Murrindindi Shire Council

NOTICE OF AN APPLICATION FOR PLANNING PERMIT

The land affected by the application is located at:	**18 Pratts Road KINGLAKE WEST, (SEC: B C/A: 25)**
The application is for a permit to:	**Two Lot Subdivision and Removal of Native Vegetation**
The applicant for the permit is:	**T S Davies**
The application reference number is:	**2023/97**
You may look at the application and any documents that support the application by visiting our website via the following web address:	**www.murrindindi.vic.gov.au/Planning Comment**

Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

An objection must be sent to the responsible authority in writing, with the full name and postal address of the objector and include the reasons for the objection, and state how the objector would be affected.

The responsible authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.

The responsible authority will not decide on the application before:	**22 October 2023**

If you object, the responsible authority will tell you its decision.

The planning unit can be contacted on (03) 5772 0333 or planning@murrrindindi.vic.gov.au.

Office Use Only

VicSmart? ☐ YES ☐ NO

Specify class of VicSmart application:

Application No.: Date Lodged: / /

Murrindindi Shire Council

Planning Enquiries
Phone: (03) 5772 0317
Email: planning@murrindindi.vic.gov.au
Web: www.murrindindi.vic.gov.au

Application for a **Planning Permit**

If you need help to complete this form, read MORE INFORMATION at the back of this form.

⚠ Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the *Planning and Environment Act 1987*. If you have any concerns, please contact Council's planning department.

⚠ **Questions marked with an asterisk (*) must be completed.**

⚠ **If the space provided on the form is insufficient, attach a separate sheet.**

i Click for further information.

Clear Form

Application Type

Is this a VicSmart application?*

◉ No ○ Yes

If yes, please specify which VicSmart class or classes:.....

⚠ If the application falls into one of the classes listed under Clause 92 or the schedule to Clause 94, it is a VicSmart application.

Pre-application Meeting

Has there been a pre-application meeting with a Council planning officer?

○ No ○ Yes If 'Yes', with whom?:

Date: day / month / year

The Land i

Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

Unit No.: St. No.: 18 St. Name: Pratts Road

Suburb/Locality: Kinglake West Postcode: 3757

Formal Land Description *
Complete either A or B.

⚠ This information can be found on the certificate of title.

If this application relates to more than one address, attach a separate sheet setting out any additional property details.

A Lot No.: ○ Lodged Plan ○ Title Plan ○ Plan of Subdivision No.:

OR

B Crown Allotment No.: 25 Section No.: B

Parish/Township Name: Pheasant Creek Parish of Kinglake

The Proposal

You must give full details of your proposal and attach the information required to assess the application.
Insufficient or unclear information will delay your application.

For what use, development or other matter do you require a permit? *

Two Lot Subdivision in a Bushfire Management Overlay

☑ Provide additional information about the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

Estimated cost of any development for which the permit is required *

Cost $ 0

⚠ You may be required to verify this estimate.
Insert '0' if no development is proposed.

If the application is for land within **metropolitan Melbourne** (as defined in section 3 of the *Planning and Environment Act 1987*) and the estimated cost of the development exceeds $1 million (adjusted annually by CPI) the Metropolitan Planning Levy **must** be paid to the State Revenue Office and a current levy certificate **must** be submitted with the application.
Visit www.sro.vic.gov.au for information.

Existing Conditions

Describe how the land is used and developed now *

For example, vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

Dwelling and sheds

☑ Provide a plan of the existing conditions. Photos are also helpful.

Title Information

Encumbrances on title *

Does the proposal breach, in any way, an encumbrance on title such as a restrictrive covenant, section 173 agreement or other obligation such as an easement or building envelope?

- ○ Yes (If 'yes' contact Council for advice on how to proceed before continuing with this application.)
- ○ No
- ◉ Not applicable (no such encumbrance applies).

☑ Provide a full, current copy of the title for each individual parcel of land forming the subject site.
The title includes: the covering 'register search statement', the title diagram and the associated title documents, known as 'instruments', for example, restrictive covenants.

Applicant and Owner Details

Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Name:
Title:
First Name: Travis S.
Surname: Davies C/ Millar Merrigan
Organisation (if applicable):
Postal Address:
If it is a P.O. Box, enter the details here:
Unit No.:
St. No.:
St. Name: PO Box 247
Suburb/Locality: Croydon
State: VIC
Postcode: 3136

Please provide at least one contact phone number *

Contact information for applicant OR contact person below
Business phone: 0387209500
Email: planning@millarmerrigan.com.au
Mobile phone:
Fax:

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Contact person's details*
Same as applicant
Name:
Title:
First Name: Hayley
Surname: Scott Smith
Organisation (if applicable): Millar Merrigan
Postal Address:
If it is a P.O. Box, enter the details here:
Unit No.:
St. No.:
St. Name: PO Box 247
Suburb/Locality: Croydon
State: VIC
Postcode: 3136

Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organisation.

Same as applicant
Name:
Title:
First Name: Travis Scott
Surname: Davies
Organisation (if applicable):
Postal Address:
If it is a P.O. Box, enter the details here:
Unit No.:
St. No.: 18
St. Name: Pratts Road
Suburb/Locality: Kinglake West
State: VIC
Postcode: 3757
Owner's Signature (Optional):
Date:
day / month / year

Information requirements

Contact Council's planning department to discuss the specific requirements for this application and obtain a planning permit checklist.

Is the required information provided?

○ Yes ○ No

Declaration

This form must be signed by the applicant *

Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

[redacted]

Checklist

Have you:

- [ ] Filled in the form completely?
- [ ] Paid or included the application fee? — Most applications require a fee to be paid. Contact Council to determine the appropriate fee.
- [x] Provided all necessary supporting information and documents?
  - [ ] A full, current copy of title information for each individual parcel of land forming the subject site.
  - [ ] A plan of existing conditions.
  - [ ] Plans showing the layout and details of the proposal.
  - [ ] Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
  - [ ] If required, a description of the likely effect of the proposal (for example, traffic, noise, environmental impacts).
  - [ ] If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it is issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void.
- [ ] Completed the relevant council planning permit checklist?
- [ ] Signed the declaration above?

Need help with the Application?

If you need help to complete this form, read More Information at the end of this form.

For help with a VicSmart application see Applicant's Guide to Lodging a VicSmart Application at www.planning.vic.gov.au

General information about the planning process is available at www.planning.vic.gov.au

Assistance can also be obtained from Council's planning department.

Lodgement

Lodge the completed and signed form, the fee and all documents with:

Murrindindi Shire Council
PO Box 138
Alexandra VIC 3714

Shire Offices
Perkins Street
Alexandra VIC 3714

Contact information:
Phone: (03) 5772 0317
Fax: (03) 5772 2291
Email: planning@murrindindi.vic.gov.au

Deliver application in person, by post or by electronic lodgement.


3 *Looking south across the site.*

INTERFACES:
-Low density housing is located on all boundaries and much of this interface is lined with screening vegetation which is situated within a township zone.


4 *Neighbouring properties along Pratts Road.*

VEGETATION:
-Majority of the site consists of grassed lawns with trees generally situated along boundaries.
-The southern and eastern boundaries are lined with screening vegetation most of which is planted within the neighbouring properties.
-The northern and western boundaries of the site are lined with large gum trees most of which are situated within the road reserves of both Pratts road and Marks Road.


5 *Trees within the site along the northern and western boundaries.*


6 *Trees within Marks Road reserve abutting the northern boundary.*

SLOPE, VIEWS & NOISE:
-Topography generally falls from the south-east to north-west.
-No known contaminated soil.
-No known cut or fill.
-Views of the site are available from Marks Road.
-No significant views from the site.
-There are no significant noise or odour sources present.

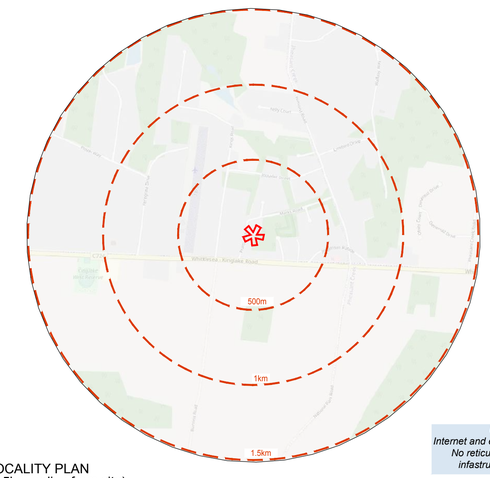

2 *Existing dwelling on the site.*


1 *Existing sheds within the site.*

STREETSCAPES:
Pratts Road and Marks Road are both double lane bitumen roads featuring open swale drainage and overhead electricity lines.
-Crossings along both Pratts Road and Marks Road are generally made from gravel.


7 *Looking south along Pratts Road infront of the site.*

LOCATION :
-550m Kinglake West Town Centre
-1km Kinglake West Primary School
-1.2km Kinglake West Reserve



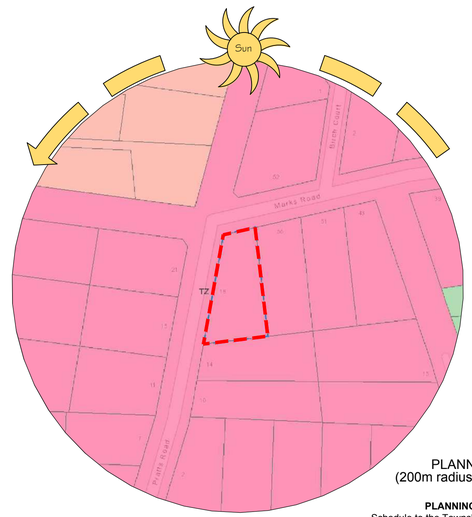
LOCALITY PLAN
(1.5km radius from site)

INFASTRUCTURE:
Internet and electricity are supplied to the site.
No reticulated sewerage gas or water infastructure is present on the site.

The thick dashed lines shown on this plan represent site boundaries as shown in TP688136V. Site boundaries have not been determined by this survey and the figure shown is indicative only. The location of site and easement boundaries should not be relied upon for any purpose.

LEGEND

Tree	Gravel
99 Contours to AHD, 0.2m intervals within site 5m in neighbourhood	Views to site
EP S POP Services: electrical pole, sign, property outlet point	



PLANNING MAP
(200m radius from site)

PLANNING CONTROLS:
Schedule to the Township Zone - (TZ)
Bushfire Management Overlay - (BMO)

FOR APPROVAL

No.	Revision Description	Drawn	Checked	Date
1	Submitted to council as part of planning application	JSLY	KS	May 2023

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Millar & Merrigan Pty Ltd ACN 005 541 668
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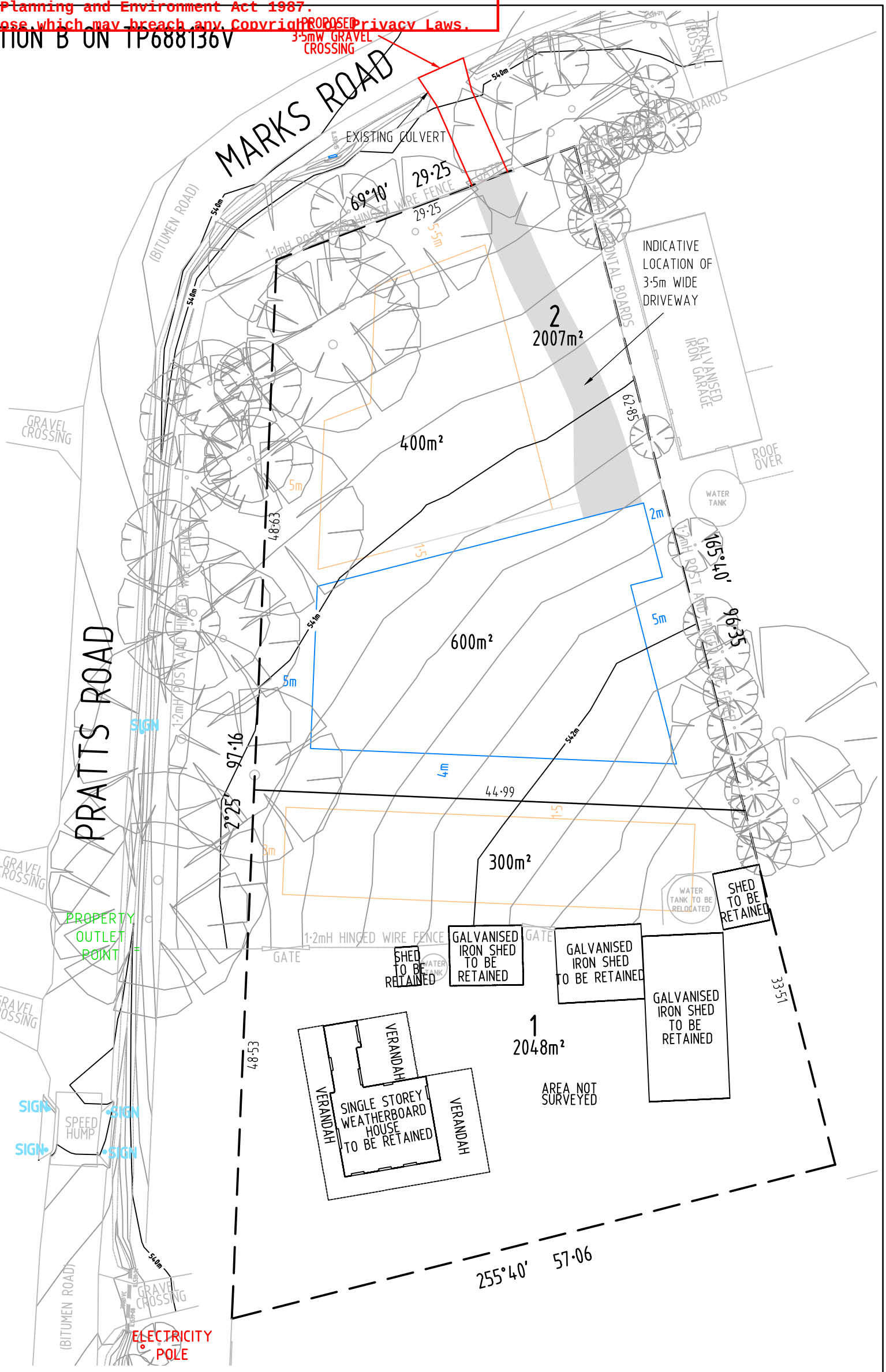
Regional 156 Commercial Road, Morwell 3840
Mail PO Box 247 Croydon, Victoria 3136

North
10 5 0 10 20
1:500
Original sheet size A1

SITE & CONTEXT DESCRIPTION
PROPOSED SUBDIVISION
18 Pratts Road, Kinglake West
Murrindindi Shire Council

29923P1
VERSION 1
SHEET 1 OF 1

CROWN ALLOTMENT 25 SECTION B ON TP688136V
C/T: VOL.08274 FOL.712
TOTAL SITE AREA: 4055m²



TREE TO BE RETAINED

INDICATIVE DRIVEWAY

PROPOSED BUILDING ENVELOPE
WITH 4 BEDROOM MAXIMUM RESTRICTION

PROPOSED EFFLUENT ENVELOPE

THE THICK DASHED LINES SHOWN ON THIS PLAN REPRESENT SITE BOUNDARIES AS SHOWN IN **TP688136V**. SITE BOUNDARIES HAVE NOT BEEN DETERMINED BY THIS SURVEY AND THE FIGURE SHOWN IS INDICATIVE ONLY. THE LOCATION OF SITE AND EASEMENT BOUNDARIES SHOULD NOT BE RELIED UPON FOR ANY PURPOSE.

1.	Prepared as part of planning application	JSLY	AHW	June 2023
No.	Revision Description	Drawn	Checked	Date

DIMENSIONS HEREON ARE SUBJECT TO SURVEY.

THIS PLAN IS SUBJECT TO THE APPROVAL OF VARIOUS STATUTORY AUTHORITIES.

CONTOURS SHOWN HEREON HAVE BEEN INTERPOLATED FROM ON-SITE LEVELS TAKEN IN METRES AND DECIMALS TO THE AUSTRALIAN HEIGHT DATUM ON 05/05/2023.

CONTOUR VERTICAL INTERVAL **0·20** METRES.

IMPLIED EASEMENTS UNDER SECTION 12 (2) OF THE SUBDIVISION ACT 1988 TO APPLY TO ALL OF THE LAND IN THE PLAN.

North

5 2.5 0 5 10

1:250
Original sheet size A3

FOR DISCUSSION PURPOSES

Millar | Merrigan
Land Development Consultants
Civil Engineering
Land Surveying
Landscape Architecture
Project Management
Town Planning
Urban Design
SAI GLOBAL Quality ISO 9001

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survey@millarmerrigan.com.au

PROPOSED SUBDIVISION

18 Pratts Road, Kinglake West
Murrundindi Shire Council
29923P2
Version 1
Sheet 1 of 1

The proposal is wholly in accordance with the intent and requirements of the Township Zone which supports infill development and subdivision.

The lots are generous in size and in keeping with the surrounding land use pattern. It results in a lot density of 1:2027.5sqm which is considered generous. Given the sizes, each lot achieves appropriate solar access.

The existing dwelling and outbuidlings will be retained within lot 1 ensuring the street character and steback to Pratts Road is maintained.

One of the existing water tanks will be relocated.

Proposed lot 2 is well dimensioned to cater for future residential uses and contains a building envelope as demonstrated.

Effluent envelopes are provided on each lot to provide onsite waste water treatment and replace the existing septic tank system for the dwelling.

The subject site is located within the Bushfire Management Overlay, and the proposal does not prejudice the intent of the overlay . A building envelope is provided that meets the vegetation setbacks required for the defendable space provisions. There is ample space available on each lot for extensive future landscaping that must meet the landscaping for bushfire guidelines.

Trees on neighbouring properties and within the abutting road reserves will not be affected by future development ensuring a treed backdrop is maintained.

The subdivision creates a new lot to face Marks Road, creating an active frontage and increasing surveillance over the public realm.

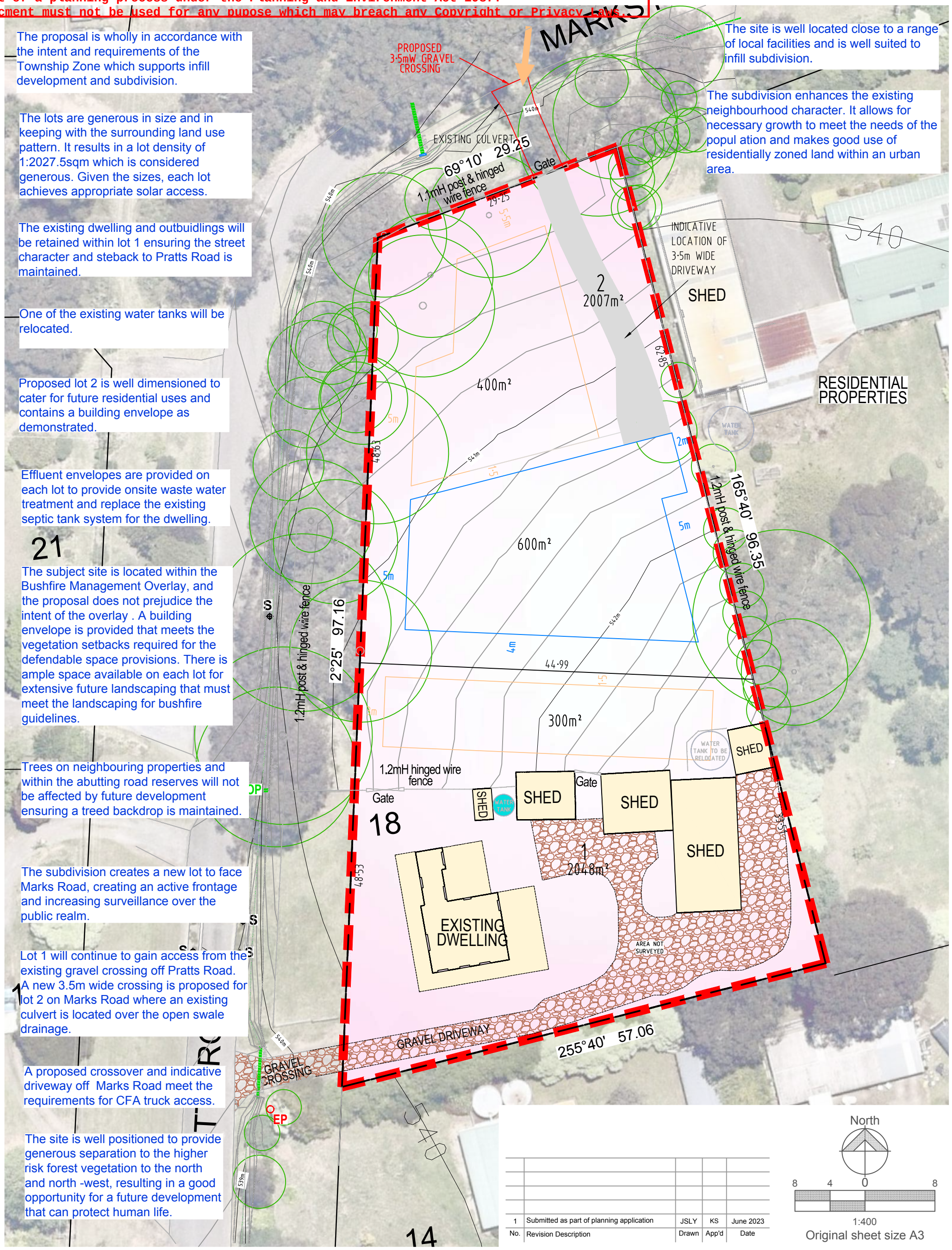
Lot 1 will continue to gain access from the existing gravel crossing off Pratts Road. A new 3.5m wide crossing is proposed for lot 2 on Marks Road where an existing culvert is located over the open swale drainage.

A proposed crossover and indicative driveway off Marks Road meet the requirements for CFA truck access.

The site is well positioned to provide generous separation to the higher risk forest vegetation to the north and north -west, resulting in a good opportunity for a future development that can protect human life.

The site is well located close to a range of local facilities and is well suited to infill subdivision.

The subdivision enhances the existing neighbourhood character. It allows for necessary growth to meet the needs of the popul ation and makes good use of residentially zoned land within an urban area.



No.	Revision Description	Drawn	App'd	Date
1	Submitted as part of planning application	JSLY	KS	June 2023

North

8 4 0 8

1:400

Original sheet size A3

FOR APPROVAL

Millar | Merrigan

Land Development Consultants

Civil Engineering
Land Surveying
Landscape Architecture
Project Management
Town Planning
Urban Design

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DESIGN RESPONSE PLAN

PROPOSED SUBDIVISION

18 Pratts Road, Kinglake West
Murrindindi Shire Council

29923P3
VERSION 1
SHEET 1 OF 1

Construction Standard:
No construction standard applies to Lot 1

Any future dwelling on Lot 2 is to be designed and constructed to a minimum construction standard of BAL 29.

Access:
Access for fire fighting vehicles to Lot 2 must meet the following requirements:

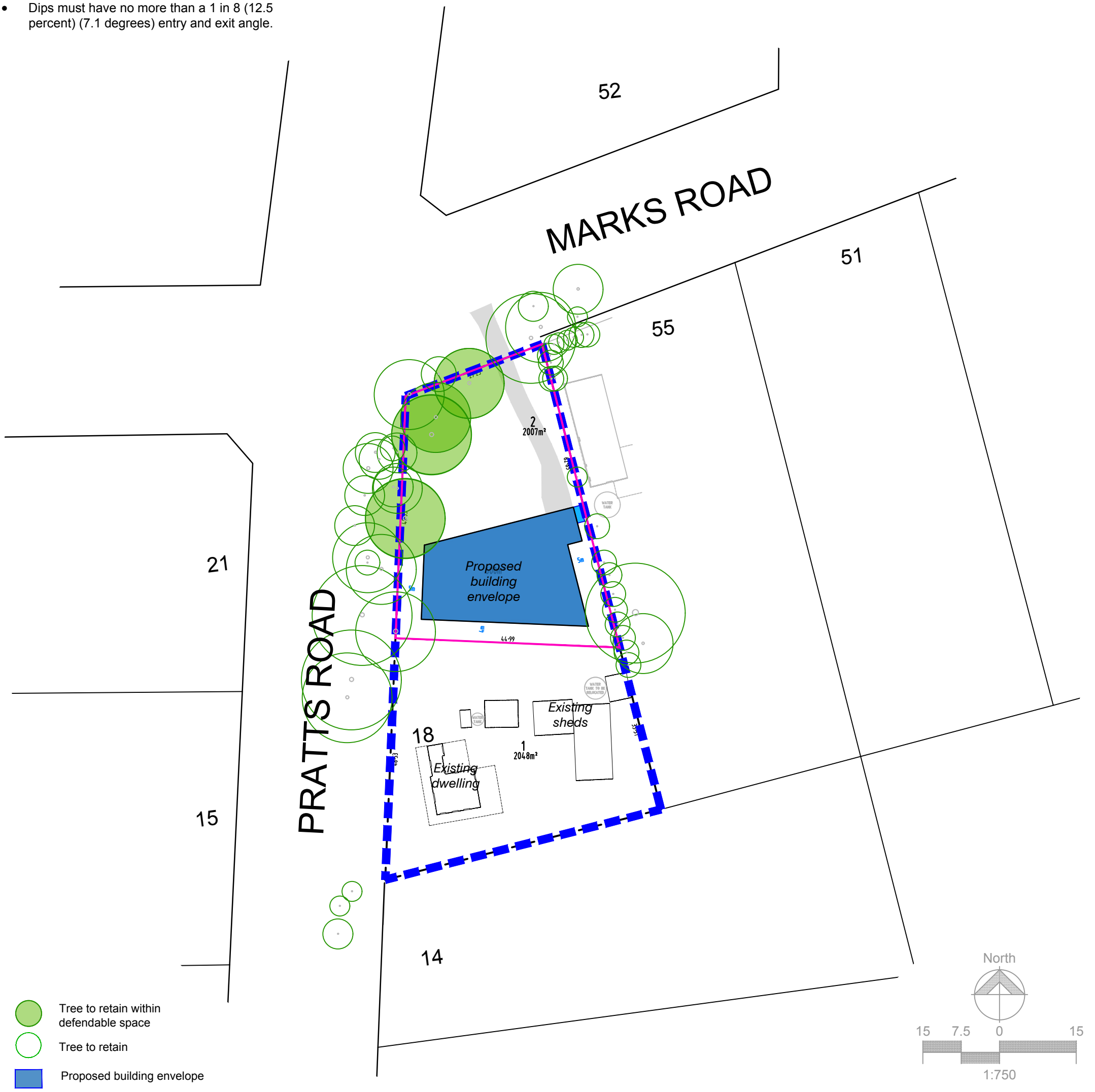
- All-weather construction.
- A load limit of at least 15 tonnes.
- Provide a trafficable width of 3.5m.
- Be clear of encroachments for at least 0.5m on each side and 4m vertically.
- Curves must have a minimum inner radius of 10m.
- The average grade must be no more than 1 in 7 (14.4 percent)(8.1 degrees) with a maximum of no more that 1 in 5 (20 percent) (11.3 degrees) for no more than 50m.
- Dips must have no more than a 1 in 8 (12.5 percent) (7.1 degrees) entry and exit angle.

Defendable Space:
Defendable space for Lot 2 is provided for a distance of 50 metres or to the property boundary, whichever is the lesser, and will be modified and managed in accordance with the following requirements:

- Grass must be short cropped and maintained during the declared fire danger period.
- All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period.
- Within 10 metres of a building, flammable objects must not be located close to the vulnerable parts of the building.
- Plants greater than 10 centimetres in height must not be placed within 3 metres of a window or glass feature of the building.
- Shrubs must not be located under the canopy of trees.
- Individual and clumps of shrubs must not exceed 5sqm in area and must be separated by at least 5 metres.
- Trees must not overhang or touch any elements of the building.
- The canopy of trees must be separated by at least 5 metres.
- There must be a clearance of at least 2 metres between the lowest tree branches and ground level.

Water Supply:
A minimum 10,000L effective water supply for fire fighting purposes is to be installed on Lot 2. Water supply must meet the following requirements:

- Be stored in an above ground water tank constructed of concrete or metal.
- Have all fixed above ground water pipes and fittings required for fire fighting purposes made of corrosive resistant metal.
- Include a separate outlet for occupant use.
- Be readily identifiable fro the building or appropriate identification signage to the satisfaction of the responsible authority.
- Be located within 60m of the outer edge of he approved building
- The outlet/s of the water tank must be within 4 metres of the accessway and unobstructed.
- Incorporate a separate ball or gate valve (British Standard Pipe (BSP 65 millimetre) and coupling (64 millimetre CFA 3 thread per inch male fitting).
- Any pipework and fittings must be a minimum of 65 millimetres (excluding the CFA coupling).



Millar | Merrigan

BUSHFIRE MANAGEMENT PLAN

18 Pratts Road, Kinglake West
29923_BMP1 (June 2023)

Bushfire Management Statement

18 PRATTS ROAD, KINGKAKE WEST

Two (2) Lot Subdivision in a BMO

Reference: 29923

Millar | Merrigan

Land Development Consultants

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trading as
Millar Merrigan
ACN 005 541 668

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2/126 Merrindale Drive,
PO Box 247
Croydon, 3136
Telephone 03 8720 9500
Facsimile 03 8720 9501

Regional:
156 Commercial Road
Morwell, 3840
email@millarmerrigan.com.au
www.millarmerrigan.com.au

PREPARED BY MILLAR MERRIGAN ON BEHALF OF:

The Client

FORMAL LAND DESCRIPTION:

Crown Allotment 25 Section B Township of Pheasant Creek Parish of Kinglake

PROPOSAL:

Two (2) Lot Subdivision in a BMO

AUTHORITY:

Murrindindi Shire Council

DOCUMENT STATUS:

Version: Date	Description	Prepared by	Revised by
No 1: May 2023	For Council Submission	D Gleeson	M Edwards

CONTENTS

1 EXECUTIVE SUMMARY

This Bushfire Management Statement has been prepared to address the requirements of the *Bushfire Management Overlay (BMO) (Clause 44.06)* and provide the Responsible Authority and applicant with advice and recommendations for bushfire protection, specifically with regards to a two (2) lot subdivision at the subject land.

This report identifies the existing conditions of the site and surrounds in accordance with the applicable requirements of *Bushfire Planning (Clause 53.02)* and offers a planning and design response, which shows how the proposal meets the relevant measures and decision guidelines.

The bushfire site assessment process is used to determine how far away from unmanaged vegetation a building would need to be to receive less than a certain level of radiant heat (e.g. a house constructed to a BAL-29 construction standard has been designed to withstand a radiant heat flux of 29 kW/m2). This assessment is then used to determine the most appropriate combination of vegetation management zone and Bushfire Attack Level for future buildings.

Based on a site assessment, there are three types of vegetation to be considered: *Low-threat*, *Modified* and *Forest.* The immediate surrounding sites are dominated by standard residential developments which are classified as *Low Threat* or *Modified Vegetation* areas. The assessment area extends into a lineal reserve of forest vegetation to the northwest, under downslope 0-5 degrees from the site, and to the extension of Pratts Road to the north which is also considered forest vegetation. This vegetation is setback 50m from the edge of the proposed building envelope and consequently, a BAL-29 construction is considered appropriate for Lot 2 (vacant lot), which also considers the higher risk landscape in the wider area.

Access and water supply requirements in accordance with Table 4 and 5 can easily be met for the new lot. Vegetation management requirements of Table 6 are met for Lot 2, with the exception of three trees that are sought to be retained.

As lot 1 contains an existing dwelling, no bushfire protection measures are applied to this lot.

It is submitted that the proposed subdivision meets the intent of the *BMO* and *Clause 53.02*, thereby risk to life and property is reduced to an acceptable level.

In accordance with the mandatory requirements of *Clause 44.06-3* a 173 Agreement will be applied to the proposed vacant lot to exempt a future dwelling from a permit trigger under the *BMO*.

2 IMPORTANT ASSUMPTIONS

It is important to acknowledge that the policies and land conditions described herein were correct at the time of publishing. If regulations change and/or site conditions vary it may be necessary to review the bushfire risk and subsequent protection measures.

The measures outlined in this Bushfire Management Statement cannot guarantee safety during an extreme fire event. Residents will need to develop a Personal Bushfire Plan to clearly understand and plan for how they are going to act in response to a fire event. It is recommended that they refer to CFA publications for assistance.

3 INTRODUCTION

Millar Merrigan have been engaged to prepare a Bushfire Management Statement for a two-lot subdivision at 18 Pratts Road, Kinglake West. The land is entirely covered by the *Bushfire Management Overlay (Clause 44.06) (BMO)* which triggers a permit for subdivision and a full assessment against *Clause 53.02-4* is required.

In addition to implementing Municipal Planning Strategy and Planning Policy Framework the purpose of the *BMO* is:

- *To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.*
- *To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.*
- *To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.*

This report addresses the applicable requirements of the *BMO (44.06)* and *Bushfire Planning (53.02)*.

4 PROPOSAL

The subdivision creates two (2) residential lots with Lot 1 retaining the existing dwelling and outbuildings. Lot 2 is vacant and located towards the north of the site. The existing crossing and access will continue to provide access to the existing dwelling, whilst a new crossing is proposed off Marks Road to provide access to Lot 2 in the location of an existing gate and culvert. The proposed lots are 2048sqm and 2007sqm, see Figure 1 below.

No trees are required to be removed to facilitate the subdivision or effluent fields.

A copy of the subdivision plan is attached at Appendix 1.

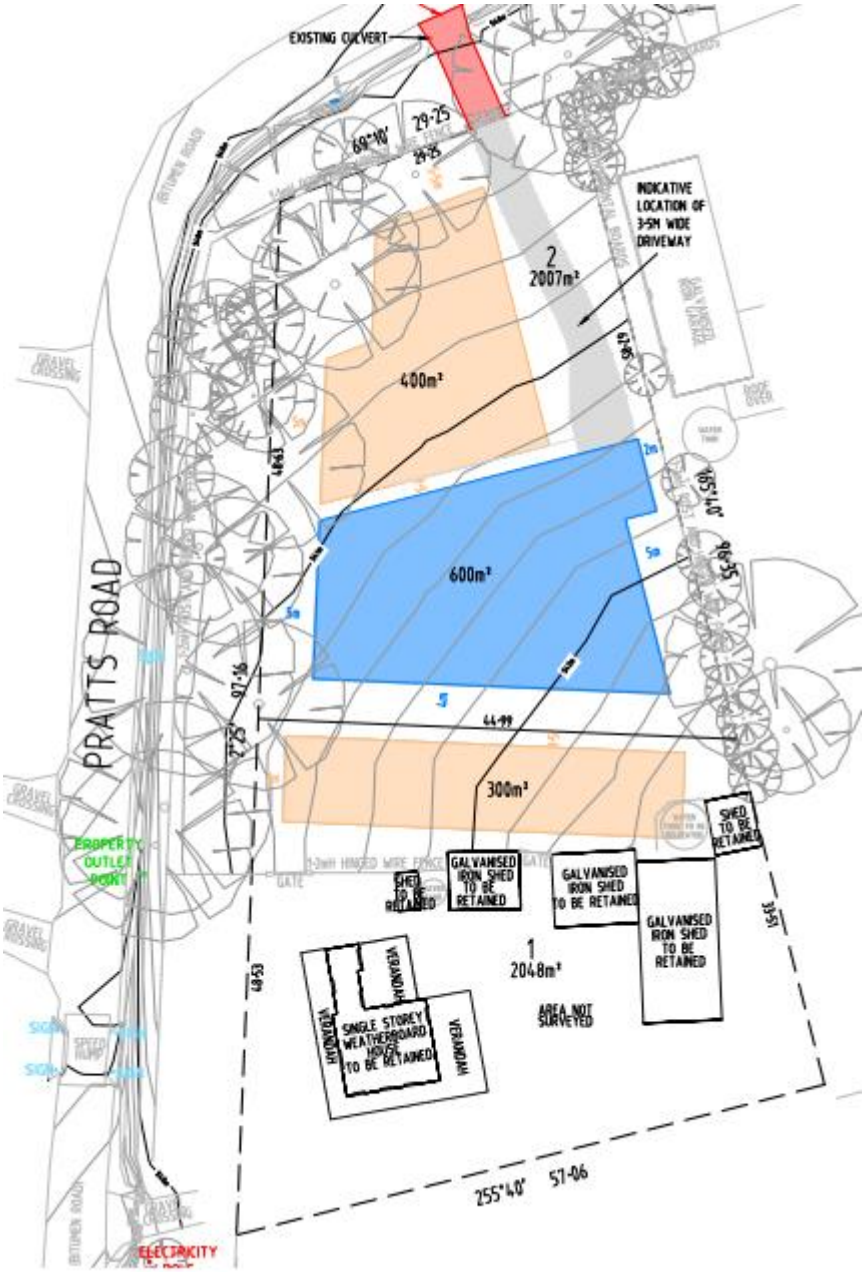


Figure 1: Proposed subdivision layout

5 PLANNING PROVISIONS

The land is contained within the *Township Zone (32.05)*, which alongside implementing the Municipal Planning Strategy and the Planning Policy Framework, seeks:

- *To provide for residential development and a range of commercial, industrial and other uses in small towns.*
- *To encourage development that respects the neighbourhood character of the area.*
- *To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.*

The only overlay applicable is the *Bushfire Management Overlay,(44.06) (BMO)* and it applies to the entire site and extends for several kilometres in all directions. This overlay is used to guide the development of land in areas of high bushfire hazard. It requires consideration of the location, design and construction of development and the implementation of bushfire protection measures.

The *BMO* mapping is based on the bushfire hazard and applied to areas of extreme fuel loads where there is a potential for extreme bushfire behaviour such as a crown fire and extreme ember attack and radiant heat. It takes into account vegetation, weather characteristics and slope. In the context of the wider area the BMO mapping is extensive which demonstrates the high landscape risk, see Figure 2 below.

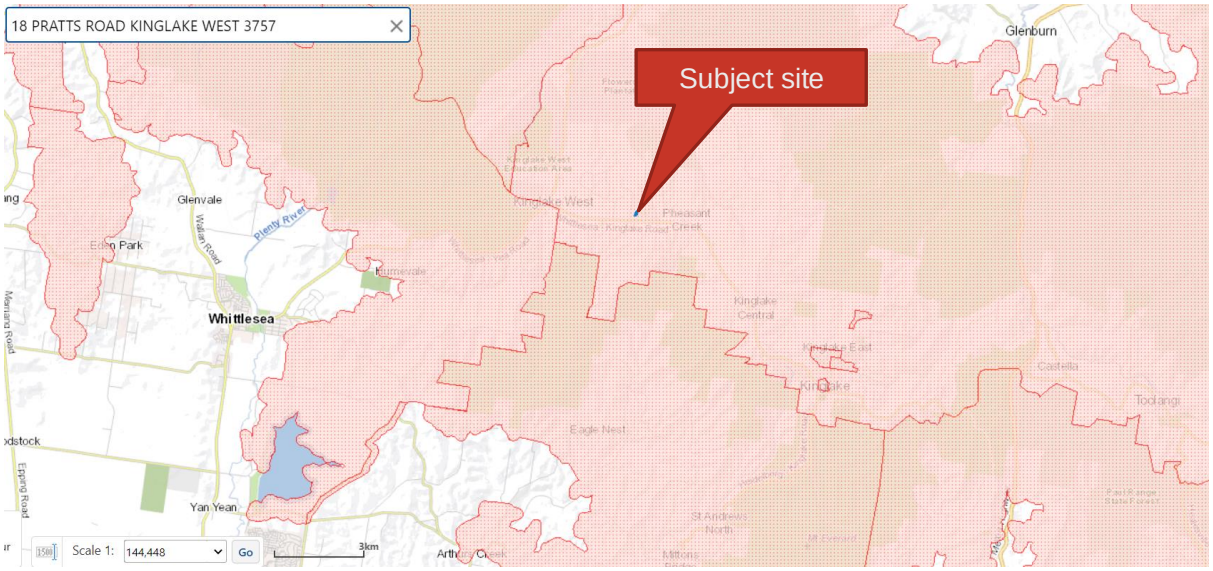


Figure 2: Extent of BMO

Pursuant to the *BMO*, a permit is required for subdivision and a full assessment against *Clause 53.02-4* is required.

In accordance with *Clause 44.06-5* bushfire protection measures for subdivision are to be enforced by application of the following permit condition:

> *Before the statement of compliance is issued under the Subdivision Act 1988 the owner must enter into an agreement with the responsible authority under Section 173 of the Planning and Environment Act 1987. The agreement must:*
>
> - *State that it has been prepared for the purpose of an exemption from a planning permit under Clause 44.06-2 of the Murrindindi Shire Planning Scheme.*
> - *Incorporate the plan prepared in accordance with Clause 53.02-4.4 of this planning scheme and approved under this permit.*
> - *State that if a dwelling is constructed on the land without a planning permit that the bushfire protection measures set out in the plan incorporated into the agreement*

must be implemented and maintained to the satisfaction of the responsible authority on a continuing basis.

The landowner must pay the reasonable costs of the preparation, execution and registration of the Section 173 Agreement.

This does not apply:

- *If a schedule to this overlay specifies that a Section 173 Agreement is not required.*
- *Where the relevant fire authority states in writing the preparation of an agreement under Section 173 of the Act is not required for the subdivision.*
- *For the subdivision of the land into lots each containing an existing dwelling or car parking space.*

The Planning Policy Framework is based on a series of themes and includes *Clause 13.02 – Bushfire Planning*, which seeks to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life. This clause aims to give priority to the protection of human life by:

- *Prioritising the protection of human life over all other policy considerations.*
- *Directing population growth and development to low risk locations and ensuring the availability of, and safe access to, areas where human life can be better protected from the effects of bushfire.*
- *Reducing the vulnerability of communities to bushfire through the consideration of bushfire risk in decision making at all stages of the planning process*.

The Murrindindi Shire Planning Scheme has a local planning policy specifically relating to bushfire protection, Clause 13.01-1L, Bushfire Planning which seeks to implement the following strategies:

- *Support:*
  - *the rebuilding of communities, destroyed homes and damaged infrastructure affected by the 2009 bushfires*
  - *the re-establishment of commercial centres affected by the 2009 bushfires in a way that mitigates bushfire risk.*
- *Locate, design and manage use and development to reduce the risk to human life, property and community infrastructure from bushfire to an acceptable level.*
- *Provide necessary bushfire protection measures, including through the design and construction of buildings, the creation of defendable space, the provision of a dedicated fire-fighting water supply and the need for fire authority access to and on the land.*
- *Implement and maintain necessary bushfire protection measures in conjunction with the ongoing use of the land.*
- *Facilitate the expansion of existing settlements, new subdivisions and uses that cater for vulnerable people only when:*
- *The risk to life, property and community infrastructure from bushfire is reduced to an acceptable level.*
- *The need for future occupants to implement and maintain bushfire protection measures is minimised through the careful location, siting and design of new development.*
- *Emergency management arrangements, considered in consultation with the relevant authorities, can be practically established and implemented, including through the actions of the emergency services, operators and future landowners.*
- The ability for people to access safer locations and locations of last resort has been established.

Bushfire is also mentioned in various clauses throughout the planning scheme.

Clause 65 – Decision Guidelines requires the responsible authority to consider, among other things, the degree of fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard.

This Bushfire Management Statement has made an assessment of fire hazard, resulting in a design which is responsive to the opportunities and constraints presented by the site and its surrounds.

The proposed subdivision at the subject site is permitted under the relevant zone and overlay and the layout complies with all measurable aspects of relevant planning policy. It is submitted that the proposed subdivision has appropriate regard to the overarching policy objectives of the Murrindindi Shire planning scheme.

A copy of the Planning Property Report is attached at Appendix 2.

6 BUSHFIRE HAZARD SITE ASSESSMENT

6.1 THE SITE

The subject site is currently developed with a dwelling and various outbuilding. It is wedge shaped, comprising of 4055sqm. Pratts Road abuts the western boundary and Marks Road abuts the northern boundary. Residential properties abut the eastern and southern boundaries. The wider area is also developed as a residential area.

The site is predominantly grassed, with trees and shrubs scattered mostly around the boundaries and within the street reserves.

Access to the dwelling is via a crossing off Pratts Road with a gravel driveway extending into the site from the south-western corner. A culvert and gateway are present off Marks Road at the north-east corner of the site. There are no restrictions applicable, and a copy of title is attached at Appendix 3.

The topography of the land generally rises from the street front to the rear boundary, see aerial and site photographs below.

Photograph 1: Aerial image of the site and the surrounding properties

Photograph 2: Looking towards the site from the end of the driveway off Pratts Road.

Photograph 3: Panoramic view of the rear garden, looking north.

Photograph 4: Panoramic view of the rear garden looking south.

Photograph 5: Looking south across the site from Marks Road

The *BMO* site assessment criteria requires an area of 150m around land to be considered and the Site Plan at Figure 4 below shows this area, noting that only Lot 2 has been assessed given that Lot 1 contains a dwelling. The below plan identifies vegetation types and slope.

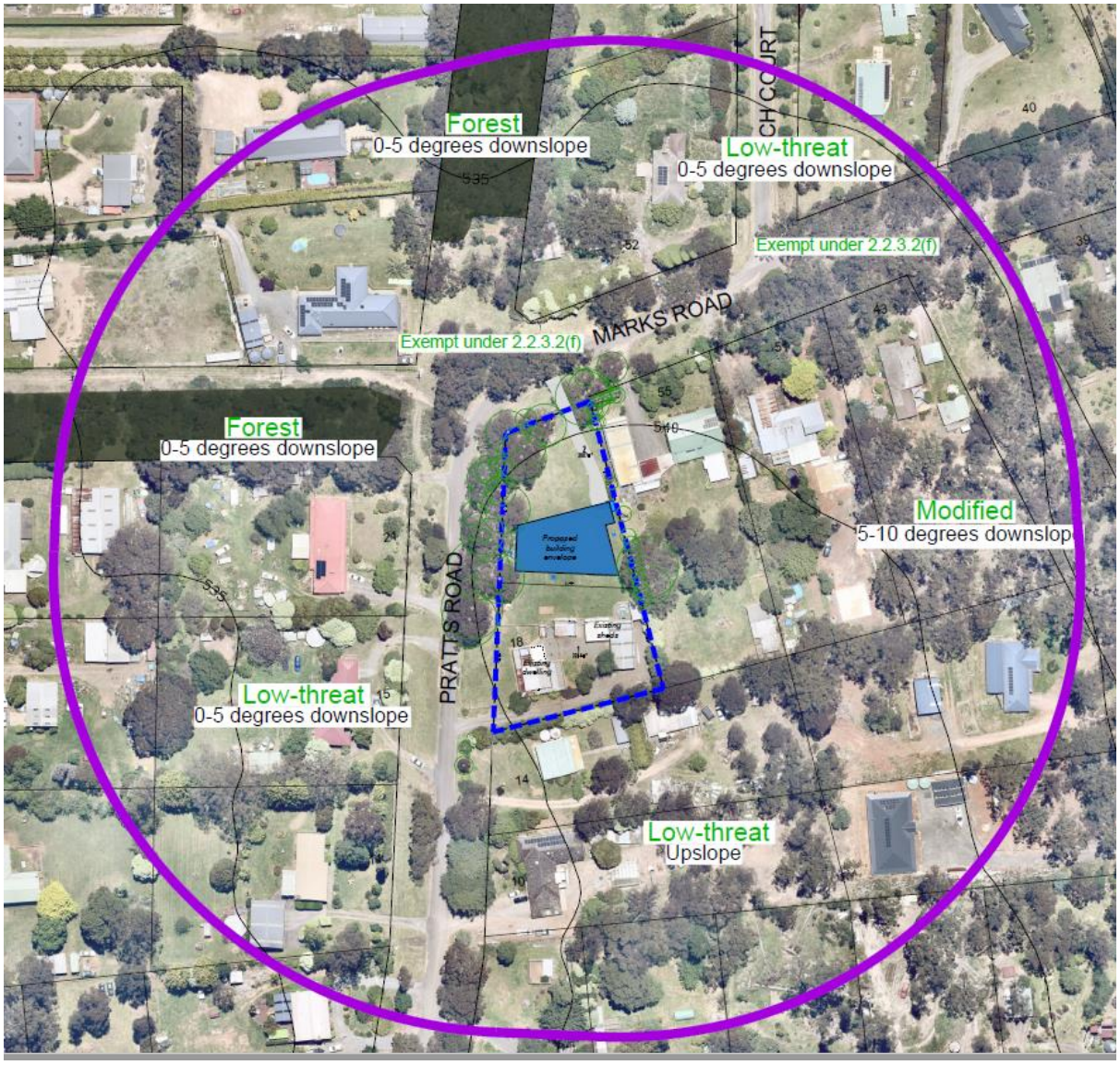


Figure 3: Site Assessment Plan

6.2 BUSHFIRE BEHAVIOUR

To effectively implement bushfire protection measures it is important to understand bushfire behaviour and how buildings are destroyed. There are three major factors that influence bushfire behaviour; being topography, weather conditions (such as temperature and wind) and vegetation.

The ways in which a building is destroyed by bushfire can be through ember attack, radiant heat, localised flame contact, flame contact from fire front or extreme fire front, see Figure 4 below.

EMBER ATTACK	RADIANT HEAT	LOCALISED FLAME CONTACT	FLAME CONTACT FROM FIRE FRONT	EXTREME FIRE BEHAVIOUR
				
• May occur from the hazard in very close proximity to a building (nearby trees, neighbouring houses). • May occur from fire behaviour in the surrounding landscape. • Most common way houses catch fire during a bushfire. • Occurs when small burning twigs, leaves and bark are carried by wind, landing in and around a building. • Can happen before, during and after a bushfire.	• Occurs from the hazard in close proximity to a building (up to 150 metres). • The heat you can feel from a fire. • Can ignite surfaces without flame contact or ember attack. • Dries out vegetation ahead of a bushfire so that it burns more readily.	• Occurs from the hazard in close proximity to a building (up to 50 metres). • Direct flame contact from individual elements, such as vegetation, fences or structures. • Burning elements may arrive from neighbouring land. • Can occur in areas where the vegetation is modified or is managed as a garden. • Not direct flame contact from a moving fire front.	• Occurs from the hazard in close proximity to a building (150 metres). • Direct flame contact from a fire front where vegetation is in a mostly natural state (such as in national parks). • Occurs when a building is in close proximity to the vegetation. • May arise in lower risk areas (such as from a local park) or in higher risk areas (larger vegetated areas such as forests and coastal reserves).	• Occurs from fire behaviour in the surrounding landscape, including where it interacts with the hazard in close proximity to a building. • Arises in high risk landscapes, with long fire runs, steep topography and vegetation in a mostly natural state. • Influenced by fuel loads and drought conditions. • Associated with high temperatures, wind, cyclonic winds, lightning. • Extreme ember attack will occur. • Associated with weather as seen on Black Saturday. • Any fire that starts and takes hold will be so intense that life safety may be seriously compromised.

Figure 4: Forms of Bushfire Attack (source: *DELWP, Planning Permit Applications Bushfire Management Overlay, Technical Guide)*

The shape of the land has a strong effect on bushfire. A fire will burn faster and more intensely uphill because the flames can reach more unburnt fuel in front of the fire. The heat radiating from the fire pre-heats fuel on the slope ahead of the fire, making the fuel even more flammable. For every 10˚ slope, the fire will double its speed.

By increasing in speed, the fire also increases in intensity, becoming even hotter. The opposite applies to a fire travelling downhill. The flames reach less fuel, and less radiant heat pre-heats the fuel in front of the fire. For every 10˚ of downhill slope, the fire will halve its speed.
Fires tend to move more slowly as the slope decreases.

(Source: DELWP, Planning Permit Applications Bushfire Management Overlay, Technical Guide)

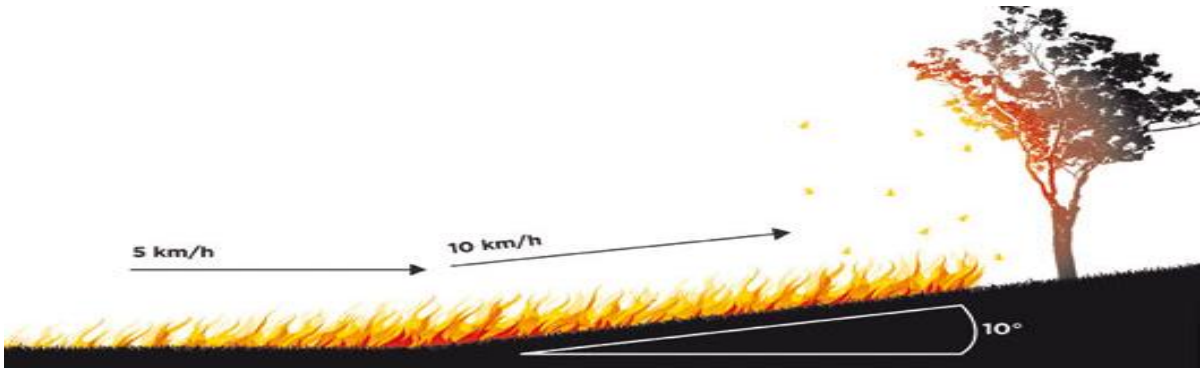


Figure 5: How fire speed increase uphill (source: DELWP, Planning Permit Applications Bushfire Management Overlay, Technical Guide)

The weather plays an important factor in bushfire occurrence with temperature, wind, humidity and atmospheric condition all being contributing factors. Bushfires often start on hot, dry, windy days.

Wind influences the speed at which fire spreads, the direction in which a fire travels, the size of the fire front, the intensity of the fire and the likelihood of embers and spot fires.

Vegetation is however the primary source of fuel for a bushfire and the amount of fuel present, together with the location of buildings can directly affect their survival. The only factor people have any control over is fuel; therefore, by reducing fuel load and creating defendable space around a building, the bushfire risk can be reduced.

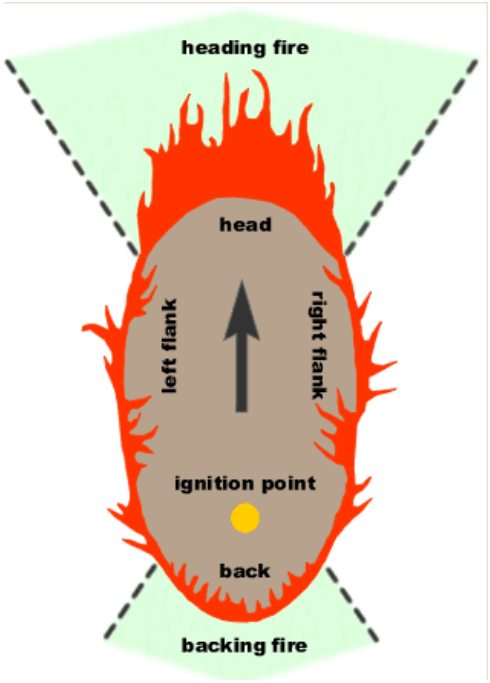


Figure 6: Bushfire Behaviour

A bushfire can behave in a variety of ways:

- Head fire – a fire where the flames are blown towards the fuel;
- Flank fire - a fire where the fire edge is generally parallel to the wind;
- Back fire – a fire that moves into the wind with flames leaning over the burnt ground.

6.3 VEGETATION

The vegetation management requirements together with the building construction requirements of the *Bushfire Management Overlay (BMO)* and *AS3959* aim to ensure that risk to life and property from bushfire can be reduced to an acceptable level.

The vegetation classification, together with effective slope is utilised for the purposes of determining defendable space and construction requirements.

The classification system of *AS3959* uses a generalised description of vegetation based on the AUSLIG (Australian Natural Resources Atlas: No. 7 - Native Vegetation) classification system.

The vegetation classification, together with effective slope is utilised for the purposes of determining the defendable space and construction requirements under the *Bushfire Management Overlay (BMO).* The classification system of *AS3959* uses a generalised description of vegetation based on the AUSLIG (Australian Natural Resources Atlas: No. 7 - Native Vegetation) classification system.

Low Threat Vegetation

Vegetation on and within 150m of the subject site is indicated on the Site Plan at Figure 4, and comprises of three main categories: **Low Threat, Modified** and **Forest**.

A high percentage of the assessment area comprises of non-combustible features including roads, buildings and cultivated gardens, which do not cause a bushfire threat. These can be excluded from consideration pursuant to *Section 2.2.3.2* of *AS3959* which outlines the following scenarios as **low threat**:

a) *Vegetation of any type that is more than 100 m from the site.*
b) *Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation being classified.*
c) *Multiple areas of vegetation less than 0.25 ha in area and not within 20 m of the site, or each other.*
d) *Strips of vegetation less than 20 m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20 m of the site or each other, or other areas of vegetation being classified.*
e) *Non-vegetated areas, including waterways, roads, footpaths, buildings and rocky outcrops.*
f) *Low threat vegetation, including grassland managed in a minimal fuel condition, maintained lawns, golf courses, maintained public reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks.*

NOTE:

1. *Minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognizable as short-cropped grass for example, to a nominal height of 100 mm).*
2. *A windbreak is considered a single row of trees used as a screen or to reduce the effect of wind on the leeward side of the trees.*

The below photographs provide a visual representation of the low threat areas.

Photograph 6: Surrounding sites are developed with single dwellings and managed gardens, which present as low threat in terms of bushfire risk. Here is an example of dwellings in the area, Number 55 Marks Road.

Photograph 7. Marks Road offers roadside trees but the understorey is managed and the conditions are considered Low Threat. Further east along Marks Road the vegetation is slightly more dense, but is excluded under 2.2.3.2 (f), as it is less than 20m in width and more than 20m from the site.

Photograph 8: Dwelling directly opposite the subject site on Pratts Road offers well managed gardens

Photograph 9: The road reserve of Pratts Road is well managed and presents as Low Threat conditions

Photograph 10: The road reserve vegetation is denser further east along Marks Road, but this is exempt as it is less than 20m in width and greater than 20m from the subject site

Modified Vegetation

Clause 53.02 describes this as follows:

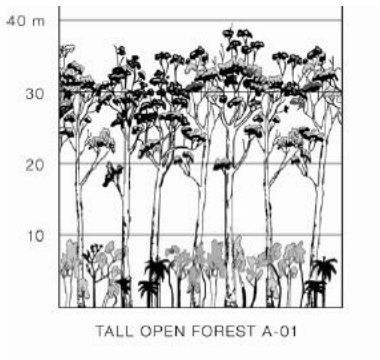
> *Modified vegetation is vegetation that doesn't fit into the vegetation classifications in AS3959:2009 Construction of buildings in bushfire prone areas (the standard) because it:*
>
> *- has been modified, altered or is managed due to urban development, or gardening,*
>
> *- has different fuel loads from those assumed in the standard,*
>
> *- has limited or no understorey vegetation, or - is not low-threat or low-risk vegetation as defined in the standard*

The surrounding area is characterised by single dwellings, some of which are set within a moderate cover of vegetation. Due to its residential use the vegetation on properties abutting the subject site is partially managed, therefore has been classified as 'Modified' vegetation.

Photograph 11: The dwelling at 51 Marks Road is surrounded by heavier tree vegetation but offers a managed understorey, in keeping with the definition of Modified Vegetation.

Forest Vegetation

In comparison to the Low Threat and Modified vegetation, are the patches of upslope forest vegetation to the north-east and north of the assessment area.



AS3959 describes Forest as follows:

Trees 10–30 m high; 30–70% foliage cover (may include understorey of sclerophyllous low trees and tall scrubs or grass).

Typically dominated by eucalypts.

Figure 7: Forest (sourced from AS3959)

Photograph 12: Looking towards the forest vegetation in the linear reserve opposite the site to the west.

Photograph 13: Looking into the forested area to the north of the corner of Marks and Pratts Roads.

6.4 SLOPE

The slope within 150m of the subject site has been assessed and indicated on the Site Plan at Figure 4. The site is generally upslope conditions from west to east. The wider area is undulating and, in some areas, moderately steep, see figure 8 below.

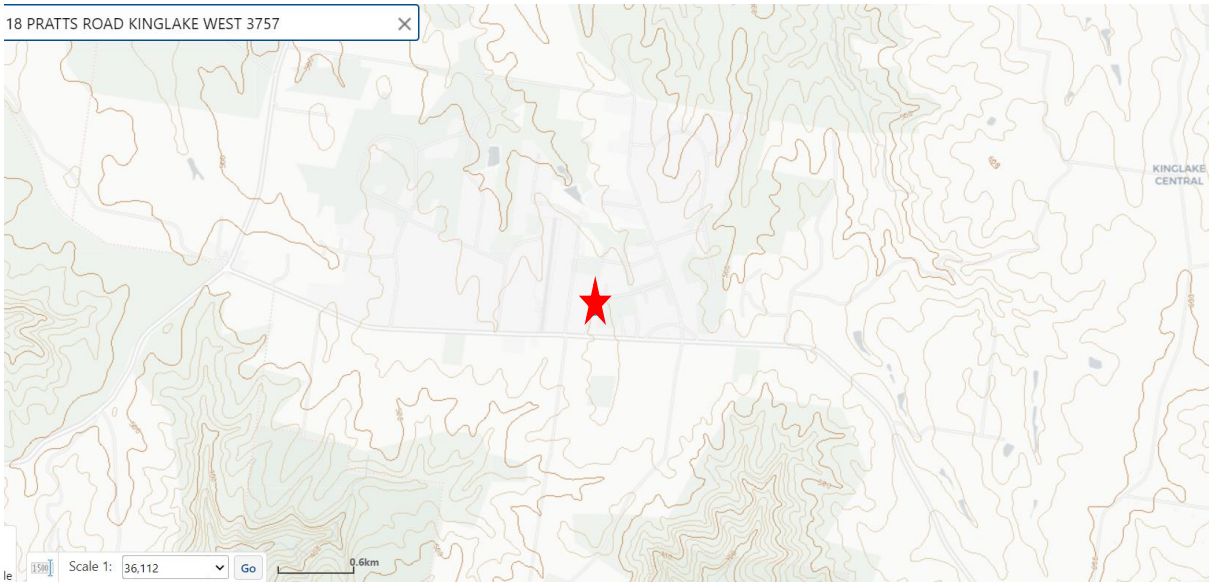


Figure 8: Topography of the surrounding area

7 BUSHFIRE HAZARD LANDSCAPE ASSESSMENT

7.1 LANDSCAPE ASSESSMENT

The bushfire hazard landscape assessment provides information on the bushfire hazard for 20km (or greater) around a development site. Considering bushfire from this broader landscape perspective is important as it affects the level of bushfire risk a development and its future occupants may be exposed to. The landscape assessment seeks to:

- *Provide factual information on the bushfire hazard (vegetation extent and slope)*
- *Provide information on key features of the general locality that are relevant to better understanding the protection provided by the location*
- *Provide contextual information on a site*

Bushfire is a dynamic hazard and can be highly unpredictable. Because of this, the factors that contribute to the bushfire risk are diverse. The purpose of the landscape assessment is not to predict the outcome of a bushfire event but to provide information that builds a better understanding of the bushfire risk in a location and to help make informed decisions.

The likelihood of a bushfire, its severity and intensity, and the potential impact on life and property varies depending on where a site is located in the surrounding landscape. There are a number of factors that influence the potential bushfire behaviour at a landscape scale, including:

- *Topography;*
- *Extent and continuity of vegetation;*
- *The location and exposure of the urban area, township, isolated rural area to bushfire;*
- *The potential fire run and area that is likely to be impacted by the fire, for example a fire in a grassland may only impact one or two streets into a residential area, however a large bushfire may impact many km in front of the main fire;*
- *The extent of neighbourhood-scale damage the bushfire may produce.* [1]

The subject land abuts Pratts Road to the west, Marks Road to the north and is set amongst established residential properties, with the main hub of Kinglake West only 600m to the south-east. The Township Zone abuts Low Density Residential Living to the north and Rural Living to the east. A small pocket of Industrial zoning surrounds the town centre, with the wider area dominated by Farming Zone. See Figure 9 below.

[1] *Source: Planning Permit Applications Bushfire Management Overlay, Technical Guide, DELWP (2017)*

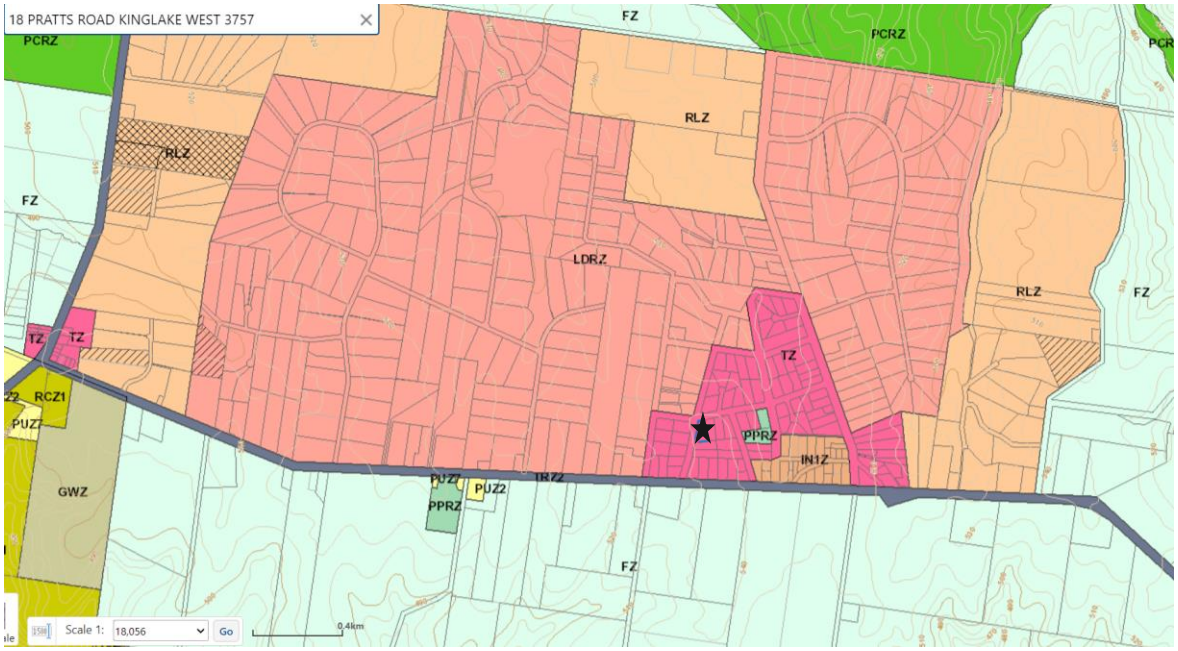


Figure 9: Surrounding Zoning (source: Vicplan)

The site itself is surrounded by residential lots in all directions, with Pratts Road directly to the west and Marks Road to the north.

In addition to site and adjacent based risk, the broader landscape risk must be considered to determine the bushfire risk. As demonstrated in Figure 10 below, the wider landscape presents expansive vegetated mountain ranges.

A neighbourhood Safer Place is available at the Recreation Reserve in Kinglake West

The surrounding landscape to the north and east is dominated by forested areas, and whilst prevailing winds would see a fire move away from Kinglake West, a flank fire could occur. Under any scenario, extreme ember attack would occur to the township

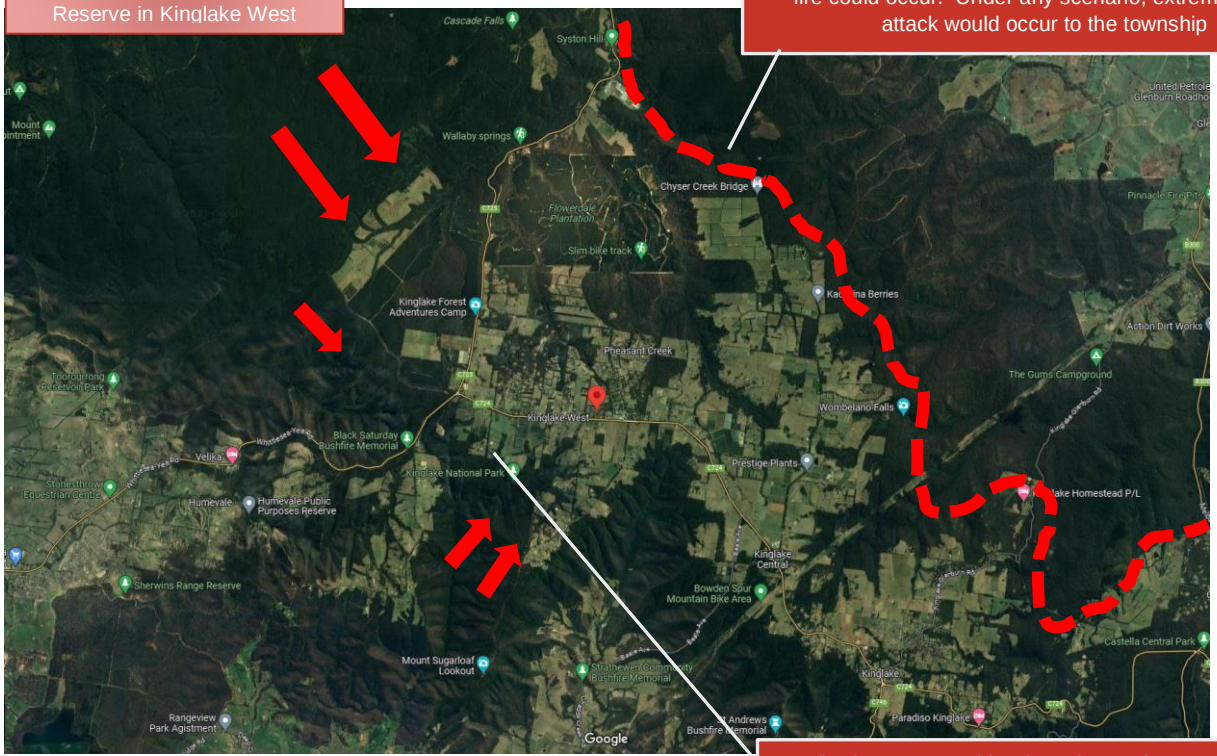


Figure 10: Landscape Assessment (potential fire runs indicated with red arrow, red dotted line = flank fire front)

A fire front approaching from the north-west or south-west would directly impact the urban areas given the proximity of forest to the urban areas.

The area is considered to be comparative to Broader Landscape Type Three as outlined in the *Technical Guide: Planning Permit Applications in the Bushfire Management Overlay (Sept 2017*), which describes the landscape as follows:

- *The type and extent of vegetation located more than 150 metres from the site may result in neighbourhood-scale destruction as it interacts with the bushfire hazard on and close to a site;*
- *Bushfire can approach from more than one aspect;*
- *The site is located in an area that is not managed in a minimum fuel condition;*
- *Access to an appropriate place that provides shelter from bushfire is not certain.*

The vegetation beyond the assessment area may result in neighborhood scale destruction and bushfire can approach from more than one direction. The site is however located within an established urban area that is dominated by low-threat features. There is also access to a place that provides shelter form bushfire, being the Neighbourhood Safer Place located at the Recreation Reserve in Kinglake West, approximately 800m from the site.

The Hume Regional Strategic Fire Management Plan (HRSFMP) recognises the high fire risk posed by the Murrindindi area, due to the topography and the vegetation throughout*:*

> *The vegetation in the Hume Region is principally divided along the Hume Freeway. Most of the land east of the Freeway is part of the Great Dividing Range. These mountains and foothills are covered with dry and wet sclerophyll (hard leaves) forests. Most of the land west of the Hume Highway is dominated by grasslands and cropping, with pockets of trees and forest, and tree lined roadsides.*
>
> *While the wet sclerophyll forests are usually less flammable than the dry forests, during drought conditions the wet forests can sustain large uncontrollable fires that have high flame heights, high radiant heat levels and a significant threat from embers starting spot fires well ahead of the main fire front.*

The HRSFMP has this to say about Murrindindi and the fires of 2009:

> *The Mt Gordon fire tower observer gave the following account of the Murrindindi fire burning in forest near Marysville to the 2009 Victorian Bushfires Royal Commission. "It is beyond description. This thing was huge, absolutely huge. I can't explain it. And it was alive. This thing was just full of ember, ash, burning materials. This thing was absolutely alive."*

The Municipal Fire Management Plan, 2020-2023, states the following (in part) within the Municipal Overview for Murrindindi Shire:

> *46% of the total land area of the Municipality is forested public land (1,788 square kilometres) consisting of State Forest, Parks and Reserves and other public land. A large proportion of this land is mountainous and heavily forested.*
>
> *Murrindindi has a long history of bushfire. There have been 4 major bushfires in the municipality since 2000 which include the Castella (Toolangi State Forest) fires of February 2004, Mount Torbreck (State Forest) fires of April 2004, Kanumbra ("Brilliant" fire) New Year's Eve 2005, Kinglake/Glenburn-Yea/Highlands fires of late January/February 2006 and the 7 February 2009 catastrophic fires across the State.*
>
> *The bushfires of February 2009 had a profound effect on the Murrindindi Shire. There were 95 people killed and 1539 square kilometres, or 40% of the Shire, were burnt. The bushfire*

had a catastrophic impact on the communities of Murrindindi and its businesses, tourism and natural environment were severely impacted as a result. 1397 houses were destroyed as well as 3533 kilometres of fencing. Flora and fauna were also severely impacted.

Naturekit lists significant fires that have occurred in the municipality since the turn of the century. These include the Ash Wednesday and Black Friday bushfires, as well as the Black Saturday Bushfires of 2009. Figure 11 shows that extensive fire impact has occurred in the wider landscape which confirms that the landscape risk is extreme.

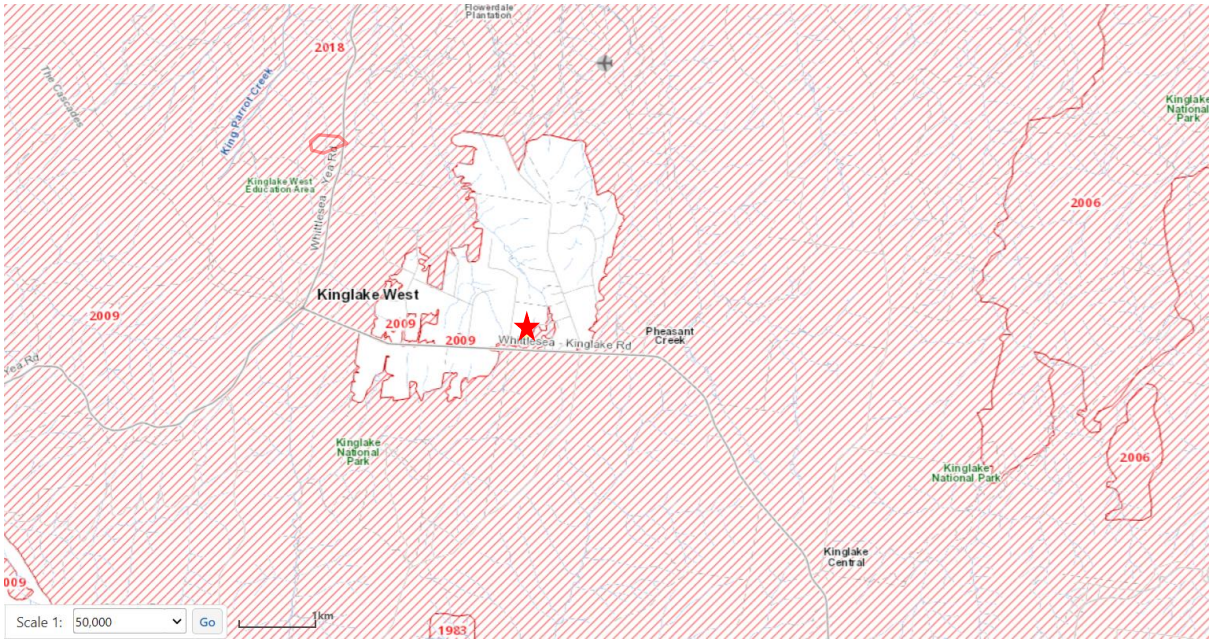


Figure 11: Bushfire History (source: Naturekit)

7.2 BUSHFIRE SCENARIOS

Bushfire is a dynamic hazard and is highly unpredictable, and as such it is not possible to ascertain the exact location and source of a bushfire outbreak. It is however possible to consider likely spread and direction of fire based on accepted understanding of bushfire behaviour.

In Victoria, hot, dry winds typically come from the north and northwest and are often followed by a southwest wind change. In this situation the side of the fire can quickly become a much larger fire front. A change in wind direction is one of the most dangerous influences on fire behaviour and many people who die in bushfires get caught during or after a wind change.

In the context of the subject site, a landscape scale fire could approach from any direction and would be unpredictable, spread rapidly and be difficult to control due to the terrain.

Leaving early is obviously the safest option, however a well-maintained building designed and constructed to the requirements of *BMO* with associated defendable space, will withstand more than brief exposure.

8 DEFENDABLE SPACE & CONSTRUCTION STANDARDS

8.1 DEFENDABLE SPACE

Defendable space is identified as one of the most important aspects of preparing a property for bushfire, as it provides separation between the building and the hazardous vegetation. It is an area of land around a building where vegetation is modified and managed to reduce the effects of flame contact, radiant heat and embers associated with bushfire. The term 'defendable space' is defined by the planning scheme as:

> *An area of land around a building where vegetation is modified and managed to reduce the effects of flame contact and radiant heat associated with bushfire.*

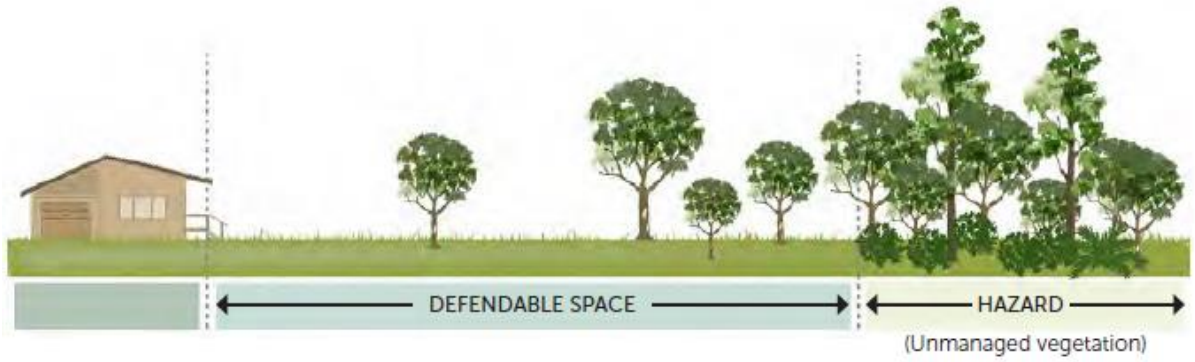


Figure 12: Defendable Space

8.2 CONSTRUCTION STANDARDS

AS 3959-2009 provides a series of construction standards relating to the level of ember attack and/or radiant heat and/or flame contact that may be expected to impact upon buildings. These range from BAL-LOW (where there is insufficient risk to warrant enhanced construction) to BAL-FZ (over 40 kW/m2 and possibly flame contact). The envisaged impacts for each defendable space and construction requirement are illustrated in Figure 13 below.

CLAUSE 52.47-3 DEFENDABLE SPACE TABLES	Table 1 Column A Table 2 Column A Table 3	Table 1 Column B Table 2 Column B	Table 1 Column C Table 2 Column C	Table 1 Column D Table 2 Column D	Table 1 Column E
CONSTRUCTION STANDARD (BUSHFIRE ATTACK LEVEL)	BAL 12.5	BAL 19	BAL 29	BAL 40	BAL FZ

Figure 13: Defendable Space & Construction Requirements (source: DELWP)

The Bushfire Attack Level (BAL) and defendable space is determined in accordance with Table 2 at *Clause 53.02-5*. It is informed by the vegetation and slope classifications within 150m of the proposed development site. Where the BAL and defendable space for different vegetation and slope classifications present, the highest BAL and associated defendable space is generally recorded. Alternatively, the defendable space can be responsive to the hazards in individual directions.

In the case of the subject site, there are three types of vegetation within the assessment area. The table below provides a summary of relevant conditions and is derived from *Clause 53.02-5*:

Table 1: Defendable space requirements

BAL	Forest Downslope 0-5 degrees	Modified Vegetation	Low threat vegetation – All slopes
12.5	57m	Defendable space is to be provided for a distance of 50 metres, or the property boundary whichever is the lesser, for buildings constructed to all bushfire attack levels. The minimum construction standard is **BAL 29**	Defendable space is to be provided for a distance of 50 metres, or the property boundary whichever is the lesser, for buildings constructed to all bushfire attack levels. The minimum construction standard is **BAL 12.5**.
19	43m		
29	32m		
40	24m		

The proposed vacant allotment has a building envelope and this is setback is 50m from the nearest forested area. Given the landscape risk and presence of Modified vegetation a BAL-29 is however applied and defendable space will apply to the property boundary.

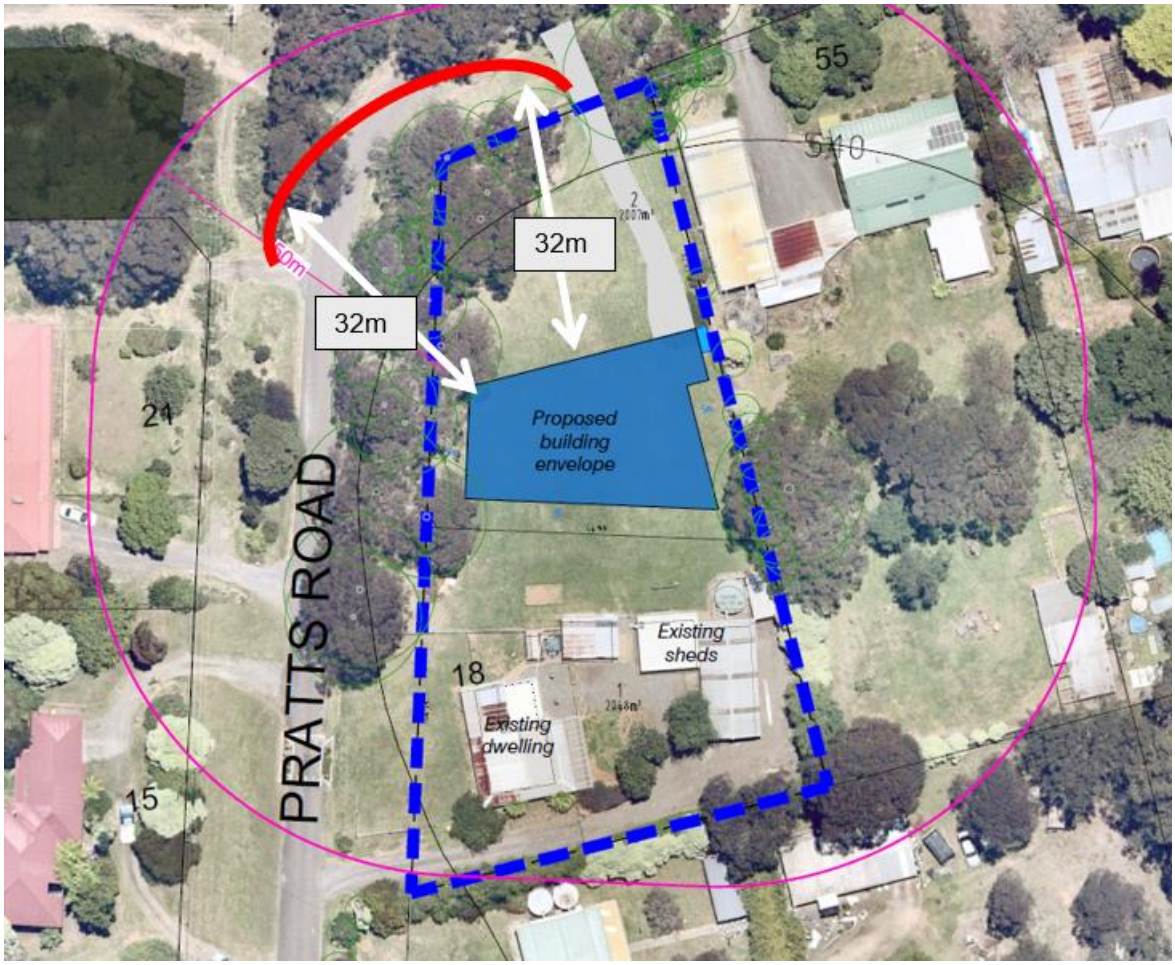


Figure 14: 50m Defendable space

9 VEGETATION MANAGEMENT

The impact of a bushfire can be reduced where vegetation has been modified and other fuel sources removed from around the building, as this reduces the amount of fuel available to burn. Vegetation management does not however require the removal of all fuels as plants and trees can provide protection from strong winds, intense heat and embers.

Table 6 to *Clause 53.02* outlines the following requirements for vegetation management in defendable space areas:

- *Grass must be short cropped and maintained during the declared fire danger period.*
- *All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period.*
- *Within 10 metres of a building, flammable objects must not be located close to the vulnerable parts of the building.*
- *Plants greater than 10 centimetres in height at maturity must not be placed within 3 metres of a window or glass feature of the building.*
- *Shrubs must not be located under the canopy of trees.*
- *Individual and clumps of shrubs must not exceed 5sqm in area and must be separated by at least 5 metres.*
- *Trees must not overhang or touch any elements of the building.*
- *The canopy of trees must be separated by at least 5 metres.*
- *There must be a clearance of at least 2 metres between the lowest tree branches and ground level.*
  Unless specified in a schedule or otherwise agreed in writing to the satisfaction of the relevant fire authority.

No vegetation is proposed to be removed to facilitate the subdivision. The majority of trees are outside of the site boundary (noting that fencing is not on title boundaries) and as such outside of the defendable space. There are however three trees at the northern end of the lot that do not meet canopy separation and a waiver is thereby sought to allow their retention.

Photograph 14: Trees on site and in the adjacent road reserve

10 BUSHFIRE MANAGEMENT STATEMENT

The following section assesses the proposed dwellings and subdivision against the requirements of *Bushfire Planning (Clause 53.02)* as required by the *BMO*. The provisions of *Clause 53.02* contain:

- ***Objectives:***
  An objective describes the outcome that must be achieved in a completed development.
- ***Approved Measures (AM):***
  An approved measure meets the objective.
- ***Alternative Measures (AltM):***
  An alternative measure may be considered where the responsible authority is satisfied that the objective can be met. The responsible authority may consider other unspecified alternative measures.
- ***Decision Guidelines:***
  The decision guidelines set out the matters that the responsible authority must consider before deciding on an application, including whether any proposed alternative measure is appropriate.

Subdivision applications must meet all relevant objectives and *Clause 53.02-2* provides flexibility for applicants to respond to any unique circumstances of their site. *Technical Guide: Planning Permit Applications Bushfire Management Overlay, (September 2017)* notes that an application can demonstrate that the objectives are met in two ways:

1. *Include the relevant approved measures in the application. Where this is done the application is deemed to meet the relevant objectives.*

2. *Consider the suitability of any relevant alterative measures, whether specified in Clause 53.02 or not, and demonstrate that an alternative measure satisfies the objective. An alternative measure sometimes replaces an approved measure and sometimes adds to an approved measure.*

The tables at Section 9.1 below provide an assessment against *Clause 53.02:*

10.1 BUSHFIRE PROTECTION OBJECTIVES

REQUIREMENT – 53.02-4.1 LANDSCAPE, SITING AND DESIGN
▪ *Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.* ▪ *Development is sited to minimise the risk from bushfire.* ▪ *Development is sited to provide safe access for vehicles, including emergency vehicles.* ▪ *Building design minimises vulnerability to bushfire attack.* ***Approved Measures*** *AM 2.1* *The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.* *AM 2.2* *A building is sited to ensure the site best achieves the following:* ▪ *The maximum separation distance between the building and the bushfire hazard.* ▪ *The building is in close proximity to a public road.* ▪ *Access can be provided to the building for emergency service vehicles.* *AM 2.3* *A building is designed to be responsive to the landscape risk and reduce the impact of bushfire on the building.*

ASSESSMENT

AM2.1

As outlined in Section 5, the bushfire hazard landscape assessment is considered to be extreme given that significant fire runs could develop within unmanaged vegetation in the surrounding hills. The proposed subdivision is considered appropriate in this location for the following reasons:

- **The land is zoned for urban purposes (Township Zone);**
- **The landscape around lot 2 is typically low threat or modified and managed defendable space of adjacent properties contributes towards risk reduction;**
- **Addition of a dwelling at the northern end of the site will reduce bushfire risk for surrounding allotments given the subdivision will apply defendable space management;**
- **A future dwelling will be constructed to a BAL-29, that allows the building to be utilised as a place of last resort.**

AM2.2

Bushfire protection can be enhanced by considering the separation of a dwelling from the bushfire hazard, proximity to public roads and emergency service vehicle access on a site. The subdivision creates 2 allotments, with proposed access off Marks Road to be provided via a new crossing and a 32m driveway into Lot 2. The proposed driveway can easily provide access for emergency vehicles. Existing access conditions on Lot 1 will remain unchanged.

AM 2.3

This measure is not relevant to subdivision.

REQUIREMENT – 53.02-4.3 WATER SUPPLY AND ACCESS

- *A static water supply is provided to assist in protecting property.*
- *Vehicle access is designed and constructed to enhance safety in the event of a bushfire.*

Approved Measures

AM 4.1

- *A building used for a dwelling is provided with:*
  - *A static water supply for firefighting and property protection purposes specified in Table 4 to Clause 53.02-3.*
  - *Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-3.*
- *The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for firefighting water supplies.*

ASSESSMENT

Water:

Given the lot size of Lot 2 exceeds 1,001sqm, a 10,000L water tank with fire authority fittings and access required. The water supply is to:

- ***Be stored in an above ground water tank constructed of concrete or metal.***
- ***Have all fixed above ground water pipes and fittings required for firefighting purposes made of corrosive resistant metal.***
- ***Include a separate outlet for occupant use.***
- ***Be readily identifiable from the building or appropriate identification signs to the satisfaction of the relevant fire authority.***
- ***Be located within 60 metres of the outer edge of the approved building.***
- ***The outlet/s of the water tank must be within 4 metres of the accessway and unobstructed. Incorporate a separate ball or gate valve (British Standard Pipe (BSP 65 millimetre) and coupling (64-millimetre CFA 3 thread per inch male fitting).***

- ***Any pipework and fittings must be a minimum of 65 millimetres (excluding the CFA coupling).***

The water supply for Lot 1 is existing in the form of several tanks. No new tanks are proposed given that the lot already contains a dwelling.

Access:
Pratts and Marks Roads are trafficable all-weather roads that can easily accommodate CFA vehicles. The proposed driveway for Lot 2 is approximately 32m in length and as such the following construction standards apply:

- **All-weather construction.**
- **A load limit of at least 15 tonnes.**
- **Provide a minimum trafficable width of 3.5 metres.**
- **Be clear of encroachments for at least 0.5 metres on each side and at least 4 metres vertically.**
- **Curves must have a minimum inner radius of 10 metres.**
- **The average grade must be no more than 1 in 7 (14.4%) (8.1°) with a maximum grade of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres.**
- **Dips must have no more than a 1 in 8 (12.5 per cent) (7.1 degrees) entry and exit angle.**

The driveway and indicative location of the water tank are shown on the subdivision plan comply with these requirements.

The driveway and access to the existing dwelling on lot 1 will remain unchanged.

REQUIREMENT – 53.02- 2.4 SUBDIVISION

- *To provide lots that are capable of being developed in accordance with the objectives of Clause 53.02.*
- *To specify at the subdivision stage bushfire protection measures to develop a lot with a single dwelling on land zoned for residential or rural residential purposes.*

Approved Measures

AM 5.1
Not applicable since 5.2 applies in this instance.

AM 5.2
An application to subdivide land zoned for residential or rural residential purposes must be accompanied by a plan that shows:

- *Each lot satisfies the approved measure in AM 2.1;*
- *A building envelope for a single dwelling on each lot that complies with AM 2.2 and provides defendable space in accordance with:*
  -Columns A or B of Table 2 to Clause 53.02-3 for a subdivision that creates 10 or more lots; or
  -Columns A, B or C of Table 2 to Clause 53.02-3 for a subdivision that creates less than 10 lots.

  The bushfire attack level that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02-3 must be noted on the building envelope.
- *Defendable space wholly contained within the boundaries of the proposed subdivision.*
- *Defendable space may be shared between lots within the subdivision. Defendable space for a lot may utilise communal areas, such as roads, where that land can meet the requirements for defendable space.*

- *Vegetation management requirements, in accordance with Table 6, to implement and maintain the defendable space required under this approved measure.*
- *Water supply and vehicle access that complies with AM 4.1.*

AM 5.3
An application to subdivide land to create 10 or more lots provides a perimeter road adjoining the hazardous vegetation to support firefighting.
AM 5.4
A subdivision manages the bushfire risk to future development from existing or proposed landscaping, public open space and communal areas.

ASSESSMENT

AM 5.2
The land is contained within the Township Zone and as such AM 5.2 applies. The proposal complies with the requirements as follows:

- **AM 2.1 is met as detailed above;**
- **A building envelope is proposed on the vacant lot and construction standard in accordance with Column C is applied;**
- **Defendable space of 50m or to the property boundary has been applied in accordance with the requirement for Modified vegetation. The 32m separation required from forest vegetation encroaches into the road reserve to the west and this is considered acceptable given that it is the managed nature strip of the site and the bitumen road seal. To the east it encroaches into the adjacent residential lot which offers low-threat conditions. This scenario is consistent with the AltM 3.3 whereby adjacent managed areas can be included in the defendable space.**

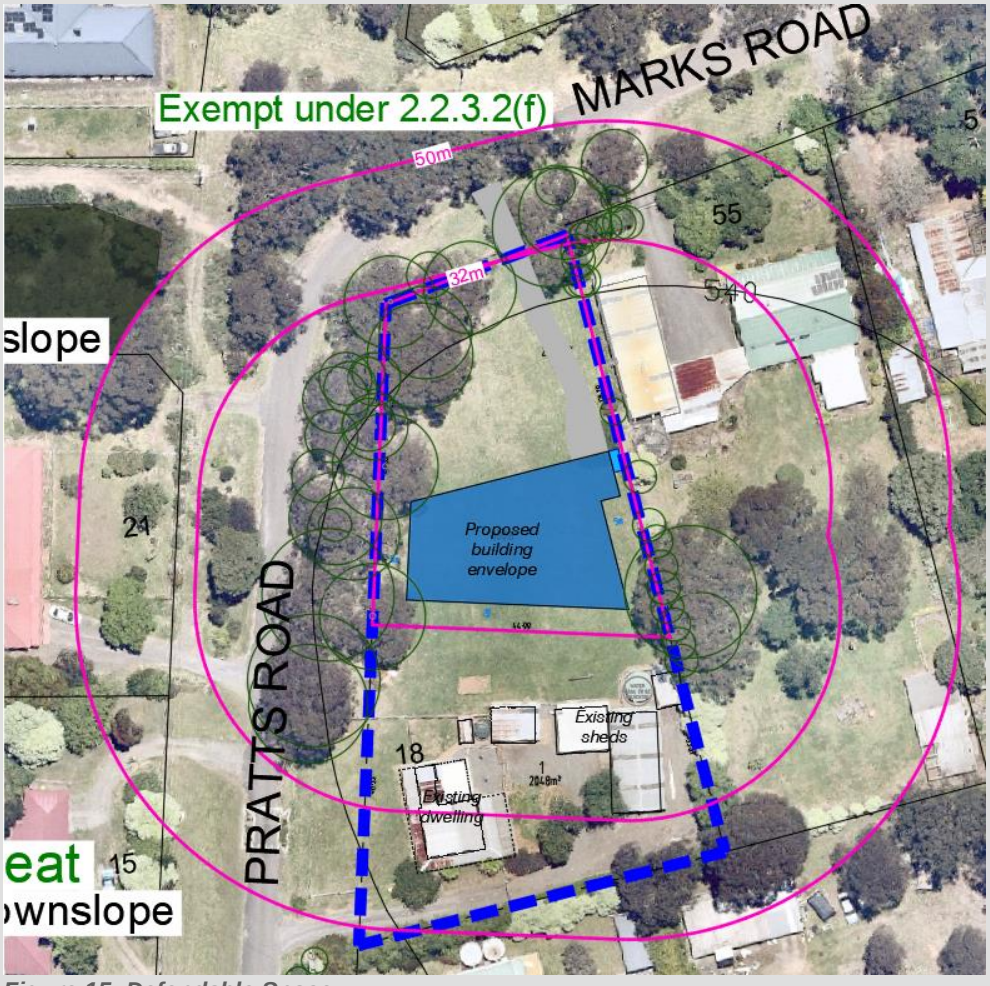


Figure 15: Defendable Space

- **Vegetation management requirements are met, noting that a waiver is sought to retain three trees.**
- **Access and water supply requirements as shown on the Bushfire Management Plan comply with AM4.1 as detailed above.**

AM 5.3
Not applicable as the subdivision creates 2 lots only.

AM 5.4
There are no common areas or proposed landscaping.

11 BUILDING REQUIREMENTS

Construction requirements are specified in *AS3959* and the following aspects of a building are covered:

- General;
- Subfloor supports;
- Floors;
- External walls;
- External glazed elements and assemblies and external doors;
- Roofs;
- Verandas, decks, steps, ramps and landings;
- Water and gas supply pipes.

The materials and design of a building can also be used to prevent the accumulation of debris and entry of embers, and *AS3959* does not cover these aspects. To reduce the vulnerability to ember attack it is recommended that the building design minimise the use of re-entrant corners, complex roof lines, gaps between walls and roofs and unenclosed underfloor space. Where possible, non-combustible features should be utilised.

The *BMO* and *AS3959* do not consider the maintenance of properties, fire fighting for property protection, the need to consider the neighbours buildings and property or wind. Design features to reduce ignition are not mandatory however residents may wish to consider:

- Installation of gutter and valley guards;
- Installation of appropriate landscaping and landscape features (including non-combustible mulch);
- Use of steel, concrete or alternative fire rated products in favour of timber, for any exposed elements of the building.

12 LANDSCAPING

Residents must pay particular attention to the vegetation management requirements within the defendable space (see Section 8.3), to ensure that new landscaping does not conflict with the management requirements. The CFA publication *Landscaping for Bushfire* should be referred to as a guide. Any landscape plan prepared as part of the development application should consider bushfire risk and ensure that proposed plantings do not increase risk.

13 CONCLUSION & RECOMMENDATIONS

The subject site is in a region of extreme bushfire risk given the surrounding landscape; however Kinglake West is a urban township dominated by low-threat conditions.

The proposed vacant lot (lot 2) has a BAL-29 construction standard and defendable space to the property boundaries, which is in response to the localised forest vegetation to the north and northwest, whilst acknowledging the higher risk from the surrounding landscape. Access and water supply requirements meet Tables 4 and 5.

Vegetation management in accordance with Table 6 can generally be met, with the exception of three trees within the defendable space and a waiver of canopy separation is sought for these trees.,

As lot 1 contains an existing dwelling there are no bushfire protection measures applied. Should this lot be redeveloped in the future, a separate application will be required under the *BMO* and these aspects would be addressed at that time.

Bushfire protection measures are identified on the Bushfire Management Plan (Appendix 4). In accordance with *Clause 44.06-3* of the *Bushfire Management Overlay*, these requirements will be enforced via a 173 Agreement as follows:

> *Before the statement of compliance is issued under the Subdivision Act 1988 the owner must enter into an agreement with the responsible authority under Section 173 of the Planning and Environment Act 1987. The agreement must:*
>
> - *State that it has been prepared for the purpose of an exemption from a planning permit under Clause 44.06-1 of the Murrindindi Shire Planning Scheme.*
> - *Incorporate the plan prepared in accordance with Clause 53.02-4.4 of this planning scheme and approved under this permit.*
> - *State that if a dwelling is constructed on the land without a planning permit that the bushfire mitigation measures set out in the plan incorporated into the agreement must be implemented and maintained to the satisfaction of the responsible authority on a continuing basis.*
>
> *The land owner must pay the reasonable costs of the preparation, execution and registration of the Section 173 Agreement.*

This agreement applies to lot 2 only.

It is submitted that the proposed subdivision provides acceptable risk to life and property to meet the requirements of the *Bushfire Management Overlay* and *Clause 53.02 – Bushfire Planning*.

The details and responses in this Bushfire Management Statement are based on site and surrounding conditions at the time of inspection together with information supplied by the applicant regarding the proposal. Should there be design alterations or variations in site conditions that may affect the bushfire risk this statement should be reviewed accordingly.

It should be borne in mind that application of an appropriate BAL and defendable space cannot guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the degree of vegetation management, the unpredictable nature and behaviour of fire, and extreme weather conditions. Future lot owners are encouraged to develop their own personal bushfire risk management plan that deals with all aspects of bushfire mitigation and personal survival.

Millar I Merrigan

14 REFERENCES

State Government, Victoria
Regional Bushfire Planning Assessment

DELWP
- *Planning Permit Applications: Bushfire Management Overlay, Technical Guide (September 2017)*
- *MapShare*
- *VicPlan*
- *Naturekit*

CFA, Burwood East, Victoria
FSG LUP 0002
Requirements for Water Supply & Access in the Bushfire Management Overlay

CFA, Burwood East, Victoria
FSG LUP 0003
Assessing Vegetation in a Bushfire management Overlay

CFA (November 2012), Burwood East, Victoria
Planning for Bushfire Victoria, Guidelines for Meeting Victoria's Bushfire Planning Requirements

Standards Australia (2018) Standards Australia, North Sydney, New South Wales
AS3959 – Construction of Buildings in a Bushfire Prone Areas

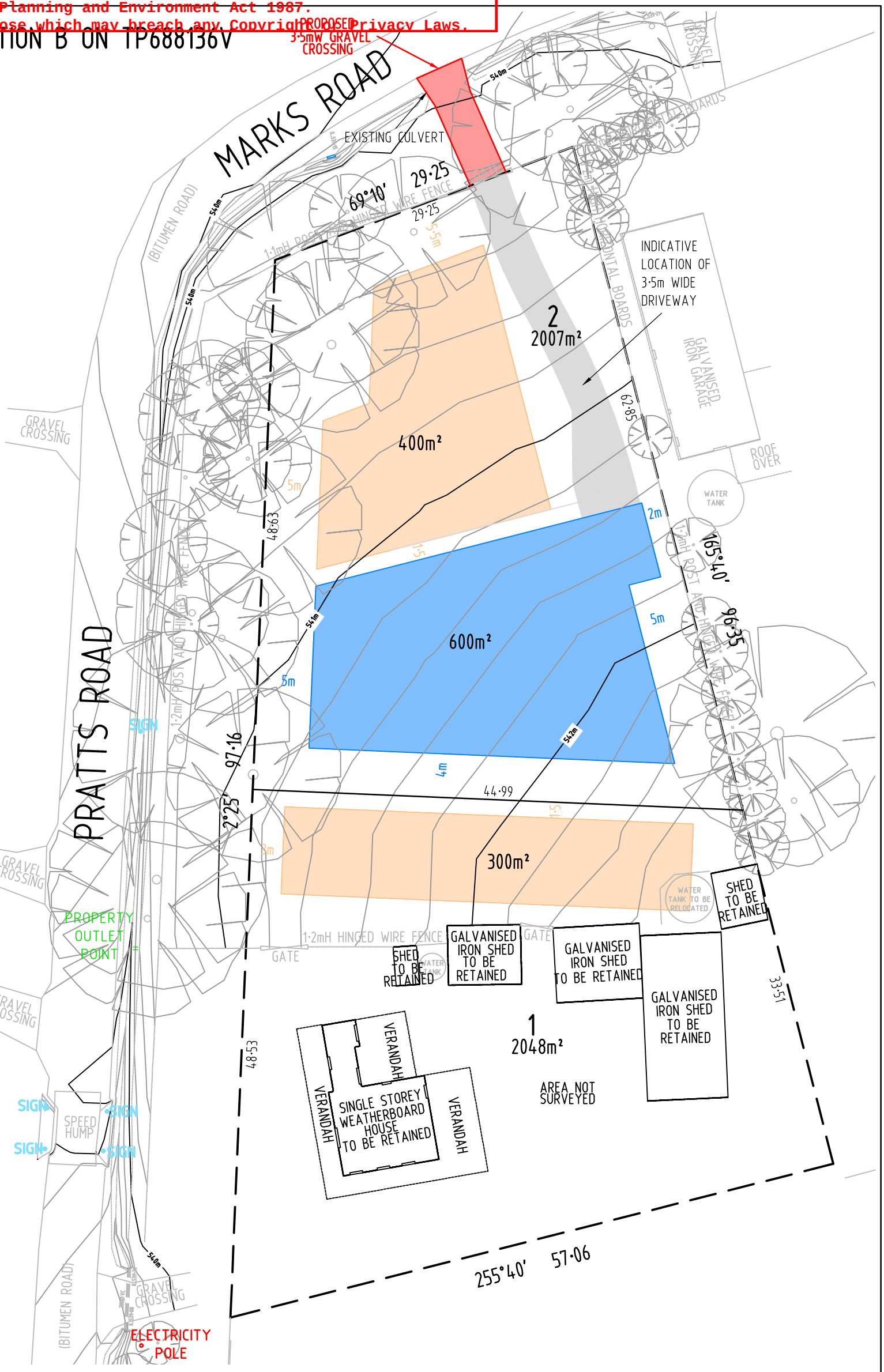
CFS (Oct 2010), Government of South Australia, Adelaide
Fact Sheet No. 06

AUSLIG (1990)
Atlas of Australian Resources: Vegetation

Murrindindi Shire:
- Planning Scheme
- Website
- Hume Municipal Fire Management Plan

APPENDIX 1: PROPOSED SUBDIVISION PLAN

CROWN ALLOTMENT 25 SECTION B ON TP688136V
C/T: VOL.08274 FOL.712
TOTAL SITE AREA: 4055m²



TREE TO BE RETAINED

INDICATIVE DRIVEWAY

PROPOSED BUILDING ENVELOPE WITH 4 BEDROOM MAXIMUM RESTRICTION

PROPOSED EFFLUENT ENVELOPE

THE THICK DASHED LINES SHOWN ON THIS PLAN REPRESENT SITE BOUNDARIES AS SHOWN IN **TP688136V**. SITE BOUNDARIES HAVE NOT BEEN DETERMINED BY THIS SURVEY AND THE FIGURE SHOWN IS INDICATIVE ONLY. THE LOCATION OF SITE AND EASEMENT BOUNDARIES SHOULD NOT BE RELIED UPON FOR ANY PURPOSE.

1.	Prepared as part of planning application	JSLY	AHW	June 2023
No.	Revision Description	Drawn	Checked	Date

DIMENSIONS HEREON ARE SUBJECT TO SURVEY.

THIS PLAN IS SUBJECT TO THE APPROVAL OF VARIOUS STATUTORY AUTHORITIES.

CONTOURS SHOWN HEREON HAVE BEEN INTERPOLATED FROM ON-SITE LEVELS TAKEN IN METRES AND DECIMALS TO THE AUSTRALIAN HEIGHT DATUM ON 05/05/2023.

CONTOUR VERTICAL INTERVAL **0·20** METRES.

IMPLIED EASEMENTS UNDER SECTION 12 (2) OF THE SUBDIVISION ACT 1988 TO APPLY TO ALL OF THE LAND IN THE PLAN.

North

5 2.5 0 5 10

1:250
Original sheet size A3

FOR DISCUSSION PURPOSES

Millar | Merrigan
Land Development Consultants
Civil Engineering
Land Surveying
Landscape Architecture
Project Management
Town Planning
Urban Design
SAI GLOBAL Quality ISO 9001

Millar & Merrigan Pty Ltd ACN 005 541 668
Metro 2/126 Merrindale Drive, Croydon 3136
Regional 156 Commercial Road, Morwell 3840
Mail PO Box 247 Croydon, Victoria 3136
M (03) 8720 9500 R (03) 5134 8611
www.millarmerrigan.com.au
survey@millarmerrigan.com.au

PROPOSED SUBDIVISION
18 Pratts Road, Kinglake West
Murrundindi Shire Council
29923P2
Version 1
Sheet 1 of 1

APPENDIX 2: PLANNING PROPERTY REPORT

PLANNING PROPERTY REPORT

From www.planning.vic.gov.au at 24 January 2023 11:32 AM

PROPERTY DETAILS

Address:	**18 PRATTS ROAD KINGLAKE WEST 3757**
Crown Description:	**Allot. 25 Sec. B TOWNSHIP OF PHEASANT CREEK**
Standard Parcel Identifier (SPI):	**25~B\PP5632**
Local Government Area (Council):	**MURRINDINDI** www.murrindindi.vic.gov.au
Council Property Number:	**7194**
Planning Scheme:	**Murrindindi** Planning Scheme - Murrindindi
Directory Reference:	**Vicroads 61 F9**

UTILITIES

Rural Water Corporation:	**Goulburn-Murray Water**
Urban Water Corporation:	**Goulburn Valley Water**
Melbourne Water:	**Outside drainage boundary**
Power Distributor:	**AUSNET**

STATE ELECTORATES

Legislative Council:	**NORTHERN VICTORIA**
Legislative Assembly:	**EILDON**

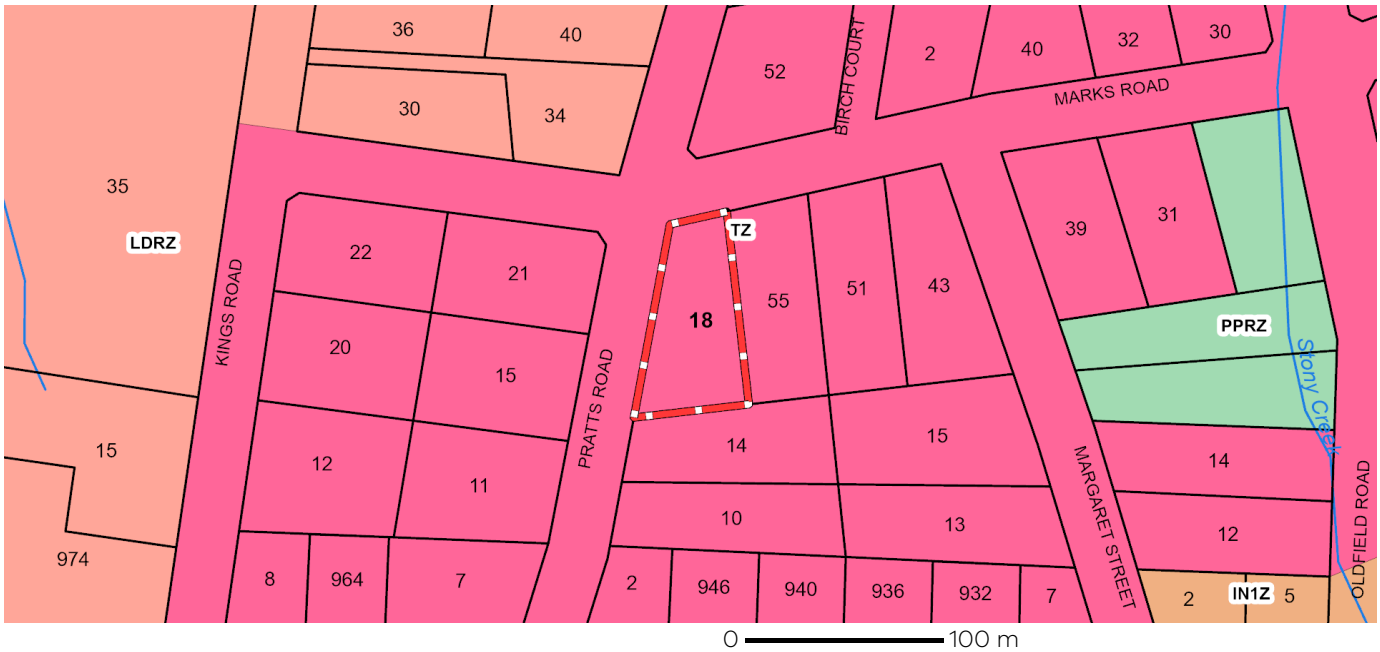
OTHER

Registered Aboriginal Party:	**Taungurung Land and Waters Council Aboriginal Corporation**

View location in VicPlan

Planning Zones

TOWNSHIP ZONE (TZ)
SCHEDULE TO THE TOWNSHIP ZONE (TZ)

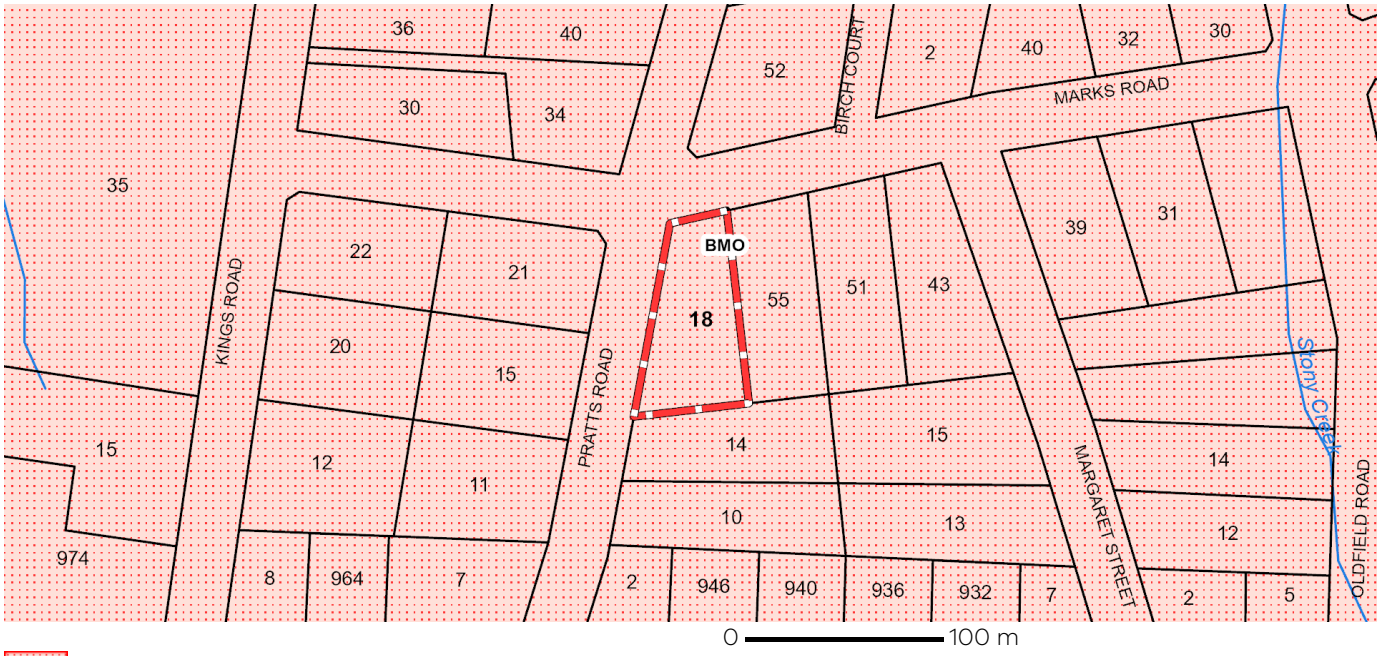


Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

PLANNING PROPERTY REPORT

Planning Overlay

BUSHFIRE MANAGEMENT OVERLAY (BMO)



BMO - Bushfire Management Overlay Water course

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

Further Planning Information

Planning scheme data last updated on 19 January 2023.

A **planning scheme** sets out policies and requirements for the use, development and protection of land.
This report provides information about the zone and overlay provisions that apply to the selected land.
Information about the State and local policy, particular, general and operational provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council
or by visiting https://www.planning.vic.gov.au

This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the ***Planning and Environment Act 1987.***
It does not include information about exhibited planning scheme amendments, or zonings that may abut the land.
To obtain a Planning Certificate go to Titles and Property Certificates at Landata - https://www.landata.vic.gov.au

For details of surrounding properties, use this service to get the Reports for properties of interest.

To view planning zones, overlay and heritage information in an interactive format visit
https://mapshare.maps.vic.gov.au/vicplan

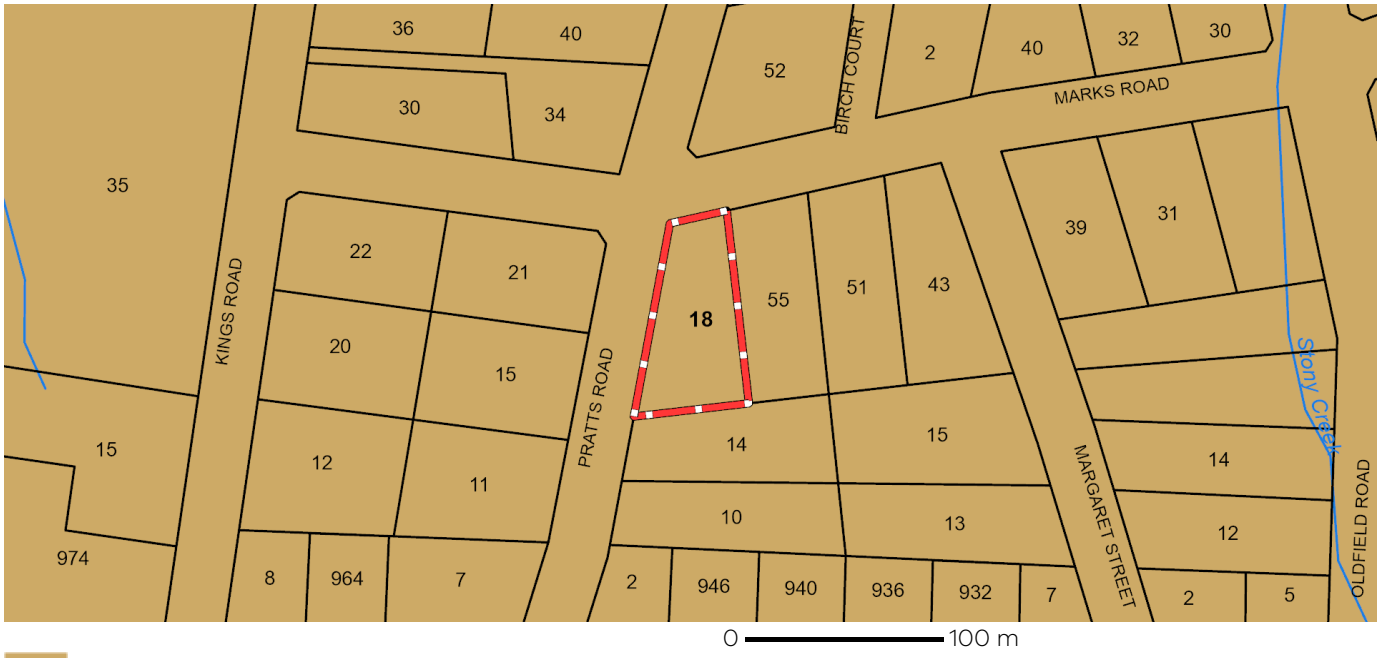
For other information about planning in Victoria visit https://www.planning.vic.gov.au

Designated Bushfire Prone Areas

This property is in a designated bushfire prone area. Special bushfire construction requirements apply to the part of the property mapped as a designated bushfire prone area (BPA). Planning provisions may apply.

Where part of the property is mapped as BPA, if no part of the building envelope or footprint falls within the BPA area, the BPA construction requirements do not apply.

Note: the relevant building surveyor determines the need for compliance with the bushfire construction requirements.



Designated BPA are determined by the Minister for Planning following a detailed review process. The Building Regulations 2018, through adoption of the Building Code of Australia, apply bushfire protection standards for building works in designated BPA.

Designated BPA maps can be viewed on VicPlan at https://mapshare.vic.gov.au/vicplan/ or at the relevant local council.

Create a BPA definition plan in VicPlan to measure the BPA.

Information for lot owners building in the BPA is available at https://www.planning.vic.gov.au.

Further information about the building control system and building in bushfire prone areas can be found on the Victorian Building Authority website https://www.vba.vic.gov.au. Copies of the Building Act and Building Regulations are available from http://www.legislation.vic.gov.au. For Planning Scheme Provisions in bushfire areas visit https://www.planning.vic.gov.au.

Native Vegetation

Native plants that are indigenous to the region and important for biodiversity might be present on this property. This could include trees, shrubs, herbs, grasses or aquatic plants. There are a range of regulations that may apply including need to obtain a planning permit under Clause 52.17 of the local planning scheme. For more information see Native Vegetation (Clause 52.17) with local variations in Native Vegetation (Clause 52.17) Schedule

To help identify native vegetation on this property and the application of Clause 52.17 please visit the Native Vegetation Information Management system https://nvim.delwp.vic.gov.au/ and Native vegetation (environment.vic.gov.au) or please contact your relevant council.

You can find out more about the natural values on your property through NatureKit NatureKit (environment.vic.gov.au)

APPENDIX 3: CERTIFICATE OF TITLE

The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 08274 FOLIO 712

Security no : 124105903213Q
Produced 08/05/2023 08:55 AM

CROWN GRANT

LAND DESCRIPTION

Crown Allotment 25 Section B Township of Pheasant Creek Parish of Kinglake.

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
TRAVIS SCOTT DAVIES of 18 PRATTS ROAD KINGLAKE WEST VIC 3757
AS490403L 30/08/2019

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AS490404J 30/08/2019
QUDOS MUTUAL LTD

Any crown grant reservations exceptions conditions limitations and powers noted on the plan or imaged folio set out under DIAGRAM LOCATION below. For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP688136V FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 18 PRATTS ROAD KINGLAKE WEST VIC 3757

ADMINISTRATIVE NOTICES

NIL

eCT Control 19531K DENTONS AUSTRALIA
Effective from 30/08/2019

DOCUMENT END

TITLE PLAN		EDITION 2	TP 888156V

Location of Land

Parish: KINGLAKE
Township: PHEASANT CREEK
Section: B
Crown Allotment: 25
Crown Portion:

Last Plan Reference:
Derived From: VOL 8274 FOL 712
Depth Limitation: 50 FEET

Notations

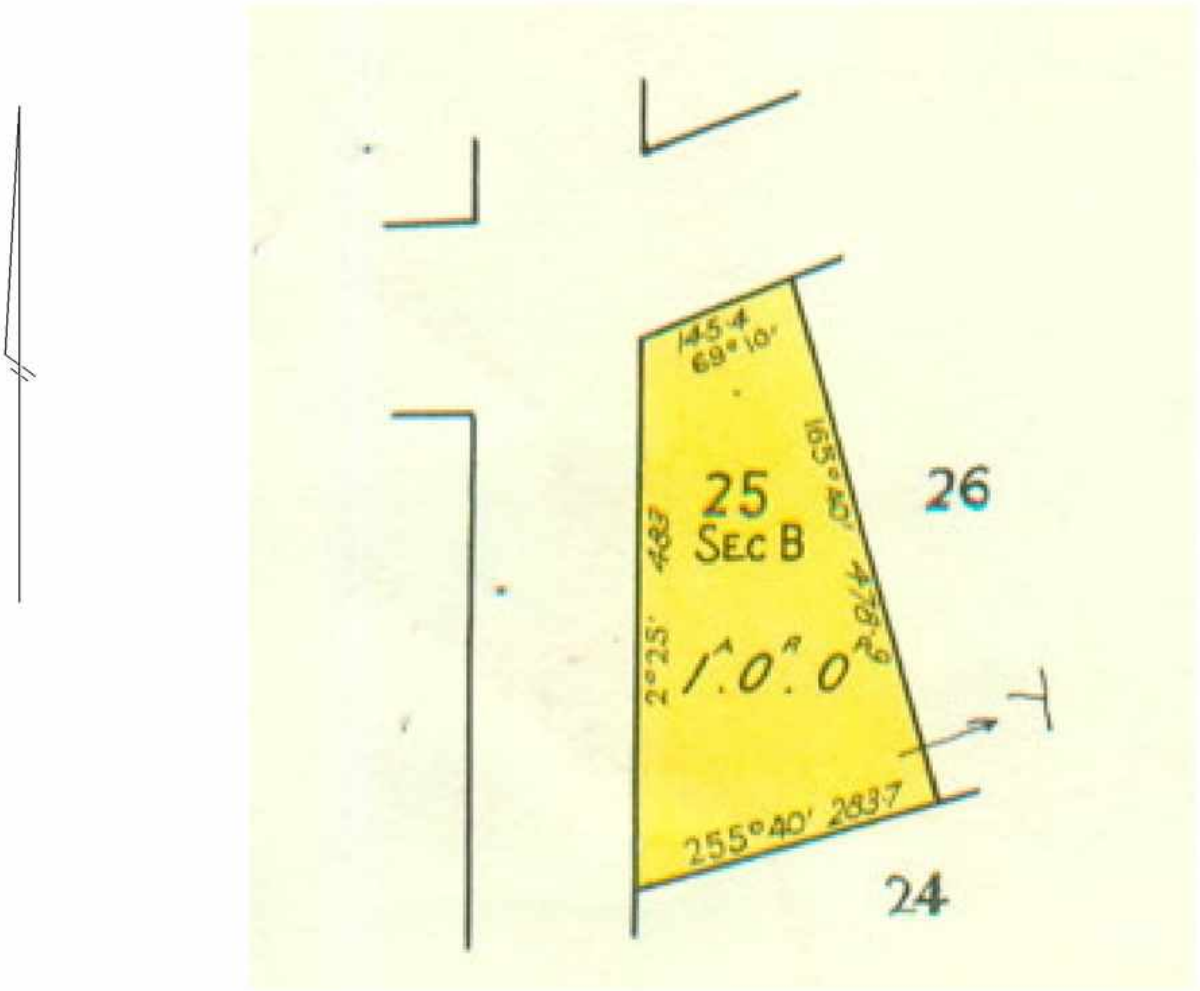
SUBJECT TO THE RESERVATIONS EXCEPTIONS CONDITIONS AND POWERS CONTAINED IN CROWN GRANT VOL. 8274 FOL. 712 AND NOTED ON SHEET 2 OF THIS PLAN

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 14/11/2000
VERIFIED: GB

COLOUR CODE
Y = YELLOW



LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 2 sheets

LAND DESCRIPTION INCLUDING RESERVATIONS EXCEPTIONS CONDITIONS AND POWERS SHOWN ON THE CROWN GRANT

ALL THAT PIECE OF LAND in the said State containing one acre — more or less being Allotment twenty-five of Section B in the Township of Pheasant Creek Parish of Kinglake County of Anglesey

delineated with the measurements and abuttals thereof in the map drawn in the margin of these presents and therein colored yellow PROVIDED nevertheless that the grantee shall be entitled to sink wells for water and to the use and enjoyment of any wells or springs of water upon or within the boundaries of the said land for any and for all purposes as though she held the land without limitation as to depth EXCEPTING nevertheless unto Us Our heirs and successors all gold and silver and minerals as defined in the *Mines Act* 1928 in upon or under or within the boundaries of the land hereby granted AND reserving to Us Our heirs and successors free liberty and authority for Us Our heirs and successors and Our and their licensees agents and servants at any time or times hereafter to enter upon the said land and to search and mine therein for gold silver and minerals as aforesaid and to extract and remove therefrom any such gold silver and minerals and to search for and work dispose of and carry away the said gold silver and minerals lying in upon or under the land hereby granted and for the purposes aforesaid to sink shafts make drives erect machinery and to carry on any works and do any other things which may be necessary or usual in mining and with all other incidents that are necessary to be used for the getting of the said gold silver and minerals and the working of all mines seams lodes and deposits containing such gold silver and minerals in upon or under the land hereby granted AND ALSO reserving to Us Our heirs and successors—

(i) all petroleum as defined in the *Mines (Petroleum) Act* 1935 on or below the surface of the said land and

(ii) the right of access for the purpose of searching for and for the operations of obtaining such petroleum in any part or parts of the said land and

(iii) rights of way for access and for pipe-lines and other purposes necessary for obtaining and conveying such petroleum in the event of such petroleum being obtained in any part or parts of the said land.

PROVIDED ALWAYS that the said land is and shall be subject to be resumed for mining purposes under Section 168 of the *Land Act* 1928.
AND PROVIDED also that the said land is and shall be subject to the right of any person being the holder of a miner's right or of a mining lease or mineral lease under the *Mines Act* 1928 or any corresponding previous enactment to enter therein and to mine for gold silver or minerals within the meaning of the said Act and to erect and occupy mining plant or machinery thereon in the same manner and under the same conditions and provisions as those to which such person would for the time being be entitled to mine for gold and silver in and upon Crown lands PROVIDED that compensation shall be paid to the said GRANTEE

her executors administrators assigns or transferees by such person for surface damage to be done to such land by reason of mining thereon such compensation to be determined as provided for the time being by law and the payment thereof to be a condition precedent to such right of entry.

MODIFICATION TABLE

RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN

PLAN NUMBER

TP688136V

WARNING: THE IMAGE OF THIS DOCUMENT OF THE REGISTER HAS BEEN DIGITALLY AMENDED. NO FURTHER AMENDMENTS ARE TO BE MADE TO THE ORIGINAL DOCUMENT OF THE REGISTER.

AFFECTED LAND/PARCEL	LAND/PARCEL IDENTIFIER CREATED	MODIFICATION	DEALING NUMBER	DATE	EDITION NUMBER	ASSISTANT REGISTRAR OF TITLES
CROWN DESCRIPTION		RECTIFICATION	AF387721K	8/10/07	2	N. NG

APPENDIX 4: BUSHFIRE MANAGEMENT PLAN

Construction Standard:
No construction standard applies to Lot 1

Any future dwelling on Lot 2 is to be designed and constructed to a minimum construction standard of BAL 29.

Access:
Access for fire fighting vehicles to Lot 2 must meet the following requirements:

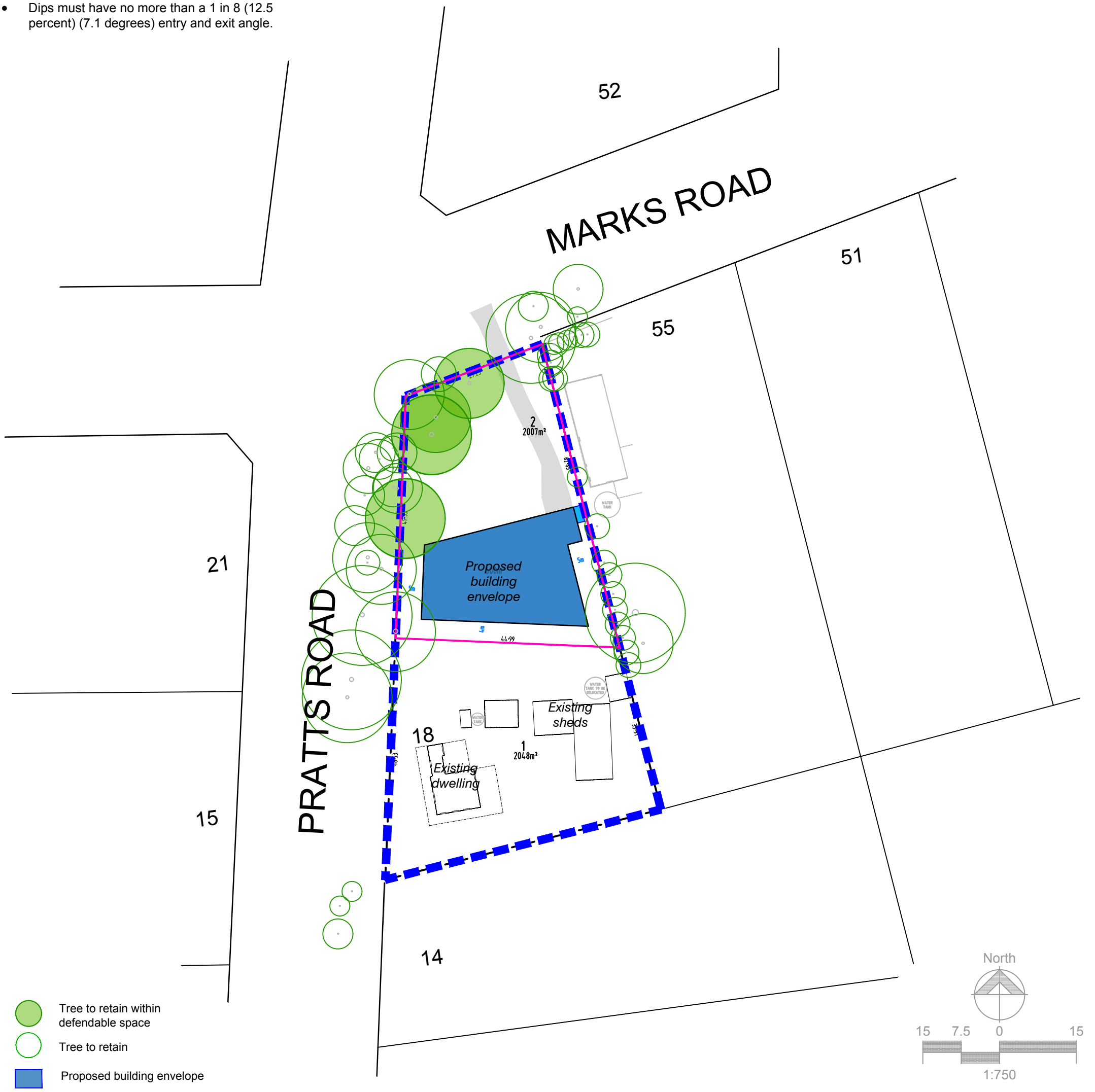
- All-weather construction.
- A load limit of at least 15 tonnes.
- Provide a trafficable width of 3.5m.
- Be clear of encroachments for at least 0.5m on each side and 4m vertically.
- Curves must have a minimum inner radius of 10m.
- The average grade must be no more than 1 in 7 (14.4 percent)(8.1 degrees) with a maximum of no more that 1 in 5 (20 percent) (11.3 degrees) for no more than 50m.
- Dips must have no more than a 1 in 8 (12.5 percent) (7.1 degrees) entry and exit angle.

Defendable Space:
Defendable space for Lot 2 is provided for a distance of 50 metres or to the property boundary, whichever is the lesser, and will be modified and managed in accordance with the following requirements:

- Grass must be short cropped and maintained during the declared fire danger period.
- All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period.
- Within 10 metres of a building, flammable objects must not be located close to the vulnerable parts of the building.
- Plants greater than 10 centimetres in height must not be placed within 3 metres of a window or glass feature of the building.
- Shrubs must not be located under the canopy of trees.
- Individual and clumps of shrubs must not exceed 5sqm in area and must be separated by at least 5 metres.
- Trees must not overhang or touch any elements of the building.
- The canopy of trees must be separated by at least 5 metres.
- There must be a clearance of at least 2 metres between the lowest tree branches and ground level.

Water Supply:
A minimum 10,000L effective water supply for fire fighting purposes is to be installed on Lot 2. Water supply must meet the following requirements:

- Be stored in an above ground water tank constructed of concrete or metal.
- Have all fixed above ground water pipes and fittings required for fire fighting purposes made of corrosive resistant metal.
- Include a separate outlet for occupant use.
- Be readily identifiable fro the building or appropriate identification signage to the satisfaction of the responsible authority.
- Be located within 60m of the outer edge of he approved building
- The outlet/s of the water tank must be within 4 metres of the accessway and unobstructed.
- Incorporate a separate ball or gate valve (British Standard Pipe (BSP 65 millimetre) and coupling (64 millimetre CFA 3 thread per inch male fitting).
- Any pipework and fittings must be a minimum of 65 millimetres (excluding the CFA coupling).



Millar | Merrigan

BUSHFIRE MANAGEMENT PLAN

18 Pratts Road, Kinglake West
29923_BMP1 (June 2023)

ECO VISION Australia
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LAND CAPABILITY ASSESSMENT REPORT

18 Pratts Road
Kinglake West VIC

Prepared for:	MILLAR MERRIGAN C/O TRAVIS DAVIES PO Box 247 Croydon VIC 3136
Site:	18 Pratts Road Kinglake West 3922
Prepared by:	R H Krainz – Eco Vision Australia
Reference No.	45EO23 LCA SUB
Date:	May 31, 2023

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1. Executive Summary

The purpose of this report is to provide a Land Capability Assessment (LCA) for Millar Merrigan C/O Travis Davies who is proposing to subdivide an allotment sized at approximately 4,055m² located at 18 Pratts Road, Kinglake West into two lots. Proposed Lot 2 is sized at 2,007m² and Proposed Lot 1 containing an existing 3 bedroom dwelling sized at 2,048m². The existing dwelling currently has a primary (septic) treatment Tank (approximately 3,000L with absorption trenches which will be decommissioned as part of the development proposal. It is proposed to install a secondary wastewater treatment system with the Land Application Area (LAA) provided by Subsurface Irrigation (SSI) on both proposed lots.

Proposed Lots 1 and 2 are irregular in shape in shape with the site being virtually flat to very gentle slopes consistent Upper Plateau Land System. Designated watercourses are located a minimum 285 metres from all property boundaries.

Diagrams 1, p. 5 depicts the proposed two lot subdivision.

This report provides information to ensure that each lot is capable of treating and retaining all wastewater in accordance with the State Environmental Protection Policy (Waters of Victoria) under the Environmental Protection Act 1970.

The methods used for this report include soil tests and site survey undertaken by Eco Vision Australia (14th February 2023). A desktop study was undertaken and included obtaining relevant planning reports and climate data. Soil samples were taken and further analysed. These methods provided the information to write the LCA.

The overall land capability generally rates between very good to fair. The one matrix indicator that rated as very poor is the rainfall the site receives.

The soil type in the LAA consists of a moderately structured orange brown loam to a maximum depth of 200mm overlying moderately structured orange brown clay loam to a maximum depth of 900mm. Between 900mm to 1100mm the soil becomes a strongly structured orange brown clay loam. Below 1100mm to 1500mm the soils transition to a strongly structured orange brown medium clay. No groundwater was encountered on the site inspection. There was no marked textural change within the soil profile with excellent internal drainage. This is an excellent example of soils derived from Humevale Siltstone which can have a wide variety of soil types associated with this geology depending upon specific locations.

Each proposed Lot is over 2,000m² and regarded as being a high hazard site using the Murrindindi Shire Domestic Wastewater Management Plan and would not be regarded as not being Non Cos lots. However, the site will require wastewater treatment to secondary levels with the Land Application Area provided by Sub Surface Irrigation. The existing primary system and absorption trenches servicing the existing dwelling should be decommissioned as part of the subdivision process.

Proposed Lot 1 containing the existing dwelling has an existing septic (primary) system with the LAA provided by absorption trenches which will be replaced by a secondary treatment system with the LAA provided by SSI. The onsite soils are excellent in structure with a small change of texture through the profile. The LAA area for proposed Lot 1 (existing three bedroom dwelling) is sized at 300m² and located towards the northern boundary as depicted on the site plan.

Proposed Lot 2 allows for the installation of a secondary wastewater treatment system (servicing a maximum four bedroom capacity. The onsite soils are excellent in structure with a small change of texture through the profile. An area of 400m² (four bedroom dwelling) or 300m² (three bedroom dwelling) is recommended for the site to distribute wastewater from a secondary treatment system. This will ensure that all wastewater will be contained on-site wastewater treatment system.

The SSI adequately covers the site for zero water storage during the winter months as typically household water use reduces by approximately 30% during the cooler months. There is area available within the LAA to install SSI within areas highlighted on the site plan.

The findings of this LCA have determined that wastewater can be treated and contained on the proposed lot. The site can be sustainably developed from a wastewater management perspective. The onsite soils are extremely suitable for the distribution of secondary treated wastewater within biologically active rootzone of grasses.

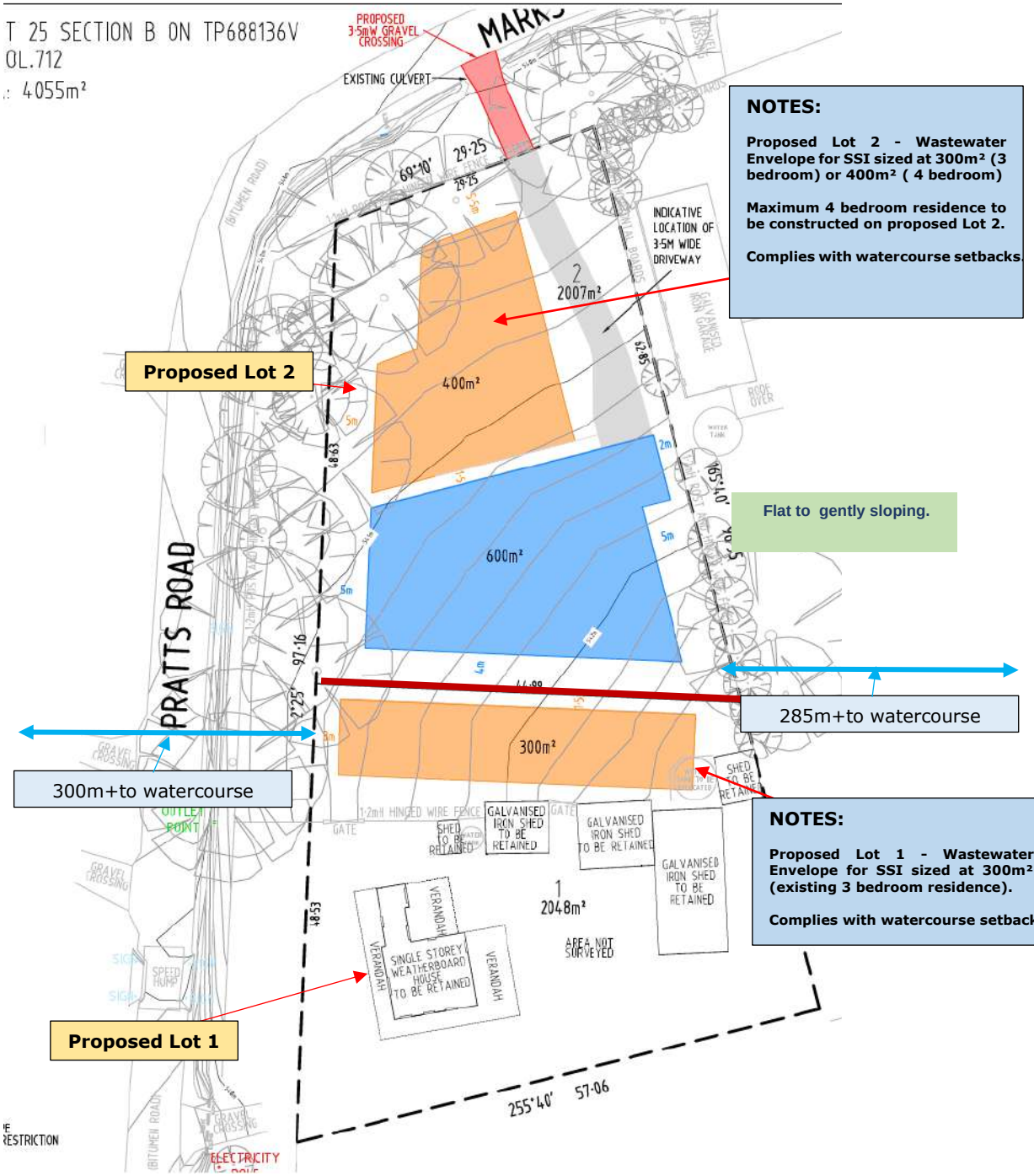
Table 1 – Land application Area (LAA) sizing (Lot 1) for three-bedroom capacity to size the area required for subsurface irrigation using a secondary wastewater system.

Bedroom	Hydraulic Load L/d	Total Hydraulic Load L/d	LAAm² WB	LAAm² Nitrogen	LAAm² Phosphorus
3	150	600	266m²	199m²	304m²

Table 2 – Land application Area (LAA) sizing (Lot 2) for bedroom capacity to size the area required for subsurface irrigation using a secondary wastewater system.

Bedroom	Hydraulic Load L/d	Total Hydraulic Load L/d	LAAm² WB	LAAm² Nitrogen	LAAm² Phosphorus
3	150	600	266m²	199m²	304m²
4	150	750	332m²	249m²	353m²

Diagram 1 – Proposed Subdivision Lot 1 & 2 – 18 Pratts Road, Kinglake West



2. Introduction

Eco Vision Australia has been engaged to undertake a Land Capability Assessment (LCA) for a site at 18 Pratts Road, Kinglake West. The field investigation and report have been undertaken and prepared by suitably experienced staff. Eco Vision Australia has appropriate professional indemnity insurance for this type of work. Our professional indemnity insurance certificate is available on request.

The report will accompany an application submitted to the Murrindindi Shire Council for a proposed two lot subdivision. The report is to ensure that each lot is capable of treating and retaining all wastewater in accordance with the State Environmental Protection Policy (Waters of Victoria) under the Environmental Protection Act 1970.

This document provides information about the site and soil conditions. It also provides a detailed LCA and includes a conceptual design for a suitable onsite wastewater management system, including recommendations for monitoring and management requirements.

The existing lot is sized at 4,055m² and contains an existing three-bedroom dwelling. The proposed two lots are sized at:

Proposed Lot 1 – 2,048m², Proposed Lot 2 – 2,007m².

Proposed Lot 1 (2,048m²) containing the existing dwelling is irregular in shape with boundary dimensions being approximately 45m (northern boundary), 75m (southern boundary, 48.5m (western boundary) and 33.5m (eastern boundary). The allotment is virtually flat with some gentle slopes. Access is from Pratts Road along the eastern boundary.

Proposed Lot 2 (2,007m²) is irregular in shape with the proposed access being provided via a driveway accessed towards the north east corner of proposed Lot 2. Boundary dimensions are variable being approximately 29.25m (northern boundary, 45m (southern boundary) 48.6 metres (western boundary) and 62.8m (eastern boundary) Proposed Lot 2 has a gentle slope to the east. Both lots are virtually flat. Topographical elevations are approximately 540m. Designated water courses are located a minimum distance of 285m outside property boundaries.

Temperature data was from obtained from Toolangi (Mount St Leonhard DPI) Climate Station 086142. Rainfall data was obtained from Kinglake West Climate Station 086374. Evaporation data was obtained from the Melbourne Airport Climate Station (086082) elevation 100m.

We have considered several options for proposed Lot 1 and Lot 2 for both the treatment system and land application area (LAA). A secondary wastewater treatment system is suitable for proposed Lot 2. The preferred method to distribute the secondary treated wastewater is by sub surface irrigation (SSI) as mentioned in the report.

There is sufficient land available for sustainable onsite effluent management that maintains appropriate buffers to protect sensitive receptors for to residentially develop the site.

3. Description of the Development

Table 3 Site Description

Site Address:	18 Pratts Road Kinglake West VIC 3757
Owner/Developer:	Travis Davies
Postal Address:	PO Box 247 Croydon VIC 3136
Contact:	Millar Merrigan – 03 8720 9551
Council Area:	Murrindindi Shire Council
Rural Water Corporation:	Goulburn-Murray Water
Urban Water Corporation:	Goulburn Murray Water
Zoning:	Planning Zone – Township Zone Schedule – (TZS), Planning Overlays – Bushfire Management Overlay (BMO).
Allotment Size:	Current Site – 4,055m² Proposed Lot 1 (Existing Dwelling) – 2,048m² Proposed Lot 2 – 2,007m²
Domestic Water Supply:	Reticulated / Tank
Anticipated Wastewater Load Lot 1 & Lot 2:	3 Bedroom residence @ 4 person per residence maximum occupancy. Design wastewater load is 150L/person/day, therefore total design load = 600L/day. This design load is sourced from Code of Practice Onsite Wastewater Management 891.4 (Jul 16). (Table 4 – Minimum daily wastewater flow rates and organic loading with full water reduction facilities)
Anticipated Wastewater Load Lot 2:	4 Bedroom residence @ 5 person per residence maximum occupancy. Design wastewater load is 150L/person/day, therefore total design load = 750L/day. This design load is sourced from Code of Practice Onsite Wastewater Management 891.4 (Jul 16). (Table 4 – Minimum daily wastewater flow rates and organic loading with full water reduction facilities)
Anticipated BOD Load Lot 1 & Lot 2:	3 Bedroom residence @ 4 person per residence maximum occupancy. Design BOD load is 60g/person/day, therefore total design load = 240g/day. This design load is sourced from Code of Practice Onsite Wastewater Management 891.4 (Jul 16). (Table 4 – Minimum daily wastewater flow rates and organic loading with full water reduction facilities)
Anticipated BOD Load Lot 2:	4 Bedroom residence @ 5 person per residence maximum occupancy. Design BOD load is 60g/person/day, therefore total design load = 300g/day. This design load is sourced from Code of Practice Onsite Wastewater Management 891.4 (Jul 16). (Table 4 – Minimum daily wastewater flow rates and organic loading with full water reduction facilities)
Availability of Sewer:	The area is unsewered and unlikely to be sewered in the short to medium term future.

4. Site Key Features

Robert Krainz undertook a desktop review and site inspection on the 14th of February 2022. A range of site features were assessed in terms of the degree of limitation they present for a range of onsite wastewater management systems. Reference is made to the rating scale described in Table 1 of EPA (2003a). As a guide, remedial measures should be considered whenever ratings of 3, 4, or 5 occur and this might involve land improvement works, soil amelioration or simply adoption of higher-level technologies to ensure environmental protection. Table 3 summarises the key features in relation to effluent management at the site. The site experiences negligible stormwater run-on. There is no evidence of a water table within the proposed LAA for both proposed Lots 1 & Lot 2.

The soil type in the LAA consists of a moderately structured orange brown loam to a maximum depth of 200mm overlying moderately structured orange brown clay loam to a maximum depth of 900mm. Between 900mm to 1100mm the soil becomes a strongly structured orange brown clay loam. Below 1100mm to 1500mm the soils transition to a strongly structured orange brown medium clay. No groundwater was encountered on the site inspection. There was no marked textural change within the soil profile with excellent internal drainage. This is an excellent example of soils derived from Humevale Siltstone which can have a wide variety of soil types associated with this geology depending upon specific locations.

The site is within the locality of Kinglake West, which is part of the Planning Zone – Township Zone Schedule – (TZS), Planning Overlays – Bushfire Management Overlay (BMO).

Appendix i provides a site locality plan (Property Report) and indicates the location of the site of the proposed development.

Appendix ii provides a Proposed Development Plan.

Appendix iii provides photographs of the existing site conditions.

Appendix iv provides Bureau of Meteorology Climate Report for Toolangi (Mount St Leonhard DPI) - 086374 & Rainfall Report for Kinglake West Climate Station - 086374

Appendix v provides Test Site Location Plan

Appendix vi provides a water and nitrogen balance (600L/D & 750L/D)

Appendix vii provides Borelog descriptions.

Table 3 Site Features

Feature	
Climate	The site has a warm temperate climate with maximum temperatures and minimum rainfall in summer (Mount St Leonhard DPI) - 086142). The site experiences a mean annual rainfall of 1,040mm/yr (Kinglake West - 06374).
Exposure	Proposed Lot 1 contains the existing dwelling, shedding, some vegetation, and some grassed areas. The proposed LAA has high sun and wind exposure. The site currently contains a proportion of grassed areas and boundary and perimeter vegetation. The proposed LAA has high sun and wind exposure.
Vegetation	The site is a mix of grassed areas, existing dwelling, shedding with a mix of native and exotic vegetation.
Landform	The site is contained within a gentle slope associated with a hill crest within the Kinglake Upper Plateau landform element with the red brown soils consistent with this geology.
Slope	The proposed effluent management areas are located on gently sloping to virtually flat land suitable for SSI.
Fill	Minor fill was observed on the site.
Rocks and Rock Outcrops	No rock outcrops or low-lying large sub surface rocks were encountered.
Erosion Potential	The erosion hazard is moderate to low.
Surface Water	Not applicable.
Flood Potential	Areas available for application of treated effluent lie above the 1:100 year flood level.
Stormwater run-on and upslope seepage	The proposed effluent management area is expected to receive minor stormwater run-on which can be diverted via surface spoon drainage or sub surface drainage. There is no evidence of groundwater seepage, soaks or springs.
Groundwater	There are no signs of shallow groundwater tables.
Site Drainage and Subsurface Drainage	The site could experience variable stormwater run-on and run-off. However, there are minor visible signs of surface dampness. Surface dampness due to recent rainfall and seasonal conditions.
Recommended Buffer Distances	All buffer distances recommended in Table 5 of EPA Code of Practice; 891.4 July 2016 will be achievable in the proposed treatment envelopes.
Available Land Application Area	Considering all site constraints and the buffers mentioned above, the site has ample land that is suitable and available for land application of effluent treated to secondary levels for both proposed lots. There will be ample protection for surface and groundwater.

5. Soil Assessment and Constraints

The sites soils have been assessed for their suitability for onsite wastewater management by a combination of soil survey and review of desktop published material.

The site at 18 Pratts Road, Kinglake West contains soils consistent with the underlying geology of Silurian sedimentary rock (Dargile Formation) located within the Darraweit Guim Province (Heathcote -Deep Creek – Kilmore – Yan Yean – Kinglake section) – Humevale Siltstone and spans a vast geological age and as such soil types can be highly variable dependent upon topographical position and location. The on-site soils are typically Orange Brown Loam / Clay Loam soils overlying orange brown Light Clay at deeper profile depths. This is consistent with the Kinglake Upper Plateau with rolling to hilly surface topography with linear slopes.

The onsite soils are consistent with component 1 (gentle to moderate slopes) of the Kinglake Upper Plateau Land System landform element – a dissected plateau at intermediate altitude with deep red gradational soils. The underlying geology is Humevale Siltstone. The ASC soil type for this geology is predominately Red Brown Dermosols. These are described soils that have high iron levels and little textural changes between the A & B horizon. The site visit and field work has confirmed these characteristics.

The ASC soil type is consistent with Halpic, Eutrophic, Red Ferrosol; medium silty loam to clay soils. These are described as soils that have minor changes in texture. Infiltration is moderate to fast and soil permeability moderate to low depending upon specific soil type and profile location. The on-site soil clay loam B horizon has been used to size the LAA using a water balance. However, for additional conservatism due to the locations high rainfall characteristics an expanded SSI area is recommended for the site as noted in this report.

The soil type in the LAA consists of a moderately structured orange brown loam to a maximum depth of 200mm overlying moderately structured orange brown clay loam to a maximum depth of 900mm. Between 900mm to 1100mm the soil becomes a strongly structured orange brown clay loam. Below 1100mm to 1500mm the soils transition to a strongly structured orange brown medium clay. No groundwater was encountered on the site inspection. There was no marked textural change within the soil profile with excellent internal drainage. This is an excellent example of soils derived from Humevale Siltstone which can have a wide variety of soil types associated with this geology depending upon specific locations.

Soil permeability was not undertaken however textural soil analysis indicating that infiltration would be relatively fast through the A horizon and moderate through the B horizon. This is consistent with soil permeability testing undertaken on similar soil types. The on-site soils exhibit a sharp textural change throughout the soil profile. A conservative Ksat for a moderately structured loam is 1.5m m/d with a corresponding soil percolation rate of a minimum 62.5mm per hour. The moderately structured clay loam B horizon has a lower Ksat at 0.5 m/d with a corresponding soil percolation rate of 21mm per hour. Sizing of the LAA has an enlarged wastewater field.

On-site red Brown Dermosols at 18 Pratts Road, Kinglake West

Table 4 Soil Features:

Soil Feature			
Soil Depth	Soil depth up to 1500mm encountered.		
Depth to watertable	Groundwater not encountered.		
Coarse Fragments (%)	Some coarse fragments were observed through the lower portions of the soil profile.		
Soil Permeability and Design loading Rates	Soil permeability was not directly measured but can be inferred with reference to Tables L1 to N1 in AS/NZS 1547:2012, that describe conservative design loading rates (DI-R5) and Design Irrigation Rates (DIRs) for various effluent application systems according to soil type. Critical soil properties are texture and structure, but depth, colour and degree of mottling are also used to infer drainage conditions. We note that the indicative loading rates below assume secondary treated effluent is being applied. Reduced loading rates would apply to primary treatment systems (septic tanks), although these are not recommended here.		
	Topsoils	Subsoils	
Description	**Loam (moderate structure)**	**Clay Loam (moderate structure)**	
Soil Category (AS/ NZ1547:2012)	**3a**	**4a**	
Design Irrigation Rate (DIR mm/week)	**28 (4mm/d) (Secondary Treated)**	**24.5 (3.5mm/d) (Secondary Treated)**	
Design Loading Rate (DLR mm/week) for trenches/beds	**Design Loading Rate** (DLR mm/day) for Wick Trenches / Beds **30 Secondary**	**Design Loading Rate** (DLR mm/day) for Wick Trenches / Beds **30 Secondary**	
pH	The pH of 1:5 soil/water suspensions was not measured. The present soil conditions do not appear to be restricting plant growth.		
Electrical Conductivity	Electrical conductivity was not measured.		

*SSI irrigation field sizing based on a minimum area using light clay for sizing the LAA (300m² water balance 3 bedroom) & LAA (375m² water balance 4 bedroom).

6. Land Capability Assessment Matrix

The Land Capability Assessment has been developed for the whole site, but using the soils in the vicinity of the building envelope.

Table 5 Land Capability Assessment Matrix

LAND FEATURES	Land capability class rating					Site rating
	Very good (1)	Good (2)	Fair (3)	Poor (4)	Very poor (5)	
GENERAL CHARACTERISTICS						
Site drainage	No visible signs of dampness	Moist soil, but no standing water in soil pit		Visible signs of dampness, such as moisture-tolerant plants	Water ponding on surface	**2**
Runoff	None	Low	Moderate	High – need for diversionary structures	Very high – diversion not practical	**3**
Flood Levels	Never		<1 in 100	>1 in 100 and <1 in 20	<1 in 20	**2**
Proximity to Watercourses	>60 metres				<60	**3**
Slope (%)	0-2	2-8	8-12	12-20	>20	**2**
Landslip	No actual or potential failure		Low potential for failure	High potential for failure	Present or past failure	**3**
Groundwater (seasonal watertable depth (m)	>5	5-2.5	2.5-2.0	2.0-1.5	<1.5	**2**
Rock outcrop (1% of land surface containing rock >200mm)	0	<10%	10-20%	20-50%	>50%	**1**
Erosion potential	No erosion potential	Minor	Moderate	High	Severe erosion potential	**2**
Exposure	High sun and wind exposure		Moderate	Low sun and wind exposure		**1**
Landform	Hill crests, convex side slopes and plains		Concave sideslopes and footslopes		Floodplains & incised channels	**1**
Vegetation Type	Turf or pasture				Dense forest with little understorey	**2**
Average Rainfall (mm/yr)	<450	450-650	650-750	750-1000	>1000	**3**
Pan evaporation (mm/yr)	<1500	1250-1500	1000-1250	---	<1000	**1**
Fill	No fill		Fill present			**1**

SOIL PROFILE CHARACTERISTICS						
Soil permeability category[1]	2 and 3	4		5	1 and 6	**4**
Profile depth	>2m	1.5-2m	1.5 – 1	1.0-0.5m	>0.5m	**3**
Presence of mottling	None				Extensive	**2**
Course fragments (%)	<10	10-20	20-40		>40	**1**
Permeability * (m/d)	0.3-0.15	0.08-0.15 0.3-0.6	0.06-0.08 0.6-1.5	--- 1.5-2.0	<0.06 >2.0	**3**
pH	6-8		4.5-6		<4.5, >8	**3**
Emerson Aggregate	4, 6, 8	5	7	2, 3	1	**4**
Electrical Conductivity	<0.3	0.3-0.8	0.8-2	2-4	>4	**1**
Sodicitiy ESP%	<3		6-8	8-14	>14	**2**
Overall Site Rating			**Poor**			**4**

1. Source: AS/NZ1547:2012

7. The Management Program

This LCA has been prepared to accompany a development application to the Murrindindi Shire Council for a proposed two lot subdivision.

A secondary system is suitable for Lot 2. The existing primary (septic) system and absorption trenches servicing the existing three bedroom dwelling on proposed Lot 1 will be decommissioned and replaced with a wastewater system capable of treating wastewater to secondary treatment levels with dispersal provided by SSI towards the northern boundary. Secondary treated wastewater is to be installed on proposed Lot 2 as part of the development proposal to service a maximum four bedroom dwelling. As such, this report provides recommendations for treatment and land application systems that are appropriate to the land capability. The following sections provide an overview of a suitable system, with sizing and design considerations and justification for its selection. Detailed design for the system is beyond the scope of this study but should be undertaken at the time of building application and submitted to Council.

7.1 Treatment System

To treat domestic wastewater and allow irrigation with the treated effluent, the existing system provides secondary treatment with disinfection to meet Environment Protection Authority requirements for irrigation. Indicative target effluent quality is:

- BOD <20 mg/l;
- SS <30 mg/l;

7.2 Land Application

A range of possible land application systems have been considered, such as absorption trenches, evapotranspiration/absorption (ETA) beds, surface and subsurface irrigation, and sand mounds. The preferred system for proposed Lot 1 and Lot 2 is pressure compensating **subsurface irrigation**. In combination with the selected secondary treatment system subsurface irrigation will provide even and widespread dispersal of highly treated effluent loads within the root-zone of plants. Subsurface irrigation will provide beneficial reuse of wastewater. It will also ensure that the risk of effluent being transported off this site will be negligible.

7.3 Sizing the Irrigation System

To determine the necessary size of the irrigation area water and nutrient balance modelling has been considered.

A water balance is one calculation to size the SSI irrigation field. The water balance sizes the SSI area at 266m² (three bedroom residence Lot 1 & Lot 2) and 332m² (Lot 2). The water balance calculations are provided in Appendix v.

The nitrogen balance contained in Appendix v sizes the LAA at 199m² (three bedroom residence Lot 1 & Lot 2) and 249m² (four bedroom residence Lot 2).

The phosphorus balance calculations below sizes the LAA at 304m² (three bedroom residence Lot 1 & Lot 2) and 353m² (four bedroom residence Lot 2).

The phosphorus balance is the most limiting factor to initially size the LAA. However, advise provided by Environmental Health (high rainfall zone) recommend a LAA size of **300m²** for the existing three bedroom residence on Lot 1 or a proposed three bedroom residence on Lot 2. The maximum bedroom capacity on Lot 2 is four bedrooms with the LAA sized at **400m²**.

Water Balance

A preliminary model water balance with wet month storage and a daily wastewater of 600 to 750 litres is contained in the appendices.

Nutrient Balance

A nutrient balance has been considered to check that the LAA is of sufficient size to ensure nutrients are assimilated by the soils and vegetation. It is acknowledged that a proportion of nitrogen will be retained in the soil through processes such as mineralisation and volatilisation.

We are of the opinion that the area required for nitrogen assimilation and phosphorus can be met by the above sized LAA.

A **nitrogen balance** sizing the for a three-bedroom dwelling is sized at 199m² and a four-bedroom dwelling is sized at 249m².

Phosphorus Balance – Three Bedroom Dwelling

Daily P load

Effluent Concentration P – 10mg/L
Daily hydraulic load – 600L/D
10 × 600 = 6,000mg/d

Annual P load

6,000mg/d × 365 days = 2,190,000
Annual P load = 2.190kg

Plant uptake (grasses) 50kg P/ha/year

P sorption each year for 50 years

2190 / 50 ×0.5 = 21.90 kg/ha/yr

Annual Application Rate

Plant uptake + P sorption = 21.90 + 50
Total P application rate = 71.90 kg/ha/yr

Annual P load

2.190 / 71.90 = 0.304
0.304 × 10,000 = 304m²
Minimum Area Required for P assimilation over 50 years = 304m²

Phosphorus Balance – Four Bedroom Dwelling

Daily P load

Effluent Concentration P – 10mg/L
Daily hydraulic load – 750L/D
10 × 600 = 7,500mg/d

Annual P load

7,500mg/d × 365 days = 2,737,500
Annual P load = 2.737kg

Plant uptake (grasses) 50kg P/ha/year

P sorption each year for 50 years

2737 / 50 ×0.5 = 27.37 kg/ha/yr

Annual Application Rate

Plant uptake + P sorption = 27.37 + 50
Total P application rate = 77.37 kg/ha/yr

Annual P load

2.737 / 77.37 = 0.353
0.304 × 10,000 = 353m²
Minimum Area Required for P assimilation over 50 years = 353m²

Summary and Discussion

It is worth noting that modelling includes several significant factors of conservatism:

- Hydraulic load for Lot 1 (600 L/D). This assumes a maximum capacity of 4 people will permanently occupy the 3 - bedroom residence. It is likely that the actual occupancy and daily water usage will be substantially less than this;

- Hydraulic load for Lot 2 (600 - 750 L/D). This assumes a maximum capacity of 4 people will permanently occupy a 3 - bedroom residence or 5vpeople will permanently occupy a four bedroom residence. It is likely that the actual occupancy and daily water usage will be less than this;

- From the nutrient balances, in the absence of site-specific data very conservative estimates of crop nutrient uptake rates and total nitrogen lost to soil processes are considered.

7.4 Siting and Configuration of the Land Application Area

It is preferable to keep the irrigation area as high on the property as possible based upon the proposed site plan. Eco Vision has delineated on the provided site plan a suitable LAA, but the areas tested are deemed suitable.

As well as providing area for application of effluent, it is important that buffer distances be adhered to. It is important to note that buffers are measured as the overland flow path for run-off water from the effluent irrigation area.

The LAA area is sized at an area of 300m² (three bedroom residence – Lot 1 & Lot 2) and 400m² (maximum four bedroom residence – Lot 2). This is depicted on the site plan contained in the appendices.

It is recommended that the owner consult an irrigation expert familiar with wastewater irrigation equipment, to help design and install the irrigation system. The irrigation plan must ensure good, even application of effluent.

7.5 Irrigation System Design

A detailed irrigation system design is beyond the scope of this report; however, a general description of subsurface irrigation is provided here for the information of the client and Council.

Subsurface irrigation comprises a network of drip-irrigation lines that is specially designed for use with wastewater. The pipe contains pressure compensating emitters that employ a biocide to prevent build-up of slimes and inhibit root penetration. The laterals are usually 0.5 to 1.0 m apart, roughly parallel and along the contour if possible. -Installation depth is commonly 100-150 mm. It is critical that the irrigation pump be sized properly to ensure adequate pressure and delivery rate to the irrigation network.

A filter is installed in the main line to remove fine particulates that could block the emitters. This must be cleaned regularly following manufacturer's instructions.
Vacuum breakers should be installed at the high points in the system to prevent air and soil being sucked back into the drippers when the pump shuts off. Flushing valves are an important component and allow periodic flushing of the lines, which should be done at least yearly. Flush water can be either returned to the treatment system or should be released where it will be readily absorbed.

All trenching used to install the pipes must be backfilled properly to prevent preferential subsurface flows along trench lines, particularly where trenches are not parallel to contours. Irrigation areas should not be subject to high traffic movement, especially by vehicles, otherwise compaction around emitters can lead to premature system failure.

7.6 Buffer Distances

Buffer distances from LAAs are required to help prevent human contact, maintain public amenity, and protect sensitive environments. Council generally adopts the following nominal buffers secondary sewage and greywater effluent, described in EPA Vic (891.4):

Landscape feature or structure	Setback distances (m)		
	Primary sewage and greywater systems	Secondary sewage and greywater systems	Advanced secondary greywater systems [3]
Building			
Wastewater field up-slope of building [7]	6	3	3
Wastewater field down-slope of building	3	1.5	1.5
Wastewater up-slope of cutting/escarpment [12]	15	15	15
Allotment boundary			
Wastewater field up-slope of adjacent lot	6	3	1
Wastewater field down-slope of adjacent lot	3	1.5	0.5
Services			
Water supply pipe	3	1.5	1.5
Wastewater up-slope of potable supply channel	300	150	150
Wastewater field down-slope of potable supply channel	20	10	10
Gas supply pipe	3	1.5	1.5
In-ground water tank [14]	15	7.5	3
Stormwater drain	6	3	2
Recreational areas			
Children's grassed playground [15]	6	3 [16]	2 [16]
In-ground swimming pool	6	3 [16]	2 [16]
Surface waters (up-slope of:)			
Dam, lake or reservoir (potable water supply) [8, 13]	300	300 [4]	150
Waterways (potable water supply) [9, 13]	100	100 [4, 5, 17]	50
Waterways, wetlands (continuous or ephemeral, non-potable); estuaries, ocean beach at high-tide mark; dams, reservoirs or lakes (stock and domestic, non-potable) [8, 9]	60	30	30
Groundwater bores			
Category 1 and 2a soils	NA [11]	50 [19,]	20
Category 2b to 6 soils	20	20	20
Watertable			
Vertical depth from base of trench to the highest seasonal water table [18]	1.5	1.5	1.5
Vertical depth from irrigation pipes to the highest seasonal water table [18]	NA	1.5	1.5

8. Monitoring, Operation and Maintenance

Maintenance is to be carried out in accordance with the certificate of approval and Council's permit conditions. The system proposed above will only function adequately if appropriately maintained. Residents will be required to carry out maintenance as discussed below.

To ensure the treatment system functions adequately, residents must:

- Have a suitably qualified maintenance contractor service the AWTS as required by Council under the approval to operate.
- Any pump will need regular maintenance and seals checked regularly.
- Use household cleaning products sparingly and check that they are suitable for septic tanks;
- Keep as much fat and oil out of the system as possible; and
- Conserve water

To ensure the land application system functions adequately, residents must:

- Regularly harvest (mow) vegetation within the LAA and remove this to maximise uptake of water and nutrients;
- Monitor and maintain the subsurface irrigation system following the manufacturer's recommendations, including flushing of irrigation lines;
- Regularly clean in-line filters;
- Not erect any structures over the LAA;
- Minimise vehicle access to the LAA, to prevent compaction; and
- Ensure that the LAA is kept level by filling any depressions with good quality topsoil (not clay).
- Good water conservation is an important aspect in the overall management of onsite systems. It will be important for the ongoing performance of both the treatment and application system that they are not overloaded hydraulically. AAA rated plumbing is recommended for all future water fixtures.

9. Stormwater Management

As mentioned above, stormwater runoff is not expected to be a major concern in this case. However, the construction and maintenance of diversion drains would provide an additional precaution. Roof stormwater must not be disposed in the LAA.

10. Conclusions

As a result of our investigations, we recommend that a sustainable onsite wastewater management system can be treated and contained within proposed Lot 2.
Specifically, we recommend the following:

- Installation of a secondary wastewater treatment system such as Aerated Wastewater Treatment System (AWTS) on the site for both Lot 1 & Lot 2;
- The existing primary (septic) tank and absorption trenches for the existing dwelling on Lot 1 to be decommissioned;
- Proposed Lot 2 has land available to treat and contain secondary treated wastewater for a maximum four bedroom dwelling;
- Proposed Lot 1 has land available to treat and contain secondary treated wastewater for the three bedroom dwelling;
- Utilising sub surface irrigation (for proposed lot 1) in conjunction with secondary treatment the LAA area is sized at 300m² for the existing three bedroom dwelling;
- Utilising sub surface irrigation (for proposed lot 2) in conjunction with secondary treatment the LAA area is sized at a minimum of 300m² using the water balance as the most limiting factor based on a 3-bedroom capacity and four-bedroom capacity 400;
- Preferable location of the LAA for SSI is depicted on the site plan – Lot 1 located towards the proposed northern boundary and Lot 2 located towards the proposed western boundary;
- Any wastewater treatment system requires supervision by the designer and test on completion;
- Do not allow any vehicle access and utilise surface plants that tolerate wet conditions (including roots) and have a high evapo-transpiration capacity. Where possible use plants well exposed to the sun. Plant high transpiration species to minimise waterlogging.
- Use of low phosphorus and low sodium (liquid) detergents to improve effluent quality and maintain soil properties;
- Operation and management of the treatment and disposal system in accordance with manufacturer's recommendations and the recommendations made in this report; and
- Construction of diversion drains on sides of the LAA to divert stormwater and surface water run-on.

Robert Kraing

Land Management Consultant
Grad Cert. Environmental Management (CSU), Ad. Dip. Land Management (Syd), Cert Hort. Landscape & Nursery (Qld)

11. References & Bibliography

AS/NZS 1547:2012, *On-site domestic wastewater management*, SAI Global Limited

Charman, P.E.V. & Murphy, B.W., ed. (2007), *Soils Their Properties and Management (Third Edition)*, Oxford University Press.

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Environment Protection Authority Code of Practice - Publication 451, March 1996 - *Septic Tanks On Site Domestic Wastewater Management*

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March 2003 – *Land Capability Assessment for On-site Domestic Wastewater Management.*

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McKenzie N., Jacquier D., Isbell R. & Brown K. (2004), *Australian Soils and Landscapes: An illustrated compendium.* CSIRO Publishing

11. APPENDICES

i. Site Locality Plan – Property Reports
ii. Proposed Development Plan
iii. Existing conditions
iv. Bureau of Meteorology Climate Report Toolangi (Mount St Leonhard DPI) – 086374 and Rainfall Report for Kinglake West (086374)
v. Test Site Location Plan
vi. Water & Nitrogen Balance (600L/D, 750L/D)
vii. Borelog Descriptions

APPENDIX i

SITE LOCALITY PLAN - PROPERTY PLANNING REPORTS

PROPERTY REPORT

VICTORIA State Government | Environment, Land, Water and Planning

From www.planning.vic.gov.au at 13 February 2023 03:11 PM

PROPERTY DETAILS

Crown Description:	**Allot. 25 Sec. B TOWNSHIP OF PHEASANT CREEK**
Address:	**18 PRATTS ROAD KINGLAKE WEST 3757**
Standard Parcel Identifier (SPI):	**25~B\PP5632**
Local Government Area (Council):	**MURRINDINDI** www.murrindindi.vic.gov.au
Council Property Number:	**7194**
Directory Reference:	**Vicroads 61 F9**

SITE DIMENSIONS

All dimensions and areas are approximate. They may not agree with those shown on a title or plan.

Area: 4193 sq. m
Perimeter: 285 m
For this property:
Site boundaries
Road frontages

Dimensions for individual parcels require a separate search, but dimensions for individual units are generally not available.

Calculating the area from the dimensions shown may give a different value to the area shown above

For more accurate dimensions get copy of plan at Title and Property Certificates

UTILITIES

Rural Water Corporation:	**Goulburn-Murray Water**
Urban Water Corporation:	**Goulburn Valley Water**
Melbourne Water:	**Outside drainage boundary**
Power Distributor:	**AUSNET**

STATE ELECTORATES

Legislative Council:	**NORTHERN VICTORIA**
Legislative Assembly:	**EILDON**

PLANNING INFORMATION

Property Planning details have been removed from the Property Reports to address duplication with the Planning Property Reports which are DELWP's authoritative source for all Property Planning information.

The Planning Property Report for this parcel can found here - Planning Property Report

Planning Property Reports can be found via these two links
Vicplan https://mapshare.vic.gov.au/vicplan/
Property and parcel search https://www.land.vic.gov.au/property-and-parcel-search

PLANNING PROPERTY REPORT

VICTORIA State Government | Environment, Land, Water and Planning

From www.planning.vic.gov.au at 13 February 2023 04:33 PM

PROPERTY DETAILS

Address:	**18 PRATTS ROAD KINGLAKE WEST 3757**
Crown Description:	**Allot. 25 Sec. B TOWNSHIP OF PHEASANT CREEK**
Standard Parcel Identifier (SPI):	**25~B\PP5632**
Local Government Area (Council):	**MURRINDINDI** www.murrindindi.vic.gov.au
Council Property Number:	**7194**
Planning Scheme:	**Murrindindi** Planning Scheme - Murrindindi
Directory Reference:	**Vicroads 61 F9**

UTILITIES

Rural Water Corporation:	**Goulburn-Murray Water**
Urban Water Corporation:	**Goulburn Valley Water**
Melbourne Water:	**Outside drainage boundary**
Power Distributor:	**AUSNET**

STATE ELECTORATES

Legislative Council:	**NORTHERN VICTORIA**
Legislative Assembly:	**EILDON**

OTHER

Registered Aboriginal Party: **Taungurung Land and Waters Council Aboriginal Corporation**

View location in VicPlan

Planning Zones

TOWNSHIP ZONE (TZ)
SCHEDULE TO THE TOWNSHIP ZONE (TZ)

IN1Z - Industrial 1
LDRZ - Low Density Residential
PPRZ - Public Park and Recreation
TZ - Township
Water course

Note: labels for zones may appear outside the actual zone - please compare the labels with the legend.

PLANNING PROPERTY REPORT

VICTORIA State Government | Environment, Land, Water and Planning

Planning Overlay

BUSHFIRE MANAGEMENT OVERLAY (BMO)

BMO - Bushfire Management Overlay Water course

Note: due to overlaps, some overlays may not be visible, and some colours may not match those in the legend

Further Planning Information

Planning scheme data last updated on 8 February 2023.

A **planning scheme** sets out policies and requirements for the use, development and protection of land. This report provides information about the zone and overlay provisions that apply to the selected land. Information about the State and local policy, particular, general and operational provisions of the local planning scheme that may affect the use of this land can be obtained by contacting the local council or by visiting https://www.planning.vic.gov.au

This report is NOT a **Planning Certificate** issued pursuant to Section 199 of the ***Planning and Environment Act 1987.*** It does not include information about exhibited planning scheme amendments, or zonings that may abut the land. To obtain a Planning Certificate go to Titles and Property Certificates at Landata - https://www.landata.vic.gov.au

For details of surrounding properties, use this service to get the Reports for properties of interest.

To view planning zones, overlay and heritage information in an interactive format visit https://mapshare.maps.vic.gov.au/vicplan

For other information about planning in Victoria visit https://www.planning.vic.gov.au

PLANNING PROPERTY REPORT

VICTORIA State Government | Environment, Land, Water and Planning

Designated Bushfire Prone Areas

This property is in a designated bushfire prone area. Special bushfire construction requirements apply to the part of the property mapped as a designated bushfire prone area (BPA). Planning provisions may apply.

Where part of the property is mapped as BPA, if no part of the building envelope or footprint falls within the BPA area, the BPA construction requirements do not apply.

Note: the relevant building surveyor determines the need for compliance with the bushfire construction requirements.

Designated BPA are determined by the Minister for Planning following a detailed review process. The Building Regulations 2018, through adoption of the Building Code of Australia, apply bushfire protection standards for building works in designated BPA.

Designated BPA maps can be viewed on VicPlan at https://mapshare.vic.gov.au/vicplan/ or at the relevant local council.

Create a BPA definition plan in VicPlan to measure the BPA.

Information for lot owners building in the BPA is available at https://www.planning.vic.gov.au

Further information about the building control system and building in bushfire prone areas can be found on the Victorian Building Authority website https://www.vba.vic.gov.au. Copies of the Building Act and Building Regulations are available from http://www.legislation.vic.gov.au. For Planning Scheme Provisions in bushfire areas visit https://www.planning.vic.gov.au.

Native Vegetation

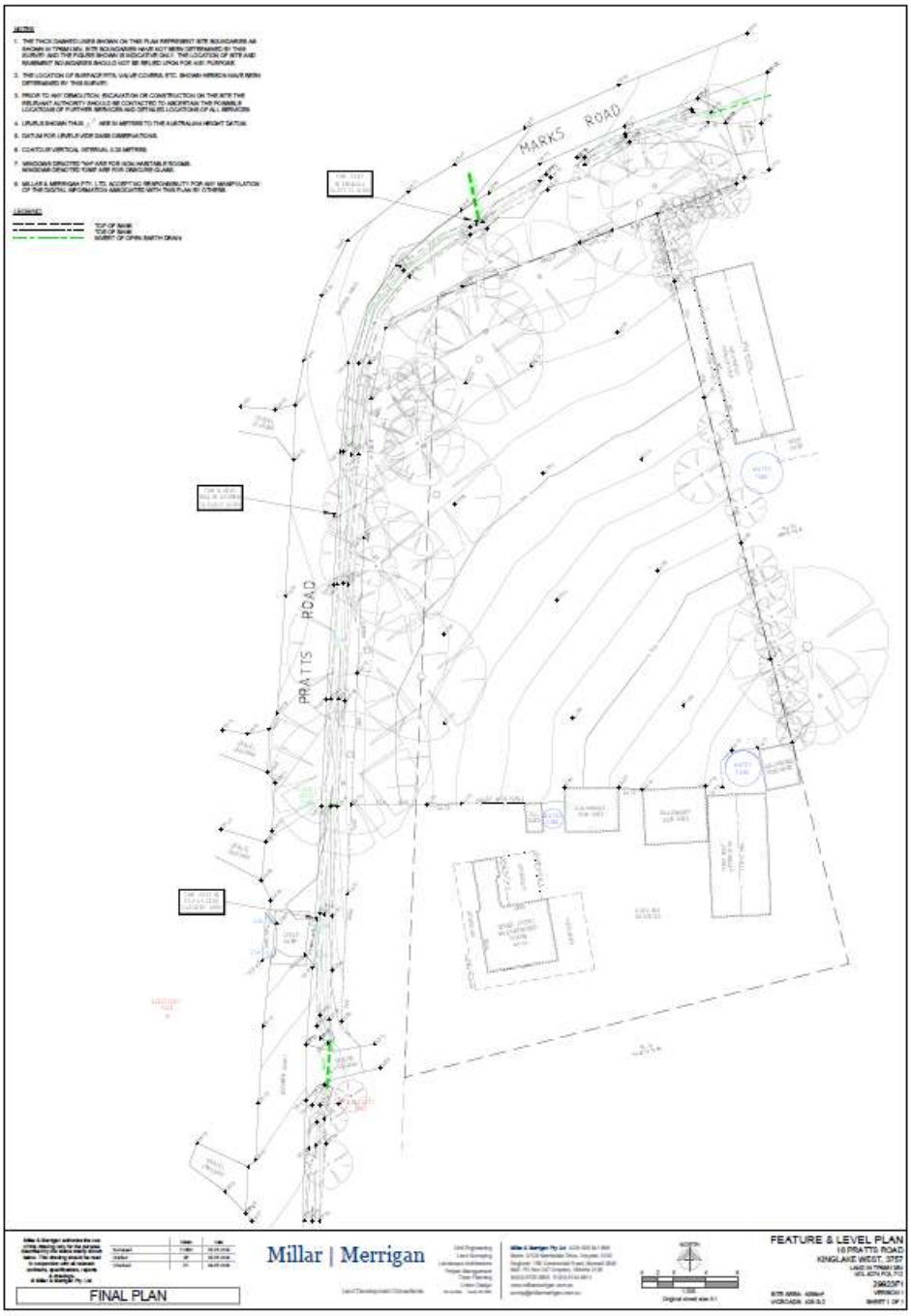
Native plants that are indigenous to the region and important for biodiversity might be present on this property. This could include trees, shrubs, herbs, grasses or aquatic plants. There are a range of regulations that may apply including need to obtain a planning permit under Clause 52.17 of the local planning scheme. For more information see Native Vegetation (Clause 52.17) with local variations in Native Vegetation (Clause 52.17) Schedule

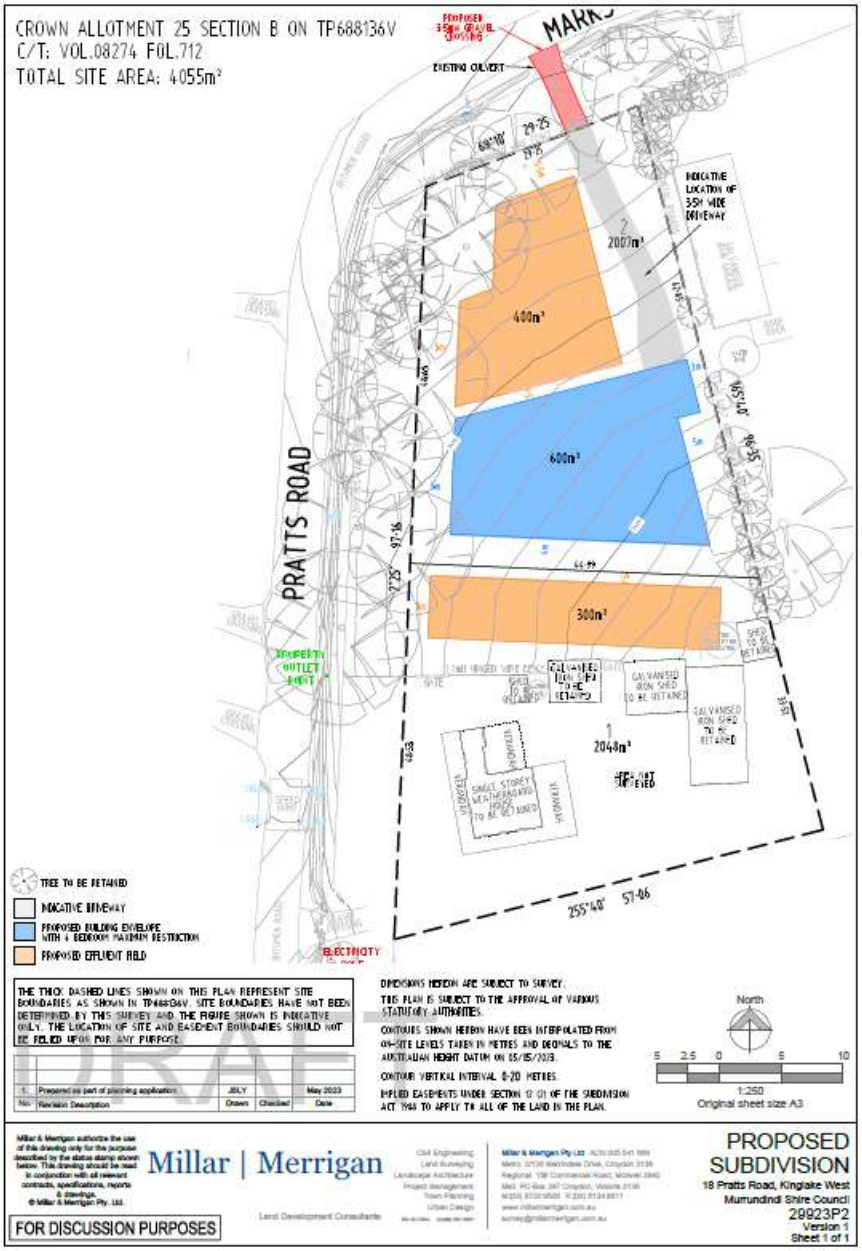
To help identify native vegetation on this property and the application of Clause 52.17 please visit the Native Vegetation Information Management system https://nvim.delwp.vic.gov.au/ and Native vegetation (environment.vic.gov.au) or please contact your relevant council.

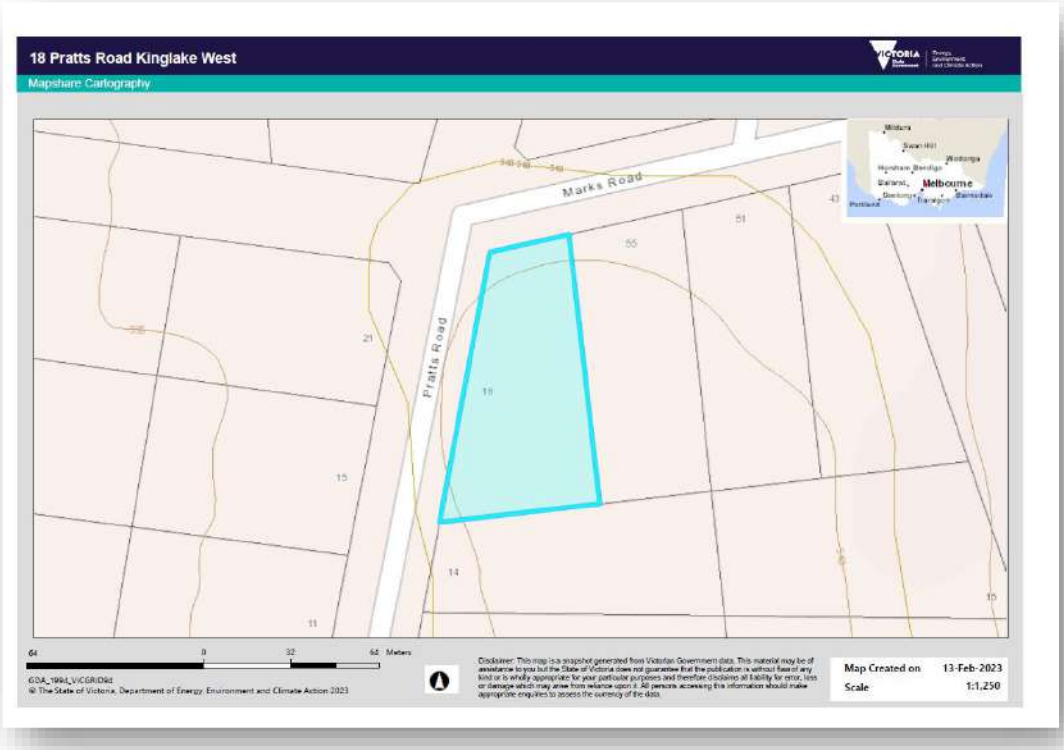
You can find out more about the natural values on your property through NatureKit NatureKit (environment.vic.gov.au)

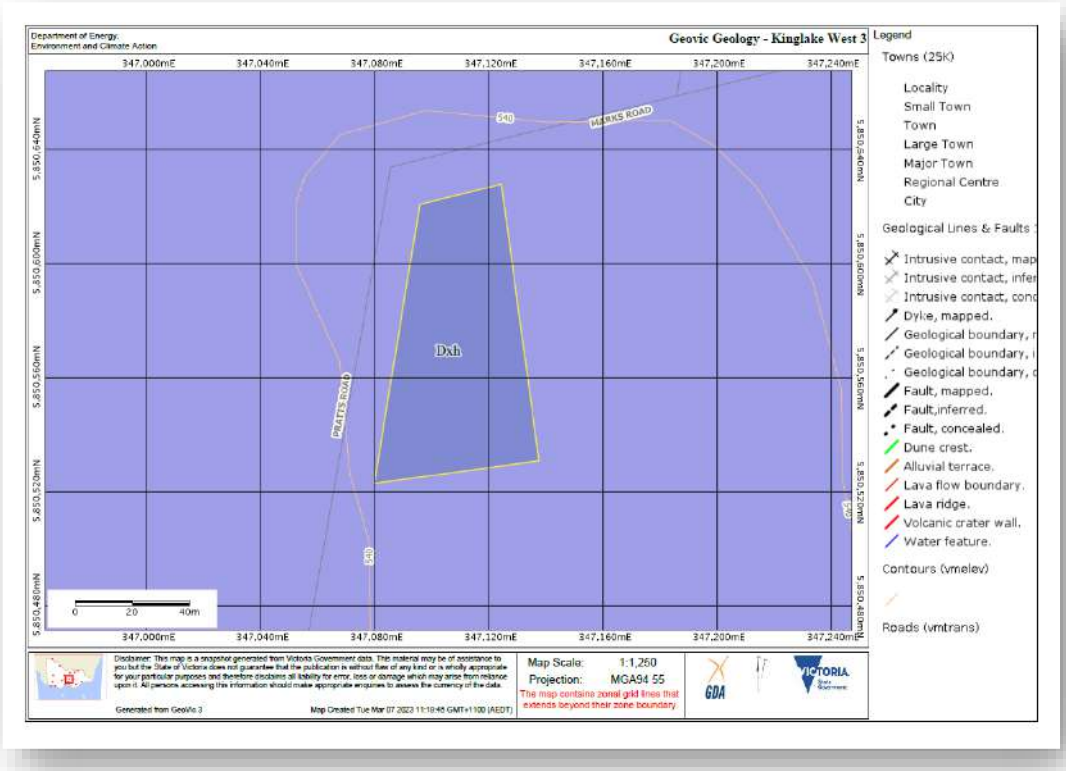
APPENDIX ii

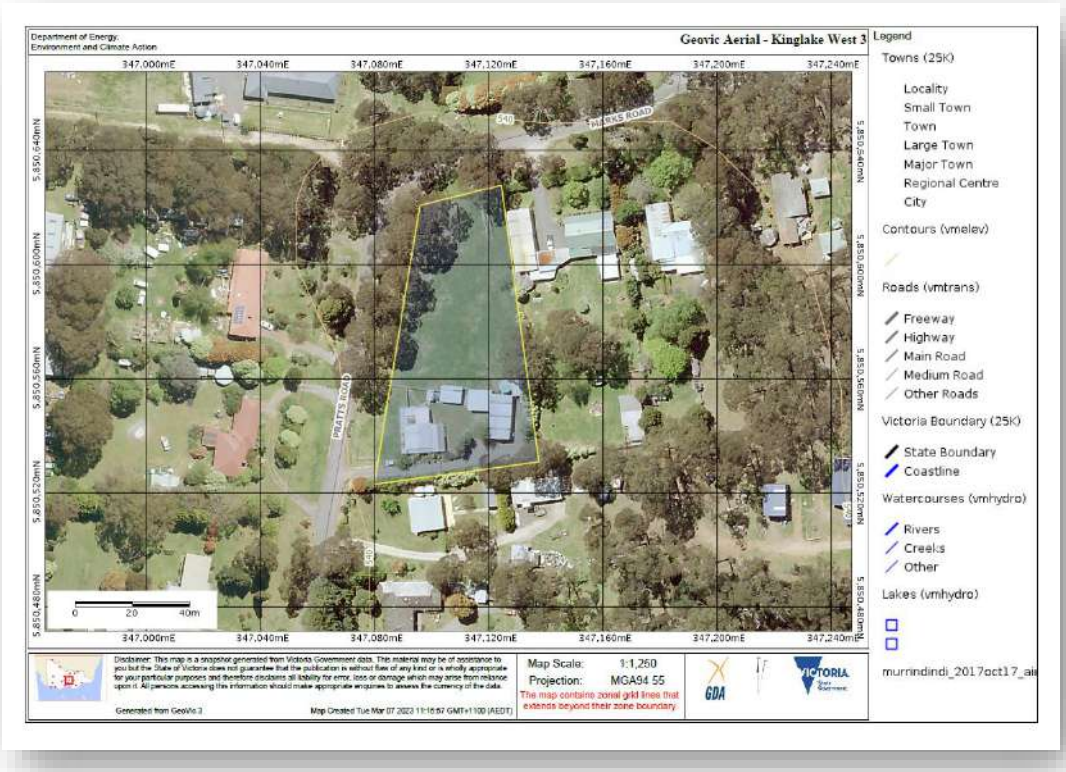
PROPOSED DEVELOPMENT PLAN, MAPSHARE, GEOVIC & AERIAL PHOTO





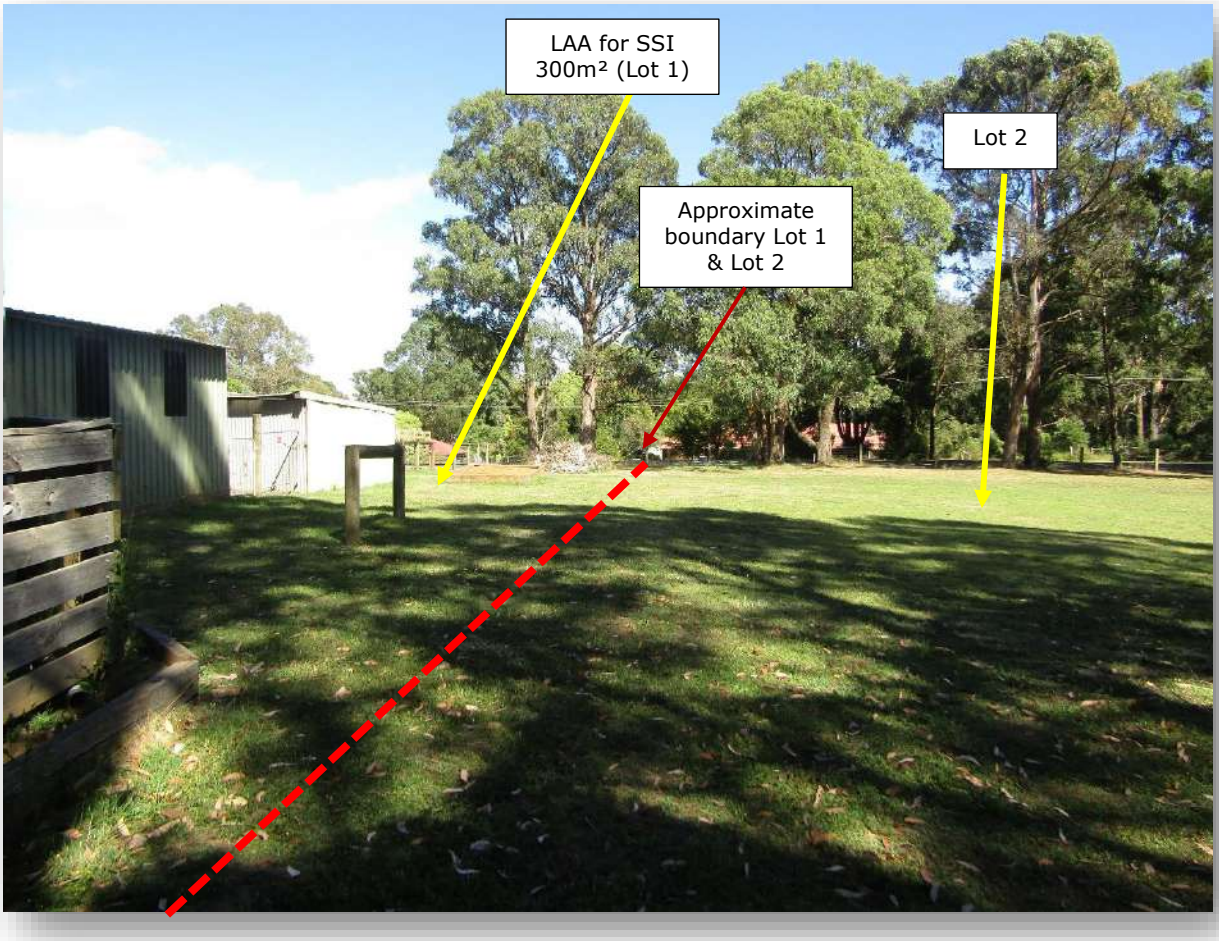






APPENDIX iii

EXISTING CONDITIONS



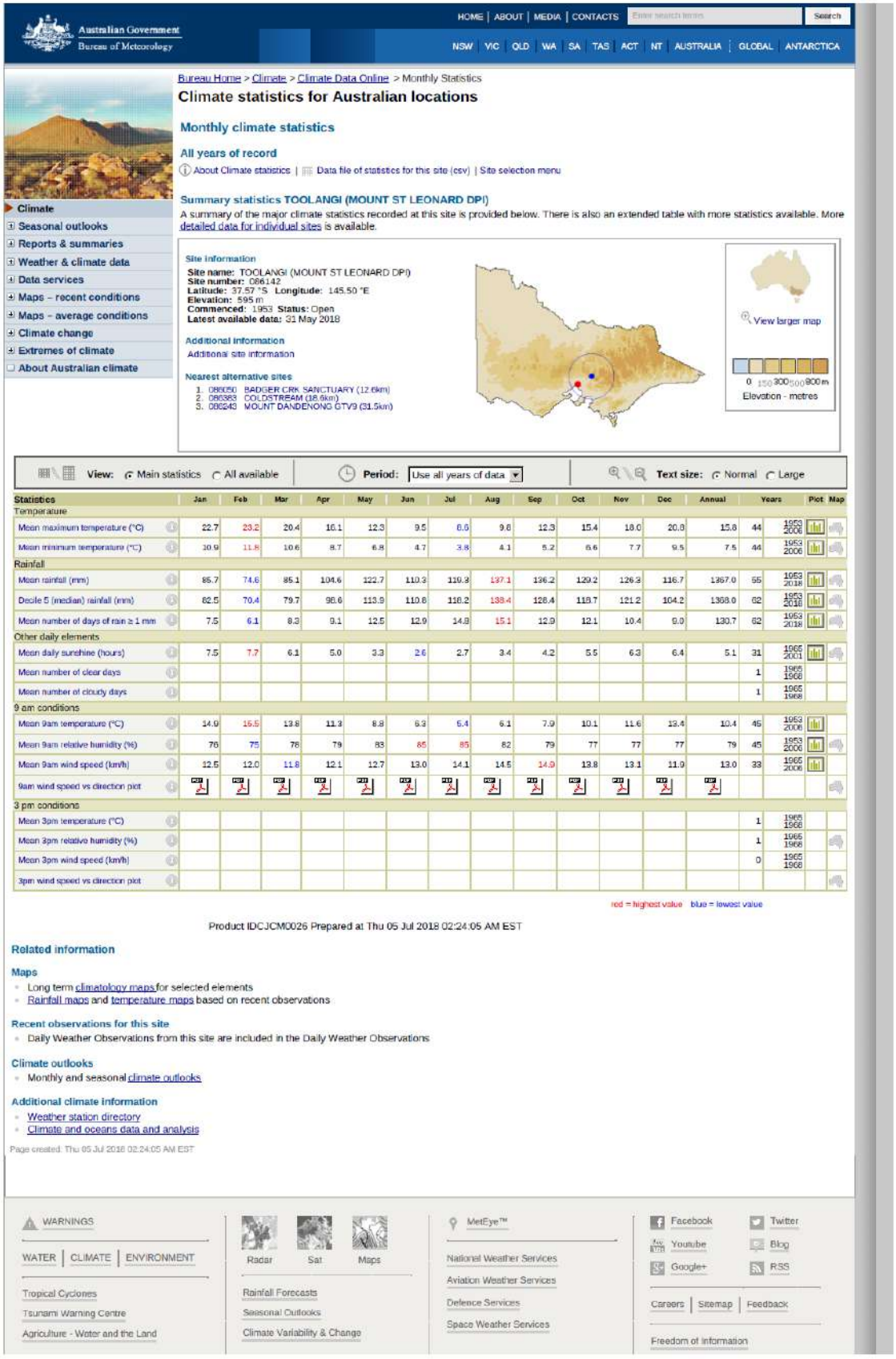
P1 - View towards the west depicting the proposed SSI location for secondary treated wastewater – existing dwelling – 300m² (Proposed Lot 1, 18 Pratts Road, Kinglake West).

P2 – View towards the west depicting the proposed LAA area for secondary treated wastewater (Proposed Lot 2, 18 Pratts Road, Kinglake West).

P3 – View towards the south proposed Lot 1 & Lot 2 with locations for wastewater SSI (Proposed Lot 1 & Lot 2, 18 Pratts Road, Kinglake West).

APPENDIX iv

CLIMATE STATISTICS TEMPERATURE TOOLANGI (MOUNT ST LEONHARD (086142) & RAINFALL KINGLAKE WEST CLIMATE STATION (086374)



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- Data services
- Maps – recent conditions
- Maps – average conditions
- Climate change
- Extremes of climate
- About Australian climate

Climate statistics for Australian locations

Monthly climate statistics

All years of record

About Climate statistics | Data file of statistics for this site (csv) | Site selection menu

Summary statistics TOOLANGI (MOUNT ST LEONARD DPI)

A summary of the major climate statistics recorded at this site is provided below. There is also an extended table with more statistics available. More detailed data for individual sites is available.

Site information

Site name: TOOLANGI (MOUNT ST LEONARD DPI)
Site number: 086142
Latitude: 37.57 °S **Longitude:** 145.50 °E
Elevation: 595 m
Commenced: 1953 **Status:** Open
Latest available data: 31 May 2018

Additional information

Additional site information

Nearest alternative sites

1. 086050 BADGER CRK SANCTUARY (12.6km)
2. 086383 COLDSTREAM (18.6km)
3. 086243 MOUNT DANDENONG GTV9 (31.5km)

View larger map

0 150 300 500 800m
Elevation - metres

View: Main statistics | All available Period: Use all years of data Text size: Normal | Large

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years		Plot	Map
Temperature																	
Mean maximum temperature (°C)	22.7	23.2	20.4	16.1	12.3	9.5	8.6	9.8	12.3	15.4	18.0	20.8	15.8	44	1953 2006		
Mean minimum temperature (°C)	10.9	11.8	10.6	8.7	6.8	4.7	3.8	4.1	5.2	6.6	7.7	9.5	7.5	44	1953 2006		
Rainfall																	
Mean rainfall (mm)	85.7	74.6	85.1	104.6	122.7	110.3	119.9	137.1	136.2	129.2	126.3	116.7	1367.0	55	1953 2018		
Decile 5 (median) rainfall (mm)	62.5	70.4	79.7	96.6	113.9	110.8	116.2	138.4	128.4	118.7	121.2	104.2	1368.0	62	1953 2018		
Mean number of days of rain ≥ 1 mm	7.5	6.1	8.3	9.1	12.5	12.9	14.8	15.1	12.9	12.1	10.4	9.0	130.7	62	1953 2018		
Other daily elements																	
Mean daily sunshine (hours)	7.5	7.7	6.1	5.0	3.3	2.6	2.7	3.4	4.2	5.5	6.3	6.4	5.1	31	1966 2001		
Mean number of clear days														1	1966 1968		
Mean number of cloudy days														1	1966 1968		
9 am conditions																	
Mean 9am temperature (°C)	14.9	15.5	13.8	11.3	8.8	6.3	5.4	6.1	7.9	10.1	11.6	13.4	10.4	45	1953 2006		
Mean 9am relative humidity (%)	76	75	76	79	83	85	85	82	79	77	77	77	79	45	1953 2006		
Mean 9am wind speed (km/h)	12.5	12.0	11.8	12.1	12.7	13.0	14.1	14.5	14.9	13.8	13.1	11.9	13.0	33	1966 2006		
9am wind speed vs direction plot																	
3 pm conditions																	
Mean 3pm temperature (°C)														1	1966 1968		
Mean 3pm relative humidity (%)														1	1966 1968		
Mean 3pm wind speed (km/h)														0	1966 1968		
3pm wind speed vs direction plot																	

red = highest value blue = lowest value

Product IDCJCM0026 Prepared at Thu 05 Jul 2018 02:24:05 AM EST

Related information

Maps

- Long term climatology maps for selected elements
- Rainfall maps and temperature maps based on recent observations

Recent observations for this site

- Daily Weather Observations from this site are included in the Daily Weather Observations

Climate outlooks

- Monthly and seasonal climate outlooks

Additional climate information

- Weather station directory
- Climate and oceans data and analysis

Page created: Thu 05 Jul 2018 02:24:05 AM EST

WARNINGS

WATER | CLIMATE | ENVIRONMENT

Tropical Cyclones
Tsunami Warning Centre
Agriculture - Water and the Land

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Rainfall Forecasts
Seasonal Outlooks
Climate Variability & Change

MetEye™

National Weather Services
Aviation Weather Services
Defence Services
Space Weather Services

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Youtube Blog
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Careers | Sitemap | Feedback

Freedom of Information

Monthly Rainfall (millimetres)

KINGLAKE WEST

Station Number: 086374 · State: VIC · Opened: 1989 · Status: Open · Latitude: 37.47°S · Longitude: 145.26°E · Elevation: 490 m

Statistics for this station calculated over all years of data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	65.2	60.9	60.9	87.3	89.9	103.1	101.7	116.5	107.0	93.0	99.1	87.9	1040.5
Lowest	3.6	1.4	20.6	19.2	26.8	23.8	11.6	48.4	38.8	26.6	42.8	10.2	704.4
5th percentile	7.4	4.7	23.5	25.0	32.2	35.8	42.6	50.9	53.1	29.0	54.4	19.8	807.6
10th percentile	17.3	15.3	28.2	29.0	40.4	56.7	50.0	57.4	59.0	36.7	55.3	39.7	845.3
Median	66.5	59.5	56.0	85.2	87.0	107.5	102.8	121.3	89.8	75.3	84.8	71.9	1056.8
90th percentile	111.6	109.6	97.0	151.8	148.0	146.6	150.5	166.0	174.2	183.0	183.2	155.2	1215.9
95th percentile	116.2	135.6	115.5	166.9	168.1	151.6	165.2	176.1	196.2	194.3	192.1	182.1	1332.7
Highest	179.0	211.6	125.2	260.2	205.2	171.4	174.6	177.2	216.4	200.2	209.8	239.4	1499.3

ECO VISION Australia
ABN 96 203 943 465
Land Management Consultants

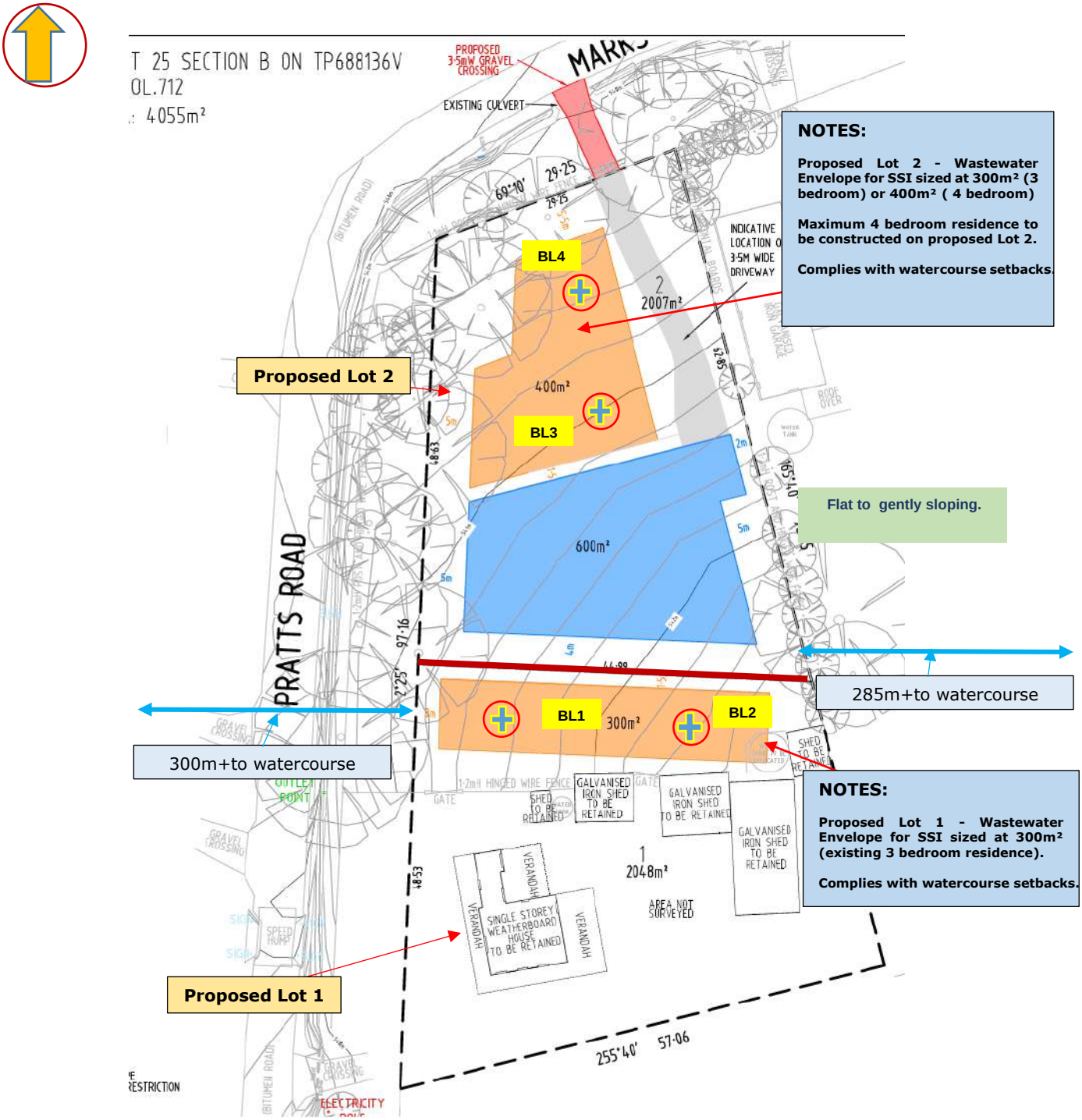
APPENDIX v

TEST SITE LOCATION PLAN

BORE LOG LOCATION PLAN & PROPOSED LAA (NOT TO SCALE)

Date: 27/09/21

18 Pratts Road, Kinglake West



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APPENDIX vii

PROPOSED LOT 1 & LOT 2 – WATER & NITROGEN BALANCES (600L/D & 750L/D)

Nominated Area Water Balance & Storage Calculations - Sub surface Irrigation

Site Address: Proposed Lot 1 18 Pratts Road Kinglake West

INPUT DATA

Design Wastewater Flow	Q	600	L/day
Design DIR	DI R	24.5	mm/week
Daily DIR		3.5	mm/day
Nominated Land Application Area	L	350	m sq
Crop Factor	C	0.7-0.8	unitless
Retained Rainfall	Rf	0.8	unitless
Rainfall Data	Kinglake West Climate Station (086374)		
Evaporation Data	Viewbank monthly (2015-2016)		

600 Ave hydraulic load

Parameter	Symbol	Formula	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days in month	D	\	days	31	28	31	30	31	30	31	31	30	31	30	31	365
Rainfall	R	\	mm/month	65.2	60.9	60.9	87.3	89.9	103.1	101.7	112.5	107	93	99.1	87.9	1068.5
Evaporation	E	\	mm/month	229.4	205.2	171.2	191.2	109	69.8	69.6	79.2	121.8	225.6	189	278.2	1939.2
Crop Factor	C			0.80	0.80	0.80	0.75	0.70	0.65	0.65	0.65	0.70	0.80	0.80	0.80	
OUTPUTS																
Evapotranspiration	ET	ExC	mm/month	183.5	164.2	137.0	143.4	76.3	45.4	45.2	51.5	85.3	180.5	151.2	222.6	1485.93
Percolation	B	(DIR/7)xD	mm/month	108.5	98	108.5	105.0	108.5	105.0	108.5	108.5	105.0	108.5	105.0	108.5	1277.5
Outputs		ET+B	mm/month	292.0	262.16	245.5	248.4	184.8	150.4	153.7	160.0	190.3	289.0	256.2	331.1	2763.4
INPUTS																
Retained Rainfall	RR	R*Rf	mm/month	52.16	48.72	48.72	69.84	71.92	82.48	81.36	90	85.6	74.4	79.28	70.32	854.8
Effluent Irrigation	W	(QxD)/L	mm/month	53.1	48.0	53.1	51.4	53.1	51.4	53.1	53.1	51.4	53.1	51.4	53.1	625.7
Inputs		RR+W	mm/month	105.3	96.7	101.9	121.3	125.1	133.9	134.5	143.1	137.0	127.5	130.7	123.5	1480.5
STORAGE CALCULATION																
Storage remaining from previous month			mm/month	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storage for the month	S	(RR+W)-(ET+B)	mm/month	-186.7	-165.4	-143.6	-127.1	-59.7	-16.5	-19.2	-16.8	-53.2	-161.4	-125.5	-207.6	-548.4
Cumulative Storage	M		mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum Storage for Nominated Area	N		mm	0.00												
	V	NxL	L	0												
LAND AREA REQUIRED FOR ZERO STORAGE			m^2	78	79	95	101	165	265	257	266	172	87	102	71	

MINIMUM AREA REQUIRED FOR ZERO STORAGE: 265.8 m^2

Nitrogen Balance

Site Address: Lot 1, 18 Pratts Road, Kinglake West

SUMMARY - LAND APPLICATION AREA REQUIRED BASED NITROGEN BALANCE: 199 m^2

INPUT DATA[1]

Wastewater Loading			Nutrient Crop Uptake					
Hydraulic Load	600	L/day	Crop N Uptake	220	kg/ha/yr	which equals	60.27	$mg/m^2/day$
Effluent N Concentration	25	mg/L						
% N Lost to Soil Processes (Geary & Gardner 1996)	0.2	Decimal						
Total N Loss to Soil	3000	mg/day						
Remaining N Load after soil loss	12000	mg/day						

NITROGEN BALANCE BASED ON ANNUAL CROP UPTAKE RATES

Minimum Area required with zero buffer			Determination of Buffer Zone Size for a Nominated Land Application Area (LAA)		
Nitrogen	199	m^2	Nominated LAA Size	300	m^2
			Predicted N Export from LAA	-2.22	kg/year
			Minimum Buffer Required for excess nutrient	0	m^2

Nominated Area Water Balance & Storage Calculations - Sub surface Irrigation

Site Address: Proposed Lot 2 18 Pratts Road Kinglake West

INPUT DATA			
Design Wastewater Flow	Q	600	L/day
Design DIR	DI R	24.5	mm/week
Daily DIR		3.5	mm/day
Nominated Land Application Area	L	350	m sq
Crop Factor	C	0.7-0.8	unitless
Retained Rainfall	Rf	0.8	unitless
Rainfall Data	Kinglake West Climate Station (086374)		
Evaporation Data	Viewbank monthly (2015-2016)		

600 Ave hydraulic load

Parameter	Symbol	Formula	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days in month	D	\	days	31	28	31	30	31	30	31	31	30	31	30	31	365
Rainfall	R	\	mm/month	65.2	60.9	60.9	87.3	89.9	103.1	101.7	112.5	107	93	99.1	87.9	**1068.5**
Evaporation	E	\	mm/month	229.4	205.2	171.2	191.2	109	69.8	69.6	79.2	121.8	225.6	189	278.2	**1339.2**
Crop Factor	C			0.80	0.80	0.80	0.75	0.70	0.65	0.65	0.65	0.70	0.80	0.80	0.80	
OUTPUTS																
Evapotranspiration	ET	ExC	mm/month	183.5	164.2	137.0	143.4	76.3	45.4	45.2	51.5	85.3	180.5	151.2	222.6	**1485.93**
Percolation	B	(DIR/7)xD	mm/month	108.5	98	108.5	105.0	108.5	105.0	108.5	108.5	105.0	108.5	105.0	108.5	**1277.5**
Outputs		ET+B	mm/month	292.0	262.16	245.5	248.4	184.8	150.4	153.7	160.0	190.3	289.0	256.2	331.1	**2763.4**
INPUTS																
Retained Rainfall	RR	R*Rf	mm/month	52.16	48.72	48.72	69.84	71.92	82.48	81.36	90	85.6	74.4	79.28	70.32	**854.8**
Effluent Irrigation	W	(QxD)/L	mm/month	53.1	48.0	53.1	51.4	53.1	51.4	53.1	53.1	51.4	53.1	51.4	53.1	**625.7**
Inputs		RR+W	mm/month	105.3	96.7	101.9	121.3	125.1	133.9	134.5	143.1	137.0	127.5	130.7	123.5	**1480.5**
STORAGE CALCULATION																
Storage remaining from previous month			mm/month	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storage for the month	S	(RR+W)-(ET+B)	mm/month	-186.7	-165.4	-143.6	-127.1	-59.7	-16.5	-19.2	-16.8	-53.2	-161.4	-125.5	-207.6	**-548.4**
Cumulative Storage	M		mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Maximum Storage for Nominated Area	N		mm	**0.00**												
	V	NxL	L	**0**												
LAND AREA REQUIRED FOR ZERO STORAGE			m^2	78	79	95	101	165	**265**	257	266	172	87	102	71	

MINIMUM AREA REQUIRED FOR ZERO STORAGE: 265.8 m^2

Nitrogen Balance

Site Address: Lot 2, 18 Pratts Road, Kinglake West

SUMMARY - LAND APPLICATION AREA REQUIRED BASED NITROGEN BALANCE 199 m^2

INPUT DATA[1]

Wastewater Loading			Nutrient Crop Uptake					
Hydraulic Load	600	L/day	Crop N Uptake	220	kg/ha/yr	which equals	60.27	mg/m^2/day
Effluent N Concentration	25	mg/L						
% N Lost to Soil Processes (Geary & Gardner 1996)	0.2	Decimal						
Total N Loss to Soil	3000	mg/day						
Remaining N Load after soil loss	12000	mg/day						

NITROGEN BALANCE BASED ON ANNUAL CROP UPTAKE RATES

Minimum Area required with zero buffer			Determination of Buffer Zone Size for a Nominated Land Application Area (LAA)		
Nitrogen	199	m^2	Nominated LAA Size	300	m^2
			Predicted N Export from LAA	-2.22	kg/year
			Minimum Buffer Required for excess nutrient	0	m^2

Nominated Area Water Balance & Storage Calculations - Sub surface Irrigation

Site Address: Proposed Lot 2 18 Pratts Road Kinglake West

INPUT DATA			
Design Wastewater Flow	Q	750	L/day
Design DIR	DI R	24.5	mm/week
Daily DIR		3.5	mm/day
Nominated Land Application Area	L	350	m sq
Crop Factor	C	0.7-0.8	unitless
Retained Rainfall	Rf	0.8	unitless
Rainfall Data	Kinglake West Climate Station (086374)		
Evaporation Data	Viewbank monthly (2015-2016)		

750 Ave hydraulic load

Parameter	Symbol	Formula	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days in month	D	\	days	31	28	31	30	31	30	31	31	30	31	30	31	365
Rainfall	R	\	mm/month	65.2	60.9	60.9	87.3	89.9	103.1	101.7	112.5	107	93	99.1	87.9	1068.5
Evaporation	E	\	mm/month	229.4	205.2	171.2	191.2	109	69.8	69.6	79.2	121.8	225.6	189	278.2	1939.2
Crop Factor	C			0.80	0.80	0.80	0.75	0.70	0.65	0.65	0.70	0.75	0.80	0.80	0.80	
OUTPUTS																
Evapotranspiration	ET	ExC	mm/month	183.5	164.2	137.0	143.4	76.3	45.4	45.2	55.4	91.4	180.5	151.2	222.6	1495.98
Percolation	B	(DIR/7)xD	mm/month	108.5	98	108.5	105.0	108.5	105.0	108.5	108.5	105.0	108.5	105.0	108.5	1277.5
Outputs		ET+B	mm/month	292.0	262.16	245.5	248.4	184.8	150.4	153.7	163.9	196.4	289.0	256.2	331.1	2773.5
INPUTS																
Retained Rainfall	RR	R*Rf	mm/month	52.16	48.72	48.72	69.84	71.92	82.48	81.36	90	85.6	74.4	79.28	70.32	854.8
Effluent Irrigation	W	(QxD)/L	mm/month	66.4	60.0	66.4	64.3	66.4	64.3	66.4	66.4	64.3	66.4	64.3	66.4	782.1
Inputs		RR+W	mm/month	118.6	108.7	115.1	134.1	138.3	146.8	147.8	156.4	149.9	140.8	143.6	136.7	1636.9
STORAGE CALCULATION																
Storage remaining from previous month			mm/month	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storage for the month	S	(RR+W)-(ET+B)	mm/month	-173.4	-153.4	-130.3	-114.3	-46.5	-3.6	-6.0	-7.5	-46.5	-148.2	-112.6	-194.3	-461.5
Cumulative Storage	M		mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum Storage for Nominated Area	N		mm	0.00												
	V	NxL	L	0												
LAND AREA REQUIRED FOR ZERO STORAGE			m^2	97	98	118	126	206	331	321	314	203	108	127	89	

MINIMUM AREA REQUIRED FOR ZERO STORAGE: 331.4 m^2

Nitrogen Balance

Site Address: Lot 2, 18 Pratts Road, Kinglake West

SUMMARY - LAND APPLICATION AREA REQUIRED BASED NITROGEN BALANCE 249 m^2

INPUT DATA[1]

Wastewater Loading		
Hydraulic Load	750	L/day
Effluent N Concentration	25	mg/L
% N Lost to Soil Processes (Geary & Gardner 1996)	0.2	Decimal
Total N Loss to Soil	3750	mg/day
Remaining N Load after soil loss	15000	mg/day

Nutrient Crop Uptake					
Crop N Uptake	220	kg/ha/yr	which equals	60.27	$mg/m^2/day$

NITROGEN BALANCE BASED ON ANNUAL CROP UPTAKE RATES

Minimum Area required with zero buffer		
Nitrogen	249	m^2

Determination of Buffer Zone Size for a Nominated Land Application Area (LAA)		
Nominated LAA Size	300	m^2
Predicted N Export from LAA	-1.13	kg/year
Minimum Buffer Required for excess nutrient	0	m^2

APPENDIX vi

BORELOGS

ECO VISION Australia
ABN 96 203 943 465
Land Management Consultants

BORELOG SHEET

CLIENT: Millar Merrigan C/O Travis Davies
PROJECT ADDRESS: 18 Pratts Road, Kinglake West
JOB NO: 45EO23 LCA SUB
FIELD WORK DATE: 14/02/23
LOGGED BY: Rob Krainz
DRILLING METHOD: 90mm Mechanical Auger, 100mm Earth Auger, Shovel and Crowbar

	BORELOG 1				BORELOG 2		
DEPTH	Soil Profile	Clr	Fill	DEPTH	SOIL PROFILE	Clr	Fill
100mm	Loam (Or Br)			100mm	Loam (Or Br)		
200mm	Moist			200mm	Moist		
300mm	Clay Loam (Or Br)			300mm			
400mm	Damp			400mm	Clay Loam (Or Br)		
500mm				500mm	Damp		
600mm				600mm			
700mm				700mm			
800mm				800mm			
900mm	Light Clay (Or Br)			900mm			
1000mm	Damp			1000mm	Light Clay (Or Br)		
1100mm	Medium Clay (Or Br)			1100mm	Damp		
1200mm	Damp			1200mm	Medium Clay (Or Br)		
1300mm	Slightly Mottled			1300mm	Damp		
1400mm				1400mm	Slightly Mottled		
1500mm				1500mm			
1600mm	End Log			1600mm	End Log		
1700mm				1700mm			
1800mm				1800mm			
1900mm				1900mm			
2000mm				2000mm			
2100mm				2100mm			

	BORELOG 3				BORELOG 4		
DEPTH	Soil Profile	Clr	Fill	DEPTH	SOIL PROFILE	Clr	Fill
100mm	Loam (Or Br)			100mm	Loam (Or Br)		
200mm	Moist			200mm	Moist		
300mm	Clay Loam (Or Br)			300mm			
400mm	Clay Loam (Or Br)			400mm	Clay Loam (Or Br)		
500mm	Damp			500mm	Damp		
600mm				600mm			
700mm				700mm			
800mm	Light Clay (Or Br)			800mm			
900mm	Damp			900mm	Light Clay (Or Br)		
1000mm				1000mm	Damp		
1100mm	Medium Clay (Or Br)			1100mm			
1200mm	Damp			1200mm	Medium Clay (Or Br)		
1300mm	Slightly Mottled			1300mm	Damp		
1400mm				1400mm	Slightly Mottled		
1500mm				1500mm			
1600mm	End Log			1600mm	End Log		
1700mm				1700mm			
1800mm				1800mm			
1900mm				1900mm			
2000mm				2000mm			
2100mm				2100mm			

Planning Report

18 PRATTS ROAD KINGLAKE WEST

Two Lot Subdivision in a Bushfire Management Overlay

Reference: 29923

Millar | Merrigan
Land Development Consultants

Millar & Merrigan Pty Ltd
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PREPARED BY MILLAR MERRIGAN ON BEHALF OF:

18 Pratts Road, Kinglake West

FORMAL LAND DESCRIPTION:

Crown Allotment 25 Section B Township of Pheasant Creek Parish of Kinglake. Subject to crown grant reservations and exceptions as specified in TP688136V

PROPOSAL:

Two Lot Subdivision in a Bushfire Management Overlay

RESPONSIBLE AUTHORITY:

Murrindindi Shire Council

DOCUMENT STATUS:

Version: Date	Description	Prepared by	Checked by
No 1: June 2023	Planning Application	D Gleeson	K Silic

CONTENTS

EXECUTIVE SUMMARY

Millar Merrigan have been engaged to lodge this planning application for a ***Two Lot Subdivision in a Bushfire Management Overlay*** at ***18 Pratts Road Kinglake West.***

The land is contained within the *Township Zone,* which supports residential development in small towns that respects the surrounding character. A permit is required for subdivision.

The proposed lots are generous in size, the existing dwelling is to be retained and a new vacant lot provided to the north, the proposed two lot subdivision is in line with character of the area.

The layout has considered the *Bushfire Management Overlay* and a Bushfire Management Statement accompanies this submission, which analyses the bushfire hazard of the site and surrounds. All aspects of the water, access and defendable space requirements can be met and are shown on the attached Bushfire Management Plan, which proposes a construction standard of BAL29 would be appropriate for the site, given the higher risk surrounding landscape. A permit is triggered for subdivision under this overlay.

The title stipulates that the site is subject to crown grant, reservations and exceptions as specified in TP688136V, which specifies the ability to sink water wells, mining of mineral and petroleum extract from the site. The proposed subdivision does not contravene this crown grant.

This report seeks to demonstrate how the subdivision is appropriate in terms of achieving State and Local planning objectives and policies.

1 SITE DESCRIPTION

The site is a modified rectangular shaped lot of 4,055sqm, located on the east side of Pratts Road, with an abuttal to Marks Road to the north. It contains a single storey weatherboard dwelling located towards the southern aspect of the lot, with four detached galvanised iron sheds and two water tanks. Access is gained via an existing gravel crossing in the south-west corner of the site, with a gravel driveway that loops around the sheds. The site is mostly cleared and laid to lawn, though there are several trees located around the perimeter.

The land is gently sloping and falls approximately 2.5m from south-east to north-west. Refer to the Site and Context Description (29923P1) for further details.

Figure 1: Aerial Image

Photograph 1: Existing dwelling to be retained.

Photograph 2: Existing gravel driveway south of the dwelling

Photograph 3: Existing crossover

Photograph 4: Looking south across the site at the rear of the existing sheds and dwelling.

Photograph 5: Panoramic view, looking south across the site from the northern boundary

Photograph 6: Panoramic view, looking north across the site from the rear of the sheds.

2 NEIGHBOURHOOD DESCRIPTION

The site is contained within an established residential area close to the central hub of Kinglake West. Lot sizes have been traditionally large and developed with single dwellings; however, some infill subdivisions have occurred over recent years and reduced average lot sizes to around 1000-2000sqm.

Low scale detached buildings are the dominant built form and on larger lots there is an established garden setting.

Supermarkets and public open spaces are located in an industrially zoned area, within 1km south-east of the site, with a more expansive service network in Kinglake, some 9km south-east. The site is zoned Township, whilst surrounding land uses include Low Density Residential and Farming Zone. See Figure 2 below.

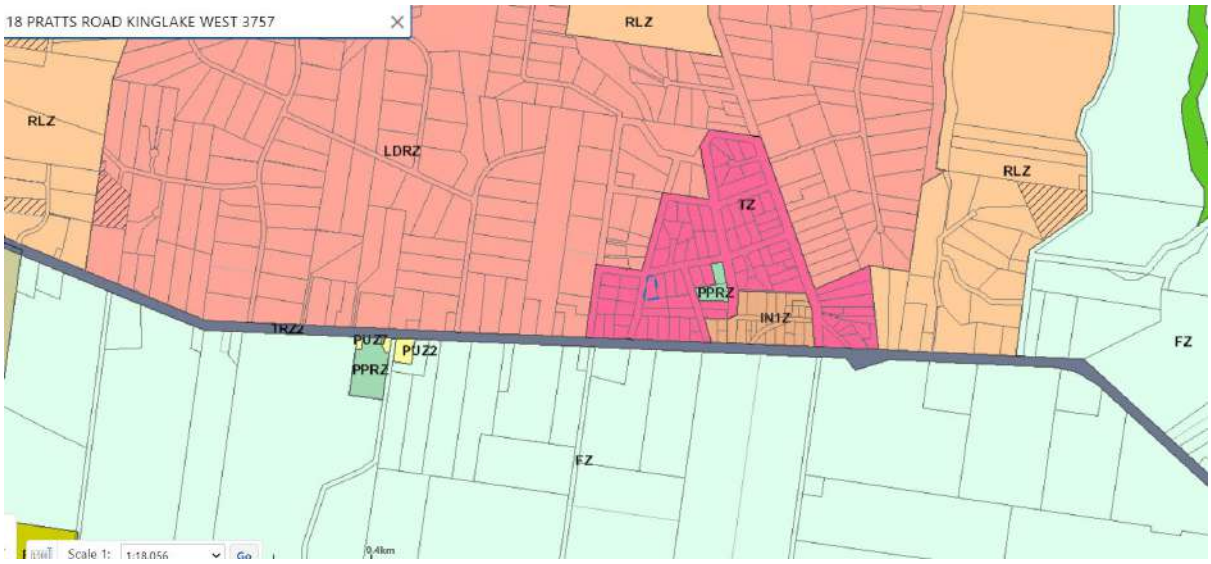


Figure 2: Surrounding Land Use

3 PROPOSAL

Given the particular site conditions, the existing buildings on site, the surrounding neighbourhood character and the applicable planning controls, it was considered appropriate to subdivide the land into two lots, retain the existing dwelling and provide a vacant lot to the north of the site.

3.1 SUBDIVISION LAYOUT

Proposed lot 1 comprises the southern part of the site and contains the existing dwelling and outbuildings, all to be retained. It offers an area of 2,048sqm. The existing gravel driveway will be retained to continue to service the dwelling and sheds.

Proposed lot 2 comprises the northern portion of the site, and offers 2,007sqm. A proposed 3.5m wide gravel crossover in the north-east corner of the site will be introduced to provide exclusive access to the vacant lot. No development or formal car parking facilities have been proposed, however an indicative driveway design shows that there is space on site to accommodate the future development of a single dwelling, with ample room for a turning zone within the 600sqm building envelope.

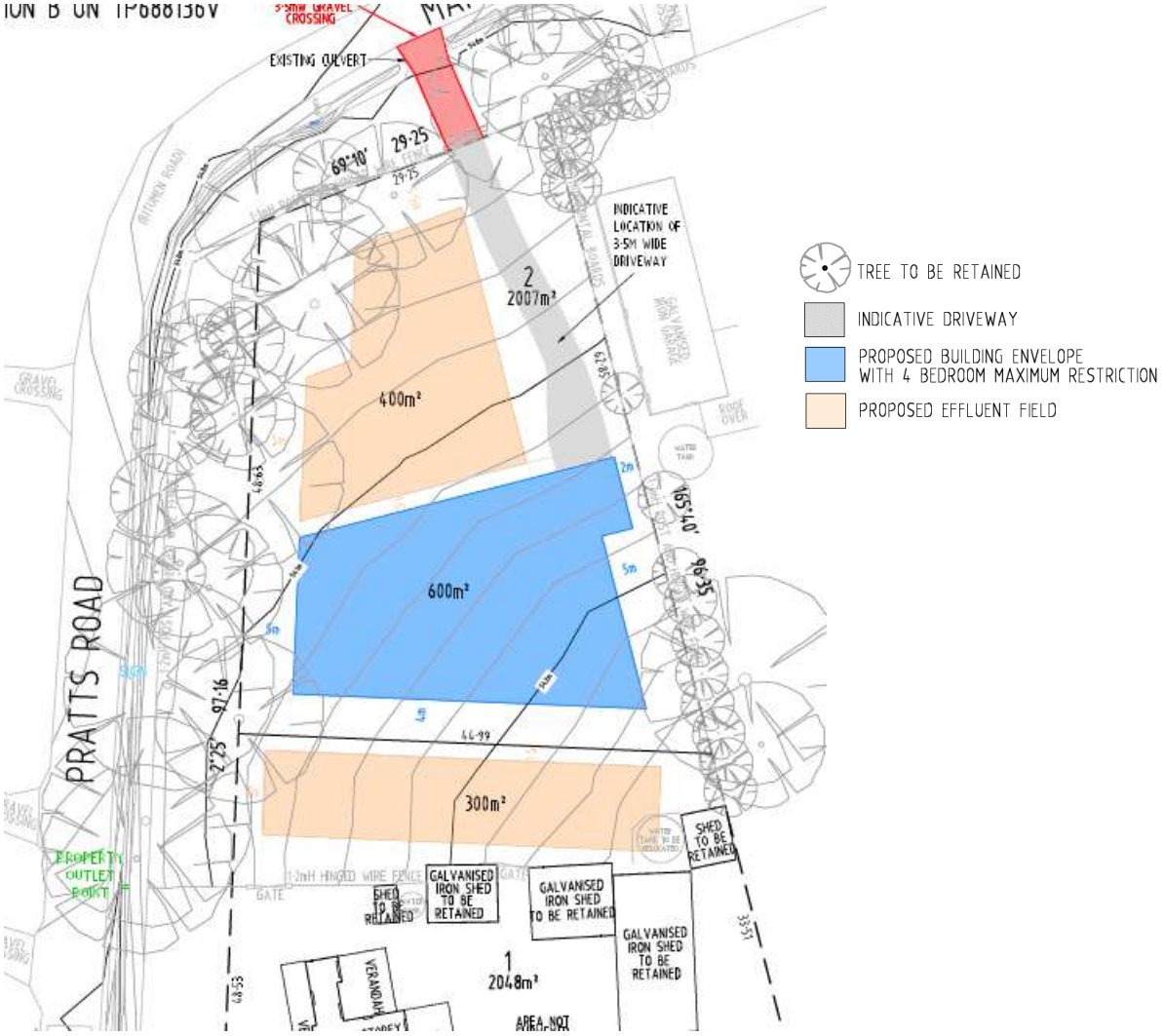


Figure 3: Proposed plan of subdivision shows building envelope on Lot 2 and effluent fields on both lots.

3.2 VEGETATION REMOVAL

The subdivision does not require the removal of any trees.

3.3 INFRASTRUCTURE SERVICING

The land is connected to power, with no reticulated water or sewer available in the area. The existing dwelling is serviced by two large water tanks. The new lot will be connected to services in accordance with the requirements of relevant authorities and water tanks will be provided.

A full Land Capability Assessment by is provided Eco Vision Australia and accompanies this submission. The findings are as follows:

- The existing primary (septic) system and absorption trenches servicing the existing three-bedroom dwelling on lot 1 will be decommissioned and replaced with a wastewater system capable of treating wastewater to secondary treatment levels with dispersal provided by Subsurface Irrigation (SSI) towards the northern internal boundary.
- Utilising subsurface irrigation (for proposed lot 2) in conjunction with secondary treatment the Land Application Area (LAA) is sized at a minimum of 300m² using the water balance as the most limiting factor based on a 3-bedroom capacity and four-bedroom capacity 400;
- Preferable location of the LAA for SSI is depicted on the plans as toward the northern boundaries of respective lot;

The location of both effluent fields is depicted on the plan of subdivision.

4 PLANNING POLICY FRAMEWORK

The following is an outline of the planning policy framework relevant to the site. A comprehensive analysis of the proposal against this matrix of applicable policy is provided below.

Zoning	
Clause 32.05	Township Zone
Overlays	
Clause 44.06	Bushfire Management Overlay
Planning Policy Framework (PPF)	
SPPF	
Clause 12.05	Significant Environments and Landscapes
Clause 13.02	Bushfire
Particular Planning Provisions	
Clause 53.02	Bushfire Planning
Clause 56	Residential Subdivision
Clause 65	Decision Guidelines

4.1 PERMIT TRIGGERS

The following table outlines the permit triggers that apply to the proposal:

Planning Control	Permit Trigger
Clause 32.05 – TZ	• Subdivision
Clause 44.06 – BMO	• Subdivision

4.2 ZONING

Pursuant to the Murrindindi Planning Scheme, the property is contained within the *Township Zone (TZ)*. The proposal is in accordance with the relevant purposes of the zone, which alongside implementing the Planning Policy Framework and Municipal Strategic Statement are:

- *To provide for residential development and a range of commercial, industrial and other uses in small towns.*
- *To encourage development that respects the neighbourhood character of the area.*
- *To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations*.

Pursuant to *Clause 32.05-5* a permit is required to subdivide land and an application must meet the requirements of *Clause 56*. Furthermore, each lot must be provided with reticulated sewerage, if available. If reticulated sewerage is not available, the application must be accompanied by:

- *In the absence of reticulated sewerage, include a Land Capability Assessment on the risks to human health and the environment of an on-site wastewater management system constructed, installed or altered on the lot in accordance with the Environment Protection Regulations under the Environment Protection Act 2017.*
- *A plan which shows a building envelope and effluent disposal area for each lot.*

Response –TZ:
The proposed subdivision wholly accords with the intent of the zone given the generous lot sizes and retention of the existing dwelling. • **Proposed lot 1 at 2,048sqm is more than sufficient to accommodate the existing dwelling and outbuildings as well as an updated on site effluent system, with appropriate building setbacks and spacing.** • **Proposed lot 2 at 2,007sqm provides a generous sized and well dimensioned vacant lot capable of accommodating a detached dwelling development and onsite effluent treatment. Access via a proposed gravel crossover has been provided.** **A permit is triggered under the zone for the subdivision.** **The layout of the subdivision respects the surrounding neighbourhood character by ensuring that the resultant lots are generous in size and allow ample space for landscaping between dwellings. There are some examples of 2 lot subdivisions within the immediate area, namely in Watsons Road.**

4.3 OVERLAYS

The subject site is covered by a *Bushfire Management Overlay (Clause 44.06).* The proposal is in accordance with the relevant purposes of the overlay, which alongside implementing the Municipal Planning Strategy and Planning Policy Framework are:

- *To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.*
- *To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.*
- *To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.*

Pursuant to *Clause 44.06-2* a permit is required to subdivide land.

Response – BMO:

A due diligence has been undertaken regarding the bushfire risk associated with the site and surrounds. Please refer to the accompanying Bushfire Management Statement that responds to all requirements of this Clause.
 	
A permit which creates a lot for a single dwelling on land zoned for residential or rural residential purposes must include the following condition:
 	
• ***"Before the statement of compliance is issued under the Subdivision Act 1988 the owner must enter into an agreement with the responsible authority under Section 173 of the Planning and Environment Act 1987. The agreement must:***
  • ***State that it has been prepared for the purpose of an exemption from a planning permit under Clause 44.06-2 of the [*insert name of applicable planning scheme] Planning Scheme.***
  • ***Incorporate the plan prepared in accordance with Clause 53.02-4.4 of this planning scheme and approved under this permit.***
  • ***State that if a dwelling is constructed on the land without a planning permit that the bushfire protection measures set out in the plan incorporated into the agreement must be implemented and maintained to the satisfaction of the responsible authority on a continuing basis.***

- ***The land owner must pay the reasonable costs of the preparation, execution and registration of the Section 173 Agreement.***"

4.4 PLANNING POLICY FRAMEWORK (PPF)

The PPF seeks to ensure that:

> *The objectives of Planning in Victoria are fostered through appropriate land use and development planning policies and practices which investigate relevant environmental, social and economic factors in the interests of net community benefit and sustainable development.*

Integrated decision making in part states that:

> *Planning authorities and responsible authorities should endeavour to integrate the range of policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations.*

The PPF is structured around the following themes; those relevant to this application are discussed below:

SETTLEMENT (CLAUSE 11)

This clause aims to ensure that sustainable development is located within areas that are well serviced, and easily accessible, and that development is guided by Metropolitan strategies within Melbourne, with the concentration of residential areas located within activity centres that are highly accessible to the community. The policy also aims to ensure a sufficient supply of urban land for many different uses within the Metropolitan areas of Melbourne. Clause 02.03 Settlement states:

> *The Kinglake Ranges area comprises the Kinglake, Kinglake West - Pheasant Creek, Kinglake Central and Castella settlements. The area is unserviced, with no reticulated water or sewerage. Most of this area was affected by the 2009 bushfires and has undergone an active rebuilding program.*

Council seeks to develop its established townships and settlements by:

- *Supporting each township as the focus of residential, commercial, community and service hub for its surrounding area.*
- *Concentrating development in locations free from environmental constraints, where environmental values are protected and the level of community safety is improved.*
- *Support the function and residential growth of smaller townships and settlements.*

Response - Settlement:

- **The land is well located within an existing urban area and zoned for residential purposes.**
- **The proposal responds to site and neighbourhood conditions and will aid in provision of diverse and affordable housing opportunities within proximity to local facilities and services.**
- **The Kinglake West Township is located within 1km, the proposal increases walkability to essential services, reducing the reliance on cars.**

ENVIRONMENT AND LANDSCAPE (CLAUSE 12)

- This Clause aims to protect the health and diversity of ecological systems, and to conserve areas that are identified with environmental and landscape values. Planning should protect, restore and enhance sites and features of nature conservation, biodiversity, geological or landscape value. This clause addresses the relevant objectives of *Significant Environments and Landscapes (Clause 12.05).*

Response – Environment and Landscape:

- **The proposed subdivision will not cause any unacceptable impacts to landscape or the environment. No trees are marked for removal and there is ample space for introduction of more landscaping, that must respond to the bushfire risk of the site.**
- **The proposed subdivision creates 2 lots of a generous size, with extensive space able to accommodate a new dwelling, associated outbuildings and garage whilst still retaining space for the future planting of indigenous species with high environmental value.**
- **The subject site is not in an area that is particularly recognised for its environmental sensitivity or landscape significance.**

ENVIRONMENTAL RISKS AND AMENITY (CLAUSE 13)

This policy aims to ensure the resilience, safety and amenity of communities. It seeks to ensure that best environmental and risk management practices are implemented to avoid or minimise natural and human made environmental hazards, and plan for climate change impacts. Clause 13.02 addresses concerns related to Bushfire hazard, given the site is within a high risk Bushfire area. According to *Clause 02.03 – Environmental Risks and Amenity*:

> *Murrindindi Shire is subject to significant bushfire hazard, particularly in the southern section. This hazard is due to the nature and extent of vegetation, topography, potential for extreme fire behaviour arising from drought and climate change, the dispersed and ad-hoc nature of development and lack of infrastructure and access in some locations.*

Consequently, the proposed design needs to consider the bushfire risk associated with this site and the wider landscape.

Response – Environmental Risks and Amenity:

- **The site is located within a Designated Bushfire Area and it is recognised that Kinglake is a high-risk area in terms of bushfire hazard.**
- **The proposed subdivision does not cause any increase to the risk to life and property. The proposed vacant lot is large enough to accommodate dwelling development, with generous setbacks and space for water tanks.**
- **Pease refer to the attached BMS for more information regarding the bushfire risk of the site and surrounds.**

HOUSING (CLAUSE 16)

This Clause aims to provide housing diversity, and to ensure that housing is well located to facilitate housing sustainability. The policy aims to ensure that new housing is appropriately sited for a range of income groups to choose housing in well-serviced locations, with access to services, walkability to activity centres, public transport, schools and open space. This clause addresses the relevant

objectives of *Residential Development in Non-Serviced Towns (Clause 16.02-1L)*, which specifically mentions the Kinglake area:

- *Support the residential redevelopment of settlements within the Kinglake Ranges, while having regard to environmental values and constraints of the area.*

Housing (Clause 02.03)

The established townships and settlements offer a significant opportunity to expand and provide living opportunities in locations with infrastructure and leisure facilities, where natural environment is protected and where a high level of community safety is facilitated.

Council seeks to manage the development of its towns by:

- *Promoting and facilitate further residential development and housing diversity in established townships to meet the needs of the community, including affordable housing, public housing and aged care accommodation.*
- *Allowing the subdivision and development of Rural Living land where environmental benefits such as the protection of native vegetation and treatment of waste water are demonstrated.*
- *Supporting residential growth that is sustainable.*
- *Facilitating the rebuilding of housing and residential diversity in towns and communities affected by natural disasters, including the 2009 bushfires.*

Response - Housing:
The site is located within a Township Zone whereby subdivision is encouraged that creates opportunities for future development. **The proposed subdivision wholly accords with the polices for housing in that it sees retention of the existing dwelling on a more compact allotment and provision of a new vacant lot suitable for a future detached dwelling. The various policies are met as follows:** • **Provision of lots in excess of 2000sqm is appropriate for this area, allowing more development which aligns with the intention of the Township zoning, whilst respecting the low density of the surrounding neighbourhood;** • **The site is within close proximity to the range of services that the township of Kinglake West has to offer;** • **All services are available to the land, with the exception of sewer and water, and an effluent field and water tanks are indicated on both lots to compensate for this;** • **Ample space is maintained across the site for additional landscaping.** • **The application responds to the need to encourage regrowth in the township after the 2009 bushfires, providing a new lot to facilitate additional housing opportunities.**

4.5 PARTICULAR PROVISIONS

Clause 53.02 Bushfire Planning

The purpose of this Clause is:

- *To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.*
- *To ensure that the location, design and construction of development appropriately responds to the bushfire hazard.*

- *To ensure development is only permitted where the risk to life, property and community infrastructure from bushfire can be reduced to an acceptable level.*
- *To specify location, design and construction measures for a single dwelling that reduces the bushfire risk to life and property to an acceptable level.*

This clause applies to an application which is subject to the *Clause 44.06 - Bushfire Management Overlay*.

Response – Bushfire Planning
A full response to the bushfire policy is provided in the attached Bushfire Management Statement.

5 CLAUSE 56 - RESIDENTIAL SUBDIVISION

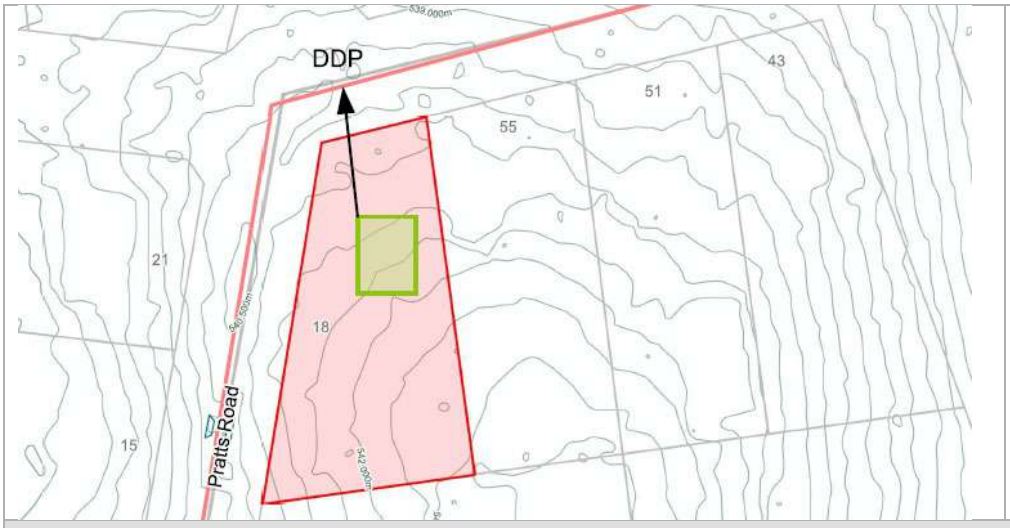
Alongside implementing the Municipal Planning Strategy and the Planning Policy Framework, the purposes of *Clause 56: Residential Subdivision* relevant to this application are:

- *To create livable and sustainable neighbourhoods and urban places with character and identify;*
- *To achieve residential subdivision outcomes that appropriately respond to the site and its context for:*
  - *Metropolitan Melbourne growth areas;*
  - *Infill sites within established residential areas; and*
  - *Regional cities and towns.*
  - *To ensure residential subdivision design appropriately provides for:*
  - *Policy implementation;*
  - *Livable and sustainable communities;*
  - *Residential lot design;*
  - *Urban landscape;*
  - *Access and mobility management;*
  - *Integrated water management;*
  - *Site management; and*
  - *Utilities.*

Pursuant to this clause, an application to subdivide land must meet all of the objectives included in the clauses specified in the zone and should meet all of the standards included in the clauses specified in the zone.

CLAUSE 56 ASSESSMENT - 2 LOTS	
STANDARD C6: Neighbourhood character	
Response: **The subdivision provides generous lot sizes consistent with the existing character of the area and ensures that space for landscaping is maintained.**	✔ **Standard** ✔ **Objective**
STANDARD C8: Lot area and building envelopes	
Response: **The vacant lot is 2,007sqm and can easily contain a detached dwelling and associated outbuildings with generous setbacks in all directions and without encroaching on the retained trees along the western side of the site. Given the BMO, a building envelope has been provided to indicate**	✔ **Standard** ✔ **Objective**

appropriate setbacks can be achieved for the defendable space requirements.	
STANDARD C9: Solar orientation of lots	
Response: Both lots have appropriate solar access given the orientation of the site.	✔ Standard ✔ Objective
STANDARD C11: Common area	
Response: N/A, no common property areas area provided.	✔ N/A
STANDARD C21: Lot access	
Response: The existing gravel crossing and driveway is to be retained to continue to provide access to the existing dwelling. A new gravel crossover is proposed in the north-east of the site off Marks Road, to provide access to the vacant lot. An indicative driveway design shows that there is ample space for vehicles to turn around and leave the site in a forward direction. The driveway and crossing are 3.5m wide to meet the requirements of CFA access, given the BMO.	✔ Standard ✔ Objective
STANDARD C22: Drinking water supply	
Response: Reticulated water is currently unavailable to the site and water tanks can be utilised to service the new lot as per existing conditions for the dwelling on Lot 1.	✔ Standard ✔ Objective
STANDARD C23: Reused and recycled water	
Response: There is ample space available on site for the provision of water tanks.	✔ Standard ✔ Objective
STANDARD C24: Waste water management	
Response: The subject site does not have reticulated sewer available and will be provided with effluent fields on both lots to treat wastewater on site.	✔ Standard ✔ Objective
STANDARD C25: Stormwater management	
Response: There is no record of underground drainage adjacent to the site according to advice from Council. Therefore, all site drainage including from the overflow of onsite water retention is to be directed to the northern part of the site. Discharge must be connected table drain of Marks Road adjacent to the DDP as per the suggestion below. It is submitted that the proposal will not result in damage or inconvenience to residents from urban run-off.	✔ Standard ✔ Objective



STANDARD C26: Site management	
Response: **The site will be managed to the satisfaction of the responsible authority prior to and during any construction works.**	✔ **Standard** ✔ **Objective**
STANDARD C27: Shared trenching	
Response: **Any new servicing will utilise shared trenching where possible.**	✔ **Standard** ✔ **Objective**
STANDARD C28: Electricity, telecommunications and gas	
Response: **Services that are available to the site will be supplied to each lot in accordance with the requirements of the relevant authorities.**	✔ **Standard** ✔ **Objective**
NB: Some matters covered by the objectives and standards can occur after a permit for the subdivision has been issued, through a condition of permit. Considering some matters at a later date allows planning assessment to occur at an appropriate time in the design and construction process and can provide for faster, more cost-effective decision making.	

6 CLAUSE 65 - DECISION GUIDELINES

Before deciding on an application or approval of a plan, the responsible authority must consider a series of matters, and these seek to ensure good decision making. In addition to consideration of applicable policies and strategies as outlined in this report, the responsible authority must make a judgement on whether a proposal presents an appropriate outcome with respect to amenity, land use conflicts, environmental aspects and the orderly planning of the wider area.

It is submitted that this proposal responds to policy requirements and specific opportunities and constraints to offer an outcome that will make a positive contribution to the municipality. There are no fundamental shortfalls in the matters to be considered and as such we consider approval of this application to be an example of good decision making.

7 CONCLUSION

We submit that the proposed two lot subdivision is appropriate for the following reasons:

- The subdivision complies with the intent of the *Township Zone* which supports the opportunity for infill development that respects the surrounding character;
- The layout does not prejudice the intent of the *Bushfire management Overlay*, with appropriate setbacks to the higher risk vegetation to the west and north. The design meets the requirements for water, access, defendable space and suggests a construction standard of BAL29, given the higher risk of the wider landscape.
- The proposal meets all applicable objectives and standards of *Clause 56 Residential Subdivision*;
- Approval of the application is considered to satisfy the Decision Guidelines of *Clause 65*.

Millar I Merrigan

The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 08274 FOLIO 712

Security no : 124105903213Q
Produced 08/05/2023 08:55 AM

CROWN GRANT

LAND DESCRIPTION

Crown Allotment 25 Section B Township of Pheasant Creek Parish of Kinglake.

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
TRAVIS SCOTT DAVIES of 18 PRATTS ROAD KINGLAKE WEST VIC 3757
AS490403L 30/08/2019

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AS490404J 30/08/2019
QUDOS MUTUAL LTD

Any crown grant reservations exceptions conditions limitations and powers noted on the plan or imaged folio set out under DIAGRAM LOCATION below. For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP688136V FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 18 PRATTS ROAD KINGLAKE WEST VIC 3757

ADMINISTRATIVE NOTICES

NIL

eCT Control 19531K DENTONS AUSTRALIA
Effective from 30/08/2019

DOCUMENT END

TITLE PLAN		EDITION 2	TP 888156V

Location of Land

Parish: KINGLAKE
Township: PHEASANT CREEK
Section: B
Crown Allotment: 25
Crown Portion:

Last Plan Reference:
Derived From: VOL 8274 FOL 712
Depth Limitation: 50 FEET

Notations

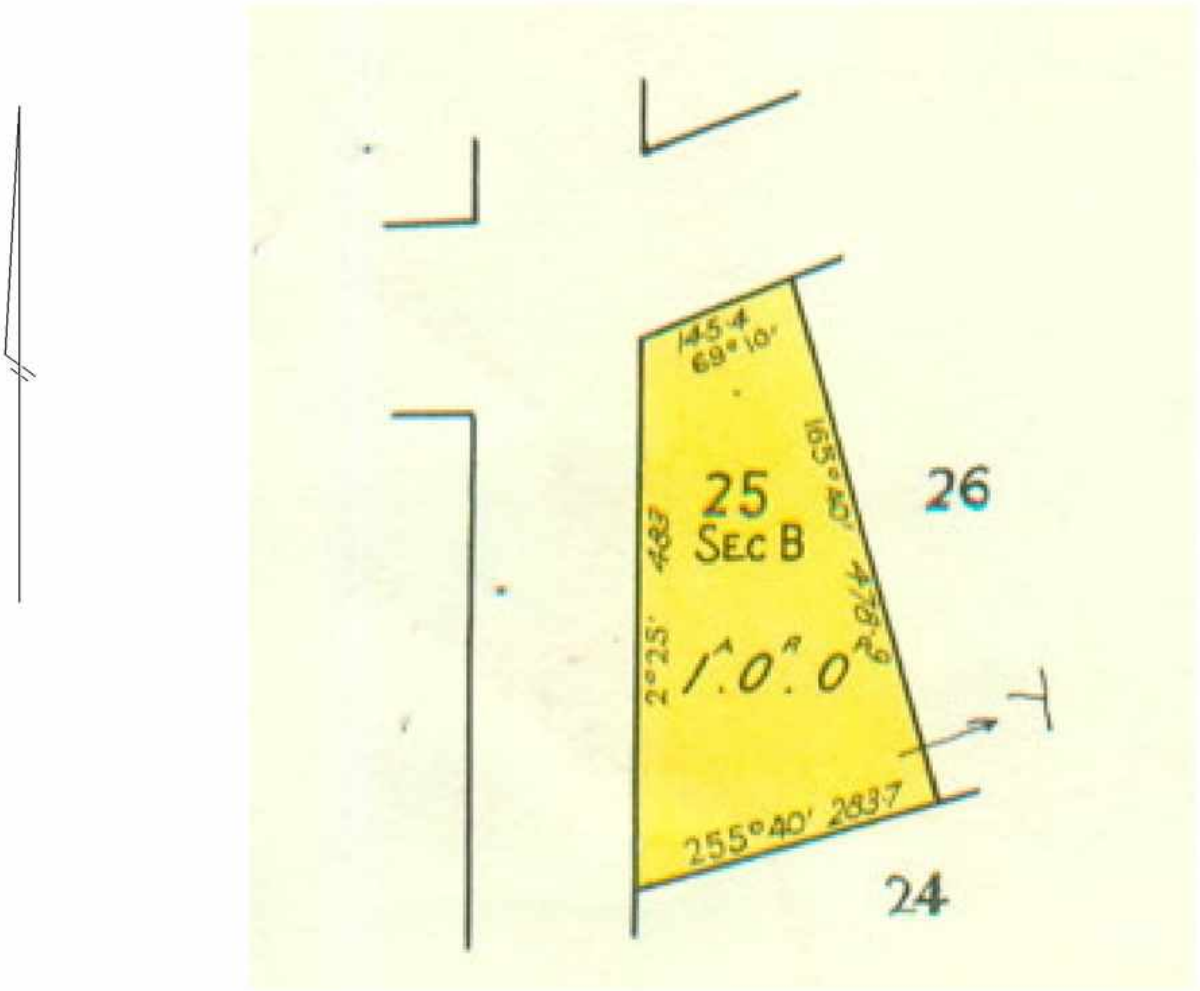
SUBJECT TO THE RESERVATIONS EXCEPTIONS CONDITIONS AND POWERS CONTAINED IN CROWN GRANT VOL. 8274 FOL. 712 AND NOTED ON SHEET 2 OF THIS PLAN

ANY REFERENCE TO MAP IN THE TEXT MEANS THE DIAGRAM SHOWN ON THIS TITLE PLAN

Description of Land / Easement Information

THIS PLAN HAS BEEN PREPARED FOR THE LAND REGISTRY, LAND VICTORIA, FOR TITLE DIAGRAM PURPOSES AS PART OF THE LAND TITLES AUTOMATION PROJECT
COMPILED: 14/11/2000
VERIFIED: GB

COLOUR CODE
Y = YELLOW



LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links		Sheet 1 of 2 sheets

LAND DESCRIPTION INCLUDING RESERVATIONS EXCEPTIONS CONDITIONS AND POWERS SHOWN ON THE CROWN GRANT

ALL THAT PIECE OF LAND in the said State containing one acre — more or less being Allotment twenty-five of Section B in the Township of Pheasant Creek Parish of Kinglake County of Anglesey

delineated with the measurements and abuttals thereof in the map drawn in the margin of these presents and therein colored yellow PROVIDED nevertheless that the grantee shall be entitled to sink wells for water and to the use and enjoyment of any wells or springs of water upon or within the boundaries of the said land for any and for all purposes as though she held the land without limitation as to depth EXCEPTING nevertheless unto Us Our heirs and successors all gold and silver and minerals as defined in the *Mines Act* 1928 in upon or under or within the boundaries of the land hereby granted AND reserving to Us Our heirs and successors free liberty and authority for Us Our heirs and successors and Our and their licensees agents and servants at any time or times hereafter to enter upon the said land and to search and mine therein for gold silver and minerals as aforesaid and to extract and remove therefrom any such gold silver and minerals and to search for and work dispose of and carry away the said gold silver and minerals lying in upon or under the land hereby granted and for the purposes aforesaid to sink shafts make drives erect machinery and to carry on any works and do any other things which may be necessary or usual in mining and with all other incidents that are necessary to be used for the getting of the said gold silver and minerals and the working of all mines seams lodes and deposits containing such gold silver and minerals in upon or under the land hereby granted AND ALSO reserving to Us Our heirs and successors—

(i) all petroleum as defined in the *Mines (Petroleum) Act* 1935 on or below the surface of the said land and

(ii) the right of access for the purpose of searching for and for the operations of obtaining such petroleum in any part or parts of the said land and

(iii) rights of way for access and for pipe-lines and other purposes necessary for obtaining and conveying such petroleum in the event of such petroleum being obtained in any part or parts of the said land.

PROVIDED ALWAYS that the said land is and shall be subject to be resumed for mining purposes under Section 168 of the *Land Act* 1928.
AND PROVIDED also that the said land is and shall be subject to the right of any person being the holder of a miner's right or of a mining lease or mineral lease under the *Mines Act* 1928 or any corresponding previous enactment to enter therein and to mine for gold silver or minerals within the meaning of the said Act and to erect and occupy mining plant or machinery thereon in the same manner and under the same conditions and provisions as those to which such person would for the time being be entitled to mine for gold and silver in and upon Crown lands PROVIDED that compensation shall be paid to the said GRANTEE

her executors administrators assigns or transferees by such person for surface damage to be done to such land by reason of mining thereon such compensation to be determined as provided for the time being by law and the payment thereof to be a condition precedent to such right of entry.

MODIFICATION TABLE

RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN

PLAN NUMBER

TP688136V

WARNING: THE IMAGE OF THIS DOCUMENT OF THE REGISTER HAS BEEN DIGITALLY AMENDED. NO FURTHER AMENDMENTS ARE TO BE MADE TO THE ORIGINAL DOCUMENT OF THE REGISTER.

AFFECTED LAND/PARCEL	LAND/PARCEL IDENTIFIER CREATED	MODIFICATION	DEALING NUMBER	DATE	EDITION NUMBER	ASSISTANT REGISTRAR OF TITLES
CROWN DESCRIPTION		RECTIFICATION	AF387721K	8/10/07	2	N. NG