

Compliance Report – Bruce Highway Upgrade Project - Caloundra Road to Sunshine Motorway, January 2021

EPBC Approval 2015/7464

Report 04

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Document control options

Departmental approvals

Refer to the appropriate Risk Assessment Tool for relevant reviewer and approver

Date	Name	Position	Action required (Review/endorse/approve)
19/02/2020	Anita Haynes	Principal Environmental / Sustainability Officer	Review
11/02/2021 03/03/2021	Leah McKenzie	Deputy Regional Director (North Coast)	Approve

Risk level

- GACC major GACC minor High risk (but not GACC) Medium risk

Prepared by	Tim Doherty
Title	Senior Environmental Officer (Contractor)
District & Region	North Coast
Branch & Division	PDO
Project/program	Bruce Highway Upgrade Program - Caloundra Road to Sunshine Motorway
Project number	280/10A/1
Project location	Glenview
Status	Revision 1
DMS ref. no.	450/01693

Proponent and Approval Action

Detail	Applicable Details
EPBC Reference Number:	2015/7464
Project Name:	Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway
Proponent:	Department of Transport and Main Roads
ABN:	390 407 690 291
Proposed Action:	To upgrade a 7km section of the Bruce Highway between Caloundra Road at Meridan Plains and the Sunshine Motorway at Sippy Downs, Queensland. The upgrade will allow for the construction of a six-lane highway, the upgrade of two interchanged and the addition of a two-way service road.
Location of Action:	Between Caloundra Road at Meridan Plains and the Sunshine Motorway at Sippy Downs, Queensland
Reporting Period:	December 2019 – December 2020
Date Prepared:	January 2021

Declaration of Accuracy

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

Leah McKenzie

Position

Deputy Regional Director (North Coast)

Organisation

Department of Transport and Main Roads (ABN 39 407 690 291)

Date

03/03/2021

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Proponent and Approved Action

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1. Introduction

1.1 Purpose of this Report

The Department of Transport and Main Roads (TMR) is constructing a 7km upgrade of the Bruce Highway between Caloundra Road and Sunshine Motorway (hereafter referred to as “the Project”). The Project consists of an upgrade to both the Sunshine Motorway and Caloundra Road interchanges, a six-lane upgrade of the Bruce Highway between the two interchanges, as well as a fully connected service road on the western side of the highway. TMR (as Administrator) has awarded the Project to a Joint Venture of Fulton Hogan and Seymour Whyte (hereafter referred to as “the Contractor”) as a design and construct contract.

The Project was referred to the Department of Environment (DoAWE) on 15 April 2015 for determination of whether the Project was likely to have a significant impact on *Matters of National Environmental Significance* (MNES). Projects likely to cause a significant impact on MNES require approval under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Project was deemed a controlled action on 18 May 2015 and was approved, subject to conditions, on 2 September 2016 (reference number: 2015/7464). The approval conditions are provided in **Appendix A** of this report.

Condition 6 of the EPBC Act approval conditions require that TMR prepare and publish an annual report on their website that addresses compliance with each of the conditions of the approval for each year of construction. This report is the fourth annual compliance report for the Project that meets this condition.

1.2 Matters of National Environmental Significance

Under the EPBC Act, a project must be referred to DoAWE for actions that are likely to have a significant impact on MNES protected by Part 3 of the EPBC Act. These are known as “controlling provisions”. This project triggered one controlling provision: “*potential impacts to listed threatened species and communities* (Section 18 and Section 18A)”. The proposed action is likely to have a significant impact on the following matters protected by the EPBC Act.

- Lowland Rainforest of Subtropical Australia – critically endangered.
 - The proposed actions will reduce the extent of the critically endangered Lowland Rainforest of Subtropical Australia (LRSA) Threatened Ecological Community.
- Koala (*Phascolarctos cinerus*) – vulnerable.
 - The proposed action will reduce the extent of critical habitat for the Koala.

2. Description of Activity

2.1 Project Location

The upgrade to the Bruce Highway is being undertaken between the area extending south of Caloundra Road at Meridan Plains and north towards the Sunshine Motorway at Sippy Downs, Queensland. The Project also includes areas on the Mooloolah River floodplain and areas north of Aussie World along Frizzo Connection Road.

The project area is located within the Sunshine Coast Council (SCC) Local Government Area, approximately 15km west of Caloundra and 10km southwest of Mooloolaba. The project area encroaches on a section of the former Beerwah State Forest, west of the Bruce Highway at Glenview.

Sections of the project area have been historically cleared along the Bruce Highway for residential and commercial purposes. The project area also contains remnant vegetation, within the former Beerwah State Forest, Palmview Regional Park, and along the Mooloolah River.

2.2 Description of the Project

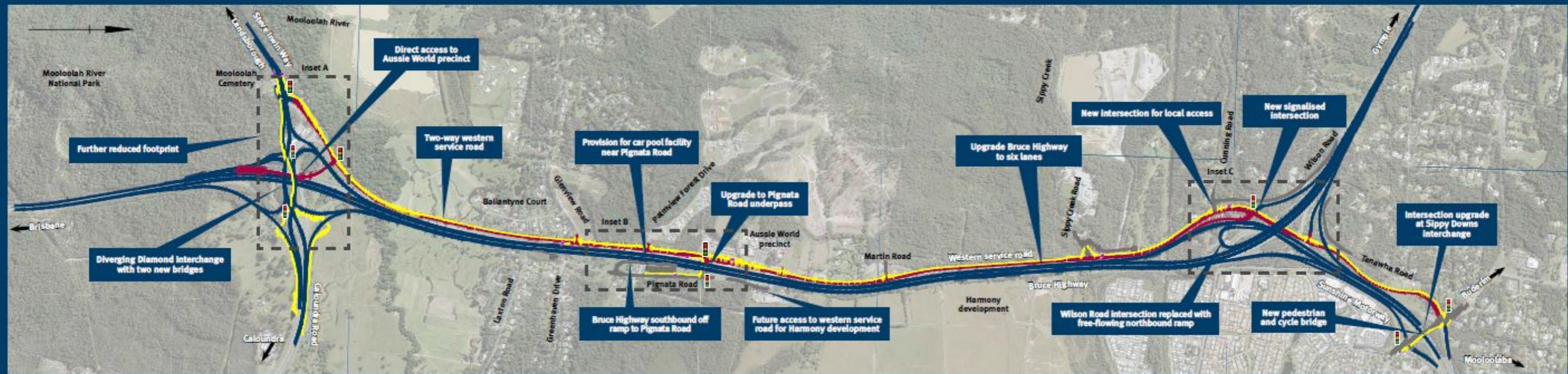
The Project consists of an upgrade to a 7km section of the Bruce Highway between Caloundra Road and the Sunshine Motorway from four to six lanes including major upgrades to the interchanges at Caloundra Road and the Sunshine Motorway. The Project will include the following key features:

- Upgrade of the current Bruce Highway alignment from four to six lanes and to provide immunity for a 1 in 100-year flood event;
- A “diverging diamond” interchange at the intersection of the Bruce Highway and Caloundra Road to better facilitate right-turn movements that are critical to the effective functioning of the interchange;
- The western service road (Frizzo Connection Road) which will link the Caloundra Road interchange with the Aussie World precinct and extend through to the Sunshine Motorway interchange;
- A grade-separated interchange at the intersection of the Bruce Highway, the Sunshine Motorway and the new western service road and to provide improved efficiency for all movements, reduce queuing and delays, and increase road safety by eliminating high speed at grade intersections;
- A southbound off-ramp at Pignata Road to provide access to the Aussie World precinct and the local road network;
- Replacement and upgrades of existing drainage structures (bridges and culverts) on the Bruce Highway to maintain the existing surface water hydrological and hydraulic characteristics of the area; and
- Fauna passage structures, including an underpass, fauna fencing, a rope ladder and fauna escape structures for animals trapped on the Bruce Highway.

Figure 1 provides the CR2SM design layout as an overview of the project area.

Bruce Highway Upgrade — Caloundra Road to Sunshine Motorway

design layout
May 2017



Inset A
Caloundra Road interchange



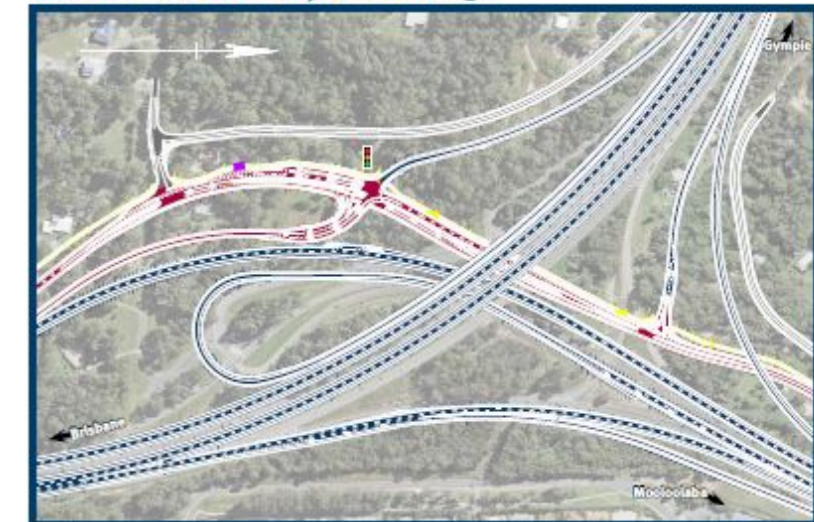
Inset B
Southbound off ramp to Pignata Road



Legend

- Main roads
- Western service road
- Local road/connection
- New pedestrian and/or cycle route
- Bus stop
- Signalised intersection

Inset C
Sunshine Motorway interchange



For a closer look at the Bruce Highway Upgrade design layout, visit www.tmr.qld.gov.au/brucehwycaloundrazsunshinemwy



Figure 1: Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway Design Layout

2.3 Project Progress

The project is nearing completion with significant milestones achieved during the 2019 - 2020 reporting period, a summary update is provided;

- The global permanent earthworks are almost complete with only temporary traffic alignment earthworks remaining.
- The drainage packages are 96% complete with final scour, minor crossings and completion works remaining.
- Asphalt on the permanent alignments are 80% complete.
- Vegetation clearing of Threatened Ecological Community (TEC) has been completed, with a reduced project footprint and clearing impact achieved.

The bulk vegetation clearing at the site is nearing completion, with small pockets remaining to facilitate traffic signage line-of-sight and maintenance operations.

The project continues to implement a progressive and staged landscaping program (rehabilitation and planting) in completed areas across the project site. To date, 815 trees and 75,0000 m² of plants have been planted across the site. The overall landscaping completed to date is reaching 60% with over 55,0000 m² of area having final landscaping treatments applied.

The construction of the fauna movement structures commenced during this reporting period and are nearing completion.

The project's environmental offset sites are continuing with rehabilitation and maintenance. The results from each specific Biocondition survey undertaken are showing continued improvement. The respective offset sites have been purchased with voluntary declarations in place, and one property legally secured under a Conservation Agreement from the Commonwealth with Department of Natural Resources, Mines and Energy (NRME), TMR and SCC as parties to the agreement.

2.4 Approval History

The date of the EPBC Approval, and the compliance reporting dates and status of the Annual Compliance Reports are provided in Tables 1 and 2.

Table 1: Relevant Dates for EPBC Approval

Approval Number	Date of Decision	Expiry Date
EPBC 2015/7464	2 September 2016	31 December 2026

Table 2: Chronology of Compliance Reports

Reporting Dates	Report No.	Status
December 2016 – December 2017	01	Completed
December 2017 – December 2018	02	Completed
December 2018 – December 2019	03	Completed
December 2019 – December 2020	04	Completed (this report)

3. EPBC Condition Compliance

Table 3 provides an overview of the conditions and compliance status. Where additional information is required, reference has been made to relevant sections of this report for further evidence of compliance.

Table 3: Summary of Compliance with EPBC Act Approval Conditions

No.	Condition	Timeframe	Status	Evidence of Compliance
1	<p>For the protection of the <i>EPBC Act</i> listed vulnerable Koala (<i>Phascolarctos cinereus</i>) and <i>Lowland rainforest of subtropical Australia</i> Threatened Ecological Community, the approval holder must implement the “Overarching Environmental Management Plan” while undertaking the proposed action.</p>	<p>Progressive - for the period of construction.</p>	<p>Ongoing</p>	<p>An Environmental Management Plan (Planning) was prepared to communicate the EPBC compliance requirements applicable to the project during the development and implementation phases.</p> <p>The Contractor operates under an Environmental Management Plan for Construction (EMP-C) which has undergone a document revision process by TMR. The EMP-C reflects the mitigation measures outlined in the Overarching Environmental Management Plan (OEMP), as well as control strategies and commitments to account for any issues and requirements identified in the Project Scope of Works and Technical Criteria (SWTC), presented in a format that is suitable for use by on-ground personnel.</p> <p>The Contractor provides monthly environmental reports demonstrating compliance with the EMP-C, which reflects the requirements of the OEMP and SWTC. This demonstration of compliance is achieved through monthly internal and third-party audits and reporting, which includes the subset of compliance and reporting deliverables noted within the OEMP.</p> <p>Refer to Section 4.1 for additional information pertaining to Condition 1 compliance.</p>

No.	Condition	Timeframe	Status	Evidence of Compliance
2	<p>For the protection of the EPBC Act listed critically endangered <i>Lowland Rainforest of Subtropical Australia</i> (LRSA) the approval holder must:</p> <p>(a) Not disturb more than 3.92ha of the LRSA Threatened Ecological Community (TEC) within and adjacent to the project site;</p> <p>(b) Legally secure and implement the offset of 16.64ha at the location shown and ensure that by the tenth anniversary of commencement of action, the offset meets the following condition thresholds:</p> <ol style="list-style-type: none"> i. Canopy cover: at least 70% of canopy vegetation is native; ii. Species richness: contains 30 native woody species from the LRSA TEC listing advice; and iii. Total vegetation: At least 70% of total vegetation cover is native. <p>(c) Legally secure and implement the offset of 4.65ha at the location shown by the first 12-month anniversary of the commencement of the action.</p>	<p>(a) For the construction period.</p> <p>(b) By the tenth anniversary of commencement action</p> <p>(b)(i)</p> <p>(b)(ii)</p> <p>(b)(iii)</p> <p>(c) By the first 12-month anniversary of commencement.</p>	<p>(a) Completed</p> <p>(b) Compliant</p> <p>(b)(i) Compliant</p> <p>(b)(ii) Compliant</p> <p>(b)(iii) In progress</p> <p>(c) Compliant</p>	<p>(a) At the time of the reporting period, a total of 13,231.13m² (1.32ha) of TEC has been cleared as part of the project works (within the project site), in compliance with Condition 2(a).</p> <p>Progressive quantities for cleared areas have been reviewed and provided in the Contractors monthly environmental progress reports.</p> <p>The Contractor has reported the TEC clearing for the project has been completed. The project reduced the footprint area within the TEC vegetation zone, which reduced the total impact area.</p> <p>Refer to Appendix B for a map of the project Threatened Ecological Community, and Appendix C for as-built diagrams of areas cleared and completed to date.</p> <p>(b) Lot 37 C3147, Lot 1 SP300404, and Lot 2 RP27760 have been legally secured. The implementation of offset actions relevant to Section (b) are currently works in progress. Local Government (Sunshine Coast Council) has been engaged to undertake management of the site to meet the condition thresholds.</p> <p>(b)(i) Data was collected from transects during the third quarter 2020 for this Year 4 Report, Refer to Section 4.2 for detailed information.</p> <p>(b)(ii) Flora Assessment undertaken.</p> <p>Eco 9 Pty. Ltd. 2011. "Lower Mooloolah River Environmental Reserve, Claymore Road, Sippy Downs". This report has identified 61 native woody species from the Lowland Rainforest of</p>

No.	Condition	Timeframe	Status	Evidence of Compliance
				<p>Subtropical Australia threatened ecological community listing advice.</p> <p>(b)(iii) Data was collected from transects during the third quarter 2020 for this Year 4 Report, Refer further to Section 4.2.</p> <p>Refer to Appendix D for map of Lower Mooloolah River Environmental Reserve.</p> <p>(c) Lot 2 SP268457 has been legally secured by TMR. The implementation of offset actions relevant to Section (c) are currently works in progress. The management actions relevant to these conditions are being undertaken by the engaged TMR contractor.</p> <p>Refer to Appendix E for map of Mooloolah Valley property.</p> <p>Refer to Section 4.2 'for additional information pertaining to Condition 2.</p>
3	<p>For the protection of the EPBC Act listed vulnerable Koala (<i>Phascolarctos cinereus</i>) the approval holder must:</p> <p>(a) Not disturb more than 35.3ha of Koala habitat within the Project site;</p> <p>(b) Implement the five Koala movement structures (Koala friendly underpasses) within the Project site, namely:</p> <p>i. One new structure to facilitate Koala movement across Steve Irwin Way;</p> <p>ii. One new structure to facilitate Koala movement across the Bruce Highway south of the Mooloolah River;</p>	<p>(a) For the construction period.</p> <p>(b) Design and Implementation phase.</p> <p>(c) By the first 12-month anniversary of commencement.</p>	<p>(a) Ongoing</p> <p>(b) Construction commenced</p> <p>(c) Completed</p>	<p>(a) The definition of Koala habitat in the approval refers only to “high” and “medium” Koala habitat. Accordingly, the total Koala habitat cleared within the reporting period was recorded as 18,7625m² (18.76ha), compliant with Condition 3(a).</p> <p>The total for Non-Juvenile Koala Habitat (NJKH) floral species cleared within the reporting period was recorded as 3,256 individuals.</p> <p>(b) (i-v) Koala movement structures have been incorporated into the design drawings for the road furniture and landscaping. The construction of fauna movement structures (including fauna underpasses, refuge poles, fauna ledges under bridge structures,</p>

No.	Condition	Timeframe	Status	Evidence of Compliance
	<ul style="list-style-type: none"> iii. One new structure to facilitate Koala movement across the Bruce Highway north of Sippy Creek; iv. Improve the existing structure at Sippy Creek to facilitate Koala movement across the Bruce Highway; and v. Improve the existing structure at Mooloolah River to facilitate Koala movement across the Bruce Highway. <p>(c) Legally secure and implement the offset of 50ha at the location shown by the first 12-month anniversary of the commencement of the action.</p>			<p>logs and rock, etc) have commenced, the status of each of the five koala movement structures are further discussed in Section 4.3.2.</p> <p>(c) The 50ha offset, Lot 2 RP51879 at Missing Link Road, Glenview has been legally secured by TMR.</p> <p>Refer to Appendix F or map of Glenview property.</p> <p>Refer to Section 4.3 for additional information pertaining to Condition 3.</p>
4	<p>Within 10 days of the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement of the action.</p>	<p>Within 10 days of commencement of construction.</p>	<p>Completed</p>	<p>A letter was submitted to the Department on 23 December 2016 to formally notify of the commencement of works.</p> <p>Refer to Appendix G for this notice.</p>
5	<p>The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval and make them available upon request to the Department.</p> <p>Such records may be subject to audit by the Department or an independent auditor in accordance with Section 458 of the EPBC Act or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits must also be published on the approval holder's website within two weeks of the Department's approval of the final audit.</p>	<p>Progressive.</p>	<p>Ongoing</p>	<p>All records associated with this condition are maintained and updated on a regular basis.</p>
6	<p>Within three months of every 12-month anniversary of the commencement of the action, the approval holder must</p>	<p>For the period of construction.</p>	<p>Compliant</p>	<p>This report provides the fourth compliance report. This report will be published on the TMR website</p>

No.	Condition	Timeframe	Status	Evidence of Compliance
	publish a report on their website addressing compliance with each of the conditions of this approval over the previous 12 months. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published.	The compliance report must be published within three months of every 12-month anniversary.	<p>Fourth compliance report complete (this report).</p> <p>Third compliance report completed. Second compliance report completed.</p> <p><i>Minor Non-Compliance</i></p> <p>The first compliance report was published on TMR's project website October 2018, which was not within the reporting period. DoAWE was notified of this non-compliance.</p>	<p>concurrently with submission to the Department, satisfying this condition of approval.</p> <p>The relevant documentary evidence will be provided to DoAWE at the time of publication.</p>
7	Upon direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Following direction from the Minister.	To date, there has been no direction from the Minister to complete an Independent audit.	Not applicable.

No.	Condition	Timeframe	Status	Evidence of Compliance
8	Condition 6 ceases to apply once the approval holder has demonstrated to the satisfaction of the Minister that all conditions have been achieved.	Not currently applicable	Not currently applicable.	Not currently applicable.

4. OEMP Conditions Compliance

4.1 EPBC Condition 1

*For the protection of the EPBC Act listed vulnerable Koala (*Phascolarctos cinereus*) and Lowland rainforest of subtropical Australia Threatened Ecological Community, the approval holder must implement the Overarching Environmental Management Plan while undertaking the proposed action.*

The Contractor has developed an Environmental Management Plan for the construction phase of the project (EMP-C) which reflects the mitigation measures outlined in the Overarching Environmental Management Plan (OEMP). Sub-plans have also been developed to support the EMP-C which are implemented as part of the construction and operations phase. These sub-plans consist of the following:

- Vegetation Management Plan;
- Species Management Plan;
- Fauna Management Plan;
- Overarching Erosion and Sediment Control Management Plan;
- Weed, Pest and Disease Management Plan;
- Water Quality Management Plan;
- Cultural Heritage Plan;
- Noise and Vibration Management Plan;
- Air Quality Management Plan;
- Soils Management Plan;
- Acid Sulphate Soil and Contaminated Land Management Plan;
- Waste Management Plan;
- Hazardous Substances Management Plan; and
- Greenhouse Gases Management Plan.

The above sub-plans are used to define the construction controls required to ensure each potential aspect and impact identified is eliminated, reduced or appropriately mitigated. The sub-plans have been developed to meet requirements of the EPBC approval. For example:

- “*Loss of habitat*” is being minimised through the establishment of exclusion zones, reducing the clearing footprint through changes in design, and delivery of vegetation offsets.
- “*Injury or mortality to fauna*” is being minimised through the continual engagement of suitably qualified fauna spotter-catchers during clearing operations, specialised ecologists for conducting pre-clearance surveys of potential frog habitat areas, and provision of fauna furniture and crossings through design.
- “*Habitat degradation*” is being minimised through implementation of the various management measures included within the Water Quality Management Plan, Waste Management Plan, Weed Pest and Disease Management Plan etc and by enhancing habitat through fauna features incorporated in the design.

Management measures of the sub-plans are monitored through daily inspections, supervision during vegetation clearing and accompanying fauna spotter-catcher reports, monitoring of water quality, erosion and sediment control performance, weeds/pests etc. Internal and external audit checks are

undertaken to review compliance and a compliance tracking register is maintained by the Contractor. Where compliance has not been achieved, a non-conformance report is raised by the Contractor and reported to the Administrator. This process includes identification of reasoning for non-conformance, as well as corrective and preventative actions.

For this reporting period two non-conformances against the OEMP were identified, refer to **Appendix H** which provides details of the items that were found to be non-conforming and actions on how the non-conformances will be corrected and addressed. Notification of the non-conformances during this period has been submitted to DoAWE via email on the 15th February 2021.

Erosion and sediment controls (ESC) are continually reviewed for effectiveness onsite and amendments are communicated through revised ESC plans (red pen mark-ups) and distributed to relevant site personnel. The ESCs are also maintained following rainfall events. The project notifies the Department of Environment and Science (DES) when rainfall received onsite exceeds the ESC design threshold. In the reporting period, a monthly average of approximately 134mm of rain was received during the 12-month period, with the highest rainfall occurring in February 2020 where the project received an average of 490mm.

DES Compliance Officers have visited the site once during this reporting period, with the department providing an inspection letter which reported the department considers “*that erosion and sediment control management of the site continues to be of a high standard*”.

Furthermore, with respects to the specific management of Giant Barred Frog (*Mixophyes iteratus*) (GBF) the following is continuing to be undertaken:

- Construction within suitable habitat is avoided, where possible, following rain if water is still present onsite;
- Qualified ecologists conduct surveys of potentially suitable habitat during the nights prior to clearing;
- Fauna spotter-catchers capture and relocate individuals, tadpoles and egg masses to similar habitat if detected; and
- Any frogs observed or relocated are recorded and reported to the Administrator.
- Monitoring of GBF and other frog species is also undertaken to gain an undertaking of the habitat locations within and surrounding the project site.

A summary of the frog monitoring for this reporting period is provided:

At the commencement of this project, a total of sixteen distinct frog habitat areas were identified to provide known and potential habitat for several threatened frog species. Those confirmed species were the GBF, the wallum froglet (*Crinia tinnula*) and the tusked frog (*Adelotus brevis*). Species considered potential to occur were the wallum sedge frog (*Litoria longburensis*) and the wallum rocketfrog (*Litoria freycineti*).

The project has now undertaken four years of monitoring surveys. During these survey's threatened frog species have been confirmed at eight of the sixteen habitat sites with a potential species, the wallum rocket frog now being confirmed to occur within the project at one site. Additional sites where other threatened species have been confirmed were wallum froglet, tusked frogs, and wallum froglet.

In addition to the monitoring surveys and project approval conditions, detailed mitigation measures have been implemented in relation to the management of clearing in areas of known or potential frog habitat. These measures have required pre-clear surveys at specified times prior to the commencement of vegetation and undertaking inspection of known and potential frog habitat immediately prior to, and during actual clearing.

One of the most sensitive areas of habitat within the project is at and surrounding the Mooloolah River. This monitoring site was confirmed habitat for the endangered GBF. In addition to the standard pre-clear surveys, hand clearing of vegetation was undertaken at the site prior to conventional clearing with machine. Hand clearing involved removing all leaf litter and other potential microhabitat that could

be used as refuge by the giant barred frog. The implementation of these measures has to date resulted in no deaths or injuries to this species, during this reporting period.

Seasonal spring and summer surveys were conducted opportunistically when favourable weather conditions had been experienced on site. One survey event during the reporting period recorded two Endangered, Vulnerable and Near Threatened (EVNT) frog species adjacent to the project boundary, the positive identifications recorded as wallum froglets (*Crinia tinnula*) located around the Steve Irwin way interchange and tusked frogs (*Adelotus brevis*) further west along Steve Irwin Way.

A fifth year of monitoring survey commenced in late 2020 and it is anticipated to be completed in early 2021 when favourable weather conditions (sufficient rainfall) are received to trigger the surveys.

The management measures implement for the project is considered to be meeting the intent of the OEMP and other project approval conditions and ensuring the protection of frog species.

4.2 Condition 2

4.2.1 Condition 2(a)

Not disturb more than 3.92ha of the Lowland Rainforest of Subtropical Australia Threatened Ecological Community within and adjacent to the project site.

As outlined in Table 3 above, the project has cleared 13,231.13m² (1.32ha) of Threatened Ecological Community (TEC). Progressive quantities for cleared areas have been reviewed and provided in the Contractors monthly environmental progress reports.

The project has completed the TEC vegetation clearing works. Opportunities through design amendments were undertaken to reduce the impact of TEC clearing, and as a result significant clearing reduction of TEC vegetation was achieved.

Refer to **Appendix C** for as-built diagrams of areas cleared.

4.2.2 BioCondition Assessment Mooloolah River

A BioCondition Assessment was undertaken within the TEC (patch 1 area) prior to construction (2016) and during the construction phase (January 2019). These survey findings were provided in the Year 2 annual compliance report. A subsequent BioCondition Assessment will be undertaken post construction works, which will be reported in the following reporting period.

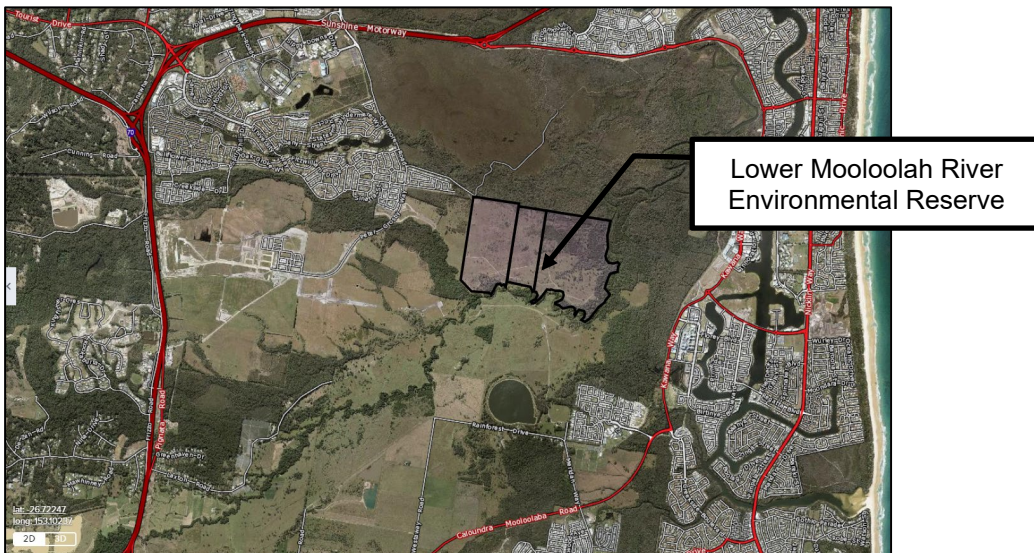
The TEC areas adjacent to the project works will continue to be monitored as per condition requirements.

4.2.3 Condition 2(b)

Legally secure and implement the offset of 16.64ha at the location shown and ensure that by the tenth anniversary of commencement of action, the offset meets the following condition thresholds.

- i. Canopy cover – at least 70% of canopy vegetation is native;*
- ii. Species richness – contains 30 native woody species from the LRSA TEC listing advice;*
- iii. Total vegetation – at least 70% of total vegetation cover is native”.*

An Offset Management Plan (OMP) has been developed by TMR to demonstrate the objectives of the EPBC Act Environmental Offsets Policy in compensating for impacts on the Lowland Rainforest of Subtropical Australia (LRSA) Threatened Ecological Community (TEC). The impacts on this TEC will result from works associated with the Project.



The scope of the OMP is to align specific environmental revegetation, regeneration, rehabilitation and protection measures for vegetation that occurs in a portion of the LMRE Reserve at Laxton Road, Palmview. These activities will deliver TMR's offset obligations under the EPBC Act, yielding an overall conservation outcome for the LRSR TEC.

An agreement between SCC and TMR to deliver and manage the Mooloolah River Rainforest Offset Project was signed on 1 June 2017. The agreement will comply with and meet the EPBC conditions of approval and is part of the agreement.

A summary of works undertaken for this reporting period is summarised below:

- Ongoing control of weed and exotic grass across entire 16.64 hectare offset area around naturally regenerating species as a key component to assisted natural regeneration. Ongoing maintenance of weeds along the edge of the remnant area (Lantana, Broadleaved pepper tree, Mile-a-minute, Singapore daisy in particular). Greater than 98% of weeds on the rainforest edges have been controlled. The ongoing maintenance will ensure close to 100% weed control along the remnant edge.

Weed density in the remnant rainforest has been reported as is almost negligible. Weed density in the reconstruction zones has reported to have been reduced from approximately 80% down to less than 5%.

Weed control activities and reinforcement plantings have resulted in almost 100% of canopy vegetation being native, significantly more than 30 different native woody LRSR TEC species, and significantly greater than 70% total vegetation cover being native in these zones.

In total, 1,058 replacement tubestock were installed during past 12 months to ensure original planting numbers are maintained.

- The bio-condition monitoring was undertaken at the six established transects locations across the offset area. The established Transects 1 and 2 were established within high quality LRSR remnant and will provide a direct comparison across all attributes monitored with Transects 3 to 6, that were established within the reconstruction zones and transitional zone.

T1 vegetation is a very good representation of RE 12.3.1 and is in excellent condition. The canopy cover is 100% native.

T2 vegetation is a very good representation of RE 12.3.1 and is in excellent condition. The canopy cover is 100% native.

Transects T3, T4 and T5 are located within a reconstruction zone of the offset area and as such is representative of the areas where exotic pasture grasses previously dominated. Additional reconstruction planting occurred throughout these zones as part of Stage 2 planting.

Natural recruitment is responsible for 10%, 19% and 8% within T3, T4 and T5 (respectively) of the native stem count for the transects, with the balance attributed to successful native tubestock installation during Stage 1 and Stage 2 reconstruction plantings. The vegetation assemblage at these transects continues on a positive trajectory towards a representation of LRSA. The canopy cover at the transects were reported as being T3 100% native and 4% non-native cover recorded, T4 100% native and 5% non-native cover recorded, and T5 100% native and 4% non-native cover recorded.

T6 is located within a transitional zone of the offset area where elements of RE12.3.5 and RE 12.3.1 occur. Eucalypt, Allocasuarina and Melaleuca emergents exist as well as lower and mid-storey rainforest species and native shade-tolerant grasses. Reinforcement planting occurred throughout this zone as part of Stage 1 and Stage 2 plantings. As expected, natural recruitment is significantly higher in this zone than in the reconstruction zones. Natural recruitment is responsible for 29% of the native stem count for this transect with the balance directly attributed to successful native tubestock installation during the Stage 1 and Stage 2 reinforcement plantings. The vegetation assemblage at T6 is on a positive trajectory towards a representation of LRSA.

- The SCC Pest Management Team have removed the monitoring cameras in the preceding monitoring period. Opportunistic sighting of wild dogs during this reporting period have triggered a further camera monitoring exercise for the 2020 – 2021 reporting period

The following upcoming activities are scheduled to occur over the following twelve months:

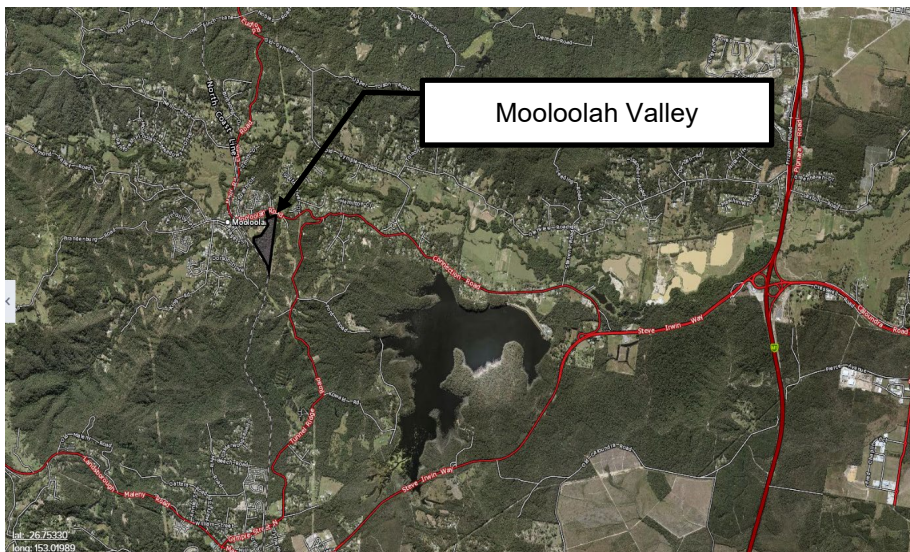
- Ongoing monitoring and weed control throughout the rainforest remnant;
- Ongoing monitoring and data collection;
- Ongoing general maintenance works as required by the OMP and the SCC technical specification; and
- Removal of tree guards as necessary.

Refer to **Appendix D** for location and relevant photographs of the offset site.

4.2.4 Condition 2(c)

Legally secure and implement the offset of 4.65ha at the location shown by the first 12-month anniversary of the commencement of the action.

TMR has purchased Lot 2 RP268457 (28 Mooloolah Road, Mooloolah Valley, Sunshine Coast) in Freehold in 2016 and a Voluntary Declaration is in place.



An Offset Management Plan (OMP) has been prepared and aims to protect and maintain in perpetuity 5.02ha of Lowland Rainforest of Subtropical Australia and manage to remnant status approximately

4.5ha of high value regrowth as a land-based offset for clearing works associated with the Project works.

The OMP details key risks and management actions and provides support for a Voluntary Declaration under the *Vegetation Management Act 1999*, and the requirements of the approval under the EPBC Act for the Project.

The primary management objective for the site is to conserve and improve the value of the area for the Lowland Rainforest of Subtropical Australia (LRSA). The overall management outcome will be to maintain current vegetation structure, composition and diversity, and improve the value of the area through management of high value regrowth. This will increase the total area of LRSA, and buffer core LRSA against weed invasion and fire.

TMR has engaged a separate Contractor to deliver the works required under the OMP and to meet the EPBC conditions of approval as part of the agreement. The purpose of the OMP and works is to protect and maintain in perpetuity 5.02ha of LRSA and manage to remnant status.

A summary of works undertaken for this reporting period is summarised below:

- Weed control activities continued during the reporting period. The works continued to focus on the control of exotic species beneath intact canopy as well as creating space along the edge of native vegetation to assist facilitating recruitment in these areas as well as access in and around the site. These works combined both re-treatment of previously managed areas for consolidation with expanding the overall managed areas. Woody weeds such as lantana (*Lantana camara*), Noogoora burr (*Xanthium pungens*), yellow bells (*Tecoma stans*), Easter cassia (*Senna pendula* var. *glabrata*), Paddy's lucerne (*Sida rhombifolia*), giant devil's fig (*Solanum chrysotrichum*), small leaf privet (*Ligustrum sinense*), wild tobacco (*Solanum mauritianum*) and devil's fig (*Solanum torvum*) were reported as being controlled.

Many of the areas across the site had reported to have heavy infestations of exotic vines such as climbing nightshade (*Solanum seaforthianum*), corky passionfruit (*Passiflora suberosa*), white passionfruit (*Passiflora subpeltata*), Madeira vine, moth vine, blue morning glory, mile-aminute, syngonium (*Syngonium podophyllum*) and edible passionfruit (*Passiflora edulis*). Due to their high growth rates, these vines have the capability to smother native vegetation and, in some instances, cause the collapse of forest structure and ultimately the ecosystem. The systematic control of these species not only improved the conditions on site, but also assisted limiting the future spread of these weeds downstream along the South Mooloolah River by eliminating a significant source of weed seeds and propagules.

A continuing reduction in weed densities across the site was reported. This reduction in weeds is creating the opportunity for many species, both native and exotic, to germinate. Regular, timely and systematic weed control is ensuring weed species are being controlled while providing opportunities for native species to establish.

Many species of native plants have been observed germinating, reshooting and expanding, following initial restoration activities This included the identification of a fruiting *Pararistolochia praevenosa* (*Richmond Birdwing butterfly vine*) with Richmond Birdwing Butterflies also being observed

- BioCondition monitoring at 6 transects were undertaken and compared to the baseline data. The results showed all BioCondition plots to have shown continued score improvements to native vegetation and their functional biodiversity. The survey results for this reporting period achieved higher total scores against the previous reporting period, however there were no shifts in the overall classification of each plot.

It was reported that improvements being observed in tree canopy cover, shrub layer cover, coarse woody debris, native plant species richness, non-native plant cover and organic litter cover. This trend was generally observed through all plots, largely as a result of weed control creating space and providing access to additional light, moisture and nutrients for native species to germinate and / or recover. However, weed control is also likely to account for some

increases in organic litter cover as larger weed trees that have been controlled (i.e. stem injected) drop their leaves.

The scoring for large trees remained the same however the number of large trees recorded reduced due to several large tree falls.

Native perennial grass was observed in one of the sub-plots during the baseline surveys, and while native grasses were observed across the site, none were observed in the sub-plot during the November 2019 monitoring event which accounts for this change in results.

There are no reported non-conformances this reporting period.

Refer to **Appendix E** for location and relevant photographs of the offset site.

4.2.4.1 Richmond Birdwing Butterfly Vine (*Pararistlochia praevenosa*)

In the preliminary stages of the project design, a conservative approach was taken to include the entirety of the project footprint as the clearing impact area. The clearing area identified the removal of *Pararistlochia praevenosa* (Richmond birdwing butterfly vine), and as such TMR commenced the propagation of *Pararistlochia praevenosa* (Richmond birdwing butterfly vine) with anticipation of the removal of this species and to meet State approval conditions.

As the project design evolved, the area of vegetation clearing required for the project was significantly reduced and as a result did not require the removal of the identified *Pararistlochia praevenosa*.

As TMR commenced the salvage, propagation, and growing of 50 *P. praevenosa*, a commitment to continue with the growing and translocation to the Mooloolah Valley offset site will occur.

The propagated *Pararistlochia praevenosa* (Richmond birdwing butterfly vine) plants will be planted at the Mooloolah offset site once site conditions are favourable to the vines.

It has also been reported that *P. praevenosa* is naturally growing at this offset site.

4.3 Condition 3

4.3.1 Condition 3(a)

Not disturb more than 35.3ha of Koala habitat within the project site.

The definition of Koala habitat in the approval refers only to “high” and “medium” Koala habitat. Accordingly, the total Koala habitat cleared to date is 187,627m² or 18.76ha, in compliance with Condition 3(a). The total for Non-Juvenile Koala Habitat (NJKH) floral species cleared to date is 3,256 individuals.

Vegetation clearing works are nearing completion across the project, with only small sections remaining to be trimmed for signage and site line maintenance works. Through project design opportunities, the area of koala habitat removal is likely to be significantly reduced.

4.3.2 Condition 3(b)

Implement five koala movement structures (koala friendly underpasses) within the project area.

Five Koala movement structures have been incorporated into the project design drawings for road fauna furniture. These works are in progress. The update and status of the fauna structures are as follows:

- I. Steve Irwin Way fauna passage (CU-04-01) is approximately **75% complete**, with remaining works to be completed once the traffic switch has occurred. The southern opening of the passage has been completed and landscaping completed with planting, and fauna structures. The northern end of the passage is to be completed.
- II. Southern fauna passage (CU-02-02) is approximately **40% complete**, with remaining works to be completed once the traffic switch has occurred. The culvert structure has

been installed including 50% of the fauna furniture, vegetation planting and fauna poles are to be installed.

- III. Northern fauna passage (CU-17-03) is now **complete**, which includes plants and fauna fencing installed (refer to Figure 2 in Appendix I).
- IV. Mooloolah River fauna crossing improvement works are **complete**. The fauna furniture is fully installed throughout the Mooloolah River bridges including the fauna furniture beneath the bridges and landscaping downstream completed (refer to Figure 5 in Appendix I).
- V. Sippy creek fauna crossing improvement (movement) works are **approximately 60% complete**. The upstream vegetation planting and fauna fencing is approximately 95% completed. Mid-creek crossing works which include fauna connection logs and fauna refuge poles are approximately 80% completion. Fauna structure and vegetation plantings are to be completed on the downstream crossing. (refer to Figure 4 in Appendix I).
- VI. Steve Irwin Way rope ladder crossing has not yet commenced. The project team are finalising the footprint details of the anchor blocks and approvals with National Parks to minimise vegetation impacts.

Additional fauna structures that have commenced installation at the project include:

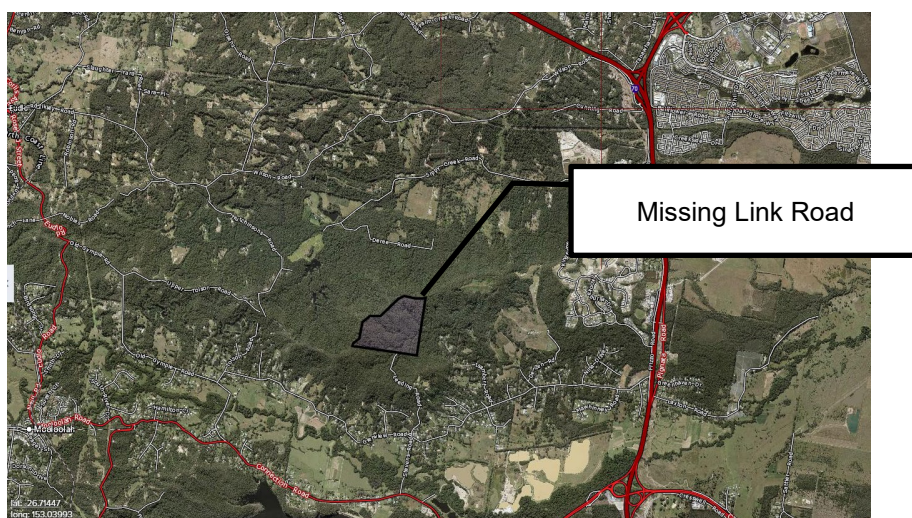
- Koala refuge poles have been installed along western service road and Wilson Road section.
- Koala resting forks have been installed across the site at Mooloolah river and overflow channels
- Large vegetation root balls were salvaged and used for fauna habitat.

Progress photos of the fauna structures are shown in **Appendix I**.

4.3.3 Condition 3(c)

Legally secure and implement the offset of 50ha by the first 12-month anniversary of the commencement of action.

TMR purchased Lot 2 RP51879 (Missing Link Road, Glenview) in Freehold in 2016 from a private landowner, a Voluntary Declaration is now in place.



An Offset Management Plan (OMP) has been prepared for the property to protect and maintain in perpetuity 50.07ha of Koala habitat as a land-based offset for clearing works associated with the

Project. The OMP details key risks management actions, provides support for a Voluntary Declaration under the *Vegetation Management Act 1999* and outlines the requirements for management of Koala habitat offsets.

This 50.07ha offset will provide a net conservation gain over the impacts on Koala habitat of the Project, largely through protection in perpetuity of existing remnant vegetation and improvements to habitat condition through weed and fire management.

TMR has engaged a separate contractor to deliver the requirements of the OMP and offset conditions to enhance Koala habitat characteristics. Activities relevant to the offset site include:

- Koala habitat monitoring – a baseline Koala Survey conducted using Koala Detection Dogs and the Spot Assessment Technique (SAT) and Annual BioCondition plot monitoring;
- Fire management – the preparation of a detailed Fire Management Plan (FMP) and onsite fire management including application of controlled burns;
- Weed control – implementation of systematic and regular weed control; and
- Reporting – annual reports, biannual in the first year.

A summary of works undertaken for this reporting period is summarised below:

- The on-ground weed management has continued at the property with the successful reduction of weed density at the site. Survey results show that reduced weed cover (mainly Lantana and Camphor Laurel) has reduced at five monitoring areas, where cover was reported to be reduced from 5-10% to <1%. During the works within the southeast corner of the site it was noted that scattered populations of the recently EVNT listed Scrub Turpentine.
- Annual bio-condition surveys were undertaken in September 2020, which includes the monitoring of six sites, the results reported similar results to the 2018 survey. Five sites continue to fall within the range for BioCondition 1, indicating vegetation in good condition. One site continues to record a score as BioCondition 2, which remains comparatively in poorer condition, as per previous years. An assessment was undertaken for the lower score, this site area has a cohort of smaller canopy tree species present. Following three years of survey, no underlying factors have been reported.
- An annual Koala Spot Assessment Technique (SAT) survey was conducted – five (5) of the seven SAT zones surveyed were confirmed as having koala scat present (SAT 3 and SAT 4 did not record any scats), a reduction from the 2018 and 2019 surveys undertaken. A total of 15 different koala scat locations were recorded throughout the survey site, with 12 scats during the systematic surveys and 3 incidental scat detections. Only old (Category 4) or very old (Category 5) scats were recorded during the surveys, indicating Koalas have not actively been using the site within recent timeframes (weeks to months). Due to the reduction in recorded scats the site recorded an overall activity level of 5.7%. This is the lowest result recorded to date.

The exact cause of this reduction is currently unknown with possible causes considered being;

- Habitat loss – There had been tree harvesting in the adjacent allotment on the northern side of the Missing Link Road. The likelihood that koalas would have been displaced and lead to lower use of the TMR side is considered low, if anything loss of habitat could have increased the use of this site. There is a possibility that some koala mortality resulted from the clearing and therefore koala density decreased as a result.
- Climate, especially heatwave / drought – Although the last 12 months have seen widespread heatwaves and droughts, the Glenview area has received good rainfall (see graph showing previous years rainfall at nearby Landsborough, Figure 6, in Koala Survey Report 2020 in Appendix B). Uncontrolled bushfire has also not impacted close areas to the site. Therefore, a change in climate and especially extremes condition is unlikely to explain the reason for the decline.

- Koala disease – There could have been an outbreak of chlamydia or koala retrovirus, but without seeing koalas and assessing their health it is impossible to confirm this hypothesis.
- Predation by wild or pet dogs – Baxter’s behaviour onsite did suggest high dog activity along the ridge track, which makes this hypothesis possible.
- Camera monitoring has not been conducted due to delayed fire management requirements, however, as noted above there is anecdotal evidence of ongoing dog activity within the site.
- A Fire Management Plan has been developed for the site, to support TMR requirements for ecological purposes including contribution to weed management. A low intensity burn was proposed for 2019 and 2020 however due to environmental conditions and restricted QLD fire bans this did not occur. The low intensity burn is planned to be conducted at the first available time when permitting and environmental conditions allow.

This activity will involve creation and maintenance of existing breaks and fire trails including pre-clearance fauna and cultural heritage surveys, hand raking of leaf litter to identify fauna habitat and nesting, and pre and post inspections for koala.

No further update to the prescribed fire plan at the property due to the weather conditions and fire ban restrictions during this reporting period.

No project non-conformances have been reported.

Refer to **Appendix F** offset site locality map and BioCondition Photo Monitoring Points.

4.4 Condition 5

Condition 5 of the EPBC Act Approval states:

The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval and make them available upon request to the Department.

TMR acknowledges this condition. All records pertaining to activities associated with or relevant to the EPBC Act conditions of approval are maintained and updated on a regular basis.

4.4.1 Principal Contractor EMP

The Principal Contractor is required to maintain accurate records of all activities relevant to the conditions of approval in accordance with their Environmental Management Plan (EMP) and associated sub-plans. The Contractors EMP and sub-plans have undergone the process of review and acceptance by the Administrator (TMR). The implementation of the Contractor's EMP and sub-plans, including compliance with required record-keeping, is subject to internal monthly and external quarterly audits. The construction EMP and sub-plans are revised on a six-monthly basis.

4.4.2 Environmental Site Inductions

An environmental site induction is delivered to all project site personnel, contractors and sub-contractors prior to commencing work on site. The Principal Contractor is required to maintain an accurate record of all persons inducted on the Project.

4.4.3 Contractor Reporting

In accordance with the conditions of the contract, the Principal Contractor is required to keep records of the following:

- Environment and cultural heritage induction register;
- Monitoring results including air, noise, vibration, water, flora (veg clearing reports, KHT counts), fauna (amphibian monitoring, fauna reports), contamination, weeds and pests;
- Inspection reports, checklists and diary entries;
- Incident and non-conformance reports, complaints register and associated corrective actions taken;
- Compliance testing results;
- Environmental audit reports and subsequent corrective actions taken;
- Biosecurity matter certificates, permits, and management documentation;
- Complete registers kept under the Species Management Program of animal breeding place(s) tampered with and injury/death to native fauna.

The Contractor is required to undertake and document weekly and monthly environmental site inspections for verifying compliance with the EMP, licences, permits and approvals and other environmental performance requirements specified within the Contract.

The Contractor also provides the Administrator monthly progress reports on environmental matters. The monthly reports include records of the total area and individual numbers of TEC and Koala habitat cleared each month.

4.4.4 Environmental Checks

To ensure compliance with the EPBC Act conditions of approval, including measures taken to implement the management plans, the following environmental audits and reviews are undertaken:

- Prior to works commencing on site, the environmental documentation (including the EMP) is revised and accepted by the Administrator prior to use.
- The Contractor's updates and revisions to environmental documentation (EMP, sub-plans and Erosion and Sediment Control Plans) are also revised and accepted by the Administrator prior to use.
- Independent quarterly audits on the implementation of the Contractor's EMP(C) and compliance of approval conditions is also undertaken.
- Internal monthly audits on the implementation of the Contractor's EMP(C) as well as compliance to approval conditions and client specifications is undertaken.

4.4.5 Environmental Incident Reporting

As per the conditions of the contract, the Contractor must notify the Administrator immediately of any incidents where actual or potential environmental harm has taken place. The Contractor undertakes a root-cause analysis of the environmental incident and provide the analysis to the Administrator as part of the following environmental monthly progress report.

4.5 Conclusion

The CR2SM Project is focussed on completion and finalisation of all works. This is predominantly pavements, drainage, landscaping and fauna structures. The bulk vegetation clearing is generally completed, with only minor vegetation removal and trimming to facilitate line of site and signage installation still to occur over the coming months in isolated pockets.

To facilitate the completion of the project, progressive works have completed the installation of 815 trees and 750,000m² of planted areas. Overall landscaping completed to date is over 550,000m² and total areas completed is now 60%. The installation of fauna movement structures is nearing completion, with programmed fauna movement monitoring to commence upon completion of structures.

Operations were generally compliant with the conditions of the approval during this reporting period. Where non-conformances have been identified (refer to Section 4.1 and Appendix H), corrective actions have been undertaken to address the non-compliance. External quarterly auditing of the project conditions has resulted in an average score of 93%, with erosion and sediment auditing average of 91%.

The Project has been found to generally comply with the conditions of the EPBC approval, noting that some of the deliverables are works in progress, such as offset conditions, final surveys and assessments and completion of fauna furniture installation. The ongoing monitoring of the site works, and documentation/records carried out via the environmental inspections and audits will ensure that any issues identified are addressed promptly in order to maintain the ongoing compliance with the EPBC conditions.

4.6 References

Barung Landcare (2019), *NCHD-3402 Quarterly Report – Oct – Dec 2019: Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway*.

Department of Transport and Main Roads (2016), *Offset Management Plan – Lowland Rainforest of Subtropical Australia: Lower Mooloolah River Environmental Reserve*.

Ecosure Pty Ltd (2019), *BioCondition Assessment, Mooloolah River, CR2SM*, prepared for Fulton Hogan Seymour Whyte Joint Venture.

Ecosure Pty Ltd (2019), *Mooloolah Valley Offset Year 2 Annual Report*

Envirotech Solutions, *CR2SM Project Independent Environmental Audit: March 2020*

Envirotech Solutions, *CR2SM Project Independent Environmental Audit: June 2020*

Envirotech Solutions, *CR2SM Project Independent Environmental Audit: September 2020*

Envirotech Solutions, *CR2SM Project Independent Environmental Audit: December 2020*.

Future-Plus Environmental (2018), *Fire Management Plan*, prepared for Department of Transport and Main Roads.

Future-Plus Environmental (2020), *Glenview Koala Offset Project – Fire and Weed Management Works Report No. 4*, report prepared for Department of Transport and Main Roads.

RPS Australia East Pty Ltd (2016), *Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway Project: Threatened Ecological Community Impact Assessment (Lowland Rainforest of Subtropical Australia) EPBC 2015/7464*, report prepared for Department of Transport and Main Roads.

Sunshine Coast Council (2018), *Annual Report – Year 4 (2019-2020) Lowland Rainforest of Subtropical Australia Threatened Ecological Community offset; Lower Mooloolah River Environmental Reserve*, report prepared for Department of Transport and Main Roads.

Appendix A –EPBC Approval Decision Notice

APPROVAL

BRUCE HIGHWAY UPGRADE, CALOUNDRA ROAD TO SUNSHINE MOTORWAY, QUEENSLAND (EPBC 2015/4764)

Proposed action

person to whom the approval is granted	Department of Transport and Main Roads
proponent's ABN	39 407 690 291
proposed action	To upgrade a 7km section of the Bruce Highway between Caloundra Road to Sunshine Motorway, Queensland (see EPBC referral 2015/7464)

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved

Conditions of Approval

This approval is subject to the conditions specified below.

Expiry date of approval

This approval has effect until 31 December 2026

Decision maker

Name and position James Barker
Assistant Secretary
Assessments (Qld, Tas, Vic) and Sea Dumping Branch

Signature

Date of Decision

Conditions attached to the approval

General

1. For protection of the **EPBC Act** listed koala (*Phascolarctos cinereus*) and **Lowland rainforest of subtropical Australia** *threatened ecological community* the **approval holder** must implement the **Overarching Environmental Management Plan** while undertaking the proposed action.

Lowland rainforest of subtropical Australia *threatened ecological community* management

2. For the protection of the **EPBC Act** listed critically **endangered rainforest of subtropical Australia** the **approval holder** must:
 - a. Not disturb more than 3.92ha of the **Lowland rainforest of subtropical Australia** threatened ecological community within and adjacent to the **project site**, as shown in Attachment A;
 - b. Enter into a **Conservation Agreement** over the offset of 16.64 ha at the location shown in Attachment B, and ensure that by the tenth anniversary of **commencement of the action**, the offset meets the following condition thresholds:
 - i. Canopy Cover: at least 70 per cent of canopy vegetation is native;
 - ii. Species Richness: contains 30 woody species from the **Lowland rainforest of subtropical Australia threatened ecological community listing advice**; and
 - iii. Total vegetation: At least 70 per cent of total vegetation cover is native.
 - c. **Legally secure** and implement the offset of 4.65 ha at the location shown in Attachment C by the first 12 month anniversary of the **commencement of the action**.

Koala management

3. For the protection of the **EPBC Act** listed vulnerable Koala (*Phascolarctos cinereus*) the **approval holder** must:
 - a. Not disturb more than 35.3 ha of **Koala habitat** within the **project site** (Attachment D);
 - b. Implement five koala movement structures (koala friendly underpasses) within the project area, namely:
 - i. One new structure to facilitate movement across Steve Irwin Way;
 - ii. One new structure to facilitate koala movement across the Bruce Highway south of Mooloolah River;
 - iii. One new structure to facilitate koala movement across the Bruce Highway north of Sippy Creek;
 - iv. Improve the existing structure at Sippy Creek (at the location identified in Attachment E) to facilitate koala movement across the Bruce Highway

- c. **Legally secure** and implement the offset of 50ha at the location shown in Attachment F by the first 12 month anniversary of the **commencement of action**.

Administrative conditions

4. Within 10 days of the **commencement of action**, the **approval holder** must advise the **Department** in writing of the actual date of **commencement of action**.
5. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify the compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of the audits must also be published on the **approval holder's** website within two weeks of the **Department's** approval of the final audit.
6. Within three months of every 12 month anniversary of the **commencement of the action**, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval over the previous 12 months. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published.
7. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

Definitions

Approval holder means the person to whom the approval is granted, or any person acting on their behalf, or to whom the approval is transferred under section 145B of the EPBC Act.

Commencement of the action means the disturbance of any vegetation identified as **Lowland rainforest of subtropical Australia** or **Koala habitat**, as defined in this approval notice. Commencement of the action includes physical disturbance of this vegetation for any purpose including clearing of vegetation, earthworks, establishment of site offices and fencing, and new road works.

Conservation Agreement means an agreement established under s.305 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Department means the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act means the *Environment Protection and Biodiversity Conservation Act 1999*.

Koala habitat means the areas identified as 'high koala habitat values' and 'medium koala habitat values' in Attachment D.

Legally secure means placing on the land title a voluntary declaration under the *Vegetation Management Act 1999* (Qld).

Lowland rainforest of subtropical Australia means the areas identified as 'ground-truthed TEC within the project area' and '50m buffer' in Attachment A.

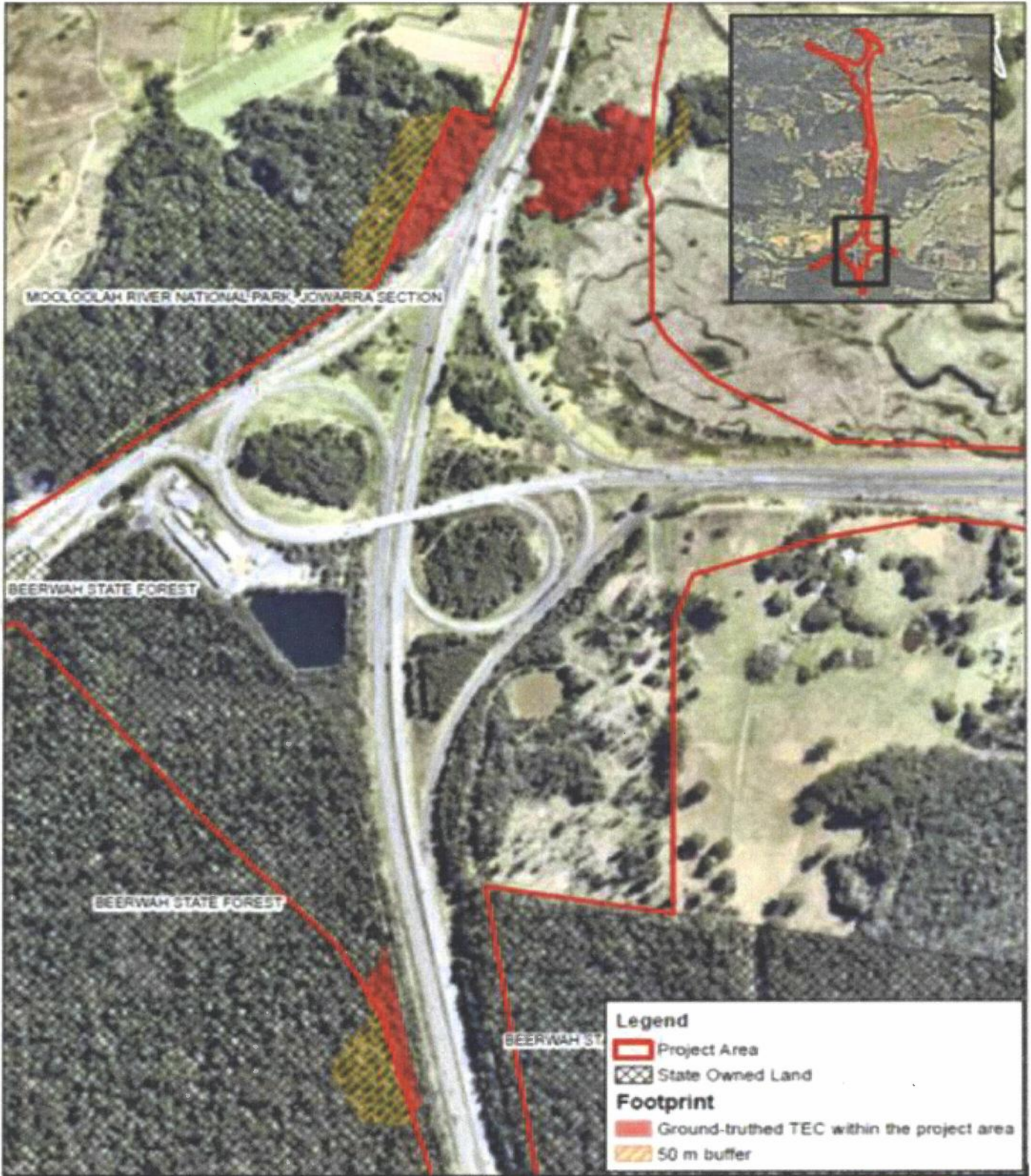
Lowland rainforest of subtropical Australia threatened ecological community listing advice means Appendix A of the TSSC (2011a) Commonwealth Listing Advice on Lowland Rainforest of Subtropical Australia

<http://www.environment.gov.au/biodiversity/threatened/communities/pubs/101-listing-advice.pdf>

Minister means the Commonwealth **Minister** administering the **EPBC Act** and includes a delegate of the **Minister**.

Overarching Environmental Management Plan means the documents *Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway Project: Overarching Environmental Management Plan*, version 2, Final/March 2016.

Project site means the 'updated referral area (March 2016)' as identified in Attachment G.



Client	
Department of Transport and Main Roads	
Completed by	LW Date 23/02/2018
Approved by	SL Date 23/02/2018

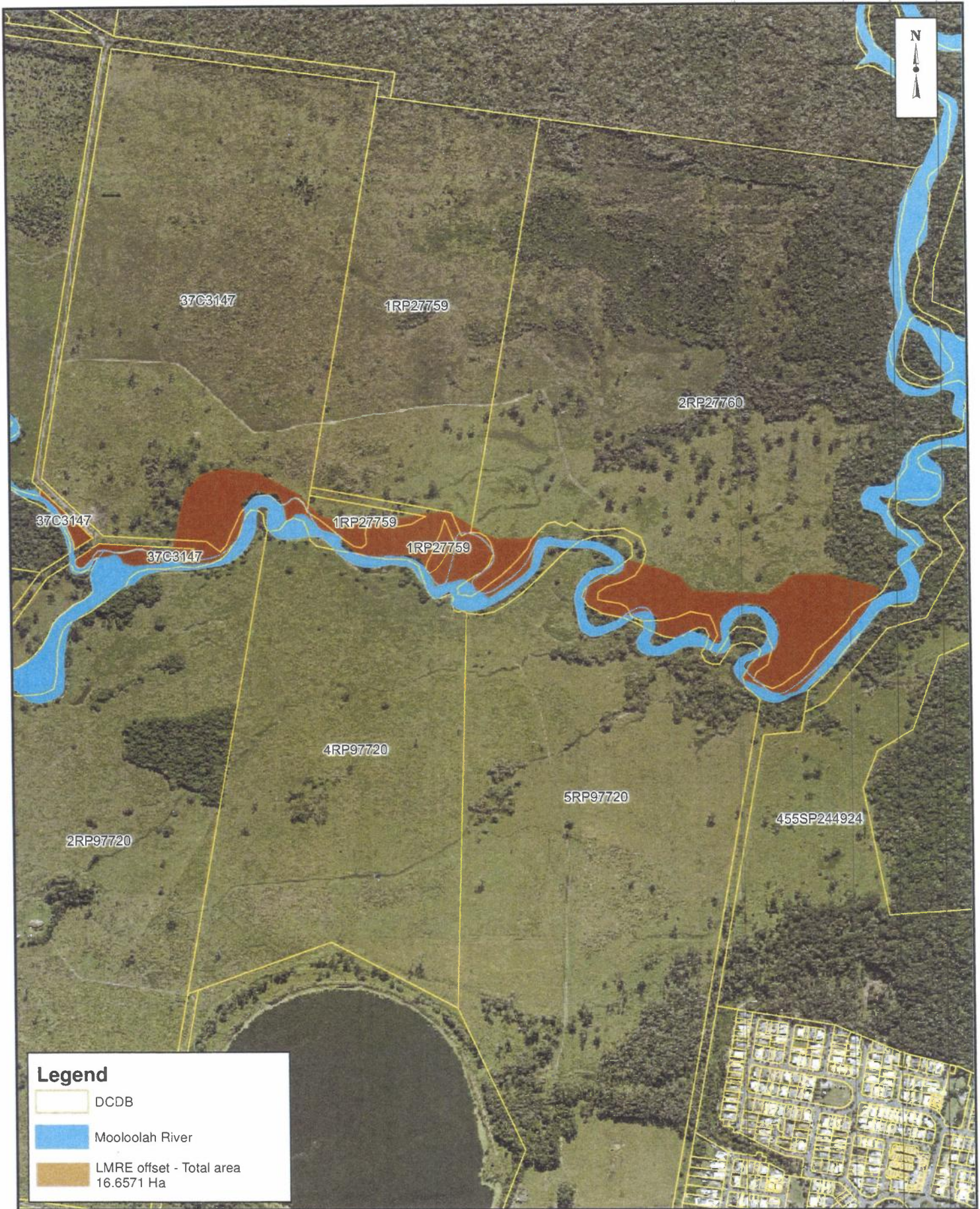
Ground-truthed TEC identified within the project area

Figure 3.2 Project: **Threatened Ecological Community Impact Assessment**

Source: Aerial photography Nearmap 2018

Disclaimer: While all reasonable care has been taken to ensure the information contained on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.





Legend

- DCDB
- Mooloolah River
- LMRE offset - Total area
16.6571 Ha

Projection/ Datum : Map Grid of Australia (MGA) Zone 56, Geocentric Datum of Australia (GDA) 1994

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**Mooloolah River
Lower Mooloolah River Environment
Reserve (LMRE Reserve)**

Plan No/ Job No:	Map1
Issue:	A
Date:	13/03/2017
Drawn by:	R Friend
Checked by:	S Scott



Legend

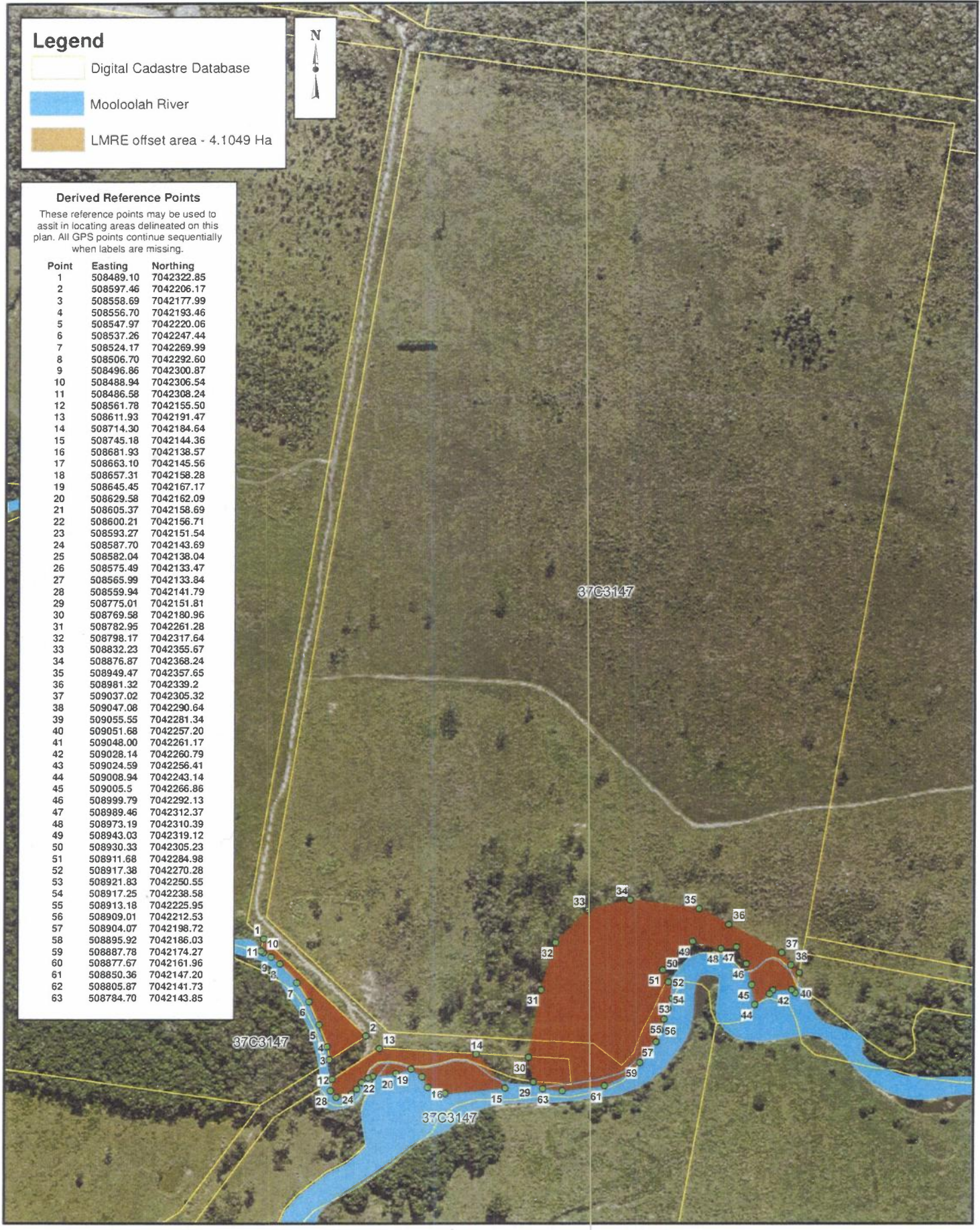
-  Digital Cadastre Database
-  Mooloolah River
-  LMRE offset area - 4.1049 Ha



Derived Reference Points

These reference points may be used to assist in locating areas delineated on this plan. All GPS points continue sequentially when labels are missing.

Point	Easting	Northing
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9	508496.86	7042300.87
10	508488.94	7042306.54
11	508486.58	7042308.24
12	508561.78	7042155.50
13	508611.93	7042191.47
14	508714.30	7042184.64
15	508745.18	7042144.36
16	508681.93	7042138.57
17	508663.10	7042145.56
18	508657.31	7042158.28
19	508645.45	7042167.17
20	508629.58	7042162.09
21	508605.37	7042158.69
22	508600.21	7042156.71
23	508593.27	7042151.54
24	508587.70	7042143.69
25	508582.04	7042138.04
26	508575.49	7042133.47
27	508565.99	7042133.84
28	508559.94	7042141.79
29	508775.01	7042151.81
30	508769.58	7042180.96
31	508782.95	7042261.28
32	508798.17	7042317.64
33	508832.23	7042355.67
34	508876.87	7042368.24
35	508949.47	7042357.65
36	508981.32	7042339.2
37	509037.02	7042305.32
38	509047.08	7042290.64
39	509055.55	7042281.34
40	509051.68	7042257.20
41	509048.00	7042261.17
42	509028.14	7042260.79
43	509024.59	7042256.41
44	509008.94	7042243.14
45	509005.5	7042266.86
46	508999.79	7042292.13
47	508989.46	7042312.37
48	508973.19	7042310.39
49	508943.03	7042319.12
50	508930.33	7042305.23
51	508911.68	7042284.98
52	508917.38	7042270.28
53	508921.83	7042250.55
54	508917.25	7042238.58
55	508913.18	7042225.95
56	508909.01	7042212.53
57	508904.07	7042198.72
58	508895.92	7042186.03
59	508887.78	7042174.27
60	508877.67	7042161.96
61	508850.36	7042147.20
62	508805.87	7042141.73
63	508784.70	7042143.85



Projection/ Datum : Map Grid of Australia (MGA) Zone 56, Geocentric Datum of Australia (GDA) 1994

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Mooloolah River Lower Mooloolah River Environment Reserve (LMRE Reserve)

Plan No/ Job No:	Map3
Issue:	A
Date:	13/03/2017
Drawn by:	R Friend
Checked by:	S Scott



Legend

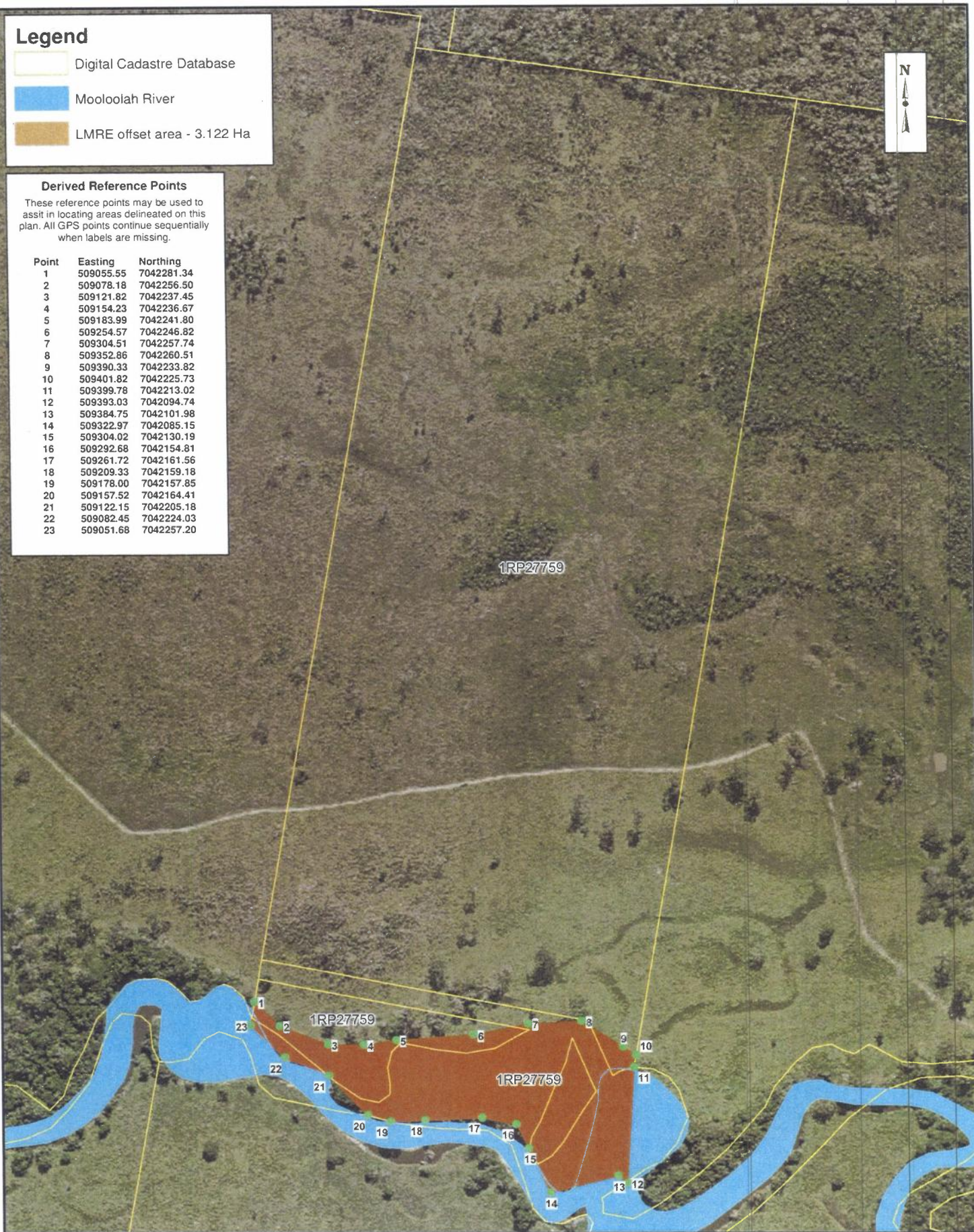
- Digital Cadastre Database
- Mooloolah River
- LMRE offset area - 3.122 Ha



Derived Reference Points

These reference points may be used to assist in locating areas delineated on this plan. All GPS points continue sequentially when labels are missing.

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1	509055.55	7042281.34
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4	509154.23	7042236.67
5	509183.99	7042241.80
6	509254.57	7042246.82
7	509304.51	7042257.74
8	509352.86	7042260.51
9	509390.33	7042233.82
10	509401.82	7042225.73
11	509399.78	7042213.02
12	509393.03	7042094.74
13	509384.75	7042101.98
14	509322.97	7042085.15
15	509304.02	7042130.19
16	509292.68	7042154.81
17	509261.72	7042161.56
18	509209.33	7042159.18
19	509178.00	7042157.85
20	509157.52	7042164.41
21	509122.15	7042205.18
22	509082.45	7042224.03
23	509051.68	7042257.20



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Mooloolah River Lower Mooloolah River Environment Reserve (LMRE Reserve)

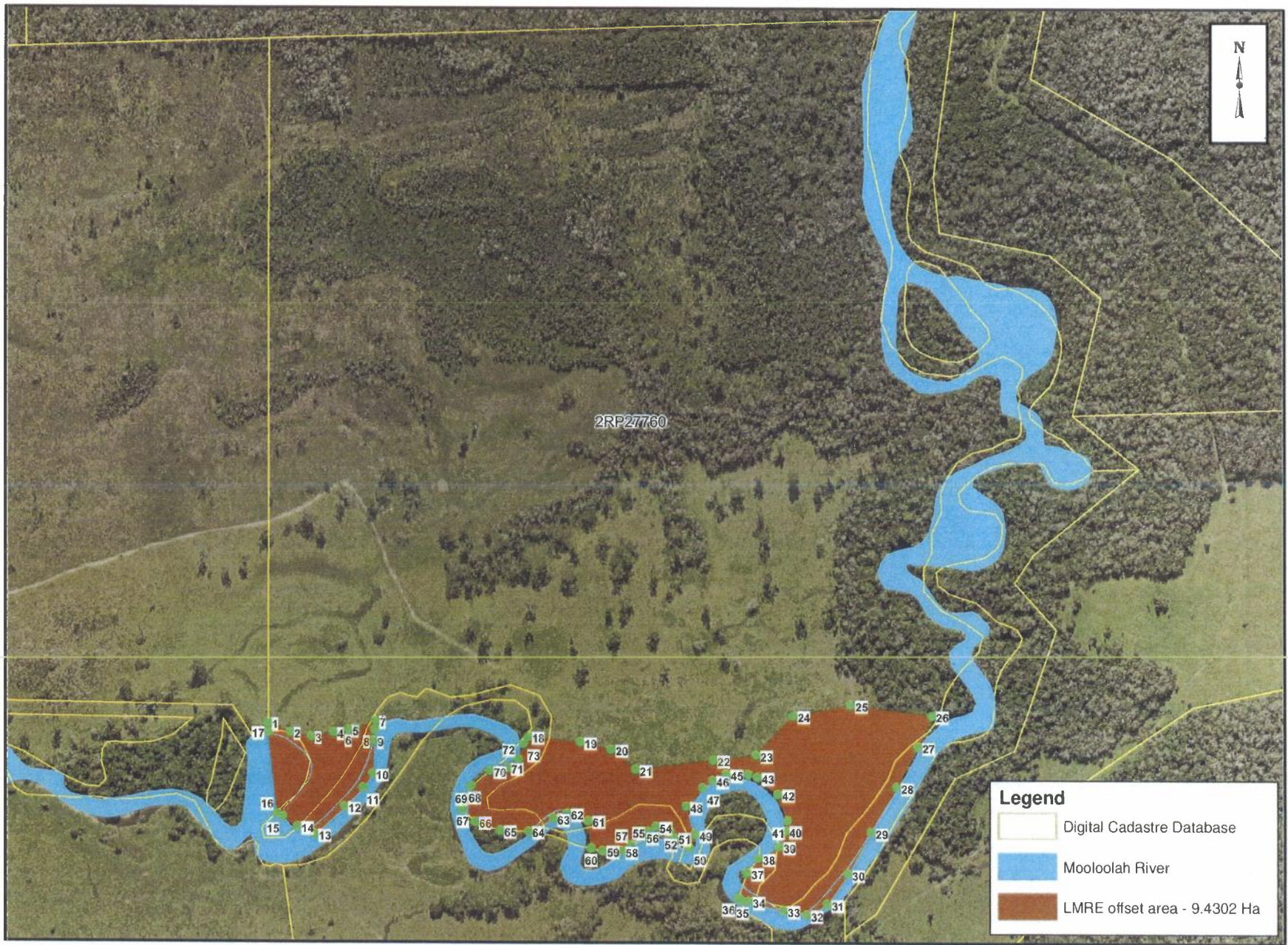
Plan No/ Job No:	Map3
Issue: A	Date: 13/03/2017
Drawn by:	R Friend
Checked by:	S Scott



Derived Reference Points

These reference points may be used to assist in locating areas delineated on this plan. All GPS points continue sequentially when labels are missing.

Point	Easting	Northing
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6	509513.54	7042195.97
7	509541.32	7042202
8	509537.35	7042189.29
9	509534.18	7042174.22
10	509524.65	7042127.39
11	509509.52	7042109.61
12	509481.57	7042087.38
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15	509399.98	7042088.65
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30	510120.17	7041864.79
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32	510056.27	7041816.76
33	510026.41	7041829.3
34	509983.38	7041851.06
35	509974.7	7041854.07
36	509970.8	7041859.17
37	509987.99	7041892.03
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42	510046.09	7041996.02
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44	510011.7	7042031.82
45	509983.63	7042037.5
46	509963.86	7042032.04
47	509949.87	7042024.15
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51	509901.37	7041959.95
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53	509893.95	7041978.04
54	509879.85	7041980.35
55	509869.23	7041975.11
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57	509844.00	7041960.09
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59	509805.98	7041959.39
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61	509794.93	7042005.62
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63	509749.68	7042017.93
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65	509676.98	7042014.47
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68	509638.55	7042071.62
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71	509700.45	7042102.06
72	509717.48	7042111.21
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Legend

- Digital Cadastre Database
- Mooloolah River
- LMRE offset area - 9.4302 Ha

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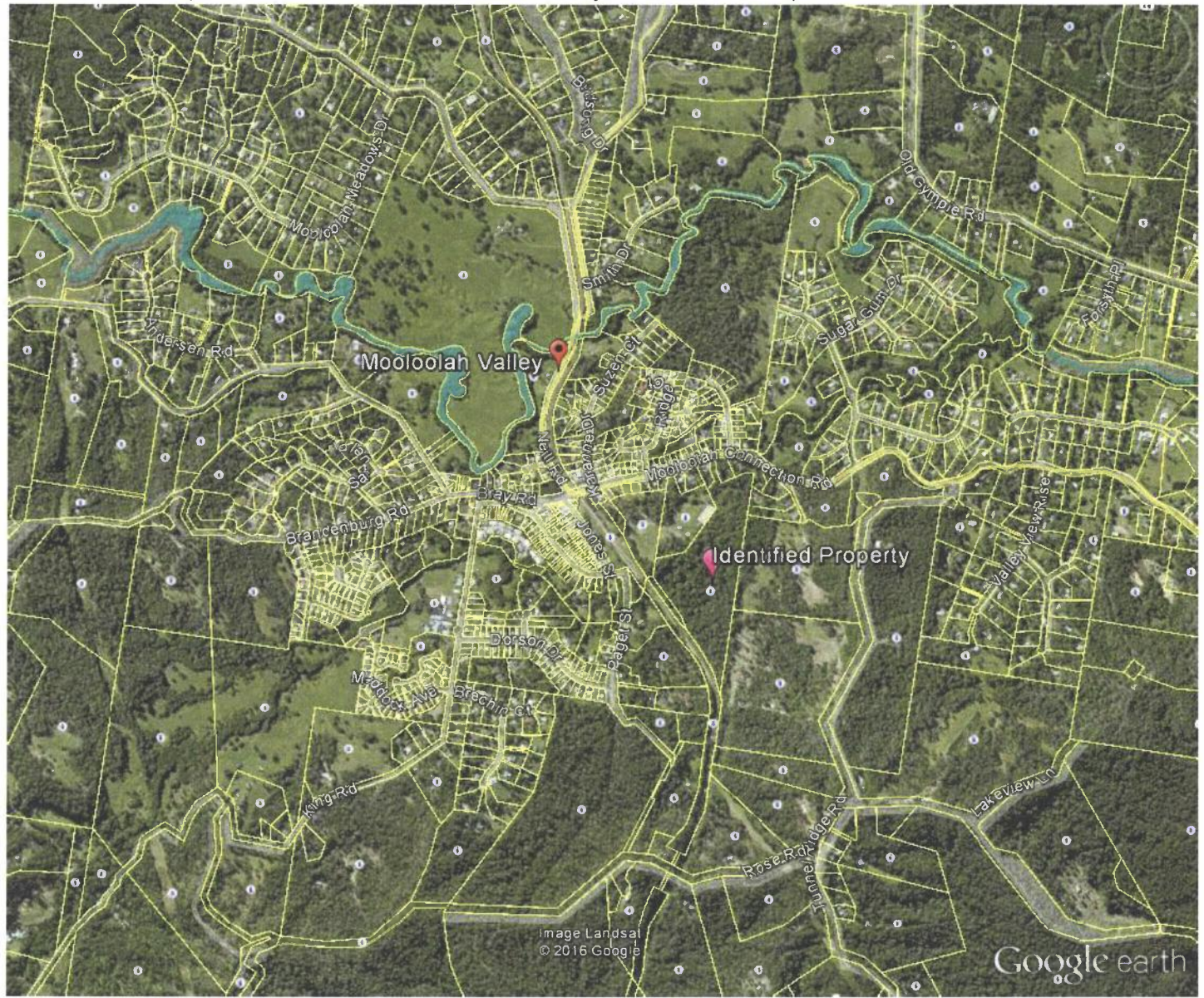
Mooloolah River Lower Mooloolah River Environment Reserve (LMRE Reserve)

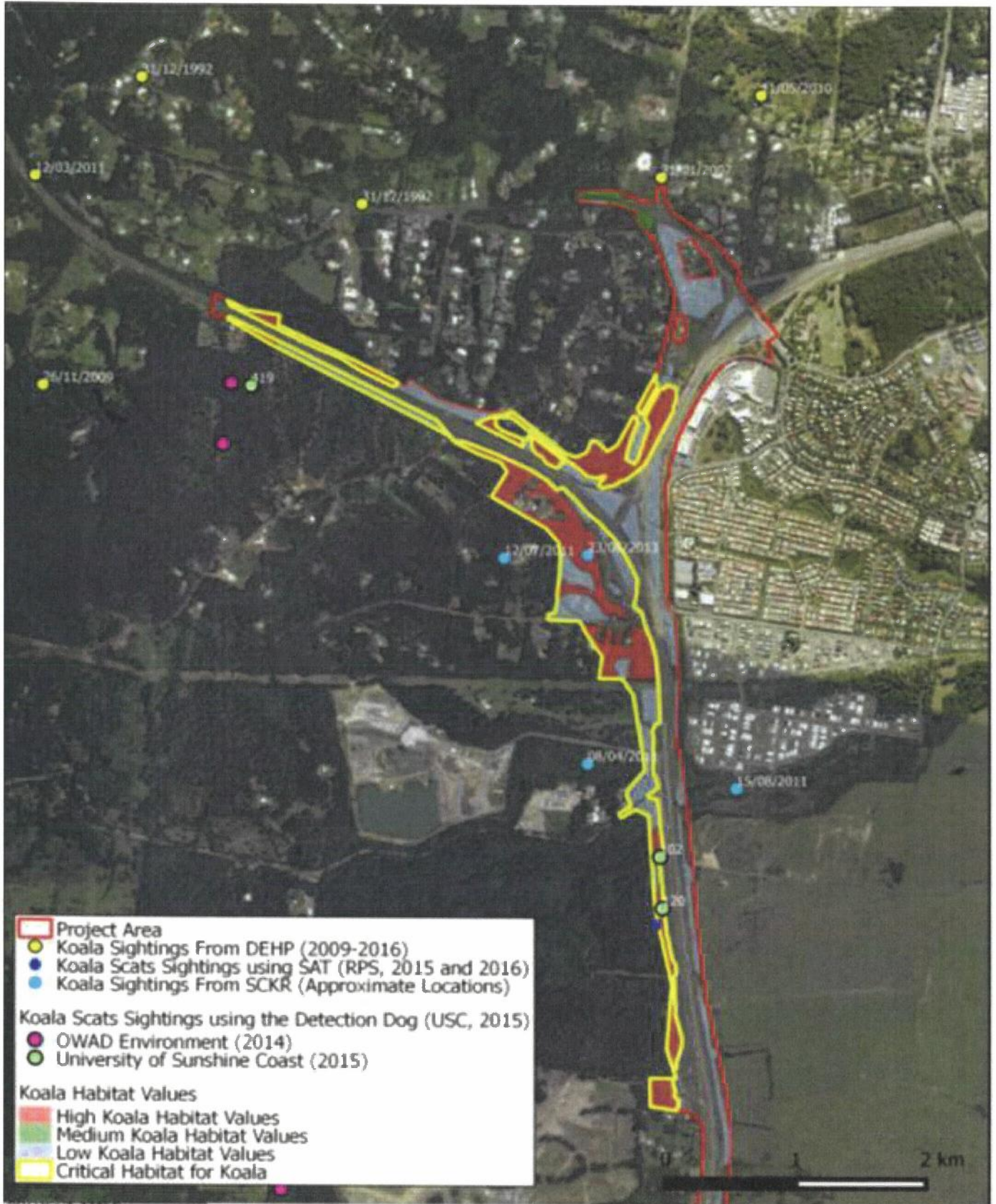
Plan No/ Job No: **Map4**
 Issue: **A** Date: 13/03/2017
 Drawn by: R Friend
 Checked by: S Scott




Attachment C


Lot 2 RP268457 (28 Mooloolah Road, Mooloolah Valley, Sunshine Coast)





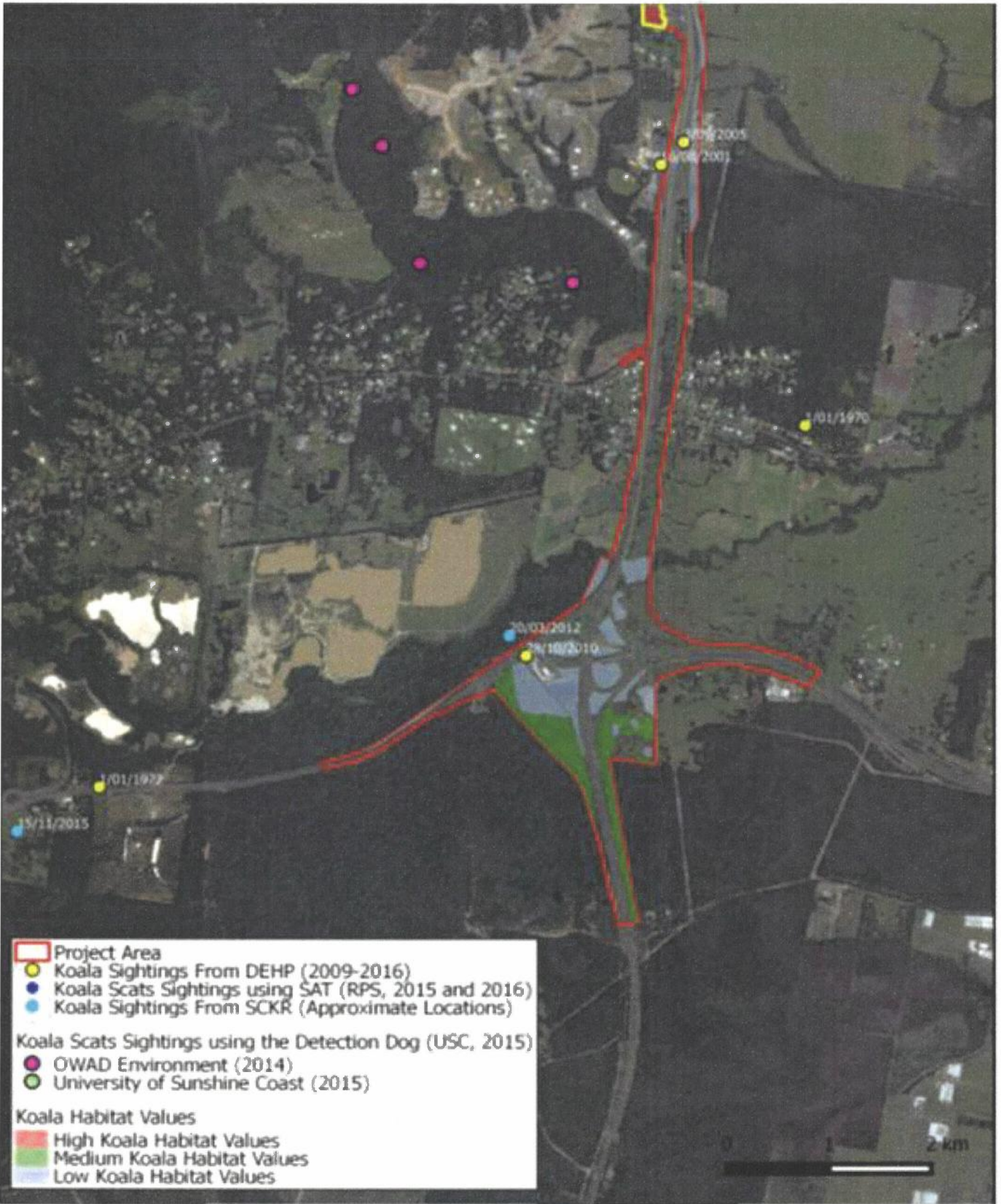
PROJECT TITLE: Koala Population and Habitat Analysis	SHEET TITLE: Figure 4.2 - Koala Habitat Map within the Project Area (Northern Portion)	
CLIENT: Department of Transport and Main Roads	SHEET NUMBER: PR15024_KPHA_Rev 4	DATE: 06/03/2016







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PROJECT TITLE: Koala Population and Habitat Analysis	SHEET TITLE: Figure 4.3 - Critical Koala Habitat Map within the Project Area (Southern Portion)	
CLIENT: Department of Transport and Main Roads	SHEET NUMBER: PR15024_KPHA_Rev 4	DATE 06/03/2016





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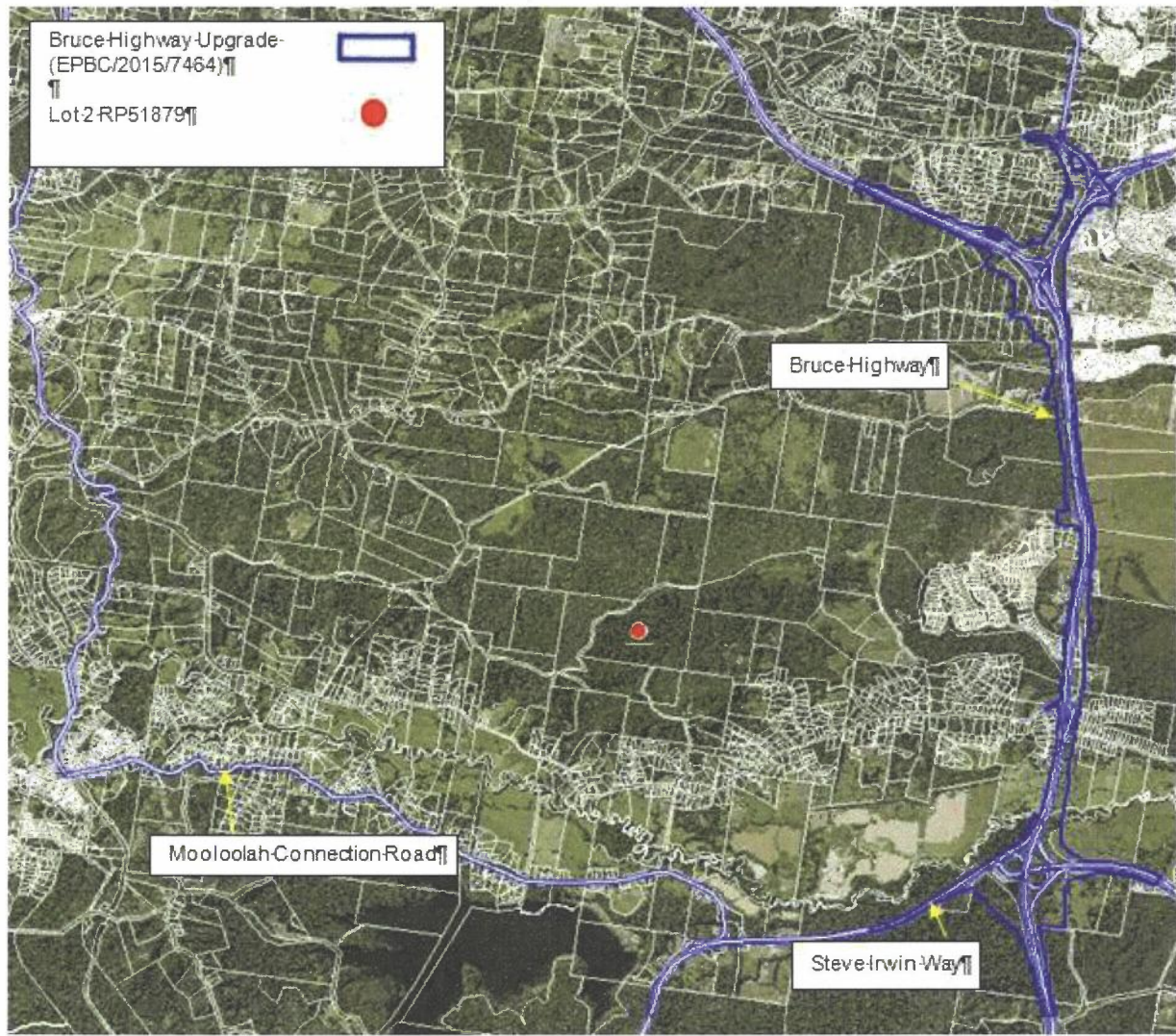


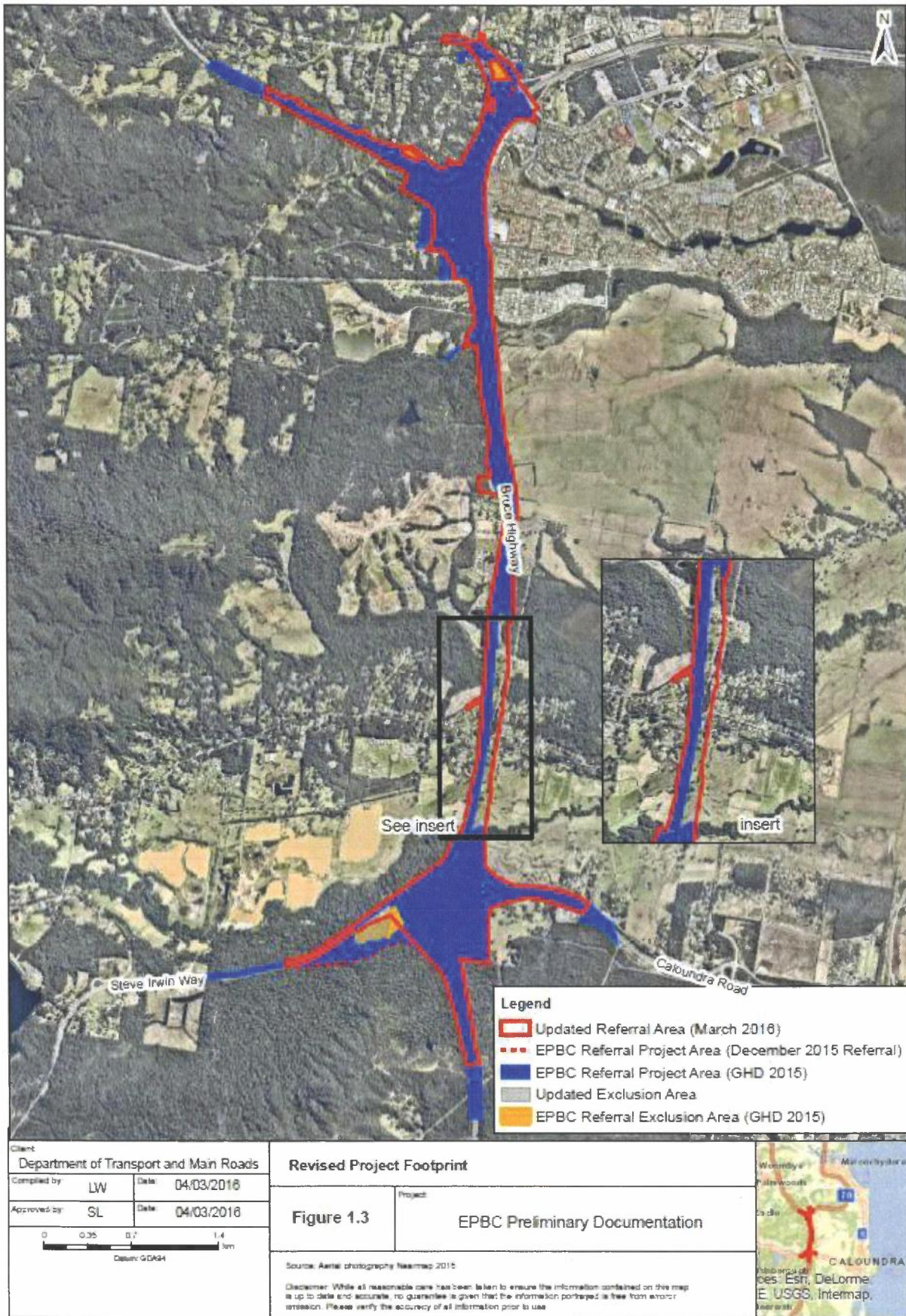
Project Area
Box Culvert Locations
Fauna Movement
Suggested Koala Movement
Proposed Improvement to Existing Structures (e.g. Dry Passage)

PROJECT TITLE: Koala Population and Habitat Analysis	SHEET TITLE: Figure 7.1 - Proposed Wildlife Movement Corridors			DISCLAIMER: Designs documented on this drawing are the property of RPS and are not authorised for reproduction or use in whole or part without written permission. These plans have been prepared for the exclusive use of the client. RPS does not accept responsibility for any use of or reliance upon the contents of these drawings by any third party. Confirm all dimensions on site and clarify any discrepancies prior to construction.
CLIENT: Department of Transport and Main Roads	SHEET NUMBER: PR15024_KPHA_Rev 4	DATE 26/02/2016		

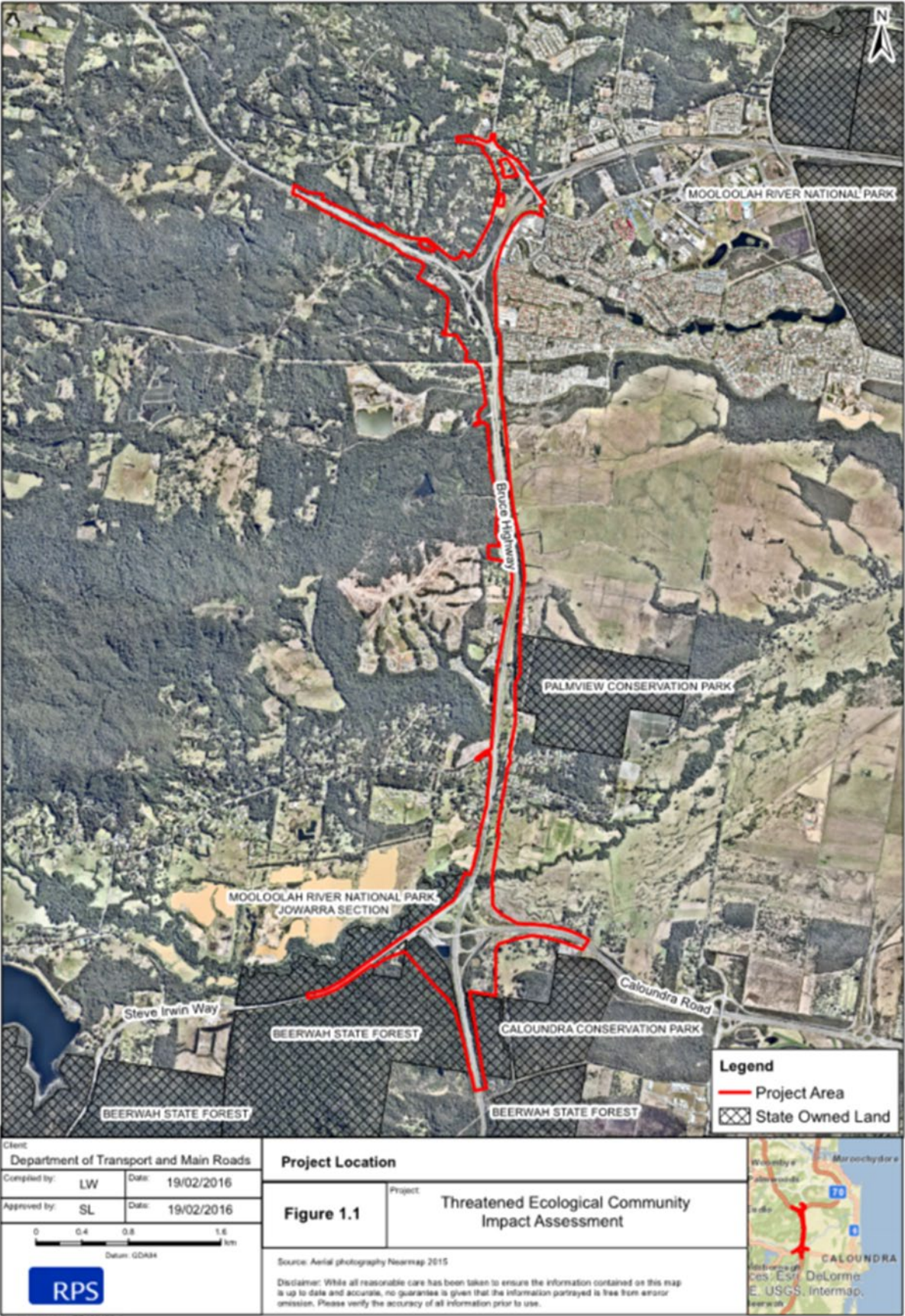
Attachment F

Lot 2 RP51879 (Missing Link Road, Glenview)





Appendix B – CR2SM Project Site Threatened Ecological Community



Appendix C – As-Built Clearing Diagrams



Figure 1: Medium and high value koala habitat cleared to date - North

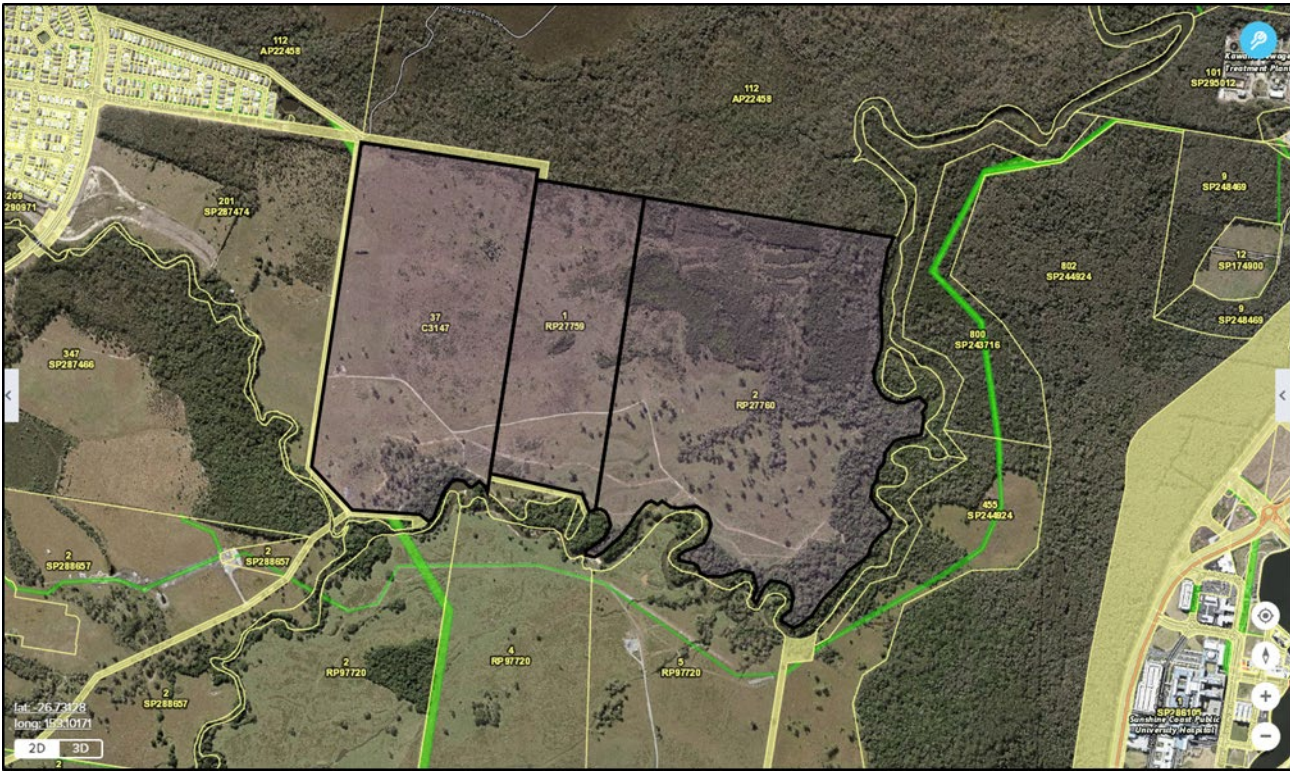


Figure 2: Medium and high value koala habitat cleared to date - South

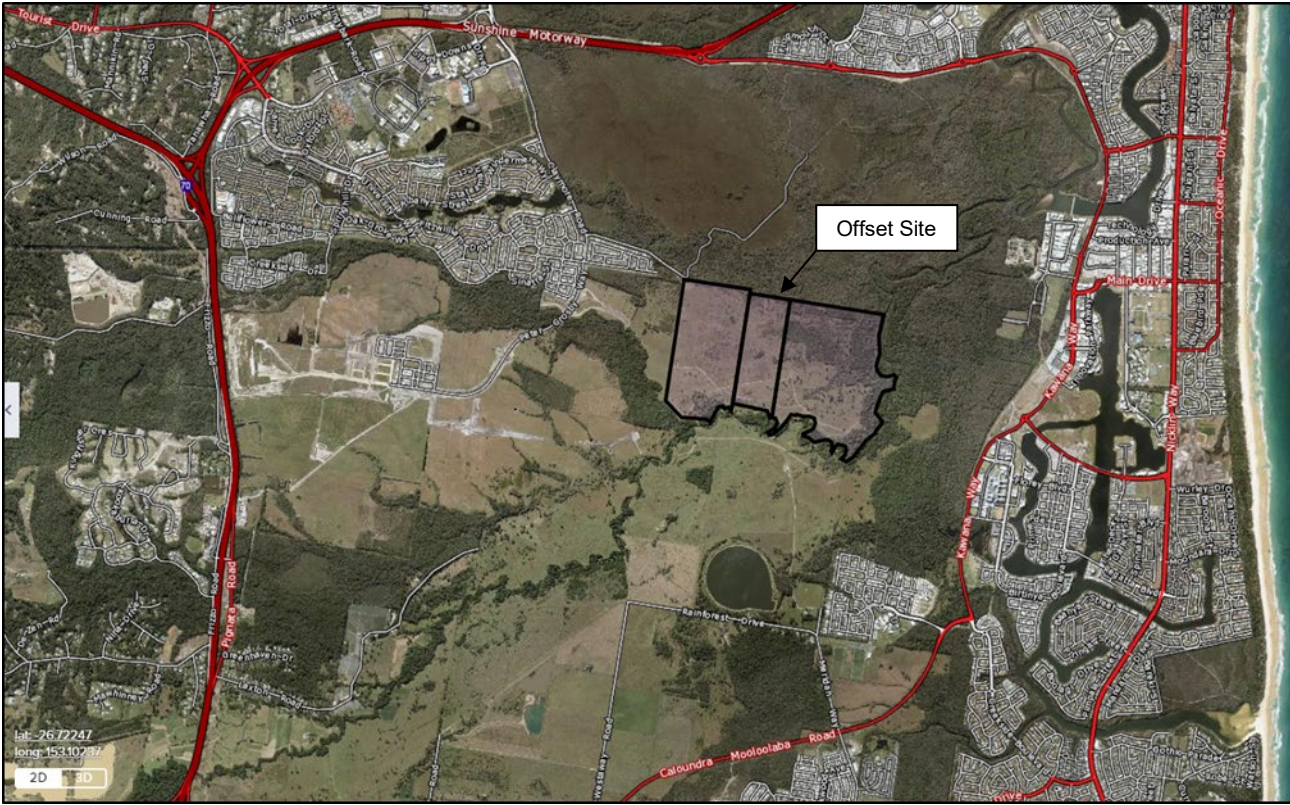


Figure 3: Total TEC cleared

Appendix D – Lower Mooloolah River Environmental Reserve Offset Site (16.64ha)

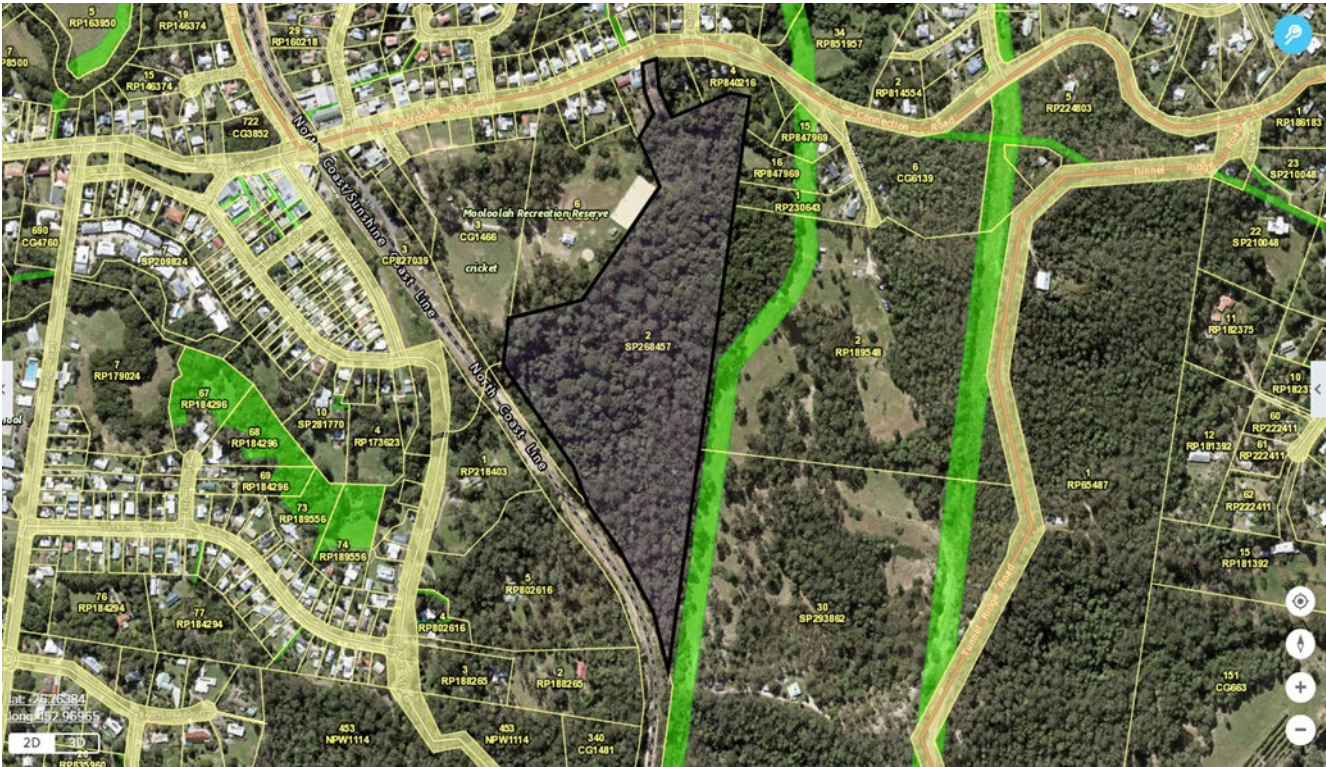


Lower Mooloolah River Environmental Reserve Offset Site.



Lower Mooloolah River Environmental Reserve Offset Site general locale.

Appendix E – 28 Mooloolah Road, Mooloolah Valley Offset Site (4.65ha)



28 Mooloolah Road, Mooloolah Valley Offset Site.



28 Mooloolah Road, Mooloolah Valley Offset Site general locale.

Appendix F – Missing Link Road, Glenview Offset Site (50ha)



Missing Link Road, Glenview Offset Site.



Missing Link Road, Glenview Offset Site general locale.

Appendix G – Notification of Commencement of the Action

Our ref 450/01352
Your ref EPBC 2015/7464
Enquiries Ms Amy Kirkpatrick



Department of
Transport and Main Roads

23 December 2016

Compliance and Enforcement Branch
Environment Standards Division
Department of Environment and Energy
GPO Box 787
CANBERRA ACT 2601

Sent by email: postapprovals@environment.gov.au

Attn: Imogen Moore

Dear Ms Moore

With reference to condition 4 of EPBC Approval 2015/7464, this letter is to formally notify your Department of the commencement of works for The Bruce Highway Upgrade Project – Caloundra Road to Sunshine Motorway (CR2SM).

Access to the site was granted to the Contractor on 2 December 2016 for preliminary works including geotechnical investigations, building demolitions and site compound establishment.

Ancillary to the geotechnical investigations and site compound establishment, minor vegetation clearing commenced in locations applicable to this approval on 8 December 2016.

If you have any questions, or require further information in relation to the above works, please contact Mr Mark Asang on 0418 795 871 or Ms Amy Kirkpatrick on 0428 103 578. Information and on the project including project updates are also available on our website at: <http://www.tmr.qld.gov.au/Projects/Name/B/Bruce-Highway-Caloundra-Road-to-Sunshine-Motorway-upgrade>.

Yours sincerely

A handwritten signature in blue ink that reads "M. Asang".

Mark Asang
Project Manager

for Gavin Soward
Project Director

Program Delivery and Operations Branch
North Coast Region
PO Box 1600
Maroochydore Queensland 4558

Telephone 1800 749 022
Website www.tmr.qld.gov.au
Email brucehwycr2sm@tmr.qld.gov.au
ABN 39 407 690 291

Appendix H – Non-Conformance List

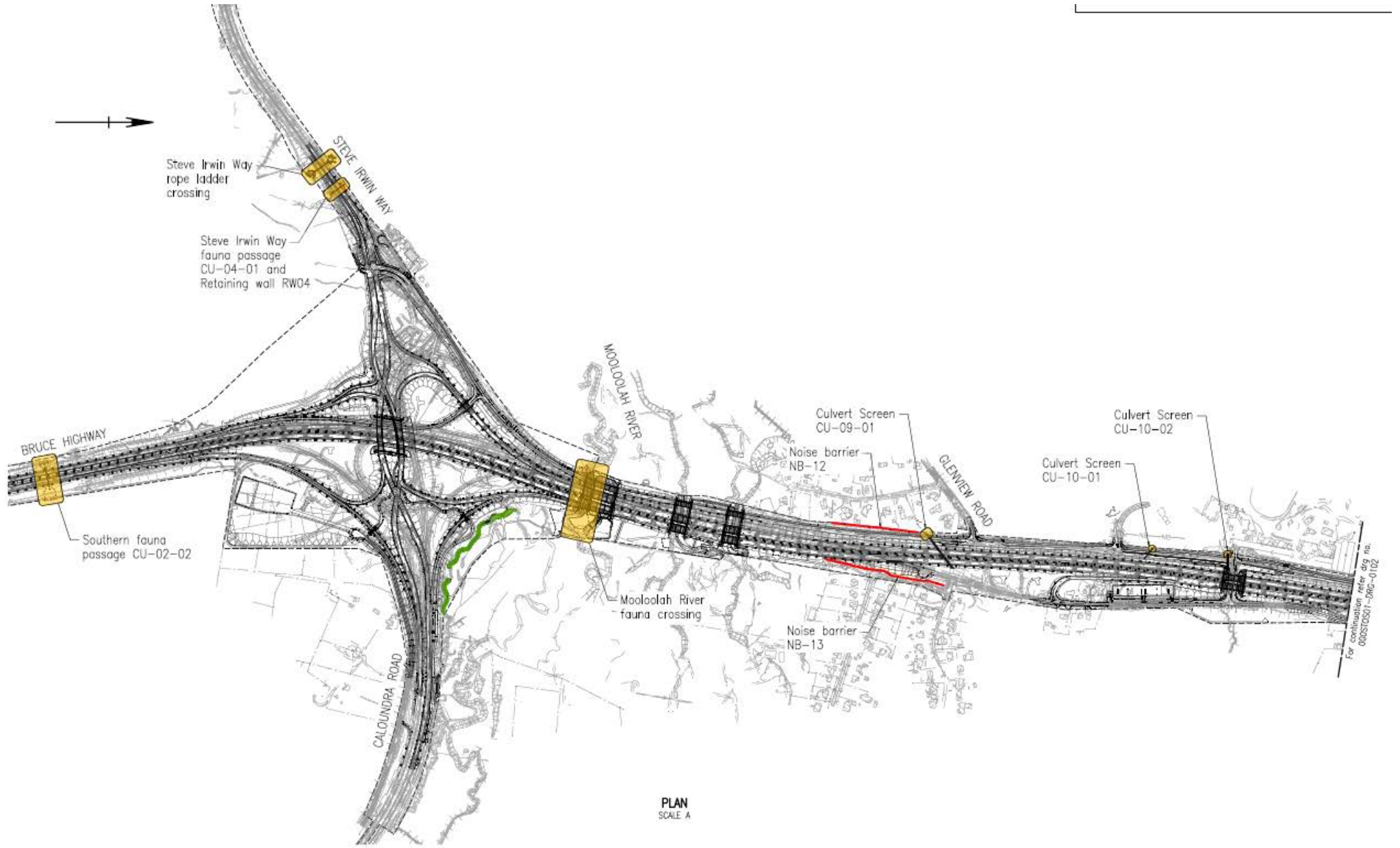
Table: Project Identified Non-Conformances and Corrective Actions

Non Compliance Detail	Detected By	Date of Non-Compliance	Agencies Notified				How the Non-conformance will be corrected	Who is responsible for correcting the NC	Date Corrective Action	What measures have/will be taking to avoid recurrence	Status 2019-2020
			Agency	Date notification	Via	By					
2019-2020 Reported Non Compliance											
The OEMP revision 3 - Table 4.2 <i>Fauna Management Pre-clear requires the establishment of temporary fauna (koala and giant barred frog) exclusion fencing surrounding construction sites to prevent fauna access.</i> Temporary frog fencing at several locations at the site were removed in anticipation of installation of permanent fencing, however design changes and pending design change requests resulted in a time lag between temporary and permanent installation. In cases where permanent fencing has not progressed, re-installation or maintenance of temporary frog fencing has been undertaken. Project logistics, switches, disciplines, significant weather, flooding and programming has provided challenging circumstances across the project in regard to the conditions.	Internal Audit	Sep-20	DoAWE	15-Feb-21	email	Dallas Frazier (FHSW)	Project Non-Conformances have been raised. The temporary barriers have been reinstalled. Progressive installation of permeant fencing is being undertaken.	Dallas Frazier (FHSW)	May-21	Maintenance of temporary fencing and expedited permanent fencing construction has been programmed and currently being completed.	Open
2018-2019 Reported Non Compliance											
Table 4.2 Fauna Management Pre-clear requires implementation of the hygiene protocols when working in proximity to threatened amphibian's species and their habitat. Measures must be detailed in the Fauna Management Plan and must include provisions from the Hygiene Protocols for the Control of Diseases in Australian Frogs (Murray et al., 2011). One of the requirements was not strictly adhered to, for example the disinfection of footwear has not been implemented. It was reported that a brush down of footwear is being undertaken.	Third party Auditor	Sep-19	DoAWE	13-Dec-19	email	Aline Rolim (FHSW)	A project Non Conformance has been raised. Advice has been provided from senior ecologist on this risk of infection to frog species is redundant for the scope of the CR2SM project. For example When frogs are required to be handled on the project such as during fauna spotter-catcher/pre-clear activities, suitable gloves are worn and if frogs are handled using bare hands these are free from potentially toxic substances such as insect repellents, perfumes and lotions as per the requirements of the protocol. - Footwear disinfection is not feasible and it is considered to not create additional risk given the background risk of infection posed by public access to the MRNP, especially at the Jowarra Park rest area location which is immediately upstream of the project site. CJV to liaise with DoAWE on new proposed hygiene protocol for acceptance.	Dallas Frazier (FHSW)	May-20	Continue with current management practices for control of diseases. CJV to liaise with DoAWE	Non conformance closed. Continue with current management practices for control of diseases. FHSW notified DoAWE via email on 13 December 2019 with frog hygiene process to address the NC.
The OEMP Revision 3, 4 - Table 4.1 (Weed management) requires implementation of the weed hygiene protocols, which include the following: Footwear must be thoroughly cleaned and disinfected at the commencement of fieldwork. Audit shows this may not have been undertaken at all times.	Third party Auditor	Sep-19	DoAWE	13-Dec-19	email	Aline Rolim (FHSW)	A project Non Conformance has been raised. Weed control and maintenance is occurring at the site. Vehicle washdown is being undertaken. Weed audits have been undertaken prior to construction and successful weed removal is undertaken at least 2 weeks prior to clearing.	Dallas Frazier (FHSW)	Ongoing	Ongoing management of weeds to ensure no new infestations on site and therefore, no risk of weed spread.	Site is continuing with weed management practices on site.

Table Cont'd: Project Identified Non-Conformances and Corrective Actions

Non Compliance Detail	Detected By	Date of Non-Compliance	Agencies Notified				How the Non-conformance will be corrected	Who is responsible for correcting the NC	Date Corrective Action	What measures have/will be taking to avoid recurrence	Status 2019-2020
			Agency	Date notification	Via	By					
2018-2019 Reported Non Compliance Con'td											
The OEMP revision 3 - Table 4.2 <i>Fauna Management Pre-clear requires the establishment of temporary fauna (koala and giant barred frog) exclusion fencing surrounding construction sites to prevent fauna access.</i> Partial compliance. All temporary giant barred frog barrier has been installed at required locations. Temporary fauna barriers have been partially installed across construction works.	TMR	June 2018 Ongoing	DoAWE	13-Dec-19	email	Aline Rolim (FHSW)	Project Non Conformances have been raised. CJV are progressively installing permanent fencing at an earlier construction stage and where construction allows. Temporary barriers will also be implemented.	Dallas Frazier (FHSW)	Jun-20	Expedited permanent fencing construction underway.	Correct action undertaken. Project completing permanent fauna fence progressively. Temporary fence being progressively removed after permanent fauna fence installation.
<i>The OEMP revision 3, Table 4.2 Fauna Management – Fencing must be designed to guide koalas (and other fauna) to the fauna underpass/es at least 100 m on either side of the fauna underpass entrance.</i> <i>Measurements on near map at the northern fauna passage fencing show one side being over 100 m and the other side being only approx. 82 m to the east after the CU-17-03 fauna crossing and returns into the batter which is short of the 100 m requirement due to steep batter face preventing fence installation to the required length</i>	Internal Audit	Sep-19	DoAWE	13-Dec-19	email	Aline Rolim (FHSW)	<i>The NC is unable to be amended due to the unsuitable ground conditions inhibiting constructability of the footings i.e. rock and slope.</i> <i>An assessment onsite has been undertaken with the risk considered minimal.</i>	N/A. Closed	N/A	<i>Not applicable. Original condition cannot be met due to unsuitable ground conditions.</i> <i>Maximum extent of fencing installed.</i>	<i>closed</i>

Appendix I – Fauna Furniture Locations



CR2SM Fauna Structure Location Plan



CR2SM Fauna Structure Location Plan



Figure 1. Permanent fauna fence adjacent to Mooloolah Cemetery



Figure 2. Completed Northern Fauna passage (CU-17-03)



Figure 3. Koala escape pole along Wilson Road



Figure 4. Fauna structures being installed on the southern side of Sippy Creek



Figure 5. Fauna structures on the northern side of Mooloolah river

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