



# Annual Compliance Report EPBC 2017/8095

15 March 2019 – 14 March 2020

Hayfields

Ripley Road Residential Development, Ripley Valley, Qld  
Goldings  
Year 1

9 June 2020

SHG Ref: 8844

# Document Control

Document: 15 March 2019 – 14 March 2020 Annual Compliance Report: Hayfields – Ripley Road Residential Development - Year 1 (EPBC 2017/8095), prepared by Saunders Havill Group Pty Ltd for Goldings, dated 9 June 2020.

## Document Issue

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Prepared by

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# Acronyms and Abbreviations

ACR	Annual Compliance Report
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
ha	hectares
kilometres	km
m	metres
PMAV	Property Map of Assessable Vegetation
SHG	Saunders Havill Group
square metres	sqm
VMA	<i>Vegetation Management Act 1999 (Qld)</i>



# 1. Introduction

This Annual Compliance Report (ACR) Year 1 (15 March 2019– 14 March 2020) has been prepared on behalf of Jolifields Development Pty Ltd & The Trustee for Morehampton Capital & Trustee for the Goldfields QLD Trust 'Goldfields' (the Proponent) for the Ripley Road Residential Development, Ripley Valley Queensland (EPBC 2017/8095), now known as 'Hayfields' (the Project).

In accordance with the approval granted on the 12<sup>th</sup> February 2019 under the *Environmental Protection and Biodiversity Act 1999* (EPBC Act), this ACR has been prepared in response to Condition 18 which states:

*"The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or as otherwise agreed to in writing by the Minister..."*

## 1.1. Reporting Period

This ACR details the status and compliance of the Project for the 12-month reporting between the 15<sup>th</sup> March 2019 and the 14<sup>th</sup> March 2020.

The ACR must be published on the Proponent's website and notification provided to the Department of the Agriculture, Water and the Environment (DAWE) (the Department) within 60 business days of the 12-month anniversary of the commencement of the action, which is 9 June.

## 1.2. EPBC Approval

Goldings as the Proponent of the Project (EPBC Act Referral 2017/8095) was issued with an approval by the Department on the 12<sup>th</sup> February 2019, subject to conditions.

Key details related to EPBC 2017/8095 approval are provided in Table 1 below.

**Table 1: Approval Details**

<b>Commonwealth Reference</b>	EPBC 2017/8095
<b>Approval Holder</b>	Jolifields Development Pty Ltd & The Trustee for Morehampton Capital & Trustee for the Goldfields QLD Trust
<b>ABN</b>	60 371 946 969
<b>Project Name on the Approval</b>	Ripley Road Residential Development, Ripley Valley Queensland
<b>Approved Action</b>	To construct a residential development on approximately 109 ha on Lot 2 SP237241, Ripley Valley, Queensland.
<b>Controlling Provision(s)</b>	Listed threatened species and communities (sections 18 & 18A)
<b>Approval Date</b>	12 February 2019
<b>Expiry Date of the Approval</b>	30 January 2041
<b>Date of Commencement of the Action</b>	15 March 2019
<b>Address</b>	Ripley Road, Ripley Valley
<b>Local Government Area</b>	Ipswich City Council

### 1.3. Site Context

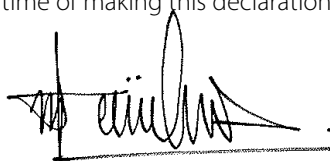
Contextually, the Project is located in South East Queensland, approximately 5 km south of Ipswich. Refer to **Figure 1** for the site context.

The Project area covers 109 ha and has been subject to excessive historical disturbance. The surrounding landscape contains a mixture of cleared agricultural land and vacant bushland. Adjoining allotments to the north, east and south are included in the Ripley Valley Priority Development Area (PDA) are earmarked for urban development, as are allotments along the western boundary outside the PDA.

### 1.4. Declaration of Accuracy

This declaration has been signed by the approval holder.

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) 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 of that authorisation being revoked at the time of making this declaration.



Signed

Full name (please print)

Murray Saunders

Position (please print)

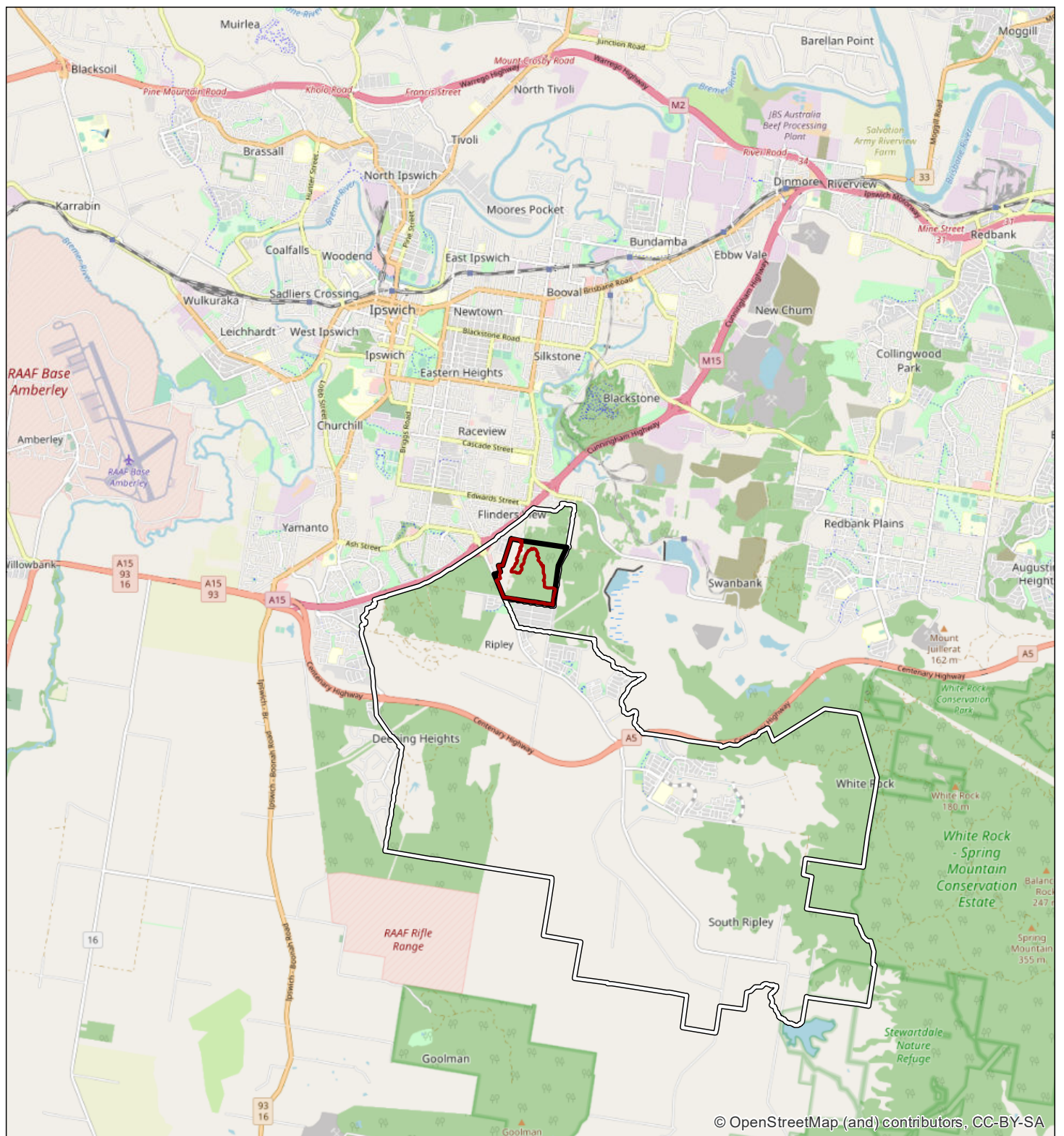
Managing Director

Organisation (please print including ABN/ACN if applicable) Saunders Havill Group ABN 24 144 972 949




Date

09 / 06 / 2020





## Legend

-  Project site
-  Referral area
-  Ripley Valley PDA

**Figure 1**  
**Site Context**

**File ref.** 8844 E Figure 1 Site Context A  
**Date** 27/05/2020  
**Project** Hayfield, Ripley

0 0.5 1 2 km

Scale (A4): 1:100,000 [GDA 1994 MGA Z56]



Jolifields Development Pty Ltd  
& The Trustee for Morehampton  
Capital & Trustee for the  
Goldfields QLD Trust

**SH** saunders  
havill  
group

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## 2. Current Status of the Project

### 2.1. Offsets Legally Secured

As required by Condition 2 of the EPC approval (refer Table 3 below for further detail), to compensate the loss of clearing Koala and Grey-headed Flying Fox habitat on the project site, the Peak Crossing offset site and the Burnett Creek offset site were legally secured via a voluntary declaration under the *Vegetation Management Act 1999* (VMA).

The Peak Crossing offset site means 109.72 ha at Lot 2 on CH312424, Lot 173 on CH312424 and Lot 151 on RP892014 (as per Attachment B of the EPBC Approval). The Chief Executive of the Queensland Department of Natural Resources, Mines and Energy (DNRME) declared the Peak Crossing offset site as an area of high nature conservation value in accordance with section 19F(1) of the VMA in a Declared Area Map (DAM 2019/0000557) and Property Map of Assessable Vegetation (PMAV 2019/000448) under section 20B of the VMA on the 20<sup>th</sup> March 2019 (refer **Appendix A**).

The Burnett Creek offset site meaning 49.25 ha at Lot 100 on Wd682 (as per Attachment C of the EPBC approval). The Chief Executive of DNRME declared the Burnett Creek offset site as an area of high nature conservation value in accordance with section 19F(1) of the VMA in a Declared Area Map (DAM 2019/000446) and Property Map of Assessable Vegetation (PMAV 2019/000558) under section 20B of the VMA on the 20<sup>th</sup> March 2019 (refer **Appendix B**).

The Department was issued with certified copies of the voluntary declaration packages on the 1<sup>st</sup> April 2019 via email by the proponent (refer **Appendix C**). It is acknowledged that the proponent incorreced stated the date of the offsets being legally secured as the 14<sup>th</sup> March 2019. Importantly, however, it is acknowledged that the voluntary declaration applications were made third party offset provider, EnviroCapital prior to commencement of the action, on the 23 January 2019 for the Burnett Creek offset and 31 January 2019 for the Peak Crossing Offset.

### 2.2. Commencement of the action

The action formally commenced on the 15<sup>th</sup> March 2019. As per Condition 12, the Department of formally notified in writing of the date of commencement on the 1<sup>st</sup> April 2019 (refer **Appendix C**).

### 2.3. Year 1 Project actions

Project actions within the Year 1 period can be summarised as following:

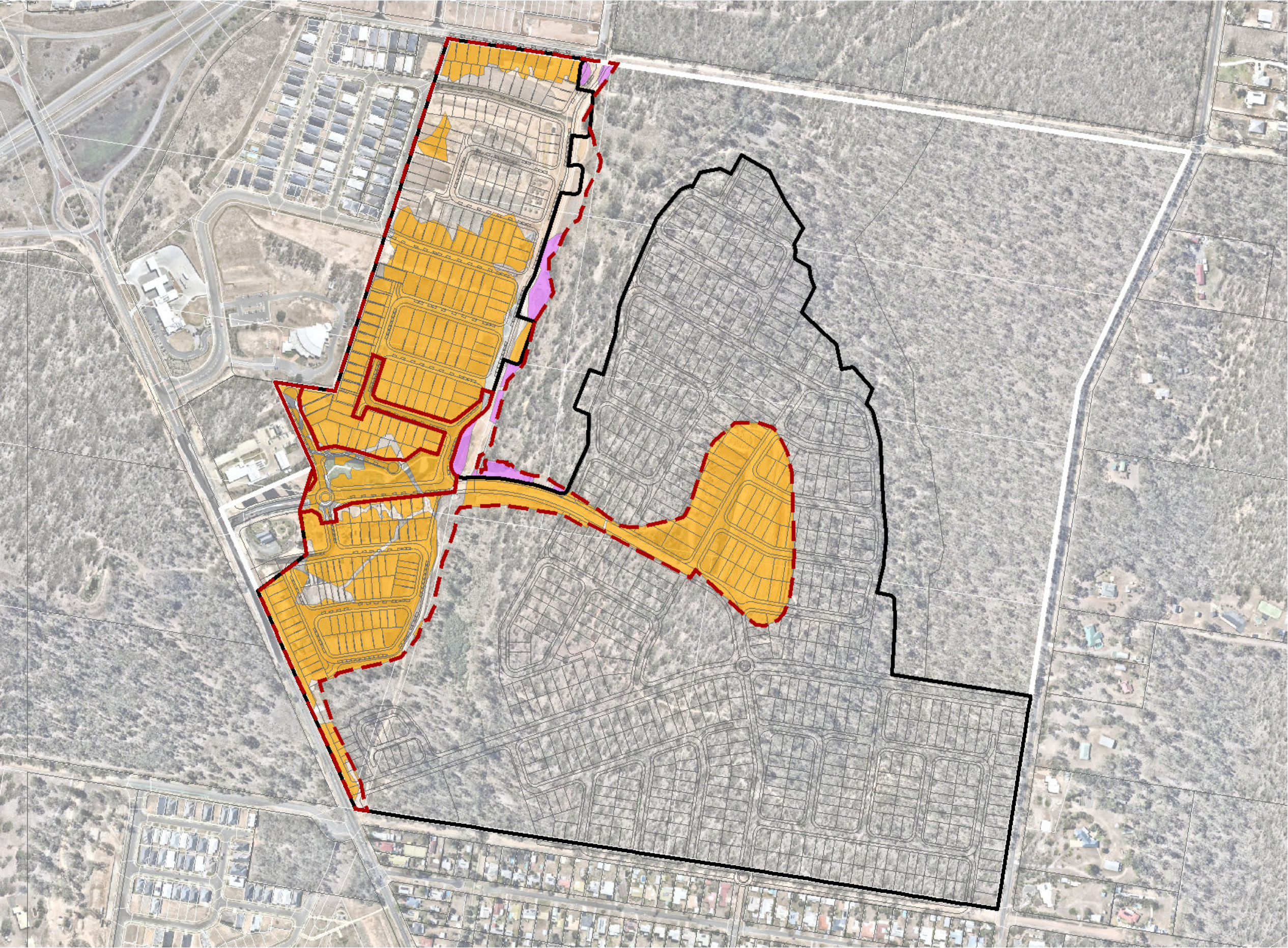
- Vegetation Clearing over Stages 1 & 2
- Stage 1 park and wetlands compete – November 2019
- Stage 1 housing construction continues – Started January 2020. 71 houses under construction
- Stage 2 construction commenced - March 2019
- Stage 2 park and wetlands construction commenced – March 2019
- Stage 2 registration – February 2020
- Stage 2 completion – Feb 2020

**Plan 1** represents development actions which occurred over the Year 1 reporting period.

**Plan 2** shows the clearing extent for the Year 1 reporting period.



# 1. Year 1 Development Actions



NOTES  
This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

Layer Sources  
Old State Cadastre and Mapping layers © State of Queensland  
(Department of Natural Resources and Mines) 2020. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/>  
Aerial Imagery © Nearmap, 2019  
\*This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

Legend

- Qld DCDB
- Project site
- Referral area
- Year 1 - Cleared Koala Critical habitat
- Year 1 - Cleared Koala Critical habitat outside Referral area
- Completed Construction
- Construction in progress

Issue	Date	Description	Drawn	Checked
A	27/05/2020	Preliminary	TC	KG

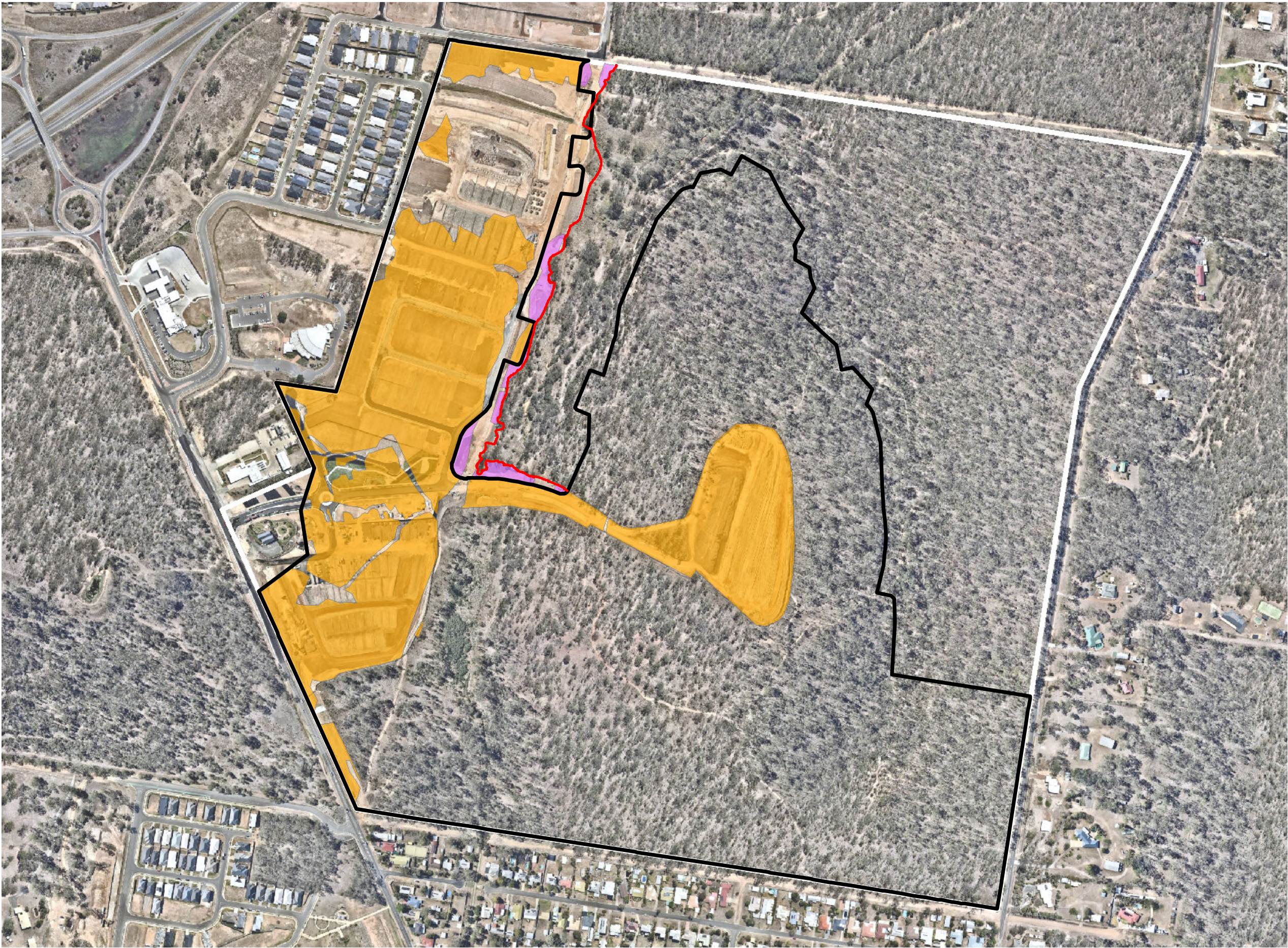


Transverse Mercator | GDA 1994 | Zone 56 | 15,300 @ A3

ADDRESS/RPD: Ripley Road, Ripley  
27/05/2020 | 8844 E 01 ACR 1 Development Progress A



# 2. Year 1 Measured Volume of Clearing



NOTES  
This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

Layer Sources  
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Aerial Imagery © Nearmap, 2019

\*This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

Legend

- Qld DCDB
- Project site
- Referral area
- Year 1 - Cleared Koala Critical habitat (17.17 ha)
- Year 1 - Cleared Koala Critical habitat outside Referral area (0.70 ha)
- Clearing extent outside of referral extent

Issue	Date	Description	Drawn	Checked
A	27/05/2020	Preliminary	TC	KG



Transverse Mercator | GDA 1994 | Zone 56 | 15,300 @ A3

ADDRESS/RPD: Ripley Road, Ripley

27/05/2020 | 8844 E 02 ACR 1 Clearing areas A





Photo Plate 2: Demarcation of clearing extent with steel fencing and signage.



Photo Plate 3: Trunk road crossing waterway.





**Photo Plate 4: Stabilisation planting.**

## 2.4. Year 1 Offset actions

Baseline surveys were undertaken on the Peak Crossing and Burnett Creek offset sites in August and October 2018 and again in May 2019. Survey results and proposed management actions were provided to the Department in the *Offset Management Plan Ripley Road Residential Development (Hayfield) (Peak Crossing & Burnett Creek offset sites) version dated 18 July 2019* on the 15<sup>th</sup> August 2019. The baseline surveys were assessed by the Department as inadequate and a request for further information was issued to EnviroCapital on 27 September 2019.

A response to the information request and the updated *Offset Management Plan Ripley Road Residential Development (Hayfield) (Peak Crossing & Burnett Creek offset sites) version dated 4 March 2019* was provided to the Department on the 5<sup>th</sup> March 2020. Another request for further information was made by the Department and issued to EnviroCapital on the 30<sup>th</sup> April 2020.

Ongoing discussion between EnviroCapital, and the Department is occurring to resolve outstanding matters and approval of the OMP. A summary of actions to date undertaken by EnviroCapital to progress the OMP is provided in **Appendix D**.

### 3. EPBC Conditions and Compliance

Table 2 documents the compliance with EPBC Act conditions for the Project for the Year 1 reporting period, being the 15<sup>th</sup> March 2019 to the 14<sup>th</sup> March 2020. The compliance assessment relates to the approval conditions in force at the time of the one-year anniversary.

### Table 2: Compliance Audit of EPBC 2017/8095 for Hayfields

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
<b>Part A – Conditions Specific to the action</b>			
1	The approval holder must limit the clearance of vegetation to the area defined as the development area on the map of the project site at Attachment A.	Non-compliant	Refer to <b>Plan 2</b> which shows the extent of vegetation clearing exceeds development area of the project site as per Attachment A of the approval. Non-compliance with this condition is discussed in detail in <b>Section 4</b> of this ACR.
2	<p>To compensate for the clearing of 62.79 ha of Koala habitat and Grey-headed Flying-fox foraging habitat within the development area pf the project site, the approval holder must:</p> <p>a. Legally secure the Peak Crossing offset site and Burnett Creek offset site prior to the commencement of the action;</p> <p>b. Within 20 business days of legally securing the Peak Crossing offset site and Burnett Creek offset site, provide the Department with evidence of the date both sites were legally secured and shape files of the Peak Crossing offset site and Burnett Creek offset site.</p>	<p>Non-compliant (administrative)</p> <p>Compliant (administrative error)</p>	<p>The action formally commented on the 15<sup>th</sup> March 2019.</p> <p>The Peak Crossing offset site and Burnett Creek Offset site ('the offset') was legally secured via a voluntary declaration on the 20<sup>th</sup> March 2019 (i.e. after commencement of the action) and thus is non-compliant with this condition. Non-compliance with this condition is discussed in detail in <b>Section 4</b> of this ACR.</p> <p>In response to Condition 2b, the Department was provided with evidence that the Peak Crossing offset site and Burnett Creek offset site was legally secured, on the 1<sup>st</sup> April 2019. Evidence provided included offset attributes, shapefiles and maps and a copy the acceptance of the voluntary declarations. This information was provided to the Department within 8 business days from legally securing the offset on the 20<sup>th</sup> March 2019 and thus is compliant with this condition.</p>

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
3	<p>Within 6 months of the commencement of the action, the approval holder must complete and provide the Department with the results and dates of the following surveys:</p> <ul style="list-style-type: none"> <li>a. Baseline Koala density survey;</li> <li>b. Baseline Grey-headed Flying-fox presence survey;</li> <li>c. Baseline Koala food tree survey;</li> <li>d. Baseline Grey-headed Flying-fox foraging tree survey;</li> <li>e. Baseline non-native plant survey;</li> <li>f. Baseline survey of non-native Koala predators.</li> </ul> <p>Note. The surveys must be conducted by a suitably qualified person, consistent with the Department's approved survey guidelines and designed to provide results that are representative of the entire areas of the Peak Crossing offset site and the Burnett Creek offset site.</p>	Compliant (ongoing)	<p>It is noted that in this notification to the Department the date of legally securing the offsets was incorrectly reported by the Proponent as being the 14<sup>th</sup> March not the 20<sup>th</sup> March 2019. This was an administrative error.</p> <p>In response to Condition 3 a-f, baseline surveys were undertaken on the offsets sites in August and October 2018 and again in May 2019 and provided to the Department in the <i>Offset Management Plan Ripley Road Residential Development (Hayfield) (Peak Crossing &amp; Burnett Creek offset sites) version dated 18 July 2019</i> on the 15<sup>th</sup> August 2019. This occurred 5 months after commencement of the action (i.e. 15<sup>th</sup> March 2019). The baseline surveys were assessed by the Department as inadequate and a request for further information was issued to the offset provider, EnviroCapital, on 27 September 2019.</p> <p>Additional information in relation to baseline survey methodology was provided to the Department and included in the updated <i>Offset Management Plan Ripley Road Residential Development (Hayfield) (Peak Crossing &amp; Burnett Creek offset sites) version dated 4 March 2019</i> on the 5<sup>th</sup> March 2020. Further information was requested from EnviroCapital by the Department on the 30<sup>th</sup> April 2020.</p> <p>Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP (Condition 9).</p>
4	<p>To ensure an increase in the number of available Koala food trees at the Peak Crossing offset site and Burnett Creek offset site, the approval holder must:</p> <ul style="list-style-type: none"> <li>a. Within 12 months of the commencement of the action, commence planting at the Peak Crossing offset site and the Burnett Creek offset site of seed, sapling or tube stock (or equivalent) tree species suitable for the eventual establishment of new Koala food trees.</li> </ul>	Non-compliant	<p>Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP. No works can commence on the offset sites until the OMP is approved. Non-compliance with this condition is discussed in detail in <b>Section 4</b> of this ACR.</p>



Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	<p>b. Within 5 years of the commencement of the action, complete the planting of the following number of seed, sapling or tube stock (or equivalent) tree species suitable for the eventual establishment of new Koala food trees:</p> <p>i. At least 15,000 at the Peak Crossing offset site</p> <p>ii. At least 2,500 at the Burnett Creek offset site</p>	Compliant (ongoing)	<p>Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP.</p> <p>No works can commence on the offset sites until the OMP is approved. It is noted that the timeframe for Condition 4b is 5 years. Actions towards this condition are ongoing.</p>
	c. Implement measures to ensure the ongoing maintenance and survival over the life of the approval of at least 90 per cent of the planted seed, sapling or tube stock (or equivalent) tree species at the Peak Crossing offset site and Burnett Creek offset site. .	Not applicable	Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP No works can commence on the offset sites until the OMP is approved.
	d. Inform the Department in writing of the commencement and completion of the planting of seed, sapling or tube stock (or equivalent) tree species at the Peak Crossing offset site and the Burnett Creek offset site.	Not applicable	<p>Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP.</p> <p>No works can commence on the offset sites until the OMP is approved</p>
	e. Ensure the planting, monitoring and maintenance planting of seed, sapling or tube stock (or equivalent) tree species for the eventual establishment of new Koala food trees is undertaken by a suitably qualified person.	Not applicable	<p>Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP.</p> <p>No works can commence on the offset sites until the OMP is approved</p>
5	Within 10 years of the commencement of the action, ensure at least 90 % of the non-native plants, relative to the baseline non-native plant survey are removed from the Peak Crossing offset site and the Burnett Creek offset site. This level of non-native plant cover must be maintained until the requirements of condition 6 have been met.	Compliant (Ongoing)	As per Condition 3e, non-native plant cover on the offset sites will be determined by baseline surveys and management actions to achieve Condition 5 will be set out in the approved OMP. Ongoing discussion between offset provider, EnviroCapital, and the Department is occurring to resolve outstanding matters and approval of the OMP.

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
			While, no works can commence on the offset sites until the OMP is approved, it is noted that the timeframe for this condition is 10 years. Actions towards this condition are ongoing.
6	<p>Within 15 years of the date of the baseline Koala food tree survey and baseline Grey-headed Flying-fox foraging tree survey ensure the following outcomes are achieved relative to the baselines determined by the baseline Koala food tree survey and baseline Grey-headed Flying-fox foraging tree survey:</p> <ul style="list-style-type: none"> <li>a. 20 per cent increase in the number of Koala food trees and Grey-headed Flying-fox foraging trees and the Peak Crossing offset site;</li> <li>b. 5 per cent increase in the number of Koala food trees and Grey-headed Flying-fox foraging trees at the Burnett Creek offset site</li> </ul>	Not applicable	Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP. As stated previously, the methodology for baseline surveys has not been accepted by the Department and thus the date of baseline surveys is still to be identified to enact this condition.
7	Within 15 years of the date of the baseline Koala density survey and baseline Grey-headed Flying-fox presence survey, ensure an increase of at least 50 per cent of Koala and Grey-headed Flying-fox density is achieved at both the Peak Crossing offset site and Burnett Creek offset site relative to the baseline determined by the baselined Koala density survey and baseline Grey-headed Flying-fox survey.	Not applicable	Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP. As stated previously, the methodology for baseline surveys has not been accepted by the Department and thus the date of baseline surveys is still to be identified to enact this condition.
8	Demonstrate a reduction, maintained for nine consecutive years from the date of completion of the baseline survey of non-native Koala predators, in the number of non-native Koala predators over both the Peak Crossing offset site and Burnett Creek offset site, relative to the baseline determined by the baseline survey of non-native Koala predators.	Not applicable	Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters and approval of the OMP. As stated previously, the methodology for baseline surveys has not been accepted by the Department and thus the date of baseline surveys is still to be identified to enact this condition.
<b>Offset Management Plan</b>			
9	The approval holder must, within 6 months of the commencement of the action, submit to the Department of Koala and Grey-headed Flying-fox Offset Management Plan for the Minister's approval. The Koala and Grey-headed Flying-fox Offset Management Plan must address both the Peak Crossing Offset site and Burnett Creek offset site, be written in accordance with the Department's <i>Environmental Management Plan Guidelines</i> and be consistent with the EPBC Act <i>Environmental Offset Policy</i> . The approved Koala and Grey-	Compliant (Ongoing)	The <i>Offset Management Plan Ripley Road Residential Development (Hayfield) (Peak Crossing &amp; Burnett Creek offset sites version dated 18 July 2019)</i> was submitted to the Department on 15 August 2019 (5 months after commencement of the action) however was assessed by the Department as inadequate. Offset provider, EnviroCapital, has been working with the Department to resolve outstanding matters for approval of the OMP (refer <b>Appendix D</b> ).

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
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headed Flying-fox Offset Management Plan (or revised version if approved by the Minister) must be implemented.

10	The Koala and Grey-headed Flying-fox Offset Management Plan must include:		
	a. Mitigation and management measures to achieve the outcomes required under conditions 4, 5, 6, 7 and 8 risk management strategies` that will be applied;	Compliant (Ongoing)	Ongoing discussion between offset provider, EnviroCapital, and the Department is occurring in regards to the OMP to ensure compliance with Conditions 10a-c.
	b. An assessment of the risks to achieving the outcomes required under conditions 4, 5, 6, 7 and 8 and risk management strategies that will be applied;	Compliant (Ongoing)	Ongoing discussion between offset provider, EnviroCapital, and the Department is occurring in regards to the OMP to ensure compliance with Conditions 10a-c
	c. An annual monitoring program that measures the progress of achieving the outcomes required under conditions 4, 5, 6, 7 and 8 and includes: <ul style="list-style-type: none"> <li>i. Results of the baseline surveys required under condition 3;</li> <li>ii. Measurable, timebound performance indicators including 5, 10 and 15 year milestone achievements, from the date of commencement of the action, of the specific outcomes required by conditions 4, 5, 6, 7, and 8;</li> <li>iii. Completion criteria determined when and how the outcomes required by conditions 4, 5, 6, 7, and 8 have been fully achieved;</li> <li>iv. The timing, methods and frequency of monitoring to detect changes in the performance indicators;</li> <li>v. Reporting and review mechanisms;</li> <li>vi. Trigger values for corrective actions; and</li> <li>vii. Proposed corrective actions, if the trigger values are reached.</li> </ul>	Compliant (Ongoing)	Ongoing discussion between offset provider, EnviroCapital, and the Department is occurring in regards to the OMP to ensure compliance with Conditions 10a-c

#### Variation of Plan

11	If, at any time during the life of the approval, the Minister is not satisfied that any of the requirements or outcomes under conditions 3, 4, 5, 6, 7 and 8 are likely to be achieved or maintained, the Minister may request (in writing) further evidence from the approval holder on how the requirements or outcomes of	Not applicable	A request for a variation of a plan was not made by the Minister during this reporting period.
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Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	these conditions will be achieved or maintained. If requested by the Minister the approval holder must:		
	a. Provide a report to the Department that documents the cause of the potential non-compliance, the corrective actions to be taken (including timeframes for reporting to the Department the success of those actions) and the contingency measures that will be implemented to prevent further occurrences;		
	b. Revise the Koala and Grey-headed Flying-fox Offset Management Plan, in consultation with a suitable qualified person and within a timeframe determined by the Minister, to include the corrective actions and contingency measures;	Not applicable	A request for a variation of a plan was not made by the Minister during this reporting period.
	c. Submit the revised Koala and Grey-headed Flying -fox Offset Management Plan to the Department for the Minister's approval, within a timeframe determined by the Minister;	Not applicable	A request for a variation of a plan was not made by the Minister during this reporting period.
	d. Inform the Department in writing of the when and how relevant contingency measures and corrective actions have been implemented.	Not applicable	A request for a variation of a plan was not made by the Minister during this reporting period.

## Part B – Administrative Conditions

### Notification of the date of commencement of the action

12	The approval holder must notify the Department in writing of the date of the commencement of the action within 10 business days after the date of the commencement of the action.	Non-compliant	The action commenced the 15 <sup>th</sup> March 2019. The Department was informed in writing on the 1 <sup>st</sup> April 2019 (11 business days after commencement of the action). Details of this non-compliance are provided in <b>Section 4</b> .
13	If the commencement of the action does not occur within 5 years from the date of this approval, then the approval holder must not commence the action within the prior written agreement of the Minister.	Not Applicable	The approval was granted on the 12 <sup>th</sup> February 2019 and the action commenced on the 15 <sup>th</sup> March 2019.

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
<b>Compliance records</b>			
14	The approval holder must maintain accordance and complete compliance records.	Compliant	All records substantiating all activities associated with or relevant to the conditions of approval are maintained by the Proponent. If required by the Minister, these records can be made available to allow a third-party audit of the Project.
15	If the Department makes a request in writing, the approval holder must be provided electronic copies of compliance records to the Department within the timeframe specified in the request.  Note. Compliance records may be subject to audit by the Department or an independent auditor in accordance with section 485 of the EPBC Act, and or used to verify compliance with the conditions. Summaries of the results of an audit may be published on the Department's website or through general media.	Not applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
<b>Preparation and publication of plans</b>			
16	The approval holder must: a. Submit plans electronically to the Department for approval by the Minister;	Compliant (ongoing)	All drafts of the OMP have been submitted to the Department electronically. The OMP is not yet approved by the Department.
	b. Publish each plan on the website within 20 business days of the date of the plan is approved by the Minister or the date of a revised action management plan is submitted to the Minister, unless otherwise agreed to in writing by the Minister;	Not applicable	No plans have been approved by the Minister to enact this condition.
	c. Exclude or redact sensitive ecological data from plans published on the website or provided to a member of the public; and	Not applicable	No plans have been approved by the Minister to enact this condition.
	d. Keep plans published on the website until the end date of this approval.	Not applicable	No plans have been approved by the Minister to enact this condition.

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
17	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps and other spatial metadata required under a plan and conditions of this approval, is prepared in accordance with the Department's <i>Guidelines for biological survey and mapped data (2018)</i> and submitted electronically to the Department in accordance with the requirements of this plan.	Not applicable	No plans have been approved by the Minister to enact this condition.

#### Annual compliance reporting

18	<p>The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or as otherwise agreed to in writing by the Minister. The approval holder must:</p> <ol style="list-style-type: none"> <li>Publish each compliance report on the website within 60 business days following the relevant 12 month period;</li> <li>Notify the Department by email that a compliance report has been published on the website within five business days of the date of publication;</li> <li>Keep all compliance reports publicly available on the website until this approval expires;</li> <li>Exclude or redact sensitive ecological data from compliance reports published on the website; and</li> <li>Where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication.</li> </ol> <p>Note: Compliance reports may be published on the Department's website.</p>	Compliant (ongoing)	This ACR demonstrates compliance with Condition 18. The ACR will be published on the Project website within 5 business days of the date of publication being the 9 June 2020 (i.e. no later than 12 June 2020) and remain on the project website for the life of the approval. All sensitive information will be redacted from the published report and the Department will be notified once the report is published.
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#### Reporting non-compliance

19	<p>The approval holder must notify the Department in writing of any: incident, non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance. The notification must specify:</p> <ol style="list-style-type: none"> <li>The condition which is or may be in breach; and</li> </ol>	No-compliant	<p>Non-compliances have occurred with the following conditions:</p> <ul style="list-style-type: none"> <li>- Condition 1 (Clearing extent)</li> <li>- Condition 2a (Securing the Offset)</li> <li>- Condition 4a (Offset – management actions)</li> <li>- Condition 12 (Notification of commencement)</li> </ul>
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Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
	b. A short description of the incident and / or non-compliance.		<p>SHG became aware of aforementioned non-compliances on the 28<sup>th</sup> May 2020 while preparing this ACR. In accordance with Condition 19, the Department was notified in writing of the non-compliant conditions within two business days, in an email sent by SHG on the 1<sup>st</sup> June 2020 (refer <b>Appendix E</b>).</p> <p>Up until this point however, Goldfields, as the approval holder was responsible for managing all reporting of approval conditions. It is acknowledged, that non-compliances for Conditions 2 and 12 were not reported within 2 business days and thus in breach of this condition.</p> <p>Details of non-compliances are included in <b>Section 4</b> of this ACR.</p>
20	<p>The approval holder must provide to the Department of the details of any incident or non-compliance with the conditions or commitments made in plans as soon as practical and no later than 10 business days after becoming aware of the incident or noncompliance, specifying:</p> <ul style="list-style-type: none"> <li>a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;</li> <li>b. The potential impacts of the incident or non-compliance; and</li> <li>c. The method and timing of any remedial action that will be undertaken by the approval holder.</li> </ul>	<b>Non-compliant</b>	<p>As stated in Condition 19, non-compliances occurred in relation to Condition 1, Condition 2a, Condition 4a and Condition 12.</p> <p>SHG became aware of these non-compliances as part of preparing this ACR on the 28<sup>th</sup> May 2020. Up until this point however, Goldfields, as the approval holder was responsible for managing all reporting of approval conditions. It is acknowledged, that non-compliances with Conditions 2a and 12 were not reported within 10 business days and thus in breach of this condition.</p> <p>Details required under Condition 20 have been included within <b>Section 4</b> of this ACR.</p>
<b>Revision of plans</b>			
21	<p>The approval holder may, at any time, apply to the Minister for a variation to a plan approved by the Minister under condition 9, or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approved a revised plan then, from the date specified, the approval holder must implement the revised plan in place of previous plan.</p>	Not applicable	<p>The Proponent did not revise an approved plan under Condition 9 during the reporting period.</p>

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
22	The approval holder may choose to revise a plan approved by the Minister under condition 9, or as subsequently revised in accordance with these conditions without submitting for approval under section 143A of the EPBC act, if the taking of the action in accordance with the plan would not be likely to have a new or increased impact.	Not applicable	The Proponent did not revise an approved plan under Condition 9 during the reporting period.
	<p>If the approval holder makes the choice under condition 22 to revise a plan without submitting it for approval, the approval holder must:</p> <p>a. Notify the Department in writing that the approved plan has been revised and provide the Department with:</p> <ul style="list-style-type: none"> <li>i. An electronic copy of the revised plan;</li> <li>ii. An electronic copy of the revised plan marked up with track changes to show the differences between the approved plan and the revised plan;</li> <li>iii. An explanation of the differences between the approved plan and the revised plan'</li> <li>iv. The reasons the approval holder considers that taking the action in accordance with the revised plan would not be likely to have a new or increased impact; and</li> <li>v. Written notice of the date on which the approval holder will implement the revised plan (revised plan implementation date), being at least 20 business day after the date of providing notice of the revision of the approved plan, or date agreed to in writing with the Department.</li> </ul>	Not applicable	The Proponent did not revise an approved plan under Condition 9 during the reporting period.
	b. Subject to condition 25, implement the revised plan from the revised plan implementation date.	Not applicable	The Proponent did not revise an approved plan under Condition 9 during the reporting period.
24	The approval holder may revoke their choice to implement a revised plan under condition 22 at any time by giving written notice to the Department. If the approval holder revokes the choice under condition 22, the approval holder must implement the most recent plan approved by the Minister.	Not applicable	The Proponent did not revise an approved plan under Condition 9 during the reporting period.

Condition Number / Reference	Condition	Is the Project compliant with this condition?	Evidence/ Comments
25	<p>If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the revised plan would be likely to have a new or increased impact, then:</p> <ol style="list-style-type: none"> <li>Condition 22 does not apply, or ceases to apply, in relation to the revised plan; and</li> <li>The approval holder must implement the plan specified by the Minister in the notice.</li> </ol>	Not applicable	The Proponent did not revise an approved plan under Condition 9 during the reporting period. The Minister did not give notice under Condition 25.
26	At the time of giving the notice under condition 25, the Minister may also notify that for a specified period of time, condition 22 does not apply for more specified plans.	Not applicable	The Proponent did not revise an approved plan under Condition 9 during the reporting period. The Minister did not give notice under Condition 25.
<b>Independent audit</b>			
27	The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister.	Not applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
28	<p>For each independent audit, the approval holder must:</p> <ol style="list-style-type: none"> <li>Provide the name and qualifications of the independent auditor and draft audit criteria to the Department;</li> <li>Only commence the independent audit once the audit criteria have been approved in writing by the Department; and</li> <li>Submit and audit report to the Department within the timeframe specified in the approved audit criteria.</li> </ol>	Not applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
29	The approval holder must publish the audit report on the website within 10 business days of receiving the Department's approval for the audit report and keep the audit report published on the website until the end date of this approval.	Not applicable	A request for an independent audit of the Project was not made by the Minister during the reporting period.
<b>Completion of the action</b>			
30	Within 30 days after the completion of the action, the approval holder must notify the Department in writing and provide a completion date.	Not applicable	Noted. The action is ongoing and this condition is not applicable at this time.

## 4. Correcting Non-Compliances

**Table 2** reported six conditions as non-compliant for the reporting period. Two of these, Condition 19 and Condition 20, are associated with reporting non-compliances. Details of the non-compliances have been provided in the following sections.

### 4.1. Condition 1

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**The approval holder must limit the clearance of vegetation to the area defined as the development area of the map of the project site at Attachment A.**

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**Plan 2** shows the extent of clearing during the reporting period, overlayed by the referral extent as shown in Attachment A of the EPBC approval.

**Plan 2** shows that 17.87 ha of vegetation, identified as critical habitat for the Koala and Grey-headed Flying-fox was cleared for the project; 17.17 ha of which is located within the development and 0.70 ha of which extends beyond the development area boundary.

The impact extent, outside the development area, is highly disturbed and cleared in parts for the existing 20m wide easement which runs north-south through the site. Vegetation in this area is mapped as Category X (non-remnant) under the *Vegetation Management Act 1999*. The approved Vegetation Clearing and Fauna Management Plan detailed vegetation as predominately regrowth native tree species.

The clearing extent is consistent with existing approvals including the s242 Material Change of Use Preliminary Approval (approval reference: 34/2014/MADP/B) issued by Ipswich City Council as the approval authority for the Ripley Valley Priority Development Area, and subsequent reconfiguring a lot approvals (reference: 8736/2017/MAPDA/A; 8736/2017/MAPDA/B; 8736/2017/MAPDA/C). This layout was informed by project specific master plans endorsed by ICC on 22 August 2018 (reference: 1141/2018/PDACA), including:

- Movement Network Infrastructure Master Plan, prepared by PSA Consulting (17 July 2018)
- Water, Sewer, Stormwater and Earthworks Supply Infrastructure Master Plan and Total Water Cycle Management Overarching Site Strategy, prepared by Peak Urban (17 July 2018)
- Natural Environmental Site Strategy, prepared by Saunders Havill Group (17 July 2018)

Approval of these documents required concurrence advice from State and Local technical assessment agencies and authorities including the Department of Transport and Main Road, Queensland Urban Utilities and Energex.

The project was first referred to the Department in concept design stage in November 2017. Subsequent technical reporting and correspondence with State and Local authorities, as summarised above, has informed the approved development footprint. Resultantly, the development footprint slightly differs to that of the referral area, with final batters for roads and bio-detention basins bleeding outside the referral extent (i.e. approved development area). This encroachment is 45m wide at the greatest point.

Minor variations of the development footprint often occur as part of detailed design when topographical constraints are realised. As the development boundary was not delineated on ground (i.e. lot boundary, waterway etc) this misalignment between the approved development footprint and the referral area was not captured by the approval holder. It was only through this ACR process that it was identified that the development footprint as shown in all approved plans Council plans does not align with that of the EPBC approval. Importantly, the development footprint is contained within the approved development area the works have no resulted in addition yield but rather the relocation of basins and batters to meet standard

Council imposed conditions (i.e. batters 1 in 4). All clearing for the project has occurred in accordance with Ipswich City Council approved plans, including the endorsed Natural Environmental Site Strategy and Vegetation Clearing and Fauna Management Plan (Stage 1 5).

Saunders Havill Group (SHG) became aware of the non-compliance on the 28<sup>th</sup> May 2020 when reviewing aerial imagery for this ACR and immediately notified the approval holder. The edge of clearing was ground-truthed by an Ecologist from SHG on the 1<sup>st</sup> June 2020 to confirm the clearing extent (refer **Plan 2**). At this point SHG notified both the approval holder and the Department of the non-compliance (refer **Appendix E**), as required under Condition 19.

Nearmap imagery and EPBC application data (i.e. critical habitat shapefiles used in the Preliminary Documentation Report) was overlaid by the ground-truthed clearing line. **Plan 2** show the measured volume of additional vegetation cleared outside the referral area is 0.70 ha.

Consideration of the Department's *Guidelines on 'new or increased impact' relating to changes to approved management plans under EPBC Act environmental approvals* (Australian Government, 2017) has been made with respect to the breach. The Guidelines states:

A "new or increased impact" includes any direct or indirect increase in the impacts of an action, an increase to the risk of an impact occurring, a reduction to the monitoring or mitigation measures for the protected matter, or a change to the nature or management of an environmental offset"

The Guidelines states a 'new impact' may be caused by a change to an activity or a change to circumstances surrounding the activity which can include:

- New activities that may impact on protected matters;
- Any change to an activity that creates a new potential impact to a protected matter; or
- An impact to a protected matter that was not previously foreseen.

The Guidelines state an 'increased impact' can include:

- A new activity,
- An increase in the scale, intensity, or duration or impacts,
- An increase in the likelihood or consequences of an impact occurring,
- A change to a measure designed to avoid, mitigate or offset an impact,
- A reduced capacity to identify or measure an impact, o
- Any other change that increases the risks or uncertainty associated with an impact.

The impact can be summarised as project works occurring in an additional 1.5 ha linear strip adjoining the existing development and clearing 0.7 ha of vegetation identified as of critical habitat for the Koala and Grey-headed Flying-fox.

Under the definition in the Guideline, the development is not considered to result in a new or increased impact, but the result of under and overs from concept design to detailed design which has resulted in realignment of bio-detention basins and batters to meet Council approvals.

It is acknowledged that Goldfields, as the approval holder, were responsible for all reporting to the Department prior to SHG's engagement on this ACR. It is also acknowledged Goldfields appointed a new and experienced development manager in November 2019.

In accordance with Condition 20, full details of this non-compliance have been discussed and potential impacts and corrective actions are detailed below:



**a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;**

Goldfields are aware of the significance of this breach and will put in place a number of corrective actions to ensure this does not occur in future. This will include holding a meeting with the project team to discuss breach and future actions to occur, including:

- Issuing the approved EPBC development area as a CAD layer project team;
- Reiterating this CAD layer is to be used for all future detailed design as the edge of clearing and earthworks, not the edge of design; and
- Ensuring the EPBC development area is shown on all future vegetation clearing plans to ensure any impacts on vegetation outside the development area are immediately identified and rectified prior to clearing.

Additionally, remedial actions will be undertaken including preparing a Rehabilitation Plan for the adjoining creek corridor which will target planting koala food trees over a 1.5 ha area for Koala and Grey-headed Flying-fox habitat rehabilitation.

**b. The potential impacts of the incident or non-compliance; and**

The impact of this breach can be summarised as project works occurring in an additional 1.5 ha linear strip adjoining the existing development and clearing 0.7 ha of vegetation identified as of critical habitat for the Koala and Grey-headed Flying-fox. Importantly, the measured clearing of critical habitat for the Koala and Grey-headed Flying-fox is 17.17 ha which is within the approved clearing threshold of 62.79 ha.

The potential for this breach to occur again has been mitigated through corrective actions to ensure any impacts on vegetation outside the development area are immediately identified and rectified prior to clearing.

Further, rehabilitation of an approximately 1.5 ha area for Koala and Grey-headed-Flying-fox will occur within the adjoining waterway corridor is proposed to compensate impact of over clearing.

**c. The method and timing of any remedial action that will be undertaken by the approval holder.**

To compensate the loss of 0.7ha of habitat for the Koala and Grey-headed-Flying-fox approximately 4 ha within the adjoining waterway corridor will be rehabilitated. An approximately 1.5 ha area will be specifically targeted for Koala and Grey-headed Flying-fox rehabilitation which will include an estimated planting of 1200-1500 koala food trees. The Rehabilitation Plan will be prepared by a suitably qualified person and in accordance with the South East Queensland Ecological Restoration Framework and consider site specific measures for Koala and Grey-headed Flying-fox habitat and movement. The Rehabilitation Plan will be prepared in accordance with the Council endorsed Concept Rehabilitation Plan (refer **Appendix F**) and include:

- Removing weeds and rubbish;
- Reinstating cleared native vegetation through planting of local endemic species through the following management measures:
  - o Existing native trees, shrubs and groundcovers to be protected and retained.
  - o Weed management to entire zone in accordance with the Southeast Queensland Ecological Restoration Framework (SEQERF) to encourage natural regeneration by reducing competition and to minimize any native vegetation damage / losses.
  - o Reconstruction of natural environment to be undertaken via tubestock installation including a diversity of tree, shrub and groundcover species at densities of reflective of pre-clear regional ecosystems.
  - o Species planted must be koala food trees and adapted to moister conditions to be planted adjacent to drainage line. Density planting is estimated at 1 tree per 10 m2 based on pre-clear regional ecosystems.
- Stabilise areas of potential erosion risk, through planting of appropriate species;

- Achieve effective long-term control of weeds; and
- Protect and enhance the natural resilience of native vegetation on site.

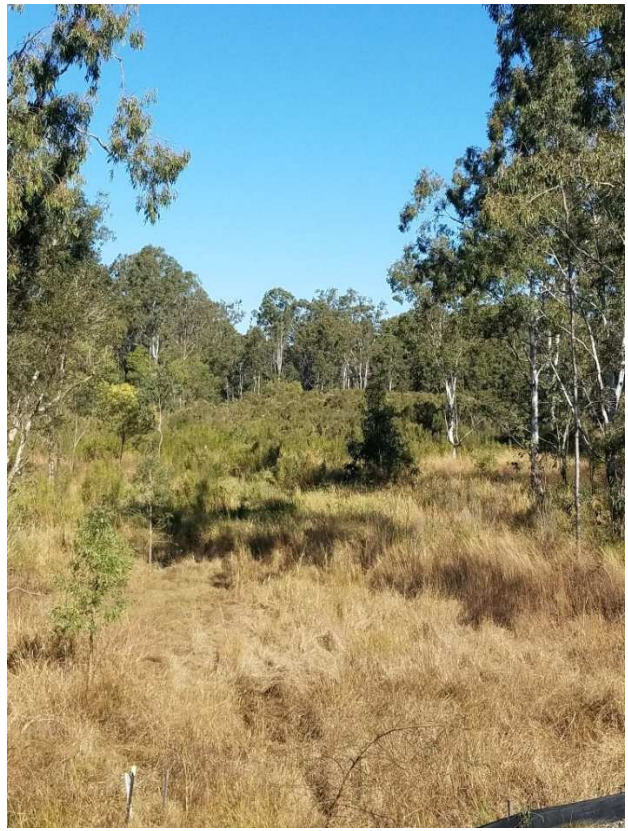
Contemporary ground survey was undertaken by SHG's landscape team on the 3<sup>rd</sup> June 2020 to identify the area for Koala and Grey-headed-Flying-fox habitat rehabilitation and is shown on **Plan 3**.

It is expected the Rehabilitation Plan will be finalised over the next 2 months. Following approval from Council, rehabilitation works are expected to commenced within the next 3 months. A copy of the Rehabilitation Plan will be provided to the Department and uploaded to the project website within 10 business days of being approved by Council. Rehabilitation works will be reported within the next ACR.



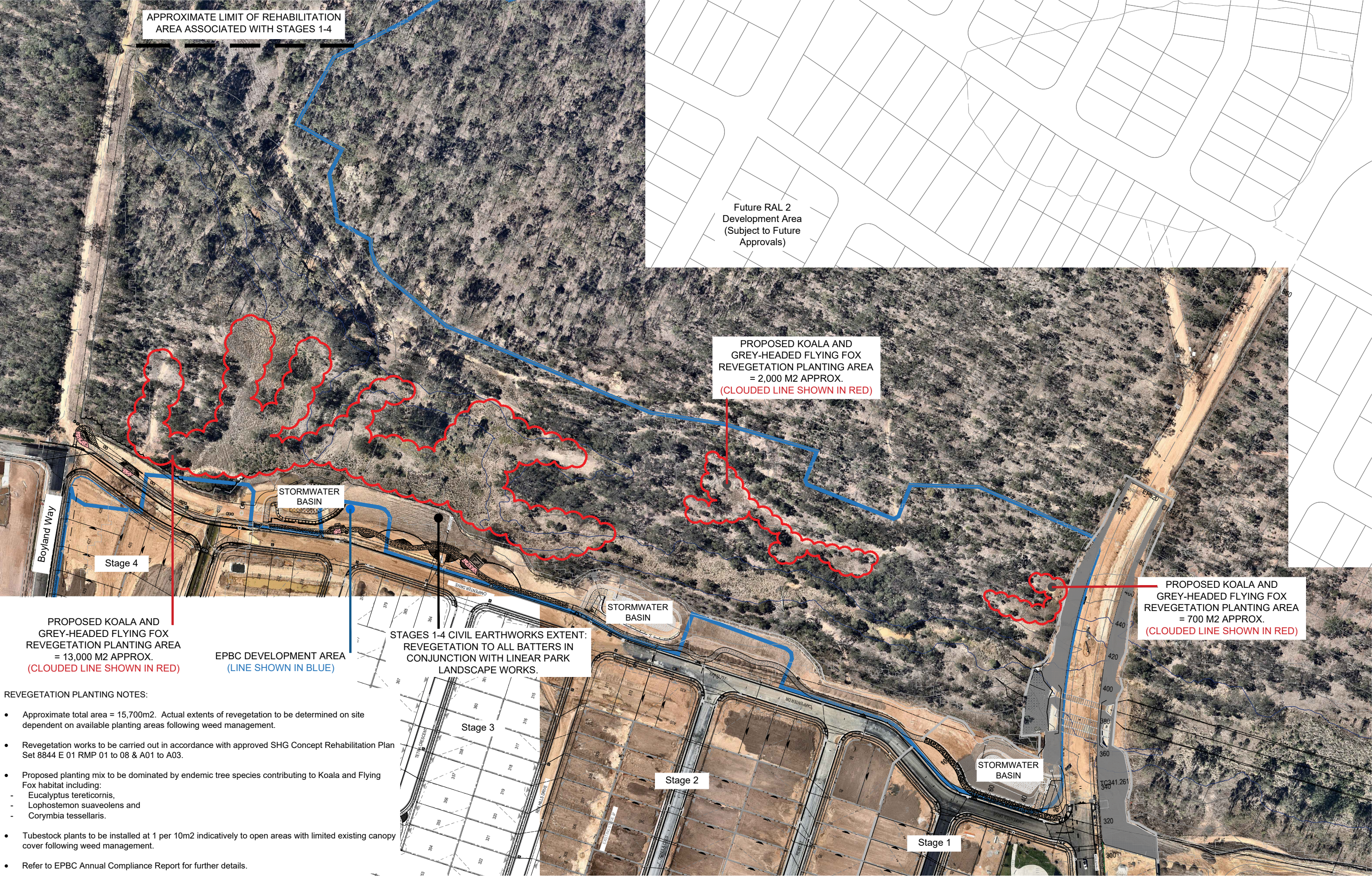
**Photo Plate 5: Rubbish to be removed; Natural Regeneration – successful germination of *Acacia*, *Alphitonia*, *Lophostemon*, *Euc tereticornis*, *Euc tessellaris* species throughout most areas.**





**Photo Plate 6: Weeds (Groundsel and Typha) to be removed; large sections with minimal infestation. Section of Groundsel to be eradicated – opportunity for revegetation planting east of stage  $\frac{3}{4}$ ; Typha removal / management required at northern end.**





APPROXIMATE LIMIT OF REHABILITATION  
AREA ASSOCIATED WITH STAGES 1-4

Future RAL 2  
Development Area  
(Subject to Future  
Approvals)

PROPOSED KOALA AND  
GREY-HEADED FLYING FOX  
REVEGETATION PLANTING AREA  
= 2,000 M2 APPROX.  
(CLOUDED LINE SHOWN IN RED)

PROPOSED KOALA AND  
GREY-HEADED FLYING FOX  
REVEGETATION PLANTING AREA  
= 700 M2 APPROX.  
(CLOUDED LINE SHOWN IN RED)

PROPOSED KOALA AND  
GREY-HEADED FLYING FOX  
REVEGETATION PLANTING AREA  
= 13,000 M2 APPROX.  
(CLOUDED LINE SHOWN IN RED)





EPBC DEVELOPMENT AREA  
(LINE SHOWN IN BLUE)


STAGES 1-4 CIVIL EARTHWORKS EXTENT:  
REVEGETATION TO ALL BATTERS IN  
CONJUNCTION WITH LINEAR PARK  
LANDSCAPE WORKS.


- REVEGETATION PLANTING NOTES:
- Approximate total area = 15,700m2. Actual extents of revegetation to be determined on site dependent on available planting areas following weed management.
  - Revegetation works to be carried out in accordance with approved SHG Concept Rehabilitation Plan Set 8844 E 01 RMP 01 to 08 & A01 to A03.
  - Proposed planting mix to be dominated by endemic tree species contributing to Koala and Flying Fox habitat including:
    - Eucalyptus tereticornis,
    - Lophostemon suaveolens and
    - Corymbia tessellaris.
  - Tubestock plants to be installed at 1 per 10m2 indicatively to open areas with limited existing canopy cover following weed management.
  - Refer to EPBC Annual Compliance Report for further details.

J:\10004 Ripley Road (Hayfield Estate - Stage 4), Ripley (Ripley Projects)\Working Files\AutoCAD\10004 L RMP 21 EPBC Figure A.dwg

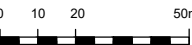
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SCALE:  
1:1000@A1  
1:2000@A3




AMENDMENTS:			CHECKED
ISSUE	DATE	DESCRIPTION	
A	09/06/2020	EPBC COMPLIANCE REPORT	KG

CLIENT: GOLDFIELDS RIPLEY  
PROJECTS PTY LTD



PROJECT: STAGE 4 REHABILITATION  
MANAGEMENT PLAN



DRAWING: EPBC FIGURE

DRAWN: GC

CHECKED: KG

DRAWING #: 10004 L RMP 21 A



saunders  
havill  
group

LANDSCAPE ARCHITECTURE

9 THOMPSON STREET, BOWEN HILLS QLD 4006  
PHONE 1300 123 SHG WWW.SAUNDERSHAVILL.COM



## 4.2. Condition 2a

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**To compensate for the clearing of 62.79 ha of Koala habitat and Grey-headed Flying-fox foraging habitat within the development area of the project site, the approval holder must:**

**a. Legally secure the Peak Crossing offset site and Burnett Creek offset site prior to the commencement of the action;**

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The action commenced on the 15<sup>th</sup> March 2020. The Peak Crossing Offset Site and the Burnett Creek Offset Site were both legally secured on title on the 20<sup>th</sup> March 2019. Subsequently, this occurred five (5) business days after commencement of the action and is thus non-compliant with Condition 2a.

Importantly, however, both voluntary declaration applications were made to the Department of Natural Resources, Mines and Energy (DNRME) by offset provider, EnviroCapital, prior to commencement of the action. The voluntary declaration application for the Burnett Creek Offset was made on the 23<sup>rd</sup> January 2019 and on the 31<sup>st</sup> January 2019 for the Peak Crossing Offset. This was almost six weeks prior to the commencement of the action.

The voluntary declarations submitted in January 2019 were accepted in full by DNRME. Thus, this non-compliance is considered an administrative breach.

It is acknowledged that an email from the approval holder to the Department on the 1<sup>st</sup> April 2019, as formal notification of Condition 2 (refer **Appendix C**) the actual date the offsets were legally secured was incorrectly stated by the Proponent. The email stated the offsets were secured on the 14<sup>th</sup> March 2020, not the 20<sup>th</sup> March 2020. It is believed that this incorrect date was reported to the Department as the date being the voluntary declaration offer was issued to the landowners, not the date the offsets were secured on title.

It was on the 28<sup>th</sup> May 2020, during the preparation of this ACR, that SHG became aware of this non-compliance. The Department was notified in writing of the non-compliance on the 1<sup>st</sup> June 2020 (refer **Appendix E**). It is acknowledged that Goldfields, as the approval holder, were responsible for all reporting to the Department prior to SHG's engagement on this ACR. It is also acknowledged Goldfields appointed a new and experienced development manager in November 2019.

In accordance with Condition 20, full details of this non-compliance have been discussed and potential impacts and corrective actions are detailed below:

**a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;**

It is acknowledged that the Department would have become aware of the non-compliance after receiving the offset details (Condition 2b) on the 1<sup>st</sup> April 2019. While no further action was taken, Goldfields have acknowledged that this administrative non-compliance has occurred as a result of inexperience in environmental approvals management. Goldfields have subsequently engaged SHG act on their behalf for all future correspondence with the Department.

**b. The potential impacts of the incident or non-compliance; and**

The non-compliance did not result in a new or significance impact and is considered an administrative non-compliance.

**c. The method and timing of any remedial action that will be undertaken by the approval holder.**

Goldfields have appointed SHG to act on their behalf for all future EPBC correspondence. No remedial actions beyond this ACR are required, however, it is noted that this condition will remain 'non-compliant' in all future Annual Compliance Reports.



### 4.3. Condition 4a

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**To ensure an increase in the number of available Koala food trees at the Peak Crossing offset site and Burnett Creek offset site, the approval holder must:**

- a. Within 12 months of the commencement of the action, commence planting at the Peak Crossing offset site and the Burnett Creek offset site of seed, sapling or tube stock (or equivalent) tree species suitable for the eventual establishment of new Koala food trees.**
- 

Multiple drafts of the Offset Management Plan have been submitted by offset provider, EnviroCapital, to the Department, the most recent version, '*Offset Management Plan Ripley Road Residential Development (Hayfield) (Peak Crossing & Burnett Creek offset sites) version dated 4 March 2019*' was provided to the Department on the 5<sup>th</sup> March 2020.

At the time of writing this ACR, the OMP is not considered compliant with the Department's policies and guidelines and multiple requests for further information have been made by the Department to EnviroCapital; the most recent of which was issued on the 30<sup>th</sup> April 2020.

In preparation of this ACR, the approval holder requested an update from EnviroCapital on the progress of the offset sites. EnviroCapital provided a letter of correspondence (refer **Appendix D**) which outlines a chronology of correspondence between the offset provider and the Department and a commitment to undertake additional field survey. The letter states EnviroCapital are currently preparing the third version of OMP however as the OMP has not been approved, planting has not been able to commence on the Peak Crossing and Burnett Creek offsets sites, as required under Condition 4a.

It is important to emphasise this non-compliance is outside of the control of the approval holder, as are all EPBC approval conditions associated with the offset sites. Regardless, significant efforts have been made by the offset provider over the last year to resolve outstanding issues with the OMP to enable offset management to commence.

It was on the 28<sup>th</sup> May 2020, during the preparation of this ACR, that SHG and the approval holder became aware of this non-compliance. In accordance with Condition 19, the Department was notified in writing of the non-compliance on the 1<sup>st</sup> June 2020 (refer **Appendix E**). In accordance with Condition 20, details of the non-compliance are discussed herein this ACR which will be published on the project website, and provided to the Department, on the 9<sup>th</sup> June 2020 (i.e. within 8 business days). It is acknowledged that the Department's post approvals team is already aware of this ongoing matter.

- a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;**

Ongoing discussion between EnviroCapital and the Department's post approvals team is occurring to resolve the outstanding issues with the Offset Management Plan. Correspondence provided by EnviroCapital in **Appendix D** outlines the continuous efforts made to date by offset provider to resolve these matters with the Department. The letter also provides written commitment by EnviroCapital to maintain efforts to finalise the OMP including undertaking additional field survey at the Department's request. EnviroCapital are committed to continue to engage with the Department to resolve outstanding matters.

- a. The potential impacts of the incident or non-compliance; and**

It is acknowledged the Department are aware of the implications the delay has caused to commencing the offset. EnviroCapital have committed to commencing planting within 3 months of approval of the OMP. This will truncate the timeframe of Condition 4b by 9 months and will ensure the delay to commencement of the offset will allow conditions of the EPBC approval, and management outcomes in the OMP, to be achieved.

**b. The method and timing of any remedial action that will be undertaken by the approval holder.**

Ongoing discussion will continue to occur between EnviroCapital and the Department. It is anticipated a resolution will be reached within the next 6 months to commence the offset.

## 4.4. Condition 12

---

**The approval holder must notify the Department in writing of the date of the commencement of the action within 10 business days after the date of the commencement of the action.**

---

The action commenced on the 15 March 2019. The Department was informed in writing on the 1 April 2019; 11 business days after commencement of the action.

It was on the 28<sup>th</sup> May 2020, during the preparation of this ACR, that SHG became aware of this non-compliance. The Department was notified in writing of the non-compliance on the 1<sup>st</sup> June 2020 (refer **Appendix E**). It is acknowledged that Goldfields, as the approval holder, were responsible for all reporting to the Department prior to SHG's engagement on this ACR. It is also acknowledged Goldfields appointed a new and experienced development manager in November 2019.

In accordance with Condition 20, full details of this non-compliance have been discussed and potential impacts and corrective actions are detailed below:

**a. Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;**

It is acknowledged that the Department would have become aware of the non-compliance after receiving notification of commencement of the action on the 1<sup>st</sup> April 2019. While no further action was taken, Goldfields have acknowledged that this administrative non-compliance has occurred as a result of inexperience in environmental approvals management. Goldfields have subsequently appointed a new internal experienced development manager and engaged SHG act on their behalf for all future correspondence with the Department.

**b. The potential impacts of the incident or non-compliance; and**

The non-compliance did not result in a new or significance impact and is considered an administrative non-compliance.

**c. The method and timing of any remedial action that will be undertaken by the approval holder.**

Goldfields have appointed SHG to act on their behalf for all future EPBC correspondence. No remedial actions beyond this ACR are required, however, it is noted that this condition will remain 'non-compliant' in all future Annual Compliance Reports.

## 5. Appendices

### Appendix A

Peak Crossing Offset Voluntary Declaration Acceptance

### Appendix B

Burnett Creek Offset Voluntary Declaration Acceptance

### Appendix C

Evidence of Notification to the Department for Condition 2 and Condition 12

### Appendix D

Correspondence prepared by EnviroCapital

### Appendix E

Notification of non-compliance

### Appendix E

Endorsed Concept Rehabilitation Plan

# Appendix A

Peak Crossing Offset Voluntary  
Declaration Acceptance



**Queensland**  
Government

Department of  
**Natural Resources,  
Mines and Energy**

Author : Genevieve Verrall  
File / Ref number : 2019/000446  
Unit : Vegetation Management Unit  
Phone : 5352 5230

20 March 2019

Ms Jordan Bachmann  
9 Thompson Street  
Bowen Hills  
QLD  
4006

Dear Ms Bachmann

**Re: Certification of a voluntary declaration on 100 WD682 - Scenic Rim Regional Council**

This is to advise you that a voluntary declaration on 100 WD682 - Scenic Rim Regional Council has been certified and the declaration of an area of high nature conservation value has been made—consistent with your agreement—by the Department of Natural Resources, Mines and Energy (DNRME) on 20 March 2019. A copy of each of the following certified documents is attached for your records:

- Declaration notice
- Declared area plan
- Declared area PMAV
- Declared area management plan

These documents have been sent to you for distribution, as you are the nominated contact on the application form.

A copy of the declared area management plan – Voluntary Declaration Management Plan – Burnett Creek Road, Burnett Creek. Prepared by EnviroCapital on behalf of GWR Investments, 21 January 2019.— is held in departmental records and is part of this certified declaration.

DNRME Gympie  
Locked Bag 383  
Gympie  
4570  
Qld

**Telephone** 07 53524243

**Facsimile** 07 53524201

**Website** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

ABN 59 020 847 551



If a registered owner requires additional copies of the certified documents, these can be purchased at Department of Natural Resources, Mines and Energy Customer Service Centre.

Please note that in accordance with the declaration, management of the declared area, monitoring the condition of the declared area, and reporting on the condition of the declared area will be required. Please refer to the declaration documents for the specifics regarding such requirements.

This declaration will be noted on the title of the declared area—binding management, monitoring and reporting responsibilities upon current and future owners.

If you wish to discuss this matter further, please contact Genevieve Verrall on telephone number 5352 4230 quoting the above reference number.

Yours sincerely



Genevieve Verrall

**Natural Resource Management Officer**

***Department of Natural Resources, Mines & Energy***

# Voluntary Declaration notice (2019/000446)

s19E – 19K of the Vegetation Management Act 1999

## 1. Details of request

- 1.1. **Proponent's name:** EnviroCapital\_GWR Investments
- 1.2. **Date request received:** 23 January 2019
- 1.3. **Request:** to offset clearing associated with a development approval - (*Environment Protection and Biodiversity Conservation Act 1999* Ref: 2017/8905)
- 1.4. **Property description:** Lot 100 WD682
- 1.5. **Land tenure:** Freehold
- 1.6. **Decision reference:** 2019/000446 (EPBC 2017/8905)

## 2. Declaration information

### 2.1. Declaration made:

The Chief Executive of the Department of Natural Resources and Mines declares the area identified on Declared Area Map DAM (2019/000446) as an area of high nature conservation value in accordance with s19F(1) of the *Vegetation Management Act 1999*.

The chief executive considers the declared area to meet the following criteria under s19G of the *Vegetation Management Act 1999*—

The declared area is an area of high nature conservation value under s19G(1)(b), as the area is one or more of the following:

- ☐ a wildlife refugium;
- ☐ a centre of endemism;
- ☐ an area containing a vegetation clump or corridor that contributes to the maintenance of biodiversity;
- ✓ an area that makes a significant contribution to the conservation of biodiversity;
- ☐ an area that contributes to the conservation value of a wetland, lake or spring stated in the notice mentioned in section 19F(1) of the declaration;
- ✓ another area that contributes to the conservation of the environment.

The documents outlined in 2.2 form part of this declaration.

### 2.2. Voluntary declaration documents:

The following documents are part of this voluntary declaration, and must be read in conjunction with this notice:

- ✓ Declared area map (DAM 2019/000446)
- ✓ Voluntary Declaration Management Plan – Burnett Creek Road, Burnett Creek. Prepared by EnviroCapital on behalf of GWR Investments, 21 January 2019.

2.3. **Property Map of Assessable Vegetation**

In accordance with s20B of the *Vegetation Management Act 1999*, the following Property Map of Assessable Vegetation has been prepared for the declared area.

✓ Declared area PMAV (PMAV 2019/000448)

2.4. **Date of declaration:** 20 March 2019

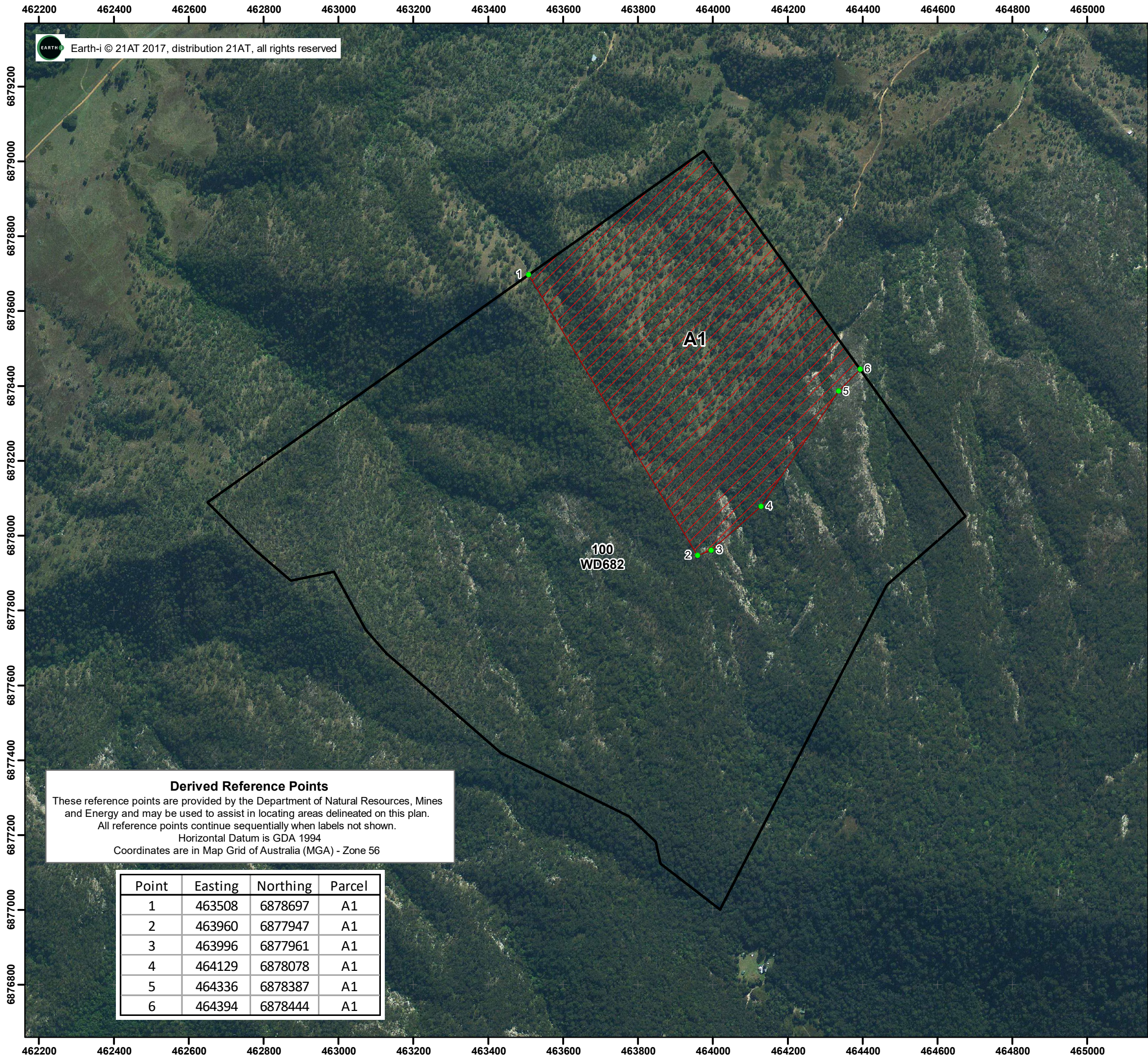
3. **Delegated officer's signature**



Andrew Collins

**A/ Principal Natural Resource Management Officer**





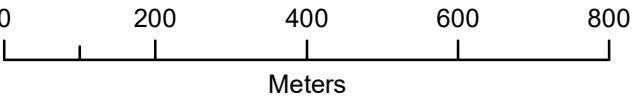
Sheet  
1

of  
1

# Declared Area Map

## DAM 2019/000446

LOT on PLAN  
100WD682



**LEGEND**

Reference Points

Subject Lot(s)

Declared Area (A1)

Scale: 1:10000  
(original size A3)

**Notes:**

Property boundary provided by Department of Natural Resources, Mines and Energy.  
The property boundaries shown on this plan are approximate only.  
They are not an accurate representation of the legal boundaries.

**Map Information:**  
Horizontal Datum: GDA 1994  
Projection: Universal Transverse Mercator - Zone 56

Imagery:- earth-i\_2017\_80cm\_k32\_mosaic\_a.ecw  
Imagery Date:- June 2017  
Imagery Type:- Digital Ortho-rectified Satellite

Based on or contains data provided by the State of Queensland (Department of Natural Resources, Mines and Energy) 2019.  
In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

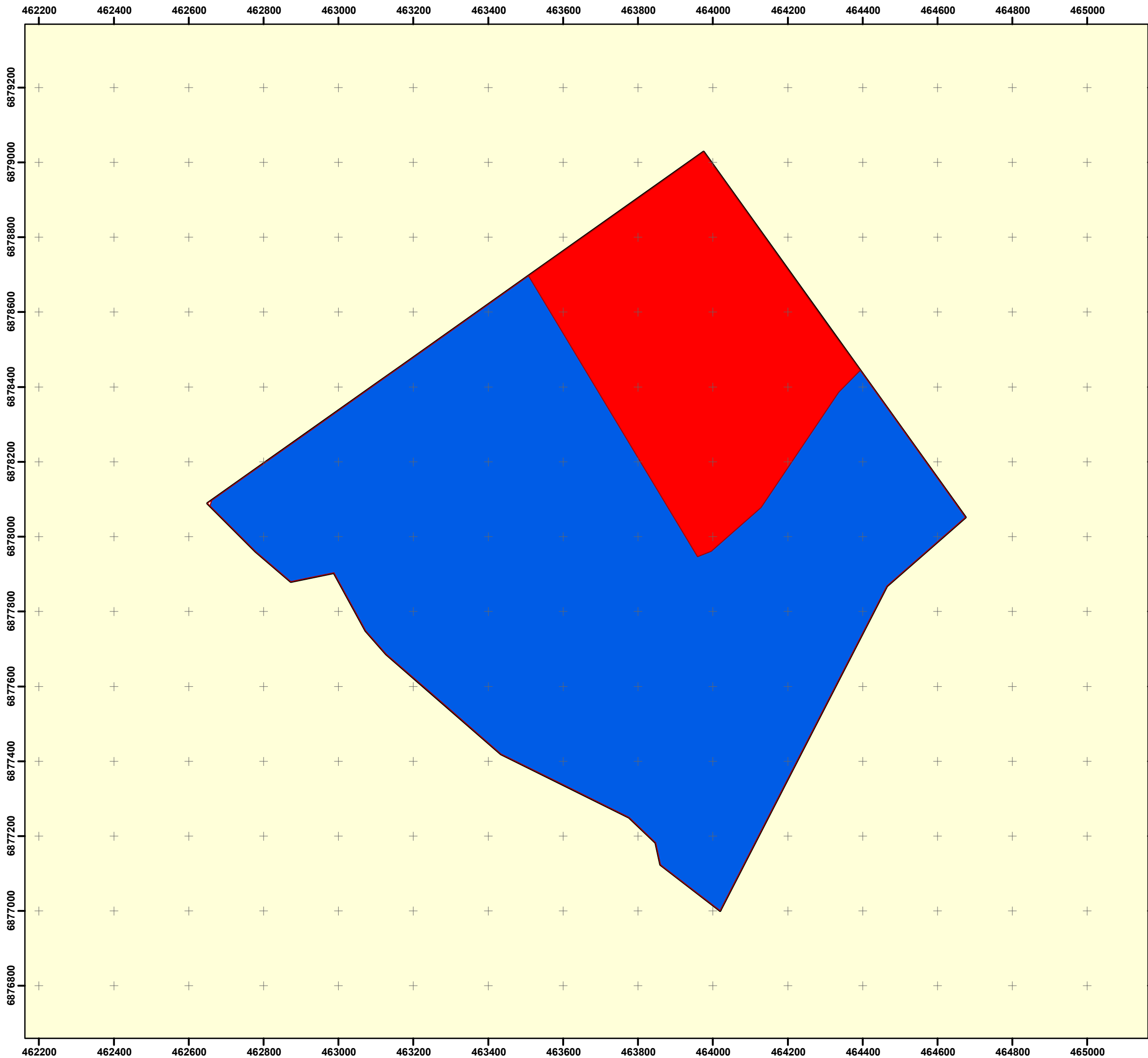
© The State of Queensland (Department of Natural Resources, Mines and Energy) 2019

Map Prepared by: LMO  
Department of Natural Resources, Mines and Energy  
LMB 383, Gympie, Qld, 4570

Map Preparation Date: 20/03/2019


This plan must be reproduced in colour.





Sheet  
1

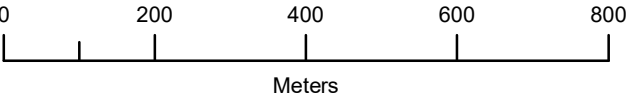
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Queensland  
Government

# Property Map of Assessable Vegetation






## PMAV 2019/000448

LOT on PLAN  
100WD682



**Scale: 1:10000**  
(original size A3)



- LEGEND**
-  Subject Lot(s)
  -  Area to which the PMAV does not apply
- Vegetation Category Area**
-  Category A area
  -  Category B area
  -  Category X area

**Notes:**

Property boundaries provided by Department of Natural Resources, Mines and Energy.  
The property boundaries on this plan are a spatial representation of the property boundaries.  
They are not the legal property boundaries and are subject to change as more accurate information becomes available.  
The PMAV does not move with changes to the property boundaries.


Map Information:  
Horizontal Datum: GDA 1994  
Projection: Universal Transverse Mercator - Zone 56

**This PMAV replaces PMAV 2018/001448 under Section 20D(1) of the *Vegetation Management Act 1999*.**

Signed for the Chief Executive of the Department of Natural Resources, Mines and Energy by:

Name: Andrew Collins

Title: Acting Principal Natural Resource Management Officer

Signature: 

Date: 20/03/2019

Map Prepared by: LMO  
Department of Natural Resources, Mines and Energy  
LMB 383, Gympie, Qld, 4570

Map Preparation Date: 20/03/2019

This plan must be reproduced in colour.

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MsJordan Bachmann  
9 Thompson Street  
Bowen Hills  
QLD  
4006

**File / Ref number :** :2019/000557

Att: Genevieve Verrall

Department of Natural Resources, Mines and Energy  
Locked Bag 383  
Gympie  
4570 Qld

Dear Genevieve

**Re: Request for a voluntary declaration on 172,173 CH312424 & 151 RP892014 -  
Scenic Rim Regional Council – Response to declared area offer**

I am responding to your declared area offer by—

- ☒ Agreeing with the contents of the declared area offer, and requesting that the declaration be made.

*Please fill in sections 1 to 7 below indicating that you agree with each component of the declared area offer.*

- ☐ Requesting that the declaration process continue, provided that certain aspects of the offer are reconsidered by the Department.

*Please indicate in sections 1 to 5 below which documents within the draft declared area package you agree with, and which documents you are requesting be reconsidered by the department. If your suggested changes are supported, a revised offer will be sent to you.*

- ☐ Withdrawing my request for a voluntary declaration, with the understanding that the department will close the case and no voluntary declaration will be made.

*Please fill in section 7 only.*

In the event that you request reconsideration of any component of the draft declaration, the reasons and any additional information that you supply will need to be reviewed by the department. Note also that if a draft declared area code (section 3) has not been prepared then please leave this section blank.

<b>Section 1.</b> <b>Draft declaration notice</b>	<p>I am responding to your request for consideration of the draft declaration notice by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft notice for subsequent declaration by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft declaration notice.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the declaration notice with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 2.</b> <b>Draft declared area map</b>	<p>I am responding to your request for consideration of the draft declared area map by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft declared area map for subsequent declaration by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft map.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft map with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 3.</b> <b>Draft declared area code</b>	<p>I am responding to your request for consideration of the draft declared area code by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft code for subsequent declaration by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft code.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft code with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>

<b>Section 4.</b> <b>Draft declared</b> <b>area Property Map</b> <b>of Assessable</b> <b>Vegetation</b>	<p>I am responding to your request for consideration of the draft declared area Property Map of Assessable Vegetation (PMAV) by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft PMAV for subsequent certification by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft PMAV.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft PMAV with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 5.</b> <b>Draft declared</b> <b>area management</b> <b>plan</b>	<p>I am responding to your request for consideration of the draft declared area management plan by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft plan for subsequent certification by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft plan.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft plan with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 6.</b> <b>Acknowledgement</b> <b>of content</b>	<p>I have read and understood the terms of the documents within this Voluntary Declaration package. I acknowledge that as part of this understanding:</p> <p><input checked="" type="checkbox"/> I have obtained independent legal advice on my obligations under this proposed declaration; or</p> <p><input type="checkbox"/> I have not obtained independent legal advice on my obligations under this proposed declaration and accept the risks with doing so.</p>



## Section 7. Proponent details

The owner(s) of the land (proponent) must sign and date this section.

If there are more than four owners, extra pages containing the additional signature(s) may be attached.

A company—

- may execute a document without using a common seal if the document is signed by two (2) directors of the company or a director and a company secretary; or for a proprietary company that has a sole director who is also the sole company secretary - that director; or
- with a company seal may execute a document if the seal is fixed to the document and the fixing of the seal is witnessed by two (2) directors of the company or a director and a company secretary; or for a proprietary company that has a sole director who is also the sole company secretary - that director.

Proponent (Owner's) name

Signature

Date

CHRIS HAMERTON

21/2/19.  
C Hamerton

Proponent (Owner's) name

Signature

Date

Proponent (Owner's) name

Signature

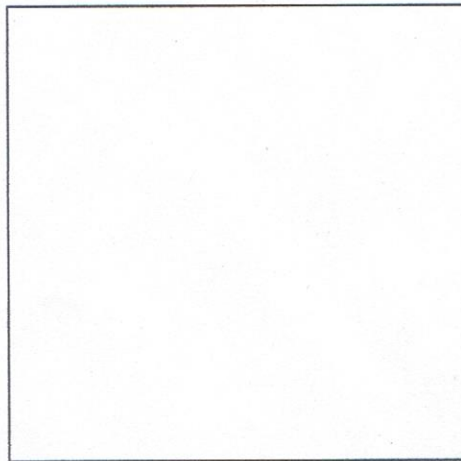
Date

Proponent (Owner's) name

Signature

Date

Company seal (if applicable)



# Appendix B

Burnett Creek Offset Voluntary  
Declaration Acceptance



**Queensland**  
Government

Department of  
**Natural Resources,  
Mines and Energy**

Author : Genevieve Verrall  
File / Ref number : 2019/000557  
Unit : Vegetation Management Unit  
Phone : 5352 4230

20 March 2019

Ms Jordan Bachmann  
9 Thompson Street  
Bowen Hills  
QLD  
4006

Dear Ms Bachmann

**Re: Certification of a voluntary declaration on 172,173 CH312424 & 151 RP892014 -  
Scenic Rim Regional Council**

This is to advise you that a voluntary declaration on 172,173 CH312424 & 151 RP892014 - Scenic Rim Regional Council has been certified and the declaration of an area of high nature conservation value has been made—consistent with your agreement—by the Department of Natural Resources, Mines and Energy (DNRME) on 20 March 2019. A copy of each of the following certified documents is attached for your records:

- Declaration notice
- Declared area plan
- Declared area PMAV
- Declared area management plan

These documents have been sent to you for distribution, as you are the nominated contact on the application form.

A copy of the declared area management plan – Voluntary Declaration Management Plan, prepared by EnviroCapital on behalf of Mr Christopher Hamerton, 22 January 2019 – is held in departmental records and is part of this certified declaration.

DNRME Gympie  
Locked Bag 383  
Gympie  
4570  
Qld

**Telephone** 07 53524243

**Facsimile** 07 53524201

**Website** [www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)

ABN 59 020 847 551



If a registered owner requires additional copies of the certified documents, these can be purchased at Department of Natural Resources, Mines and Energy Customer Service Centre.

Please note, that in accordance with the declaration, management of the declared area, monitoring the condition of the declared area, and reporting on the condition of the declared area will be required. Please refer to the declaration documents for the specifics regarding such requirements.

This declaration will be noted on the title of the declared area—binding management, monitoring and reporting responsibilities upon current and future owners.

If you wish to discuss this matter further, please contact Genevieve Verrall on telephone number 5352 4230 quoting the above reference number.

Yours sincerely



Genevieve Verrall

**Natural Resource Management Officer**

***Department of Natural Resources, Mines & Energy***

# Voluntary Declaration notice (2019/000557)

s19E – 19K of the Vegetation Management Act 1999

## 1. Details of request

- 1.1. **Proponent's name:** EnviroCapital
- 1.2. **Date request received:** 31 January 2019
- 1.3. **Request:** to offset clearing associated with a development approval - (*Environment Protection and Biodiversity Conservation Act 1999* Ref: 2017/8905)
- 1.4. **Property description:** Lot 151 RP892014 & 172-173 CH312424
- 1.5. **Land tenure:** Freehold
- 1.6. **Decision reference:** 2019/000557 (EPBC 2017/8905)

## 2. Declaration information

### 2.1. Declaration made:

The Chief Executive of the Department of Natural Resources and Mines declares the area identified on Declared Area Map DAM (2019/000557) as an area of high nature conservation value in accordance with s19F(1) of the *Vegetation Management Act 1999*.

The chief executive considers the declared area to meet the following criteria under s19G of the *Vegetation Management Act 1999*—

The declared area is an area of high nature conservation value under s19G(1)(b), as the area is one or more of the following:

- ☐ a wildlife refugium;
- ☐ a centre of endemism;
- ☐ an area containing a vegetation clump or corridor that contributes to the maintenance of biodiversity;
- ✓ an area that makes a significant contribution to the conservation of biodiversity;
- ☐ an area that contributes to the conservation value of a wetland, lake or spring stated in the notice mentioned in section 19F(1) of the declaration;
- ✓ another area that contributes to the conservation of the environment.

The documents outlined in 2.2 form part of this declaration.

### 2.2. Voluntary declaration documents:

The following documents are part of this voluntary declaration, and must be read in conjunction with this notice:

- ✓ Declared area map (DAM 2019/000557)
- ✓ Voluntary Declaration Management Plan – Natural Bridge at Flinders, Peak Crossing. Prepared by EnviroCapital on behalf of Mr Christopher Hamerton, 22 January 2019.

2.3. **Property Map of Assessable Vegetation**

In accordance with s20B of the *Vegetation Management Act 1999*, the following Property Map of Assessable Vegetation has been prepared for the declared area.

✓ Declared area PMAV (PMAV 2019/000558)

2.4. **Date of declaration:** 20 March 2019

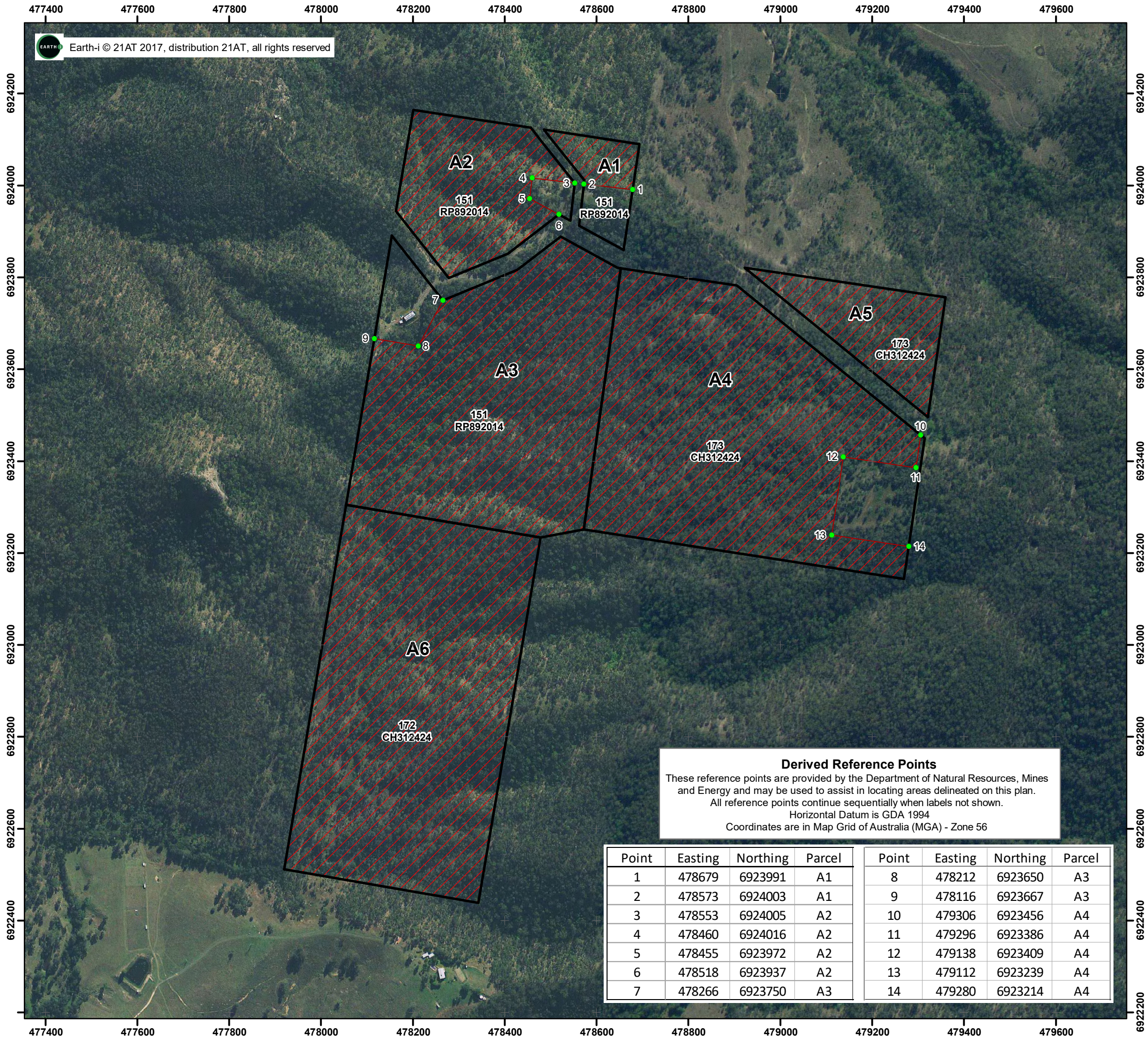
3. **Delegated officer's signature**



Andrew Collins

**A/Principal Natural Resource Management Officer**






Earth-i © 21AT 2017, distribution 21AT, all rights reserved

Declared Area Map

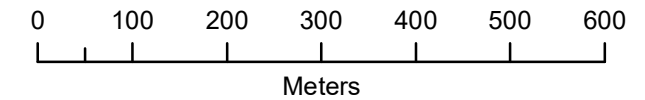
Sheet 1 of 1



Queensland Government

DAM 2019/000557

LOT on PLAN  
151RP892014, 172CH312424, 173CH312424



LEGEND

●

Reference Points

□

Subject Lot(s)

▨

Declared Area (A1, A2, A3, A4, A5 & A6)

N

Scale: 1:8000  
(original size A3)

Notes:

Property boundary provided by Department of Natural Resources, Mines and Energy.  
The property boundaries shown on this plan are approximate only. They are not an accurate representation of the legal boundaries.

Map Information:

Horizontal Datum: GDA 1994  
Projection: Universal Transverse Mercator - Zone 56

Imagery:- earth-i\_2017\_80cm\_k31\_mosaic\_a.ecw  
Imagery Date:- July 2017  
Imagery Type:- Digital Ortho-rectified Satellite

Based on or contains data provided by the State of Queensland (Department of Natural Resources, Mines and Energy) 2019. In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

© The State of Queensland (Department of Natural Resources, Mines and Energy) 2019

Map Prepared by: LMO  
Department of Natural Resources, Mines and Energy  
LMB 383, Gympie, Qld, 4570

Map Preparation Date: 20/03/2019

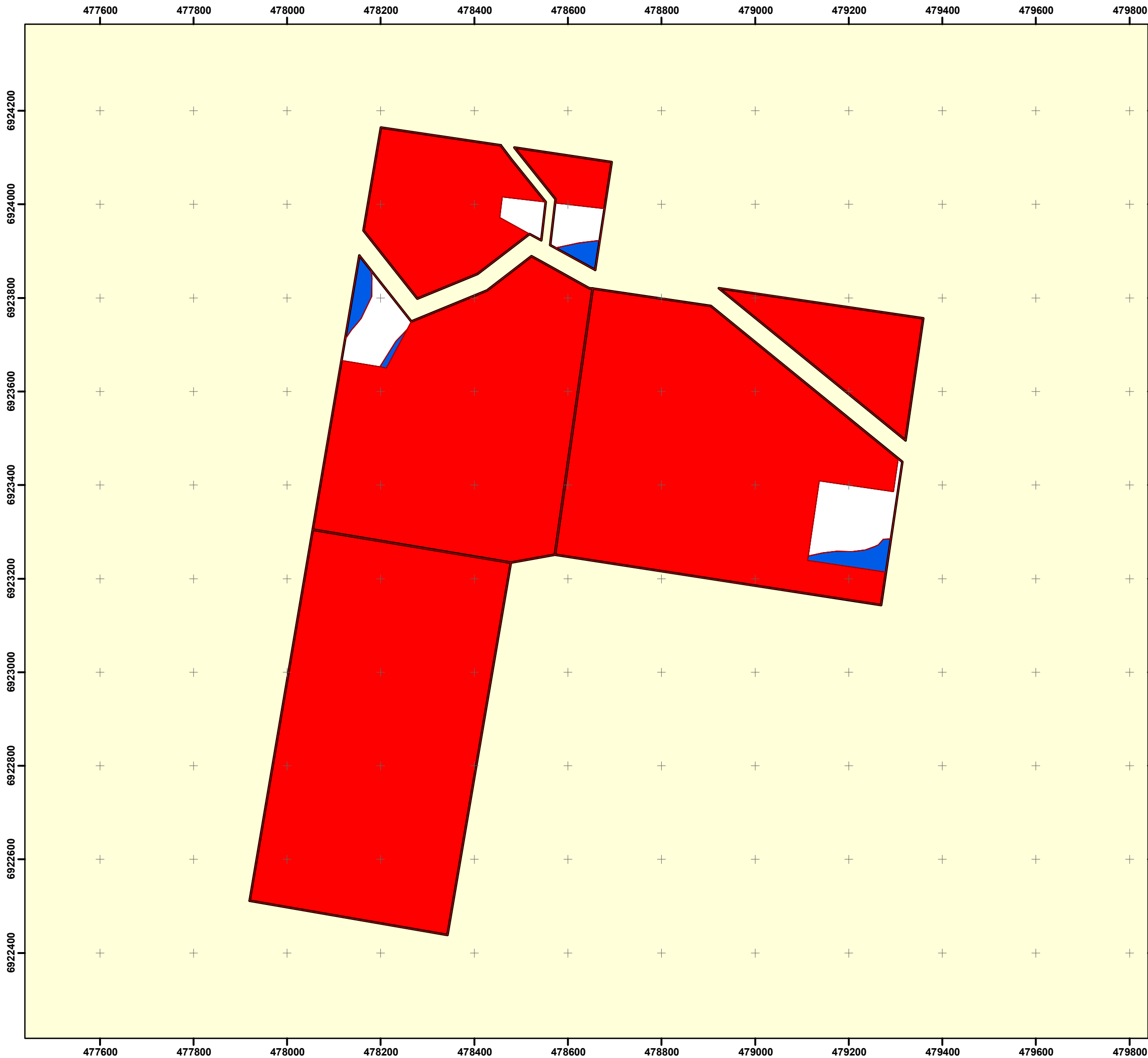
This plan must be reproduced in colour.

Derived Reference Points

These reference points are provided by the Department of Natural Resources, Mines and Energy and may be used to assist in locating areas delineated on this plan.  
All reference points continue sequentially when labels not shown.  
Horizontal Datum is GDA 1994  
Coordinates are in Map Grid of Australia (MGA) - Zone 56


Point	Easting	Northing	Parcel	Point	Easting	Northing	Parcel
1	478679	6923991	A1	8	478212	6923650	A3
2	478573	6924003	A1	9	478116	6923667	A3
3	478553	6924005	A2	10	479306	6923456	A4
4	478460	6924016	A2	11	479296	6923386	A4
5	478455	6923972	A2	12	479138	6923409	A4
6	478518	6923937	A2	13	479112	6923239	A4
7	478266	6923750	A3	14	479280	6923214	A4





Sheet  
1

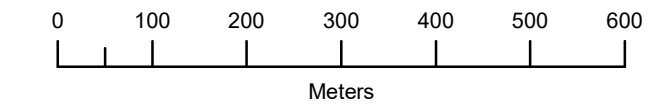
of  
1

  
Queensland  
Government

# Property Map of Assessable Vegetation

## PMAV 2019/000558


LOT on PLAN  
151RP892014, 172CH312424, 173CH312424




**Scale: 1:8000**  
(original size A3)





**LEGEND**


 Subject Lot(s)

 Area to which the PMAV does not apply

**Vegetation Category Area**

 Category A area

 Category B area

 Category X area

**Notes:**

Property boundaries provided by Department of Natural Resources, Mines and Energy.  
The property boundaries on this plan are a spatial representation of the property boundaries.  
They are not the legal property boundaries and are subject to change as more accurate information becomes available.  
The PMAV does not move with changes to the property boundaries.

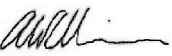
Map Information:  
Horizontal Datum: GDA 1994  
Projection: Universal Transverse Mercator - Zone 56

**This PMAV replaces PMAV 2018/001156 under Section 20D(1) of the *Vegetation Management Act 1999*.**

Signed for the Chief Executive of the Department of Natural Resources, Mines and Energy by:

Name: Andrew Collins

Title: Acting Principal Natural Resource Management Officer

Signature: 

Date: 20/03/2019

Map Prepared by: LMO  
Department of Natural Resources, Mines and Energy  
LMB 383, Gympie, Qld, 4570

Map Preparation Date: 20/03/2019  
This plan must be reproduced in colour.

MsJordan Bachmann  
9 Thompson Street  
Bowen Hills  
QLD  
4006

**File / Ref number :** 2019/000446

Att: Genevieve Verrall

Department of Natural Resources, Mines and Energy  
Locked Bag 383  
Gympie  
4570 Qld

Dear Genevieve

**Re: Request for a voluntary declaration on 100 WD682 - Scenic Rim Regional Council – Response to declared area offer**

I am responding to your declared area offer by—

- ☒ Agreeing with the contents of the declared area offer, and requesting that the declaration be made.

*Please fill in sections 1 to 7 below indicating that you agree with each component of the declared area offer.*

- ☐ Requesting that the declaration process continue, provided that certain aspects of the offer are reconsidered by the Department.

*Please indicate in sections 1 to 5 below which documents within the draft declared area package you agree with, and which documents you are requesting be reconsidered by the department. If your suggested changes are supported, a revised offer will be sent to you.*

- ☐ Withdrawing my request for a voluntary declaration, with the understanding that the department will close the case and no voluntary declaration will be made.

*Please fill in section 7 only.*



In the event that you request reconsideration of any component of the draft declaration, the reasons and any additional information that you supply will need to be reviewed by the department. Note also that if a draft declared area code (section 3) has not been prepared then please leave this section blank.

<b>Section 1.</b> <b>Draft declaration</b> <b>notice</b>	<p>I am responding to your request for consideration of the draft declaration notice by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft notice for subsequent declaration by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft declaration notice.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the declaration notice with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 2.</b> <b>Draft declared</b> <b>area map</b>	<p>I am responding to your request for consideration of the draft declared area map by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft declared area map for subsequent declaration by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft map.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft map with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 3.</b> <b>Draft declared</b> <b>area code</b>	<p>I am responding to your request for consideration of the draft declared area code by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft code for subsequent declaration by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft code.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft code with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>

<b>Section 4.</b> <b>Draft declared</b> <b>area Property Map</b> <b>of Assessable</b> <b>Vegetation</b>	<p>I am responding to your request for consideration of the draft declared area Property Map of Assessable Vegetation (PMAV) by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft PMAV for subsequent certification by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft PMAV.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft PMAV with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 5.</b> <b>Draft declared</b> <b>area management</b> <b>plan</b>	<p>I am responding to your request for consideration of the draft declared area management plan by—</p> <p><input checked="" type="checkbox"/> agreeing with the content of the draft plan for subsequent certification by the chief executive; or</p> <p><input type="checkbox"/> requesting reconsideration of the draft plan.</p> <p><i>If requesting reconsideration please provide reasons for and suggested changes to the draft plan with this response.</i></p> <p><i>Please note that if no reasons/suggested changes are provided, then this may result in no voluntary declaration being made.</i></p>
<b>Section 6.</b> <b>Acknowledgement</b> <b>of content</b>	<p>I have read and understood the terms of the documents within this Voluntary Declaration package. I acknowledge that as part of this understanding:</p> <p><input checked="" type="checkbox"/> I have obtained independent legal advice on my obligations under this proposed declaration; or</p> <p><input type="checkbox"/> I have not obtained independent legal advice on my obligations under this proposed declaration and accept the risks with doing so.</p>

**Section 7.**  
**Proponent details**

The owner(s) of the land (proponent) must sign and date this section.

If there are more than four owners, extra pages containing the additional signature(s) may be attached.

A company—

- may execute a document without using a common seal if the document is signed by two (2) directors of the company or a director and a company secretary, or for a proprietary company that has a sole director who is also the sole company secretary - that director, or
- with a company seal may execute a document if the seal is fixed to the document and the fixing of the seal is witnessed by two (2) directors of the company or a director and a company secretary, or for a proprietary company that has a sole director who is also the sole company secretary - that director

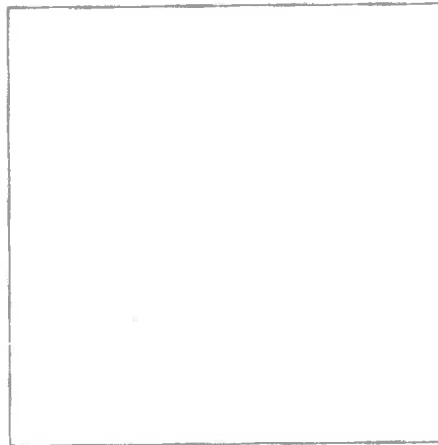
Proponent (Owner's) name	Signature	Date
GWR Investments Pty Ltd	<i>DJ Grode</i>	18/2/19

Proponent (Owner's) name	Signature	Date

Proponent (Owner's) name	Signature	Date

Proponent (Owner's) name	Signature	Date

Company seal (if applicable)





# Appendix C

Evidence of Notification to the  
Department for Condition 2 and  
Condition 12

## Keira Grundy

---

**From:** Jon McMorro <jon@goldfieldsgroup.com.au>  
**Sent:** Monday, 1 April 2019 9:41 AM  
**To:** Robert Ferguson  
**Cc:** Adam Hutchinson  
**Subject:** Notification of Commencement - DEE Reference 2017/8095  
**Attachments:** 20190221 Signed VDec offer PC.pdf; 20190218 Signed VDec offer BC.pdf; 2019-000557\_Certified documents.pdf; 2019-000446 Certified documents.pdf; dam\_2019-000557\_certify.pdf; dam\_2019-000446\_certify.pdf; pmav\_2019\_000558\_certy\_esigned.pdf; pmav\_2019\_000448\_certify\_esigned.pdf

Dear Rob,

I am writing to you to provide notification as required by Condition 2 and Condition 12 of DEE approval 2017/8095 under the EPBC Act. The required offset sites for impacts on the Koala and Grey Headed Flying-Fox were accepted by the land holders at both the Burnett Creek and Peaks Crossing sites on the 18/02/2019 & 21/02/2019. These Voluntary Declarations were made under the Vegetation Management Act 1999 (Qld) by EnviroCapital Pty Ltd. Copies of the certified Voluntary Declarations, shape files and other mapping details are attached for your reference.

Per approval Condition 2, I hereby provide the Department with notification that the offset sites required by the approval conditions were secured on 14<sup>th</sup> March 2019.

Per approval condition 12, I hereby provide the Department with notification that civil works contractor, fauna spotters and vegetation clearing contractor have mobilized to the impact site and clearing works commenced on the 15<sup>th</sup> of March 2019.

I would take this opportunity to also thank you for your personal efforts in progressing our approval conditions which has allowed our project to commence. Please do not hesitate to contact me directly should you wish to discuss anything in relation to this approval.

Thanks Rob

---



**Jon McMorro**  
*Senior Development Manager*

+61 402 298 336  
jon@goldfieldsgroup.com.au

# Appendix D

Correspondence prepared by  
EnviroCapital



28 May 2020

Jolifields Development Pty Ltd – Hayfields EPBC Act Approval 2017/8095  
C/O Goldfields Group  
ATT: Rob Winters  
Via email [rwinters@goldfieldsgroup.com.au](mailto:rwinters@goldfieldsgroup.com.au)

**RE: Annual Compliance Report**

Dear Rob,

Thank you for your correspondence and enquiry regarding information Goldfields are seeking from EnviroCapital (EC) in relation to the preparation of the Hayfield's project Year 1 Annual Compliance Report (ACR). As discussed with you, EC at this stage has not been able to achieve approval of the submitted Offset Management Plan (OMP) under Condition 9 of EPBC Approval 2017/8095. We understand, from our ecological consultants Saunders Havill Group, that despite submitting two versions of this document, the Department of Agriculture, Water and the Environment (DoAWE) requires additional site survey and further amendments to the OMP before it is considered adequate for approval. To date we note the following actions as having occurred over 2019 and 2020:

1. Offset land has been legally secured via a Voluntary Declaration (VDec - as per previous evidence provided to Goldfields prior to commencing the action);
2. Additional site surveys have been completed for:
  - a. Koalas;
  - b. Grey-headed Flying-fox;
  - c. Habitat for both species; and
  - d. Weeds and Pest Animals;
3. An Offset Management Plan (OMP) for both Peak Crossing and Burnett Creek was prepared and lodged on the 15<sup>th</sup> of August 2019;
4. Comments from the Department were received on the 27<sup>th</sup> of September 2019;
5. Additional survey, reporting and a revised OMP document was prepared and submitted for further review of the Department on 5<sup>th</sup> of March 2020;
6. The Department has responded with further comments (some of which are similar to the first round) on the 30<sup>th</sup> of April 2020; and
7. EC received these comments from Saunders Havill on the 1<sup>st</sup> of May 2020 and upon receipt commissioned additional works for survey clarification and updated OMP preparation (version 3) for submission to the Department.

ABN 12 345 678

PO Box 6047 Fairfield Gardens Q 4103

Rob Laffey e: [rob@envirocapital.com.au](mailto:rob@envirocapital.com.au) m: 0438 523 364

Steve Holloway e: [steve@envirocapital.com.au](mailto:steve@envirocapital.com.au) m: 0438 179 942

The process to date has been far more time-consuming and substantially more costly than expected, however we understand the Department's scrutiny in relation to offsets has escalated consistently over the past few years, and particularly with the unprecedented impacts of the 2019/2020 bushfire season.

EC have reviewed the conditions package and advise that we maintain a level of partial compliance with most conditions that are currently due based on the time elapsed since the commencement of the action.

The exception to this is Condition 4A, which sought EC 'commence' the planting of new koala food trees at both offset sites within 12 months of commencing the action. While locally sourced planting stock has been secured EC has been reluctant to commence planting works at either site while the OMP remains unapproved. I note it would have been possible for EC to commence some nominal planting just to show compliance however we believe this would be risky and perverse towards satisfying just this condition rather than the establishment of the broader offset which remains our core focus.

I further note that whilst commencement of planting was sought to have commenced within 12 months under Condition 4A, completion of planting is not required until 5 years after commencement of the action under Condition 4C. As such, EC see no issue at this point in time with the overall intent of the outcome sought with respect to tree planting, and will escalate the planting program as necessary upon approval of the OMP to ensure the delayed start does not result in delays to the 5 year completion timeframe.

EC remains steadfastly committed to achieving Goldfields offset conditions and to the broader habitat protection and conservation of nationally threatened species. We maintain an aggregation of carefully acquired offset sites located to build on strategic biodiversity corridors and known fauna refuge hot spots. Despite our technical differences with DoAWE we continue to have a fully funded vision for improving ecological attributes of historically cleared and degraded rural and forestry land.

Yours sincerely,



Steve Holloway

**Director**

**M:** 0438 179 942

**E:** [steve@envirocapital.com.au](mailto:steve@envirocapital.com.au)

# Appendix E

## Notification of non-compliance



## Keira Grundy

---

**From:** Keira Grundy  
**Sent:** Monday, 1 June 2020 3:03 PM  
**To:** Post Approval  
**Cc:** Murray Saunders; [rwinters@goldfieldsgroup.com.au](mailto:rwinters@goldfieldsgroup.com.au)  
**Subject:** 8844 | Notification of non-compliance (Condition 19) EPBC 2017/8095  
**Attachments:** 200528 Year 1 Compliance Letter to Goldfields.pdf

**Categories:** Archived

To whom it may concern,

I write the Department, on behalf of Jolifields Development Pty Ltd & The Trustee for Morehampton Capital & Trustee for the Goldfields QLD Trust 'Goldfields' (the Proponent) for the Ripley Road Residential Development, Ripley Valley Queensland (EPBC 2017/8095).

Saunders Havill Group (SHG) were commissioned by Goldfields to complete an audit and prepare the Year 1 Annual Compliance Report (ACR) for the project which is due 9 June 2020.

As part of these investigations, a breach against Condition 4a has been identified with regard to the offset. Please refer to the attached correspondence prepared by the third-party offset provider, EnviroCapital and provided to the Proponent.

Additionally, SHG ground surveys have identified a potential breach with Condition 1. An audit of year 1 vegetation clearing using GPS has identified that the clearing line does not completely align with the development area at Attachment A of the EPBC approval. The discrepancy appears to be marginal and linked to earthworks batters supporting infrastructure occurring close to or beyond the development area boundary. This field information is still being collated and overlayed with the original referral and application data.

Further, in preparing the Year 1 ACR, two administrative non-compliances with Condition 2a and Condition 12 have been identified. Breaches with these conditions relate to date information was provided to the Department by the Proponent in relation to these conditions.

SHG became aware of the aforementioned non-compliances on 28 May 2020. In accordance with Condition 19, this email provides formal notification to the Department of the conditions in breach, within 2 business days of becoming aware of the non-compliance.

In accordance with Condition 20, details of non-compliance with Conditions 1, 2a, 4a and 12 will be provided in the Year 1 ACR, due 9 June (i.e. within 8 business days).

If you have any immediate concerns, please do not hesitate to contact me directly.

Kind regards,

**Keira Grundy** Senior Environmental Planner **Saunders Havill Group**  
direct line (07) 3251 9468 mobile 0437 822 880 email [keiragrundy@saundershavill.com](mailto:keiragrundy@saundershavill.com)  
phone 1300 123 SHG web [www.saundershavill.com](http://www.saundershavill.com) head office 9 Thompson St Bowen Hills Q 4006

Surveying / Town Planning / Urban Design / Mapping / Environmental Management / Landscape Architecture

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# Appendix E

## Endorsed Concept Rehabilitation Plan



# 352 - 396 RIPLEY ROAD, RIPLEY

## CONCEPT REHABILITATION PLAN

### PLAN SET

SHEET NO.	TITLE	DESCRIPTION	ISSUE	DATE
1	8844 E 01 CRMP A	Cover sheet	A	01/06/2018
2	8844 E 02 CRMP A	Site Assessment	A	01/06/2018
3	8844 E 03 CRMP A	Management Zones	A	01/06/2018
4-5	8844 E 04-05 CRMP A	Rehabilitation Notes - Various	A	01/06/2018
6	8844 E 06 CRMP A	Rehabilitation Notes - Planting Notes	A	01/06/2018
7	8844 E 07 CRMP A	Planting Species Schedule	A	01/06/2018
8	XXXX E 08 CRMP A	Rehabilitation Notes - Maintenance & monitoring	A	01/06/2018
9-11	8844 E A01-A03 CRMP A	Appendix A - Weed treatment & Removal	A	01/06/2018

## Natural Environment Overarching Site Strategy supporting information

Further details will be required with future RAL applications

Infrastructure Master Plan/Overarching Site Strategy Endorsed by Ipswich City Council for

Approval No: 1141/2018/PDACA

Date: 22 August 2018

Signed: 

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CONFIRM ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION AND DO NOT SCALE FROM THE DRAWINGS. ALL DIMENSIONS ARE IN METRES. ANY DISCREPANCIES SHOULD BE CLARIFIED IN WRITING WITH SAUNDERS HAVILL GROUP PRIOR TO THE COMMENCEMENT OF WORK.

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER UNDERGROUND SERVICES AND UTILITIES LOCATION OF ALL SERVICES.

AMENDMENTS:			
Issue	Date	Description	Checked
A	1/06/2018	Client Draft	AM

### PROJECT:

352 - 396 RIPLEY ROAD,  
RIPLEY (3SP237241)

PLAN OF:  
CONCEPT REHABILITATION  
COVER SHEET

DATE: 1/06/2018	CHECKED: AH
CLIENT REF: 8844	DRAWN: MC
DRAWING No: 8844 E 01 RMP Title A	



352-396 RIPLEY ROAD, RIPLEY

CONCEPT REHABILITATION PLAN - SITE ASSESSMENT

Further details will be required with future RAL applications



LEGEND

- Subject site
- Rehabilitation area
- Qld DCDB
- Design layout
- Stage boundary
- Retaining wall
- Batter toe
- Batter top
- Drainage basin
- Stormwater
- Extent of earthworks
- Not part of this application

Lidar contours (0.5m)

- 33 m (minimum)
- 42.5 m (maximum)

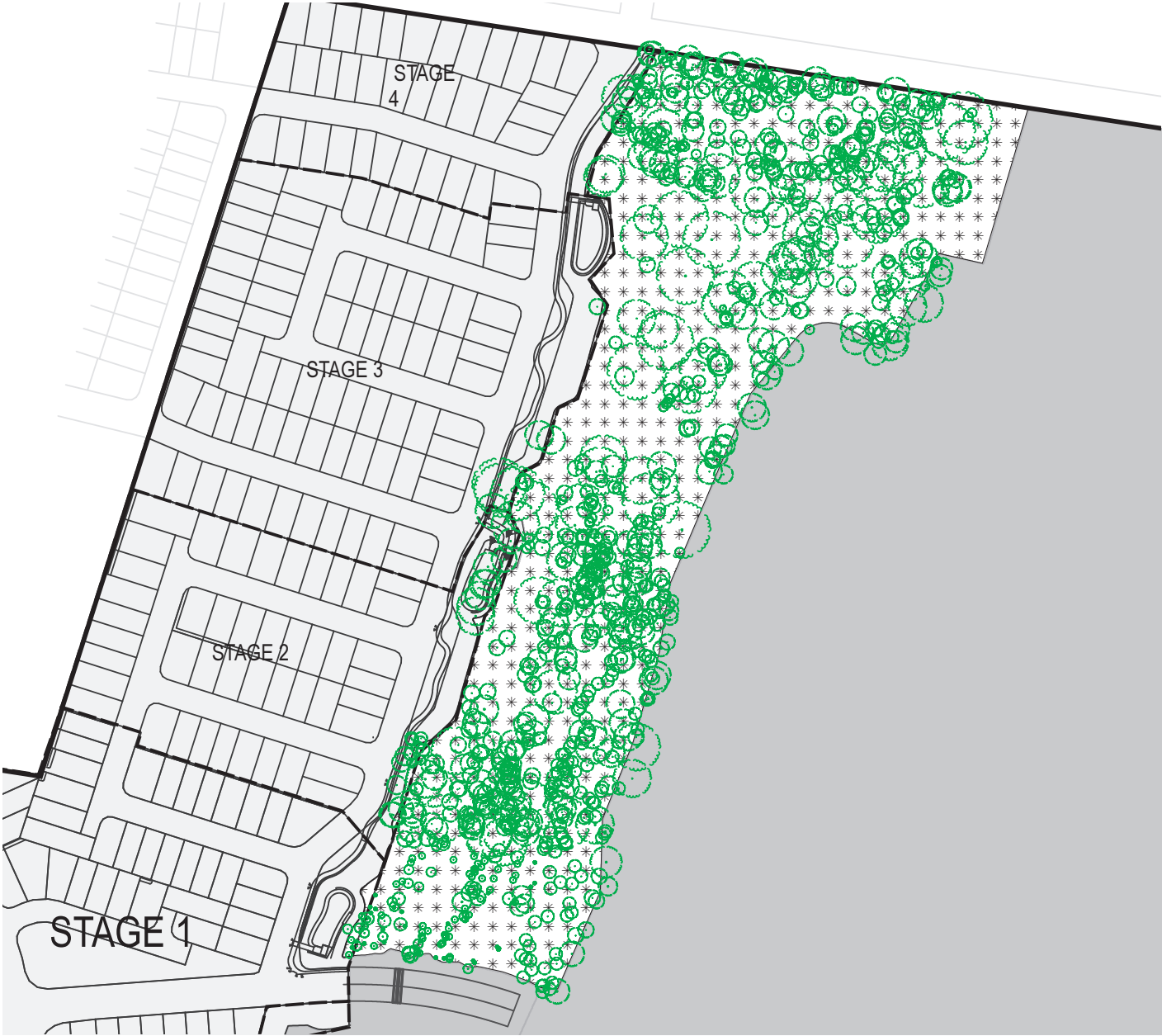




352-396 RIPLEY ROAD, RIPLEY

CONCEPT REHABILITATION PLAN - MANAGEMENT ZONES

Further details will be required with future RAL applications



LEGEND



Management Zone 1 – Waterway corridor

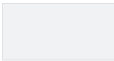
Existing native trees, shrubs and groundcovers to be protected and retained where possible.

Weed management to entire zone to encourage natural regeneration by reducing competition. Appropriate (sensitive) weed management methodology within this zone to minimise native vegetation damage losses and impacts associated with soil destabilisation.

For disturbed in situ subsoils and reinstated subsoils, apply gypsum at a rate of 2 kg/m<sup>2</sup> and mature compost at 0.5 kg/m<sup>2</sup> and incorporate to 500 mm depth; and reinstate topsoil and hydro mulch or apply mulch to a depth of 100 mm, secure mulch in place with coir netting.

Planting of tubestock to occur in disturbed areas, including a mixture of grass, shrub and tree species. Tree species to be planted only where canopy gaps occur. Lower slopes and floodplain to be treated with species consistent with pre-clear Regional Ecosystem 12.3.3. Mid slopes to be treated with species consistent with pre-clear Regional Ecosystems 12.9-10.3 and 12.9-10.2 and 12.9-10.7.

Refer to Rehabilitation Notes for additional details, plant species and densities.



Earthworks extent



Not part of this application



Detailed tree survey (20160725)



352-396 RIPLEY ROAD, RIPLEY

CONCEPT REHABILITATION NOTES

BACKGROUND

This Concept Rehabilitation and Maintenance Plan (CRMP) has been prepared by Saunders Havill Group (SHG) for Ripley Project Pty. Ltd. to provide a formal response to the Further information Request (8736/2017/PDA) Dated 22 May 2018. This CRMP has been produced in particular to address item 5 of the request for further information - Retained Vegetation

The Primary objective of this CRMP is to provide a conceptual assessment of how the Waterway area of the subject site is to be rehabilitated. This CRMP has been designed in accordance with the submitted Natural Environmental Site Strategy.

REHABILITATION - INTRODUCTION

A substantial amount of rehabilitation research has been conducted and compiled as part of the "South East Queensland Ecological Restoration Framework (SEQERF)" and subsequently endorsed by the majority of South East Queensland councils. Given this, information provided within this RMP will largely utilize information derived from this framework.

Rehabilitation or "Ecological Restoration" can be described as "the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed" (source: Society for Ecological Restoration International).

A key aspect of ecological restoration is that structure and function are returned to site, improving site stability, and improved habitat for fauna and flora. Structure includes vegetation height and density, canopy cover and appropriate species, as well as habitat features such as fallen logs and site rock. Function refers to the natural and self-sustaining processes occurring within the site including regeneration capacity, succession and cycling of nutrients. Activities required to achieve these objectives may include controlling environmental weeds, re-establishment of wildlife corridors and or stabilisation of creek banks or stormwater devices.

In accordance with the SEQERF, four ecological restoration approaches are generally applicable to rehabilitation works:

- Natural Regeneration
- Assisted Natural Regeneration
- Reconstruction
- Fabrication

It is worth noting as restoration work progresses on a site, ongoing changes to the structure and diversity of the vegetation will become apparent. These changes tend to occur in a cyclical manner, with the initial disturbance to the vegetation (either natural or man-made) being the trigger for changes. It is important to recognize that the vegetation will have to pass through a variety of stages of succession first, often over a period of years.

Disturbance as part of restoration works often has a negative connotation however can often be useful for site restoration. Regeneration of native plant species is stimulated by mimicking natural disturbances. The techniques used will depend on the individual species and vegetation community, as they have evolved to respond to disturbances in different ways. Some examples of these techniques are:

- Control of competing vegetation, especially environmental weeds;
- Controlled burns or burn piles in vegetation communities adapted to fire;
- Soil disturbances such as ripping or raking; and or
- Alterations to hydrology in wetlands to reinstate natural movement.

The SEQERF also highlights that consistent follow up is critical for success of ecological restoration. This ensures that beneficial, permanent changes can occur within the vegetation community benefiting both fauna and flora. In order to be able to confirm these changes are occurring, ongoing site monitoring may also be required.

Ecological restoration is a complicated and evolving field. It requires careful consideration for all ecosystem aspects to try and minimise any unexpected interactions, although is generally accepted that not all can be fully known about each complex ecosystem. Given this, it is necessary to remain flexible throughout this process to adapt to site and natural changes.

REHABILITATION - APPROACHES

ECOLOGICAL RESTORATION APPROACHES	
NATURAL REGENERATION	
Applies:	To relatively large, intact and weed-free areas of native vegetation.
	Where native plants are healthy and capable of regenerating without human intervention.
	When native plant seed is stored in the soil or will be able to reach the site from nearby natural areas, by birds or other animals, wind or water.
	Where the plant community has a high potential for recovery after any short-live disturbance such as a fire or cyclonic winds.
Role of planting:	When preventative action is all that is required to avert on-going disturbances e.g. erection of fencing to prevent instruction by cattle.
	Planting in such areas can work against the aims of restoration by interfering with natural regeneration.
Goal vegetation community:	The re-establishing plant community will be similar in structure, composition and diversity to the original vegetation.
ASSISTED NATURAL REGENERATION	
Applies:	To natural areas where the native plant community is largely healthy and functioning.
	When native plant seed is still stored in the soil or will be able to reach the site from nearby natural areas, by birds or other animals, wind or water.
	Where the natural regeneration processes (seedling germination, root suckering, etc.) are being inhibited by external factors, such as weed invasion, soil compaction, cattle grazing, mechanical slashing, etc.
	When limited human intervention, such as weed control, minor amelioration of soil conditions, erection of fencing, cessation of slashing, etc. will be enough to trigger the recovery processes through natural regeneration.
Role of planting:	When the main management issue is weed infestation and/or current land use practices.
	Planting in such areas can work against the aims of restoration by interfering with natural regeneration except where species cannot return to site without direct intervention.
Goal vegetation community:	The re-establishing plant community will be substantially similar in structure, composition and diversity to the original vegetation.
RECONSTRUCTION	
Applies:	Where the site is highly degraded or altered.
	When the degree of disturbance has been so great and long-standing that the pre-existing native plant community cannot recover by natural means.
	To sites such as areas of fill, sites affected by stormwater flow, areas that have been drastically cleared, even though there may be a few remaining native trees or shrubs.
	When a greater degree of human intervention is required, such as weed control, cessation of grazing and/or slashing, amelioration of soil conditions such as importation of soils, drainage works or re-shaping of the landscape.
Role of planting:	Importation of native species to the area is required, either through planting or direct seeding (in some situations), natural regeneration and recruitment is insufficient to initially re-establish the original vegetation. Depending on the prevailing circumstances, the planting of a broad diversity of species from the target ecosystem may be unnecessary and the use of pioneers may be sufficient to re-establish ecological processes.
Goal vegetation community:	The re-establishing planted community should be similar to the original vegetation in structure, composition and diversity.
FABRICATION (TYPE CONVERSION)	
Applies:	Where site conditions have been irreversibly changed.
	When it is not possible to restore the original native plant community.
	Where a better-adapted local plant community can be planted that will function within the changed conditions.
	In situations such as the construction of a wetland plant community to mitigate increased urban storm-water run-off.
Role of planting:	Revegetation (planting) is the major component in a fabrication program.
Goal vegetation community:	The re-establishing planted community should be similar to a naturally occurring plant community of the same type (e.g. a constructed freshwater wetland should resemble a natural system in terms of structure, composition and diversity).

REHABILITATION - METHODOLOGY

Detailed assessment of site conditions prior to commencement of documentation is essential. As part of most rehabilitation scopes, it is worth considering an appropriate methodology for both compiling documentation and site works. This can be broken down into the following items:

- Site assessment
- Rehabilitation Design Documentation (this plan)
- Site Works
- Maintenance and monitoring

METHODOLOGY – SITE ASSESSMENT

Detailed assessment of site conditions prior to commencement of documentation is essential in the establishment of a site-specific ecological restoration methodology. In accordance with the SEQERF. The following checklist will for part of the site assessment process:

- Describe the history and background of the site
- Describe the soil, drainage, topography and aspect
- Describe the native vegetation on the site and along site boundaries
- Describe the weeds on site
- Describe the vegetation dispersal and structure
- Describe the fauna use onsite
- Describe estimated native regeneration response.

The responses to the above checklist will provide the basis of the proposed restoration approach from Natural Regeneration to Fabrication for each treatment area within this Rehabilitation Plan.

Consideration should be made in the importance of integrating site-specific measures for fauna habitat and movement. With many fauna species having specific habitat requirements, foraging patterns and movement patterns. During the site assessment process, the following provisions should be taken into consideration:

- Fauna movement opportunities via easements, tracts, utility corridors and or infrastructure pathways;
- Diversity and type of fauna and distribution on site;
- Habitat opportunities e.g. Dense foliage, roosting areas, log hollows and potential nesting boxes;
- Fauna disturbance and vicinity of works to significant nesting areas and or fauna movement;
- Distribution of significant specialized food resources e.g. Koala trees; and
- Stage weed removal and or altering of weed control technique if the weeds are currently forming a significant fauna habitat.

For the sake of keeping this RMP concise, site analysis results are compiled under a separate template, and may or may not be included in this set, however the analysis outcomes derive the Rehabilitation design methodology.

METHODOLOGY – REHABILITATION DESIGN

This documentation has been compiled through processes outlined in the SEQERF, site analysis and previous rehabilitation project experiences. The primary aims of this CRMP is to provide assessment managers, clients and contractors a clear methodology to assist the recovery of an ecosystem that has been degraded, damaged or destroyed.

Upon site analysis, the following management zones are applicable to the rehabilitation site:

Management Zone 1 – Waterway corridor

Existing native trees, shrubs and groundcovers to be protected and retained where possible.

Weed management to entire zone to encourage natural regeneration by reducing competition. Appropriate (sensitive) weed management methodology within this zone to minimise native vegetation damage losses and impacts associated with soil destabilisation.

For disturbed in situ subsoils and reinstated subsoils, apply gypsum at a rate of 2 kg/m2 and mature compost at 0.5 kg/m2 and incorporate to 500 mm depth; and reinstate topsoil and hydro mulch or apply mulch to a depth of 100 mm, secure mulch in place with coir netting.

Planting of tubestock to occur in disturbed areas, including a mixture of grass, shrub and tree species. Tree species to be planted only where canopy gaps occur. Lower slopes and floodplain to be treated with species consistent with pre-clear Regional Ecosystem 12.3.3. Mid slopes to be treated with species consistent with pre-clear Regional Ecosystems 12.9-10.3 and 12.9-10.2 and 12.9-10.7.

Refer to **SHEET 7** for plant species and densities.



SaundersHavill Group Pty Ltd. ABN 24 144 972 945  
Brisbane • Emerald • Rockhampton  
Head Office 9 Thompson St Bowen Hills Q 4006  
phone 0800 123 5181 [www.saundershavill.com](http://www.saundershavill.com)  
■ surveying ■ town planning ■ urban design ■ environmental management ■ landscape architecture

RIPLEY PROJECTS  
PTY LTD

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PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER INFORMATION REGARDING SERVICES AND UTILITIES LOCATION FOR ALL SERVICES.

REFERENCES:

Reference (DATE)

AMENDMENTS:			
Issue	Date	Description	Checked
A	1/06/2018	Client Draft	AH

PROJECT:

352 - 396 RIPLEY ROAD,  
RIPLEY (35P237241)



PLAN OF:  
CONCEPT REHABILITATION  
NOTES

DATE:	1/06/2018	CHECKED:	AH
CLIENT REF:	8844	DRAWN:	MC
DRAWING No.:	8844 E 04 RMP Notes A		



352-396 RIPLEY ROAD, RIPLEY

CONCEPT REHABILITATION NOTES

METHODOLOGY – SITE WORKS

Following resolution of the site analysis and management areas as part of rehabilitation design, prioritising site works should be considered. Prior to site works commencing, the site should be secured from degrading impacts such as grazing by stock, unauthorised access and rubbish. Some factors that may require immediate attention include:

- The presence of highly invasive weed species which may disperse further prior to substantial site works commencing
- The presence of weed species which may have a long term impact on ecological communities such as exotic and weed varieties of vines
- Flammable materials (including weed thickets, grasses and vines)
- Damaging and easy access by 4WD, motorbikes and pedestrians into core retained vegetation and ecological restoration areas. This may require installation of temporary fencing if deemed appropriate

Site works can be typically broken down into the following categories:

- Primary Works
- Follow-up Works
- Maintenance Works

Primary Works

Primary works or initial works within the site or a section of the site will commonly involve a sequence of activities such as the control of all groundcover weeds, woody weeds in the understorey and exotic vines prior to the control of weed trees. Primary work has the effect of creating a large degree of disturbance which will stimulate the germination of native and exotic species. Therefore, continuing works should be scheduled shortly after the initial visit to allow for timely control of the newly regenerating weeds. Highly invasive weeds should be treated as a priority during primary work in order to avoid invasion of newly disturbed areas. Some weeds will need to be treated in steps e.g. where areas of weed is being used by nesting birds or where the staged removal of canopy weed trees is required. Techniques used during primary work commonly involve spot spray, cut-scrape paint, cut-paint, scrape-paint, roll-hang and over spraying (source: SEQERF). Refer to Weed Management notes for additional details.

Following completion of weed management, rehabilitation (such as assisted natural regeneration, construction and fabrication planting) can occur in areas unaffected by weed management activities or areas that primary weed management activities have concluded. Refer to Rehabilitation Works notes for additional details.

At the end of primary work, the zone will have been comprehensively and systematically worked, ready for follow-up works.

Follow-up Works

At intervals, which will vary according to the type of weed impacting the site and growing conditions, follow-up work will be necessary. This generally involves the spot-spraying of newly germinating weeds and resprouting sections of woody weeds and vines. It is at this stage that observational visits should be made to the site to determine what progress the vegetation is making, and decide when to implement further follow-up work. A site that receives badly-timed, too frequent or too little follow-up will rapidly experience setbacks, as weed propagules will quickly become established in the newly disturbed areas. Germinating native seedlings may be swamped by weeds or damaged by inexperienced operators thereby exhausting the seed bank. Unless adequate follow-up can be ensured when planning restoration works, there is little point in commencing primary work, as time and resources are consumed with no substantial gain achieved (source: SEQERF).

Maintenance Works

By the maintenance stage, the vegetation community is at a point where native plant species are germinating and establishing, and canopy formation is occurring. Weed density is starting to decrease as the native plants which have been encouraged during the previous restoration works are able to out-compete the weeds. One of the fundamental principles of ecological restoration is that it attempts to create or re-establish an ecosystem that is self-sustaining. Therefore, it is the underlying goal that maintenance will eventually be decreased to a minimum. While this is not always possible, due to factors such as the continual reintroduction of weed propagules to the site from nearby residential areas; unfavourable

seasons or weather event; persistent weed species; or global influences such as the enhanced greenhouse effect, it should always be strived for (source: SEQERF).

Maintenance works may include minor ongoing weed management and infill planting depending on site conditions.

METHODOLOGY – WEED NOTES

Weed management typically comprises a major part of rehabilitation site works. Weed management provides the basis of aiding natural regeneration and assisted natural regeneration. It also forms part of the preliminary work required for reconstruction and fabrication scopes. Weed Management to be undertaken in accordance with SEQERF Primary, Follow-up and Maintenance works notes (adjacent).

Critical skills for Weed Management include:

- Knowledge of relevant legislation
- Plant Identification skills
- Knowledge of different weed management techniques

Knowledge of Relevant Legislation

It is expected contractors have a depth of knowledge of relevant legislation to complete site rehabilitation works.

This may include occupational Health and Safety laws as well as environmental and heritage protection legislation. Bush regenerators must comply with the requirements of the Workplace Health and Safety Act 2011 or, when working on Commonwealth lands, the Commonwealth's Occupational Health and Safety (Commonwealth Employment) Act 1991. Contractors should also obtain all relevant permits required under State and Commonwealth legislation (e.g. Nature Conservation Act 1992, Fisheries Act 1994, Vegetation Management Act 1999, Biosecurity Act 2014). Contractors must also be aware of and adhere to cultural heritage protection obligations under the Aboriginal Cultural Heritage Act 2003 and where chemicals are in use, the Agricultural Chemicals Distribution Control Act 1966.

In addition to the above, contractors should also be familiar with local government body requirements (e.g. Pest Management Plans, Local Codes, Policies and Guidelines) and Classifications of weeds. Refer to adjacent schedules for classification of weeds under the Biosecurity Act 2014).

RESTRICTED MATTERS (BIOSECURITY ACT 2014)	
Category	Description
1	must be reported to an inspector within 24 hours if it is present in, or on, something in your possession or under your control or at a place where you are the occupier, unless an appropriately authorised officer has already been advised or you possess a permit for the restricted matter. Includes red imported fire ants, electric ants, Asian honey bees, and certain animal diseases, aquatic diseases and pathogens.
2	must be reported to an inspector within 24 hours if it is present in, or on, something in your possession or under your control or at a place where you are the occupier, unless an appropriately authorised officer has already been advised or you possess a permit for the restricted matter. Includes certain noxious fish, weeds and pest animals
3	You must not distribute this restricted matter. It must not be given as a gift, sold, traded or released into the environment unless the distribution or disposal is authorised in a regulation or under a permit. Deliberate human distribution or disposal contrary to the legislation is a key source of spread into other areas. Includes weeds, pest animals and noxious fish
4	You must not move this restricted matter to ensure that it does not spread into other areas of the state. Includes specific weeds, pest animals and noxious fish
5	You must not possess or keep this restricted matter under your control. These pests have a high risk of negatively impacting on the environment. You may only keep this restricted matter under a permit of the Biosecurity Act 2014 or another Act. Includes weeds, pest animals and noxious fish
6	You must not feed this category of restricted matter. Feeding this restricted matter may cause their numbers to increase and negatively impact the economy or the environment. Feeding for the purpose of preparing for or undertaking a control program is exempted. Includes invasive animals such as feral deer, foxes, rabbits and wild dogs and noxious fish such as carp, gambusia and tilapia.
7	If you have these noxious fish in your possession you must kill the restricted matter and dispose of the carcass by burying the whole carcass in the ground above the high tide water mark or placing it in a waste disposal receptacle. Includes noxious fish such as carp, weatherloach, climbing perch and gambusia

Plant Identification Skills

Both native and weed species should be identified prior to primary weed removal works and ongoing throughout the follow-up and maintenance periods. This is to maximise natural regeneration and reducing likelihood of accidental weed spraying to native vegetation. Regenerating species to be treated and maintained in a similar manner to newly planted revegetation tubestock. If contractor is unsure of species, advice should be sought by botanist, specialist contractor or confirmed with Queensland Herbarium. Refer to indicative Weed Treatment schedules derived from Queensland Herbarium for an indication of weed species and treatments.

Knowledge of Different Weed Management Techniques

A range of weed management techniques are available to combat varying weed species and scenarios. Refer to adjacent schedules and Appendix A for an indication of weed management techniques.

WEED MANAGEMENT TECHNIQUES	
METHOD	DESCRIPTION
Herbicide	The herbicide weed control techniques described below provide a range of proven methods that can be used on a restoration site.
Cut - Scrape - Paint	Cut the stem of the plant close to the ground (approximately 1-2cm) ensuring that soil does not come in contact with the cut surface. The cut can be made at a slight angle in order to increase the surface area that is exposed to the chemical. Apply herbicide immediately to the cut stump using poison pot and brush or dripper bottle. Using a knife, scrape the sides of the stump thoroughly to expose the green tissue. Apply herbicide to the scraped stump. The chemical must be applied within 10 seconds of the cut or scrape being made in order for it to be fully effective.
Cut - Paint	Cut the stem of the plant close to ground level. Apply herbicide to the cut stump using poison pot and brush or dripper bottle. This method is best suited to easy-to-treat weeds such as small-leaved privet (Ligustrum sinense), provided that the diameter of the stem at ground level is less than approximately three centimetres. If a glyphosate+ metsulfuron methyl herbicide mix is being used in the poison pot, a greater range of weeds can be controlled using this method e.g. Easter cassia.
Scrape - Paint	Scrape as much of the stem as possible (one side of the stem) using a knife and apply herbicide to the scrape. Leave a small section of the vine unscraped, and then twist the vine so that the next scrape is made on the opposite side of the stem to the preceding scrape. Continue along the length of the vine, scraping and painting as much of the stem as possible, with scraping to be concentrated along the thicker stems close to the root of the plant. This is the best method to use for madeira vine, as it allows the chemical to translocate to the underground storage organs and aerial tubers which may be hanging in large clusters above head height. This avoids the potential problem of tubers from cut stems left hanging in the trees from dropping to the ground and sprouting. When scraping madeira vine stems a deep scrape is advisable – scrape right through to the fibrous, stringy section of the stem, taking care not to sever the vine. This method is also suitable for treatment of ochra.
Over-spraying	Over-spraying involves the use of knapsacks or power sprayers to treat large expanses of weed such as lantana thickets. The foliage must be covered with herbicide but not to the point of running off the plant. The dead plants remain in place and can be cut down at a later stage. Prior to over-spraying, any weeds that are growing closely around established native plants must be hand removed or treated by cut-scrape-paint.
oll-hang	Vines such as mile-a-minute (Ipomoea cairica) which produce long stolons extending many metres along the surface of the ground, are suited to the roll-hang method. Locate the base of the plant and carefully pull up the runners and roll them up. The resulting roll of vine is then hung in the fork of a tree to dry out as if it is left on the ground it is likely to re-shoot. Where runners are climbing up into a tree they are cut off at head height prior to the runner being rolled up – there is no need to pull cut vines down from trees as this action is likely to damage the tree. The base of the vine is treated using the cutscrape-paint method.
Gouge-paint	This method applies to plant species that have a fleshy underground storage organ, such as the large tuber that is often found at the base of madeira vine. It is also particularly appropriate for the treatment of climbing asparagus (Protasparagus plumosus). If using this technique on climbing asparagus, first cut the stems that are growing into the canopy at head height and also at the base. The fleshy rhizome can then be gouged, or alternatively in the case of climbing asparagus, it may be struck several times firmly with the head of a pair of loggers, allowing the brown outer covering of the crown to peel away exposing the white fleshy inner section of the rhizome for application of herbicide. Gouge out sections of the fleshy base with a knife and apply herbicide using a paint pot and brush or dripper bottle within 10 seconds.

Further details will be required with future RAL applications

WEED MANAGEMENT TECHNIQUES	
METHOD	DESCRIPTION
Wick Wiping	Wick wipers can be manually used with a sponge or wick applicator, attached to a container filled with herbicide or as an attachment towed by a tractor. The manual method can be used to selectively apply herbicide to the leaves of weeds growing in sensitive situations. The hand held container can leak and generally spot spraying would be recommended. The use of a tractor drawn wick wiper is used to control taller growing species such as introduced grasses and to encourage the growth of lower growing species. This method could be used in preparation for planting.
Splatter Gun	This small gas-powered injector kit is fitted into a knapsack for easy carrying and delivers large droplets in a stream over the weed. The gun is used to deliver a concentrated herbicide (glyphosate or metsulfuron methyl) across large dense expanses of weed. The method is used for species such as lantana (ratio of 1:5 of glyphosate:water). Splatter gun involves spraying strips at one to two metre intervals over the thicket. The herbicide is then translocated throughout the entire plant. The method does not require the whole plant to be covered as in over-spray.
Spot-spraying	A knapsack filled with an appropriate herbicide mix is used by the operator to selectively control environmental weeds. A keen eye and an ability to distinguish between the native and weed species likely to be present, especially at seedling stage, is essential. Marker dye is added to the chemical mix to allow the operator to see what has already been sprayed, thus covering the ground weeds comprehensively and thoroughly. Glyphosate and metsulfuron methyl are the main herbicides used for spot-spraying in ecological restoration, together with the addition of a penetrant and/or surfactant and marker dye.
Basal Barking	This method involves mixing an oil-soluble herbicide in diesel/kerosene and painting or spraying the full circumference of the trunk or stem of the plant from ground level to a height of approximately 45cm. Basal bark application is suitable for thin-barked woody weeds including saplings, regrowth and multi-stemmed shrubs. The method will usually result in the mortality of difficult-to-control woody weeds at any time of the year, provided the bark is not wet or too thick to enable the herbicide to penetrate. The method should not be used in wet weather, adjacent to waterways or in areas where native trees and shrubs are located. The use should be restricted to situations where a weed is particularly difficult to control e.g. cherry quava and where other methods have been unsuccessful.
Wick Wiping	Wick wipers can be manually used with a sponge or wick applicator, attached to a container filled with herbicide or as an attachment towed by a tractor. The manual method can be used to selectively apply herbicide to the leaves of weeds growing in sensitive situations. The hand held container can leak and generally spot spraying would be recommended. The use of a tractor drawn wick wiper is used to control taller growing species such as introduced grasses and to encourage the growth of lower growing species. This method could be used in preparation for planting.
Stem Injection	Large woody weeds such as camphor laurel, coral trees (Erythrina spp, Privet Ligustrum spp) and umbrella trees are generally treated by stem-injection. Holes are drilled at regular intervals around the base of the tree and exposed roots using a drill. A tree injection syringe attached to a small capacity knapsack is used to fill the holes with the herbicide. Stem-injection of trees can also be undertaken using a hatchet to create cuts in a 'brickwork pattern' in trunks of trees for the application of herbicide (known as tree frilling). Frilling is more labour intensive than drilling. The greatest benefit of stem-injection is that the trees can be left standing in situ as they die, provided there is no risk to humans or infrastructure from falling limbs. This creates convenient roots for birds and other animals, and prevents the formation of large amounts of debris on the ground and damage to understorey plants which would result if the trees were to be cut down using a chainsaw.
Mechanical	Mechanical weed control involves the use of powered and non-powered equipment such as brushcutters, chainsaws, slashers, shovels, pruners, saws, etc. These methods are best used in situations where there is a large, uninterrupted stand of weeds.
Dig and Bag	Dig and remove tuberous/ rhizomatous root systems. Remove roots or whole plant in hard/ compacted soils. Place in suitable container and remove from site, dispose of by deep burial, burn or burial at a land fill, must not place declared weed species in recycling (mulch).
Hand-Pull	Remove totally from ground by hand (human). Perform when soil is moist. Applicable to small infestations or areas of environmental sensitivity (including sensitive watercourses, when frogs are breeding, or presence of threatened species).
General Mechanical	May involve use of machinery (e.g. brushcutter, chainsaw, slasher, dozer, excavator). Suitable for large infestations and weed trees. Initially cost-effective, but requires immediate revegetation of site or matting/ mulch application and extensive maintenance periods. Generates excessive soil and vegetation disturbance.

Note: Table adapted from a table in SEQERF

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CONCEPT REHABILITATION NOTES - PLANTING

METHODOLOGY – PLANTING NOTES

Primary weed management works, areas requiring infill planting (assisted natural regeneration), and larger scale planting (reconstruction and fabrication) can be undertaken. Prior to installation, the following items should be considered:

- Species selection
- Sourcing plant material
- Timing of planting
- Site preparation
- Planting density
- Planting installation

Species Selection

- Species selection is critical in achieving the desired ecological restoration outcomes for rehabilitation sites. Planting is typically derived from:
- Local Regional Ecosystem (RE) descriptions.
  - Observed site native vegetation.
  - Bioretention guideline requirements.
  - Climatic and weather conditions observed on site (frost, salt-spray, etc).
  - 'Pioneer' species are useful in site stabilisation and encouraging native regeneration.
  - Utilising flowering and fruiting species are useful to attract wildlife and result in introduction of seeds.
  - Diverse vegetation layers (trees, shrubs, groundcovers)
  - Species availability from seed propagation and or local nurseries

Refer to plant schedule for species and planting densities.

Sourcing Plant Material

There are a number of options for sourcing plant material for revegetation purposes. Propagation from site seed is a good outcome however is often limited by required timing of works. Sourcing planting from local nurseries is the commonly chosen option and has the following benefits:

- Awareness of genetic considerations when collecting seed.
- Experience with breaking dormancy mechanisms in hard to germinate seeds.
- Highly successful propagation techniques.
- Ability to provide high quality stock to order
- Draw on industry resources.

Timing of Planting

The timing of planting should ideally be aligned with the wet season in SEQ (summer and autumn). This minimises the need for intensive watering to establishment planting. Planting between February to May is the most beneficial as it also seeks to avoid intense heat periods of summer. Despite this, it is understood planting may occur at various times within rehabilitation areas due to development timing needs.

Site Preparation

Site or planting preparation includes:

- Fencing to exclude grazing animals and people (if required)
- Pre-spraying of exotic grasses and other weeds to planting areas
- Consideration of source of water for new planting (access tracks, temporary irrigation)
- Arranging delivery of mulch, jute netting and treeguards (if required)
- Treatment of heavily compacted soils by ripping and or application of gypsum
- Soil amelioration as required

Planting Density

Plant density is calculated on a zone by zone basis. This allows planting to cater for various requirements including standard revegetation, infill only requirements such as canopy trees at low densities, as well as dense bioretention plantings as per Bioretention Technical Guidelines. Refer to plant schedule for species and planting densities.

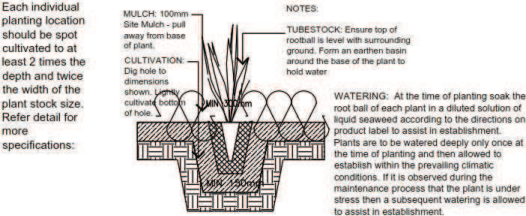
Planting Installation

The following outlines the preferred installation methodology for revegetation works within the rehabilitation areas. It has been designed to maximise plant establishment success rates and minimize plant mortality. Revegetation works shall be either undertaken or directly supervised by an experienced and qualified contractor. All works shall be in accordance with the provisions of this CRMP, and local government policies and Australian Standards.

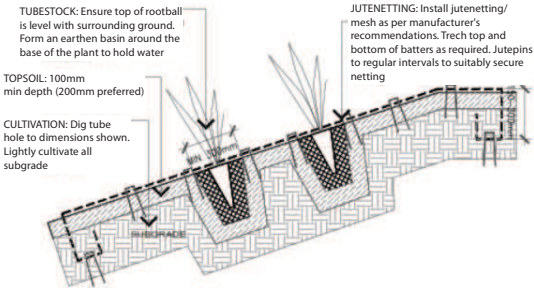
Plant installation methods shall include:

- Plants are to be vigorous, well established, hardened off, consistent with species or variety, free from disease and insect pests, with large root systems and no evidence of having been restricted or damaged. The landscape coordinator has the right to inspect and reject stock prior to planting
- Plants are to be planted immediately after delivery to the planting site.
- Planting is to be undertaken in accordance with the planting module contained within this drawing sheet.
- Excavate planting medium to a depth suitable for the installation of tube or pot specimens. In areas where planting substrate is deemed to be very poor (compacted, nutrient deficient, hydrophobic etc.) and above areas of potential frequent inundation and waterflow, topsoil may be used.
- Pre-water plant hole, if soil is dry, to decrease root stress upon planting and assess the infiltration of water through the soil.
- Incorporate into the planting substrate the appropriate quantity of prepared water crystals or other
- Suitable hydrating product such as Hortex 'Rainsaver' or 'Moisturaid'.
- Place plant into hole and backfill ensuring that the plant is upright and the stem is not covered in any less than 10mm or anymore than 20mm of planting medium.
- Plants are to be watered thoroughly immediately after planting (ensure deep irrigation) and thereafter as required during the construction phase of the development depending on climatic conditions. Creation of a concave hollow around the base of each plant will aid water infiltration to the plant roots.
- A complete, slow release fertiliser is recommended, and is to be administered appropriately during
- planting. Topdressing with slow release fertiliser is preferred to avoid toxic levels of fertiliser
- accumulating in the plant hole around the plant roots.
- To ensure successful establishment, all planting surfaces must be covered in:
  - a 100mm layer of high quality weed-free composted chip mulch (site mulch)- Note: to avoid possiblestem rot in some 'drier' species ensure mulch is 'dished' and not covering plant stem by more than 20mm. Where available, mulch material to be sourced from cleared vegetation material if adequately seasoned, or
  - Suitable individual anchored natural fibre weed mat (jute netting); or
- A long term slow release fertiliser, such as Nutricote or similar product should be used for all plantings after initial plant establishment.
- A minimum 90% survival rate should be achieved.

Typical planting details as below for standard medium mulch installation and jutenetting. Refer to manufacturer's recommendations for detailed jute netting installation including pinning, etc.

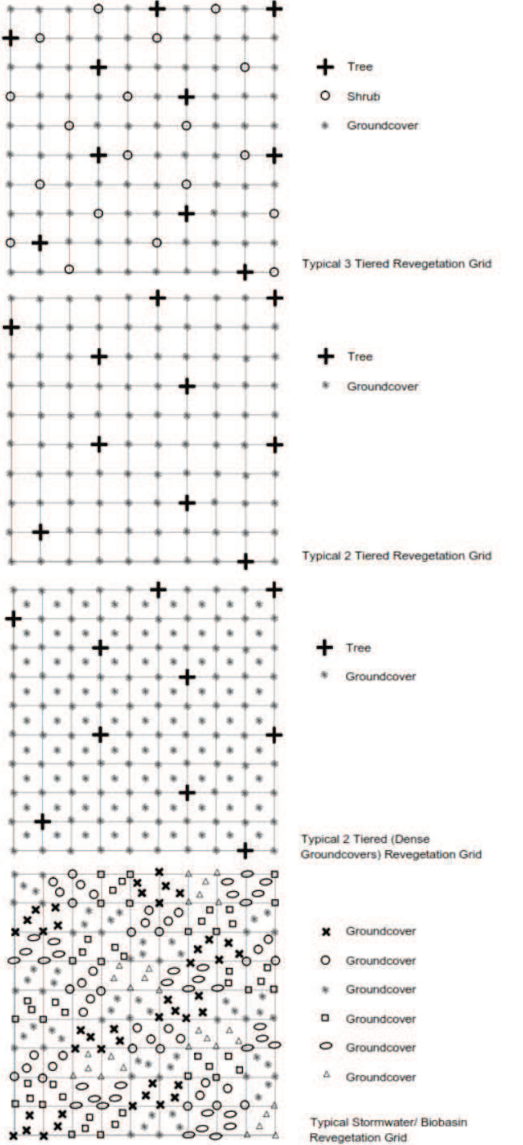


Where evidence of plant damage is occurring, tree guards grow tubes to be installed as required.



Jute netting mesh to be installed as per manufacturer's recommendations. Indicative detail shown only.

Revegetation planting locations shall be generally set out in accordance with a typical random grid pattern as shown below. Various typical densities shown. Refer to plant schedule for species and planting densities.





**saunders havill group**

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RIPLEY PROJECTS

PTY LTD

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CONFIRM ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION AND DO NOT SCALE FROM THE DRAWINGS. ALL CONSIDERATIONS ARE WELLINGTON. ANY DISCREPANCIES SHOULD BE CLARIFIED IN WRITING WITH SAUNDERS HAVILL GROUP PRIOR TO THE COMMENCEMENT OF WORK.

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER INFORMATION REGARDING SERVICES AND UTILITIES LOCATIONS OF ALL SERVICES.

REFERENCES:

Reference (DATE)


AMENDMENTS:

Issue	Date	Description	Checked
A	1/06/2018	Client Draft	AH

PROJECT:

352 - 396 RIPLEY ROAD,  
RIPLEY (3SP237241)

environmental management

PLAN OF:

REHABILITATION PLAN  
NOTES

DATE: 1/06/2018	CHECKED: AH
CLIENT REF: 8844	DRAWN: MC
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352-396 RIPLEY ROAD, RIPLEY

PLANTING SPECIES SCHEDULES

RECOMMENDED SPECIES LIST FOR MANAGEMENT ZONE 1 – LOWER SLOPES AND FLOODPLAIN				
TOTAL APPROXIMATE AREA = AREA 85,000 m2 (Overall minimum density approximately 1 plants per 1 m2)				
<b>Notes:</b> 1) Existing canopy species on lower slopes are consistent with RE12.3.3 2) Setback trees 3 metres minimum from all property boundaries, sewer and service alignments 3) Distribute plants in groups on site in random arrangement - to be confirmed with super intendant on site 4) All species selected from Technical Descriptions of Regional Ecosystems of Southeast Queensland (Ryan, TS 2018, and / or occur on site.				
SCIENTIFIC NAME	COMMON NAME	PLANT FORM	POT SIZE	OVERALL PLANTING DENSITY @ 1 PER m <sup>2</sup>
<b>TREES</b>				<b>1 PER 10 m<sup>2</sup></b>
<i>Eucalyptus tereticornis</i>	Forest Red Gum	T1/T2	Tubestock	
<i>Angophora subvelutina</i>	Broad-leaved Apple	T1/T2	Tubestock	
<i>Lophostemon suaveolens</i>	Swamp Box	T1/T2	Tubestock	
<i>Angophora leiocarpa</i>	Smooth Bark Apple	T1/T2	Tubestock	
<i>Corymbia intermedia</i>	Pink Bloodwood	T1/T2	Tubestock	
<i>Eucalyptus moluccana</i>	Gum-topped Box	T1/T2	Tubestock	
<i>Corymbia tessellaris</i>	Moreton Bay Ash	T1/T2	Tubestock	
<i>Banksia integrifolia</i>	Coastal Banksia	T2	Tubestock	
<i>Melaleuca quinquenervia*</i>	Broad-leaved Paperbark	T2	Tubestock	
<b>SHRUBS</b>				<b>1 PER 5 m<sup>2</sup></b>
<i>Acacia</i> spp. ( <i>A. disarrima</i> , <i>A. Concurrans</i> , <i>A. fimbriata</i> )	Wattle	Shrub/ Sml tree	Tubestock	
<i>Alphitonia excelsa</i>	Soap Tree	Shrub/ Sml tree	Tubestock	
<i>Exocarpus cupressiformis</i> / <i>Jacksonia scoparia</i> / <i>Choretrum candollea</i>	Dogwood	Shrub	Tubestock	
<i>Breynia oblongifolia</i>	Coffee Bush	Shrub	Tubestock	
<i>Leucopogon trichostylus</i>		Shrub	Tubestock	
<i>Trema tomentosa</i>	Poison Peach	Shrub	Tubestock	
<i>Glochidion</i> spp.	Cheese Tree	Shrub/ Sml tree	Tubestock	
<i>Hardenbergia violacea</i>	Native Sarsaparilla	Vine		
<b>GROUND COVERS</b>				<b>1 PER 1 m<sup>2</sup></b>
<i>Imperata cylindrica</i>	Blady Grass	Grass	Tubestock	
<i>Heteropogon contortus</i>	Black Speargrass	Grass	Tubestock	
<i>Themeda triandra</i>	Kangaroo Grass	Grass	Tubestock	
<i>Cymbopogon refractus</i>	Barbed-wire Grass	Grass	Tubestock	
<i>Cyperus</i> spp. *	Sedge	Sedge	Tubestock	
<i>Eremophila debilis</i>	Winter Apple	Mat	Tubestock	
<i>Eustrephus latifolius</i>	Wombat Berry	Ground cover	Tubestock	
<i>Lomandra longifolia</i> , <i>L. filiformis</i> , <i>L. multiflora</i> , <i>L.confertifolia</i> <i>L.hystrix</i> *)	Rush	Forb	Tubestock	
<i>Dianella longifolia</i> / <i>D. revoluta</i>	Blueberry Lily	Forb	Tubestock	
<i>Juncus continuus</i> , <i>J. usitatus</i> *)	Juncus	Sedge	Tubestock	
<i>Ottochloa gracillima</i>	Pademelon Grass	Grass	Tubestock	
<i>Philydrum lanuginosum</i> *)	Woolly Frogmouth	Forb	Tubestock	

\* Species is adapted to moist environments

Further details will be required with future RAL applications

RECOMMENDED SPECIES LIST FOR MANAGEMENT ZONE 1 – MID SLOPES				
TOTAL APPROXIMATE AREA = AREA 85,000 m <sup>2</sup> (Overall minimum density approximately 1 plants per 1 m <sup>2</sup> )				
<b>Notes:</b> 1) Existing canopy species on mid slopes are consistent with RE12.9-10.3, 12.9-10.2 and 12.9-10.7 2) Setback trees 3 metres minimum from all property boundaries, sewer and service alignments 3) Distribute plants in groups on site in random arrangement - to be confirmed with super intendant on site 4) All species selected from Technical Descriptions of Regional Ecosystems of Southeast Queensland (Ryan, TS 2018, and / or occur on site.				
SCIENTIFIC NAME	COMMON NAME	PLANT FORM	POT SIZE	OVERALL PLANTING DENSITY @ 1 PER m <sup>2</sup>
<b>TREES</b>				<b>1 PER 10 m<sup>2</sup></b>
<i>Eucalyptus crebra</i> / <i>E. siderophloia</i>	Ironbark	T1/T2	Tubestock	
<i>Angophora leiocarpa</i>	Smooth Bark Apple	T1/T2	Tubestock	
<i>Eucalyptus tereticornis</i>	Forest Red Gum	T1/T2	Tubestock	
<i>Eucalyptus moluccana</i>	Gum-topped Box	T1/T2	Tubestock	
<i>Corymbia citriodora</i>	Spotted Gum	T1/T2	Tubestock	
<i>Corymbia tessellaris</i>	Moreton Bay Ash	T1/T2	Tubestock	
<i>Corymbia intermedia</i>	Pink Bloodwood	T1/T2	Tubestock	
<i>Allocasuarina littoralis</i>	Black She-oak	T2	Tubestock	
<i>Lophostemon confertus</i>	Brush Box	T1/T2	Tubestock	
<i>Melia azedarach</i>	White Cedar	T1/T2	Tubestock	
<b>SHRUBS</b>				<b>1 PER 5 m<sup>2</sup></b>
<i>Acacia</i> spp. ( <i>A. disarrima</i> , <i>A. Concurrans</i> , <i>A. fimbriata</i> )	Wattle	Shrub/ Sml tree	Tubestock	
<i>Alphitonia excelsa</i>	Soap Tree	Shrub/ Sml tree	Tubestock	
<i>Breynia oblongifolia</i>	Coffee Bush	Shrub	Tubestock	
<i>Dodonaea viscosa</i>	Hop Bush	Shrub	Tubestock	
<i>Exocarpus cupressiformis</i> / <i>Jacksonia scoparia</i> / <i>Choretrum candollea</i>		Shrub	Tubestock	
<i>Trema tomentosa</i>	Poison Peach	Shrub	Tubestock	
<i>Hardenbergia violacea</i>	Native Sarsaparilla	Vine	Tubestock	
<i>Petalostigma pubescens</i>	Quinine Bush	Shrub	Tubestock	
<i>Pittosporum angustifolium</i>	Weeping Pittosporum	Shrub	Tubestock	
<i>Leucopogon juniperinus</i> / <i>Astrotricha latifolia</i>	Prickly Heath	Sml Shrub	Tubestock	
<i>Ozothamnus diosmifolius</i> / <i>Canninia laevis</i>	Sago flower / Cough Bush	Shrub	Tubestock	
<i>Daviesia ulicilolia</i>	Native Gorse	Shrub	Tubestock	
<i>Hovea acutifolia</i>	Purple Pea Bush	Shrub	Tubestock	
<b>GROUND COVERS</b>				<b>1 PER 1 m<sup>2</sup></b>
<i>Imperata cylindrica</i>	Blady Grass	Grass	Tubestock	
<i>Heteropogon contortus</i>	Black Speargrass	Grass	Tubestock	
<i>Themeda triandra</i>	Kangaroo Grass	Grass	Tubestock	
<i>Cymbopogon refractus</i>	Barbed-wire Grass	Grass	Tubestock	
<i>Entolasia stricta</i>	Wiry Panic	Grass	Tubestock	
<i>Aristida</i> spp. / <i>Eragrostis</i> spp. / <i>Panicum</i> spp.		Grass	Tubestock	
<i>Chryscephalum apiculatum</i>	Yellow Buttons	Herb	Tubestock	
<i>Eustrephus latifolius</i>	Wombat Berry	Ground cover	Tubestock	
<i>Gahnia aspera</i>	Saw Sedge	Forb	Tubestock	
<i>Dianella Caerulea</i> , <i>D. longifolia</i>	Blueberry Lily	Forb	Tubestock	
<i>Lomandra longifolia</i> , <i>L. filiformis</i> , <i>L. multiflora</i> , <i>L.confertifolia</i> )	Rush	Forb	Tubestock	

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CONCEPT REHABILITATION NOTES

METHODOLOGY – FAUNA NOTES

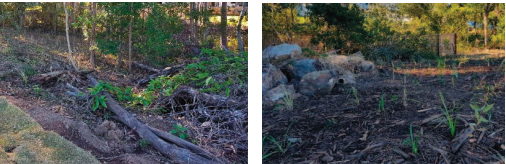
Consideration for fauna habitat and values should be given during rehabilitation site works and should seek to enhance and restore the existing native vegetation areas and promote safe fauna movement throughout the site and into the larger greenspace corridors where possible. It is assumed properties adjacent to the rehabilitation scope of works will undertake individual site analysis, fauna investigations, and implement future measures as required.

As part of these rehabilitation works, basic fauna works will be undertaken. These treatments will primarily involve:

- Fauna Habitat Value and Protection
- Increased fauna habitat value within the rehabilitation areas.
- Fauna Habitat Value and Protection

Fauna habitat value and protection

Rehabilitation Areas to include reuse of site fallen hollow logs and site rock to create fauna safe havens and cover from predators for small fauna. This approach coupled with additional revegetation works allows greater fauna security and movement within the rehabilitation areas. Consideration for bushfire requirements should be reviewed to confirm no conflict in both the fauna and rehabilitation approaches. Refer indicative images below.



METHODOLOGY – MAINTENANCE & MONITORING

Maintenance, as with all ecological restoration work, is fundamental in ensuring project success. Maintenance of the planting includes tasks such as:

- Herbicide spraying to control competing weeds.
- Watering while plants are establishing. This is often highly variable and depends on the suite of species planted, weather conditions and time of year when planted. A watering schedule may consist of watering every day for week 1, twice per week for weeks 2-6 and then weekly from weeks 6-12.
- Repair of tree guards if they become damaged.
- Replenishment of mulch.
- Maintaining exclusion fencing; and
- Additional planting if required.

Additional planting may be required to replace plants that do not survive (e.g. to meet survival rate requirements, or to fill gaps), but it may also be necessary to introduce new species at different stages of vegetation succession. An adaptive management approach should be utilised, if one plant species consistently dies on a site, consider using in its place a species that is performing well.

Maintenance is required following installation of the plants, although if maintenance is regular and thorough during the first year, maintenance requirements are likely to taper off significantly in the following years.

The utilisation of benchmark criteria helps to determine rehabilitation success during the maintenance period and assists in prompting when additional maintenance activities are required. Typically accepted benchmarks or performance indicators for dedicated or open space rehabilitation works include:

- Compliance 'On Maintenance' requirements:
  - All required planting completed.
  - 90% plant survival.
  - 100% kill rate of declared environmental weeds.
- Ongoing 'Off Maintenance' requirements:
  - 80% plant survival.
  - Tree guards, stakes and general rubbish removed.
  - No remaining eroded or degraded areas.
  - 100% kill rate of declared environmental weeds.

The desired end-product is a fully-functioning system that can support itself in perpetuity, with minimal maintenance and input required.

Further details will be required with future RAL applications

It is also critical for all parties to understand their responsibilities as part of the overall rehabilitation 'team'.

REHABILITATION TEAM RESPONSIBILITIES	
PARTY	DESCRIPTION
Proponent	Ensure all consultants, contractors, sub contractors or others utilizing the area are aware of the Rehabilitation Plan.
	Appoint appropriate consultants and contractors to undertake works as prescribed on the drawings and conditioned by the Assessment Manager.
Consultants	Provide security via an uncompleted works bond and maintenance bond for the cost of works if required.
	Cover the costs of all necessary resources to ensure works are completed as per the approved documents.
Assessment Manager	Brief proponent on their requirements in implementing and maintaining works as per the Rehabilitation Plan.
	Attend pre-start and compliance (on and off maintenance) inspections.
Contractor	Undertake monitoring and reporting to the Assessment Manager as set up by this document.
	Be available to respond to technical queries to the approved documentation when on-site conditions require changes.
Assessment Manager	Liaise with the Assessment Manager throughout all stages of approval, initial works and maintenance of works.
	Provide technical expertise via commentary on the approval of documentation.
Contractor	Attend pre-start and compliance (on and off maintenance) inspections.
	Reduce and release securities held against works at the completion of successful milestone inspections.
Assessment Manager	Be available to respond to technical queries to the approved documentation when on-site conditions require changes.
	Accept and review maintenance reports as dictated (if required) in this document.
Contractor	Complete works in strict accordance with the documentation.
	Attend pre-start and compliance (on and off maintenance) inspections.
Assessment Manager	Hold relevant licenses in applicable weed management/ revegetation/ fauna management, any required insurances for scope of works and an understanding of required Laws, Act, Policies and Guidelines.
	Recommend changes to the documentation when specific experience or on-site conditions require so.

Informal Monitoring of rehabilitation works is another method of determining ecological restoration success in conjunction with the adjacent benchmarks. Informal monitoring may occur through ongoing site inspections and note taking. Notes to be distributed to the rehabilitation team and rectification works completed against notes.

Additionally, informal monitoring may require photo-monitoring locations if deemed necessary during the approval process by the assessment manager. A permanent or semi-permanent photo point can be set up using a star picket marked with fluorescent yellow safety cap or painted timber stakes, so that a photograph may be taken of the site at regular (quarterly) intervals as it is being restored. A time series of photographs from a degraded state prior to the commencement of restoration, through the transition stages and into the maintenance stage will assist in assessing the success of the ecological restoration process. Collected site data and photos should be compiled in a 'master' monitoring report for proper record keeping.

Monitoring of the weed management and revegetation works allows for:

- Review of the pre-established performance indicators for measuring the success of the weed removal and control.
- Ensure level of protection for existing identified native vegetation inclusive of that which has naturally regenerated
- Review the rate of spread or contraction of weed infestation within the control program.
- Monitor the rate of assisted regeneration and revegetation of desirable native species promoted in areas where weeds have been removed.
- Identification of new weed threats or other factors that may be effecting areas designated for rehabilitation.

Monitoring timeframes may involve a series of key milestones:

- Prestart Inspection - On site meeting prior to the initial commencement of work. Typically involves Consultant, Contractor and Assessment Manager to work through rehabilitation areas and clarify any adjustments to scope against approved works.
- Compliance Inspections - At the completion of the Primary Site Works, a compliance inspection meeting will be held with the Consultant, Contractor and Assessment Manager to inspect the works on-site in relation to the approved plans and previously agreed benchmarks performance indicators. Should the rehabilitation be a dedicated asset (open space) to the assessment manager, this inspection is commonly referred to as 'on maintenance'. For dedicated assets, a secondary compliance inspection will be required (off maintenance).
- Ongoing Monitoring Inspections- Informal monitoring to occur on a regular basis as highlighted above. These inspections will generally occur throughout the process, specifically before, during and after relevant compliance inspections.

REHABILITATION WORKS - INDICATIVE SCHEDULE OF WORK ITEMS AND MAINTENANCE SEQUENCING (NOTE MAINTENANCE PERIOD TO BE CONFIRMED BY ASSESSMENT MANAGER)																													
TIMING	SPRING			MILESTONE COMPLIANCE / "ON MAINTENANCE"	SUMMER			AUTUMN			WINTER			SPRING			SUMMER			AUTUMN			WINTER			SPRING			MILESTONE COMPLIANCE / "OFF MAINTENANCE"
	PRIMARY WORKS				FOLLOW-UP WORKS			FOLLOW-UP / MAINTENANCE WORKS			MAINTENANCE WORKS			MAINTENANCE WORKS			MAINTENANCE WORKS			MAINTENANCE WORKS			MAINTENANCE WORKS			MAINTENANCE WORKS			
	Month 1	Month 2	Month 3		Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	
WEEK 1	Pre-start meeting Council, Contractor and Superintendent	Weed management - "knockdown spray"	Mulch spreading and Jute-mat installation	Watering and Monitoring and reporting (throughout establishment)	Watering and Monitoring and reporting (throughout establishment)	Watering and Monitoring and reporting (throughout establishment)	Monitoring and reporting (watering to replace ment plants only)	Monitoring and reporting (watering to replace ment plants only)	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Mulch - top up depths to 100mm and repair / re-attempting as required.	Informal monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.	Monitoring and reporting (watering to replace ment plants only). Photomonitoring as required.			
WEEK 2	Initial weed management works - wood weed removal /"knockdown" spray	Soil Preparation and cultivation	Natural regeneration plants staking for identification	Weed management - "knockdown spray" in mulched areas	Weed management - "knockdown spray" re-apply woody weeds	Weed management - "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas	Weed management - rotation "knockdown spray" in mulched areas			
WEEK 3	Weed management works - removal by hand	Soil Preparation and modification	Planting and Watering	Natural regeneration plants - weed management	Replacement of Failed Plants	Replacement of Failed Plants	Natural regeneration plants - weed management	Natural regeneration plants - weed management	Natural regeneration plants - weed management	Replacement of Failed Plants	Natural regeneration plants - weed management	Trees formative pruning	Replacement of Failed Plants	Natural regeneration plants - weed management	Trees formative pruning	Natural regeneration plants - weed management	Trees formative pruning	Natural regeneration plants - weed management	Trees formative pruning	Natural regeneration plants - weed management	Trees formative pruning	Natural regeneration plants - weed management	Trees formative pruning	Natural regeneration plants - weed management	Trees formative pruning	Natural regeneration plants - weed management			
WEEK 4	Weed Management - slashing of maintenance access paths	Mulch - stockpiled on site	Planting and Watering	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths	Weed Management - slashing of maintenance access paths			



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CONCEPT REHABILITATION - WEED TREATMENT & REMOVAL (1)

Further details will be required with future RAL applications

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND									
Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control	
1	Verbenaceae	Lantana camara var. camara (lantana)	10	455	5	S/O	Seedlings: Hand pull		
2	Asteraceae	Baccharis halimifolia (groundsel bush)	10	168	5	S/O	Seedlings: Hand pull		
3	Crassulaceae	Bryophyllum delagoense (mother of millions)	8	38	5	H/O	Hand pull and dispose		
4	Bignoniaceae	Macfadyena unguiculata (cat's claw creeper)	5	36	5	V/O	Tubers: crown or dig up, bag and remove.		
	Basellaceae	Anredera cordifolia (madeira vine)	8	16	5	V/O	Small Vines & Tubers: Hand pull. Bag and dispose.		
6	Asparagaceae	Asparagus africanus (ornamental asparagus, asparagus fern)	7	26	5	V/O	dig out roots and dispose of at local council landfill site, remove entire crown and underground stem to prevent regrowth		
7	Ulmaceae	Celtis sinensis (Chinese celtis)	8	19	5	T/O	remove when small, hand pull or dig out small seedlings, combine dozing, burning and controlled grazing for large infestations		
8	Lauraceae	Cinnamomum camphora (camphor laurel)	7	25	5	T/O	Seedlings: Hand pull		
9	Anacardiaceae	Schinus terebintholius (broad-leaf pepper tree)	6	49	5	T/O	Seedlings: Hand pull		
	Salviniaceae	Salvinia molesta (salvinia)	8	57	5	Ha/F	Mechanical removal of small infestations; Salvinia weevil (biological control)		
11	Cabombaceae	Cabomba caroliniana (cabomba, fanwort)	4	12	5	Ha/F	Mechanical removal of small infestations		
12	Asteraceae	Chrysanthemoides monnifera subsp. rotundata (bitou rush)	3	23	5	S/OA	N/A		
13	Pontederiaceae	Eichhornia crassipes (water hyacinth)	4	8	5	Ha/OF	Mechanical removal of small infestations		
14	Acanthaceae	Hydrophila costata (Glush weed)	3	7	5	Ha/F	Hand pull small infestations. Can be controlled by planting competitive native species.		
	Oleaceae	Ligustrum lucidum (tree privet)	5	9	5	T/O	Seedlings: Hand pull		
16	Asteraceae	Sphagnetocola trilobata (Singapore daisy)	6	34	5	H/O	Hand pull		
17	Asteraceae	Ageratina adenophora (croton weed)	6	38	5	H/O	Hand pull and hang to dry.		
18	Verbenaceae	Lantana montevidensis (creeping lantana)	8	62	5	S/O	Fire and/or mechanical control		
19	Fabaceae	Neonotonia wightii (glycine)	5	16	5	H/A	N/A		
	Poaceae	Panicum maximum (green panic and guinea grass)	8	78	5	H/A	Hand or mechanical removal of small infestations		
21	Oleaceae	Ligustrum sinense (Chinese privet)	4	11	5	T/O	Seedlings: Hand pull		
22	Ochnaceae	Ochna serrulata (ochna)	7	33	5	S/O	N/A		
23	Asparagaceae	Asparagus aethiopicus cv. Sprengeri (asparagus ground fern)	5	35	5	H/O	dig out unwanted plants and dispose of at the appropriate council landfill, remove the entire crown of underground stem of plant to prevent regrowth		
24	Poaceae	Sporobolus pyramidalis and S. natalensis (giant rat's tail grasses)	8	72	5	H/U?	Hand or mechanical removal of small infestations		

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Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control	
25	Asteraceae	Ageratina riparia (mistflower)	5	38	5	H/O	Hand pull and hang to dry.		
26	Asclepiadaceae	Arauja sericifera (mothvine)	9	38	4	V/O	Seedlings & Vines: Hand pull. Bag and remove fruit.		
27	Crassulaceae	Bryophyllum daigremontianum x B. delagoense (hybrid mother-of-millions)	6	15	5	H/O	Hand pull and dispose		
28	Convolvulaceae	Ipomoea carica (mile-a-minute)	7	56	4	V/O	Vines & Runners: hand pull, roll up and hand up to dry.		
29	Sapindaceae	Cardiospermum grandiflorum (balloon vine)	7	31	4	V/O	Seedlings & Small Vines: Hand Pull		
30	Asclepiadaceae	Cryptostegia grandiflora (rubber vine)	6	19	4	V/O	Scatteredred or medium-density infestations: Where possible, repeated slashing close to ground level is recommended.		
31	Phytolaccaceae	Rivina humilis (baby pepper)	8	61	4	H/O	Hand pull and hang to dry.		
32	Poaceae	Sporobolus africanus (Paranatta grass)	8	48	5	H/U	Hand or mechanical removal of small infestations		
33	Poaceae	Sporobolus fertilis (giant Paranatta grass)	9	27	5	H/U	Hand or mechanical removal of small infestations		
34	Poaceae	Eragrostis curvula (African lovegrass)	7	29	4	H/U	Chipped out before they flower. When chipping out the plant ensure that the tussock crowns are removed, as this will prevent regrowth. If in seed, the stems must be cut and bagged first.		
35	Asteraceae	Gymnocoronis spilanthoides (Senegal tea)	3	4	5	Ha/F	place plant material in a sealed plastic bag, leave in sunlight to rot then burn or dispose of at a council-approved land fill tip		
36	Amaranthaceae	Alternanthera philoxeroides (alligator weed)	1?	3	5	Ha/U	physical removal of plant should not be attempted		
37	Passifloraceae	Passiflora suberosa (cork passionflower)	8	166	4	V/O	N/A		
38	Poaceae	Melinis minutiflora (molasses grass)	5	17	5	H/A	Grazing or mowing		
39	Aristolochiaceae	Aristolochia elegans (Dutchman's pipe)	8	30	4	V/O	Stems: Hand pull; Fruit: Bag and remove		
40	Convolvulaceae	Ipomoea indica (blue morning glory)	5	24	4	V/O	Vines and Runners: hand pull, roll up and hang to dry.		
41	Mimosaceae	Leucaena leucocephala (leucaena)	6	14	4	ST/A	Small plants: Hand pull or mechanical removal		
42	Poaceae	Brachiaria mutica (para grass)	6	18	4	Ha/A	Grazing		
43	Hydrocharitaceae	Egeria densa (egeria waterweed)	2	7	4	Ha/F	hand pulling, cutting and digging with machines effective		
44	Pinaceae	Pinus eliottii (slash pine)	4	22	4	T/A	Seedlings: Hand pull; Saplings and Trees: cut close to ground or ring-bark		
41	Mimosaceae	Leucaena leucocephala (leucaena)	6	14	4	ST/A	Small plants: Hand pull or mechanical removal		
42	Poaceae	Brachiaria mutica (para grass)	6	18	4	Ha/A	Grazing		
43	Hydrocharitaceae	Egeria densa (egeria waterweed)	2	7	4	Ha/F	hand pulling, cutting and digging with machines effective		
44	Pinaceae	Pinus eliottii (slash pine)	4	22	4	T/A	Seedlings: Hand pull; Saplings and Trees: cut close to ground or ring-bark		
45	Caesalpinaceae	Senna pendula var. glabrata (Easter cassia)	7	33	4	ST/O	Seedlings: Hand pull		

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Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control	
46	Poaceae	Chloris gayana (Rhodes grass)	9	55	4	H/A	Hand pulling and removal and digging of larger clumps		
47	Crassulaceae	Bryophyllum pinnatum (resurrection plant)	6	17	4	H/O	Hand pull and dispose		
48	Asteraceae	Parthenium hysterophorus (parthenium weed)	6	14	4	H/U	hand pulling of small areas is not recommended		
49	Caprifoliaceae	Lonicera japonica (Japanese honeysuckle)	3	6	4	V/O	Vines and Runners: hand pull, roll up and hang to dry.		
50	Acanthaceae	Thunbergia alata (black eyed susan)	5	22	4	H/O	N/A		
51	Fabaceae	Macropitium atropurpureum (siratrol)	8	39	4	V/A	N/A		
52	Rosaceae	Rubus ellipticus (yellowberry)	4	26	4	S/O	slashing hinders growth, giving some control if plants are slashed before they seed		
53	Colchicaceae	Gloriosa superba (glory lily)	3	26	4	V/O	N/A		
54	Verbenaceae	Phyla canescens (lippia, Condamine couch)	3	4	4	Ha/O	a combined approach of different control methods including chemical and mechanical with land management practices is most effective		
55	Solanaceae	Solanum searothianum (Brazilian nightshade)	8	78	4	V/O	Hand pull		
56	Araceae	Pistia stratiotes (water lettuce)	3	8	4	Ha/OF	Mechanical removal of small infestations		
57	Asparagaceae	Asparagus plumosus (asparagus fern)	4	8	4	V/O	Rhizomes: crown and hang to dry.		
58	Commelinaceae	Tradescantia fluminensis (Old use T. albiflora) (wandering jew)	5	9	4	H/O	N/A		
59	Solanaceae	Cestrum parqui (green cestrum)	6	36	4	S/O	Seedlings: Hand pull		
60	Caesalpinaceae	Senna septemtrionalis (arsenic bush, was S. floribunda)	6	25	4	S/O	Seedlings: Hand pull		
61	Solanaceae	Solanum mauritanum (wild tobacco tree)	8	30	4	S/O	Seedlings: Hand pull		
62	Apocynaceae	Catharanthus roseus (pink periwinkle)	5	22	4	S/O	Hand pull		
63	Passifloraceae	Passiflora subpeltata (white passion flower)	10	60	4	V/O	Stems: Hand pull		
64	Fabaceae	Desmodium uncinatum (silverleaf desmodium)	5	14	4	H/A	Hand pull or crown and dispose		
65	Poaceae	Melinis repens (red Natal grass)	10	134	4	H/A	Grazing or mowing		
66	Nymphaeaceae	Nymphaea caerulea subsp. zanzibarensis (blue lotus)	4	17	4	Ha/OF	Hand pull small infestations.		
67	Onagraceae	Oenothera drummondii subsp. drummondii (beach evening primrose)	3	17	4	H/O	Hand pull		
68	Tiliaceae	Triumfetta rhomboidea (Chinese burr)	7	44	4	H/U	Hand pull		
69	Haloragaceae	Myriophyllum aquaticum (parrot's feather)	3	15	4	Ha/F	N/A		
70	Passifloraceae	Passiflora foetida (stinking passion flower)	7	50	4	V/O	Hand Pull		
71	Asteraceae	Verbesina encelioides (crownbeard)	7	34	4	H/U	Vines: Hand pull and remove; Runners: Roll up and hang to dry.		
72	Poaceae	Paspalum mandiocanum (broad leaf paspalum)	3	6	4	H/A	N/A		
73	Poaceae	Paspalum dilatatum (paspalum grass)	10	30	4	H/A	Hand pull or dig up		

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DISCLAIMER:

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CONFORM ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION AND NOTIFY SCALE FROM THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETRES. ANY DISCREPANCIES SHOULD BE CLARIFIED PRIOR TO COMMENCEMENT OF WORK.

NEEDED ANY OPERATIONS, LOCATIONS OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER ADVISING SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

AMENDMENTS:			
Issue	Date	Description	Checked
A	1/06/2018	Client Draft	AH

PROJECT:

352 - 396 RIPLEY ROAD,  
RIPLEY (35P237241)

environmental management

PLAN OF:

WEED TREATMENT &  
REMOVAL SHEET 1

DATE:	1/06/2018	CHECKED:	AH
CLIENT REF:	8844	DRAWN:	MC
DRAWING No.:	8844 E A01 RMP Weed A		

352-396 RIPLEY ROAD, RIPLEY

CONCEPT REHABILITATION - WEED TREATMENT & REMOVAL (2)

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND								
Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
73	Poaceae	Paspalum dilatatum (paspalum grass)	10	30	4	H/A	Hand pull or dig up	
74	Ruppiaceae	Ruppia maritima (sea tassel)	2	8	4	Ha/F	Hand pull or dig up	
75	Arecaceae	Syagrus romanzoffiana (queen palm)	47	10	4	T/O	Seedlings: Hand pull or crown; Trees: cut below growing point	
76	Poaceae	Hymenachne amplexicaulis cv. Olive (hymenachne)	17	1	4	Ha/A	a combined approach of different control methods including mechanical, chemical and biological with land management practices is most effective	
77	Asteraceae	Senecio tamoides (Canary creeper)	3	8	4	V/O	Vines: Hand pull and remove; Runners: Roll up and hang to dry.	
78	Poaceae	Cenchrus ciliaris (buffel grass)	4	15	4	H/A	Hand or mechanical removal of young plants	
79	Acanthaceae	Thunbergia grandiflora (thunbergia, blue thunbergia)	2	3	57	V/O	N/A	
80	Cactaceae	Opuntia tomentosa (velvet tree pear)	8	46	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance.
81	Euphorbiaceae	Ricinus communis (castor oil plant)	7	20	4	S/O	Seedlings: Hand pull	
82	Asteraceae	Senecio madagascariensis (fire weed)	6	28	4	H/U	Vines: Hand pull and remove; Runners: Roll up and hang to dry.	
83	Cyperaceae	Cyperus involucreatus (African sedge)	6	15	4	Ha/OF	Each has to be dug out with a spade and the entire plant turned over, exposing the root system while making sure all aerial parts of the plant are completely covered.	
84	Asteraceae	Tithonia diversifolia (Mexican sunflower)	5	11	4	H/O	N/A	
85	Poaceae	Setaria sphacelata (South African pigeon grass)	9	41	4	H/A	Hand pull or dig up	
86	Asclepiadaceae	Gomphocarpus physocarpus (balloon cotton bush)	10	132	4	S/OU	Slash in winter and burn cuttings. Wanderer Butterfly can also be used as biological control.	
87	Poaceae	Digitaria didactyla (Queensland blue couch)	9	70	4	H/A	Hand pull or cultivation	
88	Caesalpinaceae	Gleditsia triacanthos (honey locust)	7	12	4	T/O	For the control of dense infestations on grazing land, burning followed by spot spraying is an economical control method.	
89	Poaceae	Paspalum notatum (bahia grass)	4	10	4	H/A	Hand pull or dig up	
90	Cactaceae	Opuntia monacantha (drooping tree pear, syn. O. vulgaris)	2	3	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
91	Poaceae	Paspalum conjugatum (paspalum grass)	7	38	4	H/A	Cut below crown.	
92	Malpighiaceae	Hiptage benghalensis (hiptage)	3	5	4	S/V/O	Hand pull small infestations.	

Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
93	Solanaceae	Solanum torvum (devil's fig)	6	39	4	S/O	Seedlings: Hand pull	
94	Caesalpinaceae	Caesalpinia decapetala (thorny poinciana)	4	20	4	S/V/O	Seed-heads: Bag and remove.	
95	Poaceae	Pennisetum alopecuroides (swamp foxtail)	7	29	4	H/O	Hand Pull	
96	Verbenaceae	Duranta erecta (duranta)	6	14	4	ST/O	Shrubs: CS&P (1:1.5)	
97	Brassicaceae	Nasturtium officinale (Qld use Rorippa nasturtium-aquaticum) (watercress)	7	19	4	Ha/FU	Manually grub and destroy.	
98	Polygonaceae	Acetosa sagittata (rambling dock)	4	18	4	V/U	Tubers: Dig up, bag and remove.	
99	Poaceae	Cynodon dactylon (couch, Bahama grass introduced cultivars)	10	45	4	H/OA	Hand pull small infestations, removing all roots or smother with mulch.	
100	Bignoniaceae	Tecoma stans (yellow bells)	4	16	4	ST/O	N/A	
101	Rosaceae	Rhaphiophis indica (Indian hawthorn)	3	10	4	ST/O	Seedlings: Hand pull	
102	Mimosaceae	Mimosa pudica (common sensitive plant)	4	12	4	S/A	N/A	
103	Commelinaceae	Callisia fragrans (purple succulent)	3	9	4	H/O	N/A	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance.
104	Scrophulariaceae	Paulownia tomentosa (paulownia)	3	5	4	T/AO	Seedlings: Hand pull	
105	Commelinaceae	Tradescantia zebrina (zebrina)	3	12	4	H/O	N/A	
106	Acanthaceae	Ruellia malacosepala (ruellia)	5	16	4	H/O	N/A	
107	Poaceae	Pennisetum clandestinum (kikuyu grass)	4	12	4	H/A	Hand Pull	
108	Liliaceae	Lilium formosanum (Taiwan lily)	5	10	4	H/O	Hand pull or crown and dispose	
109	Asteraceae	Sigesbeckia orientalis (Indian weed)	10	148	4	H/U	Hand pull or cultivation.	
110	Asteraceae	Bidens pilosa (cobbler's pegs)	10	110	4	H/U	Hand pull or cultivation.	
111	Cactaceae	Opuntia stricta (common prickly pear)	7	67	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
112	Poaceae	Eleusine indica (crowsfoot grass)	8	55	4	H/A	Pull and chip. Replant with native couch.	
113	Poaceae	Axonopus compressus ( broad leaved carpet grass)	5	23	4	H/AO	Cut stems from roots.	
114	Lamiaceae	Salvia coccinea (red salvia)	9	46	4	H/O	remove small areas by hand or machine	
115	Asteraceae	Ageratum houstonianum (blue billygoat weed)	8	81	4	H/UO	N/A	
116	Myrtaceae	Psidium guajava and P. guineense (yellow guava and West Indies guava)	4	7	4	ST/AO	N/A	
117	Rosaceae	Rubus bellobatus (kittitiny blackberry)	5	22	4	S/O	slashing hinders growth, giving some control if plants are slashed before they seed	
118	Myrtaceae	Eugenia uniflora (Brazilian cherry)	4	19	4	ST/O	N/A	
119	Oleaceae	Olea europaea (olive)	2	6	47	T/A	Seedlings: Hand pull	
120	Poaceae	Bracharia decumbens (signal grass)	4	14	4	H/A	Grazing	
121	Fabaceae	Stylosanthes scabra (shrubby stylo)	4	4	4.37	H/A	N/A	

Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
122	Commelinaceae	Commelina benghalensis (hairy wandering Jew)	4	7	4	H/O	Collect and Bag	
123	Poaceae	Pennisetum purpureum (elephant grass)	2	9	4	H/O	Grazing or mechanical removal	
124	Zingiberaceae	Hedychium coronarium (wild ginger)	2	2	4	H/O	Small Plants: Hand pull and dispose	
125	Phytolaccaceae	Phytolacca octandra (inkweed)	10	50	3	H/O	Hand pull or crown	
126	Asclepiadaceae	Asclepias curassavica (red cotton bush)	9	43	3	S/O	Hand pull; Slash	
127	Solanaceae	Lycium ferocissimum (African boxthorn)	17	5	4.47	S/O	N/A	
128	Mimosaceae	Prosopis pallida (algaroba)	2	2	4	ST/O	When using mechanical control methods, it is important to remove the bud zone of the root system (about 30 cm below the ground surface). If this is not removed, re-shooting can occur.	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance.
129	Juncaceae	Juncus articulatus (jointed rush)	1	2	4	Ha/FO	Hand pull.	
130	Cactaceae	Opuntia aurantiaca (tiger pear)	1	2	4	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
131	Poaceae	Arundo donax (giant reed)	1	4	4	H/O	Physical removal of small infestations.	
132	Cactaceae	Opuntia imbricata (rope pear)	1	1	4	H/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
133	Bignoniaceae	Pyrostegia venusta (flame vine)	1	1	4	V/O	N/A	
134	Poaceae	Cortaderia selloana (pampas grass)	2	1	4	H/O	Small Plants: dig out by hand or machine	
135	Solanaceae	Solanum hispidum (giant devil's fig)	5	23	4	S/O	Hand pull	
136	Agavaceae	Furcraea foetida (Cuban hemp)	3	4	4.37	S/OA	Dig out by hand or machine	
137	Agavaceae	Furcraea selloa (hemp)	1	2	47	S/OA	Dig out by hand or machine	
138	Agavaceae	Agave americana (century plant)	4	9	4	S/OA	Dig out by hand or machine	
139	Rutaceae	Murraya paniculata cv. Exotica (murraya)	6	26	4	S/O	Seedlings: Hand pull	
140	Rosaceae	Rubus discolor (R. fruticosus complex, a blackberry)	4	10	4	S/OA	slashing hinders growth, giving some control if plants are slashed before they seed	
141	Brassicaceae	Cakile edentula (American sea rocket)	4	24	4	H/U	Manually grub and destroy.	
142	Balsaminaceae	Impatiens walleriana (balsam)	2	6	4	H/O	N/A	
143	Agavaceae	Agave sisalana (sisal)	2	4	4	S/OA	Dig out by hand or machine	
144	Agavaceae	Agave vivipara var. vivipara (sisal)	2	3	4	S/OA	Dig out by hand or machine	
145	Rosaceae	Prunus munsoniana (wild goose plum)	7	31	4	ST/A	Seedlings: Hand pull	
146	Poaceae	Echinochloa crus-galli (barnyard grass)	6	34	4	H/A	Hand pull or dig out small infestations.	

352-396 RIPLEY ROAD, RIPLEY

CONCEPT REHABILITATION - WEED TREATMENT & REMOVAL (3)

Further details will be required with future RAL applications

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND								
Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
147	Asteraceae	Solidago canadensis var scabra (Canadian goldenrod)	7	15	4?	H/O	Hand pull and hang to dry.	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance
148	Fabaceae	Pueraria lobata (kudzu)	3	4	4	V/S/O	Slash; Diminish by shading site	
149	Alismataceae	Sagittaria graminea var. platyphylla (sagittaria arrowhead)	3	7	4	Ha/FO	Physical removal of small infestations.	
150	Nymphaeaceae	Nymphaea mexicana (yellow waterlily)	2	4	4	Ha/OF	Hand pull small infestations.	
151	Poaceae	Phyllostachys aurea (fishpole bamboo)	1	2	4	S/O	N/A	
152	Euphorbiaceae	Jatropha gossypifolia (cotton-leaf physic nut, bellyache bush)	1	1	4	S/O	Hand pull	
153	Malvaceae	Sida rhombifolia (Paddy's lucerne)	9	69	4	S/U	Hand pull or dig out.	
154	Poaceae	Themeda quadrivalvis (grader grass)	8	25	4	H/A	Hand pull or dig out small infestations.	
155	Poaceae	Andropogon virginicus (whisky grass)	6	14	4	H/A	Hand pull or dig out small infestations.	
156	Bignoniaceae	Jacaranda mimosifolia (jacaranda)	4	12	3	T/O	Seedlings: Hand pull	
157	Acanthaceae	Justicia betonica (squirreltail)	2	4	4	S/O	Hand pull small infestations. Can be controlled by planting competitive native species.	
158	Mimosaceae	Acacia boliviana (Bolivian wattle)	1	1	4	T/O	Mechanical or chain removal	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance
159	Simaroubaceae	Ailanthus altissima (tree of heaven)	1?	3	4	T/O	Seedlings: Hand pull	
160	Poaceae	Echinochloa colona (awnless barnyard grass)	9	44	3	H/A	Hand or mechanical removal of small infestations	
161	Cyperaceae	Cyperus brevifolius (Mullumbimby couch)	8	53	3	H/O	Each has to be dug out with a spade and the entire plant turned over, exposing the root system while making sure all aerial parts of the plant are completely covered.	

Explanatory notes.

Sub-region (Sr): Number of the ten sub-regions of the Southeast Queensland bioregion (Young and Dillewaard 1999) within which species recorded (Queensland Herbarium data).  
Rec no. (R): Total number of records for species within study area, Queensland Herbarium CORVEG and HERBRECS data.  
Scores (S): Based on panel data of invasiveness, 5 (highest) to 3 (moderate). ? indicate doubtful scores.  
Life forms (LFS): T-tree (woody plant >5m), ST-small tree (2-5m), S-shrub (woody <2m), H-herb (grasses & forbes), Ha-aquatic herbs.  
Source: A-agriculture, O-ornamental and landscaping, F-fish aquarium, U-unintentional introduction and/or contaminant.

Abbreviations: Control Methods

**CS&P** = cut scrape and paint  
**S&P** = scrape and paint  
**C&P** = cut and paint  
**F/I** = frill or inject stem

Abbreviations: Herbicides

**G** = Glyphosate, eg. Roundup Biactive, Weedmaster Duo  
**MM** = Metsulfuron methyl, eg. Brushoff  
**F** = Fluroxypyr, eg. Starane

Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
162	Moraceae	Morus alba (white mulberry)	3	10	3	T/O	N/A	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance
163	Arecaceae	Colocasia esculenta (taro)	3	4	3	H/AO	Hand pull.	
164	Cannaceae	Canna indica (canna lily)	3	9	3	H/O	Dig out entire plant	
165	Buddlejaceae	Buddleja madagascariensis (buddleja)	5	6	3	S/V/O	N/A	
166	Bignoniaceae	Ecma capensis (Cape honeysuckle)	3	8	4	ST/O	N/A	
167	Cactaceae	Harrisia martinii (harrisia cactus)	2?	4	4	S/O	The use of the biological mealy-bug agent is recommended	
168	Acanthaceae	Thunbergia laurifolia (laural clock vine)	1	1	4	V/O	N/A	
169	Fabaceae	Erythrina cristagalli (cockspur coral tree)	2?	4	4	T/O	N/A	
170	Sapindaceae	Koelerutera elegans (Chinese rain tree)	1?	1	3,6?	T/O	Seedlings: Hand pull	
171	Zingiberaceae	Hedychium gardenianum (ginger lily)	1?	3	4	H/O	Small Plants: Hand pull and dispose	
172	Acanthaceae	Hypoestes phyllostachya (polka-dot plant)	3	5	4	H/O	Hand pull or crown and dispose	
173	Caprifoliaceae	Sambucus canadensis (American elder)	3	7	3	ST/O	Vines and Runners: hand pull, roll up and hang to dry.	
174	Asteraceae	Conyza sumatrensis (tall fleabane)	9	45	3	H/U	Hand or mechanical removal of small infestations	
175	Fabaceae	Tipuana tipu (tipuana)	2	5	3	T/O	Seedlings: Hand pull	
176	Asteraceae	Tagetes minuta (stinking roger)	8	32	3	H/U	Hand pull and hang to dry.	
177	Caesalpiniaceae	Chamaecrista rotundifolia (round-leaf cassia)	6	14	3	ST/A	Seedlings: Hand pull	
178	Poaceae	Cenchrus echinatus (Mossman river grass)	8	43	3	H/A	Hand or mechanical removal of young plants	
179	Asteraceae	Conyza canadensis (Canadian fleabane)	10	55	3	H/U	Hand or mechanical removal of small infestations	
180	Euphorbiaceae	Euphorbia cypophora (painted spurge)	8	20	3	H/O	Hand pull	
181	Poaceae	Setaria palmifolia (palm leaf setaria)	5	13	3	H/O	Hand pull or dig up	

Abbreviations: Herbicide Dilution Rates for High Concentration Applications

**GU** = Glyphosate undiluted  
**G1** = 1 part water to 1 part glyphosate  
**G1.5** = 1.5 parts water to 1 part glyphosate  
**G4** = 4 parts water to 1 part glyphosate

Abbreviations: Herbicide Spray Concentrations

**G100** = 100mL glyphosate per 10L of water + surfactant, eg 20mL LI 700 per 10L  
**G200** = 200mL glyphosate per 10L of water + surfactant, eg 50mL LI 700 per 10L

**G100 + MM** = 100mL glyphosate + 1.5g metsulfuron methyl per 10L of water + wetting agent, eg. 2mL Agral per 10L water  
**G200 + MM** = 200mL glyphosate + 1.5g metsulfuron methyl per 10L of water + wetting agent, eg. 2mL Agral per 10L water  
**MM** = 1.5g metsulfuron methyl per 10L water + wetting agent, eg. 2mL Agral per 10L water  
**F100** = 100mL fluroxypyr per 10L water  
**F150** = 150mL fluroxypyr per 10L water

Rk	Family	Scientific and common names	Sr	R	S	LFS	Non-Chemical Control	Chemical Control
182	Euphorbiaceae	Euphorbia heterophylla (milk weed)	5	12	3	H/O?	Hand pull	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance
183	Fabaceae	Desmodium intortum (greenleaf desmodium)	4	11	3	H/A	Hand pull or crown and dispose	
184	Poaceae	Pennisetum setaceum (fountain grass)	3	11	3	H/O	Hand Pull	
185	Asteraceae	Coryza bonariensis (flax-leaf fleabane)	7	38	3	H/U	Hand or mechanical removal of small infestations	
186	Solanaceae	Solanum erianthum (a tobacco bush)	7	19	3	S/O	Hand pull	
187	Poaceae	Stenotaphrum secundatum (buffalo grass)	3	23	3	H/AO	Hand or mechanical removal of small infestations	
188	Apocynaceae	Cascabela thevelia (syn. Thevelia peruviana) (yellow oleander)	5	9	3	ST/O	Hand pull small infestations. Slashing can be used but should be followed up by herbicide application.	
189	Rubiaceae	Coffea arabica (coffee)	3	7	3	ST/A	Saplings: Hand pull	
190	Bignoniaceae	Spathodea campanulata (African tulip tree)	1?	1	3	T/O	N/A	
191	Fabaceae	Macrotyloma axillare (perennial horse gram)	4	12	3	V/H/A	N/A	
192	Indaceae	Watsonia meriana var. bulbifera (bulb watsonia)	2	3	3	H/O	Dig up, bag and remove	
193	Passifloraceae	Passiflora edulis (passion fruit)	6	12	3	V/AO	Hand Pull	Herbicides must be applied by appropriately qualified / supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered product labels, or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to South East Queensland Ecological Restoration Framework for additional guidance
194	Asteraceae	Zinnia peruviana (wild zinnia)	6	33	3	H/O	Seedlings: Hand pull	
195	Dracaenaceae	Sansevieria trifasciata (sansevieria)	2?	7	3	H/O	Hand pull or dig up	
196	Poaceae	Digitaria eriantha (pangola grass)	5	20	3	H/A	Hand pull or cultivation	
197	Rosaceae	Eriobotrya japonica (loquat)	3	5	3	T/O	Seedlings: Hand pull	
198	Cactaceae	Acanthocereus tetragonus (sword pear)	1	1	3	S/O	Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used.	
199	Mimosaceae	Acacia nilotica subsp. indica (prickly acacia)	3	3	4,4?	T/A	Mechanical or chain removal.	
200	Mimosaceae	Acacia farnesiana (mimosa bush)	6	15	3	T/A	Mechanical removal of small plants.	

Other Abbreviations

# = Locally non-indigenous native species

Ref. 1. Big Scrub Rainforest Landcare Group (2008), 'Common Weeds of Subtropical Rainforests of Eastern Australia: A practical manual on their identification and control'  
Ref. 2. Department of Primary Industries and Fisheries (QLD), 'Weeds and pest animals and ants'.  
Ref. 3. Holland et al. (1996), 'Suburban Weeds', DPI QLD.  
Ref. 4. Port Stephens Council (NSW), 'Weed Busters'.  
Ref. 5. Department of Primary Industries (NSW), 'Noxious and Environmental Weed Handbook, 3rd Edition'.  
Ref. 6. Department of Environment and Conservation, 'Florabase', (DEC- WA)  
Ref. 7. Vitelli, J.S. and Madigan, B.A. and Van Haaren, P.E. and Setter, S. and Logan, P. (2009) Control of the invasive liana, Hiptage benghalensis. Weed Biology and Management, 9 (1), pp. 54-62.

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PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER INFORMATION REGARDING SERVICES AND UTILITIES LOCATIONS AT ALL LEVELS.

AMENDMENTS:		
Issue	Date	Description
A	1/06/2018	Client Draft

PROJECT:

352 - 396 RIPLEY ROAD,  
RIPLEY (35P237241)

PLAN OF:  
**WEED TREATMENT & REMOVAL SHEET 3**

DATE: 1/06/2018  
CLIENT REF: 8844  
DRAWING No.: 8844 E A03 RMP Weed A

CHECKED: AH  
DRAWN: MC