project site.
Black-faced Monarch	*Monarcha melanopsis*	Mi, Ma	SL	Habitat of Black-faced Monarchs are generally rainforest environments (DCCEEW 2023).	**Moderate** Generic habitat for this species may be present within the project site. The extent of vegetation is not considered to have a meaningful impact on population of this species.
Yellow Wagtail	*Motacilla flava*	Mi, Ma	SLC	In Queensland the Yellow wagtail is a regular visitor from Mossman south to Townsville (DES 2022). 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.	**Low** No suitable habitat is present within the project site.

Common Name	Scientific Name	Status EPBC Act	Status NC Act	Preferred Habitat	Likelihood of Occurrence Within Study Site
Satin Flycatcher	*Myiagra cyanoleuca*	Mi, Ma	SL	Satin Flycatchers are a migratory species. These birds travel northwards to Northern Australia and Papua New Guinea in Winter and return south in summer. This species is distributed across eastern Australia to as far south as Tasmania. Habitat for this species can vary, but they typically prefer Wet Sclerophyll forests with a dense understory and are absent in rainforests (DCCEEW, 2023).	**Low** No suitable habitat is present within the project site.
Eastern Osprey	*Pandion cristatus*	Ma, Mi	SL	The Osprey forages and nests in most coastal environments Australia wide. This marine raptor can also travel inland, wherever there are large stands of water or river environments in which to hunt.	**Low** No suitable habitat is present within the project site.
Rufous Fantail	*Rhipidura rufifrons*	Ma, Mi	SL	Rufous fantails typically occur in wet sclerophyll and rainforest environments. Populations of this species migrate as far north as southern Papua New Guinea (DCCEEW 2023).	**Moderate** Generic habitat for this species may be present within the project site. The extent of vegetation is not considered to have an meaningful impact on population of this species.
Spectacled Monarch	*Symposiachrus trivirgatus*	Ma, Mi	SL	The Spectacled Monarch occurs mostly in rainforest environments.	**Confirmed** Along the Currunda Creek riparian corridor.
Saltwater Crocodile	*Crocodylus porous*	Mi, Ma	V	This species is found in Australian estuaries, coastal waters, lakes, marshes and inland swamps (DCCEEW 2022). The species can be located from Rockhampton in Queensland to Northern Territory and King Sound in Western Australia.	**Low** No suitable habitat is present within the project site.