ARUP

Cleanaway Operations Pty Ltd

Bromelton Energy and Resource Centre

Biodiversity Technical Report

Job number: 293683-00

Reference: BERC-ARU-BNE-ENFF-RPT-0001

Rev C | 8 December 2025

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number

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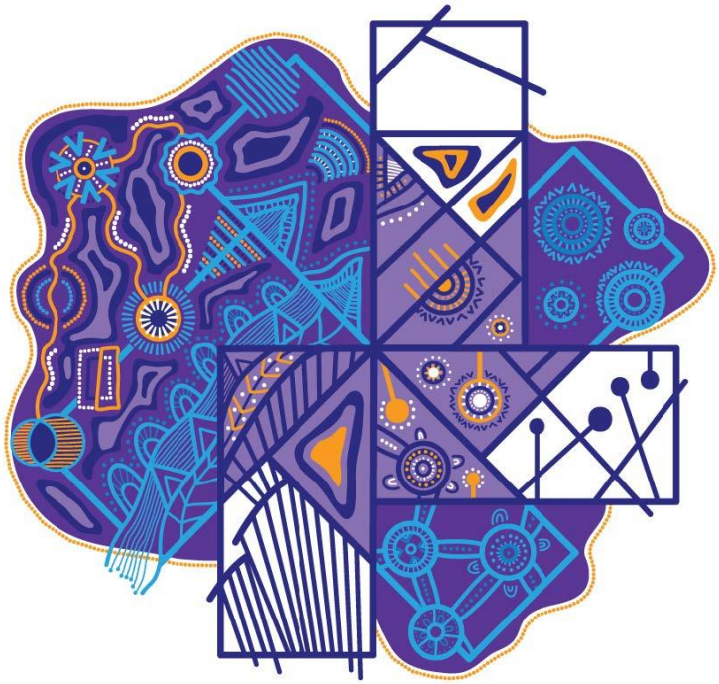
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Abbreviations

Abbreviations	Definition
APCr	Air pollution control residue
BERC	Bromelton Energy and Resource Centre
BAT	Best available techniques
Cleanaway	Cleanaway Operations Pty Ltd
DES **DETSI**	Department of Environment and Science (formerly) Department of Environment, Tourism, Science and Innovation
DNRMMRRD	Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development
DSDILGP	Department of State Development Infrastructure, Local Government and Planning
EA	Environmental authority
EfW	Energy from Waste
EVNT	Endangered, vulnerable, near threatened
EP Act	Environmental Protection Act 1994
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPP	Environmental Protection (Water and Wetland Biodiversity) Policy 2019
ERA	Environmentally relevant activity
HVR	High value regrowth
IBA	Incinerator bottom ash
IED	Industrial emissions directive
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of State Environmental Significance
MW	Megawatt
MSW	Municipal Solid Waste
NC Act	Nature Conservation Act 1992
PMST	Protected matters search tool
RE	Regional ecosystem
SDA	State Development Area
SEQ	South East Queensland
SMP	Species management program
SPP	State planning policy
TEEP	Technically, environmentally and economically practical
tpa	Tonnes per annum

Acknowledgement of Country



The artwork is 'Shift to shape an even better world' by Gilimbaa Artist Tarni O'Shea

'Shift to shape an even better world' explores a moving mechanism that shows the impact, richness and strength bringing culture, design and people together. The motif was developed by Tarni O'Shea; a proud Aboriginal and South Sea Islander woman who is strongly inspired by the celebration of culture and bringing it to the forefront of the creative process.

Arup acknowledges the Traditional Owners across all lands, waters and skies our firm may reach; we acknowledge their wisdom, resilience, and rich cultural heritage.

We pay our respects to the Elders, past and present, and to all Aboriginal and Torres Strait Islander peoples.

We recognise the ongoing journey of healing and reconciliation, and Arup commits to walking alongside First Nations peoples, to acknowledge their teachings and foster a future of unity and respect.

Executive Summary

Cleanaway Operations Pty Ltd (Cleanaway) is an Australian waste management, recycling, and industrial services company. Cleanaway is developing an Energy from Waste (EfW) facility in Queensland known as the Bromelton Energy and Resource Centre (BERC /the Project). The Project will be located within the Special Industry Precinct of the Bromelton State Development Area (SDA), west of Beaudesert.

This report provides a detailed ecological assessment of the subject site on Lot 1 Beaudesert Boonah Road, Bromelton, to support the development application for the Project. The Project is designed to be built on the northern portion of the site with no infrastructure to be built on the existing low point to the south or on any of the existing dams. Specifically, this report outlines the biodiversity values that may be impacted by the Project at a local and regional level. The findings of this report are based on two site visits, one undertaken in autumn 2023 and another in winter 2025.

A small patch of High Value Regrowth (HVR) was mapped within the site as containing Regional Ecosystem (RE) 12.9-10.3; however, surveys confirmed that this was canopy overhang from trees located within the neighbouring property. There is no vegetation consistent with regulated vegetation or HVR within the site and no regulated vegetation or HVR is mapped or recorded within the development footprint. Overall, vegetation within the site was observed to be dominated by exotic pasture grasses and weeds, with a sparsely scattered individual native Eucalyptus (and allied species) trees, consistent with grazing paddocks.

The low-lying central portion of the property supports three farm dams. The drainage line linking these dams was dry at the time of both surveys. No works are proposed within the drainage line, and stormwater from the EfW facility will be treated prior to discharge to achieve pollution reduction targets.

There were no threatened flora or fauna species identified within the site during both survey periods and there is a low potential for threatened flora species to be present within the site.

Based on the desktop and field results, a summary of the legislative requirements for the Project is provided below.

- The Project does not need to be referred to the Commonwealth government under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as the site only supports minimal ecological values for Matters of National Environmental Significance therefore there is a very low risk of the proposed project having a significant impact to biodiversity and ecological values. A significant impact assessment completed for koala showed the development would not have a significant impact on this species.
- The Project constitutes a Material Change of Use for Special Industry and is assessable development under the Bromelton SDA Scheme. The SDA-wide assessment criteria includes biodiversity requirements that have been addressed in this report.
- An offset under (or delivered in accordance with) the *Environmental Offsets Act 2014*, is unlikely to be required as there is not likely to be a significant residual impact to Matters of State Environmental Significance. The Koala Habitat Area (Core) is mapped associated with the HVR at the site's southern boundary, which was determined to not encroach into the site, is located outside of the proposed development footprint. Irrespective of exemptions offered under legislation such as the Planning Act 2016, the works will nonetheless be required to adhere to sequential vegetation clearing specifications and the use of a koala spotter during removal of koala habitat trees, as the site is located in Koala District A (south-east Queensland) pursuant to the *Nature Conservation (Koala) Conservation Plan 2017*.
- A development approval is required for environmentally relevant activities (i.e. prescribed activities are generally industrial or intensive animal industries with the potential to release emissions) and the Project will need to address State Development Assessment Provision State Code 22: Environmentally relevant activities. This includes the performance outcome that development is designed and sited to avoid, minimise and mitigate impacts on MSES, which has been achieved as described in this report.

- All works are to be undertaken under an approved Low Risk Species Management Program (SMP) under the *Nature Conservation Act 1992* (NC Act) for the removal of fauna breeding places.

The site has been subject to previous disturbance and generally has low ecological value, with environmental impacts able to be managed through standard environmental management measures during construction and operation. Whilst there is no commonly accepted criteria or benchmark for determining 'low ecological significance', this determination has been made as the area does not contain areas of high ecological significance (defined as having high native biodiversity or occurrence of threatened species or populations), nor does it support suitable breeding, foraging or dispersal habitat for Commonwealth, State or locally significant species.

1. Introduction

1.1 Purpose of Assessment

This report provides a detailed ecological assessment of the subject site on Lot 1 Beaudesert Boonah Road, Bromelton, to support the development application for the Project. Specifically, this report outlines the biodiversity values that may be impacted by the Project at a local and regional level.

The purpose of this biodiversity assessment is to assess compliance with relevant legislation and best practice requirements for the construction and operation of an EfW facility insofar as they related ecology and biodiversity matters.

1.2 Project Description

1.2.1 Project Overview

Cleanaway Operations Pty Ltd (Cleanaway) is an Australian waste management, recycling, and industrial services company. Cleanaway is developing an Energy from Waste (EfW) facility in Queensland known as the Bromelton Energy and Resource Centre (BERC) (the Project). The Project will be located within the Special Industry Precinct of the Bromelton State Development Area (SDA), west of Beaudesert within the Scenic Rim Regional Council local government area.

The Project has been designed to thermally treat approximately 760,000 tonnes per annum (tpa) of waste feedstock, consisting of residual Municipal Solid Waste (MSW) and residual Commercial and Industrial (C&I) waste. Residual waste is waste that is not technically, environmentally and economically practical (TEEP) to reuse or recycle, which would otherwise be sent to landfill for disposal.

The facility's actual annual throughput will vary depending on the calorific value of the feedstock and plant availability. To account for variability in feedstock energy content, the facility will be designed for a maximum processing capacity of up to 10% above the nominal figure (836,000 tpa).

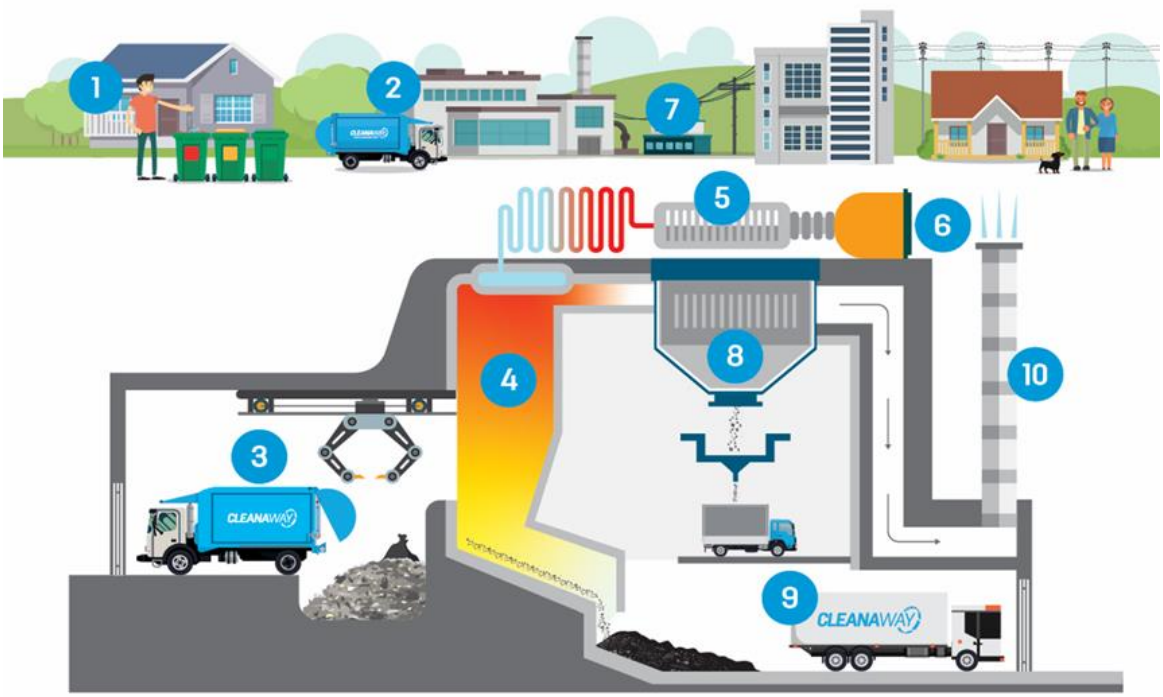
The EfW process would generate approximately 84.6 MW gross of electricity, 11.3 MW of which would be used to power the facility itself, the associated onsite by-product and residue handling processes and a provision for Point of Connection losses, with approximately 73.2 MW MW (or 577,600 MWh/year after correcting for ambient temperature variation) exported to the grid as base load electricity. In addition to supplying electricity to the grid, there is also potential to supply energy in the form of heat and/or process steam to local industrial users.

The EfW process will produce residual materials, including incinerator bottom ash (IBA), boiler ash, and flue gas treatment residue. The Project includes a facility for the maturation and processing of IBA, where it is stored to stabilise before being mechanically processed into an aggregate for reuse in construction. During this process, both ferrous and non-ferrous metals are recovered for recycling and sale, and the remaining ash is repurposed as Incinerator Bottom Ash Aggregate (IBAA) in accordance with Queensland End of Waste (EoW) legislation.

The boiler ash and flue gas treatment residue are typically combined and referred to collectively as Air Pollution Control residue (APCr). The Project includes a facility to stabilise APCr before removal and disposal at a licensed landfill.

Overall, the EfW process results in a reduction of approximately 90% by volume and 80% by mass of waste that would otherwise be sent to landfill. If IBA is successfully reused as an alternative to virgin construction materials, the reduction in both volume and mass can increase to around 95%. The final quantity of waste diverted from landfill will depend on the classification, applicable EoW codes and availability of commercial markets for the residues and by-products produced by the facility.

Figure 1: EfW process



1. At home and work, we sort our waste into recyclable and non-recyclable items.
2. Before arrival at the energy from waste facility, residual waste that has been sorted at home and work is delivered to the facility.
3. In the bunker, waste is mixed, ensuring consistency, by large crane claws before placement into the combustion chamber.
4. Waste is combusted as it moves along a moving grate. The temperature in the combustion chamber reaches more than 850°C to ensure that waste combusts completely while also destroying organic pollutants and odour.
5. Water is heated during combustion creating steam which turns a turbine.
6. Baseload electricity is generated.
7. Electricity is put back into the grid and used to power homes and businesses.
8. Gases created during combustion pass through a multi-step flue gas treatment system, removing pollutants from the gases. Residues from the flue gas treatment are collected in a sealed system for treatment before disposal.
9. Bottom ash from the combustion process is collected and stored. Metals are recovered for recycling. It is intended that the remaining bottom ash is sent for reuse in construction.
10. Cleaned gases and steam are dispersed high into the atmosphere, mixing well to ensure negligible impact on the surrounding air quality.

1.2.2 Proponent

1) Cleanaway, an Australian owned company, has operated for more than 50 years, supporting industry, government, communities and households across Australia. Its mission is to make a sustainable future possible, achieved through action across all levels of the waste hierarchy. Waste generation is minimised through extensive education programs, with Cleanaway's 50 education officers reaching over 120 businesses, 30 councils, and almost 33,000 school participants in the last financial year.

2) Cleanaway invests heavily in recycling, operating several Material Recovery Facilities nationwide and has partnered with Pact Group, Asahi Beverages and Coca-Cola to deliver two large-scale PET (polyethylene terephthalate) recycling facilities and a HDPE (high density polyethylene) recycling facility with Pact Group. In addition, in collaboration with Viva Energy, Cleanaway is developing a soft plastics recycling plant. EfW is recognised by Cleanaway as an important part of the future waste management framework, enabling recovery of energy and other resources from residual waste that cannot otherwise be recycled.

1.2.3 Policy Alignment

The BERC aligns with the Queensland EfW Policy and the Queensland EfW Guideline (2021) by diverting residual waste from landfill and delivering economic and social benefits through employment and local business opportunities in South East Queensland.

In accordance with Policy outcome 7 of the Queensland EfW Policy, the BERC will be designed to meet the best practice emission standards and requirements of the European Industrial Emissions Directive (IED) (2010) and the associated Best Available Techniques (BAT) Document for Waste Incineration (2019), which sets the European Union environmental standards for waste incineration.

The Project also supports the Queensland Waste Strategy contributing to its 2050 targets to reduce household waste by 25%, recycle 75% of all waste, and divert 90% from landfill. In doing so, the BERC will play a key role in advancing Queensland's transition to a circular economy and reducing long-term reliance on landfill.

1.2.4 Key Components

The key components of the Project are summarised in Table 1.

Table 1: Key Project Components

Project Component	Detail
Address	Lot 1 Beaudesert Boonah Road, Bromelton, Queensland, 4285 (Lot 1 on RP45234). Refer Figure 2.
Site Area	63 hectares
Summary of proposed works	The Project includes the construction of a main EfW facility for waste processing, incinerator bottom ash (IBA) maturation and processing facility and an air pollution control residue (APCr) facility. It also includes all onsite infrastructure needed for the EfW facility, such as site utilities, internal roads, weighbridges, parking and hardstand areas, stormwater infrastructure, fencing and landscaping. The Project will include a visitor centre to help educate and inform the community on circular economy principles, the waste hierarchy, including waste avoidance, recycling, resource recovery, the benefits of landfill diversion and the EfW process. The intent behind this education is to drive a shift in community awareness and attitudes toward waste management and resource recovery.
Technology Used	The proposed technology is moving grate combustion technology. This has been used globally for over 100 years and is common in many of the 500 similar operational examples across Europe.
Facility Outputs	Approximately 73.2 MW (577,600 MWh/year, corrected for ambient temperature) exported to the grid as baseload electricity. Potential to supply energy in the form of heat and/or process steam to local industrial users. Residual materials include IBA and APCr. - It is intended that the IBA will be mechanically processed on site to create incinerator bottom ash aggregate (IBAA). During this process, both ferrous and non-ferrous metals are recovered for recycling and sale. It is intended that the remaining material is repurposed for use as an aggregate in construction. The Project includes a facility to stabilise APCr before removal and disposal at a licensed landfill.
Key infrastructure	EfW facility including administration and visitor's centre IBA maturation and processing facility (2 x pads and 2 x sheds) APCr facility (1 x pad, 1 x shed) Transformer yard and switchyard De-coupling area for trucks Weighbridges Internal road network and carparking 2 x combined storm water treatment and detention basin 1 x lined retention basin Access from Boonah Beaudesert Road via a signalised intersection with Recycling Street

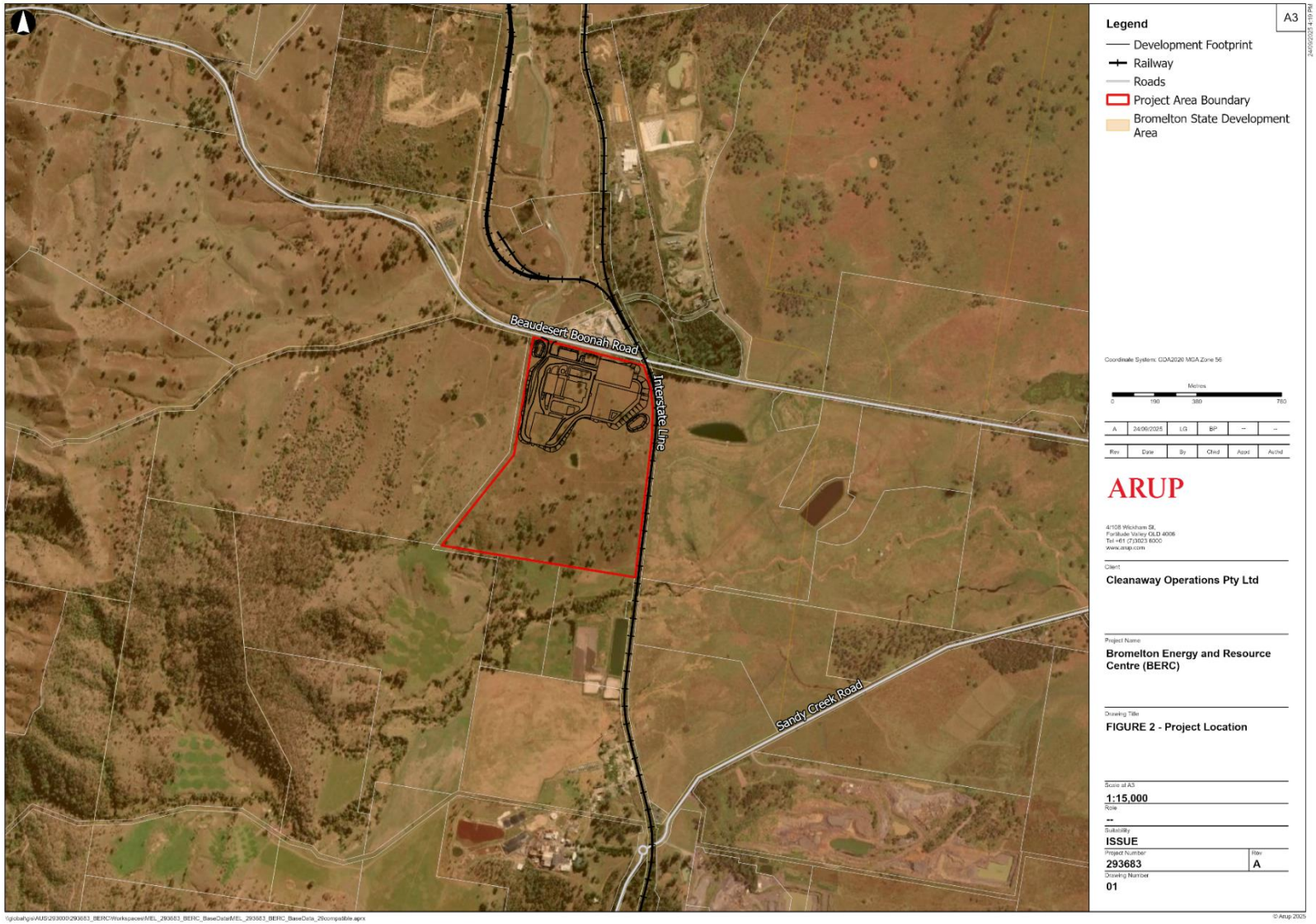
Project Component	Detail
Hours of Operation	24 hours per day, seven days per week (365 days per year)
Operational Staff	Approximately 60 staff

1.3 Study Area

The subject site, formerly defined as Lot 1 on RP45234, is located near existing industrial developments on Beaudesert Boonah Road and is adjacent to an existing rail line (refer Figure 2). The development site is located within the Special Industry Precinct of the Bromelton State Development Area (SDA) and is also located within the Scenic Rim Regional Council local government area.

The study area for this assessment extends beyond the Project development footprint, including all land on Lot 1 on RP45234.

Figure 2: Study Area



2. Regulatory Context

This Chapter sets out the biodiversity legislation, policy, and guidelines applicable to Queensland. Together, these documents form the current regulatory context for biodiversity in relation to the Project.

2.1 Commonwealth legislation

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), provides the legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places, which are collectively referred to as matters of national environmental significance (MNES).

Under the EPBC Act, where MNES have the potential to be impacted by a project, the proponent is required to self-assess the project against the *Significant Impact Guidelines 1.1: Matters of National Environmental Significance* or species-specific referral guidelines to confirm if the action has the potential to result in a significant impact. If there is, or is likely to be, a significant impact on an MNES, whether direct and/or indirect, the project is required to be referred to the Commonwealth government under the provisions of the EPBC Act.

Where the conservation status of any MNES changes (e.g. a species which is listed as 'vulnerable' uplisted to 'endangered'), or additional MNES which are not presently listed become listed during the assessment, a re-assessment of the significance of impacts on those MNES is required.

2.2 State legislation

The following State legislation is applicable to the biodiversity values of the Project:

Biosecurity Act 2014

Environmental Offsets Act 2014

Environmental Protection Act 1994 (EP Act)

Energy from Waste Policy and Guideline 2021

Environmentally Relevant Activities Guidelines 2019

Fisheries Act 1994

Nature Conservation Act 1992 (NC Act)

Planning Act 2016

State Development and Public Works Organisation Act 1971 (SDPWO Act)

south East Queensland Koala Conservation Strategy 2020–2025

Vegetation Management Act 1999

Water Act 2000.

2.2.1 Biosecurity Act 2014

The *Biosecurity Act 2014* provides measures for the management of restricted and invasive plants or animals, such as feral dogs and weeds. There is a general biosecurity obligation under the *Biosecurity Act 2014* whereby all people are responsible for taking reasonable and practical steps to prevent or minimise biosecurity risks, which includes the spread of restricted invasive plants.

2.2.2 Environmental Offsets Act 2014

The *Environmental Offsets Act 2014* provides a framework for environmental offsets in Queensland and is supported by the Environmental Offsets Regulation 2014, the Queensland Environmental Offsets Policy (DES 2022), and the Financial Settlement Offset Calculation Methodology.

The purpose of environmental offsets is to compensate for unavoidable impacts to matters of State or local environmental significance, as such, the Act outlines the framework for environmental offsets, when they are required and how they are to be delivered.

2.2.3 Environmental Protection Act 1994

Queensland's EP Act provides for the protection of Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. All persons have a general environmental duty (GED) under the EP Act to not carry out any activity that causes, or is likely to cause, environmental harm unless the person has an authority to do so or has taken all reasonable and practicable measures to prevent or minimise the harm.

The EP Act regulates environmentally relevant activities as prescribed by the Environmental Protection Regulation 2008. The EP Act binds all parties, including the Queensland Government and other State governments. The proposed activities are likely to be considered environmentally relevant activities under this legislation.

The Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (EPP) protects Queensland's water environment while allowing for development that is ecologically sustainable. The EPP is intended to achieve the objective of the EP Act through identification of environmental values, derivation of water quality guidelines and objectives to enhance or protect these values through monitoring and reporting on the condition of Queensland waters. The EPP may inform release water target water quality objectives.

2.2.4 The Energy from Waste Policy and Guideline

Under the EP Act, the EfW Policy and Guideline for new facilities are non-statutory and do not override any statutory requirements or criteria relating to the Environmental Authority (EA) application process. However, they do signal the government's policy intentions for the future environmental management of EfW facilities, and applicants are encouraged to consider the Policy and guidelines when developing new EfW activities (refer Section 1.3 herein). The policy introduces the European Union Best Available Techniques Document (BAT) as suitable best practices to be considered in Queensland. There are no specific references to biodiversity in the EfW Policy and Guideline, and therefore the Project will need to address all biodiversity matters as per the relevant Commonwealth and State legislation.

2.2.5 Environmentally Relevant Activities Guidelines

Environmentally Relevant Activities (ERAs) that are prescribed activities are generally industrial or intensive animal industries with the potential to release emissions, which impact on the environment and surrounding land uses. All Department of Environment, Tourism, Science and Innovation (DETSI) prescribed ERAs and Resource Activities require an Environmental Authority (EA) with proposals assessed against the relevant requirements of the Environmental Protection Framework by DETSI. A development approval is required for environmentally relevant activities, and the Project will need to address State Development Assessment Provision State Code 22: Environmentally relevant activities. This includes the performance outcome that development is designed and sited to avoid, minimise and mitigate impacts on MSES.

2.2.6 Fisheries Act 1994

Queensland's *Fisheries Act 1994* provides for the protection of fisheries resources by regulating impacts to fish habitat, including upstream reaches of freshwater systems. An important component of protecting fish habitat is ensuring the protection of aquatic and riparian habitat in freshwater streams and maintaining aquatic habitat connectivity. Works within waterways mapped under the *Fisheries Act 1994* that may constitute a full or partial barrier to fish movement may trigger a waterway barrier permit, if the works do

not meet certain exemptions or accepted development code requirements. The waterway mapping was recently revised by the state which now shows a stream order 1 watercourse originating near the property's westernmost dam, linking the dams and conveying water offsite to the east, and another on the western adjoining property in close proximity to the site.

2.2.7 Nature Conservation Act 1992

The *Nature Conservation Act 1992* (NC Act) and subordinate legislation provides a framework for the conservation of nature through the creation and management of protected areas and protection of native plants and animals. The regulations under the NC Act provide guidelines regulating activities in protected areas and a permit and licensing system for the taking or keeping of native wildlife. These regulations include the Nature Conservation (Animals) Regulation 2020, the Nature Conservation (Plants) Regulation 2020, and the Nature Conservation (Koala) Conservation Plan 2017.

In accordance with the NC Act, development located within a high-risk area on the Protected Plants Flora Survey Trigger Map triggers additional requirements under the Flora Survey Guidelines – Protected Plants (DETSI 2020). A clearing permit is required to clear protected plants unless an exemption applies.

Where an activity involves tampering with a native animal's breeding places, the tampering may only be undertaken under an approved Species Management Program (SMP). Impacts to animal breeding places of least concern species can be conducted in accordance with a Low Risk SMP and impacts to breeding places for colonial breeders, special least concern species or endangered, vulnerable, or near threatened species requires a species-specific SMP – High Risk of Impact approved by the DETSI.

Part 3, Section 10 of the *Nature Conservation (Koala) Conservation Plan 2017* prescribes specific clearing requirements that must be complied with when clearing koala habitat trees in koala district A and koala district B, referred to as "sequential clearing conditions". These clearing requirements are in place to prevent the injury or death of koalas when clearing koala habitat and must be complied with irrespective of any approvals or exemptions offered under legislation such as the Planning Act 2016. The site is located within Koala District A.

2.2.8 Planning Act 2016

The *Planning Act 2016* is Queensland's principal planning and development legislation. It provides a framework for integrated and coordinated assessment of new developments to ensure its impacts are managed in a way that is ecologically sustainable. Permits associated with other specific legislation, including the EP Act, *Vegetation Management Act 1999*, and the *Fisheries Act 1994*, are triggered under the *Planning Act 2016* and assessment against relevant State Development Assessment Provisions codes may apply.

2.2.9 State Development and Public Works Organisation Act 1971

SDAs are declared under the *State Development and Public Works Organisation Act 1971* (SDPWO Act). The Bromelton SDA was declared in August 2008. Section 2.5 of the Bromelton SDA Development Scheme (December 2017) identifies the following SDA-wide criteria with respect to biodiversity and water quality:

- Development, consistent with the Environmental Protection (Water) Policy 2009, avoids potential adverse impacts on the environmental values and water quality objectives of receiving waters, arising from:
  - Altered stormwater quality or flow
  - Wastewater (other than contaminated stormwater and sewage)
  - The creation or expansion of non-tidal artificial waterways
- Development protects the ecological and hydraulic function of water assets within and adjacent to the Bromelton SDA
- Development incorporates current best practice integrated water cycle management strategies and integrates water sensitive urban design principles

- Environmental values, cultural heritage values and community values of the site on which the development is undertaken, and immediate surrounds are identified and protected, consistent with current best practice
- Development is designed to avoid the clearing of regulated vegetation. Where avoidance is not possible, minimise clearing to:
  - Avoid land degradation
  - Avoid the loss of biodiversity
  - Maintain ecological processes
- Development is designed and sited to:
  - Minimise impacts on matters of local and state environmental significance
  - Maintain ecological connectivity and avoid fragmentation of matters of local and State environmental significance
  - Avoid or minimise impacts to the movement of fish (fish passage) along waterways
- Where the development requires a buffer to mitigate the environmental impacts of the development, that buffer must be accommodated within the development site
- Development avoids significant adverse environmental impacts on matters of national or State significance, or where significant impacts cannot be reasonably avoided, they are minimised. Any residual significant adverse impacts are offset in accordance with the relevant Commonwealth or Queensland environmental offset framework
- The ecological values associated with the Logan River, Allan Creek and Sandy Creek shall be protected and enhanced.

2.2.10 South East Queensland Koala Conservation Strategy 2020-2025

The South East Queensland Koala Conservation Strategy 2020-2025 details the Queensland Government's direction in reversing the decline in koala populations across South East Queensland (SEQ) and, in doing so, safeguarding the future of this iconic species. This Strategy establishes a vision for koalas in SEQ that underpins our actions in the short, medium and longer-term, and identifies the actions that will immediately start to stabilise koala populations in the region. The South East Queensland Koala Conservation Strategy 2020-2025 is supported by the Koala Priority Area, Koala Habitat Area and Identified Koala Broad-Hectare Area mapping.

2.2.11 Vegetation Management Act 1999

The *Vegetation Management Act 1999* regulates the clearing of regulated vegetation in Queensland, such as the clearing of mapped remnant and/or high-value regrowth vegetation. Where the clearing of regulated vegetation is proposed, a development approval and assessment against the relevant State Development Assessment Provisions may be required, unless the works are exempt.

2.2.12 Water Act 2000

Queensland's *Water Act 2000* provides a framework for the planning, allocation, and use of surface water and groundwater in Queensland, including regulating major water impoundments, such as dams and weirs, and extraction through pumping for irrigation and other uses. The *Water Act 2000* provides a system of interrelated plans, licenses and permits for the regulation of in-stream (i.e. watercourses, lakes or springs) and overland water flow, and groundwater.

The *Water Act 2000* requires a riverine protection permit prior to excavating and/or filling, or clearing native vegetation in a watercourse, lake or spring protected/mapped under the *Water Act 2000*, unless the exemption requirements are met. There are no mapped watercourses under the Water Act occurring on the site, and watercourse determination confirmed the unmapped feature is a drainage line not a watercourse.

3. Existing Conditions

This section provides information relevant to the existing biodiversity and environment across the study area (as defined in Section 1).

The site measures 63.308 hectares in area and is generally regular in shape. Site dimensions are approximately 510 m to the northern boundary (road frontage), 965 m to the eastern boundary (adjacent rail corridor), 880 m to the southern boundary (adjacent private land) and 1,060 m to the western boundary in two parts being 535 m and 525 m (adjacent private land).

The site is not encumbered by any easements and is also not the beneficiary of any easements. The site is not subject to any leases. A search of the DETSI database confirms the site is not listed on either the Contaminated Land Registered (CLR) or the Environmental Management Register (EMR).

The locality is well serviced by transport infrastructure including Beaudesert Boonah Road, which is a State controlled road that links the settlements of Beaudesert and Boonah. This road also provides a direct link to the Mount Lindesay Highway, another State controlled road that connects to the major settlements of Logan, Brisbane and the Gold Coast. The locality is also serviced by the Sydney-Brisbane rail line, an interstate freight rail corridor. The broader locality comprises primarily rural and agricultural land uses.

Established and emerging industrial land uses are located within the Bromelton SDA. The State Government website for the Bromelton SDA identifies the following key uses:

- SCT Logistics - an intermodal rail freight facility and warehouses on land situated adjacent to the Sydney-Brisbane rail line
- GELITA Australia Pty Ltd - the Australian plant of the GELITA Group manufactures gelatine which is sold as edible gelatine for food industry uses
- A.J. Bush and Son's (Manufactures) Pty Ltd - established in 1993, A.J. Bush & Sons are recognised internationally as a leading rendering industry producing protein meal and tallow. The company utilises onsite clean energy practices by recycling methane content biogas captured from covered anaerobic lagoons to generate electricity for power and recycles wastewater for irrigation on their substantial landholdings
- Beaudesert Central Waste Management Facility - a waste transfer station operated by the Scenic Rim Regional Council
- Bromelton Quarry - a hard rock quarry established in 2000 which supplies blue rock to the regional area
- The Neilsen Group quarry - supplying general quarry and gravel products to the regional area
- Quickcell Technology Products Pty Ltd - concrete manufacturers established in 1993 producing prestressed and precast concrete products.

The Energex Beaudesert Bulk Supply Substation is located approximately 6.5 km to the east of the site at Beaudesert, identified on Lot 183 on SP184476.

The majority of the site has historically been cleared of woody vegetation with only low density mature and sub-adult trees remaining. The ground layer is currently dominated by a mix of exotic and native grasses and weeds. Three constructed farm dams are present on the site.

The site area, development footprint, and surrounding area are shown in Figure 2.

Based on the existing environment and the Project description, the potential environmental risks that are assessed in this report are:

- Threatened flora and fauna, and their habitat
- Aquatic ecology.

4. Methods

4.1 Desktop Studies

A desktop review was undertaken of public, State, and Commonwealth databases to assist in determining the previously recorded ecological attributes with the potential to occur within and adjacent to the Project area, including a review of the following:

- Commonwealth Department of Climate Change, Energy, the Environment and Water's EPBC Act Protected Matters Tool (PMST) to determine the matter of national environmental significance (MNES) that have a potential to occur within area 2km radius of the centre of the site.
- Queensland Government's WildNet database to identify records of flora and fauna species that have been recorded within a 2km radius of the site centre.
- DETSI Protected Plants Flora Survey Trigger Map to identify high-risk areas where endangered, vulnerable or near threatened native plants are present or are likely to be present.
- Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development (DNRMMRRD's) Vegetation Management Supporting Map to provide information on regional ecosystems, wetlands, watercourses, and essential habitat and factors.
- The South East Queensland Koala Conservation Strategy 2020–2025 koala habitat values mapping.
- Queensland government's Queensland waterways for waterway barrier works GIS layer.
- DETSIs State-wide biodiversity corridor mapping to identify areas of ecological value to be maintained and where incremental habitat loss, fragmentation and degradation should be avoided.
- The Queensland government's Queensland waterways for waterway barrier works GIS layer to determine if waterways are defined by the *Fisheries Act 1994* and are required to need fish passages.
- Queensland watercourse identification map as per the *Water Act 2000* to identify the status of watercourses that may be present.
- DETSI Wetland mapping to determine if there are any wetland environmental values that need to be considered.
- The SPP Development Assessment Mapping System's Bushfire hazard area – bushfire prone area mapping.

All desktop searches were undertaken on the 14th of August 2025. A copy of the desktop search results is provided in Appendix A.

4.2 Field Surveys

The original field survey was completed in autumn, on 13 April 2023, by two ecologists. A follow up survey was undertaken during winter, on 15 August 2025 by two ecologists to provide contemporary data and a seasonal difference to the data. Collectively during the surveys, the following was completed.

Flora and vegetation

- A flora survey using the meander survey method detailed in the *Flora Survey Guidelines – Protected Plants* (2025) which included targeted surveys for threatened and near threatened flora. Categorisation of the on-site vegetation into field verified vegetation communities and assessment of potential habitat for threatened flora species.
    - Assessment of the vegetation to confirm the suitability of the vegetation to provide habitat for threatened flora species protected under the *Nature Conservation Act 1992* (NC Act) and/or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) EPBC Act.

- Quaternary surveys in mapped regional ecosystems (RE) and/or high value regrowth (HVR) in accordance with Nelder *et al*. (2012) to characterise the floristic composition and structure of vegetation communities and confirm REs and HVR within the site.
- Assessment of the vegetation communities to confirm if they meet the key diagnostic characteristics and/or condition thresholds of threatened ecological communities (TECs) identified in the desktop assessment.
- Recording all restricted invasive flora species listed under the *Biosecurity Act 2014*.

- Recording threatened flora species observed during the survey.

Fauna and fauna habitat

- Day-time observational fauna surveys through opportunistic sightings or audible detection of fauna species to determine the presence of threatened fauna species identified in the desktop assessment (Note: targeted fauna surveys were not undertaken).
- Recording all incidental observations of fauna species
- Assessment of the vegetation to confirm the suitability of the vegetation to provide habitat for threatened fauna species protected under the Nature Conservation Act 1992 (NC Act) and/or the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), including those identified during the desktop assessment.
- Identification of suitable habitat or resources for threatened fauna species.
- Identification of potential and/or active breeding places for threatened fauna.
- Recording the presence of non-juvenile koala habitat trees (NJKHT) within the northern half of the site.

Aquatic

- Aquatic habitat assessment comprising aquatic plants, in-stream habitat features, and barriers to aquatic fauna movement

Bushfire

- Confirmation of vegetation communities within SPP mapped bushfire hazard areas (identified from Department of State Development Infrastructure, Local Government and Planning (DSDILGP) 2025, accessed 14 August 2025).

4.3 Weather Conditions

Table 2 identifies the weather conditions during the field survey. The weather data was sourced from the Beaudesert weather station (040983) (BOM 2025) located approximately 6.3 km east of the Project area.

Table 2: Weather conditions during the field survey

Date	Min Temp (°C)	Max Temp (°C)	Rain (mm)	3pm relative humidity	3pm windspeed (km/h)
13/04/2023	9.0	27.7	0	34	17
15/08/2025	9	21	0	30	20

4.4 Assumptions and Limitations

The content of this Technical Note is based on information available at the time the document was prepared. Information has been obtained from third party sources and, while every care has been taken to ensure the accuracy of this data, Arup makes no statements regarding the reliability or completeness of this data. The accuracy of the data obtained by handheld GPS devices during the survey was approximately 6 m.

There are inherent limitations associated with field surveys and observer accuracy in naturally variable vegetation communities and therefore not all flora and/or fauna species are likely to have been encountered. It is also worth noting that the ecological surveys have been conducted in autumn and winter, and seasonal differences may influence species detectability and vegetation condition and should be considered when interpreting results.
However, due to the disturbed nature of the site, the historic clearing of the area and the intended use of this report, the results presented are considered to be appropriate.

5. Desktop Assessment Results

5.1 Protected Matters Search

The Protected Matters Search Report identified that the following Matters of National Significance (MNES) protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) that have the potential to occur within a 2 km radius of the Project area.

- Seven Threatened Ecological Communities (TECs)
  - The 'endangered' Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community.
  - The 'endangered' Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
  - The 'endangered' Grey Box-Grey Gum Wet Forest of Subtropical Eastern Australia
  - The 'critically endangered' Lowland Rainforest of Subtropical Australia
  - The 'endangered' Poplar Box Grassy Woodland on Alluvial Plains
  - The 'endangered' Subtropical Eucalypt Floodplain Forest and Woodland of the New South Wales North Coast and South East Queensland Bioregions
  - The 'critically endangered' White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
- 16 threatened flora species
- 32 threatened fauna species, comprised of the following:
  - 18 threatened bird species
  - Three threatened reptile species
  - One threatened frog species
  - One threatened insect species
  - Nine threatened mammal species
- 23 migratory (marine, terrestrial, and wetland) bird species, some of which are also recognised as threatened species
- One Wetland of National Importance, the Ramsar Wetland of Moreton Bay. The Project area is located 30-40km upstream from the Ramsar site.
- No other MNES (e.g. world or national heritage places, Great Barrier Reef Marine Park and Commonwealth marine areas) were recorded by the EPBC Act PMST within the search parameters.

5.2 WildNet Species List

The WildNet Species list identified that a total of 198 flora and fauna species have been recorded within a 2 km radius of the Project area. Table 3 details the threatened fauna species recorded on the WildNet Species List.

There were no records of threatened flora species or threatened aquatic species returned on the WildNet Species List within the search radius.

Table 3: Threatened flora and fauna species recorded on the WildNet Species List

Scientific name	Common name	NC Act	EPBC Act
Aves			
Calidris acuminata	sharp-tailed sandpiper	V	V Ma, Mi
Gallinago hardwickii	Latham's snipe	V	V Ma, Mi
Hirundapus caudacutus	white-throated needletail	V	V Ma, Mi
Mammals			
Phascolarctos cinereus	koala	E	E
Pteropus poliocephalus	grey-headed flying-fox	C	V
Monotremes			
Tachyglossus aculeatus	short-beaked echidna	SL	-

*NC Act Conservation status - E: endangered, V: vulnerable, SL: special least concern, C: least concern

*EPBC Act Conservation status – E: endangered, V: vulnerable, Ma: marine, Mi: migratory

5.3 Protected Plants Flora Survey Trigger Map

The Protected Plants Flora Survey Trigger Map identifies there are no high-risk trigger areas mapped within the project area (refer to Figure 3).

5.4 Vegetation Management Supporting Map

DNRMMRRD's Vegetation Management Supporting Map indicates that a relatively small polygon of HVR extends marginally into the southern boundary of the site (refer to Figure 3). The HVR is mapped as containing RE 12.9-10.3, which is described as an 'of concern' *Eucalyptus moluccana* open forest.

5.5 Essential Habitat

The HVR, which is mapped as marginally encroaching into the site area, is mapped as 'essential habitat' for koala (*Phascolarctos cinereus*) pursuant to the Vegetation Management Act 1999 mapping. This was later determined by method of ground-truthing to not encroach into the site and is located outside of the proposed development area.

5.6 Matters of State Environmental Significance

There are no known priority species matters of state environmental significance (MSES) identified on the Scenic Rim Planning Scheme 2020. There is mapped MSES regulated vegetation associated with the HVR along the southern boundary of the site (refer to Figure 4).

5.7 Matters of Local Environmental Significance

Based on the Scenic Rim Planning Scheme 2020, there are no matters of local environmental significance (MLES) located on the site. The nearest MLES is a node corridor located approximately 2.5 km east of the site.

Figure 3: Protected Plants Flora Survey Trigger Map

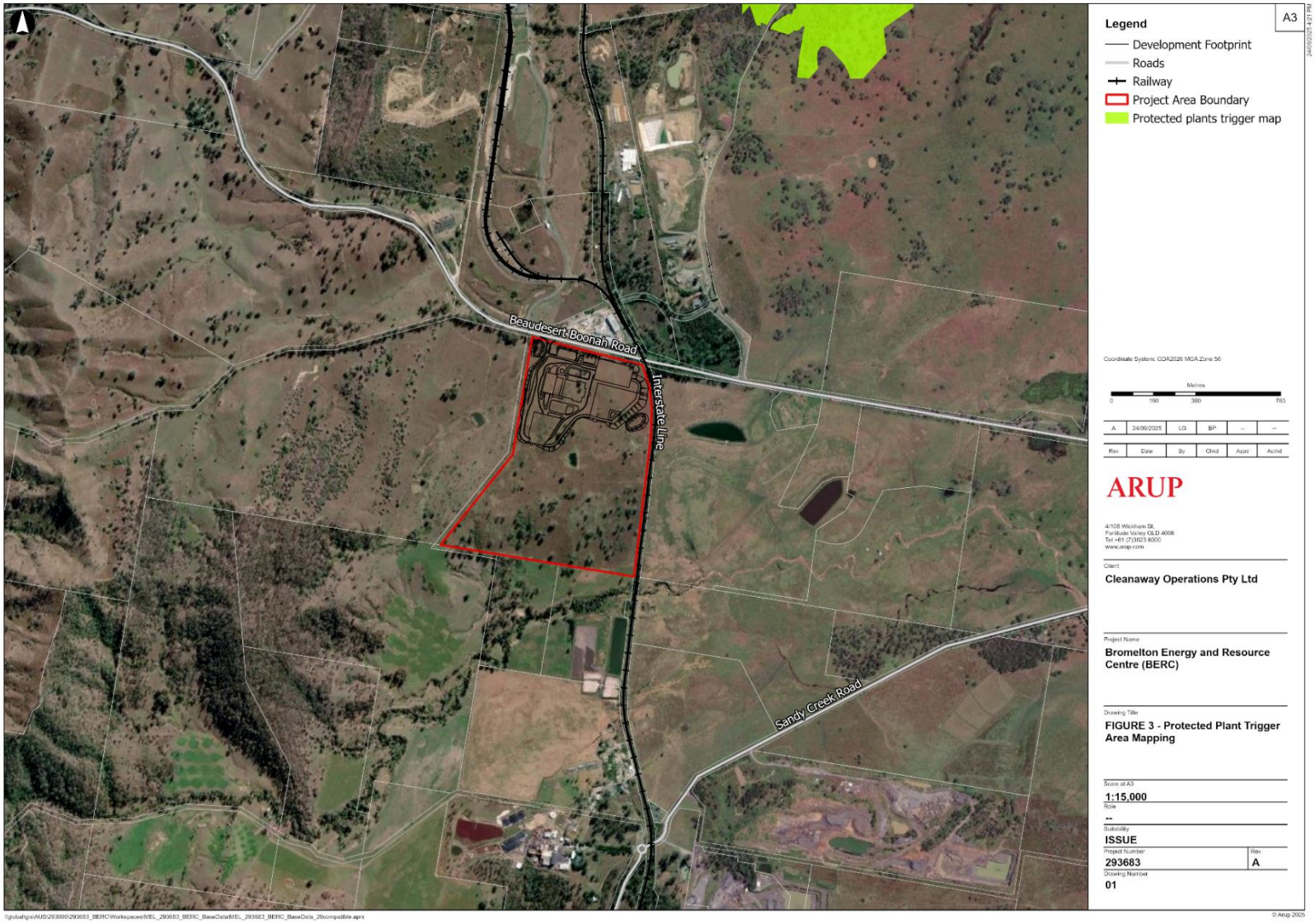
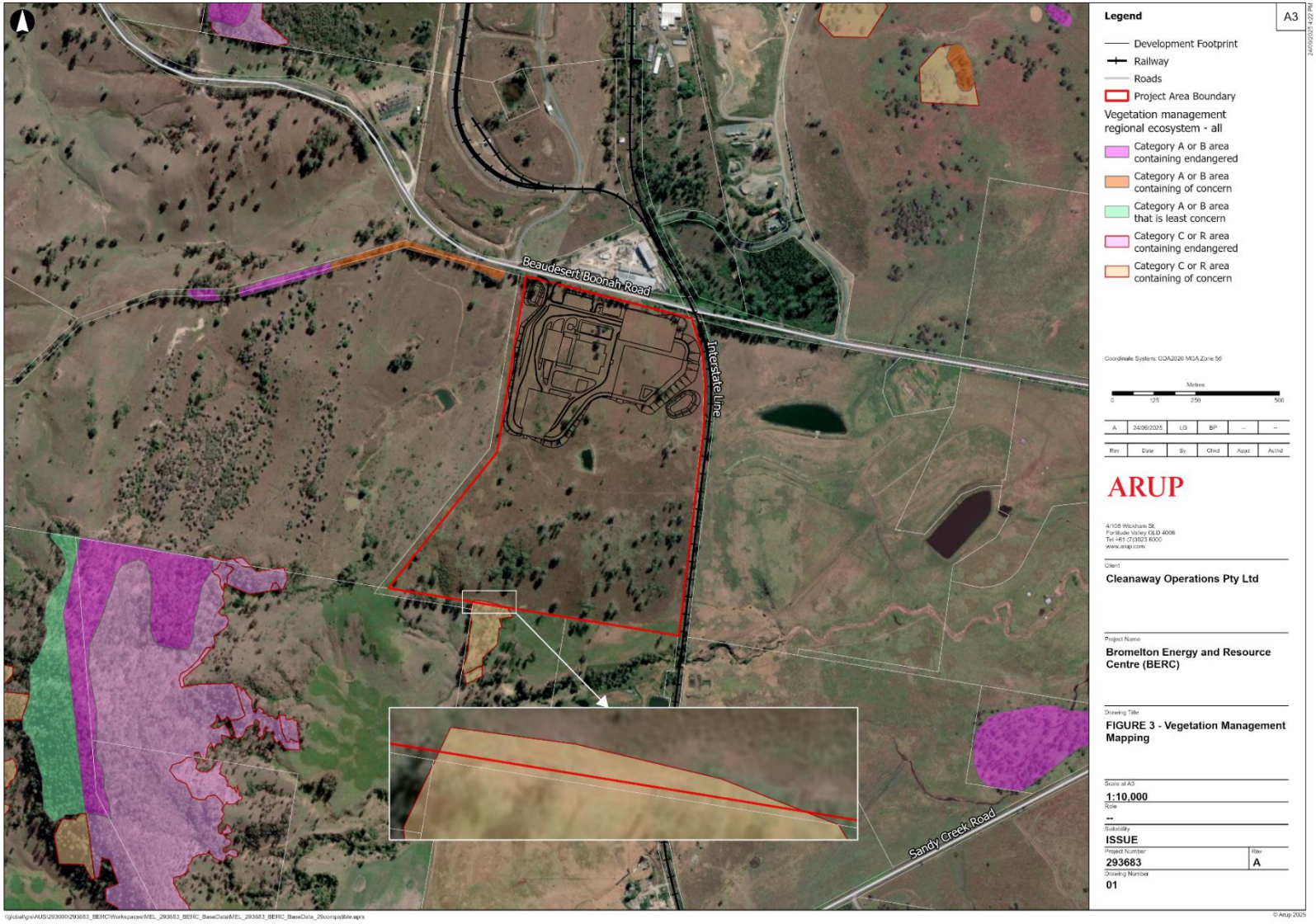


Figure 4: Vegetation Management Supporting Map



5.8 Koala Priority Area, Koala Habitat Area and Identified Koala Broad-Hectare Area mapping

The Koala Priority Area, Koala Habitat Area and Identified Koala Broad-Hectare Area mapping identifies that a Koala Habitat Area (Core) is mapped associated with the HVR, which, following ground truthing was determined to be located outside of the southern boundary, with canopy overhang into the site. This location is outside of the proposed development site and will not be impacted by the construction or operation. There is another portion of mapped koala habitat (core) on the western adjoining property, which measures 7 ha in area. This is located outside of, and approximately 50 m from, the property and development footprint. As the site is not located within a Priority koala habitat area, nor involves removal of koala habitat trees from a mapped area of koala habitat, the removal of non-juvenile koala habitat trees does not trigger assessment under the Planning Regulation 2017 and an assessment against State Code 25 is not required.

(refer to Figure 5).

5.9 Statewide Biodiversity Corridor Mapping

The Statewide Biodiversity Corridor mapping identifies that the site is not within any mapped Statewide Biodiversity Corridors.

5.10 Queensland Waterways for Waterway Barrier Works

At the time of the original site survey (April 2023), the Queensland Waterways for Waterway Barrier Works GIS mapping layer previously indicated that no mapped waterways intersected the site. The State has since updated its waterways mapping and now shows a low-level (green) waterway in the central portion of the site, connecting the existing farm dams and conveying flows to the east (refer to Figure 6). A second waterway is present in the western adjoining property, in close proximity to the site boundary.

5.11 Queensland Watercourse Identification

The watercourse identification map under the *Water Act 2000* displays mapped waterway features that traverses the centre of the site and on the western adjoining property (Figure 2), in the same location as the waterway discussed in Section 5.10.

Watercourse determination was sought from the Department of Regional Development, Manufacturing and Water (DRDMW) in 2023 for the site's waterway, and it was confirmed to be a drainage feature (not a watercourse).

5.12 DETSI Wetland Mapping

There are no DETSI wetlands mapped within the site area. There are two lacustrine wetlands south of the site in a different sub-catchment. The closest wetland downstream of the site is a Palustrine wetland approximately 4 km downstream.

5.13 Bushfire Hazard Area – Bushfire Prone Area Mapping

The SPP Bushfire hazard area – bushfire prone area mapping identifies parts of the site as containing areas mapped as Bushfire Prone Areas ranging across Very High Potential and High Potential Intensity categories, and areas mapped as Potential Impact Buffers (refer to Figure 7). Most of the mapped areas are associated with the southern portion of the site.

A separate Bushfire Hazard Assessment, prepared by Arup, will be submitted in support of this application. This assessment will specifically address the identified bushfire hazard area as mapped under the relevant planning.

Figure 5: Koala Priority Area, Koala Habitat Area and Identified Koala Broad-Hectare area map

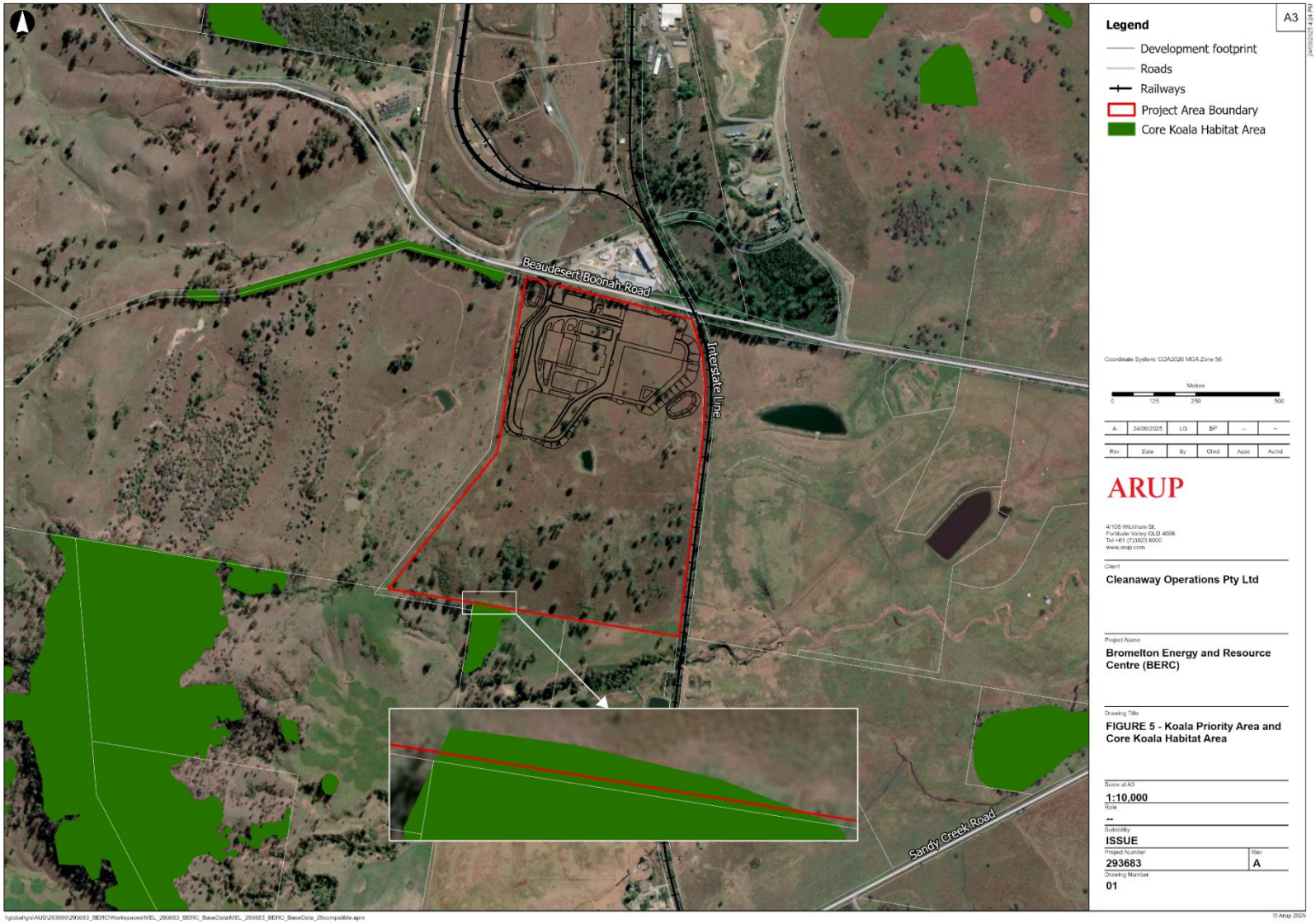


Figure 6: Queensland waterways for waterway barrier works GIS mapping layer

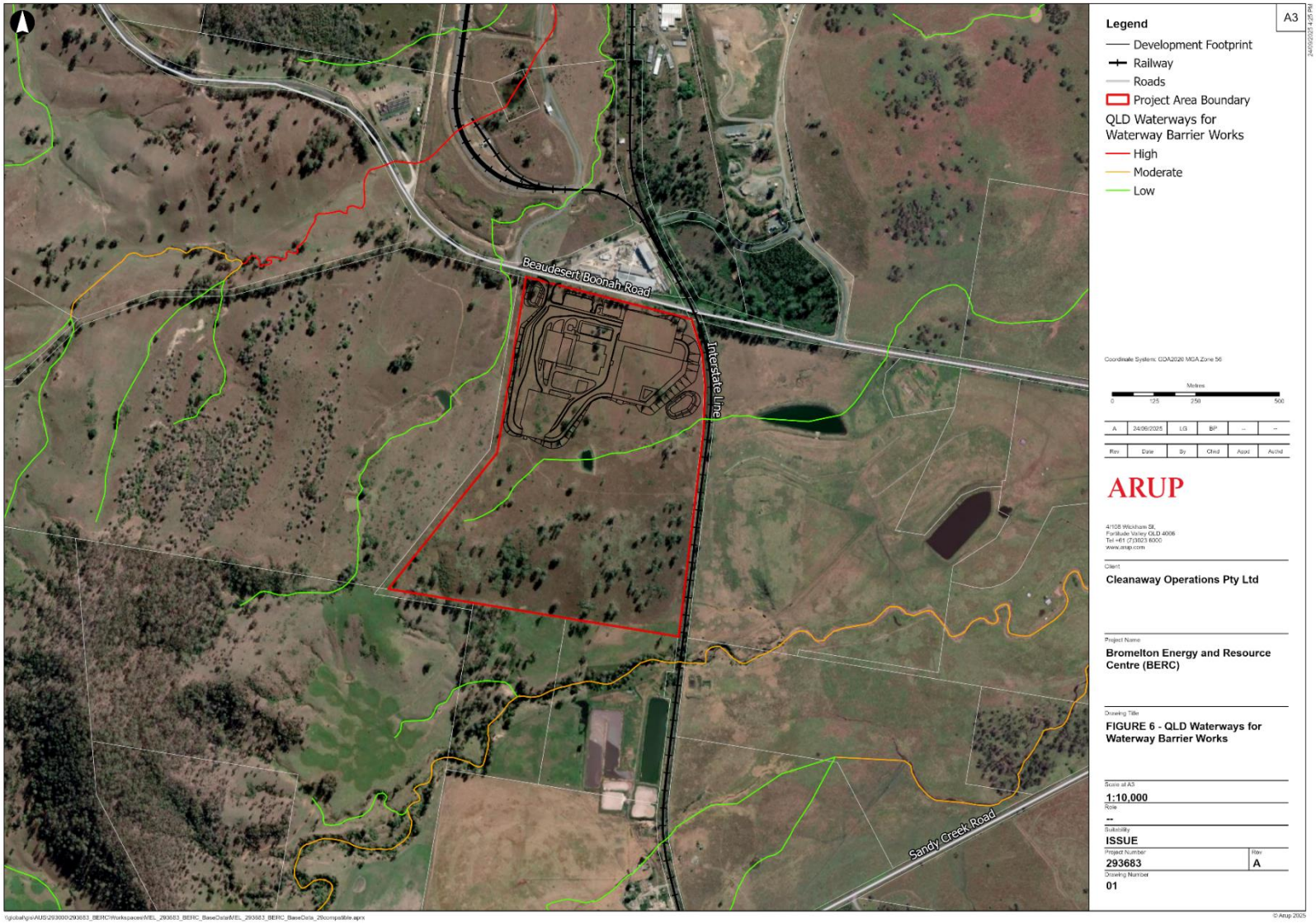
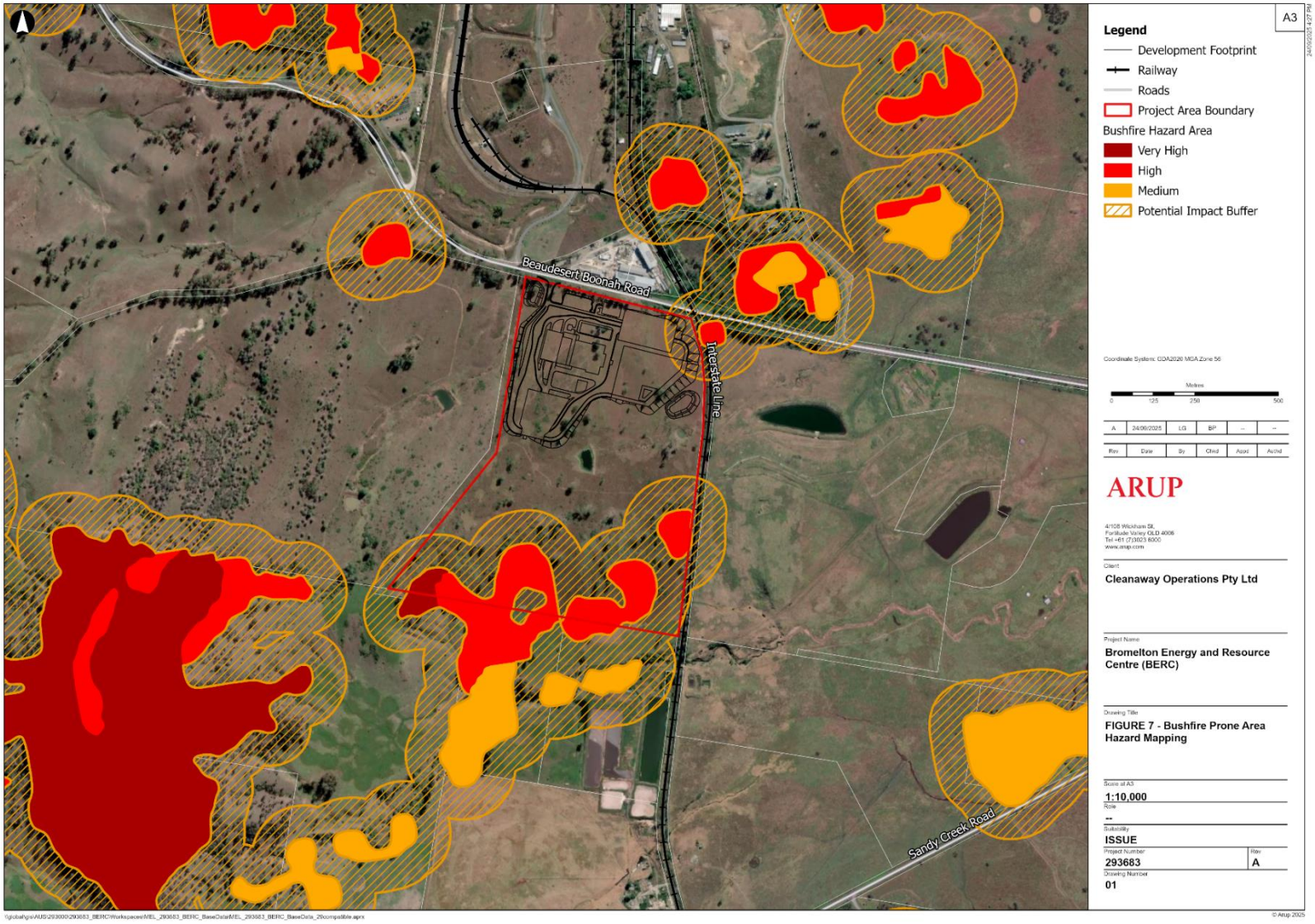


Figure 7: SPP Bushfire hazard area – bushfire prone area mapping



6. Results and Discussion

6.1 Vegetation communities

6.1.1 Vegetation supporting management map

A small area within the site is mapped as containing High Value Regrowth (HVR) associated with Regional Ecosystem (RE) 12.9-10.3.

However, this area was ground-truthed during the 2023 field survey and confirmed to consist of canopy overhang from adjacent vegetation, with no vegetation consistent with HVR present within the site itself (refer to Picture 1). This finding was re-confirmed during the most recent field survey conducted in August 2025. Accordingly, no HVR is mapped or recorded within the development footprint.

Picture 1: Canopy overhang of the mapped HVR into the site from 2023



6.1.2 Field validated vegetation communities

The vegetation within the site was observed to be dominated by exotic grasses and weeds with low density individual native Eucalyptus trees consistent with grazing paddocks (refer to Picture 2).

Dominant exotic grasses and weeds comprised *Chloris gayana* (Rhodes grass), *Setaria sphacelata* (South African pigeon grass), *Megathyrsus maximus* (Guinea grass), *Bidens pilosa* (cobbler's pegs), *Conyza* spp. (fleabane), *Sida rhombifolia* (sida), *Gomphocarpus physocarpus* (balloon cotton), *Solanum linnaeanum*

(apple of sodom), *Cirsium vulgare* (spear thistle), *Solanum mauritianum* (wild tabacco), and *Erythrina crista-galli* (cockspur coral tree).

Patches of the declared weed *Lantana camara* (lantana) were scattered throughout the site.

Picture 2: Vegetation typical of the Site showing exotic grasses and individual native trees



6.2 Flora species

Individual *Eucalyptus moluccana* (grey box) are present scattered throughout the site as individuals or in small aggregations with a canopy cover not exceeding 10%. Other native trees present in low densities include *Ficus obliqua* (small leaved fig), *Corymbia citriodora* (lemon scented gum), *Eucalyptus siderophloia* (grey ironbox), and *Corymbia tessellaris* (Moreton Bay ash), *Angophora leiocarpa* (rusty gum), and *Grevillea robusta* (Southern silky oak). A single *Ficus watkinsiana* (strangler fig) was observed.

Appendix C provides a Tree Survey Table for the trees in the within and outside of the site, which should be read in conjunction with Figure 8 and Figure 9.

No threatened flora species pursuant to the EPBC Act or NC Act were identified within the site during the field survey.

Due to the high-density of weeds in the ground layer, the historical clearing of the site and historical (and current) use of the site for grazing, there is a low potential for threatened flora species to be present within the site.

6.3 Threatened ecological communities

The field survey identified that the vegetation has potential to conform to the 'endangered' Grey Box-Grey Gum Wet Forest of Subtropical Eastern Australia TEC, which was identified in the EPBC Act PMST as

having the potential to occur within a 2 km radius of the site. This TEC is dominated by *Eucalyptus moluccana* (grey box), which is present within the site as individual trees or in low density aggregations of individual trees. The lack of a canopy cover and the high-density weeds in the ground layer present through the site precludes the small aggregations of *Eucalyptus moluccana* (grey box) from conforming to the key diagnostic criteria and/or condition thresholds of the TEC. Further, the elevations of the site (~89 – 96m AHD) are below that required by the Key Diagnostic Criteria for the TEC's elevation, which is 100 – 600m AHD.

No other potential TECs were identified during the field survey. As such, the vegetation within the site is considered not to be a TEC.

6.4 Weeds

Non-native flora were dominant in the ground layer throughout the site. The following Category 3 restricted invasive plants were present:

- *Asparagus aethiopicus* (ground asparagus)
- *Asparagus africanus* (ornamental asparagus)
- *Lantana camara* (lantana)
- *Lantana montevidensis* (creeping lantana)
- *Opuntia* spp. (prickly pear)
- *Senecio madagascariensis* (fireweed)
- *Sporobolus fertilis* (paramatta grass)
- *Sporobolus pyramidalis* (giant rats tail grass)
- *Vachellia nilotica* (prickly acacia)

6.5 Fauna species

A total of 19 fauna species were opportunistically observed during the field survey, comprised of the following:

- One insect
- Two amphibians
- 15 birds
- One mammal.

All fauna species observed were common species adapted to disturbed environments. Whilst a targeted survey was not completed, no threatened fauna species were opportunistically observed within the site area. Due to the general lack of vegetation within the site, and limited availability of habitat features (e.g. locks, leaf litter), the potential for threatened species to permanently reside within the site is considered to be low. More detail on threatened fauna is provided in section 6.6.

- A list of all flora and fauna species observed during the field surveys is provided in **Appendix B**.

6.5.1 Fire Ants

The site is within Fire Ant Biosecurity Zone 2. Fire Ant Biosecurity Zones apply to all individuals and businesses who work with organic materials sourced from within South East Queensland's fire ant infestation areas. This includes soil, hay, mulch, manure, quarry materials, turf and potted plants. No fire ants were observed during the field survey; however, detailed searches for this species were not undertaken. Under the Biosecurity Regulation 2016, when earthworks are undertaken in Biosecurity Zone 2 all material must be checked, and fire ant safe practices need to be employed.

6.6 Fauna Habitat

Whilst the vegetation within the site is minimal, the vegetation has the potential to provide limited resources for foraging, and dispersal habitat for native fauna species, and some breeding habitat (e.g. log piles, trees for nesting) for fauna species which tolerate disturbance. However, the habitat values are primarily restricted to low value habitat for birds, bats, and small reptiles and mammals.

Potential breeding habitat for native fauna species observed within the site includes the following:

- Wood and fallen stag piles which may provide breeding opportunities for small reptiles and mammals (refer to Picture 3)
- Dense exotic ground cover and sparse shrubs, which may provide breeding opportunities for small birds and reptiles (e.g. skinks)
- Habitat trees and stags with small, medium, and large hollows which may provide breeding opportunities for hollow dependant birds, bats, and mammals (refer to Picture 4).

The location of the wood piles, habitat trees, and stags is shown in Figure 8.

Picture 3: Wood piles and fallen stag which provide breeding opportunities for small reptiles and mammals



Picture 4: Habitat tree (E. moluccana) with medium hollows and evidence of utilisation



Figure 8: Location of potential breeding opportunities for native fauna



Figure 9: Tree retention and removal plan



Table 4 identifies the previously recorded threatened fauna species (WildNet) for which the vegetation on site has the potential to provide suitable habitat.

Table 4: Fauna species recorded on WildNet and habitat suitability

Scientific name	Common name	NC Act	EPBC Act	Habitat suitability
Calidris acuminata	sharp-tailed sandpiper	V	V Ma, Mi	Low value foraging in farm dams
Gallinago hardwickii	Latham's snipe	V	V Ma, Mi	Low value foraging in farm dams
Hirundapus caudacutus	white-throated needletail	V	V Ma, Mi	Low value foraging overhead of site
Phascolarctos cinereus	koala	E	E	Low value breeding, foraging, and dispersal
Pteropus poliocephalus	grey-headed flying-fox	C	V	Low value foraging
Tachyglossus aculeatus	short-beaked echidna	SL	-	Low value foraging

No suitable habitat for the balance of the threatened fauna species previously recorded on WildNet was identified within the site.

Due to the presence of some mature Eucalypt and Ficus species, and previous recordings of the species in the locality, the site is considered to provide suitable foraging resources for grey-headed flying fox (*Pteropus poliocephalus*) when Eucalypts are flowering and when fig species are fruiting. However, due to the sparsity of the trees, the amount of resources provided is both low and of a temporary nature.

Similarly, due to the presence of Eucalypt and allied species and previous recordings in the locality, the site would provide habitat and foraging resource for koala (*Phascolarctos cinereus*). However, the sparsity of vegetation would limit usage namely to transient koala that are moving between more densely vegetated, and higher value, areas.

Due to the level of disturbance and the limited extent of native vegetation within the site, the threatened fauna species identified in Table 4 are unlikely to permanently reside within the site and instead are likely to only utilise the vegetation within the site for low quality foraging and low value breeding and dispersal (koala only) purposes as opposed to high value habitat.

The site supports only sparse woody vegetation and lacks a complex and structurally diverse understorey. In this regard, the vegetation within the site is unlikely to play an important role in providing dispersal habitat to terrestrial fauna species. Fauna dispersal values are likely limited to avian fauna (birds and bats) which are likely to utilise the site transiently as steppingstone habitat.

6.7 Non-juvenile koala habitat trees

The site supports a low density of non-juvenile koala habitat trees in the form of *Eucalyptus moluccana* (grey box), *Corymbia citriodora* (lemon scented gum), *Eucalyptus siderophloia* (grey ironbox), and *Corymbia tessellaris* (Moreton Bay ash). The Tree Details Table provided in Appendix C shows the non-juvenile koala habitat trees present within or near the development area. As shown in Appendix C, 36 non-juvenile koala habitat trees require removal. However, as the site is not located within a Priority koala habitat area, nor involves removal of koala habitat trees from a mapped area of koala habitat, the removal of these non-juvenile koala habitat trees does not trigger assessment under the Planning Regulation 2017 and an assessment against State Code 25 is not required.

6.8 Aquatic habitat values

There are three dams on the site, and at the time of survey only two of the dams held water, while the middle dam was dry. The drainage feature had no water throughout the site; however, the presence of aquatic plants indicated evidence of ponding in some sections. The drainage feature and dams are not expected to be directly impacted by the Project.

Riparian vegetation throughout the site consisted of aquatic plants such as *Persicaria orientalis* (Prince's feathers), *Persicaria attenuata* (smartweed), *Juncus usitatus* (common rush), *Eclipta prostrata* (false daisy), *Philydrum lanuginosum* (woolly frogmouth), *Eclipta prostrata* (false daisy), *Azolla pinnata* (feathered mosquitofern), *Azolla filiculoides* (mosquitofern) and *Ludwigia peploides* subsp. *montevidensis* (water primrose). One floating attached species, *Nymphoides indica* (water snowflake), was recorded in the upstream most dam. Overall, there was minimal habitat value at each dam, and the dams would not provide essential habitat for aquatic species. The dams are human made, situated high in the catchment and there are several barriers to movement throughout the drainage channel (e.g. dam walls and culverts along Beaudesert Boonah Road) within and downstream of the site. A description of each dam is provided in Table 5.

The water quality was different between the dams, with the downstream dam having higher turbidity and higher electrical conductivity (Table 6).

Table 5: Aquatic habitat of each dam

Site	Description	Photograph
Upstream dam	Large dam downstream of drainage channel with low sloping, moderately stable banks. The dam was deep (>1.5m) and dominated by silt/clay substrate. In-stream cover was low and comprised aquatic plants, while riparian vegetation was cleared for cattle grazing. The dam provided minimal habitat for aquatic fauna, and the dam wall serves as a barrier to aquatic fauna movement.	
Mid dam	Dam was dry at time of survey, but bed and banks were dominated by aquatic plants. Bed substrate was silt/clay and there was a small channel at the downstream end where water would flow after rainfall. The riparian vegetation was cleared for cattle grazing. Due to the dam being dry, there was no habitat for aquatic fauna.	

Site	Description	Photograph
Downstream dam	Shallow dam dominated by silt/clay and banks were bare along the edge as water has evaporated from the dam. The banks were cleared of riparian vegetation and there were sparse emergent aquatic plants growing along the banks. The dam provided minimal habitat for aquatic fauna, and the surrounding dam wall is a barrier to aquatic fauna movement.	

Table 6: Water quality measured in situ in each dam

Site	Water temperature (ºC)	pH	Electrical conductivity (µS/cm)	Dissolved oxygen (% saturation)	Turbidity (NTU)
Upstream dam	22.7	6.27	322	89	12.6
Downstream dam	23.1	6.73	730	105	32

7. Legislative Assessment

7.1 Environment Protection and Biodiversity Conservation Act 1999

Whilst two bird species listed as 'marine' under the EPBC Act were identified as present (being Australian white ibis (*Threskiornis molucca*) and Magpie-lark (*Grallina cyanoleuca*), species listed as 'marine' under the EPBC Act are only protected under the EPBC Act when they are over Commonwealth marine areas, which are located three to 200 nautical miles offshore and not relevant to the Project.

No other MNES were identified as present within the site during the field survey. Additionally, suitable habitat for MNES was limited. Based on the findings of the field surveys which indicated MNES species are unlikely to utilise the site for anything other than transient purposes, the risk of a significant residual impact to MNES is very low and species-specific significant impact assessments have not been undertaken.

A Significant Impact Assessment (SIA) has been specifically prepared for koala herein (refer Appendix D), which found that the project is unlikely to result in a significant impact to the species.

The Project will not require to be referred to the Commonwealth government under the provisions of the EPBC Act.

7.2 Biosecurity Act 2014

All proponents have a general biosecurity obligation to prevent and minimise the spread of all identified invasive flora and fauna species. To comply with the *Biosecurity Act 2014*, Cleanaway is required to control all restricted invasive species within the site area and must not spread restricted invasive plants during the construction phase of the Project. As noted in Section 6.4.2 the Project is within Fire Ant Biosecurity Zone 2 and earthworks will need to consider this as part of the general biosecurity obligation.

7.3 Environmental Offsets Act 2014

An offset under (or delivered in accordance with) the *Environmental Offsets Act 2014*, is unlikely to be required as the Koala Habitat Area (Core) is mapped associated with the HVR, which was determined to not encroach into the site.

7.4 Environmental Protection Act 1994

A development approval for works in Great Barrier Reef wetland protection areas will not be required under the *Environmental Protection Act 1994* for ecological matters as there are no wetland protection areas within or adjacent to the site. As the Project progresses, compliance with the GED under the EP Act will be required, including development and implementation of appropriate environmental management measures during construction and operation to prevent and minimise environmental harm.

7.5 Fisheries Act 1994

There is a waterway mapped under the Queensland Waterways for waterway barrier works GIS layer within the site, and another on the neighboring property. However, as works are set back from these waterways, works would not require an operational works development application for the construction of waterway barrier works.

7.6 Nature Conservation Act 1992

7.6.1 Protected plants

No threatened flora species were identified during the field surveys, and no high-risk areas are present within the site. Therefore, a clearing permit or exemption notice for protected plants is not required.

7.6.2 Species Management Programs

For any proposed activity that will impact on breeding places of protected animals that are classified as extinct in the wild, critically endangered, endangered, vulnerable, near threatened (EVNT), special least concern, colonial breeder or least concern under the NC Act, an SMP for tampering with that breeding place will be required. Animal breeding places include anything that is commonly used by the animal to incubate or rear the animal's offspring including obvious structures such as bird nests and tree hollows, as well as more cryptic places such as amphibian or reptile habitat where breeding takes place.

Suitable breeding places within the development footprint were identified for least concern species (i.e. hollows, log piles) and therefore a SMP – Low Risk of Impacts is required to be obtained prior to any vegetation clearing and earthworks.

7.7 Planning Act 2016

An operational works development approval is unlikely to be required for ecological matters; however, may be required for other matters not relevant to this Biodiversity Technical Report.

The BERC includes Environmentally Relevant Activities (ERAs) that will require development approval and will need to address State Code 22: Environmentally relevant activities. There are two performance outcomes within State Code 22 that relate to biodiversity matters and are addressed in Table 6.

Table 7: State Code 22 performance outcomes and responses

Performance outcome	Response
PO4 Development is suitably located and designed to avoid or mitigate environmental harm to the receiving waters environment.	The development has been designed and located to avoid harm to the receiving waters. The farm dams sit outside of the proposed developed footprint along with the primary overland flow path. The dams and flow paths will be retained in their present condition. Minor gullies and flow paths within the developed portion of the site will be filled by the works and will be drained via the proposed stormwater systems. Natural overland flow paths within the southern catchment of the site will also be retained in their present condition. Stormwater quality improvement measures will be designed at centralised locations around the site. Refer to the Stormwater Management Plan and Flood Risk Assessment for further details.
PO7 Development is designed and sited to: avoid impacts on matters of state environmental significance; or minimise and mitigate impacts on matters of state environmental significance after demonstrating avoidance is not reasonably possible; and provide an offset if, after demonstrating all reasonable avoidance, minimisation and mitigation measures are undertaken, the development results in an acceptable significant residual impact on a matter of state environmental significance.	The development is on an already highly degraded site due to historic clearing and farming practices. The design has been sited on the northern portion of the property to avoid impacts to potential biodiversity values on the site. No matters of state environmental significance were identified during the field survey and are unlikely to use the site as a significant breeding site due to the cleared nature of the site.

7.8 South East Queensland Koala Conservation Strategy 2020–2025, Nature Conservation (Koala) Conservation Plan 2017 and the koala provisions of the Planning Regulation 2017

The works will avoid impacts to the mapped Koala Habitat Area (Core), which was ground-truthed as occurring outside of the southern boundary of the site. Therefore, assessment against the provisions of the

SEQ Koala Conservation Plan will not apply to the site. There is another portion of mapped Koala Habitat (Core) on the western adjoining property, which measures 7 ha in area. This is located outside of, and approximately 50 m from, the property and development footprint. The works will also avoid impacts to this area.

As the site is not located within a Priority koala habitat area, nor involves removal of koala habitat trees from a mapped area of koala habitat, the removal of non-juvenile koala habitat trees does not trigger assessment under the Planning Regulation 2017 and an assessment against State Code 25 is not required.

However, as noted, the site is located within Koala District A pursuant to the *Nature Conservation (Koala) Conservation Plan 2017*, under Part 3, Section 10 of the Plan, specific clearing requirements must be complied with when clearing koala habitat trees in koala district A, referred to as "sequential clearing conditions" including the use of a koala spotter during clearance. These clearing requirements are in place to prevent the injury or death of koalas when clearing koala habitat and must be complied with irrespective of any approvals or exemptions offered under legislation such as the Planning Act 2016.

7.9 Vegetation Management Act 1999

The works will not impact any mapped regulated vegetation and therefore assessment under *Vegetation Management Act 1999* is not required.

7.10 Water Act 2000

Works carried out for the Project will not interfere with a mapped watercourse. Therefore, a development approval for operational works for taking or interfering with water in a watercourse will not be required.

7.11 Bromelton State Development Area

Provisions of the SDA will need to be considered where they are not addressed by Commonwealth or other State legislation. The SDA requirements relating to ecology and biodiversity within the Project area have been addressed in Table 7. The site is within the Special Industry Precinct and no specific items relating to ecology or biodiversity are noted within the preferred development intent for this precinct.

Table 8: Bromelton SDA assessment criteria and responses

Bromelton SDA wide assessment criteria	Response
2.5.8 Water quality	
(1) Development, consistent with the Environmental Protection (Water) Policy 2009, avoids potential adverse impacts on the environmental values and water quality objectives of receiving waters, arising from: (a)altered stormwater quality or flow (b)wastewater (other than contaminated stormwater and sewage) and (c)the creation or expansion of non-tidal artificial waterways.	The development will aim to avoid potential adverse impacts on the environmental values and water quality objectives of receiving waters. The design will retain existing farm dams and drainage channels, while centralising stormwater quality improvement measures on site. The stormwater design is provided in the Stormwater Management Plan and Flood Risk Assessment. The wastewater strategy for the project includes use of a septic system and trucking off-site (no-release works). The development will not involve the creation or expansion of non-tidal artificial waterways.
(2) Development protects the ecological and hydraulic function of water assets within and adjacent to the Bromelton SDA.	The development will be designed to protect the ecological and hydraulic function of water assets within and adjacent to the Bromelton SDA. The over-arching strategy of the stormwater design is to: - Retain existing farm dams serving the southern parts of catchment allowing undeveloped areas of this catchment to maintain existing drainage regime.

Bromelton SDA wide assessment criteria	Response
	- Maintain existing drainage regime within the southern catchment of the site. - Maintain pre-development catchment distribution, where possible. - Retain current stormwater discharge locations and flow rates via use of attenuation basins. - Provide catchment wide stormwater quality improvement measures at centralised locations.
(3) Development incorporates current best practice integrated water cycle management strategies and integrates water sensitive urban design principles	The Project design incorporates water sensitive urban design principles, including the treatment of stormwater prior to discharge through a proprietary system and bio-retention basin, to achieve pollutant reduction targets. The stormwater system comprises a standard pit and pipe network to collect rainfall run-off from site access roads and primary areas of hardstand, which is appropriate when considering the industrial nature of the development and associated safety requirements. Water cycle management and water sensitive urban design strategies have been incorporated into the design and include: - A separate greywater management system is proposed to manage greywater from staff amenities such as showers and handwashing sinks, to reduce the quantity of sewage wastewater from staff amenities that will require treatment. Greywater will either be reused within the EfW process e.g. as make-up to the Recycled Water Tank. At future design stages landscape irrigation with greywater may be explored, subject to the necessary site assessments and approvals. - Harvesting of rainfall that lands on building roofs encourages water re-use and reduces the volume of water discharging to the stormwater network in smaller events. For BERC, rainwater collected on the EfW building and IBA building roof's will be re-used within the incineration and IBA maturation processes respectively. - The site features two stormwater basins, both of which comprise an initial bio-retention component and the secondary attenuation component. Bioretention systems promote the removal of particulate and soluble contaminants by passing stormwater through a filter medium for collection by an underdrain. A bund/weir separates the bio-retention basin area from the main detention basin, and the weir height is typically set at the 1year Annual Recurrence Interval (ARI) level (63% Annual Exceedance Probability (AEP)) - A proprietary Gross Pollutant Trap (GPT) is proposed at the end of each piped system, at the inlet of each basin. Each GPT has a high flow bypass to cater for larger rainfall events and promotes the removal of suspended solids and gross pollutants. MUSIC modelling has been completed for the concept design that demonstrates the stormwater design

Bromelton SDA wide assessment criteria	Response
	achieves the pollution reduction targets set by Seqwater, which are noted as being more stringent than the requirements set within Bromelton SDA which refer to "Healthy Waterways – Water Sensitive Urban Design: Technical Design Guidelines for South East Queensland".
2.5.11 Environment, Cultural heritage and community	
Environmental values, cultural heritage values and community values of the site on which the development is undertaken, and immediate surrounds are identified and protected, consistent with current best practice.	This Biodiversity Technical report has identified ecological values within the site. Whilst the site does not contain high ecological value, habitat features identified within the site are to be retained where possible or relocated on site as appropriate. For example, wood piles on-site (Picture 3, Section 6.6) can be moved to the southern portion of the site where works will not be undertaken. The Project will adopt current best practices, such as fauna spotter to be used during any vegetation clearing and implementation of a Construction Environmental Management Plan (CEMP).
Development is designed to avoid the clearing of regulated vegetation. Where avoidance is not possible, minimise clearing to: • avoid land degradation • avoid the loss of biodiversity and • maintain ecological processes.	No regulated vegetation will be cleared for the project.
Development is designed and sited to: • minimise impacts on matters of local and state environmental significance • maintain ecological connectivity and avoid fragmentation of matters of local and State environmental significance • avoid or minimise impacts to the movement of fish (fish passage) along waterways.	The development is on an already highly degraded site. The development footprint is on the northern portion of the property; therefore, ecological connectivity is maintained to the south and further fragmentation of vegetation is avoided in the southern portion of the site. However, the site has limited vegetation and is not mapped as a biodiversity corridor area and ecological connectivity is already limited. The development has been sited away from the drainage feature and dams and will not impact on fish passage.
(4) Where the development requires a buffer to mitigate the environmental impacts of the development, that buffer must be accommodated within the development site.	NA – No buffers required for the Project.
(5) Development avoids significant adverse environmental impacts on matters of national or State significance, or where significant impacts cannot be reasonably avoided, they are minimised. Any residual significant adverse impacts are offset in accordance with the relevant commonwealth or Queensland environmental offset framework.	NA – The site does not support MNES or MSES.
(6) The ecological values associated with the Logan River, Allan Creek and Sandy Creek shall be protected and enhanced.	Logan River, Allan Creek and Sandy Creek are not present on site. There is also no direct connection from the drainage channel to these waterways, as water flows downstream to Lake Brabazon.

8. Assessment of Impacts

This section details the biodiversity risk assessment in relation to both construction and operational impacts.

8.1 Construction

The potential impacts during the construction phase of the Project are:

- Fauna mortality during construction is possible; however, due to the existing cleared nature of the site there is a low risk of encountering fauna during construction
- Removal of fauna breeding places and habitat for 'least concern' fauna
- Fuel spills from construction vehicles that can negatively impact on flora, fauna and water quality (and associated aquatic ecology) on the site
- Reduced air quality and presence of particulate matter (e.g. dust) that can impact on ecological communities including aquatic ecological value of the farm dams as dust settles
- Disturbance from construction noise and light spill (if night-time activities) that may impact on fauna behaviour
- Vegetation removal will be minimal as the site has been historically cleared, therefore construction works will only require the removal of individual mature trees
- Spread of weeds or fire ants in construction materials.

Due to the limited extent of native vegetation and fauna habitat, the above impacts are anticipated to be minimal. Mitigation measures will also be implemented to avoid the abovementioned impacts. These mitigation measures are outlined in Section 8.2 below.

8.2 Operation

The potential impacts during the operation phase of the Project are:

- Fuel spills from plant or vehicles used on site that can negatively impact on flora, fauna and water quality of the site
- Potential runoff from stockpiled incinerator bottom ash (IBA) IBA
- Reduced air quality and presence of particulate matter (e.g. dust) that can impact on ecological communities
- Disturbance from operational noise and light spill that may deter or disturb fauna species
- Uncontrolled (or emergency) discharge of process wastewater (e.g. blowdown water, reject demineralised water) or chemicals due to non-standard activities or operations
- Vehicle strike from vehicles entering and leaving the site.

8.3 Proposed mitigation of impacts

This section outlines proposed mitigation and management measures that have been developed to mitigate the potential biodiversity impacts of the Project during construction and operation.

8.3.1 Construction

Construction mitigation measures are outlined in Table 8. In summary, impacts to biodiversity can be mitigated through design of the facility and the development of appropriate management plans.

Design will site infrastructure (e.g. fences, buildings, etc.) to discourage wildlife from interacting with site operations. This includes consideration of lighting to be minimised to avoid attracting fauna to the site or disrupting their natural behaviours. Waste will be properly contained so that fauna is not attracted to the site and cannot get trapped in any storage facilities, and waste will be stored in the bunker to control potential runoff and leaching

The development of a Construction Environmental Management Plan (CEMP) will mitigate the impacts to biodiversity. The CEMP should include mitigation measures such as:

- Contracting a suitably qualified and appropriately experienced licensed fauna spotter/catcher to supervise all clearing of woody vegetation or habitat trees and to manage fauna on Site. The spotter is to undertake a pre-clearance assessment, inspect all habitat features, and relocate fauna where necessary
- Implementing staged clearing protocols that direct fauna into retained adjacent vegetation, adhering to the requirements for sequential clearing (for koala) as the site is located in koala District A.
- Designating construction speed limits for all construction vehicles and machinery while on site
- Avoiding high risk construction activities, such as bulk earthworks during wet weather
- Storing fuels and chemicals within bunded areas, at least 50 m from waterways and drainage lines, and implement emergency control plans for spillages
- Implementing weed and fire ant control measures, such as weed washdowns and appropriate transport of soil and materials when moving on and off the site.

Table 9: Construction mitigation measures for biodiversity

ID	Mitigation measure	Details
EC01	Construction Environmental Management Plan – ecology measures	Standard unexpected finds procedures will be followed and will be detailed within the Construction Environmental Management Plan (CEMP). Avoid the removal of mature trees where possible. A Waste Management Plan will be prepared as part of the CEMP to manage waste during construction and would include measures to avoid impacts on biodiversity. Management measures would be prepared, applied and audited to avoid and minimise the environmental risks associated with weeds, pests and pathogens. Lighting impacts during construction are to be minimised as much as possible using sensor lighting and /or directional lighting for more heavily used parts of the facility to avoid impacts to fauna. The CEMP will include, or make reference to, a Vegetation and Fauna Management Plan with the following specific measures: • Fauna spotter/catcher to be onsite during any vegetation removal, and adherence to sequential clearing requirements. • Avoiding the removal of mature trees where possible, and where complete avoidance is not possible (as per arborists input/advice), is it recommended trees are pruned or lopped rather than completely removed. Where removal is required, arboreal habitat features should be relocated on site and retained as terrestrial habitat for ground-dwelling species. • Habitat features (e.g. log piles) that are required to be disturbed should be relocated on site where possible. • Vegetation protection measures and storage and stockpile specifications.

ID	Mitigation measure	Details
EC02	Design facility to minimise disturbance to biodiversity	Landscaping will be planted to enhance and compliment the ecological function of the site. Vegetation species will be appropriate to the surrounding land. Operation of the facility will be contained within developed areas of the site, with permanent fencing, buffer plantings and batters delineating the extent of these areas from other vegetated parts of the site. Site infrastructure (fences, buildings etc) will discourage wildlife from interaction with site operations. Waste with the potential to cause harm to be appropriately contained at all times on site. The size and layout of the proposal has been considered to minimise disturbance to existing biodiversity values. Lighting impacts during construction are to be minimised as much as possible using sensor lighting and /or directional lighting for more heavily used part of the facility to avoid impacts to fauna. Fencing is to be fauna friendly where practicable, or otherwise minimise harm to fauna as much as possible while serving its purpose.
HYD01	Soil and Water Management Plan	As part of a Soil and Water Management Plan (part of the CEMP), the contractor will be responsible for monitoring the quality of stormwater discharged from the site construction. Water quality in the overland flow path through the site, including at the site discharge point, will also be monitored throughout construction. A sediment control plan and strategy will be prepared to improve the quality of stormwater runoff from the site and minimise downstream environmental impacts. Physical measures include shaker pads at sediment fences, cut off drains, check dams and sediment basins to treat stormwater before it leaves the site.

8.3.2 Operation

Operational mitigation measures are outlined in Table 9. During operation it is recommended to develop and implement an Operational Environmental Management Plan, Revegetation Plan and a Stormwater Quality Monitoring Program. The management plans should provide specific guidance related to the operational activities associated with the facility. The roles and responsibilities for mitigation, monitoring and performance assessment during the facility operational life should also be specified. The key objectives of the Operational Environmental Management Plan are summarised below and should include:

- Compliance with environmental law and project commitments as per Chapter 7
- Avoidance, minimization and or mitigation of environmental impacts
- Manage assets in accordance with design criteria
- Provide a guide to the management and notification of environmental incidents
- Effective response to community requests and complaints
- General improvements in environmental maintenance methods
- Process for regular review of the plan during the operational life of the facility.

The Rehabilitation Plan will establish the location and types of native species endemic to the area to be used and is to include provisions for on-going weed control on the site.

Table 10: Operational mitigation measures for biodiversity

ID	Mitigation measure	Details
EC03	Operational Environmental Management Plan – ecology measures	The OEMP will include management measures to avoid and minimise the environmental risks associated with weeds, pests and pathogens and include operational controls on lighting, noise and dust.
EC02	Design of facility minimises disturbance to biodiversity	A landscape plan (refer architecture and landscape package for landscape surface treatments and planting schedule) has been developed to ensure the site is appropriately restored and enhanced, using native, low-maintenance species.
HYD03 + HYD05	Stormwater quality monitoring	The water quality of stormwater discharged from the site will be monitored to ensure water quality objectives are met. Water from the IBA maturation area will be directed to a detention basin and not be discharged off site.

9. Conclusions and Recommendations

9.1 Conclusions

The site has been subject to previous disturbance and generally has low ecological value.

There is a small patch of HVR mapped within the site as containing RE 12.9-10.3; however, field surveys identified that it was canopy trees from the neighbouring property overhang into the site. There was no vegetation consistent with HVR within the site and no HVR is mapped or recorded within the development footprint. Overall, vegetation within the site was observed to be dominated by exotic grasses and weeds with low density individual native Eucalyptus trees consistent with grazing paddocks. There were no threatened flora species identified within the site during the field survey and there is a low potential for threatened flora species to be present within the site.

The field survey identified that the vegetation has potential to conform to the 'endangered' Grey Box-Grey Gum Wet Forest of Subtropical Eastern Australia TEC, which was identified in the EPBC Act PMST as having the potential to occur within a 2 km radius of the site. However, due to the lack of a canopy cover trees and the high-density weeds in the ground layer present through the site, this precludes the small aggregations of *Eucalyptus moluccana* (grey box) from conforming to the key diagnostic criteria and/or condition thresholds of the TEC.

A total of 13 fauna species were observed during the field survey and all fauna species observed were common birds adapted to disturbed environments, with no listed threatened species observed. Whilst the vegetation within the site is limited, the vegetation has the potential to provide limited resources for foraging, and dispersal habitat for native fauna species, and some breeding habitat (e.g. log piles, trees for nesting) for fauna species which tolerate disturbance. However, the habitat values are primarily restricted to low value habitat for birds, bats, and small reptiles and mammals. Mitigation measures to minimise the impacts of the development to native flora and fauna have been recommended in this report.

There is a drainage line on the site and three farm dams. The drainage line was dry at the time of survey. No works are proposed within the drainage line, and stormwater from the site will be treated prior to discharge to achieve pollution reduction targets.

A review of relevant legislative requirements has identified that the Project complies with biodiversity-related performance requirements and criteria including SDAP Code 22 and the Bromelton SDA scheme.

Based on the desktop and field results, a summary of the legislative requirements for the Project is that:

- The Project does not need to be referred to the Commonwealth government under the provisions of the EPBC Act as there are no MNSE present therefore no risk of having a significant impact.
- The Project constitutes a Material Change of Use for Special Industry and is assessable development under the Bromelton SDA Scheme. The SDA-wide assessment criteria include biodiversity requirements that have been addressed in this report.
- An offset under (or delivered in accordance with) the *Environmental Offsets Act 2014*, is unlikely to be required as significant residual impact to Matters of State Environmental Significance are unlikely.
- A development approval is required for environmentally relevant activities, and the Project will need to address State Development Assessment Provision State Code 22: Environmentally relevant activities. This includes the performance outcome that development is designed and sited to avoid, minimise and mitigate impacts on MSES (ecology related MSES can include koala, native vegetation, waterways etc), which has been achieved as described in this report.
- All works are to be undertaken under an approved Low Risk SMP under the NC Act.

9.2 Recommendations

The site has been subject to previous disturbance and generally has low ecological value, however, the following recommendations have been suggested to minimise the potential ecological impacts associated with the proposed works:

- Comply with all legislative requirements under State and Commonwealth legislation.
- All works are to be undertaken under an approved Low Risk Species Management Program (SMP) under the NC Act, and a suitably experienced and licensed fauna spotter/catcher is recommended to be engaged to manage fauna prior to and during any vegetation clearing and initial earthworks/grubbing.
- Prepare a Vegetation and Fauna Management Plan (or include within the CEMP) that details the requirements for vegetation removal and the protection of retained vegetation fauna, including, but not limited to, the following.
  - Avoiding the removal of mature trees where possible, and where complete avoidance is not possible (as per arborists input/advice), is it recommended trees are pruned or lopped rather than completely removed. Where removal is required, arboreal habitat features should be relocated on site and retained as terrestrial habitat for ground-dwelling species.
  - Retention and re-use of habitat features (e.g. log piles, hollows) that are required to be disturbed should be relocated on site where possible.
  - Undertaking clearance works sequentially and in the presence of a fauna spotter catcher, as per the requirement for removal of non-juvenile koala habitat trees from koala District A.
- A Soil and Water Management Plan is recommended to be developed, implemented, and maintained for the duration of works to minimise impacts to water quality and prevent sediment entering the dams and drainage line on the site.
- A Revegetation Plan (or similar) is recommended to be developed and implemented for all areas impacted by the construction works. The existing degraded drainage line within the central portion of the property area supports inherent ecological value as a natural wildlife corridor. Leveraging this feature could enhance local biodiversity outcomes, aligning with feedback from the Scenic Rim Regional Council's Strategic Planning Team (27/10/25) regarding the improvement of ecological connectivity.
- A landscape plan (refer architecture and landscape package for landscape surface treatments and planting schedule) has been developed to ensure the site is appropriately restored and enhanced, using native, low-maintenance species.

10. References

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Appendix A | Protected Matters and WildNet Search

EPBC Act Protected Matters Report

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

Report created: 14-Aug-2025

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	7
Listed Threatened Species:	48
Listed Migratory Species:	11

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	21
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	5
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Moreton bay	30 - 40km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community may occur within area	In buffer area only
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community may occur within area	In feature area
Grey box-grey gum wet forest of subtropical eastern Australia	Endangered	Community likely to occur within area	In feature area
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In feature area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community may occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In feature area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat may occur within area	In feature area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Critically Endangered	Species or species habitat may occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area	In feature area
FROG			
Mixophyes fleayi Fleay's Frog [25960]	Endangered	Species or species habitat may occur within area	In feature area
INSECT			
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat may occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Macroderma gigas](#)			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In feature area
[Petauroides volans](#)			
Greater Glider (southern and central) [254]	Endangered	Species or species habitat likely to occur within area	In feature area
[Petaurus australis australis](#)			
Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Petrogale penicillata](#)			
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#)			
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat likely to occur within area	In feature area
[Potorous tridactylus tridactylus](#)			
Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat may occur within area	In feature area
[Pteropus poliocephalus](#)			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
PLANT			
[Arthraxon hispidus](#)			
Hairy-joint Grass [9338]	Vulnerable	Species or species habitat may occur within area	In feature area
[Bosistoa transversa](#)			
Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat may occur within area	In feature area
[Bulbophyllum globuliforme](#)			
Miniature Moss-orchid, Hoop Pine Orchid [6649]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Cupaniopsis tomentella](#)			
Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fontainea venosa [24040]	Vulnerable	Species or species habitat may occur within area	In feature area
Leuzea australis listed as Rhaponticum australe Austral Cornflower, Native Thistle [9363]	Vulnerable	Species or species habitat may occur within area	In feature area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Notelaea x ipsviciensis listed as Notelaea ipsviciensis Cooneana Olive [93460]	Critically Endangered	Species or species habitat may occur within area	In feature area
Picris evae Hawkweed [10839]	Vulnerable	Species or species habitat may occur within area	In feature area
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In feature area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat may occur within area	In feature area
Sarcochilus weinthalii Blotched Sarcochilus, Weinthals Sarcanth [12673]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thesium australe			
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
Delma torquata			
Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area	In feature area
Furina dunmalli			
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area	In feature area
Hemiaspis damelii			
Grey Snake [1179]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Cuculus optatus			
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus			
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava			
Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area	In feature area
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat may occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Kagaru to Acacia Ridge and Bromelton Inland Rail Project	2021/8927		Completed	In feature area
Controlled action				
Casino Ipswich Pipeline	2007/3877	Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Wyaralong Dam	2006/3157	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Upgraded sewerage infrastructure in the Helensvale/Coombabah catchment	2004/1427	Not Controlled Action	Completed	In feature area

Bioregional Assessments [Resource Information]

SubRegion	BioRegion	Website	Buffer Status
Clarence-Moreton	Clarence-Moreton	BA website	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Appendix B | Flora and Fauna Species List

Scientific name	Common name	Observation	NC Act	EPBC Act
Flora				
Angophora leiocarpa	rusty gum	Direct	C	-
Corymbia citriodora	lemon scented gum	Direct	-	-
Cynodon dactylon	green couch grass	Direct	-	-
Corymbia tessellaris	Moreton Bay ash	Direct	-	-
Eucalyptus moluccana	grey box	Direct	C	-
Eucalyptus siderophloia	grey ironbox	Direct	C	-
Ficus obliqua	small leaved fig	Direct	C	-
Ficus watkinsiana	strangler fig	Direct	C	-
Grevillea robusta	southern silky oak	Direct	C	-
Imperata cylindrica	blady grass	Direct	C	-
Aquatic flora				
Persicaria orientalis	prince's feathers	Direct	C	-
Persicaria attenuata	smartweed	Direct	C	-
Juncus usitatus	common rush	Direct	C	-
Eclipta prostrata	false daisy	Direct	-	-
Philydrum lanuginosum	woolly frogmouth	Direct	C	-
Azolla pinnata	feathered mosquito fern	Direct	C	-
Azolla filiculoides	Mosquito fern	Direct	-	-
Ludwigia peploides subsp. *montevidensis*	water primrose	Direct	C	-
Nymphoides indica	water snowflake	Direct	SL	-
Insects				
Danaus plexippus	monarch butterfly	Direct	C	-
Amphibians				
Litoria fallax	Eastern sedgefrog	Indirect		-
*Rhinella marina**	cane toad	Direct	C	-
Mammals				

Scientific name	Common name	Observation	NC Act	EPBC Act
Macropus giganteus	Eastern grey kangaroo	Direct	C	-
Aves				
Anas superciliosa	Pacific black duck	Direct	C	-
Aquila audax	wedge-tailed eagle	Direct	C	-
Ardea intermedia	intermediate egret	Direct	C	-
Bubulcus ibis	cattle egret	Direct	C	-
Cacatua sanguinea	little corella	Direct	C	-
Coracina novaehollandiae	black-faced cuckoo shrike	Direct	C	-
Corvus orru	Torresian crow	Direct	C	-
Elanus axillaris	black-shouldered kite	Direct	C	-
Entomyzon cyanotis	blue-faced honeyeater	Direct	C	-
Eolophus roseicapilla	galah	Direct	C	-
Falco berigora	brown falcon	Direct	C	-
Gymnorhina tibicen	Australian magpie	Direct	C	-
Malurus melanocephalus	red-backed fairy wren	Direct	C	-
Platycercus adscitus	pale-headed rosella	Direct	C	-
Threskiornis molucca	Australian white ibis	Direct	C	-
				-
Australian wood duck	*Chenonetta jubata*	LC	-	-
Australian magpie	*Gymnorhina tibicen*	LC	-	-
Australian white ibis	*Threskiornis molucca*	LC	Ma	-
Bar-shouldered dove	*Geopelia humeralis*	LC	-	-
Grey butcherbird	*Cracticus torquatus*	LC	-	-
Little pied cormorant	*Microcarbo melanoleucos*	LC	-	-
Pied butcherbird	*Cracticus nigrogularis*	LC	-	-
Magpie-lark	*Grallina cyanoleuca*	LC	Ma	-
Rainbow lorikeet	*Trichoglossus moluccanus*	LC	-	-
Tawny grassbird	*Cincloramphus timoriensis*	LC	-	-

Scientific name	Common name	Observation	NC Act	EPBC Act
Torresian crow	*Corvus orru*	LC	-	-
Welcome swallow	*Hirundo neoxena*	SLC	-	-
Willie wagtail	*Rhipidura leucophrys*	LC	-	-

*non-native fauna species

Appendix C | Tree Survey

Appendix D | Significant Impact Assessment