



**BUSHFIRE MITIGATION REPORT  
FM 6314  
for  
CUSACK LANE DEVELOPMENT JOINT VENTURE  
at  
RIVERTON STAGES 3A1 & 4A  
348-474 CUSACK LANE  
JIMBOOMBA**

**PREPARED BY  
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31/08/2023**



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**DISCLAIMER**

Experienced fire fighters with extensive knowledge of building have prepared this Report. Their practical knowledge of fire fighting has been backed up by academic study.

However, fire is an element of nature. Small natural occurrences can disastrously affect the outcome of the best planning. Human actions similarly can have disastrous results.

Whilst every care has been taken in the formulation of this management report, there can be no guarantee that even the strictest adherence to its recommendations can guarantee safety of life and property.

The authors of this report accept no responsibility for any damage to life or property caused by fire or any other cause to persons using land or structures, which could in any way be construed to be the subject of this report.

**The report has been commissioned as the land falls within an area deemed a fire risk by the local authority.**

**As such, it must be recognized that structures upon this land and those using the structures could be deemed at risk.**

**Logo by LogoInstant**

**Very Important Note:**

This report is valid for the following periods;

- a) A maximum time of 5 years from date of preparation.
- b) The currency of the legislation referred to in Section 1 Report Brief
- c) Changes to any legislation generally that may impact on the report outcomes.
- d) Changes to vegetation, both on and off site, which may impact on the results of this report.
- e) Any other changes that may impact on the report in any manner.

**THE COPYRIGHT ACT AND MORAL RIGHTS ACT PROTECT THIS REPORT.**

**IRRESPECTIVE OF THIS REPORT APPEARING ON A COUNCIL PD OR OTHER ONLINE SITE, THERE IS NO PERMISSION IMPLIED OR GIVEN TO ANY PARTY TO DOWNLOAD OR TO USE THIS REPORT IN WHOLE OR IN PART IN ANY MANNER OTHER THAN THAT FOR WHICH IT WAS ORIGINALLY PREPARED.**

**ANY SUCH USE WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.**

**THIS REPORT RELIES ON THE AS 3959 FOR THE CALCULATION OF CONSTRUCTION LEVELS.**

**ANY POSSIBLE ERRORS IN THE STANDARD ARE NOT THE RESPONSIBILITY OF THE AUTHOR.**

**THIS REPORT IS ONLY TO BE USED AND DISTRIBUTED AS A COMPLETE REPORT CONTAINING AS A MINIMUM SECTIONS 1,2,3,4 AND 5 (SECTIONS 5.1 & 5.2)**

**THIS REPORT IS NOT TO BE AMENDED IN ANY WAY BY ANY PERSONS OTHER THAN THE ORIGINAL AUTHOR.**

**THIS REPORT IS ONLY TO BE USED FOR PROJECTS IDENTIFIED IN THE REPORT AND REPRESENTED ON THE SITE PLAN ACCOMPANYING THE REPORT.**

## INTRODUCTION

This Fire Management Report has been written for the benefit of future occupants of this proposed site and developed in accordance with the requirements of;

- The Logan City Council Town Plan,
- SPP 07/2017.
- Queensland Planning Act 2016
- “Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest” Natural Hazards, Risk and Resilience-Bushfire” published by QFES and Queensland Government.
- Natural hazards, risk and resilience-Bushfire State Planning Policy-state interest guidance material published by Queensland Government
- Bushfire Resilient Building Guidance for Queensland Homes published by CSIRO and Queensland Government
- The National Construction Code
- Queensland Bushfire Plan published by Queensland Government prepared by QFES.
- Australian Standard AS3959,
- International Fire Safety Engineering Guidelines

The report has been prepared as supporting documentation for a Material Change of Use (Building) /Reconfiguration of Lot Application.

- 1.1. Address:**  
348-474 Cusack Lane  
Jimboomba
- 1.2. Local Authority**  
Logan City Council
- 1.3. R.P.D.**  
Lot 704 on SP280869
- 1.4. Site area**  
980500m<sup>2</sup>
- 1.5. Responsible Fire Authority**  
Rural Fire Service Queensland via the rural fire brigade for rural fires and QFES for Structural fires.
- 1.6. Potential Bushfire Hazard Rating.**  
The hazard rating maps prepared for the Council show the ratings on this property ranging from Low to medium and being in a bushfire hazard buffer area.  
The draft risk rating maps prepared for the State Government show the ratings on this property ranging from Low to medium and being in a bushfire hazard buffer area.
- It must be noted that State Government is currently revising the mapping and there may be changes to mapped areas.
- 1.7. Land tenure**  
Freehold
- 1.8. Adjoining owners are:**  
Freehold
- 1.9. Current Land Use:**  
Vacant
- 1.10. Fire danger Index**  
FDI 40 (nominated by AS 3959 as advised by Queensland Government)
- 1.11. Topography**  
Plain
- 1.12. Predominant Wind Direction**  
The predominate wind direction is from the South East. In times of severe fire weather, the wind direction will be from the North West. The Topography will create microclimates, which will cause swirling, which will modify the apparent wind direction according to primary direction and velocity.
- 1.13. Slope**  
1<sup>0</sup>

1.14. **Aspect**  
Plain

1.15. **Fuel Type**  
**Predominate vegetation.**

REGIONAL ECOSYSTEM	VHC	VHC DESCRIPTION	SURFACE FUEL LOAD	TOTAL FUEL LOAD	LOCATION
12.3.7	16.2	Eucalyptus dominated woodland on drainage lines and alluvial plains	7.5	11.6	ADJOINING RIVER TRANSECT 1
12.3.18 (12.3.3C)	21.1	Melaleuca det open forest on sandplains or depositional plains	7.8	14.9	CENTRAL FLAT LAND TRANSECT 2

1.16. **Threat Vegetation Location**  
Adjoining the river to the west and the central vegetation area.

1.17. **Fire History**  
There is no evidence of a recent fire event.

1.18. **Location of Access Tracks**  
The site is served by a sealed road system.

1.19. **Location of Fire Breaks**  
There are no formal firebreaks. Managed and Low threat vegetation combined with a sealed road system forms effective fire of varying widths.

1.20. **Location of existing firefighting Infrastructure**  
The site is served by reticulated water.

1.21. **Historical and Cultural Sites**  
There is no evidence of Historical and Cultural sites on the property.

1.22. **Koala Habitat**  
The site is in a Koala Habitat area and there are specific requirements in relation to bushfire management.

2. SITE AND HAZARD ASSESSMENT

2.1. Discussion with Responsible Fire Authority

The fires management report has not been discussed with the First Officer of the Rural Fire Brigade, due to a Commissioners Directive in relation to advice provided by Rural Fire Brigade members.

2.2. Vegetation Types

The vegetation type predominate to this site are as scheduled in section 1.15.

2.3. Potential Bushfire Hazard Rating.

Desktop study, site inspection and assessment against the State Planning Policy Mapping Methodology generally confirms the intent of both Local Government and State Mapping in that the area is in a Potential Bushfire Hazard Area, and the relevant aspects required for Town Planning and Building are to be addressed.

2.4. Building Construction

All buildings situated within the site may be in a Designated Risk Area. There is a requirement that certain Buildings within this area be constructed in accordance with the National Construction Code/Building Code of Australia, which refers to either the Australian Standard for Construction in Bushfire Prone Areas (AS 3959) or NASH Standard-Steel Framed Construction in Bushfire Areas as Deemed to Satisfy Solutions.

The levels determined effect the types and usage of materials in relation to the type of Bushfire Attack, which may occur as assessed under the Standard. The Level of Bushfire Attack is assessed taking the vegetation types, slope, and distance from vegetation into account. The most common elements affected are Windows and flyscreening, with some restrictions on cladding and timber types. A comprehensive breakdown is available in either the National Construction Code, the Australian Standard for Construction in Bushfire Prone Areas or NASH Standard-Steel Framed Construction in Bushfire Areas.

Extracts of these documents are not provided due to copyright reasons. Full details can be obtained from your building designer or certifier.

Where a plan used to show the construction levels that may apply to a house, the base construction level is taken as the highest level shown that the house is located in. The house cannot be graded in construction levels in accordance with distance from the vegetation.

Building Class requirements AS 3959

- 2.4.1. FDI 40
- 2.4.2. TRANSECT 1 Flat Land adjoining river.
- 2.4.3. Vegetation Classification Site Specific Fuel Loads  
RE 12.3.7
- 2.4.4. Land slope Downslope  
1 degree

Distance of building from Predominate vegetation class (m) (Vegetation Management Zone)	Primary Bushfire Attack Level
0-<3.3	BAL -FZ
3.3-<4.6	BAL-40
4.6-<6.9	BAL-29
6.9-<10.2	BAL-19
10.2-<100	BAL-12.5
100-	BAL-LOW

- 2.4.5. TRANSECT 2 Central Area
- 2.4.6. Vegetation Classification Site Specific Fuel Loads  
RE 12.3.18 (12.3.3C)
- 2.4.7. Land slope Downslope  
1 degree

Distance of building from Predominate vegetation class (m) (Vegetation Management Zone)	Primary Bushfire Attack Level
0-<3.8	BAL -FZ
3.8-<5.1	BAL-40
5.1-<7.7	BAL-29
7.7-<11.5	BAL-19
11.5-<100	BAL-12.5
100-	BAL-LOW

**Note:**

The levels shown above have been produced using Method 2 as outlined in the AS 3959. Printouts of these calculations are included as Appendix 5.3.1. Site specific fuel loads provided by the State Government are utilised as a Performance Solution to provide more accurate site-specific loads than those provided in AS 3959.

The Vegetation management zone is described as all areas managed to a Low Threat condition encompassed by the distance between the building and threat vegetation from which construction levels are taken.

**The distances shown above are horizontal distances, not measured along the slope.**

Construction levels for elevations of a building that are subject to shielding from a single fire source within 100m from the proposed building can be reduced in accordance with 3.5 of AS 3959 by one level but not below BAL-12.5 All fire sources on adjoining sites and across roads must be considered when utilising this reduction.

**THE STREET ELEVATION CAN BE REDUCED BY ONE BAL BELOW THE PRIMARY BAL CALCULATED ABOVE.**

Construction Levels are shown as part of a comprehensive Bushfire Management Plan.

They are provided for the end user of the land and its eventual occupants.

They are not provided for assessment by Local Authority, in accordance with the Planning Act 2016, The State Planning Policy, and The Building Act 1975.

Compliance with the Performance Requirements of the Building Code of Australia, P2.3.4 Bushfire areas states;

*A Class 1 building or a Class 10a building or deck associated with a Class 1 building constructed in a designated bushfire prone area is to provide resistance to Bushfire to reduce the danger to life and reduce the risk of the loss of the building.*

Section 3.7.4.0 of A. Acceptable Construction Manual (Queensland Variation) states that

- a) Subject to (b), Performance Requirement P2.3.4 is satisfied for-
- i) a Class 1 building; or
  - ii) a Class 10a A building or deck associated with a Class 1 building, located in a designated bushfire prone area if it is constructed in accordance with AS 3959.
- b) The requirements of (a) do not apply when the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300mm high."

Therefore, it must be considered that compliance with any Construction Level of AS 3959 satisfies the Performance Requirements of Building Code of Australia, and all construction levels therefore are to be considered as mitigating risk in an equal manner.

The Planning Act 2016 Section 8 What are Planning Instruments (5) and (6) state;

- (5) A local planning instrument must not include provisions about building work, to the extent the building work is regulated under the building assessment provisions, unless permitted under the Building Act.
- (6) To the extent a local planning instrument does not comply with subsection (5), the local planning instrument has no effect.

The Building Act 1975, Section 31 states;

*"(4) A local law, local planning instrument or local government resolution must not include provisions about building work, to the extent the building work is regulated under a code under subsection (3).*

*(5) To the extent a local law, local planning instrument or local government resolution does not comply with subsection (4), the local law; local planning instrument or local government resolution is of no effect.*

*(6) Subsections (3) to (5) are subject to sections 32 and 33."*

## 2.5. Ecological Requirements

The site is in a Koala Habitat Area and there is specific restriction in relation to vegetation management.

**Note;**

*The Category of Bushfire Attack referred to in the Australian Standard is different to the Hazard/Risk area referred to above.*

*Extensive modification of the existing vegetation types including that on adjoining sites could result in a change of Category of Bushfire Attack and therefore variation in the Level of construction required.*

*It is the responsibility of the owner of each individual site to ensure that plantings after their occupation of the site do not reduce the safety of their buildings in a manner, which could require a higher level of Construction than that originally utilised.*



### 3. RISK MANAGEMENT PLAN

#### 3.1. Agencies / Persons Responsible

The responsible Fire Authority is the Rural Fire Service Queensland through the Rural Fire Brigade being responsible for Bush Fires and the Queensland Fire and Emergency Service being responsible for Structural Fires

It is the responsibility of the Developers and Owners of the properties to ensure that the relevant measures required by this Management Report are in place prior to inspection by the Council and the Building Certifier and to ensure that those measures are in place prior to the occupation of any buildings, which are the subject of this report. It is the responsibility of Council and Building Certifiers to ensure that relevant measures within their responsibility are in place prior to the issuance of any certification.

#### 3.2. Bushfire Safety Objective

The objective of this report is to minimise potential risk to life and property by protecting the buildings from the effects of bushfire.

#### 3.3. Aims

The aims to achieve this objective are to mitigate the effect of the bushfire attack mechanisms of: -

- 3.3.1. Radiant Heat
- 3.3.2. Direct Flame Contact
- 3.3.3. Wind
- 3.3.4. Ember Attack
- 3.3.5. Smoke

#### 3.4. Functional Requirements

The functional requirements to achieve this objective are: -

- 3.4.1. The provision of safe conditions for fire fighters
- 3.4.2. The provision of safe conditions for residents
- 3.4.3. Ensure adequate and safe access to and from the property.
- 3.4.4. Ensure adequate and safe water supply to the property and the establishment of firefighting water reserves.
- 3.4.5. Provide a system of fire breaks and trails to protect the building component.
- 3.4.6. Remove vegetation that is considered dangerous and a hazard in Fire Conditions
- 3.4.7. To ascertain the required standard of construction of the buildings in accordance with the requirements of the National Construction Code and the Australian Standard for Construction in Bushfire Prone Areas or the provision of a satisfactory alternative solution
- 3.4.8. Facilitate the return to "normalcy "

#### 3.5. Proposed Fire Fighting Infrastructure

- 3.5.1. The proposed buildings are to be served by a reliable reticulated water supply. This is to always have sufficient flow and pressure characteristics for fire-fighting purposes with a minimum pressure of 200kpa and a minimum flow rate of 10l per second in accordance with "Fire Hydrant and Vehicle Access Guidelines for Residential, Commercial and Industrial Lots" published by QFES and Qld Government.

#### 3.6. Building Construction

All construction is to be in accordance with National Construction Code/Building Code of Australia, which refers to either the Australian Standard for Construction in Bushfire Prone Areas (AS 3959) or NASH Standard-Steel Framed Construction in Bushfire Areas as Deemed to Satisfy Solutions. and the Level of construction assessed under "Site and Hazard Assessment."

**The plans lodged for Building Certification are to be assessed on this basis by the Building Certifier.**  
**A final stage completion certificate (Form 21) issued by the Building Certifier is to be received prior to occupation of the building.**  
**Buildings are not to be occupied until certification is received.**

**Buildings are to be maintained in a manner that protects the integrity of the construction and building elements as outlined in this report.**

#### 3.7. Street Numbering

Numbering is to be installed in accordance with the current Street Numbering System at time of completion of building.

**3.8. Less Flammable Landscaping**

Any new landscaping within the vegetation management zone as shown on the Vegetation Management Plan and all housing Lots is to be Less Flammable, in accordance with the list enclosed as an Appendix at the rear of this Report, rainforest species, or cultivated gardens, and comply with the requirements of “*Bushfire Resilient Communities Technical Reference Guide for the State Planning Policy State Interest*” Natural Hazards , Risk and Resilience-Bushfire” published by QFES and Queensland Government, and “Natural hazards, risk and resilience-Bushfire-Assessment Benchmark 5” which cite a maximum Fuel Load of 8t/ha for revegetation or rehabilitation within bushfire prone areas.

“Bushfire Resilient Building Guidance for Queensland Homes” published by Qld State Government provides a schedule of species in Appendix E.

<https://www.qra.qld.gov.au/bushfireguideline>

**3.9. Insurance**

Failure to comply with this management report may have a detrimental effect upon the Insurance of the subject Buildings.

**3.10. Emergency Response Procedures**

In the event of Fire Emergency, assistance is to be obtained by dialling 000.

- 3.10.1. The owner should read thoroughly the brochures contained and those recommended at the rear of this report. They contain valuable information that could assist in the saving of lives and property in a fire event!

**3.11. Community Awareness Strategies**

- 3.11.1. Each subsequent owner is to be provided with a copy of this Fire Management report with an alert placed on either Title or Council Rate searches that the Report is in existence and is to be made available to ensuing owners.

**3.12. Administering Staff**

It is the responsibility of the developers and owners to ensure compliance with this Report and the Town Plan, and to ensure that each of the new owners is provided with a copy of this report.

**It is the responsibility of the Council and the Building Certifier to ensure that the relevant measures required by this management report are in place prior to the final completion stage inspection of any buildings on any sites which are the subject of this report as noted in Clause 3.1 of this report.**

**It is the responsibility of the ensuing owners of the properties to maintain the properties in the conditions outlined in this report.**

## 4. FIRE MANAGEMENT ACTION SUMMARY AND SCHEDULE

DEVELOPMENT REQUIREMENTS	BUILDING REQUIREMENTS	MAINTENANCE
	<p>Buildings to comply with the National Construction Code/Building Code of Australia.</p> <p>No occupation until compliance with Standard and Management Report</p>	<p>Regular mowing and maintenance of the vegetation management areas as set out in this report.</p> <p>Building materials are to be maintained in "as new" condition to preserve the integrity of the relevant materials.</p>

5. APPENDICES

- 5.1. Form 15
- 5.2. Site Plans
- 5.3. Supporting Information:
  - 5.3.1. Method 2 Calculation printouts
  - 5.3.2. Fuel Load Calculation

**Note. These items below are referenced for information purposes only and are not to be construed as being part of the management report.**

**This information is generic and not provided for approval purposes. It is only provided for end user knowledge.**

- 5.3.3. Planning Regulation Fact Sheet December 2019
- 5.3.4. Prepare. Act. Survive
- 5.3.5. Rural property Fire Management Guide 2010
- 5.3.6. Notes for Landholders
- 5.3.7. Bushfire Action Guide
- 5.3.8. Bushfire Safety in Urban Fringe Areas
- 5.3.9. Water + Power -Vital for Fire fighting
- 5.3.10. Less Flammable Vegetation
- 5.3.11. Fire Retardant Native Plants
- 5.3.12. Tree selection for Fire-Prone Areas
- 5.3.13. Bushfire Resilient Building Guidance for Queensland Homes Appendix E
- 5.3.14. First Draft (specifying timber in bush fire zones)
- 5.3.15. External water spray system
- 5.3.16. Fire Retardant Coating Solutions
- 5.3.17. Archicentre Bushfire Design Guide
- 5.3.18. Section 3.8 Sign Types - Fire Trail Signage of the GCCC Natural Areas Management Unit  
(Page 16) Signage      Guidelines
- 5.3.19. Trail Number and Key Point signage
- 5.3.20. Bushfire Hydrant detail
- 5.3.21. Tank detail
- 5.3.22. Recycled Water for Firefighting
- 5.3.23. Sample Easement Document
- 5.3.24. Bushfire Windows and Shutters
- 5.3.25. A guide to retrofit your home for better protection from a bushfire.
- 5.3.26. FireFly BAL-FZ System
- 5.3.27. Bushfire Planning and Design Certification Scheme Update
- 5.3.28. Eaves Water System
- 5.3.29. Aussi Ember Guard
- 5.3.30. The Australian "False Alarm: the great rainforest fire that wasn't".
- 5.3.31. Hijacking Australian 2019 Bushfire Tragedies to Fearmonger Climate Change
- 5.3.32. Bushfires have been in Australia for over 60 million years.

We also recommend that the landholder obtains and reads the following;

- 5.3.33. Bushfire Hazard Planning in Queensland
  - 5.3.34. Protecting your home against Bushfire
- Both available from the Dept. of Local Government and Planning, and

- 5.3.35. Fire in Bushland Conservation
- Available from Queensland Heritage Trust.

- 5.3.36. Bushfire Resilient Building Guidance for Queensland Homes
- <https://www.qra.qld.gov.au/bushfireguideline>

Signed

.....  
 Eldon Bottcher  
 Grad. Dip. DBPA (UWS) Dip. Arch. (QIT), Cert. R.F.M. (USQ), F.R.A.I.A., M.A.I.E.S. AIFireE  
 Architect  
 BPAD-L3 Practitioner



**APPENDIX 5.1  
FORM 15**

**Form 15****Compliance certificate for  
building design or specification**

This form is to be used by an appointed competent person for the purposes of section 10 of the *Building Act 1975* and sections 73 and 77 of the *Building Regulation 2021* (Design-specification certificate) stating that an aspect of building work or specification will, if installed or carried out as stated in this form, comply with the building assessment provisions.

Additional explanatory information is included in the Appendix at the end of this form.

<p><b>1. Property description</b></p> <p>This section need only be completed if details of street address and property description are applicable.</p> <p>E.g., in the case of (standard/generic) pool design/shell manufacture and/or patio and carport systems this section may not be applicable.</p> <p>The description must identify all land the subject of the application.</p> <p>The lot and plan details (e.g., SP/RP) are shown on title documents or rates notice.</p> <p>If the plan is not registered by title, provide previous lot and plan details.</p>	<p>Street address (<i>include no., street, suburb/locality, and postcode</i>) 348-474 Cusack Lane Jimboomba</p> <p style="text-align: right;">State <b>QLD</b> Postcode</p> <p>Lot and plan details (<i>attach list if necessary</i>) Lot 704 on SP280869</p> <p>Local government area the land is situated in. Logan City Council</p>
<p><b>2. Description of aspect/s certified</b></p> <p>Clearly describe the extent of work covered by this certificate, e.g., all structural aspects of the steel roof beam.</p>	<p>Work as required for bushfire mitigation purposes as set out in the Bushfire Management Report FM 6314 prepared by Eldon Bottcher Architect Pty Ltd including assessment of Construction Levels assessed under AS 3959 and nominated in Section 2.4 of the report as BAL 12.5 or BAL Low as shown on the Construction Levels Plan.</p>
<p><b>3. Basis of certification</b></p> <p>Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications were relied upon.</p>	<p>Compliance with the Bushfire Management Report FM 6314 prepared by Eldon Bottcher Architect Pty Ltd</p> <p><b>No certification of components covered by The Building Act 1975, The building Code of Australia or AS 3959.</b></p> <p>Logan City Council Town Plan Bushfire Management Constraint code.</p>
<p><b>4. Reference documentation</b></p> <p>Clearly identify any relevant documentation, e.g., numbered structural engineering plans.</p>	<p>Bushfire Mitigation Report FM 6314</p>

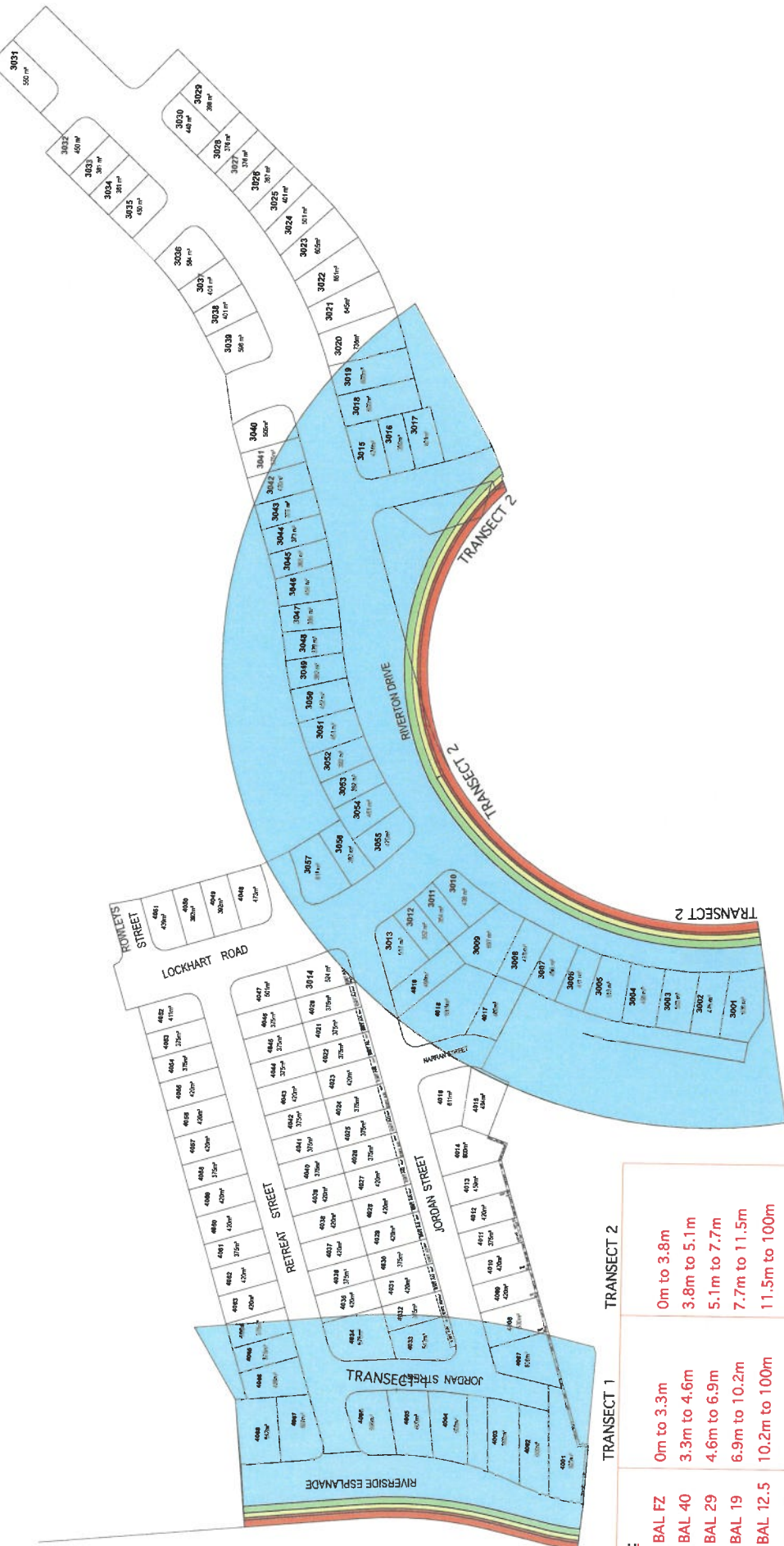
<p><b>5. Building certifier reference number and building development application number</b></p>	<p>Building certifier reference number</p> <p>Building development application number <i>(if available)</i></p> <p>Not Available</p>
<p><b>6. Appointed Competent person details.</b> Under Part 6 of the Building Regulation a person must be assessed as a competent for the type of work (design -specification) by the relevant building certifier.</p>	<p>Name <i>(in full)</i> <b>Eldon John Bottcher</b></p> <p>Company name <i>(if applicable)</i> <b>Eldon Bottcher Architect Pty Ltd</b></p> <p>Business phone number 07 55920082</p> <p>Email address <b>bushfires@eb-a.com.au</b></p> <p>Postal address P.O. Box 3606 Robina Town Centre</p> <p>Licence Class or registration type <i>(if applicable)</i></p> <p>..... .....</p> <p>Licence or registration number <i>(if applicable)</i> Reg Architect Qld 1325 FPA Australia BPAD Level 3 practitioner 16935</p> <p>Contact person <b>Eldon Bottcher</b></p> <p>Mobile number 0412434134</p> <p>Postcode <b>4230</b></p>
<p><b>7. Signature of appointed competent person</b> This certificate must be signed by the individual assessed and appointed by the building certifier as competent to give design-specification help.</p>	<p>Signature </p> <p>Date 31 August 23</p> <p>.....</p>

**LOCAL GOVERNMENT USE ONLY**

Date received		Reference Number/s	
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**APPENDIX 5.2  
SITE PLANS**





LEGEND:	TRANSECT 1	TRANSECT 2
BAL FZ	0m to 3.3m	0m to 3.8m
BAL 40	3.3m to 4.6m	3.8m to 5.1m
BAL 29	4.6m to 6.9m	5.1m to 7.7m
BAL 19	6.9m to 10.2m	7.7m to 11.5m
BAL 12.5	10.2m to 100m	11.5m to 100m
BAL LOW	100m -	100m -

NOTES

1. The copyright for these drawings & any drawings is vested with Eidan Buttcher Architect Pty Ltd.
2. Do not reuse from drawings without the written consent of the Architect.
3. Check any discrepancies with Architect.

PROJECT TITLE  
**RIVERTON DEVELOPMENT**

CONSTRUCTION LEVELS  
**PLAN**

DRAWING TITLE  
**CONSTRUCTION LEVELS  
PLAN**

DATE  
3/10/2023

SCALE  
1:2000

PROJECT NUMBER  
**FM 6314**

CONTRACT NUMBER  
**SK-1.0**

PROJECT MANAGER  
Eidan Buttcher

ARCHITECT  
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**APPENDIX 5.3**

**SUPPORTING INFORMATION**

(NOTE: SOME OF THIS INFORMATION IS GENERIC AND NOT PROVIDED FOR APPROVAL PURPOSES. IT IS ONLY PROVIDED FOR END USER KNOWLEDGE)

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
 145 VARSITY PARADE PH 0755920082  
 VARSITY LAKES E architects@eb-a.com.au  
 QLD. 4327



**THIS ASSESSMENT USES AS 3959 METHOD 2**

**PROJECT**

**PROPOSED RESIDENCES**

**SITE ADDRESS**

**RIVERTON STAGES 3A1 & 4A**  
**348-474 CUSACK LANE**  
**JIMBOOMBA**  
**TRANSECT 1 RE 12.3.7**  
**FLAT LAND ADJOINING RIVER**

**INPUTS**

FDI		<input type="text" value="40"/>
VEGETATION TYPE	SEE TABLE	<input type="text" value="Site Specific Fuel Loads"/>
TOTAL FUEL LOAD		<input type="text" value="11.6"/> tonnes/ha
SLOPE UNDER VEGETATION		<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING		<input type="text" value="1"/> degrees
FLAME WIDTH		<input type="text" value="100"/> m
ELEVATION OF RECEIVER		<input type="text" value="1.6"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>		<input type="text" value="3.3"/> m

**RESULTS**

RADIANT HEAT	<input type="text" value="39.86"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="3.90"/> m
RATE OF SPREAD	<input type="text" value="0.39"/> km/hr
ATMOSPHERIC TRANSMISSIMTY	<input type="text" value="90%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.6"/> m
FLAME ANGLE	<input type="text" value="56"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-40"/> BAL

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
 145 VARSITY PARADE  
 VARSITY LAKES  
 QLD. 4327  
 PH 0755920082  
 E architects@eb-a.com.au



**THIS ASSESSMENT USES AS 3959 METHOD 2**

**PROJECT**

**PROPOSED RESIDENCES**

**SITE ADDRESS**

**RIVERTON STAGES 3A1 & 4A  
 348-474 CUSACK LANE  
 JIMBOOMBA  
 TRANSECT 1 RE 12.3.7  
 FLAT LAND ADJOINING RIVER**

**INPUTS**

FDI		<input type="text" value="40"/>
VEGETATION TYPE	SEE TABLE	Site Specific Fuel Loads
TOTAL FUEL LOAD		<input type="text" value="11.6"/> tonnes/ha
SLOPE UNDER VEGETATION		<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING		<input type="text" value="1"/> degrees
FLAME WIDTH		<input type="text" value="100"/> m
ELEVATION OF RECEIVER		<input type="text" value="1.7"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>		<input type="text" value="4.6"/> m

**RESULTS**

RADIANT HEAT	<input type="text" value="28.43"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="3.90"/> m
RATE OF SPREAD	<input type="text" value="0.39"/> km/hr
ATMOSPHERIC TRANSMISSIMTY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.7"/> m
FLAME ANGLE	<input type="text" value="66"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-29"/> BAL

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**

145 VARSITY PARADE

VARSITY LAKES

QLD. 4327

PH 0755920082

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**THIS ASSESSMENT USES AS 3959 METHOD 2**

## PROJECT

## PROPOSED RESIDENCES

## SITE ADDRESS

**RIVERTON STAGES 3A1 & 4A**

**348-474 CUSACK LANE**

**JIMBOOMBA**

**TRANSECT 1 RE 12.3.7**

**FLAT LAND ADJOINING RIVER**

## INPUTS

FDI

40

VEGETATION TYPE

SEE TABLE

Site Specific Fuel Loads

TOTAL FUEL LOAD

11.6 tonnes/ha

SLOPE UNDER VEGETATION

1 degrees

SLOPE BETWEEN VEGETATION AND BUILDING

1 degrees

FLAME WIDTH

100 m

ELEVATION OF RECEIVER

1.7 m

**DISTANCE BETWEEN VEGETATION AND BUILDING**

6.9 m

## RESULTS

RADIANT HEAT

18.75 kw/m<sup>2</sup>

FLAME LENGTH

3.90 m

RATE OF SPREAD

0.39 km/hr

ATMOSPHERIC TRANSMISSIVITY

88%

PEAK ELEVATION OF RECEIVER

1.7 m

FLAME ANGLE

74 degrees

**CONSTRUCTION LEVEL REQUIRED**

**BAL-19 BAL**

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



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 E architects@eb-a.com.au



**THIS ASSESSMENT USES AS 3959 METHOD 2**

## PROJECT

## PROPOSED RESIDENCES

## SITE ADDRESS

**RIVERTON STAGES 3A1 & 4A**  
**348-474 CUSACK LANE**  
**JIMBOOMBA**  
**TRANSECT 1 RE 12.3.7**  
**FLAT LAND ADJOINING RIVER**

## INPUTS

FDI		40
VEGETATION TYPE	SEE TABLE	Site Specific Fuel Loads
TOTAL FUEL LOAD		11.6 tonnes/ha
SLOPE UNDER VEGETATION		1 degrees
SLOPE BETWEEN VEGETATION AND BUILDING		1 degrees
FLAME WIDTH		100 m
ELEVATION OF RECEIVER		1.7 m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>		<b>10.2 m</b>

## RESULTS

RADIANT HEAT	12.48 kw/m <sup>2</sup>
FLAME LENGTH	3.90 m
RATE OF SPREAD	0.39 km/hr
ATMOSPHERIC TRANSMISSIMTY	86%
PEAK ELEVATION OF RECEIVER	1.7 m
FLAME ANGLE	80 degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<b>BAL-12.5 BAL</b>

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
 145 VARSITY PARADE PH 0755920082  
 VARSITY LAKES E architects@eb-a.com.au  
 QLD. 4327



**THIS ASSESSMENT USES AS 3959 METHOD 2**

**PROJECT**

**PROPOSED RESIDENCES**

**SITE ADDRESS**

**RIVERTON STAGES 3A1 & 4A  
 348-474 CUSACK LANE  
 JIMBOOMBA  
 TRANSECT 2 RE 12.3.18 (12.3.3C)  
 CENTRAL FLAT LAND**

**INPUTS**

FDI		<input type="text" value="40"/>
VEGETATION TYPE	SEE TABLE	<input type="text" value="Site Specific Fuel Loads"/>
TOTAL FUEL LOAD		<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION		<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING		<input type="text" value="1"/> degrees
FLAME WIDTH		<input type="text" value="100"/> m
ELEVATION OF RECEIVER		<input type="text" value="1.7"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>		<input type="text" value="3.8"/> m

**RESULTS**

RADIANT HEAT	<input type="text" value="38.97"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.40"/> m
RATE OF SPREAD	<input type="text" value="0.40"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.7"/> m
FLAME ANGLE	<input type="text" value="55"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-40"/> BAL

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



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**THIS ASSESSMENT USES AS 3959 METHOD 2**

## PROJECT

## PROPOSED RESIDENCES

### SITE ADDRESS

**RIVERTON STAGES 3A1 & 4A  
348-474 CUSACK LANE  
JIMBOOMBA  
TRANSECT 2 RE 12.3.18 (12.3.3C)  
CENTRAL FLAT LAND**

### INPUTS

FDI		<input type="text" value="40"/>
VEGETATION TYPE	SEE TABLE	<input type="text" value="Site Specific Fuel Loads"/>
TOTAL FUEL LOAD		<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION		<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING		<input type="text" value="1"/> degrees
FLAME WIDTH		<input type="text" value="100"/> m
ELEVATION OF RECEIVER		<input type="text" value="1.9"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>		<input type="text" value="5.1"/> m

### RESULTS

RADIANT HEAT	<input type="text" value="28.85"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.40"/> m
RATE OF SPREAD	<input type="text" value="0.40"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="89%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="1.9"/> m
FLAME ANGLE	<input type="text" value="65"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-29"/> BAL



# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



**ELDON BOTTCHER ARCHITECT PTY LTD**  
 145 VARSITY PARADE PH 0755920082  
 VARSITY LAKES E architects@eb-a.com.au  
 QLD. 4327



**THIS ASSESSMENT USES AS 3959 METHOD 2**

**PROJECT**

**PROPOSED RESIDENCES**

**SITE ADDRESS**

**RIVERTON STAGES 3A1 & 4A**  
**348-474 CUSACK LANE**  
**JIMBOOMBA**  
**TRANSECT 2 RE 12.3.18 (12.3.3C)**  
**CENTRAL FLAT LAND**

**INPUTS**

FDI		<input type="text" value="40"/>
VEGETATION TYPE	SEE TABLE	<input type="text" value="Site Specific Fuel Loads"/>
TOTAL FUEL LOAD		<input type="text" value="14.9"/> tonnes/ha
SLOPE UNDER VEGETATION		<input type="text" value="1"/> degrees
SLOPE BETWEEN VEGETATION AND BUILDING		<input type="text" value="1"/> degrees
FLAME WIDTH		<input type="text" value="100"/> m
ELEVATION OF RECEIVER		<input type="text" value="2"/> m
<b>DISTANCE BETWEEN VEGETATION AND BUILDING</b>		<input type="text" value="7.7"/> m

**RESULTS**

RADIANT HEAT	<input type="text" value="18.88"/> kw/m <sup>2</sup>
FLAME LENGTH	<input type="text" value="4.40"/> m
RATE OF SPREAD	<input type="text" value="0.40"/> km/hr
ATMOSPHERIC TRANSMISSIVITY	<input type="text" value="87%"/>
PEAK ELEVATION OF RECEIVER	<input type="text" value="2"/> m
FLAME ANGLE	<input type="text" value="74"/> degrees
<b>CONSTRUCTION LEVEL REQUIRED</b>	<input type="text" value="BAL-19"/> BAL

# BUSHFIRE CONSTRUCTION STANDARD (BAL) ASSESSMENT



**ELDON BOTTCHE ARCHITECT PTY LTD**

145 VARSITY PARADE  
 VARSITY LAKES  
 QLD. 4327

PH 0755920082

E architects@eb-a.com.au



**THIS ASSESSMENT USES AS 3959 METHOD 2**

**PROJECT**

**PROPOSED RESIDENCES**

**SITE ADDRESS**

**RIVERTON STAGES 3A1 & 4A  
 348-474 CUSACK LANE  
 JIMBOOMBA  
 TRANSECT 2 RE 12.3.18 (12.3.3C)  
 CENTRAL FLAT LAND**

**INPUTS**

FDI

40

VEGETATION TYPE

SEE TABLE

Site Specific Fuel Loads

TOTAL FUEL LOAD

14.9 tonnes/ha

SLOPE UNDER VEGETATION

1 degrees

SLOPE BETWEEN VEGETATION AND BUILDING

1 degrees

FLAME WIDTH

100 m

ELEVATION OF RECEIVER

2 m

**DISTANCE BETWEEN VEGETATION AND BUILDING**

11.5 m

**RESULTS**

RADIANT HEAT

12.40 kw/m<sup>2</sup>

FLAME LENGTH

4.40 m

RATE OF SPREAD

0.40 km/hr

ATMOSPHERIC TRANSMISSIVITY

86%

PEAK ELEVATION OF RECEIVER

2 m

FLAME ANGLE

80 degrees

**CONSTRUCTION LEVEL REQUIRED**

**BAL-12.5 BAL**

Vegetation Hazard Class	Potential Fuel Load (t/ha)						Prone Type <sup>1</sup>		Fuel Continuity <sup>2</sup>	
	Surface	Near Surface	Elevated	Bark	Total (Remnant)	Total (Non-Remnant)	Remnant	Non-Remnant	Remnant	Non-Remnant
12.2 <i>Dry eucalypt woodlands on sandstone and shallow soils</i>	12.0	2.6	1.8	1.0	17.4	17.4	1	1	1	1
13.1 <i>Dry to moist eucalypt open forests on undulating metamorphics and granite</i>	15.9	3.5	1.4	1.0	21.8	21.8	1	1	1	1
13.2 <i>Dry to moist eucalypt woodlands on undulating metamorphics and granite</i>	9.4	3.4	0.6	1.0	14.4	14.4	1	1	1	1
13.3 <i>Shrubland associated with dry to moist eucalypt woodlands on undulating terrain</i>	4.3	2.3	0.9	0.0	7.5	7.5	1	1	1	1
14.1 <i>Open forest dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum</i>	22.3	1.4	2.1	2.0	27.8	27.8	1	1	1	1
14.2 <i>Woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum</i>	8.4	2.4	0.8	1.0	12.6	12.6	1	1	1	1
14.3 <i>Shrubland associated with woodlands dominated by Darwin stringybark, Melville Island bloodwood or scarlet gum</i>	1.1	3.4	3.3	1.0	8.8	8.8	1	1	1	1
14.6 <i>Sparsely vegetated areas associated with Darwin stringybark, Melville Island bloodwood or scarlet gum</i>	0.0	0.3	1.3	0.0	1.6	1.6	3	3	2	2
15.1 <i>Temperate open eucalypt forests</i>	23.7	0.3	1.8	1.0	26.8	26.8	1	1	1	1
15.2 <i>Temperate eucalypt woodlands</i>	10.2	1.8	1.8	0.0	13.8	13.8	1	1	1	1
16.1 <i>Eucalyptus dominated forest on drainage lines and alluvial plains</i>	10.0	3.8	1.2	1.0	16.0	16.0	1	1	1	1
<b>16.2 <i>Eucalyptus dominated woodland on drainage lines and alluvial plains</i></b>	<b>7.5</b>	<b>3.6</b>	<b>0.5</b>	<b>0.0</b>	<b>11.6</b>	<b>11.6</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
16.3 <i>Shrubland associated with Eucalyptus woodlands on drainage lines</i>	5.8	2.7	0.1	0.0	8.6	8.6	1	1	1	1
16.4 <i>Grassland associated with Eucalyptus dominated woodlands on drainage lines</i>	0.3	2.1	0.1	0.0	2.5	2.5	2	2	1	1
16.5 <i>Sedgeland associated with Eucalyptus woodlands on drainage lines*</i>	3.9	5.0	3.5	0.0	12.4	12.4	1	1	1	1
16.6 <i>Sparsely vegetated areas associated with Eucalyptus woodlands on drainage lines</i>	1.2	2.0	0.0	0.0	3.2	3.2	3	3	2	2
17.1 <i>Dry open forests dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains</i>	10.6	4.1	0.3	0.0	15.0	15.0	1	1	1	1
17.2 <i>Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains</i>	6.0	3.0	0.6	0.0	9.6	9.6	1	1	1	1
18.1 <i>Dry eucalypt open forests on sand or depositional plains</i>	10.8	3.4	0.6	0.0	14.8	14.8	1	1	1	1
18.2 <i>Dry eucalypt woodlands on sand or depositional plains</i>	7.1	3.3	0.6	0.0	11.0	11.0	1	1	1	1
18.5 <i>Sedgeland associated with dry eucalypt woodlands on sand or depositional plains</i>	3.9	3.4	3.5	0.0	10.8	10.8	1	1	1	1
19.2 <i>Low open eucalyptus woodlands dominated by snappy gum, Cloncurry Box or Normanton box</i>	4.3	3.0	0.8	1.0	9.1	9.1	1	1	1	1

Vegetation Hazard Class	Potential Fuel Load (t/ha)						Prone Type <sup>1</sup>		Fuel Continuity <sup>2</sup>	
	Surface	Near Surface	Elevated	Bark	Total (Remnant)	Total (Non-Remnant)	Remnant	Non-Remnant	Remnant	Non-Remnant
19.3 <i>Shrubland associated with low open eucalypt woodlands dominated by snappy gum, Cloncurry Box or Normanton box</i>	1.7	1.5	1.3	0.0	4.5	4.5	1	1	1	1
19.4 <i>Grassland associated with low open eucalypt woodlands dominated by snappy gum, Cloncurry Box or Normanton box</i>	1.6	3.3	0.3	0.0	5.2	5.2	2	2	1	1
20.1 <i>Open forests dominated by white cypress pine or coast cypress pine</i>	12.5	2.4	0.6	1.0	16.4	16.5	1	1	1	1
20.2 <i>Woodlands dominated by white cypress pine or coast cypress pine</i>	5.4	3.1	0.8	0.0	9.3	9.3	1	1	1	1
<b>21.1 <i>Melaleuca dry open forest on sandplains or depositional plains</i></b>	<b>7.8</b>	<b>3.7</b>	<b>1.4</b>	<b>2.0</b>	<b>14.9</b>	<b>14.9</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
21.2 <i>Melaleuca dry woodlands on sandplains or depositional plains</i>	3.7	3.4	0.6	1.0	8.7	8.7	1	1	1	1
21.3 <i>Shrubland associated with Melaleuca dry woodlands on sandplains or depositional plains</i>	4.3	2.3	0.9	0.0	7.5	7.5	1	1	1	1
21.6 <i>Sparsely vegetated areas associated with Melaleuca dry woodlands on sandplains or depositional plains</i>	2.5	0.2	1.8	0.0	4.5	4.5	3	3	2	2
22.1 <i>Melaleuca open forests on seasonally inundated lowland coastal swamps</i>	15.4	8.0	3.0	2.0	28.4	28.4	1	1	1	1
22.2 <i>Melaleuca woodlands on seasonally inundated lowland coastal swamps</i>	10.6	7.1	1.0	1.0	19.7	19.7	1	1	1	1
22.3 <i>Shrubland associated with Melaleuca woodlands on seasonally inundated lowland coastal swamps</i>	4.3	2.3	0.9	0.0	7.5	7.5	1	1	1	1
22.5 <i>Sedgeland associated with Melaleuca woodlands on seasonally inundated lowland coastal swamps *</i>	6.0	5.0	1.8	1.0	13.8	13.8	1	1	1	1
23.2 <i>Mulga dominated woodlands on red earth plains, sandplains or residuals</i>	1.2	3.6	0.2	0.0	5.0	5.0	1	1	1	1
23.3 <i>Shrubland associated with mulga on red earth plains, sandplains or residuals.</i>	1.4	3.2	0.1	0.0	4.7	4.7	1	1	1	1
23.4 <i>Grassland associated with mulga on red earth plains, sandplains or residuals</i>	1.6	3.3	0.3	0.0	5.2	5.2	2	2	1	1
24.1 <i>Acacia open forest on residuals</i>	6.9	2.6	0.6	0.0	10.1	10.1	1	1	1	1
24.2 <i>Acacia woodlands on residuals</i>	4.5	2.8	0.9	0.0	8.2	8.2	1	1	1	1
24.3 <i>Acacia shrublands on residuals.</i>	2.6	2.1	2.1	0.0	6.8	6.8	1	1	1	1
24.4 <i>Grassland communities associated with Acacia on residuals.</i>	1.6	3.3	0.3	0.0	5.2	5.2	2	2	1	1
24.6 <i>Sparsely vegetated areas associated with Acacia on residuals</i>	0.3	3.6	0.0	0.0	3.9	3.9	3	3	2	2
25.1 <i>Brigalow belah open forests on heavy clay soils</i>	10.5	2.6	1.9	0.0	15.0	15.0	1	1	1	1
25.2 <i>Brigalow belah woodlands on heavy clay soils</i>	3.4	2.1	0.7	0.0	6.2	6.2	1	1	1	1

REB	REB_Label	VHC	VHC_DESC
12.3.10	Eucalyptus populnea woodland on alluvial plains	17.2	17.2 Dry woodlands dominated by poplar box, silver-leaved ironbark or White's ironbark on sand or depositional plains
12.3.10a	Acacia harpophylla open forest to woodland on alluvial plains	25.1	25.1 Brigalow belah open forests on heavy clay soils
12.3.11	Eucalyptus tereticornis ± Eucalyptus siderophloia, Corymbia intermedia open forest on alluvial plains usually near coast	16.1	16.1 Eucalyptus dominated forest on drainage lines and alluvial plains
12.3.11a	Eucalyptus tereticornis and/or E. siderophloia open forest with vine forest understorey on alluvial plains	16.1	16.1 Eucalyptus dominated forest on drainage lines and alluvial plains
12.3.12	Eucalyptus latissinensis or E. exserta, Melaleuca viridiflora var. viridiflora woodland on alluvial plains	21.2	21.2 Melaleuca dry woodlands on sandplains or depositional plains
12.3.13	Closed heathland on seasonally waterlogged alluvial plains usually near coast	29.3	29.3 Heathlands and associated scrubs and shrublands
12.3.14	Banksia aemula low woodland on alluvial plains usually near coast	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.3.14a	Eucalyptus racemosa woodland on alluvial plains near coast	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.3.15	Corymbia intermedia, Syncarpia glomulifera open forest on granite outwash	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.3.2	Eucalyptus grandis tall open forest on alluvial plains	8.1	8.1 Wet eucalypt tall open forest
12.3.2a	Eucalyptus resinifera and Syncarpia glomulifera open forest with a wet heath understorey on alluvial plains	8.1	8.1 Wet eucalypt tall open forest
12.3.3	Eucalyptus tereticornis woodland on Quaternary alluvium	16.2	16.2 Eucalyptus dominated woodland on drainage lines and alluvial plains
12.3.3a	Eucalyptus crebra, Corymbia tessellaris woodland to open forest usually on high level Quaternary alluvium	18.2	18.2 Dry eucalypt woodlands on sand or depositional plains
12.3.3b	Eucalyptus moluccana open forest to woodland with an understorey of Melaleuca irbyana on alluvial plains	13.1	13.1 Dry to moist eucalypt open forests on undulating metamorphics and granite
12.3.3c	Melaleuca irbyana low open forest on alluvial plains	21.1	21.1 Melaleuca dry open forest on sandplains or depositional plains
12.3.3d	Eucalyptus moluccana woodland on Quaternary alluvium	13.2	13.2 Dry to moist eucalypt woodlands on undulating metamorphics and granite
12.3.4	Melaleuca quinquenervia, Eucalyptus robusta woodland on coastal alluvium	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.4a	Eucalyptus bancroftii open woodland on coastal alluvium	22.2	22.2 Melaleuca woodlands on seasonally inundated lowland coastal swamps
12.3.5	Melaleuca quinquenervia open forest on coastal alluvium	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.5a	Melaleuca quinquenervia, Casuarina glauca ± Eucalyptus tereticornis open forest on lowest river terraces	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.6	Melaleuca quinquenervia ± Eucalyptus tereticornis, Lophostemon suaveolens open forest on coastal alluvial plains	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.7	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana ± Melaleuca spp. fringing woodland	16.2	16.2 Eucalyptus dominated woodlands on drainage lines and alluvial plains
12.3.7a	Melaleuca bracteata open forest in drainage depressions	22.1	22.1 Melaleuca open forests on seasonally inundated lowland coastal swamps
12.3.7b	Naturally occurring waterholes and lagoons in the beds of river channels	16.6	16.6 Sparsely vegetated areas associated with Eucalyptus woodlands on drainage lines
12.3.7c	Billabongs and ox-bow lakes containing either permanent or periodic water bodies	34.5	34.5 Sedgeland dominated wetlands
12.3.7d	Aquatic vegetation usually fringed with Eucalyptus tereticornis in closed depressions on alluvial plains	34.5	34.5 Sedgeland dominated wetlands
12.3.8	Swamps with Cyperus spp., Schoenoplectus spp. and Eleocharis spp.	34.5	34.5 Sedgeland dominated wetlands
12.3.9	Eucalyptus nobilis open forest on alluvial plains	16.1	16.1 Eucalyptus dominated forest on drainage lines and alluvial plains
12.5.1	Open forest complex with Corymbia citriodora subsp. variegata on subcoastal remnant Tertiary surfaces. Usually deep red soils	10.2	10.2 Spotted gum dominated woodlands
12.5.10	Eucalyptus latissinensis and/or Banksia aemula low open woodland on complex of remnant Tertiary surface and Tertiary sedimentary rocks	29.2	29.2 Woodlands associated with heathlands, scrubs and shrublands
12.5.11	Syncarpia glomulifera woodland on complex of remnant Tertiary surface and Tertiary sedimentary rocks	8.2	8.2 Wet eucalypt tall woodland
12.5.12	Eucalyptus racemosa, E. latissinensis ± Corymbia gummifera, C. intermedia, E. bancroftii woodland with heathy understorey on remnant Tertiary surfaces	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges
12.5.13	Microphyll to notophyll vine forest ± Araucaria cunninghamii on remnant Tertiary surfaces	5.1	5.1 Notophyll to microphyll vine forests
12.5.13a	Microphyll to notophyll vine forest ± Araucaria cunninghamii on remnant Tertiary surfaces	5.1	5.1 Notophyll to microphyll vine forests
12.5.13b	Microphyll to notophyll vine forest on coastal remnant Tertiary surfaces	5.1	5.1 Notophyll to microphyll vine forests
12.5.13c	Semi-evergreen vine thicket with Brachychiton rupestris on remnant Tertiary surfaces (land zone 5)	7.1	7.1 Semi-evergreen to deciduous microphyll vine forest
12.5.1a	Eucalyptus decorticans open forest on remnant Tertiary surfaces	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.5.1b	Eucalyptus cloeziana open forest ± E. microcorys and Corymbia intermedia on remnant Tertiary surfaces	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.5.1c	Eucalyptus helidonica open forest on remnant Tertiary surfaces in the Helidon hills region	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.1d	Eucalyptus dura, E. acmenoides and Corymbia intermedia woodland on remnant Tertiary surfaces	12.2	12.2 Dry eucalypt woodlands on sandstone and shallow soils
12.5.1e	Eucalyptus crebra and Angophora leiocarpa woodland on remnant Tertiary surfaces	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.1f	Eucalyptus sideroxylon, E. melanoleuca and E. moluccana open forest on remnant Tertiary surfaces	12.1	12.1 Dry eucalypt open forest on sandstone and shallow soils
12.5.2	Corymbia intermedia, Eucalyptus tereticornis open forest on remnant Tertiary surfaces, usually near coast. Usually deep red soils	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.2a	Corymbia intermedia, Eucalyptus tereticornis woodland on remnant Tertiary surfaces, usually in coastal areas with deep red soils.	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.2b	Eucalyptus tereticornis ± Corymbia intermedia open forest on sub-coastal remnant Tertiary surfaces usually with deep red soils	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.2x1	Melaleuca irbyana low open forest on remnant Tertiary surfaces	21.1	21.1 Melaleuca dry open forest on sandplains or depositional plains
12.5.3	Eucalyptus racemosa woodland on remnant Tertiary surfaces	9.1	9.1 Moist to dry eucalypt open forests on coastal lowlands and ranges
12.5.3a	Corymbia intermedia, Eucalyptus seana ± E. racemosa, Angophora leiocarpa open woodland on remnant Tertiary surfaces occurring mainly to the south of Brisbane	9.2	9.2 Moist to dry eucalypt woodland on coastal lowlands and ranges



Queensland Government home > For Queenslanders > Environment, land and water > Plants and animals > Plants > Regional ecosystems > Regional ecosystem descriptions > Regional ecosystem details for 12.3.18

## Regional ecosystem details for 12.3.18

Regional ecosystem	12.3.18
Vegetation Management Act class	Endangered
Wetlands	Palustrine
Biodiversity status	Endangered
Subregion	2, (5)
Estimated extent <sup>1</sup>	Pre-clearing 2000 ha; Remnant 2021 100 ha
Short description	Melaleuca irbyana low open forest on alluvial plains
Structure code	Low Open Forest
VMA structure category	Mid-dense
Description	Melaleuca irbyana low open forest or thicket. Emergent Eucalyptus moluccana, E. crebra, E. tereticornis or Corymbia citriodora subsp. variegata may be present. Occurs on Quaternary alluvial plains where drainage of soils is impeded. Palustrine. (BVG1M: 21b).
Supplementary description	Bean et al. (1998), C5
Special values	12.3.18: Habitat for listed plant species Melaleuca irbyana and Marsdenia coronata. This ecosystem is known to provide suitable habitat for koalas (Phascolarctos cinereus).
Fire management guidelines	SEASON: Summer to late-autumn. INTENSITY: Low. INTERVAL: 3-6 years. INTERVAL_MIN: 3. INTERVAL_MAX: 6. STRATEGY: Aim to burn 40-60% of any given area. Spot ignition in cooler or moister periods encourages mosaics. ISSUES: Maintain ground litter and fallen timber habitats by burning only with sufficient soil moisture. Burning should aim to produce fine scale mosaics of unburnt areas. May be difficult to burn due to solodic soil with sparse vegetation.
Comments	12.3.18: Previously mapped as 12.3.3c. This floristic association on land zone 9-10 is mapped as 12.9-10.11. Restricted to the Ipswich and Jimboomba regions and the Lockyer and Fassifern Valleys.

<sup>1</sup> Estimated extent is from version 13 pre-clearing and 2021 remnant regional ecosystem mapping. Figures are rounded for simplicity. For more precise estimates, including breakdowns by tenure and other themes see [remnant vegetation in Queensland](https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/remnant-vegetation/) ( <https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/remnant-vegetation/> ).

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Last updated 14 June 2023

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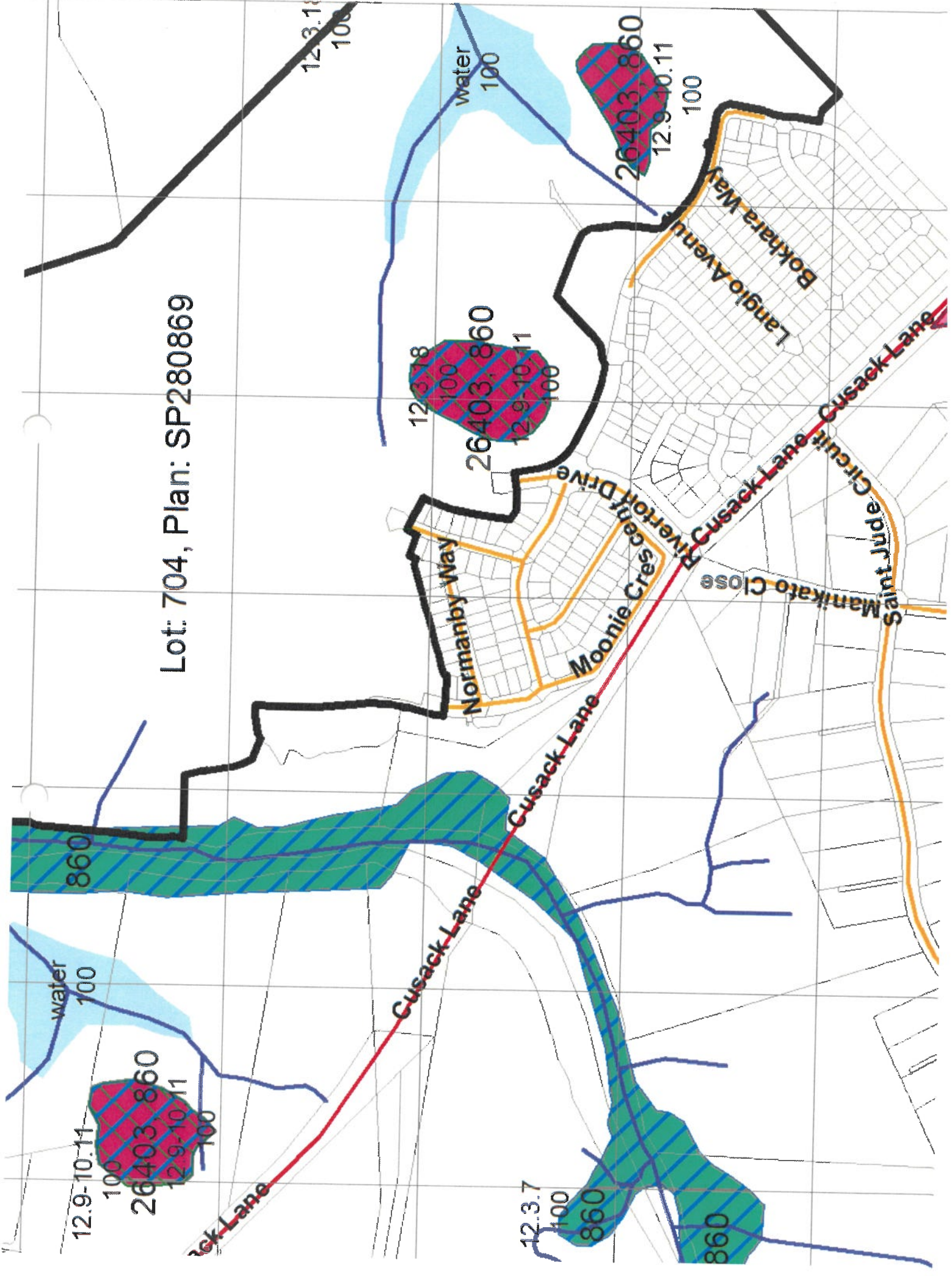
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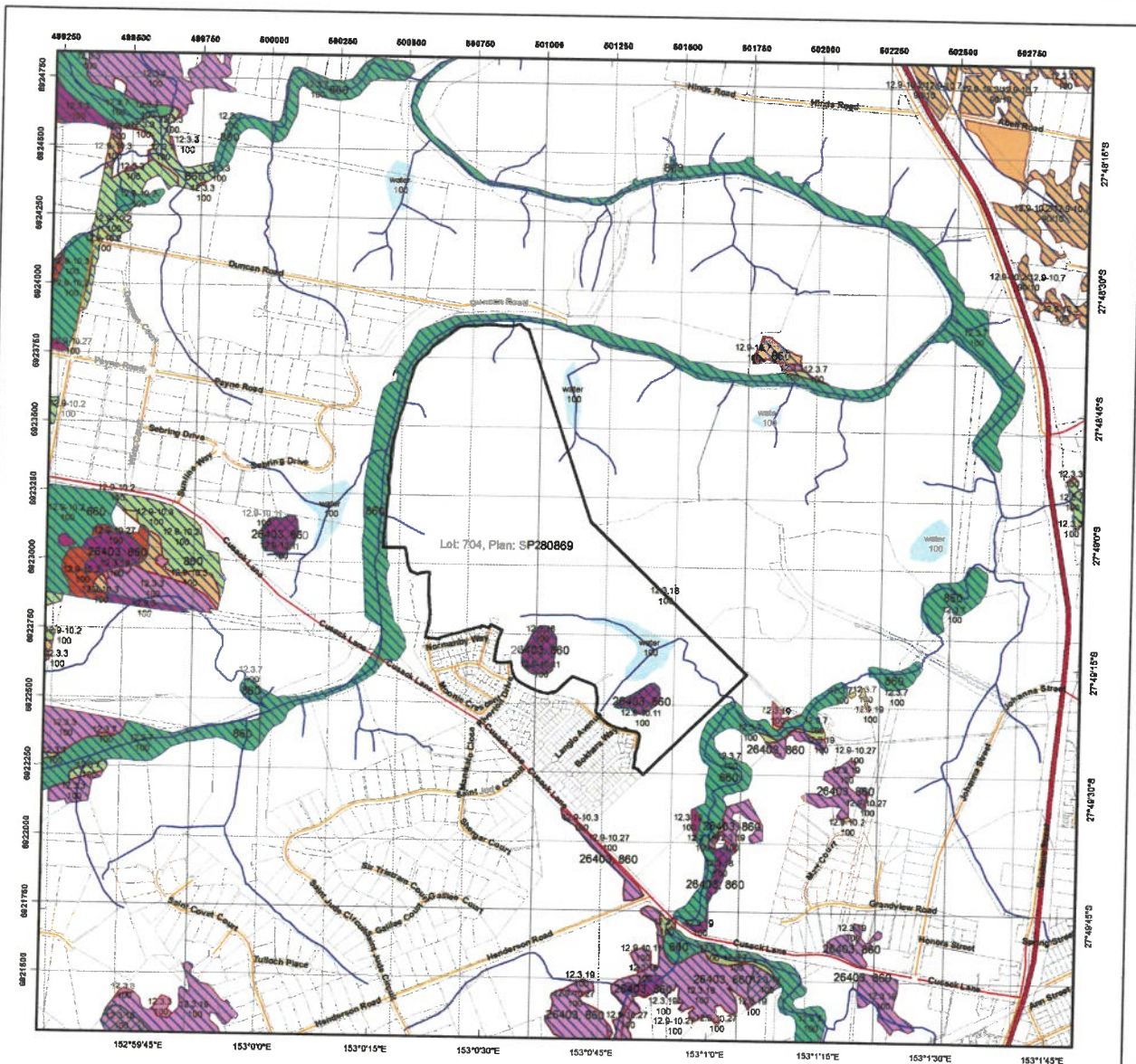
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Lot: 704, Plan: SP280869

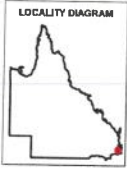




### Vegetation Management Supporting Map

**Legend**

- Selected Lot and Plan
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category C or R area containing endangered regional ecosystems
- Category C or R area containing of concern regional ecosystems
- Category C or R area that is a least concern regional ecosystem
- Category X area
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map (Stream order shown as black number against stream where available)
- Highway
- Connector
- Street/Local Road
- National Parks, State Forest and other reserves
- Other land parcel boundaries



This product is projected into:  
 GDA 1984 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

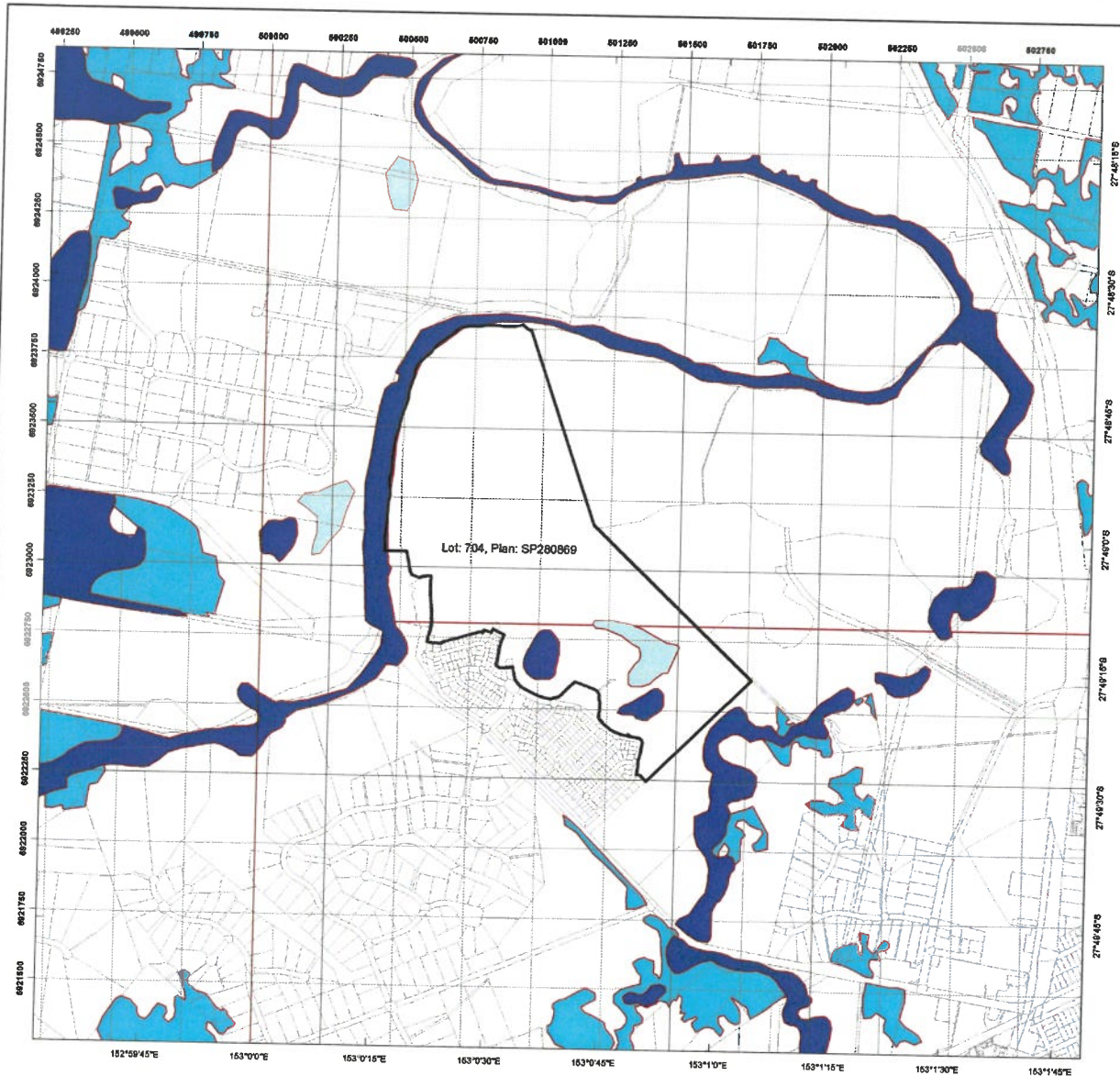
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Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: [www.resources.qld.gov.au](http://www.resources.qld.gov.au) or contact the Department of Resources.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at <http://www.information.qld.gov.au/>









Land parcel boundaries are provided as locational aid only.





## Regulated Vegetation Management Map

### Legend

-  Selected Lot and Plan
-  Category A area (Vegetation offsets/compliance notices/VDeca)
-  Category B area (Remnant vegetation)
-  Category C area (High-value regrowth vegetation)
-  Category R area (Reef regrowth watercourse vegetation)
-  Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
-  Water
-  Other land parcel boundaries



This product is projected into:  
 GDA 1984 MGA Zone 56

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Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: [www.resources.qld.gov.au](http://www.resources.qld.gov.au) or contact the Department of Resources.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at <http://www.information.qld.gov.au/>

Land parcel boundaries are provided as locational aid only.

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.



**ELDON BOTTCHER**

**EDUCATION AND QUALIFICATIONS**

**Graduate Diploma in Design in Bushfire Prone Areas**

University of Western Sydney

**Diploma in Architecture**

Queensland Institute of Technology

**Certificate of Rural Fire Management**

University of Southern Queensland

**Registered Architect**

Queensland

**A+ Architect**

Australian Institute of Architects

**FPA Australia Certified Practitioner (BPAD-Level 3-16935)**

Bushfire Planning and Design (BPAD-LEVEL 3), Alternate Solutions & DTS

**PROFESSIONAL MEMBERSHIPS**

**Fellow**

Australian Institute of Architects

**Member**

Australian Institute of Emergency Services

**Member**

Australian Institute of Engineers Society of Fire Safety

**Member**

Queensland Environmental Law Association.

**Member Board of Experts**

Bushfire Building Council of Australia

**Associate Member**

Institution of Fire Engineers

**Corporate Member**

Fire Protection Association of Australia

**PROFESSIONAL EXPERIENCE**

**Director**

Eldon Bottcher Architect Pty Ltd since 1978

**Bushfire Assessment and Planning Consultant** since 1998 with Involvement in more than 6,000 Bushfire Mitigation Projects ranging from single dwellings to major subdivisions, burn plans and general mitigation advice.

**Group Officer**

Albert Rural Fire Brigades Group

Queensland Fire and Rescue Service

**Group Officer**

Gold Coast Rural Fire Brigades Group

Queensland Fire and Rescue Service

**Group Officer**

South East Regional Support Group

Queensland Fire and Rescue Service

**Planning Officer**

Gold Coast Rural Fire Brigades Group

Queensland Fire and Rescue Service

**Life Member**

Guanaba Rural Fire Brigade

**Member**

Clagiraba Rural Fire Brigade

**Member Practice Committee AIA Qld Chapter**

**AIA delegate to Building Industry and Research Consultation Panel on Bushfire Hazard advising Queensland State Bushfire Committee**

**BBCA representation to Australian Standards Committee FP20 (AS 3959 & AS 5414)**

**Research Consultant to Queensland University of Technology Scenic Rim Black Saturday Recovery Project**

**OTHER BUSHFIRE RELATED COURSES AND TRAINING**

I.C.S./AIIIMS (40 hr. course) in Incident Command Systems

Certificate 4 (Workplace Training and Assessment)

RFSQ Level 1

RFSQ Level 2 (Officer)

RFSQ Fire Management 1

RFSQ Crew Leader

Certificate II in Public Safety (Firefighting Operations)

Fire Weather 1

QELA Expert Witness Workshop 2020

**BUSHFIRE RELATED AWARDS**

**National Planning Award**

**State Planning Award**

**Planning Institute of Australia**

Gold Coast Bushfire Management Strategy

(Co-Initiator and Member of Preparation Committee)

**Australian Government**

**National Medal**

Long and Distinguished Service to Fire fighting

**Queensland Fire and Rescue Service**

**Diligent and Ethical Service Medal + Clasp**

Service to Fire fighting

**Queensland Government**

**Australia Day Medallion**

Services to Rural Fire Fighting

**Queensland Government**

**Year of the Volunteer Medallion**

Services to Fire fighting

**UDIA**

Best Consultancy Team Award in 2007.

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(See Planning and Environment Court of Queensland Determination

File No. BD 624 of 2005 sections 28 to 35)

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**Bushfire Burn Planning**

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