



# Compliance Report 2024

Petrie Mill Redevelopment Project, Petrie, Queensland  
(The Mill at Moreton Bay)  
EPBC 2016/7839



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Rev	Date	Description	Prepared	Reviewed
1	5/4/2024	Compliance Report EPBC 2016/7839 (Compliance Report 2)	Senior Environment Officer (JC)	Manager Environmental Services (RM)

# Declaration of Accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environmental Protection Biodiversity Conservation Act 1999* make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge that authorisation being revoked at the time of making this declaration.

Signed:



Full Name:

Scott Waters

Position:

Chief Executive Officer

Organisation City of Moreton Bay (ABN 92 967 232 136)

Date: 12.04.2024

# Project Overview

The Petrie Mill Redevelopment - now known as The Mill at Moreton Bay (The Mill) provides a unique opportunity to transform a former industrial site into a thriving educational and innovation precinct whilst protecting, restoring, and managing habitat for an important population of koalas. Koalas are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and require special consideration.

During the initial planning phase of The Mill, City of Moreton Bay (Council) identified that redevelopment of the site may impact environmental values and the project was referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) (previously Department of Environment). The action was to establish a new campus of the University of the Sunshine Coast (UniSC) and other associated urban uses at Petrie, Queensland. The project was deemed a controlled action under the EPBC Act and was subsequently approved, with conditions.

## Purpose and Scope

### Purpose

This compliance report (report) has been prepared to comply with condition 10 of EPBC 2016/7839 controlled action approval (refer Appendix 1).

### Scope

This report describes the status of compliance with all conditions of approval from 6 September 2017 (time of approval) to 1 March 2024 (two-year anniversary of the 'commencement of the action').

This report has been prepared in accordance with the Department of Climate Change, Energy, the Environment and Water Annual Compliance Report Guidelines (2023) - [www.dcceew.gov.au/sites/default/files/documents/annual-compliance-report-guidelines-2023.pdf](http://www.dcceew.gov.au/sites/default/files/documents/annual-compliance-report-guidelines-2023.pdf)

Compliance descriptors used in this report are consistent with the guideline including:

- **Compliant:** *'Compliance' is achieved when all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.*
- **Non-compliant:** *A designation of 'non-compliance' should be given where the requirements of a condition or elements of a condition, including the implementation of management plans and other measures, have not been met.*
- **Not applicable:** *A designation of 'not applicable' should be given where the requirements of a condition or elements of a condition fall outside of the scope of the current reporting period. For example, a condition which applies to an activity that has not yet commenced.*

## Table 1: Petrie Mill Redevelopment Project - EPBC2016/7839 - Compliance Report 2024

Table 1 below contains the compliance status of all conditions and an explanation of how Council complies or otherwise with the conditions of approval. Where applicable, this includes links to detailed evidence contained in appendices for further analysis such as Council records, policies, procedures, specific Council programs or contractual agreements.

	Condition	Compliance status	Comments
1	For the purposes of the action, the approval holder must not clear more than 22 hectares of critical habitat for the koala within the project site.	Compliant	As of the two-year anniversary of the commencement of the action (01/03/2024), a combined total of 7.73ha of critical habitat for the koala has been cleared. The quantity of critical habitat cleared is recorded in Council's record management system.
2	Prior to any clearing of vegetation within the project site, the approval holder must ensure a pre-clearance survey is undertaken by a suitably qualified person to identify any koalas present. The approval holder must not clear any vegetation supporting any koalas until such time any koalas vacate the vegetation or are relocated by a suitably qualified person.	Compliant	Of the clearing of vegetation undertaken to date and prior to such clearing occurring, Council has obtained a pre-clearance survey by a suitably qualified person to identify any koalas present - Refer Appendix 2.
3	Prior to commencement of the action, the approval holder must develop a management plan for the koala.  The management plan must:	Compliant	Council developed a Koala Management Plan (KMP), prior to the commencement of the action.  The KMP was endorsed by Council on 21/11/2017 and has been available for viewing on Council's website since this time at: <a href="https://www.moretonbay.qld.gov.au/files/assets/public/services/projects/the-mill/the-mill-koala-management-plan.pdf">https://www.moretonbay.qld.gov.au/files/assets/public/services/projects/the-mill/the-mill-koala-management-plan.pdf</a>  A link to the KMP is included in Appendix 3.

	Condition	Compliance status	Comments
3a	describe measures to be implemented for the life of the approval to minimise koala mortality attributable to wild dog attack and vehicle strike within the project site (including by use of fauna exclusion fencing, fauna underpasses and escape poles, and vehicle speed limits),	Compliant	<p>The KMP documents the measures to be implemented for the life of the approval, including:</p> <ul style="list-style-type: none"> <li>• wild and domestic dog management,</li> <li>• the use of fauna exclusion fencing, fauna underpasses and escape poles, and</li> <li>• vehicle speed limits.</li> </ul> <p>Additional information regarding implementation of the KMP is documented in the KMP implementation tracking document (Appendix 4).</p>
3b	describe measures to be implemented for the life of the approval to control weeds within the project site,	Compliant	<p>The KMP documents the measures to be implemented for the life of the approval, including weed management measures.</p> <p>Additional information regarding the implementation of the KMP is documented in the KMP implementation tracking document (Appendix 4).</p>
3c	<p>include a monitoring program for the monitoring period capable of determining and recording:</p> <ol style="list-style-type: none"> <li>i. The baseline population of koalas within the project site prior to commencement of the action, and</li> <li>ii. The use of the primary offset planting area and the supplementary habitat restoration area by koalas.</li> </ol>	Compliant	<p>Section 5 (page 11) of the KMP specifies details of the monitoring program.</p> <p>Summary of monitoring results:</p> <ol style="list-style-type: none"> <li>i. The baseline study of the koala population within the site was undertaken by Endeavour Veterinary Ecology (EVE) between May to June 2017, prior to any site works commencing. At 30/06/2017, 45 koalas had been accounted for on the site.</li> <li>ii. Between 01/07/2017 and 30/06/2022 Council utilised “near real time” monitoring (close monitoring via telemetry collars) to monitor the koala population and koala movement on and around the site, including adjoining habitat areas such as John Oxley Reserve (located to the east of The Mill) and State Government land (located to the north-west of The Mill).</li> </ol>

	Condition	Compliance status	Comments
			<p>Whilst being capable of determining and recording the koalas' use of the primary offset planting and supplementary habitat restoration areas, the core aim of this monitoring was to ensure the health and welfare of the koala population during periods of decontamination and rehabilitation (weed management and replanting).</p> <p>In accordance with the KMP (Section 5.2 - Koala Monitoring), as the decontamination and operational works were progressively completed throughout 2022, the "near real time" koala monitoring was phased out and the close monitoring telemetry collars were gradually removed from the koala population. Appendix 5 includes koala population data between 2017 and 2022.</p> <p>From February 2023, the use of the primary offset planting area and the supplementary habitat restoration area at The Mill was monitored utilising thermal imagery drone surveys. The site has been assessed once per month (over a two-day period) to monitor the abundance of koalas on the site (see examples of monthly drone survey maps in Appendix 6).</p> <p>In accordance with the Civil Aviation Safety Authority (CASA) regulations, drone surveys are restricted to The Mill site and do not include assessments of John Oxley Reserve (located to the east of The Mill) or State Government land (located to the north-west of The Mill).</p>

	Condition	Compliance status	Comments
3d	Include written evidence of input and review by a suitably qualified person; and	Compliant	<p>The KMP was developed in consultation with leading koala experts in the field:</p> <ul style="list-style-type: none"> <li>• Dr Jon Hanger, Endeavour Veterinary Ecology</li> <li>• Dr Bill Ellis, Researcher, University of Queensland</li> <li>• Dr Peter Timms, Professor of Microbiology, Faculty of Science, Health, Education and Engineering, University of the Sunshine Coast.</li> </ul> <p>Refer Appendix 3 (page 18) of the KMP.</p>
3e	Take account of the conservation advice.	Compliant	<p>The conservation advice (from leading koala experts) has been incorporated into the KMP. This conservation advice and other management actions are monitored as part of the KMP implementation tracking document (Appendix 4).</p>
4	The management plan must be implemented. The approval holder must publish the management plan on their website prior to commencement of the action and the management plan (or any subsequent revised versions) must remain on the website for the life of the approval. The results of the management plan must be included in compliance reports provided to the Department.	Compliant	<p>The KMP has been published on the Council website since 2017 (prior to the commencement of action on the 01/03/2022) and shall remain until 30/06/2047.</p> <p>The KMP is available for viewing on Council's website at <a href="https://www.moretonbay.qld.gov.au/files/assets/public/services/projects/the-mill/the-mill-koala-management-plan.pdf">https://www.moretonbay.qld.gov.au/files/assets/public/services/projects/the-mill/the-mill-koala-management-plan.pdf</a>. A copy of the KMP is attached as Appendix 3.</p> <p>The KMP has been implemented and this is documented in the KMP implementation tracking document (Appendix 4).</p>
5a	To compensate for the loss of 22 hectares of critical habitat for the koala within the project site, the approval holder must:	Not Applicable	<p>The primary offset planting area has been designated for conservation on the site. Significant progress towards planting the offset area has been achieved, as outlined below:</p>



	Condition	Compliance status	Comments
	<p>a. rehabilitate a minimum of 26 hectares within the primary offset planting area and meet the following offset outcomes:</p> <ul style="list-style-type: none"> <li>i. within 10 years of commencement of the action the primary offset planting area must meet the condition criteria; and</li> <li>ii. within 20 years of commencement of the action at least 24 hectares within the primary offset planting area must be koala habitat and non-juvenile koala habitat trees must be the dominant canopy species.</li> </ul>		<p>As of the two-year anniversary of the commencement of the action (01/03/2024), ~25ha has been rehabilitated and planted within the primary offset planting area, with koala habitat species from Regional Ecosystem RE 12.3.11. including:</p> <ul style="list-style-type: none"> <li>• Pink bloodwood (<i>Corymbia intermedia</i>);</li> <li>• Moreton Bay ash (<i>Corymbia tessellaris</i>);</li> <li>• Forest redgum (<i>Eucalyptus tereticornis</i>); and</li> <li>• Northern grey iron bark (<i>Eucalyptus siderophloia</i>).</li> </ul> <p>As of the two-year anniversary of the commencement of the action (01/03/2024), rehabilitation of the primary offset planting area is not sufficiently established to demonstrate the offset outcomes for the 10 and 20 year periods, for the simple reason that the koala habitat species are only 2 years old.</p> <p>A Primary Offsets Rehabilitation Report (September 2022) has been completed, noting species composition, acceptable survival rates and acceptable growth rates.</p> <p>A further site assessment was undertaken of the Primary Offset area in December 2023 (Appendix 8 - The Mill at Moreton Bay Vegetation Monitoring Within Rehabilitation and Restoration Areas - 2023 Report). This report demonstrates that weed level across primary offset are within the accepted target, however, planting survival remains lower than acceptable. Further investigation into soil chemistry and water retention has been commissioned, along with supplementary habitat planting.</p> <p>The remainder of the primary offset planting area (~1ha) is on track to be established by 30/06/2024 (weather permitting).</p>

	<b>Condition</b>	<b>Compliance status</b>	<b>Comments</b>
5b	<p>To compensate for the loss of 22 hectares of critical habitat for the koala within the project site, the approval holder must:</p> <p>b. dedicate a minimum of 74 hectares for rehabilitation within the supplementary habitat restoration area (the dedicated area) and provide the Department with a georeferenced map of the dedicated area prior to the commencement of action.</p>	Compliant	Council has dedicated 74ha as supplementary habitat, defined as per the georeferenced plan submitted to the Department on 24/12/2019.
5c	<p>To compensate for the loss of 22 hectares of critical habitat for the koala within the project site, the approval holder must:</p> <p>c. meet the following offset outcomes for the dedicated area:</p> <ul style="list-style-type: none"> <li>i. within 10 years of the commencement of the action the dedicated area must meet the condition criteria, and</li> <li>ii. within 20 years of the commencement of the action the dedicated area must be koala habitat and non-juvenile koala habitat trees must be the dominant canopy species.</li> </ul>	Not applicable	Council has commenced complying with this condition and significant progress towards rehabilitation of the supplementary habitat restoration area (dedicated area) has been achieved - refer Koala Management Plan Tracking Document Section 4.7 (page 21).
6	If, at any time during the life of the approval, the approval holder identifies that any of the offset outcomes in condition 5 are unlikely to be achieved or maintained, the approval holder must report to the Department in writing within 40 business days of becoming aware. The report must state the cause of the circumstance, the corrective actions to be taken	Compliant	As of the two-year anniversary of the commencement of the action (01/03/2024), Council does not have reason to consider that conditions will not be met within the defined timeframes.

	<b>Condition</b>	<b>Compliance status</b>	<b>Comments</b>
	(including timeframes for reporting to the Department the success of those actions) and the measures to prevent further occurrences.		
7	<p>If the Minister is not satisfied that the offset outcomes in condition 5 are likely to be achieved, or is not satisfied there is sufficient evidence that the offset outcomes in condition 5 are likely to be achieved (including on the basis of information provided in compliance reports and or audits under these conditions of approval), the Minister may request the approval holder to submit a plan for the Minister's approval, to monitor, manage, avoid, mitigate, offset, record or report on, impacts to the Koala.</p> <p>a. The Minister may set a timeframe in which the plan must be submitted and may designate that the plan must be prepared or reviewed by a suitably qualified person (or another specified person).</p> <p>b. If the Minister approves the plan, then the approval holder must implement that plan (or a revised version if approved by the Minister).</p>	Not Applicable	
8	Within 20 business days of commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement of the action.	Compliant	On 14/03/2022 (within 20 business days of commencement of the action), Council advised DCCEEW in writing that the 'commencement of the action' started on 01/03/2022.

	<b>Condition</b>	<b>Compliance status</b>	<b>Comments</b>
9	The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Compliant	In accordance with its requirements under the <i>Public Records Act 2002</i> , Council must keep an accurate record of all activities including those associated with the conditions of this approval.  This includes the measures taken to implement management plans required by this approval. Further information regarding this approval and compliance report is available to the department, upon request.
10	Within 60 business days of every 12 month anniversary of commencement of the action, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. The Minister may provide written consent to the approval holder to cease reporting under this condition if satisfied additional reports are not warranted.	Compliant	The 2024 annual report addressing the conditions of approval has been published on the Council website.

	<b>Condition</b>	<b>Compliance status</b>	<b>Comments</b>
11	The approval holder must report any potential or actual contravention of the conditions of this approval to the Department in writing within 5 business days of becoming aware of the potential or actual contravention.	Not Applicable	
12	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not Applicable	
13	If, at any time after 5 years from the date of this approval, the approval holder has not commenced the action, then the approval holder must not commence the action without the written agreement of the Minister.	Compliant	The date of approval was 06/09/2017 and the action commenced on 01/03/2022. The Department was notified of the commencement of the action on 14/03/2022.

## Appendix 1 - EPBC Approval (2016/7839)

Refer to page 13 - The Mill Koala Management Plan - [The Mill Koala Management Plan \(moretonbay.qld.gov.au\)](https://www.moretonbay.qld.gov.au)

## Appendix 2 - The Mill at Moreton Bay Tree Clearing Conditions

The following tree clearing conditions are included on all authorities to clear vegetation issued by the Approval Holder (City of Moreton Bay), to its contractor/s:

1. Removal of waste is prioritised with due consideration of providing a rehabilitated area suitable for re- establishment of koala habitat.
2. Removal of trees will be implemented in a staged approach, allowing free access for wildlife, including koalas, to move away from the area of their own accord (e.g. sequential clearing).
3. Immediately prior to clearing of any vegetation in the area, a pre-clearance survey must be undertaken by Council's nominated representative [2017 - 2022 being Endeavour Veterinary Ecology (EVE)] to identify any koalas present.
4. Vegetation containing koalas must not be cleared until such time as the koala/s vacate the vegetation of their own accord.
5. A fauna spotter catcher (to assess all fauna, including koalas) must be onsite during vegetation clearing and vegetation processing (e.g. mulching).
6. Standing vegetation may only be cleared using an excavator mounted with a tree-grab attachment or similar Elevated Work Platform. Under no circumstances should standing vegetation be 'pushed over' using buckets or ripping hooks as these do not permit a controlled fell.
7. Any hollows, with or without fauna present, shall be dismantled by an arborist using an Elevated Work Platform or limb lowering devices and relocated to adjacent bushland habitat.
8. Where cleared vegetation is stockpiled for later processing, an inspection of the stockpile must be undertaken by Council's nominated representative (EVE) immediately prior to any mulching or processing, noting that koalas have been known to inhabit stockpiled vegetation.
9. Upon completion of the works, all contractors will advise Council of the total number of koala habitat trees that were removed or impacted for record keeping purposes.

## **Appendix 3 - Koala Management Plan - The Mill at Moreton Bay Redevelopment**

Refer - [The Mill Koala Management Plan \(moretonbay.qld.gov.au\)](https://www.moretonbay.qld.gov.au)



## Appendix 4 - Koala Management Plan (KMP) - Implementation Tracking Document

KMP Section	Intent of section	Implementation as at two-year anniversary of the 'commencement of the action' (01/03/2024).
4.1 Wild Dogs	Council will implement a wild dog management program.	<p>Potential wild dog movement and travel pathways have been identified by mapping the corridors that animals use to move through the landscape.</p> <p>Convergence areas within these corridors are then used to set camera traps to monitor wild dog activity. When wild dogs are recognised, a targeted control program is initiated.</p> <p>Wild dog corridors and pathways in and around The Mill have been monitored (most recently in February 2024), with no reported wild dog presence on The Mill site or within designated buffer areas.</p>
4.2 Domestic Dogs	Domestic dogs will be strictly managed in accordance with Council's Local Law 2 (Animal Management) 2011.	<p>As of 01/03/2023, public access to The Mill site (revegetation and bushland areas) has been restricted, assisting to prevent interactions between domestic dogs and koalas.</p> <p>During the December 2021 wild dog survey (camera monitoring), domestic dogs (off-leash) were identified in bushland parks located adjacent to The Mill site. In response, a communication strategy was implemented targeting landowners in neighborhood's adjoining The Mill site, highlighting breaches of Council's Local Laws and the potential risks to koalas. Despite areas of the site being strictly closed to public, dog walkers with domestic dogs have occasionally been reported to Council by contractors working on site. Where unauthorised access is reported, these matters are referred to Council's Local Laws team.</p>
4.3 Vehicle Strike	<p>Threat mitigation, particularly related to vehicle strike, will be implemented, primarily through speed restrictions and traffic calming approaches - fauna fencing and crossing structures will be used on major roads.</p> <p>a) Along the road connecting the University Precinct to Dohles Rocks Road (Dohles Rocks Connection Road) to restrict koala movement into the road corridor.</p>	<p>Throughout the decontamination and construction phase, vehicle speed limits have been strictly enforced throughout the site and temporary exclusion fencing has been utilised to ensure no koalas have been killed or injured as a result of the works.</p> <p>As the project moves into the next phase of development, a traffic management plan will be developed and implemented to reduce risk of vehicle strike. This will involve the use of fauna movement infrastructure such as exclusion fences, under passes and fauna furniture to provide safe passage for koalas and other wildlife.</p> <p>Specifically:</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the ‘commencement of the action’ (01/03/2024).
	<p>b) Along the northern edge of Yebri Creek to restrict koala movement from the open space area associated with the creek into the adjoining precinct. Escape poles will be established on the development side of the fencing. Wherever the proposed new fencing intersects with existing rail line fencing, the design will ensure that the fences are securely interconnected.</p> <p>c) Along the eastern edge of the unconstructed School Road reserve. The fence will be positioned on the eastern side of the road corridor. Escape poles will be established on the development side of the fencing.</p> <p>d) Where necessary to direct koalas to safe passage underpasses.</p> <p>e) Upon the advice of koala specialists, fauna infrastructure will be installed along the proposed haulage routes and the primary offset area during the construction phase (e.g. dewatering and re-profiling engineering works) to maximise wildlife safety during operational works</p>	<p>4.3 (a) As of 01/03/2024 the road connecting from Dohles Rocks Road to the University Precinct has not been constructed. During the planning stage for this road, fauna movement infrastructure will be embedded into designs to mitigate impacts to koala and other wildlife. However, the internal haulage route (Bickle Road to the revegetation areas) remains in place with strict vehicle speed limitations.</p> <p>4.3 (b) As of 01/03/2024 bushland areas in and around Yebri Creek, the Innovation Precinct (located in the north-west of The Mill site) and primary offset and supplementary revegetation areas remain unobstructed and able to be traversed by koala and other wildlife. New fauna fencing will be integrated into designs as these areas are planned for development.</p> <p>4.3 (c) As of 01/03/2024 bushland areas in and around Yebri Creek, the Innovation Precinct (located in the north-west of The Mill site) and primary offset and supplementary revegetation areas remain unobstructed and able to be traversed by koala and other wildlife. New fauna fencing will be integrated into designs as the Innovation Precinct is planned for development.</p> <p>4.3 (d) Fauna fencing has been installed along Gympie Road, Petrie on The Mill site boundary and along the boundary of Wyllie Park. Additionally, a fauna underpass (for use by koalas and other terrestrial species) has been installed. A fauna rope bridge was also installed between The Mill and Wyllie Park to assist possums and gliders safely traverse over Gympie Road.</p> <p>4.3 (e) During dewatering of the dis-used settlement ponds (in readiness for primary offset planting) various sections of The Mill site were fenced off to mitigate threats to koala and other wildlife (i.e. potential to drown in mud). This fencing was installed following advice from Council’s koala specialist (EVE). As at 01/03/2024, dewatering works have been completed and the areas remain unobstructed and able to be traversed by koala and other wildlife.</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the ‘commencement of the action’ (01/03/2024).
4.4 Disease	<p>a) Council will continue to contribute to the health and ongoing viability of koalas on the site by supporting koala disease research, including UniSC’s koala chlamydia vaccination program.</p> <p>b) Sick koalas will be treated during telemetric monitoring periods and where available, vaccination against disease will be provided.</p>	<p>4.4 (a) Since 2017, Council has worked collaboratively with UniSC and EVE to progress the disease research and koala treatment. This has included access to koala monitoring data and blood samples from koalas included in The Mill monitoring program.</p> <p>4.4 (b) In addition to 4.4 (a), Council engaged EVE to undertake a close koala monitoring program (2017 to 2022) including the requirement to monitor koala health and viability. During this time, EVE conducted around 2,000 veterinary exams, with sick or injured koalas being treated as and when required.</p> <p>Following this intensive health monitoring program, a less intensive program consisting of quarterly visual health checks of koalas has been implemented (commenced October 2023). These health checks are conducted within hours of surveys using drone mounted thermal cameras to improve the efficacy of visual health checks. At each quarterly period, a quarter of the site is assessed, enabling the entire site to be monitored once over a 12-month period through dedicated visual health checks. To date, all visual checks have reported healthy koalas, with no medical intervention being required.</p> <p>Healthcare is also provided for incidental observations of sick or injured koalas and other wildlife at the site. This service has been implemented by Council since October 2023 and as at 01/03/2024, four koalas have been reported (outside of the visual health check). These koalas were assessed by Council’s contractor with three Koalas returned to the site as they were deemed healthy. One Koala was observed to have severe health issues and subsequently died in transit to the medical facility. Further investigations into the cause of death indicate septicaemia.</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the 'commencement of the action' (01/03/2024).
4.5 Weed Management	Council will implement a comprehensive natural area management program across the site in liaison with environmental consultants and contractors. The management program will be implemented over the life of the project.	<p>Council has procured weed management services annually since 2017, via a competitive tender process.</p> <p>This program targets bushland areas across the site, noting that some areas were heavily infested with weed species with significant weed seed loads. Weed management measures continue to transform these areas from moderate quality koala habitat to high quality koala habitat. These areas will progressively be enhanced by in-fill planting, as site conditions improve.</p>
4.6 Vegetation Clearing	<p>During the planning stage, it was determined that 22ha of koala habitat will be lost from the site.</p> <p>In accordance with the EPBC approval conditions, "commencement of the action" starts following the removal of 4ha of koala habitat. Once the commencement of action has been triggered, all of the EPBC approval conditions must be met within the specified timeframes.</p> <p>Additionally, all vegetation clearing shall meet the conditions specified in section 4.6.2 of the KMP.</p>	<p>The controlled action commenced 01/03/2022 when the combined total of 4ha of critical koala habitat had been cleared from the site.</p> <p>Clearing associated with decontamination works functionally concluded in November 2022. As at 01/03/2024, a total of 7.73ha of koala habitat has been cleared.</p> <p>The remainder of the clearing impacts will be associated with the establishment of the internal road connection to Dohles Rocks Road and the future development across the Innovation Precinct. As of 01/03/2024, these projects have not yet commenced.</p> <p>Specific conditions have been placed on all contractors approved to undertake vegetation clearing across the site as per section 4.6.2 of the KMP. These conditions are also included in Appendix 2 of the EPBC compliance report.</p> <p>Council has dedicated 74ha as supplementary habitat, defined as per the georeferenced plan submitted to the Department on 24/12/2019.</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the ‘commencement of the action’ (01/03/2024).
<p>4.7 Primary Offset Area and Supplementary Habitat Restoration Area</p>	<p>In accordance with the EPBC approval conditions Council is required to:</p> <p>rehabilitate a minimum of 26ha within the defined primary offset planting area, and</p> <p>dedicate a minimum of 74ha for rehabilitation within the supplementary habitat restoration area.</p> <p>These areas must be rehabilitated so that the defined areas reach non-juvenile koala habitat tree status within timeframes set out by the Federal Government.</p>	<p>This condition relates to condition 5 of the EPBC Compliance Report 2024 for the primary offset area (page 8).</p> <p>With regard to the supplementary habitat restoration area (dedicated area), as of the two-year anniversary of the commencement of the action (01/03/2024):</p> <ul style="list-style-type: none"> <li>• Approximately 17ha of the 74ha supplementary habitat restoration area (dedicated area) has been identified as high-quality koala habitat.</li> <li>• Approximately 47ha of the 74ha supplementary habitat restoration area (dedicated area) is subject to assisted natural regeneration with non-juvenile koala habitat trees being the dominant canopy species. In 2016 it was reported that the site was heavily infested with weed species with significant weed seed loads. Weed management measures (as per condition 3b) continue in these areas to transition them from moderate quality koala habitat to high quality koala habitat. These areas will progressively be enhanced by in-fill planting, as site conditions improve.</li> <li>• A further 10ha of the 74ha supplementary habitat restoration area (dedicated area) is subject to habitat restoration. Koala habitat species were planted in this area in 2022.</li> </ul> <p>As of the two-year anniversary of the commencement of the action (01/03/2024), the 10ha of planting in the supplementary offset planting area is not sufficiently established to demonstrate the offset outcomes. However, to demonstrate progress towards the offset outcomes, the planting area continues to be monitored.</p> <p>The Supplementary Offsets Rehabilitation Report dated May 2023 demonstrated a need for intervention in the supplementary planting areas due to lower than acceptable survival rates.</p> <p>Following results of the Supplementary Offsets Rehabilitation Report (May 2023), soil samples were taken which identified low organic material and a need for additional fertiliser and mulch, which was implemented in July 2023.</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the ‘commencement of the action’ (01/03/2024).
		<p>A further site assessment was undertaken across the 10ha of planted supplementary habitat restoration area (dedicated area) in December 2023 (Appendix 8 - The Mill at Moreton Bay Vegetation Monitoring Within Rehabilitation and Restoration Areas - 2023 Report).</p> <p>This report demonstrates that weed level across the supplementary habitat are within the accepted target, however, planting survival remains lower than acceptable.</p> <p>Further investigation into soil chemistry and water retention has been commissioned, along with supplementary habitat planting.</p> <p>The 74ha will also continue to be included in Council’s ongoing weed management program in order to meet the condition criteria within 10 years.</p>
5.1 Baseline Koala Monitoring	In accordance with the approval conditions (refer Appendix 1 - Approval EPBC Referral), a baseline study of the koala population is required.	<p>This condition relates to condition 3.c.i of the EPBC Compliance Report 2024 (page 6).</p> <p>The baseline study of the koala population within the site was undertaken by Endeavour Veterinary Ecology (EVE) between May to June 2017, prior to any site works commencing. At 30/06/2017, 45 koalas had been accounted for on the site.</p>
5.2 Koala monitoring construction	<p>Council aims to reduce the risk of koala injury or death during the decontamination and construction phase by implementing strategies that monitor koalas across the site.</p> <p>a) Intensive koala management periods, using telemetry tags or similar devices, will occur as determined by the construction timeframe and in consideration of advice from koala specialists.</p> <p>b) Thereafter koala monitoring across the</p>	<p>This condition relates to conditions 2 and 3c of the EPBC Compliance Report 2024 (page 5 and 6).</p> <p>From February 2023 until November 2023 there have been an average of 69.8 (min = 64, max = 79) koalas detected in monthly thermal drone surveys at The Mill site.</p> <p>The February 2024 thermal drone survey identified a total of 73 koalas, with 10 located in the primary offset area, 44 located within supplementary habitat restoration areas and 19 located within other areas across the site. Maps detailing koalas detected in thermal drone surveys from March 2023 - February 2024 (see examples in Appendix 6).</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the 'commencement of the action' (01/03/2024).
	<p>site will include the use of various monitoring methodologies including, for example, low intensive monitoring, night vision cameras, visual population assessments and koala scent detection dogs and innovations (e.g. drone identification technology).</p>	<p><b>Note:</b> For koalas and other native wildlife observed independent of the visual health checks, Council have contracted EVE to attend sick and injured koalas and Wildlife Rescue Queensland (WRQ) to attend sick and injured other native wildlife.</p> <p>This care service was introduced in October 2023 and to date, 4 koalas have been reported. Of these, one was healthy requiring no care, two were a mother and joey who were taken in for care and one was found deceased. No other native wildlife have been observed to require assistance.</p>
5.3 Koala Monitoring - Precinct 2 - Mill Innovation	<p>The development of Precinct 2 - Mill Innovation will require additional koala management measures to be implemented before, during and after koala habitat removal.</p>	<p>As of 01/03/2024, use of the Innovation Precinct (including associated vegetation clearing) has not yet been commenced.</p>
5.4 Use of Primary Offset Area and Supplementary Habitat Restoration Area	<p>In accordance with the approval conditions, following the 'commencement of the action', Council is required to implement a monitoring program to ascertain the use by koalas of the primary offset planting area and the supplementary habitat restoration area.</p> <p>This will be conducted via a range of monitoring methodologies, applied in a standardised manner.</p>	<p>This condition relates to condition 3c of the EPBC Compliance Report 2024 (page 6).</p> <p>Council has devised a vegetation management procedure for The Mill, establishing minimum standards for vegetation removal in compliance with condition 2 (outlined in Appendix 2).</p> <p>Between 01/07/2017 and 30/06/2022, Council employed "near real-time" monitoring, utilising telemetry collars for close observation of the koala population and their movements on and around the site. This encompassed adjacent habitat areas such as John Oxley Reserve (east of The Mill) and State Government land (north-west of The Mill).</p> <p>Starting from February 2023, the primary offset planting area and supplementary habitat restoration area at The Mill have been monitored using monthly thermal imagery drone surveys (see Appendix 6 for example survey results).</p>

KMP Section	Intent of section	Implementation as at two-year anniversary of the ‘commencement of the action’ (01/03/2024).
5.5 Record Keeping and Reporting	<p>In accordance with approval conditions, record keeping and reporting will include:</p> <ul style="list-style-type: none"> <li>a) Notification to the Department of Environment (DoE) within 20 business days of commencement of the action;</li> <li>b) Recording information to substantiate activities associated with or relevant to the conditions of the approval, including measures taken to implement this KMP; and</li> <li>c) Within 60 business days of every 12-month anniversary of the commencement of the action, compliance reports as per the DoE Annual Compliance Report Guidelines submitted.</li> </ul>	<p>5.5 (a) The commencement of the action was triggered 01/03/2022. The Department was formally notified 21/03/2022, and Council received acknowledgement of receipt of this notification on 29/03/2022.</p> <p>5.5 (b) The EPBC Compliance Report 2024 contains details to substantiate the activities associated with the conditions of approval, including the KMP.</p> <p>5.5 (c) The EPBC Compliance Report 2024 is the second report submitted to the Department following the commencement of action.</p>



## Appendix 5 - Koala Population Data (2017 - 2022)

Table 1 - Koala population data 2017 to 2022

Date	Number of Koalas on and around the Mill Site	Comments
30 June 2017	45 Koalas	Baseline Survey
30 June 2018	55 koalas with 18 dependant Joeys	Koala monitoring during decontamination and operational works. (Tag and monitor : health assessments - EVE)
30 June 2019	71 koalas with 24 dependant Joeys	Koala monitoring during decontamination and operational works. (Tag and monitor : health assessments - EVE)
30 June 2020	84 koalas with 26 dependant Joeys	Koala monitoring during decontamination and operational works. (Tag and monitor : health assessments - EVE)
30 June 2021	98 koalas with 40 dependant Joeys	Koala monitoring during decontamination and operational works. (Tag and monitor : health assessments - EVE)
30 June 2022	84 koalas with 29 dependant Joeys	Koala monitoring during decontamination and operational works. (decollaring commenced with final health assessments - EVE)

# Appendix 6 - Koalas Identified by the Thermal Drones (2023-2024)



Figure 1 - Koalas located by thermal drones on 08/03/2023 and 09/03/2023.

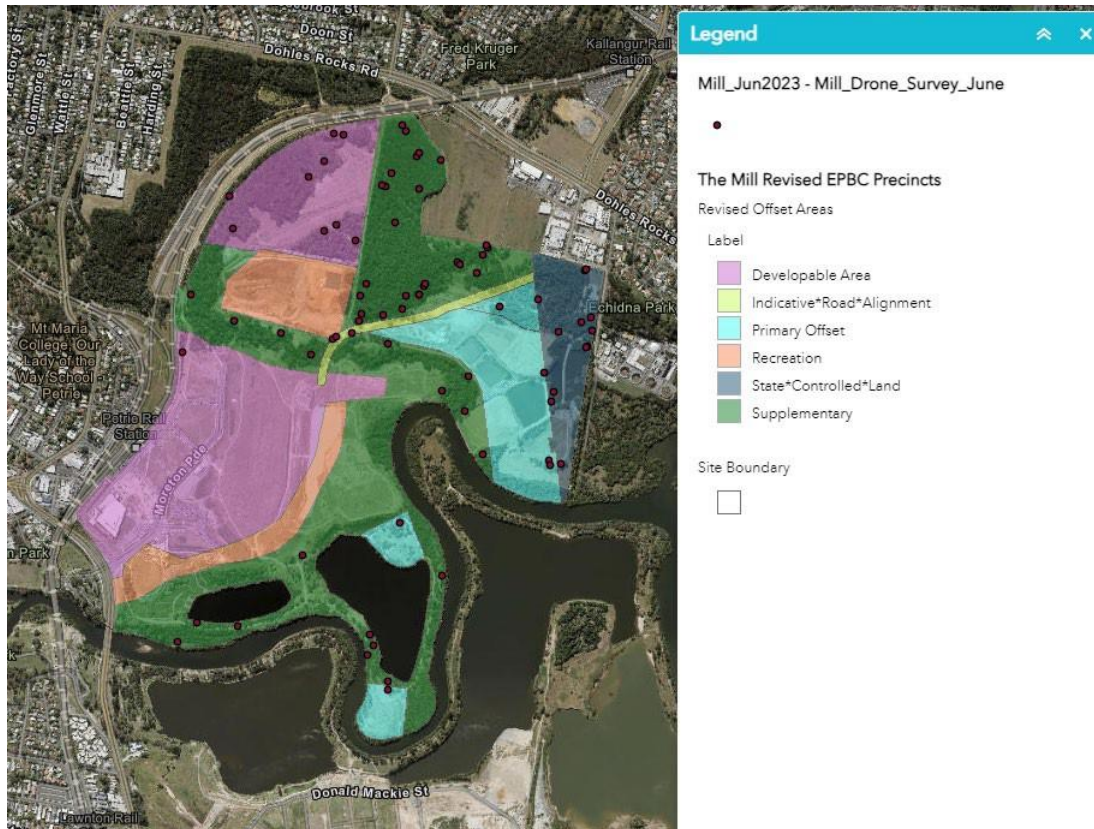


Figure 2 - Koalas located by thermal drones on 07/06/2023 and 08/06/2023.

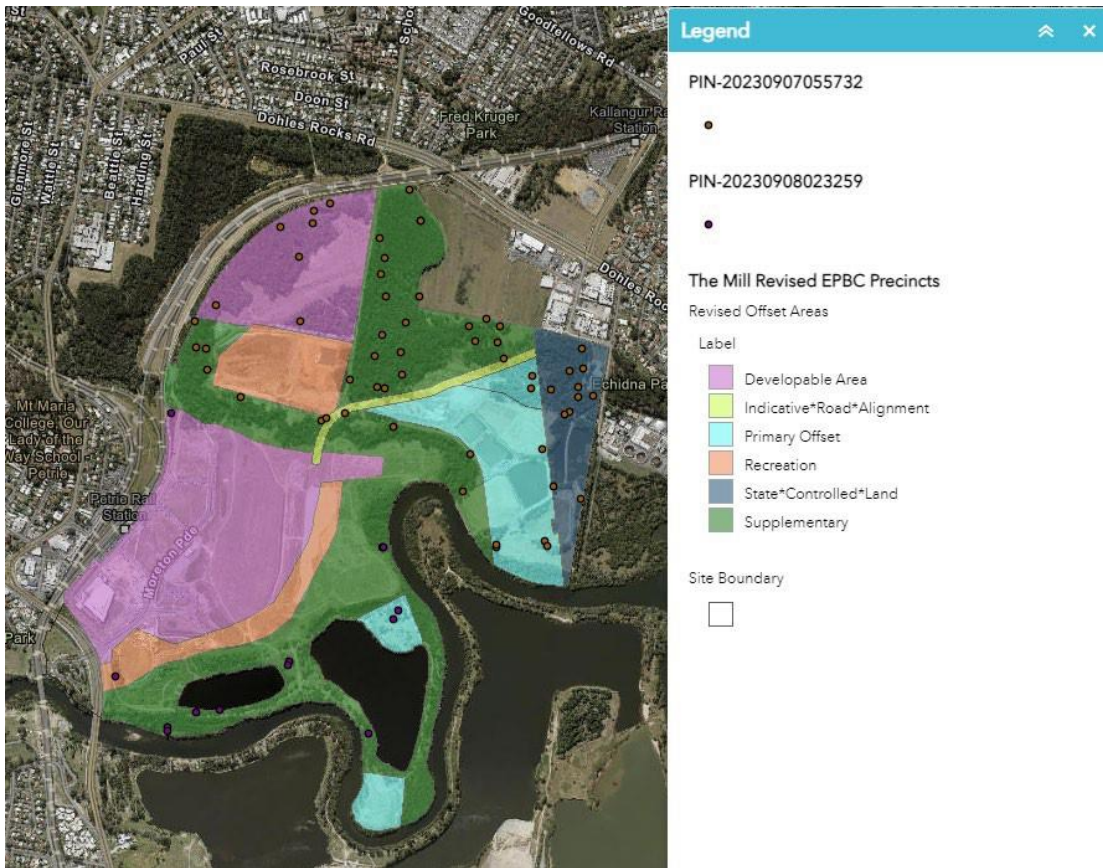


Figure 3 - Koalas located by thermal drones on 07/09/2023 and 08/09/2023.



Figure 4 - Koalas located by thermal drones 26/02/2024 and 27/02/2024.

## Appendix 7 - Quarterly Koala Visual Health Checks

Table 1 - Koala Visual Health Checks 2023 to 2024

Date	Area searched	Number of koalas observed	Comments
12 October 2023	Area D	11 adults and 2 dependent joeys	All koalas detected in drone surveys were located in visual health checks. All koalas were observed to be healthy.
25 January 2024	Area C	14 adults	All but 4 koalas detected in drone surveys were located in visual health checks. The 4 that were not found were reportedly in trees with dense vegetation which may have obstructed visibility from the ground. All located koalas were observed to be healthy.

# **Appendix 8 - The Mill at Moreton Bay Vegetation Monitoring Within Rehabilitation and Restoration Areas - 2023 Report**



# The Mill at Moreton Bay

Vegetation Monitoring Within Rehabilitation and Restoration Areas 2023 Report



**Citation**

The Mill at Moreton Bay Vegetation Monitoring Within Rehabilitation and Restoration Areas - 2023 Report (2023). City of Moreton Bay.

**Acknowledgements**

City of Moreton Bay would like to acknowledge the following team members from the Environmental Services Department who contributed to data collection in the field:

Position	Officer
Coordinator Environment Education and Projects	Ben McMullen
Senior Environment Officer	Jess Clayton Stefan Hattingh Debbie McQuattie Daniel Jonas Wendy Heath Nicole Byrne
Biosecurity Officer	Dan Brough Barry Sullivan

**Disclaimer**

The contents of this report are intended to provide guidance on the current state of the rehabilitation and restoration activities undertaken at The Mill. The information and views within this document are believed to be accurate and reliable at the time of publication.

Rev	Date	Description	Prepared	Reviewed
	20/12/2023	Compliance Report EPBC 2016/7839 (Compliance Report 2)	Senior Environment Officer (JC)	Manager Environmental Services (RM)

## Overview

The Mill at Moreton Bay (The Mill) provides a unique opportunity to transform a former industrial site into a thriving educational and innovation precinct, whilst protecting, restoring, and managing habitat for an important population of koalas. Koalas are protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC) and require special consideration.

During the initial planning phase of The Mill, Moreton Bay Regional Council (now City of Moreton Bay) identified that redevelopment of the site may impact environmental values and the project was referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) (previously Department of Environment). The project was deemed a controlled action under the EPBC Act and was subsequently approved, with conditions (EPBC2016 - 7839).

Condition 5 of the controlled action approval requires the approval holder to rehabilitate areas of the site to a particular condition within a particular time frame. Initial plantings across the site occurred in 2021, with planting still being undertaken in some areas at the time of this report. An EPBC compliance report was submitted at the 1-year anniversary of the controlled action which used monitoring conducted by City of Moreton Bay's Major Projects team (Major Projects).

City of Moreton Bay's Environmental Services Department (ES) have since implemented monitoring within the vegetation restoration and rehabilitation areas at The Mill. The intention of this monitoring program is to inform future EPBC controlled action annual compliance reports.

The first of these monitoring events was conducted from 5-13 December 2023 and the results are presented in this report.



## EPBC Aims and Targets

The aim of the rehabilitation works is to maintain and improve ecological condition of the site, to improve koala habitat and meet the EPBC conditions of approval. The aim of revegetation monitoring is to track the progress of the rehabilitation works, in a format that can be used within the EPBC Controlled Action Annual Compliance report.

In accordance with condition 5 of the EPBC Approval (EPBC 2016/7839), the primary offset planting area (26ha) and the supplementary habitat restoration area (the dedicated area of 74ha) is required, within 10 years of the commencement of the action, to have:

- (i) At least 85% of trees within a given survey plot be non-juvenile koala habitat tree (NJKHT) and
- (ii) At least 85% of plots surveyed meet the above condition (i).

In 20 years non-juvenile koala habitat trees (NJKHT) are to be the dominant tree species within defined areas.

The definition of a (NJKHT) is a species of tree of genus *Angophora*, *Corymbia*, *Eucalyptus*, *Lophostemon* or *Melaleuca* (whose leaves are known to be consumed by the koala) with a height of more than 4m or a trunk with a circumference of more than 31.5cm at 1.3m above the ground (dbh).

## Planting specification target

The planting specification was developed in accordance with the provisions of the Petrie Mill Redevelopment Restoration Management plan by Bushcare Services dated November 2016. This document sets out minimum performance criteria over a 10 year period. Table 1 below shows the proposed targets for a range of attributes and has been used to assess habitat restoration contractor performance during the project (Pers comms, T. Kerr, 2023).

Table 1- Performance criteria over time.

RE and Timeframe	Planting Survivorship	Weeds - Declared sp. % of total area	Weeds - broadleaved	Average canopy height	Koala Food / Habitat tree circ.
<b>RE 12.5.3</b>					
Year 1	90%	5%	5%	0.8m	
Year 3	90%	5%	5%	2.2m	
Year 5	90%	5%	5%	6.6m	31.5cm
Year 10	90%	5%	5%	11.5m	
<b>RE 12.3.11</b>					
Year 1	90%	5%	5%	0.8m	
year 3	90%	5%	5%	2.3m	
year 5	90%	5%	5%	6.9m	31.5cm
Year 10	90%	5%	5%	11.5m	

# Rehabilitation and Restoration Areas

Rehabilitation and restoration activities have been sectioned into separable portions. Separable portion 1 (Figure 1) (containing 5.2ha of primary offset planting area of RE 12.3.11 (Figure 2)) was planted first in 2021.

This area was inspected by Council’s Major Projects team on 14 July 2022, collecting data for the initial year one monitoring report. This area is under maintenance with intensive mowing and weed management and subsequently, has very few weeds present.

Separable Portion 2 (consisting of supplementary offset planting of RE 12.3.11) was planted in December 2021. This area was inspected by Council’s Major Projects team in May 2023, collecting data for the initial year one monitoring report. This area is also under intensive mowing and weed management.

Separable Portion 3 (containing 17.2ha of primary offset planting area of RE 12.3.11) is currently undergoing planting and is estimated to be completed by May 2024 (weather dependent) (Figure 1).

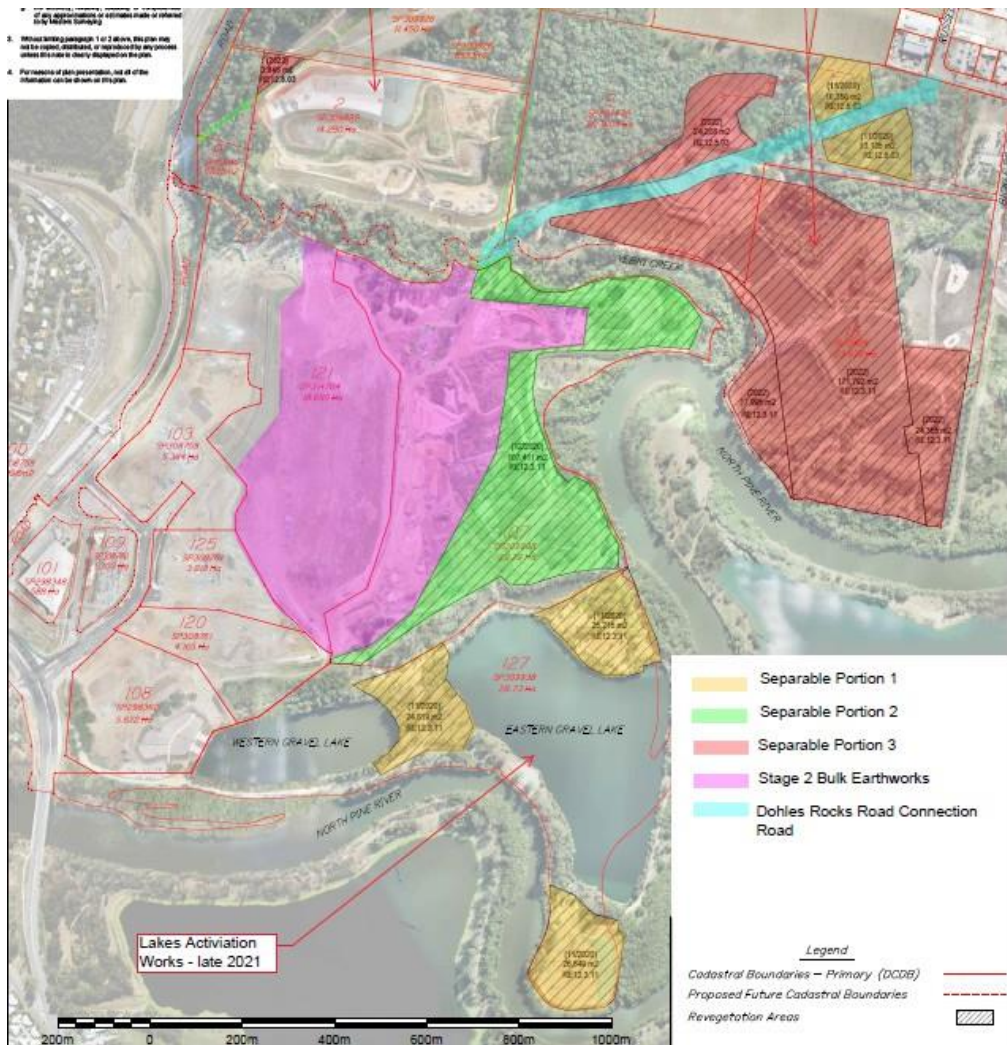


Figure 1. Separable portions at The Mill.



Figure 2. Primary and Supplementary offset areas at The Mill.

## Aims and Objectives

The aim of the 2023 vegetation monitoring is to inform Council's 2024 EPBC Compliance Report. The objectives of the monitoring are:

1. To quantify the % survival of planted trees in rehabilitation and restoration areas of The Mill.
2. To measure the height of koala habitat trees in plots in rehabilitation and restoration areas of The Mill.
3. To quantify the % weed cover in rehabilitation and restoration areas of The Mill.
4. To quantify the % broadleaved weeds in rehabilitation and restoration areas of The Mill.

## Targets

1. At least 90% survival of plantings across the site.
2. At least 90% of plots meet target 1.
3. No more than 5% weed cover of entire area (declared weeds).
4. No more than 5% broadleaved weeds.

## Methods

Between 5 December and 13 December 2023, team members from ES undertook field-based monitoring of the rehabilitation and restoration areas within Separable portion 1 and 2 at The Mill (see Appendix 1 for survey locations).

### Survey areas

Vegetation surveys were conducted within Separable portion 1 and 2, which include primary offset and supplementary habitat areas.

The total area that has undergone revegetation within separable portion 1 and 2 is 20.75ha. A total of 24 survey plots of 20 x 20m were established across separable portion 1 and 2. The locations of plots were randomly generated by using a random number generator (using random.org which utilises amplitude from atmospheric noise to generate random numbers) and a grid overlay across the site. Appendix 1 indicates the locations of each plot surveyed during this monitoring event.

A GPS location was recorded for each plot and a grid of 4m spacing was established across each plot to assist observers in accurately assessing each plot. Each 4x4m grid square within a plot was marked with pin markers for the duration of the survey. Each plot was searched starting from the north-western corner, with transects running from west to east. A photopoint was taken for each plot (standardised position - always taken from the centre of the south side of the plot boundary) and GPS coordinates for the photopoint recorded (see Appendix 3 for representative photopoints for plots assessed at The Mill site).

### Approach for quantifying native species

Field personnel systematically recorded all planted canopy, understorey and groundcover plants, as well as natural recruitment of canopy plants within each plot (for species lists, refer to planting palettes - Appendix 2).

Starting from Transect 1, Quadrat 1, field personnel systematically searched the entire plot, recording the total number of individual plants which were either planted or recent recruitment (within 12 months). For each canopy and understorey layer plant, the height (m) was recorded using a measuring tape or a marked pole where trees exceeded 3m. Diameter at breast height (dbh) was not measured as plantings have not reached sizes large enough to include this metric.

Survival and loss were recorded for plantings in order to quantify survival for each plot. Loss of plants was recorded where there was a dead plant, a stake with no plant or evidence of a gap in a row of plantings which was deemed to be the loss of a plant. It was not possible to differentiate between original plantings and replacement plants if areas with dead plants had been replanted.

### Approach for quantifying % cover of weeds

Within each 4x4m grid square, the percent cover of declared weeds was recorded. As declared weeds were in low abundance across the site, the entire 4x4m grid square was assessed for this metric.

For each 4x4m grid square, 5 1x1m quadrats were assessed for broad leaf weed cover using groundcover estimates in the Biocondition manual provided by Queensland Department of Environment and Science (DES) (Fig 4). The configuration of the 1x1m quadrats consisted of each corner of the 4x4m grid square as well as a 1x1m quadrat in the centre of the square. An average percent weed cover was then calculated for each grid square.

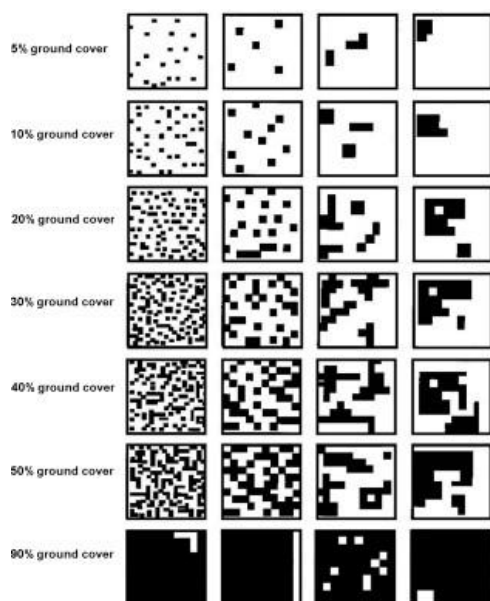


Figure 4. Stylised diagram of ground cover estimates (Taken from the DES Biocondition Assessment Manual).

# Results

A total of 24 plots of 20x20m were assessed to determine the survival and growth of plantings, weed cover and recruitment within separable portion 1 and 2 of The Mill vegetation rehabilitation and restoration areas. In total, there were 719 records of planted trees within plots, 21 recruits in the canopy layer and 339 instances where plants were reported as dead or gone.

## Planting Demographics

For the purpose of this report, descriptive statistics are provided at the site level (all plots combined) and across separable portions.

There were 12 plots within separable portion 1 and 12 within separable portion 2 (Figure 1). This translates to 8 plots within the primary offset and 16 plots within the supplementary habitat areas of the site (Figure 2).

There was a difference in the mean number of total plants within separable portions, with a mean of 39 plants observed in plots within separable portion 1 and a mean of 16 plants observed in plots within separable portion 2 (Figure 5). The majority of plants that were planted within plots were canopy layer plants, with 68% of observed plantings falling within canopy trees, 29% within the understorey layer and 3% within the groundcover layer (Figure 6).

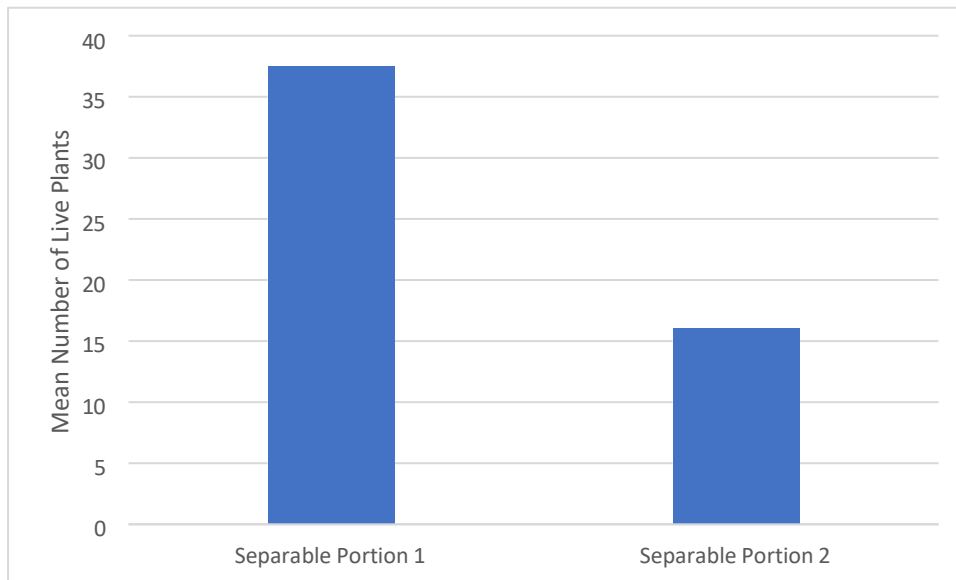


Figure 5. The mean number of plants observed in plots (n=24) within separable portion 1 and 2 at The Mill.

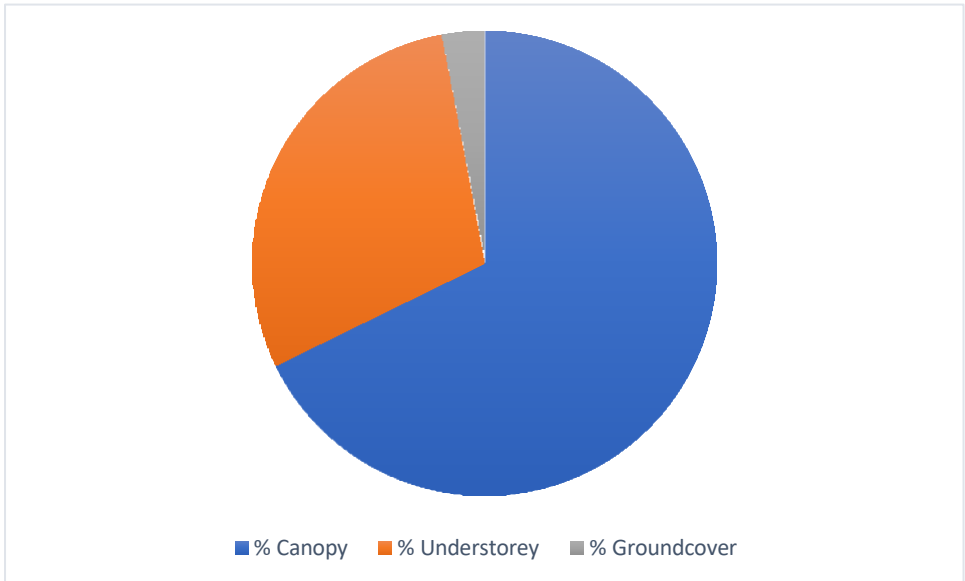


Figure 6. The percentage (%) of each planting layer represented in plots at The Mill.

**Planting survival**

Percent survival of plantings across all plots was 62%, approximately 28% below the survival target (Target 1). Target 2 required that 90% of plots met target 1. Only 12.5% of plots obtained survival values of 90% or higher, therefore target 2 was also not met. Survival in separable portion 1 was higher compared with separable portion 2 (Table 2).

Table 2. Survival of plantings (%) within vegetation rehabilitation and restoration areas at The Mill

	Result	Meets Target (90%)
<b>Targets</b>		
Target 1 - At least 90% survival across the site	62.92% survival	No
Target 2 - At least 90% of plots meet target 1	12.5% of plots	No
<b>Separable Portions</b>		
Separable Portion 1	78.07 % survival	No
Separable Portion 2	45.00 % survival	No

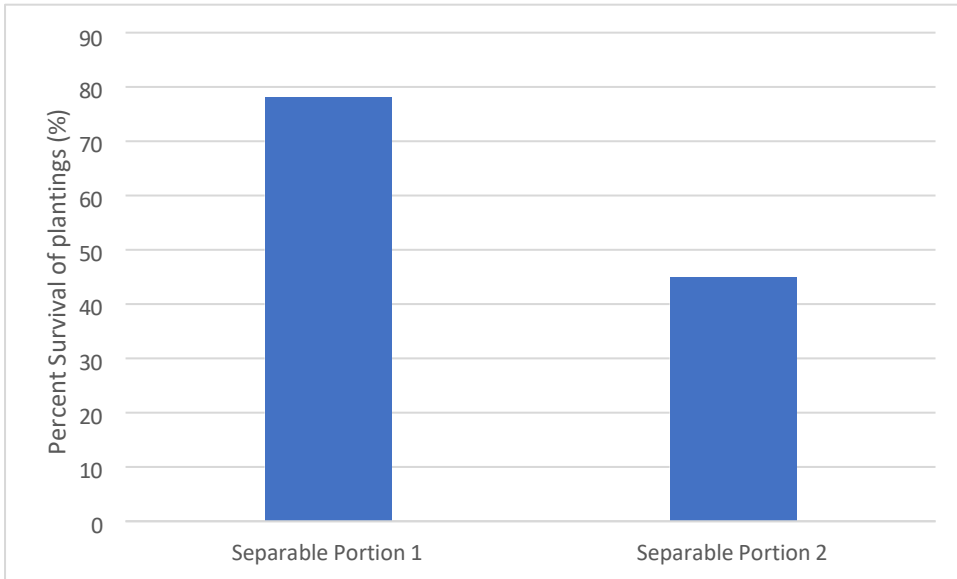


Figure 7. Mean survival (%) of planted vegetation in plots (n= 24) within separable portion 1 and 2 at The Mill.

### Tree Height

Across all plots, the mean height of the canopy layer was 1m, while the mean height of the understorey layer was 1.1m (Figure 8). A histogram revealed that for canopy trees, height data was skewed in a leftward direction, indicating that there was a higher frequency of smaller sized trees compared to large trees (Figure 9). Mean tree height (m) was 1.15m in Separable Portion 1 and 0.9m in Separable Portion 2 (Figure 8).

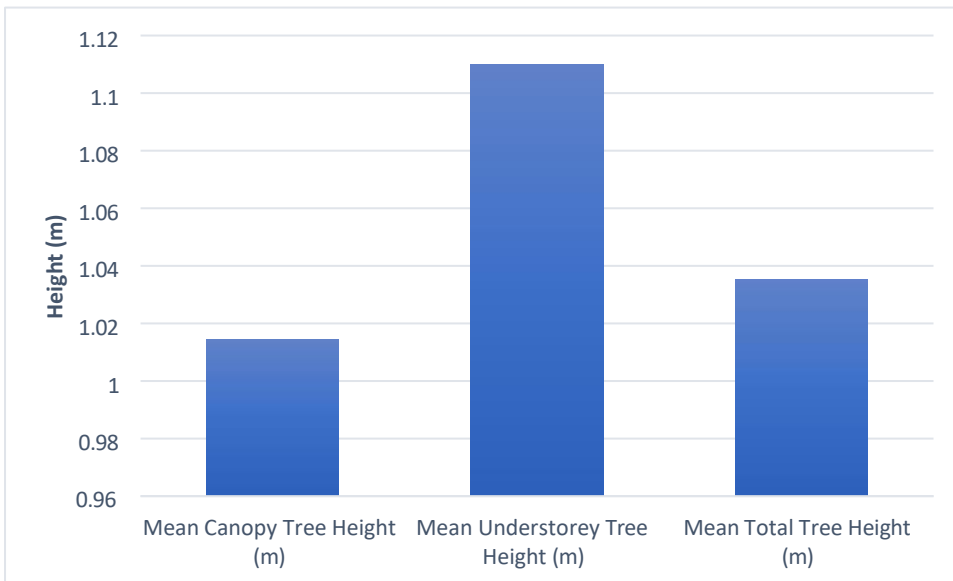


Figure 8. The mean height (m) of trees in the canopy layer, understorey layer and layers combined in plots (n=24) at The Mill.



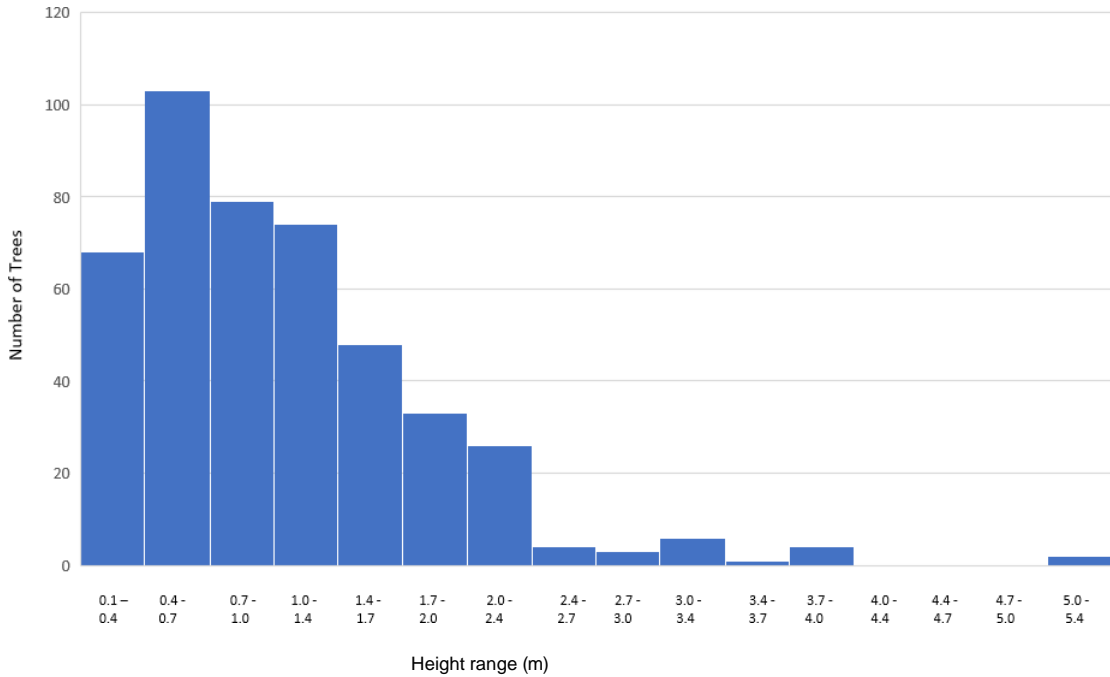


Figure 9. A histogram depicting the number of canopy trees within height ranges across all survey plots at The Mill.

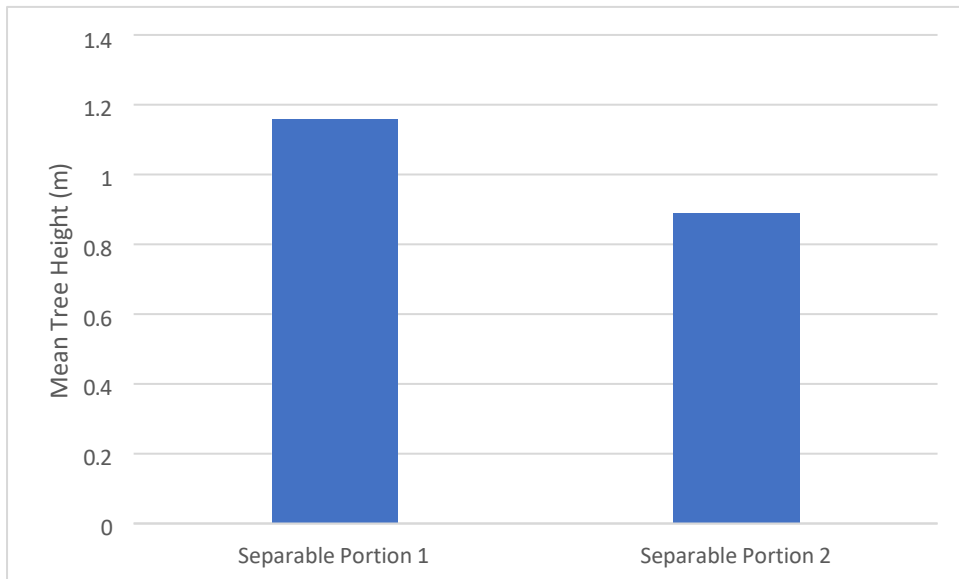


Figure 10. Mean height of trees (m) planted in plots (n=24) within separable portion 1 and 2 at The Mill.

**Weeds**

There were minimal observations of declared weeds across sites, with a mean of 0.1% reported across plots. Declared weeds which were observed in low numbers include Singapore Daisy (*Sphagneticola trilobata*), Fireweed (*Seneco madagascariensis*), Groundsel (*Baccharis halimifolia*) and Ragweed (*Ambrosia artemisiifolia*). The mean cover of broad leaf weeds across plots was 8.5% (Figure 10). 100% of plots met the target for declared weeds while 29% of plots met the target for broad leaf weeds (Figure 11).

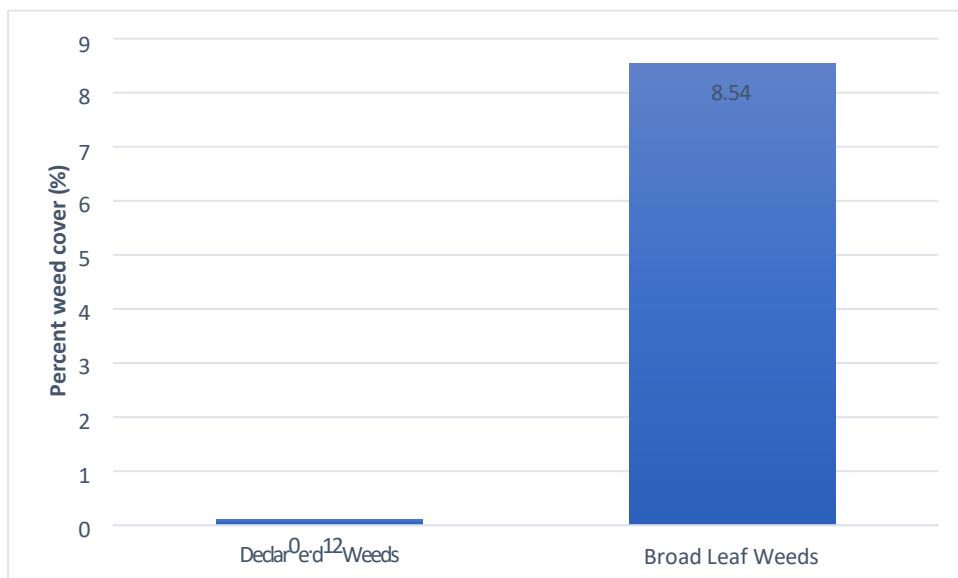


Figure 10. The mean percent of declared and broadleaf weeds observed in plots (n=24) at The Mill.

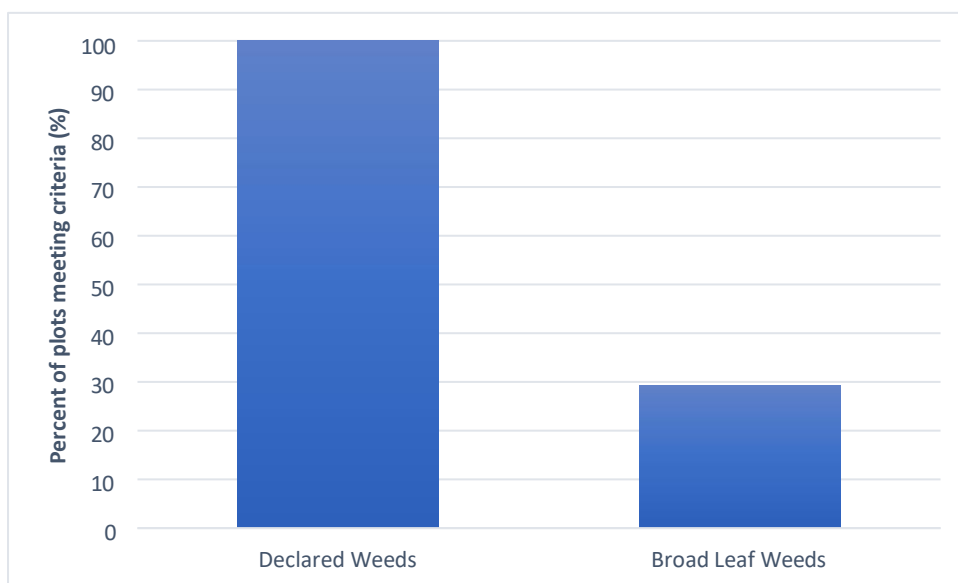


Figure 11. The percent of plots which meet the criteria for percent weed cover in declared weeds (less than 5%) and broad leaf weeds (less than 5%) categories in plots (n=24) at The Mill.

## Discussion

The aim of the 2023 vegetation monitoring event was to assess the survival rate of planted tree across defined plots, along with weed coverage within vegetation rehabilitation and restoration areas at The Mill, and to assess whether the plantings meet the performance criteria/targets outlined in Table 1.

The findings of this report indicate that the level of native plant survival is currently lower than the target survival of 90% and that survival is lower in plots sampled within separable portion 2 (supplementary habitat areas).

Separable portion 1 was planted in 2021 while separable portion 2 was planted in 2022.

When assessed separately, separable portion 1 obtained survival levels of 78%. While this value is still beneath the target level, it is clear that survival has been much higher in separable portion 1 compared with separable portion 2. The lower survival of plantings within separable portion 2 (45%) may be indicative of a difference in site variables, such as soil condition and moisture levels. Further investigation, including soil sampling will be implemented to identify potential causes of this observed outcome and subsequent implementation of appropriate mitigation measures.

Tree height was also measured and indicated that average tree height was higher in separable portion 1 compared with separable portion 2. This result is expected as separable portion 1 was planted earlier than separable portion 2. When compared to performance criteria outlined in Table 1, the height of trees in separable portion 1 falls between the 1 and 3 year target, while the height of trees in separable portion 2 falls slightly above the 1 year target. The method used in the current monitoring survey has limitations as it is unable to account for the effects that loss of plants and introduction of new plants (replacements) would have on height data.

Declared weed cover across the site was less than 1% and all plots returned cover values less than 5%. Broad leaf weeds however were more abundant across the site, with a mean cover of 8.5% within plots. On site observations by the field team indicated that much of the groundcover across plots consisted of either grasses or broad leaf weed cover (similar to that which may be observed in a lawn or pasture). In more forested areas leaf litter contributed more of the ground cover (personal observations, J.Clayton, 2023). While weed cover was slightly higher than the accepted 5%, it is not at levels that suggest higher levels of weed control are required at this time.

## Conclusion

The results of the 2023 vegetation monitoring at The Mill indicate that native plant survival across separable portion 1 and separable portion 2 is lower than expected however tree growth rates are considered generally in accordance with target rates.

Separable portion 2, in particular, achieved lower than expected plant survival rates and an investigation into potential influencing factors has been instigated, including soil testing, in accordance with advice from habitat restoration specialists.

A long term monitoring program, based on this methodology, will continue to be implemented which allows for repeated measurements of individual trees to track tree growth across the site. The long term monitoring program will also provide data on variables relevant to koala habitat, the specific regional ecosystems planted at the site and the long term targets set by the conditions set out in the EPBC approval for The Mill (EPBC 2016/7839).

# Appendix 1 - Locations of monitoring plots



## Appendix 2 - Planting palettes for restoration areas

Table 1 - RE 12.5.3

*Eucalyptus racemosa* subsp. *Racemosa* woodland on remnant Tertiary surfaces

<b>Canopy</b>
<i>Corymbia intermedia</i>
<i>Eucalyptus microcorys</i>
<i>Eucalyptus racemosa</i>
<i>Eucalyptus resinifera</i>
<b>Understorey</b>
<i>Acacia disparrima</i>
<i>Acacia leiocalyx</i>
<i>Allocasuarina littoralis</i>
<i>Alphitonia excelsa</i>
<i>Banksia integrifolia</i> subsp. <i>intergrifolia</i>
<i>Eucalyptus seeana</i>
<i>Glachidion ferdinandi</i>
<i>Lophostemon suaveolens</i>
<i>Petalostigma triolulare</i>
<b>Ground Covers</b>
<i>Cymbopogon refractus</i>
<i>Dianella caerulea</i>
<i>Eustrephus latifolius</i>
<i>Goodenia rotundifolia</i>
<i>Imperata cylindrica</i>
<i>Lomandra longifolia</i>
<i>Themeda triandra</i>

Table 2 - RE 12.3.11

*Eucalyptus tereticornis* +/- *Eucalyptus siderophloia*, *Corymbia intermedia* open forest on alluvial plains usually near coast

<b>Canopy</b>
<i>Angophora leiocarpa</i>
<i>Corymbia intermedia</i>
<i>Corymbia tessellaris</i>
<i>Eucalyptus tereticornis</i>
<i>Eucalyptus siderophloia</i>
<b>Understorey</b>
<i>Acacia disparrima</i>
<i>Allocasuarina littoralis</i>
<i>Alphitonia excelsa</i>
<i>Glachidion ferdinandi</i> or <i>G. sumatranum</i>
<i>Lophostemon suaveolens</i>
<i>Melaleuca quinquenervia</i>
<i>Melaleuca salicina</i>
<i>Trema tomentosa</i>
<b>Ground Layer</b>
<i>Capillipedium spicigerum</i>
<i>Cymbopogon refractus</i>
<i>Dianella caerulea</i>
<i>Eustrephus latifolius</i>
<i>Goodenia rotundifolia</i>
<i>Imperata cylindrica</i>
<i>Lomandra longifolia</i>
<i>Themeda triandra</i>

## Appendix 3 - A subset of plot photopoints

Provides a visual representation of the plantings at The Mill



Plot 12 is located in separable portion 1 and represents an area which had high survival and growth of plantings. There are existing established trees within this area.



Plot 6 is located in separable portion 1 and represents an area which had existing regrowth forest and infill planting. There are existing established trees within this area.



Plot 20 is located in separable portion 2 and represents an area which had significant loss of plantings. There were no existing established trees within this area.



Plot 2 is located in separable portion 1 and represents an area which had moderate survival and growth of plantings. This plot is adjacent to established koala habitat trees.

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