Notice of Application for a Planning Permit

Cardinia

The land affected by the application is located at:	L1-3 TP169609 V9114 F953 45 Reynolds Road, Pakenham VIC 3810
The application is for a permit to:	**Use and Development of the Land for a Dwelling, Construction of an crossover and accessway, and Removal of Vegetation**

A permit is required under the following clauses of the planning scheme:

Clause 35.04-1	Use of the Land for a Dwelling
Clause 35.04-5	Construct a building or carry out works associated with a use in Section 2 of Clause 35.04-1. & Construct a building which is within the nominated setbacks.
Clause 42.01-2	Construct a building or construct or carry out works. & Remove, destroy or lop any vegetation, including dead vegetation.
Clause 44.06-2	Construct a building or construct or carry out works associated with Accommodation (Dwelling).
Clause 52.17-1	Remove, destroy or lop native vegetation, including dead native vegetation.

APPLICATION DETAILS

The applicant for the permit is:	**XWB Consulting**
Application number:	**T250028**

You may look at the application and any documents that support the application at the office of the Responsible Authority:

Cardinia Shire Council, 20 Siding Avenue, Officer 3809.

This can be done during office hours and is free of charge.

Documents can also be viewed on Council's website at cardinia.vic.gov.au/advertisedplans or by scanning the QR code.

HOW CAN I MAKE A SUBMISSION?

This application has not been decided. You can still make a submission before a decision has been made. The Responsible Authority will not decide on the application before:	09 June 2026

WHAT ARE MY OPTIONS?

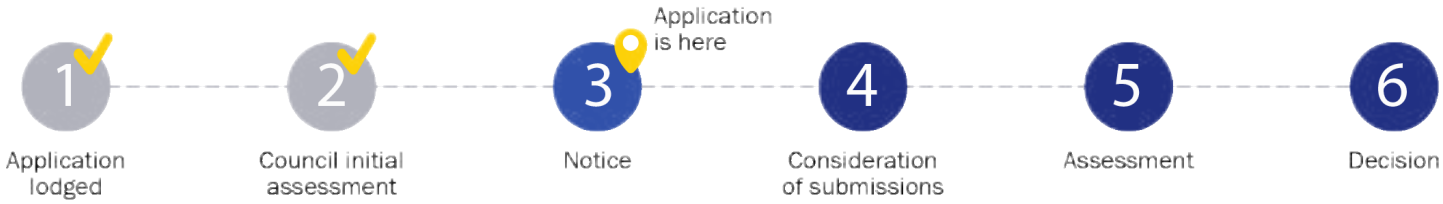
Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

If you object, the Responsible Authority will notify you of the decision when it is issued.

An objection must:

- be made to the Responsible Authority in writing;
- 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.



Cardinia ePlanning

Application Summary

Portal Reference	A12543RX

Basic Information

Proposed Use	Use and development of the land for a dwelling
Current Use	Vacant rural land
Cost of Works	$550,000
Site Address	Lot 1 TP166605X being part of 45 Reynolds Road Pakenham

Covenant Disclaimer

Does the proposal breach, in any way, an encumbrance on title such as restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?	Not Applicable, no such encumbrances apply.

Contacts

[redacted]

Fees

Regulation	Fee Condition	Amount	Modifier	Payable
9 - Class 5	More than $500,000 but not more than $1,000,000	$1,535.00	100%	$1,535.00
		Total		**$1,535.00**

Documents Uploaded

Date	Type	Filename
21-01-2025	A Copy of Title	Title.pdf
21-01-2025	A Copy of Title	Title plan.pdf
21-01-2025	Site plans	TP Plans Dec 24.pdf
21-01-2025	Additional Document	Bushfire Assessment 45 Reynolds Road Pakenham Jan 25.pdf
21-01-2025	Additional Document	Bushfire Management Plan 45 Reynolds Road Pakenham Jan 25.pdf
21-01-2025	Additional Document	Planning Permit Application Report 45 Reynolds Road Pakenham Jan 25.pdf

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

Lodged By

Site User	[redacted]
Submission Date	

Declaration

[redacted] nolds and Terry Reynolds, declare that all the information in this application is true and s been notified of the application.

Civic Centre
20 Siding Avenue, Officer, Victoria

Council's Operations Centre (Depot)
Purton Road, Pakenham, Victoria

Postal Address
Cardinia Shire Council
P.O. Box 7, Pakenham VIC, 3810

Email: mail@cardinia.vic.gov.au

Monday to Friday 8.30am–5pm
Phone: 1300 787 624
After Hours: 1300 787 624
Fax: 03 5941 3784

Cardinia ePlanning

Application Summary

Portal Reference	D4250A2
Reference No	T250028

Basic Information

Cost of Works	$550,000
Site Address	45 Reynolds Road Pakenham VIC 3810

Covenant Disclaimer

Does the proposal breach, in any way, an encumbrance on title such as restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?	Not Applicable, no such encumbrances apply.

Documents Uploaded

Date	Type	Filename
16-12-2025	Additional Document	25-363FL-SHEET 1.pdf
16-12-2025	Additional Document	25-363FL-SHEET 2.pdf
16-12-2025	Additional Document	25-363FL-SHEET 3.pdf
16-12-2025	Additional Document	25-363FL-SHEET 4.pdf
16-12-2025	Additional Document	25-363FL-SHEET 5.pdf
16-12-2025	Additional Document	Bushfire Assessment 45 Reynolds Road Pakenham Dec 25.pdf
16-12-2025	Additional Document	Bushfire Management Plan 45 Reynolds Road Pakenham Dec 25.pdf
16-12-2025	Additional Document	Land Management Plan - 45 Reynolds Road Pakenham - Sept 2025 (002).pdf
16-12-2025	Additional Document	LCA 45 Reynolds Road Pakenham.pdf
16-12-2025	Additional Document	Native Vegetation Assessment - 45 Reynolds Road Pakenham - December 2025.pdf
16-12-2025	Additional Document	Planning Permit Application Report 45 Reynolds Road Pakenham Dec 25.pdf
16-12-2025	Additional Document	Receipt I12529LD (002).pdf
16-12-2025	Additional Document	RFI letter T250028PA Dec 25.pdf
16-12-2025	Additional Document	Section 50 form.pdf
16-12-2025	Additional Document	Title Lot 2.pdf
16-12-2025	Additional Document	Title plan.pdf
16-12-2025	Additional Document	TP plans Dec 25.pdf

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

Lodged By

Site User	[redacted]
Submission Date	

Declaration

☑ By ticking this checkbo[redacted]t all the information in this application is true and correct; and the Applicant and/or Owner (if not myself) has been notified of the application.

Civic Centre
20 Siding Avenue, Officer, Victoria

Council's Operations Centre (Depot)
Purton Road, Pakenham, Victoria

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Fax: 03 5941 3784

Cardinia Shire Council

Request to amend a current planning permit application

This form is used to request an amendment to an application for a planning permit that has already been lodged with Council, but which has not yet been decided. This form can be used for amendments made before any notice of the application is given (pursuant to sections 50 / 50A of the *Planning and Environment Act 1987*) or after notice is given (section 57A of the Act).

PERMIT APPLICATION DETAILS

Application No.:	T250028PA
Address of the Land:	45 Reynolds Road Pakenham

APPLICANT DETAILS

Name:	[redacted]
Organisation:	C/- XWB Consulting
Address:	PO Box 752 Beaconsfield 3807
Phone:	0408517143
Email:	mail@xwbconsulting.com.au

AMENDMENT TYPE

Under which section of the Act is this amendment being made? (select one)	
Section 50 – Amendment to application at request of applicant **before** notice:	☑
Section 50A - Amendment to application at request of responsible authority **before** notice:	☐
Section 57A – Amendment to application **after** notice is given:	☐

AMENDMENT DETAILS

What is being amended? (select all that apply)		
What is being applied for ☑	Plans / other documents ☑	Applicant / owner details ☐
Land affected ☑	Other ☐	

Describe the changes. If you need more space, please attach a separate page.

Include construction of a driveway on Lot 2 TP169609X and removal of native vegetation.
Include the removal of vegetation for the construction of the dwelling, provision of defendable space and upgrading of the driveway for the dwelling on Lot 1 TP169609X.
Amended plans.

Specify the estimated cost of any development for which the permit is required:		
Not applicable ☐	Unchanged ☑	New amount $

DECLARATION

I declare that all the information in this request is true and correct and the owner (if not myself) has been notified of this request to amend the application.

Name:	[redacted]
Signature:	
Date:	16 December 2025

LODGEMENT

Please submit this form, including all amended plans/documents, to mail@cardinia.vic.gov.au

You can also make amendments to your application via the Cardinia ePlanning Portal at https://eplanning.cardinia.vic.gov.au/

If you have any questions or need help to complete this form, please contact Council's Statutory Planning team on 1300 787 624.

IMPORTANT INFORMATION

It is strongly recommended that before submitting this form, you discuss the proposed amendment with the Council planning officer processing the application.

Please give full details of the nature of the proposed amendments and clearly highlight any changes to plans (where applicable). If you do not provide sufficient details or a full description of all the amendments proposed, the application may be delayed.

No application fee for s50/s50A requests unless the amendment results in changes to the relevant class of permit fee or introduces new classes of permit fees. The fee for a s57A request is 40% of the relevant class of permit fee, plus any other fees if the amendment results in changes to the relevant class (or classes) of permit fee or introduces new classes of permit fees. Refer to the *Planning and Environment (Fees) Regulations 2016* for more information.

The amendment may result in a request for more under section 54 of the Act and/or the application requiring notification (or re-notification). The costs associated with notification must be covered by the applicant.

Council may refuse to amend the application if it considers that the amendment is so substantial that a new application for a permit should be made.

Any material submitted with this request, 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*.

xwb consulting
Town Planning & Bushfire Consultants
ABN 78 588 761 733

16 December 2025

[redacted]
Statutory Planner
Cardinia Shire Council
mail@cardinia.vic.gov.au

Dear [redacted]

Re: Planning permit application T250028PA
45 Reynolds Road Pakenham

I refer to Council's letter dated 18 February 2025 requesting further information in relation to the above application. The following response is provided in relation to the Council's letter:

1 Outstanding fees
The fees were paid on 24 February 2025, refer to receipt no. EPLAN009248.

2 Feature survey plan
Please find attached a feature survey plan (5 sheets) prepared by Nilsson Noel and Holmes Surveyors.

3 Revised planning report
Please find attached a revised planning report addressing the matters outlined in Point 3.

4 Environmental Significance Overlay
Please find attached an assessment prepared by Ranges Environmental Consulting addressing native vegetation and arboricultural considerations.

5 Arboricultural report
Please find attached an assessment prepared by Ranges Environmental Consulting addressing arboricultural considerations.

6 Land capability assessment
Please find attached a Land Capability Assessment prepared by HardCore Geotech.

7 Site plan
Please find attached amended plans including an amended site plan addressing the matters outlined in Point 7.

8 Elevation plan
Please find attached amended plans including a amended elevation plans addressing the matters outlined in Point 8.

9 Bushfire assessment
Please find attached a revised bushfire assessment addressing the matters outlined in Point 9.

10 Bushfire management plan
Please find attached a revised bushfire management plan addressing the matters outlined in Point 10.

11 Farm management plan (non mandatory)
A farm management plan has not been prepared for the application.

12 Land management plan
Please find attached a land management plan prepared by Ranges Environmental Consulting.

Use of Land – Purpose of Green Wedge Zone
It is acknowledged that the purposes of the Green Wedge Zone include providing for the use of land for agriculture, however we stand by the assessment in the planning report in relation to the agricultural use of the land and surrounding area. The purposes of the Green Wedge Zone also includes to encourage use and development that is consistent with sustainable land management practices. To this end, a Land Management Plan has been prepared by Ranges Environmental Consulting. The Land Management Plan provides for the protection and enhancement of native vegetation habitat on the property (revegetation zone), weed control and pest animal control. It is considered that this is consistent with the land management and biodiversity purposes of the Green Wedge Zone.

Rural residential development
Please refer to the comments above.

Amendment of application and additional permissions required
Please find attached a Section 50 form amending the application to include vegetation removal and to include Lot 2 with the new driveway access to the existing dwelling.

Please contact me if you have any questions in relation to the above matters.

Regards

[redacted]

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

VOLUME 12335 FOLIO 434 Security no : 124130787[redacted]
Produced 16/12/20[redacted]

LAND DESCRIPTION

Lot 2 on Title Plan 169609X.
PARENT TITLE Volume 09114 Folio 953
Created by instrument AU776683R 06/09/2021

REGISTERED PROPRIETOR

Estate Fee Simple
TENANTS IN COMMON
As to 1 of a total of 2 equal undivided shares
Sol[redacted]YNOLDS ROAD PAKENHAM VIC 3810

As [redacted]d shares
Sol[redacted]SE COURT MORWELL VIC 3840 Executor(s) of
AY743214F 20/12/2024

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP169609X 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: 45 REYNOLDS ROAD PAKENHAM VIC 3810

ADMINISTRATIVE NOTICES

NIL

eCT Control 18217W FALCONE & ADAMS LAWYERS
Effective from 02/01/2025

DOCUMENT END

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Secure Electronic Registries Victoria.

Document Type	**Plan**
Document Identification	**TP169609X**
Number of Pages (excluding this cover sheet)	**2**
Document Assembled	**16/12/2025 10:24**

TITLE PLAN		EDITION 2	TP 169609X

Location of Land

Parish: NAR-NAR-GOON
Township:
Section:
Crown Allotment: 5E (PT), 5F (PT), 5H (PT)
Crown Portion:

Last Plan Reference:
Derived From: VOL 9114 FOL 953
Depth Limitation: NIL

Notations

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: 05/07/2000
VERIFIED: ML

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

MODIFICATION TABLE

RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN

PLAN NUMBER

TP169609X

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
LAND IN THIS PLAN		SEPARATE DIMENSIONS	AU778683R	06/05/2021	2	AA

Native Vegetation Assessment

Proposed Dwelling and Defendable Space

45 Reynolds Road, Pakenham

15 December 2025

Table of Contents

Report	Native Vegetation Assessment - 45 Reynolds Road Pakenham - August 2025
Prepared For:	[redacted]
Job no:	25025
Author:	[redacted]
Contact:	info@rangesconsulting.com
Date:	15 December 2025

1 Introduction

Ranges Environmental Consulting has been engaged by the landowners and XWB Consulting to conduct a Native Vegetation Assessment. The assessment was undertaken by VQA Accredited [redacted]

The applicant seeks approval to construct a new dwelling, upgrade an existing driveway and the development second driveway at 45 Reynolds Road, Pakenham. Native vegetation removal is necessary to accommodate defendable space requirements, driveway upgrades in association with the construction of a secondary dwelling.

Specifically, this report includes the following:

- Native vegetation regulations outlined in Clause 52.17 of the Cardinia Planning Scheme and the incorporated '*Guidelines for the removal, destruction or lopping of native vegetation*' (DELWP 2017) (referred to herein as the 'Native Vegetation Guidelines').
- Tree Assessment Standards in accordance with AS-4970-2025 Protection of Trees on Development Sites
- Implications of the development in the context of the Environmental Significance Overlay – Schedule 1 (ESO1).

1.1 Context

The site at 45 Reynolds Road, Pakenham (the property) is approximately 10.2 hectares. As shown on Map 2 of Appendix 1, the new dwelling is proposed to be established in the central portion of the property where land has long been cleared for agricultural use. Several fenced paddocks occur in this location along with an existing dwelling and a shed that is just north of the proposed dwelling. The new dwelling and driveway expansion and associated earthworks is expected to impact a small patch of native vegetation and one large patch of vegetation containing large indigenous trees.

The site lies within the Highlands Southern Fall Bioregion and the Port Phillip and Western Port Catchment Management Region.

The property is within a Green Wedge Zone – Schedule 1 (GWZ1) and subject to the following overlays:

- Bushfire Management Overlay (BMO)
- Environmental Significance Overlay – Schedule 1 (ESO1)

XWB Consulting has undertaken a Bushfire Planning Assessment and has determined that the new dwelling will require defendable space to a distance of 20 metres and a construction standard to BAL 19.

1.2 Permit Requirements and Exemptions

A range of local, state and federal regulations may apply to proposals to remove native vegetation in Victoria. Various permit requirements may or may not be triggered based on the land area, land tenure, local planning schemes (including the relevant planning zones, overlays or specific provisions) and permit exemptions.

A summary of regulations that are considered in context of the proposed development is outlined below.

Level	Regulations	Description	Relevance
Victorian Planning Provisions	Clause 52.17 Native Vegetation	A permit is triggered for the removal of native vegetation due to land size being greater or equal to 0.4 hectares.	**Applicable**
	Clause 42.01 Environmental Significance Overlay	A permit is triggered for the removal of native vegetation.	**Applicable**
State Legislation	The Flora and Fauna Guarantee ACT 1988	Generally, applies to public land unless private land is listed as critical habitat for a species or ecological community.	**Not applicable**
Federal Legislation	Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	May apply to private land if a listed species or ecological community is present.	**Not applicable**

Section 2 outlines the results of the native vegetation assessment.

Section 3: accounts for assessment of individual trees relevant to the development application, including those subject to the *Native Vegetation Guidelines* and those exempt from planning permit requirements.

Section 4 details implications of development in accordance with Clause 52.17 and the incorporated *Native Vegetation Guidelines.*

Section 5 addresses application requirements of the Environmental Significance Overlay.

Appendix 1 provides a series of maps and plans to illustrate the development layout, areas of native vegetation, extent of native vegetation removal and impacts to trees.

Attachment 3 provides the Development Plan.

2 Native Vegetation Assessment

A site investigation was undertaken by *Ranges Environmental Consulting* on 6 August 2025. The site assessment considered native vegetation extent and condition, the development plan and impacts due to defendable space. The type and extent of native vegetation was mapped onsite using QGIS 3.34 with a GPS receiver (accuracy at 1-2 metres), however assessment of individual trees is at sub-metre accuracy due to the application of a digital survey plan.

2.1 Assessment Criteria

Native vegetation is assessed in accordance with the *Native Vegetation Guidelines*, which defines native vegetation in two categories:

Native vegetation patch

A patch of native vegetation is either:

- an area of vegetation where at least 25 per cent of the total perennial understory plant cover is native,
- any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or
- any mapped wetland included in the current wetlands map, available in DEECA systems and tools.

Scattered tree

A scattered tree is a native canopy tree that does not form part of a Native Vegetation Patch.

Note: A canopy tree is a mature tree that is greater than three metres in height and is normally found in the upper layer of a vegetation type.

Vegetation that is neither a native vegetation patch nor a scattered tree is not applicable to the *Native Vegetation Guidelines*, e.g., scattered native shrubs, introduced pasture, planted woodlots and cultivated gardens.

Ecological Vegetation Classes

An Ecological Vegetation Class (EVC) is a native vegetation type classified based on its floristic, life form, environmental and ecological characteristics (DEPI 2013). The benchmark for an EVC describes the attributes of the vegetation type in its mature natural state, which reflects pre-settlement conditions.

Modelled pre-1750s EVCs produced by DELWP and accessible via Nature Kit Online indicate that Lowland Forest EVC 16 and Damp Forest EVC 29 and Grassy Forest EVC128 is likely to have previously occurred on the property. Site inspections within the assessment area have determined that the vegetation types potentially impacted are most attributable to Grassy Forest EVC128.

Site Condition Assessments

Site condition assessments are a key measure of native vegetation impact assessments and offset requirements. Where a native vegetation patch (or habitat zone) is identified, a site condition assessment can be attained by applying one of two methods below:

- The modelled site condition score using the online NVR Map (basic and intermediate applications only)
- a site condition assessment undertaken by an VQA accredited Native Vegetation Assessor.

In this instance, a site condition assessment using the VQA method was applied to accurately reflect vegetation condition on site.

Native vegetation patches are separated where there is clear disconnection between one patch and the next, or where two types of EVCs are observed or where significant differences in condition occur within an EVC.

Large Tree Benchmark

The Large Tree benchmark for Lowland Forest is 70cm diameter when measured at standard height (1.3m above the ground). Impact to large trees are a key consideration of the *Native Vegetation Guidelines.*

Large trees are accounted for when using the modelled site condition score and in Habitat Hectare assessments.

2.2 Results

2.2.1 Flora Species

A flora survey undertaken during the site assessment recorded 54 vascular plant species. Of these, 26 are local indigenous species, 26 are of exotic origin and 2 are Victorian species occuring outside its natural range.

Exotics species that were obviously planted around the existing dwelling were not included in the flora list.

A complete list of flora identified is included in Appendix 2.

Limitations

The flora survey was limited to areas alongside the existing driveway, the development and defendable space areas. It is likely that additional indigenous and introduced flora species occur throughout the broader areas adjacent to roadside areas. However, due to the large size of land, only relevant areas to be impacted were assessed. Furthermore, timing of the flora survey in mid-winter is not suitable for the identification of all flora species. Further surveys over different seasons typically reveal additional species such as orchids, lilies, annual herbs and summer-flowering grasses. However, the one off survey is considered appropriate given the siting of the proposed dwelling and impacts of the defendable space within areas of cleared pasture.

Threatened flora

No EPBC or FFG listed flora species were identified during the site assessment.

The desktop analysis revealed minimal records of threatened flora in surrounding areas. The desktop assessment from the Victorian Biodiversity Atlas revealed that there are 11 *Eucalyptus Fulgens* species, 2 Cobra Greenhood *Pterostylis grandiflora* and 1 Swamp Bush Pea *Pultenaea weindorferi* records within 3 km of the Area of interest. However, due to the highly modified vegetation within the area of interest it is expected that threatened flora species are absent.

Declared 'Noxious' Weeds and Listed High Threat Weeds

The Catchment and Land Protection (CaLP) Act 1994 requires landholders to take all reasonable steps to control declared noxious weeds. There were 2 'noxious' species identified on the property: Blackberry *Rubus fruticosa* and Ragwort *Senecio jacobaea.* Multiple occurrences of these species were observed throughout the property.

The extent of other high threat weeds on the site (as scheduled on the Advisory List of Environmental Weeds in Victoria: DELWP 2018) are limited. A range of typical pasture species that can colonise bushland areas (e.g. Sweet Vernal-grass *Anthoxanthum odoratum*, Yorkshire Fog *Holcus lanatus*) were observed, though such species appear to have limited impact. However, several emerging colonies of Sweet Pittosporum *Pittosporum undulatum* were observed in areas within the existing driveway and north of the proposed driveway.

2.2.2 Native Vegetation Type and Condition

An assessment of native vegetation extent and condition was generally limited as indicated on Map 2. Within the 10 hectares of the property, the condition of vegetation is consistent throughout the property where most areas are predominantly cleared and occupied by introduced pastures.

Map 2 shows that 3 native vegetation patches (i.e. Habitat Zones) were identified within the development and defendable space areas. Assessment areas as described below.

Habitat Zone 1

Habitat Zone 1(HZ1) is limited in lifeform diversity and therefore has been assigned the mapped EVC of Grassy Forest EVC 128 based on the EVC 1750 mapping. The zone occurs within the defendable space of the proposed dwelling which is located in the centre of the property boundaries (Map 2).

This zone is approximately 0.02 hectares and has no canopy. The understory consists of Bidgee Widgee *Acaena novae-zelandiae* and Juncus *Juncus sp..* The native ground cover is high and approximately 70% of the patch. There is one Juvenile *Acacia melanoxylon* present in HZ1.

Exotic grasses are present including Cocksfoot *Dactylis glomerata* and Panic Veldt Grass *Ehrharta erecta.*

There is limited organic litter and no presence of logs. Due to the lack of understory and limited lifeforms present in this zone a score of 0.12 of Grassy Forest benchmark is consistent with this patch.

Figure 1. Bidgee Widgee intertwined with exotic grasses

Habitat Zone 2

This habitat zone represents a moderate patch of native vegetation approximately 0.22 hectares that occurs within and around the existing gravel driveway. The profile of the existing gravel driveway is lower than the adjacent remnant vegetation (figure 2). Currently there is a fence on both sides of the driveway where vegetation occurs on both sides. This zone is subject to disturbance 'edge effects' from past clearing and agricultural land use. However, this zone supports an intact canopy and a near benchmark level of large trees per hectare. The canopy is dominated by Messmate *Eucalyptus obliqua* though Narrow-leaf Peppermint *Eucalyptus radiata* and Bundy *Eucalyptus goniocalyx* were observed, of these species, 3 large Indigenous Canopy Trees were identified.

Midstorey species observed in this zone is sparse and generally limited to Silver Wattle *Acacia dealbata* and Blackwood *Acacia melanoxylon*. Although patchy, a typical suite of groundstorey graminoid species occur within these zones including Wallaby-grass *Rytidosperma sp.*, Kangaroo Grass *Themeda Triandra* and Wattle

Mat-rush *Lomandra filiformis* (figure 5). Other native herb species that occur are St John's Wart *Hypericum gramineum,* Common Cudweed *Euchiton involucratus* and Shade Raspwort *Gonocarpus humilis.*

Exotic species that occur in this area include Radiata Pine *Pinus radiata* which substantially contributes to the canopy cover. Due to the large sizes of these trees (DSH >40cm) in HZ2 a permit will be required for the removal of these species. In HZ2, 8 species meet the permit requirement conditions.

Due to bushfire regulations the driveway will need to be expanded to 3.5m wide and additional 0.5 metres height and width clearance either side of the driveway. The driveway currently varies from 2.7-3m wide. Therefor the expansion of the existing driveway will impact existing canopy trees in this zone and this native vegetation removal will require a permit and an offset payment.

Due to the high canopy cover and presence of large trees HZ2 scores 0.22 of the Grassy Forest benchmark.

Figure 2. View of Habitat Zone 2 and the canopy cover

Figure 3. Radiata pine (Left) and Messmate (Right) within HZ2

Figure 4. Native Grasses on the edge of the driveway

Figure 5. Tree group of Native Understory Trees

Habitat Zone 3

Habitat Zone 3 (HZ3) represents a very small patch of native vegetation approximately 20m^2 in extent. The zone consists of only a few native species such Prickly Tea-tree *Leptospermum continentale* and a patch of Thatch Saw-sedge *Gahnia radula.*

The patch also consists of exotic tree species such as Juvenile and Large Radiata Pines *Pinus radiata* and Sweet Pittosporum *Pittosporum undulatum.*

Due to the absence of lifeforms and no canopy cover this patch of native vegetation score 0.12 of the Grassy Forest benchmark.

The patch lies on the eastern edge of the property where the second driveway is proposed. It is likely that this patch will be removed in order to construct the proposed driveway (Map 2).

Figure 6. Patch of *Gahnia radula*

Figure 7. Juvenile and Mature *Pinus radiata*

Table 1. Habitat Hectare Results

Habitat Zone			1	2	3
Benchmark criteria		**Max. Score**	**EVC**	**EVC**	**EVC**
			GF (EVC 128)	GF (EVC 128)	GF (EVC 128)
Site condition	Large Old Trees	10	3	0	0
	Canopy cover	5	4	0	0
	Understorey	25	5	5	5
	Lack of weeds	15	4	4	4
	Recruitment	10	0	0	0
	Organic litter	5	3	0	0
	Logs	5	0	0	0
			19	**9**	**9**
	Patch Size		**1**	**1**	**1**
	Neighbourhood		**1**	**1**	**1**
	Distance to Core		**1**	**1**	**1**
			3	3	3
Habitat quality score		**100**	**22**	**12**	**12**
Habitat score as above = #/100			0.22	0.12	0.12

3 Tree Assessment

Ranges Environmental Consulting assessed 22 exotic trees, 2 Victorian Native trees and 19 Indigenous Canopy trees, 3 Indigenous Understory trees and 1 group of small immature trees to determine impacts from the proposed development and implications of the native vegetation regulations and the Environmental Significance Overlay.

3.1 Arboricultural Considerations

Arboricultural Considerations

Tree assessments included all trees greater than 3m in height occuring within or adjacent to the proposed works.

All trees were assigned an overall significance rating based on a combination of trunk size, tree health, structure, long-term viability, habitat values and visual amenity. Trunk size was calculated using diameter tape at 1.4m trunk height, i.e., Diameter at Standard Height (DSH). Appendix 2 provides greater detail on the Tree Assessment Criteria applied to this study.

The Australian Standard for Tree Protection on Development Sites (AS-4970 updated 2025) provides the methodology for determining appropriate measures to mitigate impacts on trees based on the proposed development design and construction.

Notional Root Zones (NRZ) (formerly referred to as Tree Protection Zones) is a radial area around the tree trunk calculated at 12 times the trunk diameter. The NRZ represents the theoretical root zone required for the tree's health and long-term viability. The NRZ encompasses the Structural Root Zone (SRZ), a smaller radial area around the tree which is a formula based on the diameter of the trunk measured above the root buttress. Any breach of an SRZ is deemed to be detrimental to the structural integrity of the tree.

Major works encroachment of a trees NRZ is greater than 20% of its area and/or if the works are within the SRZ. Greater than 20% incursion is considered an adverse impact due to potential root damage, compaction stress and reduced water absorption. In this instance, if a tree is sought for retention, a more detailed investigation of relevant factors of tree and site characteristics and the nature of the works is required. This may also require root investigation by non-destructive methods.

If the proposed works incursion is greater than 10% and less than or equal to 20% of the NRZ, is outside the SRZ and there are no recent NRZ encroachments, the impact is considered 'Moderate'. The Project Arborist shall review the proposed impact and demonstrate whether the tree will remain viable, by addressing relevant tree, site or encroachment factors, and/or through the implementation of suitable design measures and construction controls to mitigate impacts.

Minor incursions are equal to or less than 10% of the NRZ, providing works are outside the SRZ. In these instances, it is generally unlikely that there will be a significant impact to tree health, structure or longevity, providing tree protection measures are implemented during construction.

3.2 Tree Assessment Results

Overall 48 trees were recorded in this assessment. Of the 48 trees, 17 trees are proposed for removal due to incursion from required earthworks or defendable space areas. No large indigenous trees are to be removed.

Maps 1, 2 and 3 illustrates all trees considered in the assessment, which include the following locally indigenous trees within the driveway expansion area:

- 2 Eucalytpus canopy trees which are to be removed (Tree 13 & 14).
- 22 Eucalyptus Canopy Trees to be retained.
- 2 locally occuring indigenous wattles *Acacia melanoxylon* to be retained (Tree 4 and 22) within the driveway expansion.
- 1 group of 4 *Acacia melanoxylon* and 1 Silver Wattle *Acacia dealbata* to be removed by the driveway expansion.

Additional planted or naturalised non-indigenous trees to be retained around the project area includes:

- 1 planted Strawberry Tree *Arbutus unedo* to be retained (Tree 44)
- 1 planted *Melaleuca sp*. (Tree 43)
- 3 Radiata Pine Trees (Tree 1,2 and 3) near the proposed driveway

Planted or naturalised non-indigenous trees within the defendable space include:

- 7 live specimens of Radiata Pine *Pinus radiata* (Trees 38-41, 45-47) where a permit will be required to remove these trees.
- 2 dead Radiata Pines (Tree 37 and 42).

Tree 38 will be directly impacted by the proposed shed and will require a permit for removal. The trees within the defendable space (Map 3) proposed for removal are for compliance with Defendable Space standards. The trees to be retained within the defendable space are in good health and will maintain a 5m canopy separation.

Table 1 provides a comprehensive account of all trees to be removed and retained. Table 2 lists the large trees that are relevant to clause 52.17 and the native vegetation regulations Table 3 lists the pine trees requiring a permit for removal.

Table 2. Tree Assessment Summary

DBH – Diameter at Breast Height ^ - Combined Multi-stem DBH **DAB** - Diameter at Base **TPZ** – Tree Protection Zone **SRZ** - Structural Root Zone

No.	Species	Common Name	Category	DBH (cm)	Multi-stem	DAB (cm)	TPZ (m)	SRZ (m)	Height (m)	Spread (m)	Condition	Significance	Status	Size Class
1	*Pinus radiata	Radiata Pine	na	92	-	110	11	3.4	20-25m	20	Fair	Moderate	Retain	Large
2	*Pinus radiata	Radiata Pine	na	160	-	120	15	3.6	20-25m	12	Good	Moderate	Retain	Large
3	*Pinus radiata	Radiata Pine	na	100	-	110	12	3.4	20-25m	15	Good	Moderate	Retain	Large
4	Acacia melanoxylon	Blackwood	In Remnant Patch	25*	16 13 9 10 6	28	3	1.9	<5m	3	Fair	Moderate	Retain	Small
5	Eucalyptus obliqua	Messmate	In Remnant Patch	100	-	120	12	3.6	15-20m	15	Fair	High	Retain	Large
6	*Pinus radiata	Radiata Pine	na	119	-	125	14.3	3.6	15-20m	15	Fair	Moderate	Remove	Large
7	Eucalyptus viminalis	Manna Gum	In Remnant Patch	82	-	98	9.8	3.3	15-20m	16	Dead	High	Retain	Large
8	Eucalyptus radiata	Narrow-leaf Peppermint	In Remnant Patch	38*	27 27	38	4.6	2.2	<5m	3	Good	Moderate	Retain	Small
9	Eucalyptus obliqua	Messmate	In Remnant Patch	64*	42 48	76	7.7	2.9	5-10m	5	Dead	High	Retain	Small
10	*Pinus radiata	Radiata Pine	na	70	-	80	8.4	3	15-20m	10	Fair	Moderate	Remove	Large
11	*Pinus radiata	Radiata Pine	na	53	-	64	6.4	2.7	15-20m	8	Fair	Low	Remove	Small
12	*Pinus radiata	Radiata Pine	na	58	-	62	7	2.7	15-20m	12	Good	Moderate	Remove	Small
13	Eucalyptus obliqua	Messmate	In Remnant Patch	57	-	60	6.8	2.7	10-15m	12	Good	High	Remove	Small
14	Eucalyptus radiata	Narrow-leaf Peppermint	In Remnant Patch	30	-	34	3.6	2.1	5-10m	5	Good	Moderate	Remove	Small
15	*Pinus radiata	Radiata Pine	na	67	-	77	8	3	15-20m	17	Good	Moderate	Remove	Small
16	Acacia melanoxylon	Blackwood	In Remnant Patch	13	-	18	2	1.6	<5m	2	Good	Low	Remove	Small
17	Eucalyptus radiata	Narrow-leaf Peppermint	In Remnant Patch	21*	20 6	28	2.5	1.9	5-10m	5	Good	Moderate	Retain	Small
18	*Pinus radiata	Radiata Pine	na	41	-	48	4.9	2.4	15-20m	6	Good	Moderate	Remove	Small
19	*Pinus radiata	Radiata Pine	na	62	-	71	7.4	2.9	10-15m	7	Good	Moderate	Remove	Small
20	Eucalyptus obliqua	Messmate	In Remnant Patch	155	-	185	15	4.3	15-20m	9	Poor	Very High	Retain	Large
21	Eucalyptus obliqua	Messmate	In Remnant Patch	36	-	42	4.3	2.3	5-10m	6	Dead	Moderate	Retain	Small
22	Acacia melanoxylon	Blackwood	In Remnant Patch	35	-	40	4.2	2.3	5-10m	6	Good	High	Retain	Small
23	Eucalyptus obliqua	Messmate	In Remnant Patch	60	-	70	7.2	2.8	10-15m	8	Dead	High	Retain	Small
24	Eucalyptus obliqua	Messmate	In Remnant Patch	33*	26 20	40	3.9	2.3	5-10m	6	Dead	Moderate	Retain	Small
25	Eucalyptus obliqua	Messmate	In Remnant Patch	51	-	62	6.1	2.7	10-15m	7	Dead	High	Retain	Small
26	Eucalyptus obliqua	Messmate	In Remnant Patch	22	-	30	2.6	2	5-10m	4	Good	Moderate	Retain	Small
27	Eucalyptus goniocalyx	Long-leaf Box	In Remnant Patch	43	-	50	5.2	2.5	10-15m	10	Fair	High	Retain	Small
28	Eucalyptus goniocalyx	Long-leaf Box	In Remnant Patch	39	-	41	4.7	2.3	10-15m	9	Good	High	Retain	Small
29	Eucalyptus obliqua	Messmate	In Remnant Patch	24	-	31	2.9	2	5-10m	2	Fair	Moderate	Retain	Small
30	Eucalyptus obliqua	Messmate	In Remnant Patch	14	- 3	17	2	1.6	<5m	2	Good	Low	Retain	Small
31	Eucalyptus radiata	Narrow-leaf Peppermint	In Remnant Patch	47	-	56	5.6	2.6	10-15m	9	Good	High	Retain	Small

No.	Species	Common Name	Category	DBH (cm)	Multi-stem	DAB (cm)	TPZ (m)	SRZ (m)	Height (m)	Spread (m)	Condition	Significance	Status	Size Class
32	Eucalyptus goniocalyx	Long-leaf Box	In Remnant Patch	50	-	58	6	2.6	10-15m	6	Good	High	Retain	Small
33	Eucalyptus viminalis	Manna Gum	In Remnant Patch	30	-	38	3.6	2.2	10-15m	5	Good	High	Retain	Small
34	Eucalyptus obliqua	Messmate	In Remnant Patch	31	-	40	3.7	2.3	5-10m	5	Good	High	Retain	Small
35	Eucalyptus obliqua	Messmate	In Remnant Patch	40*	37 15	48	4.8	2.4	10-15m	8	Good	High	Retain	Small
36	*Pinus radiata	Radiata Pine	na	135	-	160	15	4	20-25m	21	Good	Moderate	Retain	Large
37	*Pinus radiata	Radiata Pine	na	103*	95 40	115	12.4	3.5	15-20m	20	Dead	Low	Remove	Large
38	*Pinus radiata	Radiata Pine	na	63	-	72	7.6	2.9	10-15m	6	Fair	Moderate	Remove	Small
39	*Pinus radiata	Radiata Pine	na	80	-	95	9.6	3.2	15-20m	15	Good	Moderate	Retain	Large
40	*Pinus radiata	Radiata Pine	na	98	-	100	11.8	3.3	15-20m	4	Very Poor	Moderate	Remove	Large
41	*Pinus radiata	Radiata Pine	na	104	-	120	12.5	3.6	15-20m	14	Very Poor	Moderate	Remove	Large
42	*Pinus radiata	Radiata Pine	na	102	-	100	12.2	3.3	5-10m	1	Dead	Low	Retain	Large
43	(Melaleuca sp.)	(Paperbark)	na	54*	39 38	55	6.5	2.6	<5m	4	Good	Moderate	Retain	Small
44	*Arbutus unedo	Irish Strawberry Tree	na	47*	30 31 18	98	5.6	3.3	<5m	4	Poor	Low	Retain	Small
45	*Pinus radiata	Radiata Pine	na	155	-	145	15	3.9	20-25m	25	Fair	Moderate	Remove	Large
46	*Pinus radiata	Radiata Pine	na	96	-	100	11.5	3.3	<5m	3	Very Poor	Low	Remove	Large
47	*Pinus radiata	Radiata Pine	na	111	-	121	13.3	3.6	15-20m	13	Good	Moderate	Remove	Large
48	*Pinus radiata	Radiata Pine	na	95	-	106	11.4	3.4	15-20m	15	Very Good	Moderate	Retain	Large

Table 3 - Large Trees in the Study Area

No.	Status	Species	Category	DBH (cm)	Condition
5	Retain	Eucalyptus obliqua	In Remnant Patch	100	Fair
7	Retain	Eucalyptus viminalis	In Remnant Patch	82	Dead
20	Retain	Eucalyptus obliqua	In Remnant Patch	155	Poor

Table 4 - Pine trees requiring a permit

No.	Status	Species	Size Class	DBH (cm)	Condition
6	Remove	*Pinus radiata	Large	119	Fair
10	Remove	*Pinus radiata	Large	70	Fair
11	Remove	*Pinus radiata	Small	53	Fair
12	Remove	*Pinus radiata	Small	58	Good
15	Remove	*Pinus radiata	Small	67	Good
18	Remove	*Pinus radiata	Small	41	Good
19	Remove	*Pinus radiata	Small	62	Good
36	Retain	*Pinus radiata	Large	135	Good
38	Remove	*Pinus radiata	Small	63	Fair
40	Remove	*Pinus radiata	Large	98	Very Poor
41	Remove	*Pinus radiata	Large	104	Very Poor
45	Remove	*Pinus radiata	Large	155	Fair
46	Remove	*Pinus radiata	Large	96	Very Poor
47	Remove	*Pinus radiata	Large	111	Good

3.3 Defendable Space Objectives

Map 2A shows the trees to be retained within the defendable space area.

Standard defendable space requirements typically set out in permit conditions include:

- Shrubs must not be located under the canopy of trees.
- Individual and clumps of shrubs must not exceed 5 sq. metres 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.

The proposed retention and removal achieve the objectives of defendable space. Retained canopy cover within the defendable space area is less than 5% (limited to Tree 39. Furthermore, the retention of tree 37 and 42 are dead and do not contribute to the canopy fuels. Additionally, no shrubs occur within the defendable space and therefore maintain a managed ground layer. Map 3 shows that the proposed removal of trees 38, 40, 41,45, 46 and 47 will alleviate the fire threat.

3.4 Impacts from Driveway Upgrade

In order to meet the emergency access requirements for bushfire planning regulations, the driveway needs to be expanded to 3.5m wide and have 4-5m vertical and horizontal clearance. The existing driveway varies from 2.7-3m wide and therefore additional earthworks are required to attain the minimum 3.5m width.

Map 4 provides recommendations for widening the existing driveway in a manner that minimises tree loss or impacts to Structural Root Zones (SRZs). The majority of the proposed widening traverses eastern margins of the driveway through the SRZs of several Pine Trees while protecting a continuous band of indigenous trees on the southern margins. The driveway extension then crosses to the western side to avoid the structural root zones of Trees 5, 7-9 which are all indigenous canopy trees including 5 large-old trees.

Some SRZs are unavoidable and as such, the proposed works breach the SRZ of 19 Trees, although 7 of these are Pine Trees and only 3 are indigenous trees. Due to breaches of the SRZ there are nominated for removal or are considered likely to be impacted should they remain standing.

While some trees to be retained have minor impacts to their Notional Root Zones from the proposed earthworks, the NRZs are already impacted by the existing driveway and will not receive significantly more impact by the proposed driveway extension. Incursions due to the new works are shown in Map 5.

4 Implications of the Native Vegetation Removal Guidelines

Clause 52.17 is the principal clause under the Cardinia Planning Scheme that regulates native vegetation protection and permitted removal. The *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017) (referred to as the *Native Vegetation Guidelines)* is the primary reference document under this clause. Native Vegetation is regulated under all Victorian Planning Schemes and is defined in Clause 72 as:

'Plants that are indigenous to Victoria, including trees shrubs, herbs and grasses'.

Clause 52.17 regulates clearing of native vegetation by achieving no net loss to Victoria's biodiversity. This is achieved through the following approaches:

- Avoid the removal, destruction or lopping of native vegetation.
- Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
- Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.
- To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.

4.1 Native Vegetation Impact

As outlined in the Assessors Handbook (DELWP 2018), the Native Vegetation Impact assessment must account for direct, indirect and consequential native vegetation loss. Table 2 outlines all potential impacts as relevant to the development proposal.

Table 5. Accounting for native vegetation loss

– Ancillary works and uses around a new dwelling assumes 100% loss of native vegetation within 10 metres from the building	✓
– Impacts to Tree Protection Zones (generally ≥10% though exceptions may apply)	✓
– The full canopy of all trees deemed to be impacted	✓
– The need for firebreaks or defendable space to reduce bushfire risk	✓
– Installation of services and utilities	**na**
– Impacts of construction activity, compaction and excavation	✓
– Septic treatment systems and stormwater runoff[1]	**na**
– Exemptions triggered from approved dwellings or subdivisions	**na**

Proposed Native Vegetation Removal

As shown in Map 3, One patch of understorey (HZ1) is impacted by the defendable space.

The central portion of Habitat Zone 2 is to be impacted. Of the 33 trees within this zone, 10 trees (3 indigenous trees and 7 Exotic trees) are to be removed for the driveway expansion to meet emergency access requirements. The grade of the driveway is lower than the surrounding remnant vegetation and thus the required earthworks will impact the existing trees NRZ and SRZ, thereby disturbing the root structure, which necessitates some trees to be removed as a precautionary measure. To minimise removal and incursion into SRZs, it is highly recommended that the widened sections of the driveway follow the alignment shown in Map 3.

All of Habitat Zone 3 is to be removed to make space for the new proposed driveway.

The extent of proposed native vegetation loss requiring a permit amounts to 0.050 hectares.

The proposed driveway has been planned to minimise impact to large trees, however the impact to native vegetation cannot be avoided in the context of the current proposal.

4.2 Assessment Category

The assessment category of an application is determined in accordance with Table 5. The location category is a biodiversity mapping unit that has been determined across Victoria and is represented in three categories:

- **Location 3** – includes locations where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for a rare or threatened species.
- **Location 2** – includes locations that are mapped as endangered EVCs and/or sensitive wetlands and coastal areas are not included in Location 3
- **Location 1** – includes all remaining locations in Victoria.

Table 6. Determining the assessment Category

Extent of Native Vegetation	Location Category		
	Location 1	Location 2	Location 3
Less than 0.5 hectares and not including any large trees	**Basic**	Intermediate	Detailed
Less than 0.5 hectares include one or more large trees	Intermediate	Intermediate	Detailed
0.5 hectares or more	Detailed	Detailed	Detailed

Source: Table 3, *Guidelines for the removal, destruction or lopping of native vegetation* (DEPI 2017)

The property is within Location 1. There are no large trees impacted by the development and the total extent of native vegetation loss is less than 0.5 hectares. Therefore, the application follows the basic assessment pathway.

4.3 Biodiversity Impact and Offset Requirements

A Native Vegetation Removal (NVRR) Report was generated using the online Native Vegetation Map (NVM) by uploading spatial data from the impact assessment(including past and proposed removal).

The NVRR report is provided in Attachment 1. In summary, NVRR outlines the following offset requirement that applies to approved native vegetation removal:

Proposed removal	0.050 ha
Offset Type	General Offset
Offset Amount	0.011 general habitat units
Vicinity	Port Phillip and Westernport Catchment Authority or Cardinia Shire Council
Minimum SBV Score	0.4998
Large Trees	0

4.4 Avoid and Minimise Statement

As required for all applications, an avoid and minimise statement is provided below to demonstrate how the application has reduced impacts on biodiversity and other values of native vegetation.

Strategic Level Planning[1]

Strategic Level Planning was considered in this assessment with references to:

- VicPlan Online Vicplan (mapshare.vic.gov.au) which maintains records on planning scheme amendments or changes to zones or overlays (dating back to July 2017)
- Native Vegetation Precinct Plans relevant to the municipality (as outlined in Schedules to Clause 52.16)
- Sites under the Melbourne Strategic Assessment Levy Area

Based on these sources, no information is available that pertains to Strategic Level Planning initiatives that affect the subject site.

[1] Strategic level planning is any regional or landscape scale planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape

Site Level Planning[2]

- The current orientation of the dwelling allows for minimal defendable space incursion into Habitat Zone 1, and consolidates built form and residential land use with the existing dwelling
- The proposed location of the dwelling is within an area that consists of cleared pasture or bare ground, with the remnants of habitat zone 1 which is a small treeless patch of low quality.
- Proposed removal of local indigenous vegetation is limited to 2 Indigenous Canopy trees and one group of understory trees and minor areas of understorey consisting of a low diversity of common flora species.
- Retention of trees and understorey within habitat zone 2 is limited by the requirements to upgrade the driveway for emergency access. However, a proposed alignment for widening the driveway as shown in Map 2B and Map 4 has been recommended as a means to minimise tree removal and direct impacts into SRZs.

Given the above considerations, it is considered that no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.

4.5 Offset Strategy

A native vegetation offset works on the principle of providing an ecological gain equivalent to the value of native vegetation loss. There are two ways in which an offset can be secured:

- Through legal protection, conservation management and forfeit of rights to the use the land (e.g., grazing and firewood collection) on the same property, providing sufficient areas of native vegetation is available, or,
- Purchase of a third-party native vegetation offset. This is typically purchased through an accredited broker trading under the State's *Native Vegetation Credit Register*.

A cost estimate for securing 0.023 general habitat units (GHU) through a third-party is outlined below.

Offset Requirement	Average Market values based on 1 GHU	Cost Estimate for securing the offset
0.01 GHU	**$150,000**	**$2,000**

Given the modest cost associated with the offset, it is recommended that a third-party arrangement is sought rather than a first-party offset. Attachment 2 provides a summary of Native Vegetation Credits available (as of September 2024) to meet the offset as a third-party arrangement.

[2] Site level planning refers to how the proposed use or development has been sited or designed to avoid and minimise impacts on native vegetation

5 Implications of the Environmental Significance Overlay (ESO1)

Environmental Significance Overlay – Schedule 1 (ESO1) applies to the entire property.

5.1 Statement of Environmental Significance

Clause 42.01-1 states that:

> The hills to the northern part of the municipality (generally to the north of the Princes Highway) is an area with significant landscape and environmental values. The area is characterised by a geology of Devonian Granitic and Sulrian Sediment origin, moderate to steep slopes, and areas of remnant vegetation. These characteristics contribute to environmental values including landscape quality, water quality, and habitat of botanical and zoological significance. These characteristics are also a significant factor in terms of environmental hazards including erosion and fire risk.
>
> The vegetation supports the ecological processes and biodiversity of this area by forming core habitat areas within a complex network of biolink wildlife corridors. Sites containing threatened flora and fauna are defined as being of botanical and zoological significance. Development within and around these sites need to be appropriately managed to ensure the long-term protection, enhancement and sustainability of these ecological processes and the maintenance of biodiversity.

Permit Requirements under the ESO

Although Radiata Pines are introduced and not considered native vegetation, a permit is still required to remove the species where larger than 40 cm at DSH. In this assessment 13 Radiata Pine trees will require a permit to be removed (Table 3) however an offset for these trees is not required.

Native trees to be removed are 2 Indigenous Canopy trees (Tree 14 and 13) and one group of indigenous understory trees are to be removed which are include in the native vegetation removal offset. All tree that are proposed to be removed to not meet the large tree benchmark.

5.2 ESO1 Environmental Objectives to be achieved

Clause 42.01-4 requires a written statement identifying how the proposed development has responded to the surrounding physical and environmental features. Table 6 below responds to each environmental objective listed in clause 42.01-4.

Table 7. Response to Environmental Objectives

Environmental Objectives	Response
To protect and enhance the significant environmental and landscape values in the northern hills area including the retention and enhancement of indigenous vegetation.	The proposed dwelling is placed as centrally as possible, allowing for maximum separation of the building to areas of significant Indigenous trees. However Habitat zone 1 falls completely almost completely within the defendable space area which will be considered lost . Nevertheless, this area has been historically grazed, is treeless and has minimal groundstorey diversity. The expansion of the existing driveway will cause an impact a large portion of habitat zone 2.. This is unavoidable due to the existing driveways location. To avoid disturbance to significant vegetation the specific alignment of the driveway has been provided in Map 2B to protect impact to large trees and all other important indigenous canopy trees.
To ensure that the siting and design of buildings and works does not adversely impact on environmental values including the diverse and interesting landscape, areas of remnant vegetation, hollow bearing trees, habitat of botanical and zoological significance and water quality and quantity.	The siting of the building and anticipated earthworks do require tree removal. However, suggestions made in this report for the driveway expansions will reduce direct impact on environmental values.
To ensure that the siting and design of buildings and works addresses environmental hazards including slope, erosion and fire risk, the protection of view lines and maintenance of vegetation as the predominant feature of the landscape.	There are limited siting options on the property that meet the objectives of biodiversity protection and bushfire risk mitigation. However, the current siting appears to be the best possible compromise between these two competing objectives.
To protect and enhance biolinks across the landscape and ensure that vegetation is suitable for maintaining the health of species, communities and ecological processes, including the prevention of the incremental loss of vegetation.	The proposed development will lead to minimal loss of native vegetation and allows for the retention and maintenance of extensive areas of remnant areas, most of which is Low-moderate quality. Management actions that protect native vegetation are outlined in more detail in the Land Management Plan of August 2025 by *Ranges Environmental Consulting.*

6 Conclusion and Recommendations

The proposed impact to native vegetation as defined in the *Native Vegetation Guidelines* amounts to 0.117 hectares. A native vegetation offset is required for the loss of 2 canopy trees, 1 group of understory trees and some native vegetation ground cover within the proposed second driveway, the defendable space area and the proposed building and earthworks.

Native Vegetation Offset Requirements

The loss of native vegetation associated with the proposed development generates the following offset requirement:

Offset Type	General Offset
Offset Amount	0.011 general habitat units
Vicinity	Melbourne Water CMA or Cardinia Shire Council
Minimum SBV Score	0.4998
Large Trees	0

Offsets can be met via a third-party arrangement through the Native Vegetation Credit Register and several options are currently available as shown in Attachment 2.

Separate to the requirements of the Native Vegetation Guidelines and clause 52.17, there are 13 Radiata Pine trees will require a permit to be removed.

Recommendations for Weed Control

At the time of the assessment, high impact weeds appeared to be limited to:

- Blackberry *Rubus fruticosa*
- English Holly *Ilex aquifolium*
- Sweet Pittosporum *Pittosporum undulatum*
- Radiata Pine *Pinus radiata*

The landowners should make all reasonable attempts to remove and control the incremental spread of these species. This is written in more detail in the Land Management Plan 2025 by *Ranges Environmental Consulting.*

Recommendations for Tree Protection

Tree and vegetation protection zones apply to areas that are close to the approved construction footprint and vulnerable to inadvertent impacts including:

- Works within the Notional Root Zones (NRZ). Typically, any works that exceed 20% incursion into the NRZ is potentially detrimental to tree health or stability,
- Inappropriate machinery access or stockpiling that has an impact on vegetation or a designated TPZ,
- Damage to tree trunks from machinery such as excavators, bobcats and forestry mulchers.

- The following recommendations are provided below to ensure that trees allocated for retention are adequately protected during construction:
- Define the construction footprint to minimise the impact of the works to the fullest extent possible,
- no construction activity is to be undertaken beyond the designated construction zone including but not limited to excavation, vehicle and equipment movement, storage, and stockpiling,
- Trees and other native vegetation to be retained is to be secured by the installation of high visibility vegetation protection fencing or flagging set at the edge of the construction zones,
- the vegetation protection fencing must be on the edge of all Tree Protection Zones unless approved works are within these zones,
- Maps in this report are to be provided to tree loppers and construction contractors along with clear instruction on the site constraints and areas to be protected (Map 3 and 4),

7 References

DELWP (2017) *Guidelines for the removal, destruction or lopping of native vegetation* (the Department of Environment, Land, Water and Planning, December 2017

DELWP (2017b) *Assessors Handbook – Applications to remove, destroy or lop native vegetation* (the Department of Environment, Land, Water and Planning, December 2017

DELWP (2017c) *Nature Kit Online*. the Department of Environment, Land, Water and Planning, December 2017. http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit

DEPI (2014b) *Ecological Vegetation Class (EVC) Benchmarks for each Bioregion*. Department of Environment and Primary Industries, Government of Victoria. Accessed via: http://www.dse.vic.gov.au/conservation-and-environment/native-vegetation-groups-for-victoria/ecological-vegetation-class-evc-benchmarks-by-bioregion

DSE (2009) Vegetation Quality Assessment Manual–Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Government Department of Sustainability and Environment, Melbourne.

Appendix 1 – Maps and Plans

The following maps were produced using QGIS 3.34 and developed from various datasets including:

- VicPlan layers (Parcel, Roads, Waterways and Local Government Boundaries)
- Development drawings provided by Roseleigh Homes.
- GPS based data collected in the field

Map 1 - Existing Conditions

45 Reynolds Road Pakenham Latest

- Indigenous Canopy Tree
- Exotic
- Indigenous Understorey Tree
- Victorian Native
- Native Vegetation Patch
- Title Boundary
- Existing Driveway
- Shed to be demolished
- Existing Dwelling
- Parcel

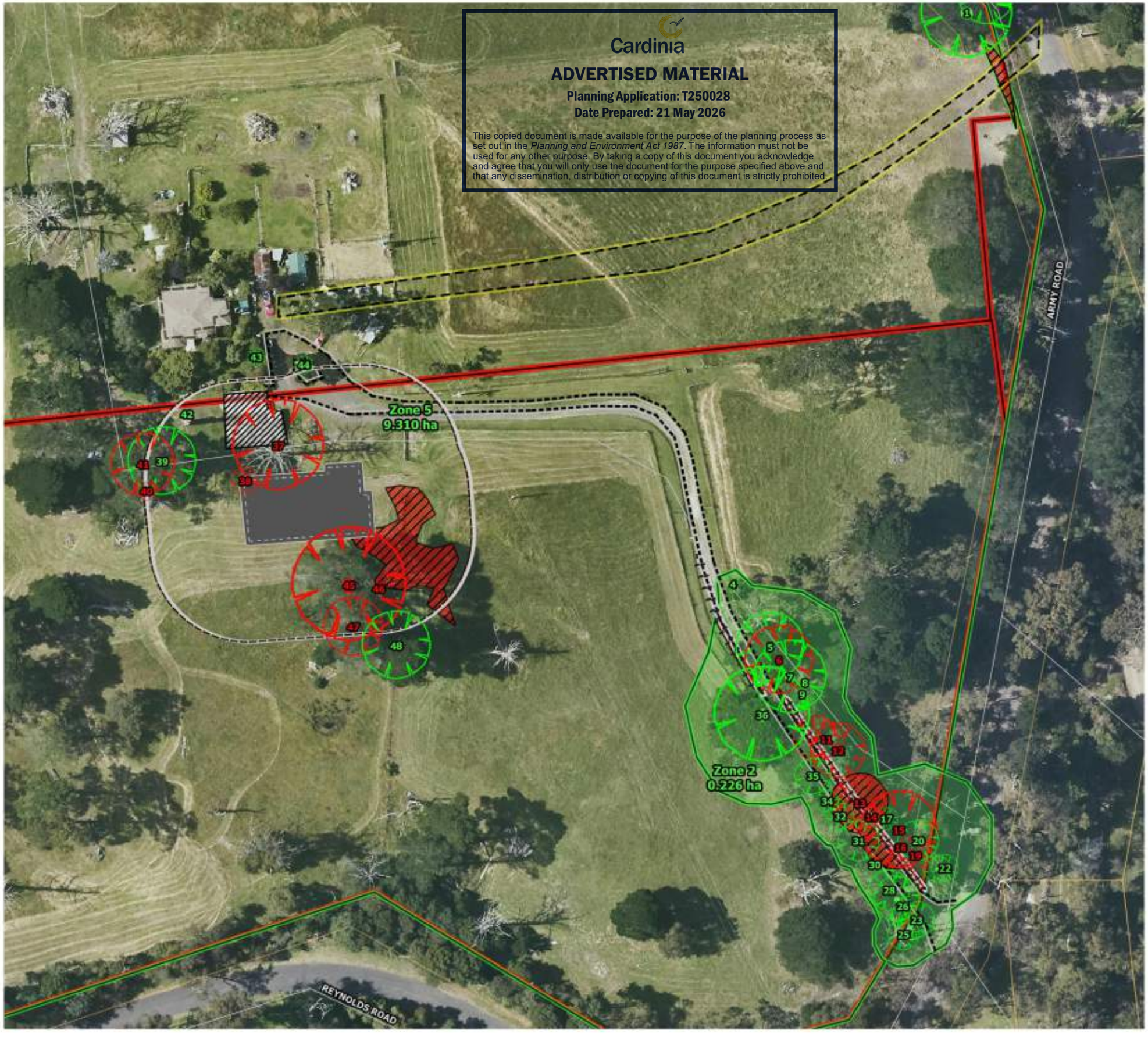
Date: 12 September 2025
Created by: [redacted]
Map Program: QGIS 3.34

Scale (A3)
1:770

N

0 25 50 m

RANGES Environmental
info@rangesconsulting.com



Map 2A - Existing Conditons and Development Layout

45 Reynolds Road Pakeham

Bushfire

- Native Vegetation Loss
- Remove
- Trees to be removed
- Non-Native
- Native Vegetation Patch
- Proposed Dwelling
- Defendable Space
- Shed to be demolished
- Proposed Driveway
- Proposed New Driveway
- Recommended Earthworks
- Existing Driveway
- Title Boundary

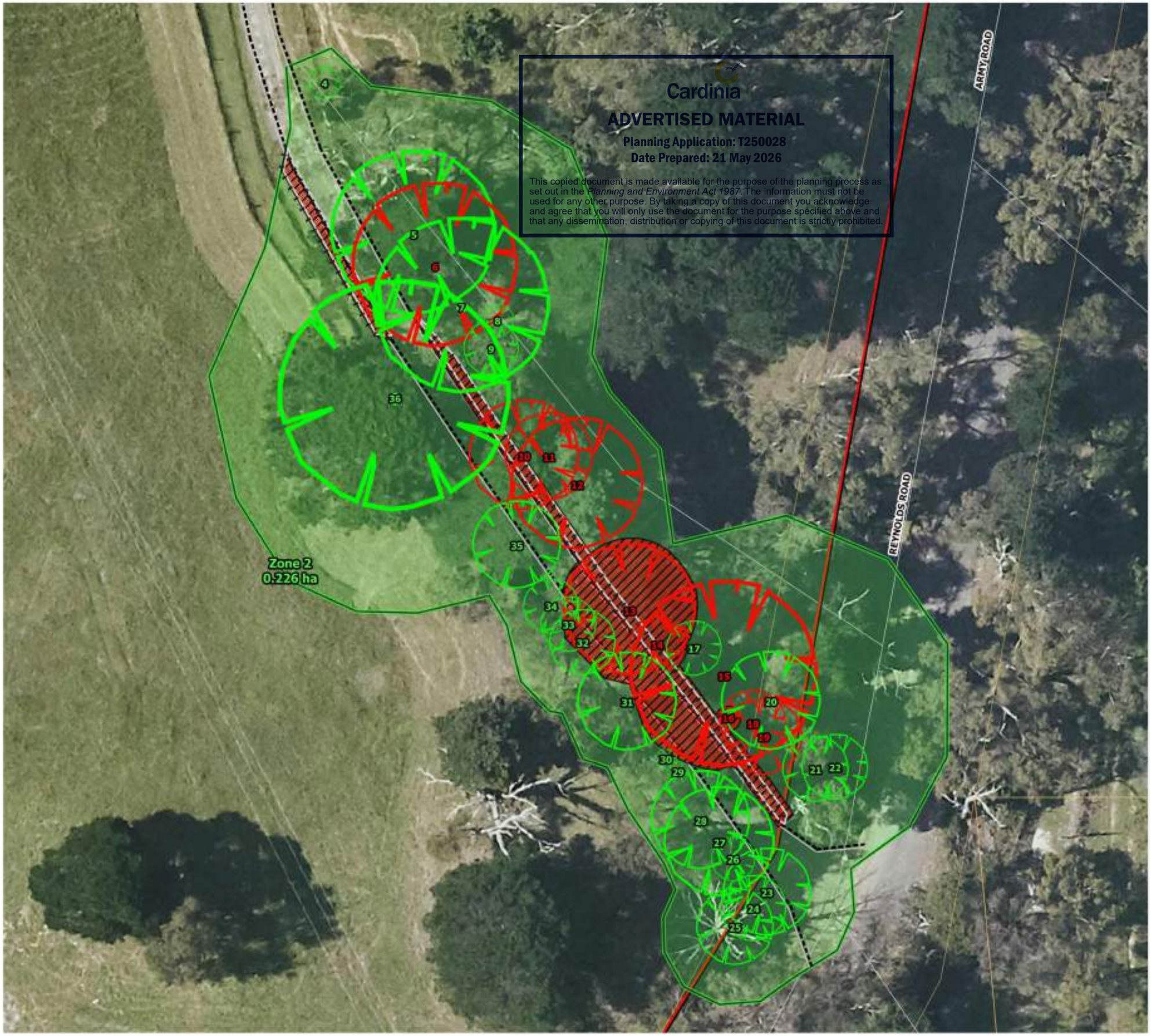
Date: 15 December 2025
Created b[redacted]
Map Program: QGIS 3.44

Scale (A3)

1:720

0 10 20 m

RANGES Environmental
info@rangesconsulting.com



Map 2B - Exxisting Conditons and Development Layout

45 Reynolds Road Pakeham

- Title Boundary
- Existing Driveway
- Recommended Earthworks
- Remove
- Trees to be removed
- Native Vegetation Patch
- Native Vegetation Loss (includes understorey and full extent of indigenous canopy to be removed)

Date: 12 Sep [redacted]
Created by: [redacted]
Map Program: QGIS 3.34

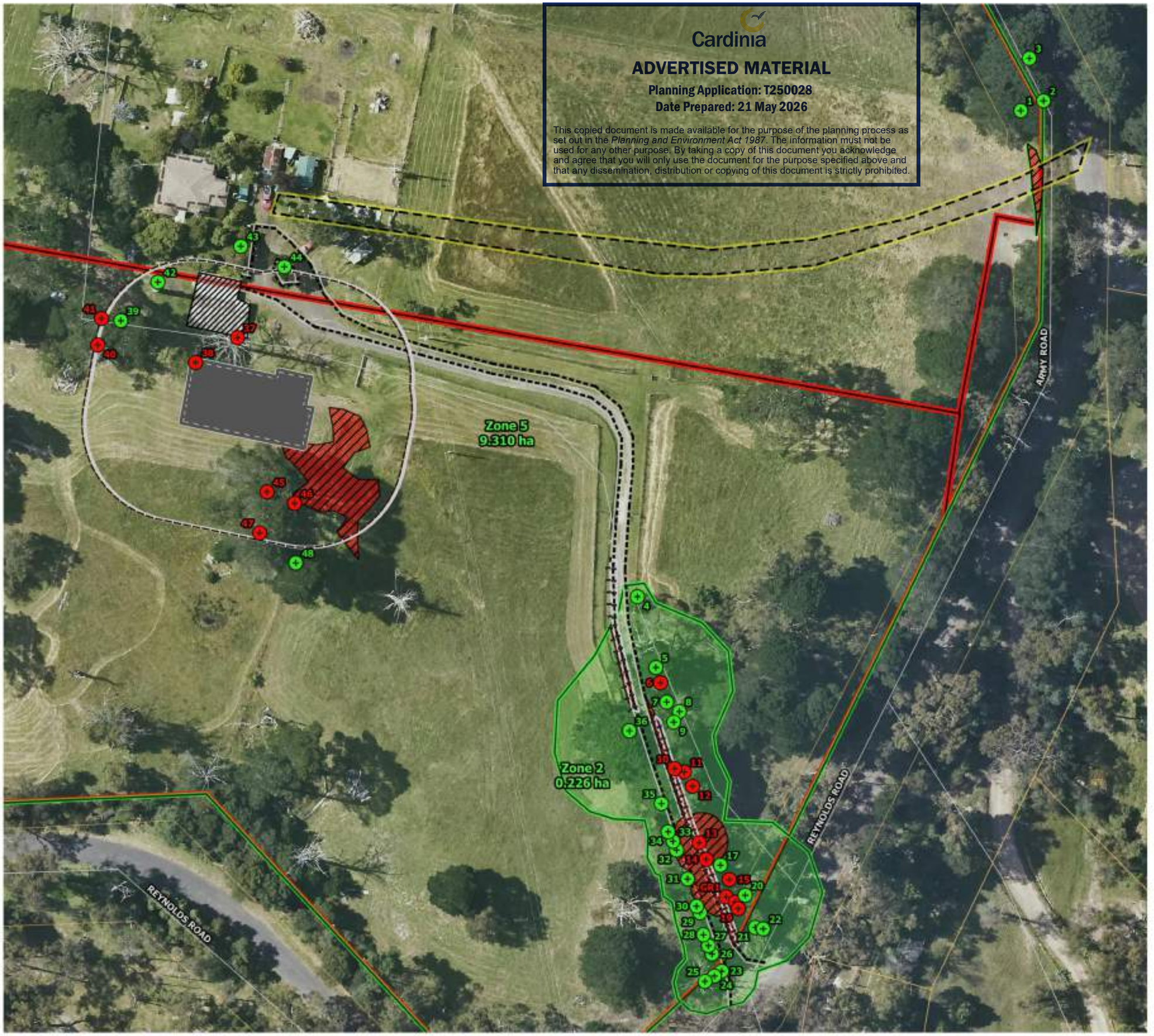
Scale (A3)

1:300

N

0 10 20 m

RANGES Environmental
info@rangesconsulting.com



Map 3 - Native Vegetation Removal

45 Reynolds Road Pakeham

- Title Boundary
- Parcel

Tree Assessment

- To be removed
- To be retained
- Native Vegetation Removal
- Non-Native
- Habitat Zones

Development Layout

- Driveway
- Proposed Dwelling
- Defendable Space
- Existing Shed
- Existing Dwelling
- Proposed New Driveway
- Recommended Earthworks

Date: 15 De[redacted]
Created by: [redacted]
Map Progra[redacted]

Scale (A3)

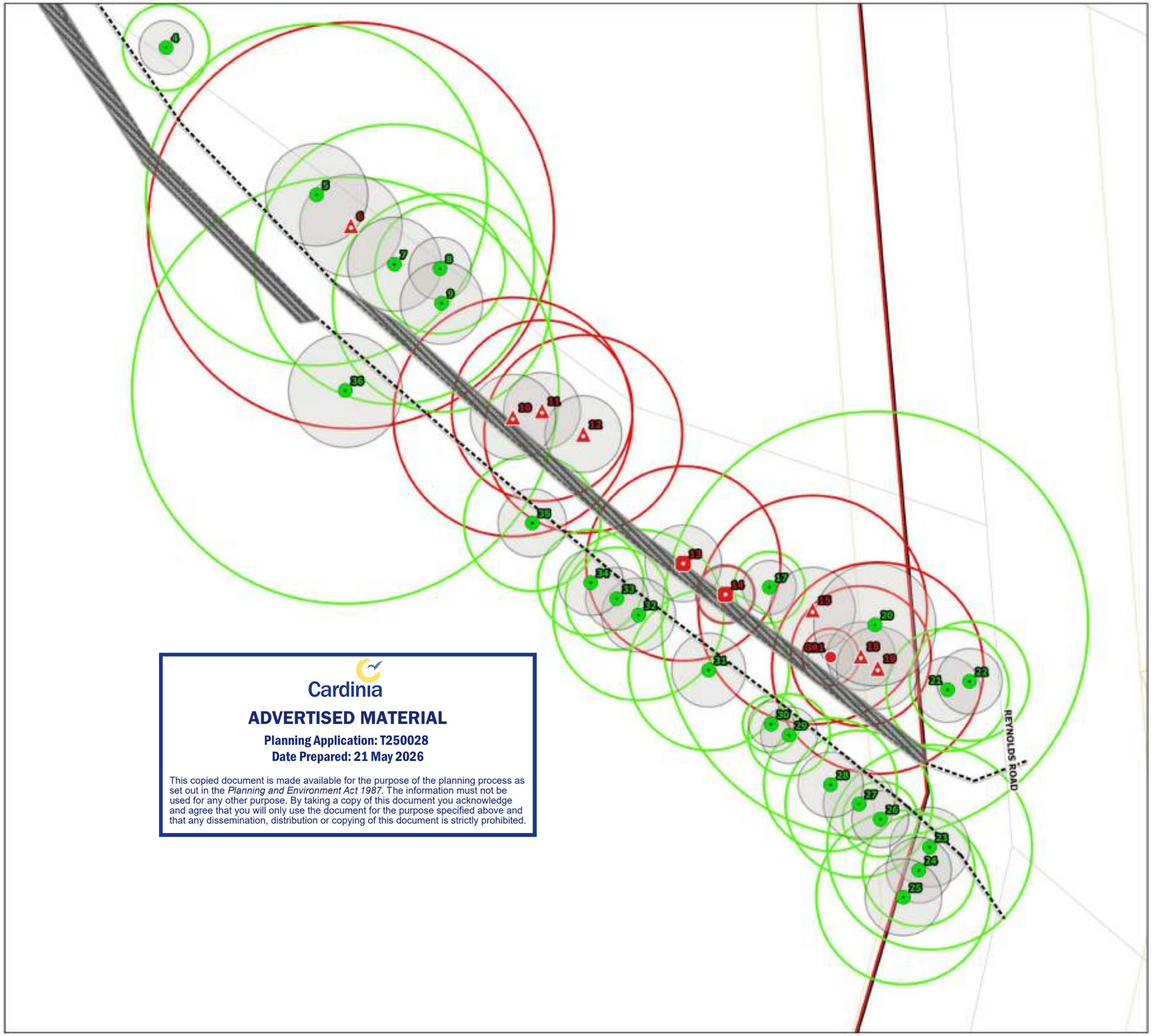
1:720

N

0 25 50 m

RANGES Environmental

info@rangesconsulting.com



Map 4 - SRZ Driveway Incursions

45 Reynolds Road Pakeham

Title Boundary

Existing Driveway

Recommended Earthworks

Tree Assessment

Eucalypt to be removed

Pine Trees to be removed

Understorey Tree to be removed

Trees to be retained

Structural Root Zone

Remove (NRZ)

Retain (NRZ)

Date: 12 September 2025

Created by [redacted]

Map Program: QGIS 3.34

Scale (A3)

1:250

0 5 10 m

N

RANGES Environmental

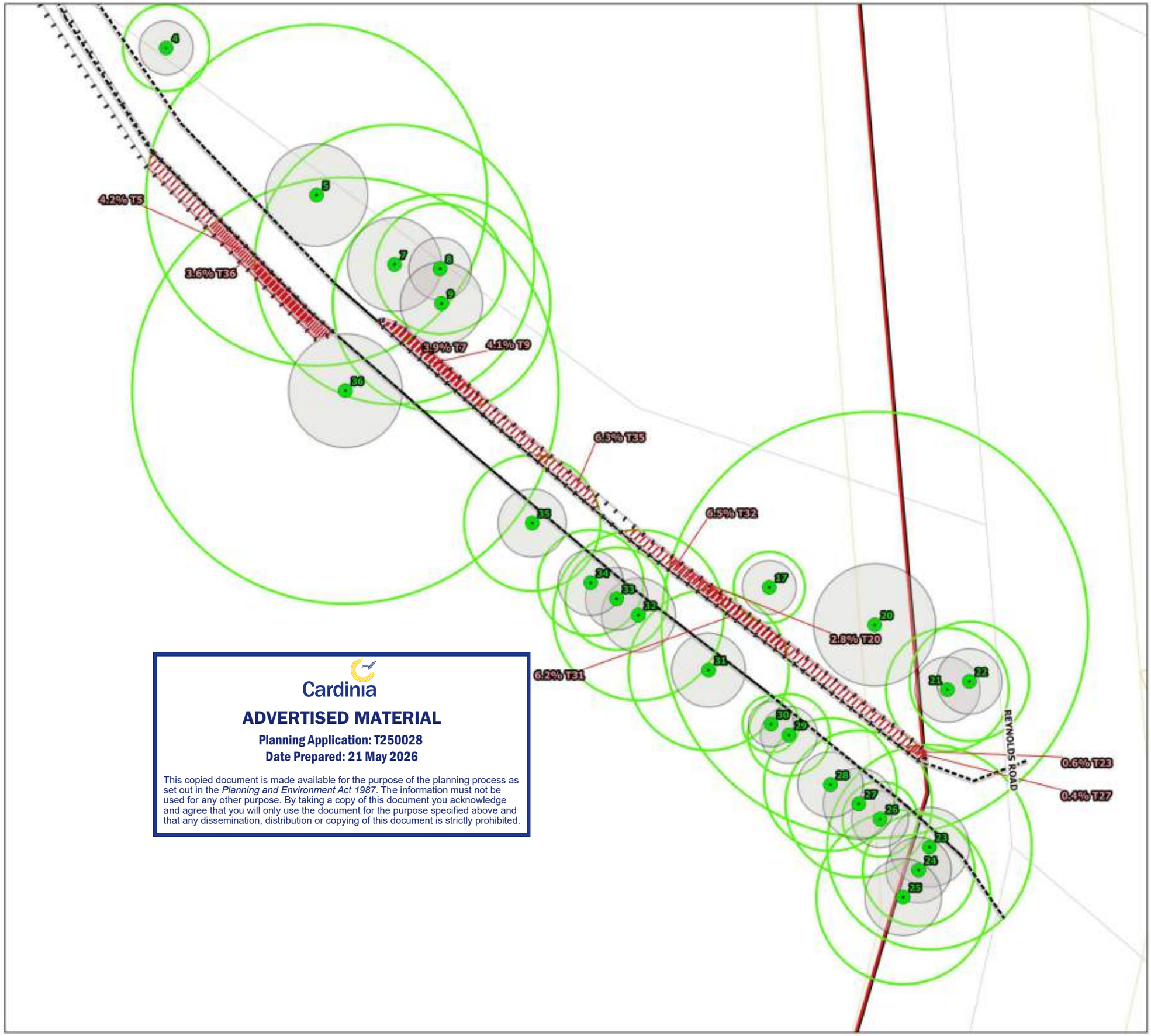
info@rangesconsulting.com

Cardinia

ADVERTISED MATERIAL

Planning Application: T250028

Date Prepared: 21 May 2026



Map 5 - TPZ Incursions from proposed earthworks

45 Reynolds Road Pakeham

Title Boundary

Recommended Earthworks

Existing Driveway

Tree Assessment

Trees to be retained

TPZ Incursion

NRZ (Retained Trees Only)

Structural Root Zone

Date: 12 [redacted]
Created
Map Pro

Scale (A3)

1:250

0 5 10 m

N

RANGES Environmental

info@rangesconsulting.com

Appendix 2 – Flora List

* Introduced species # Victorian species outside their natural range p Planted

ORIGIN	Scientific Name	Common Name	Vic Lifeform
	Acacia dealbata	Silver Wattle	Understorey tree or large shrub
	Acacia melanoxylon	Blackwood	Understorey tree or large shrub
*	*Acacia mucronata subsp. longifolia*	Narrow-leaf Wattle	Medium shrub
	Acaena novae-zelandiae	Bidgee-widgee	Medium herb
*	*Agrostis capillaris*	Brown-top Bent	Medium to small tufted graminoid
	Allocasuarina littoralis	Black Sheoak	Understorey tree or large shrub
*	*Anthoxanthum odoratum*	Sweet Vernal-grass	Medium to small tufted graminoid
p	*Arbutus unedo*	Strawberry Tree	Large tree
*	*Arctotheca calendula*	Cape Weed	Medium herb
*	*Asparagus asparagoides*	Bridal Creeper	Scrambler or climber
	Callistemon spp.	Bottlebrush	Shrub > 1m in height
*	*Cenchrus clandestinus*	Kikuyu	Large non-tufted graminoid
*	*Centaurium erythraea*	Common Centaury	Medium herb
*	*Cirsium vulgare*	Spear Thistle	Large herb
*	*Cynodon dactylon*	Couch	Medium to tiny non-tufted graminoid
*	*Cyperus eragrostis*	Drain Flat-sedge	Medium to small tufted graminoid
*	*Dactylis glomerata*	Cocksfoot	Medium to tiny non-tufted graminoid
	Dichondra Repens	Kidney Weed	Small Herb
*	*Ehrharta erecta*	Panic Veldt-grass	Medium to small tufted graminoid
	Epacris impressa	Common Heath	Medium shrub
	Eucalyptus goniocalyx	Bundy	Large Tree
	Eucalyptus radiata	Narrow-leaf Peppermint	Understorey tree or large shrub
	Eucalyptus viminalis subsp. viminalis	Manna Gum	Understorey tree or large shrub
	Euchiton involucratus	Common Cudweed	Medium herb
	Exocarpos cupressiformis	Cherry Ballart	Understorey tree or large shrub
	Gahnia radula	Thatch Saw-sedge	Large tufted graminoid
*	*Galium aparine*	Cleavers	Scrambler or climber
	Gonocarpus humilis	Shade Raspwort	Medium herb
*	*Holcus lanatus*	Yorkshire Fog	Large non-tufted graminoid
	Hypericum gramineum	Small St John's Wort	Medium herb
*	*Ilex aquifolium*	English Holly	Understorey tree or large shrub
	Juncus sp.	Leafless Rush	Large tufted graminoid
	Leptospermum continentale	Prickly Tea-tree	Medium shrub

ORIGIN	Scientific Name	Common Name	Vic Lifeform
	Lomandra filiformis	Wattle Mat-rush	Medium to small tufted graminoid
	Lomandra longifolia	Spiny-headed Mat-rush	Large tufted graminoid
#p	*Melaleuca sp.*	Paperbark	Medium shrub
	Melicytus dentatus	Tree Violet	Medium shrub
	Microlaena stipoides var. stipoides	Weeping Grass	Medium to tiny non-tufted graminoid
*	*Pinus radiata*	Radiata Pine	Understorey tree or large shrub
#	*Pittosporum undulatum*	Sweet Pittosporum	Understorey tree or large shrub
*	*Plantago lanceolata*	Ribwort	Large herb
	Poranthera microphylla s.l.	Small Poranthera	Medium herb
*	*Prunella vulgaris*	Self-heal	Medium herb
*	*Prunus spp.*	Prunus	Medium shrub
*	*Pyrus communis*	Pear	Understorey tree or large shrub
*	*Rosa rubiginosa*	Sweet Briar	Medium shrub
	Rubus parvifolius	Small-leaf Bramble	Scrambler or climber
	Rytidosperma spp.	Wallaby Grass	Small Tufted Grass
*	*Senecio jacobaea*	Ragwort	Large herb
*	*Solanum nigrum s.l.*	Black Nightshade	Large herb
*	*Sporobolus africanus*	Rat-tail Grass	Medium to small tufted graminoid
	Themeda triandra	Kangaroo Grass	Medium to small tufted graminoid
	Thuidiopsis furfurosa	Golden Weft-moss	Small or prostrate herb
*	*Urtica urens*	Small Nettle	Large herb
*	*Zantedeschia aethiopica*	White Arum-lily	Large herb

Attachment 1. Native Vegetation Removal Report

Provided on the overleaf

Native Vegetation Removal Report

NVRR ID: 311_20250912_927

This report provides information to support an application to remove, destroy or lop native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines). This report is **not an assessment by DEECA** of the proposed native vegetation removal. Native vegetation information and offset requirements have been determined using spatial data provided by the applicant or their consultant.

Report details

Date created: 12/09/2025

Local Government Area: CARDINIA SHIRE

Shapefile name: 25025-NVR.shp

Site assessor name: Emma Madgwick

Registered Aboriginal Party: Bunurong

Coordinates: 145.49138, -38.03246

Address: 45 REYNOLDS ROAD PAKENHAM 3810

Regulator Notes

Removal polygons are located:

Summary of native vegetation to be removed

Assessment pathway	**Basic Assessment Pathway**		
Location category	Location 1 The native vegetation extent map indicates that this area is not typically characterised as supporting native vegetation. It does not meet the criteria to be classified as Location Category 2 or 3. The removal of less than 0.5 hectares of native vegetation in this area will not require a Species Offset.		
Total extent including past and proposed removal (ha) *Includes endangered EVCs (ha): 0*	**0.05**	*Extent of past removal (ha)*	*0*
		Extent of proposed removal - Patches (ha)	*0.050*
		Extent of proposed removal - Scattered Trees (ha)	*0.000*
No. Large Trees proposed to be removed	**0**	*No. Large Patch Trees*	*0*
		No. Large Scattered Trees	*0*
No. Small Scattered Trees	0		

Offset requirements if approval is granted

Any approval granted will include a condition to secure an offset, before the removal of native vegetation, that meets the following requirements:

General Offset amount [1]	**0.011 General Habitat Units**
Minimum strategic biodiversity value score [2]	0.4998
Large Trees	0
Vicinity	Melbourne Water CMA or CARDINIA SHIRE LGA

NB: values within tables in this document may not add to the totals shown above due to rounding

The availability of third-party offset credits can be checked using the Native Vegetation Credit Register (NVCR) Search Tool - https://nvcr.delwp.vic.gov.au

1. The General Offset amount required is the sum of all General Habitat Units in Appendix 1.
2. Minimum strategic biodiversity value score is 80 per cent of the weighted average score across habitat zones where a General Offset is required.
3. The Species Offset amount(s) required is the sum of all Species Habitat Units in Appendix 1.

Application requirements

Applications to remove, destroy or lop native vegetation must include all the below information. If an appropriate response has not been provided the application is not complete.

Application Requirement 1 - Native vegetation removal information

If the native vegetation removal is mapped correctly, the information presented in this Native Vegetation Removal Report addresses Application Requirement 1.

Application Requirement 2 - Topographical and land information

This statement describes the topographical and land features in the vicinity of the proposed works, including the location and extent of any ridges, hilltops, wetlands and waterways, slopes of more than 20% gradient, low-lying areas, saline discharge areas or areas of erosion.

Application Requirement 3 - Photographs of the native vegetation to be removed

Application Requirement 3 is not addressed in this Native Vegetation Removal Report. All applications must include recent, timestamped photos of each Patch, Large Patch Tree and Scattered Tree which has been mapped in this report.

Application Requirement 4 - Past removal

If past removal has been considered correctly, the information presented in this Native Vegetation Removal Report addresses Application Requirement 4.

Application Requirement 5 - Avoid and minimise statement

This statement describes what has been done to avoid and minimise impacts on native vegetation and associated biodiversity values.

Application Requirement 6 - Property Vegetation Plan

This requirement only applies if an approved Property Vegetation Plan (PVP) applies to the property
Does a PVP apply to the proposal?

Application Requirement 7 - Defendable space statement

Where the removal of native vegetation is to create defendable space, this statement:

- Describes the bushfire threat; and

- Describes how other bushfire risk mitigation measures were considered to reduce the amount of native vegetation proposed for removal (this can also be part of the avoid and minimise statement).

This statement is not required if, If the proposed defendable space is within the Bushfire Management Overlay (BMO), and in accordance with the 'Exemption to create defendable space for a dwelling under Clause 44.06 of local planning schemes' in Clause 52.12-5.

Application Requirement 8 - Native Vegetation Precinct Plan

This requirement is only applicable if you are removing native vegetation from within an area covered by Native Vegetation Precinct Plan (NVPP), and the proposed removal is not identified as 'to be removed' within the NVPP.
Does an NVPP apply to the proposal?

Application Requirement 9 - Offset statement

This statement demonstrates that an offset is available and describes how the required offset will be secured. The Applicant's Guide provides information relating to this requirement.

Next steps

Applications to remove, destroy or lop native vegetation must address all the application requirements specified in the Guidelines. If you wish to remove the mapped native vegetation you are required to apply for approval from the responsible authority (e.g. local Council). This Native vegetation removal report must be submitted with your application and meets most of the application requirements. The following requirements need to be addressed, as applicable.

Application Requirement 3 - Photographs of the native vegetation to be removed

Recent, dated photographs of the native vegetation to be removed **must be provided** with the application. All photographs must be clear, show whether the vegetation is a Patch of native vegetation, Patch Tree or Scattered Tree, and identify any Large Trees. If the area of native vegetation to be removed is large, provide photos that are indicative of the native vegetation.

Ensure photographs are attached to the application. If appropriate photographs have not been provided the application is not complete.

Application Requirement 6 - Property Vegetation Plan

If a PVP is applicable, it must be provided with the application.

Appendix 1: Description of native vegetation to be removed

General Habitat Units for each zone (Patch, Scattered Tree or Patch Tree) are calculated by the following equation in accordance with the Guidelines

General Habitat Units = extent without overlap x condition score x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)

The General Offset amount required is the sum of all General Habitat Units per zone.

Native vegetation to be removed

Information provided by or on behalf of the applicant							Information calculated by NVR Map				
Zone	**Type**	**DBH (cm)**	**EVC code**	**Bioregional conservation status**	**Partial Removal**	**Condition score**	**Large Tree(s)**	**Polygon extent (ha)**	**Extent without overlap (ha)**	**SBV score**	**General Habitat Units**
1-a	Patch	-	HSF_0128	Vulnerable	no	0.120	-	0.026	0.026	0.590	0.004
2-c	Patch	-	HSF_0128	Vulnerable	no	0.250	-	0.002	0.002	0.637	0.001
2-d	Patch	-	HSF_0128	Vulnerable	no	0.250	-	0.020	0.020	0.650	0.006
3-b	Patch	-	HSF_0128	Vulnerable	no	0.120	-	0.003	0.003	0.750	0.000

Appendix 2: Images of mapped native vegetation

1. Property in context

Proposed Removal
Past Removal
Partial Removal
Property Boundaries

N

200 m

2. Aerial photograph showing mapped native vegetation

Proposed Removal
Past Removal
Partial Removal

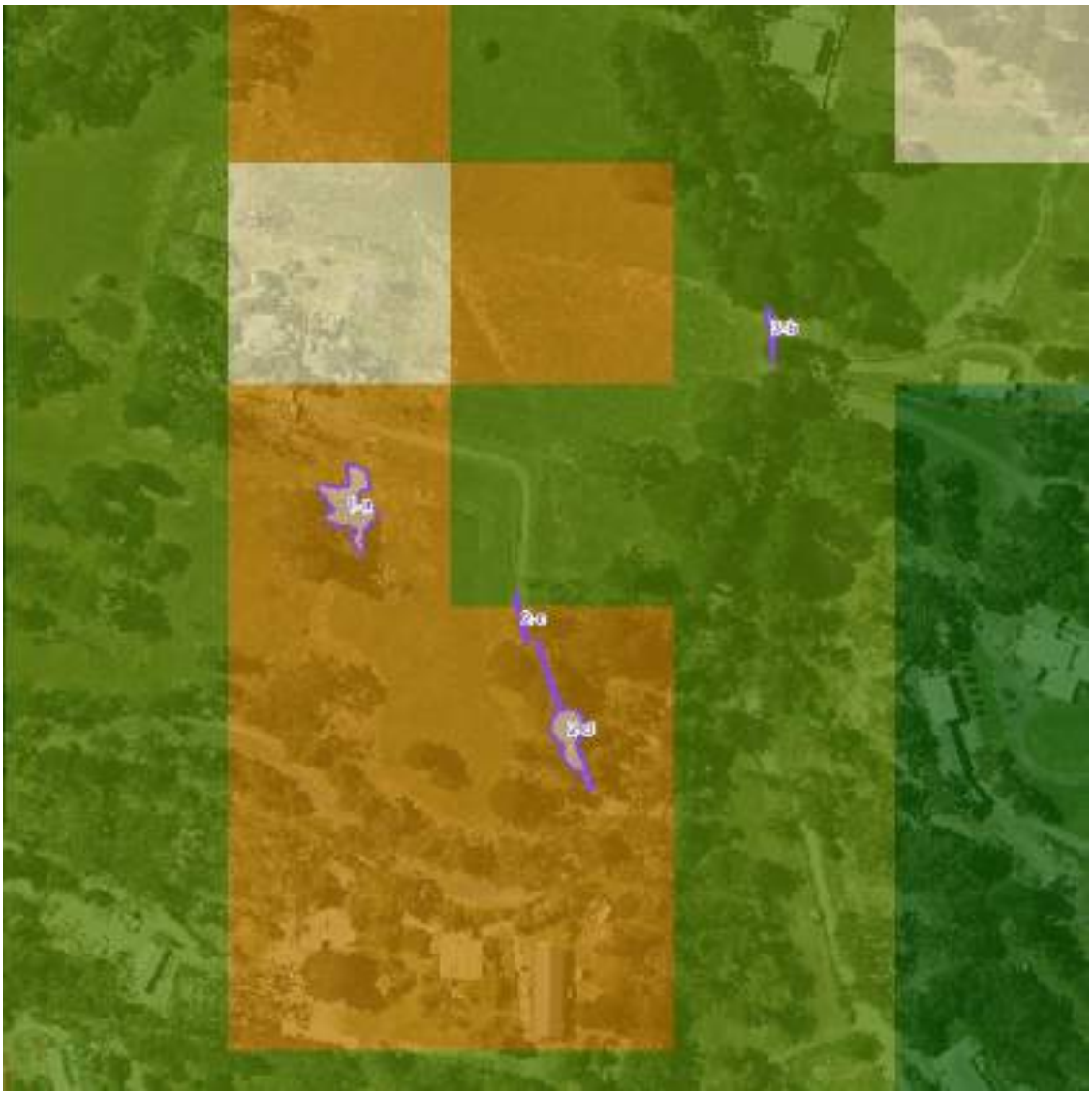
N

55 m

3. Location Risk Map

4. Strategic Biodiversity Value Score Map

5. Condition Score Map



Proposed Removal
Past Removal
Partial Removal

0.81 - 1.00
0.61 - 0.80
0.41 - 0.60
0.21 - 0.40
0.00 - 0.20

N

55 m

6. Endangered EVCs

Not Applicable

Attachment 2. Available Native Vegetation Credits

Provided on the overleaf

Report of available native vegetation credits

This report lists native vegetation credits available to purchase through the Native Vegetation Credit Register.

This report is **not evidence** that an offset has been secured. An offset is only secured when the units have been purchased and allocated to a permit or other approval and an allocated credit extract is provided by the Native Vegetation Credit Register.

Date and time: 12/09/2025 11:18 **Report ID: 31803**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
0.011	0.4998	0	CMA	Melbourne Water

Details of available native vegetation credits on 12 September 2025 11:18

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	1.499	439	Melbourne Water	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	13.399	70	Melbourne Water	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	3.060	1320	Melbourne Water	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	27.704	2422	Melbourne Water	Nillumbik Shire	No	Yes	No	Abezco, VegLink
BBA-0678_02	0.562	58	Melbourne Water	Nillumbik Shire	No	Yes	No	Abezco, VegLink
BBA-1136	0.757	30	Melbourne Water	Mornington Peninsula Shire	Yes	Yes	No	Bio Offsets, VegLink
BBA-2832	0.043	0	Melbourne Water	Nillumbik Shire	Yes	Yes	Yes	Nillumbik SC
BBA-2870	2.544	431	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2870	0.044	0	Melbourne Water	Yarra Ranges Shire	No	Yes	No	Contact NVOR
BBA-2871	13.091	1570	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
TFN-C1636	0.012	109	Melbourne Water	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1663	0.011	20	Melbourne Water	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1962_2	0.011	0	Goulburn Broken, Melbourne Water	Macedon Ranges Shire	No	Yes	No	VegLink
VC_CFL-0838_01	0.126	631	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink

VC_CFL-3016_01	0.013	16	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3682_01	1.834	0	Melbourne Water	Nillumbik Shire	Yes	Yes	No	Abezco
VC_CFL-3687_01	0.053	54	Melbourne Water	Baw Baw Shire	Yes	Yes	No	Baw Baw SC
VC_CFL-3708_01	0.182	450	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3709_01	0.117	280	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3710_01	6.238	322	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3740_01	0.021	42	Melbourne Water	Cardinia Shire, Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3740_01	0.059	14	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3744_01	1.078	347	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3762_01	0.046	76	Melbourne Water	Moorabool Shire	Yes	Yes	No	VegLink
VC_CFL-3764_01	2.091	0	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3764_01	0.349	0	Melbourne Water	Yarra Ranges Shire	Yes	Yes	Yes	VegLink
VC_CFL-3805_01	3.289	802	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3806_01	4.011	145	Melbourne Water	YARRA RANGES SHIRE	Yes	Yes	No	Yarra Ranges SC

These sites meet your requirements using alternative arrangements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)

There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

These potential sites are not yet available, land owners may finalise them once a buyer is confirmed.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3746_01	4.289	494	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3792_01	14.025	1235	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3816_01	10.827	596	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	Contact NVOR

LT - Large Trees *CMA - Catchment Management Authority* *LGA - Municipal District or Local Government Authority*

Next steps

If applying for approval to remove native vegetation
Attach this report to an application to remove native vegetation as evidence that your offset requirement is currently available.

If you have approval to remove native vegetation
Below are the contact details for all brokers. Contact the broker(s) listed for the credit site(s) that meet your offset requirements. These are shown in the above tables. If more than one broker or site is listed, you should get more than one quote before deciding which offset to secure.

Broker contact details

Broker Abbreviation	Broker Name	Phone	Email	Website
	Fully traded			
Abezco	Abzeco Pty. Ltd.	(03) 9431 5444	offsets@abzeco.com.au	www.abzeco.com.au
Baw Baw SC	Baw Baw Shire Council	(03) 5624 2411	bawbaw@bawbawshire.vic.gov.au	www.bawbawshire.vic.gov.au
Bio Offsets	Biodiversity Offsets Victoria	0452 161 013	info@offsetsvictoria.com.au	www.offsetsvictoria.com.au
Contact NVOR	Native Vegetation Offset Register	136 186	nativevegetation.offsetregister@deeca.vic.gov.au	www.environment.vic.gov.au/native-vegetation
Ecocentric	Ecocentric Environmental Consulting	0410 564 139	ecocentric@me.com	Not avaliable
Ethos	Ethos NRM Pty Ltd	(03) 5153 0037	offsets@ethosnrm.com.au	www.ethosnrm.com.au
IDES	Indigenous Design Environmental Services Pty Ltd	(03) 9437 0555		www.idecological.com.au
Nillumbik SC	Nillumbik Shire Council	(03) 9433 3316	offsets@nillumbik.vic.gov.au	www.nillumbik.vic.gov.au
TFN	Trust for Nature	8631 5888	offsets@tfn.org.au	www.trustfornature.org.au
VegLink	Vegetation Link Pty Ltd	(03) 8578 4250 or 1300 834 546	offsets@vegetationlink.com.au	www.vegetationlink.com.au
Yarra Ranges SC	Yarra Ranges Shire Council	1300 368 333	biodiversityoffsets@yarraranges.vic.gov.au	www.yarraranges.vic.gov.au

For more information contact the DEECA Customer Service Centre 136 186 or the Native Vegetation Credit Register at nativevegetation.offsetregister@delwp.vic.gov.au

Attachment 3. - Development Plan

Provided on the overleaf

DRAINAGE NOTES:

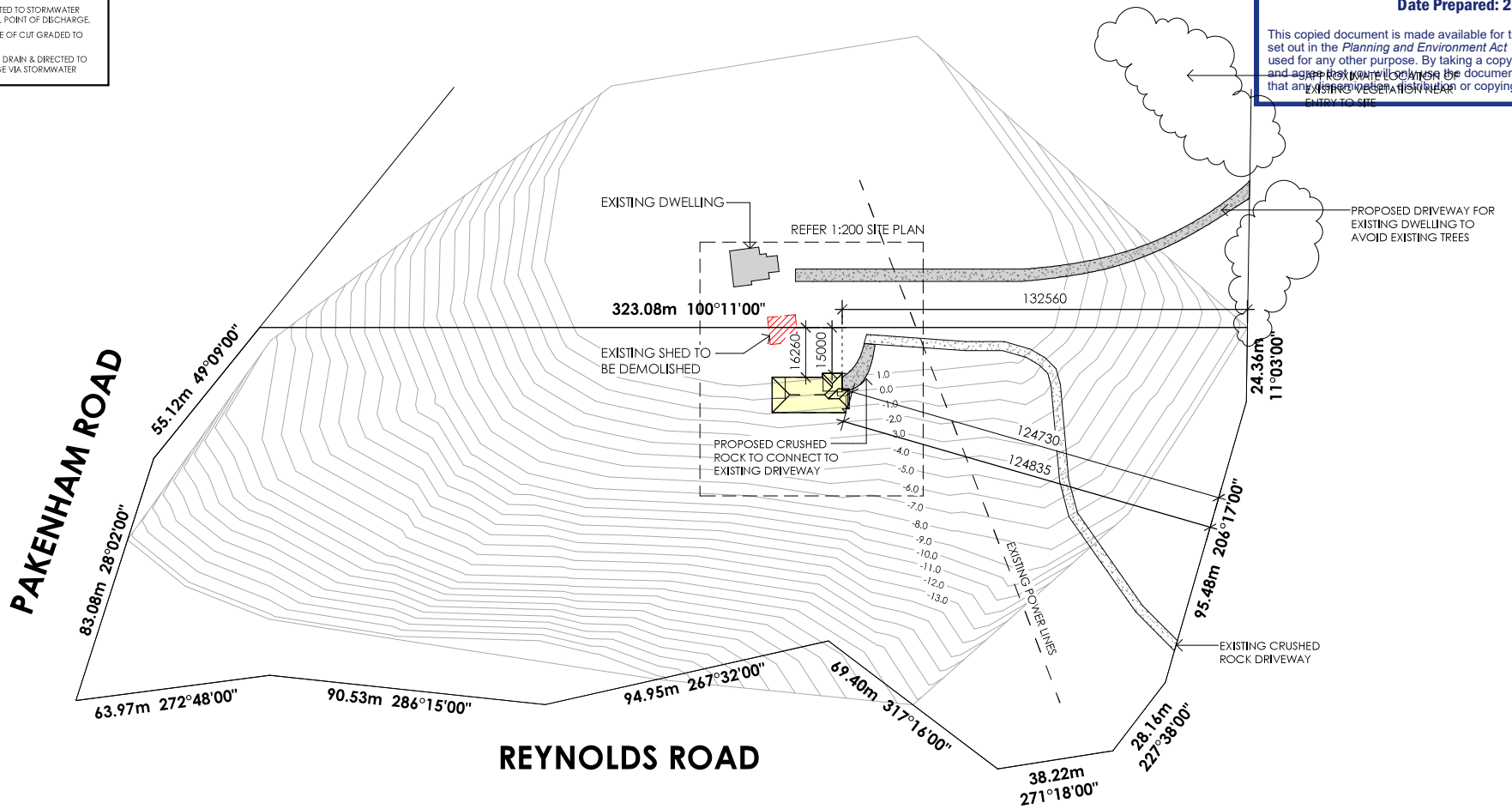
- SITE DRAINAGE SHALL COMPLY WITH NCC 3.1.2 'DRAINAGE AND AS3500 NATIONAL PLUMBING DRAINAGE CODE.
- BASE OF CUT GRADED TO SILT TRAP AT 1:100 MIN. DRAINS SHALL BE PROTECTED BY GRAVEL FILTERS.
- TEMPORARY DOWNPIPES CONNECTED TO THE STORM WATER SYSTEM TO BE INSTALLED AS SOON AS ROOF COVER IS COMPLETED.
- STORMWATER DRAINS ARE INDICATIVE ONLY. DRAINER TO CONNECT TO LEGAL POINT OF DISCHARGE AT THEIR DISCRETION

GRADE SURFACE AWAY FROM HOUSE FOOTINGS (MINIMUM FALL 1:20).

GRATED INLET PIT CONNECTED TO STORMWATER SYSTEM DIRECTED TO LEGAL POINT OF DISCHARGE.

PROVIDE AG DRAIN AT BASE OF CUT GRADED TO SILT PIT AT 1:100 MIN.

SILT PIT CONNECTED TO AG DRAIN & DIRECTED TO LEGAL POINT OF DISCHARGE VIA STORMWATER SYSTEM



SITE COVERAGE ANALYSIS

BUILDING AREA	285.53 m²	0.68%
PERMEABLE AREA	41688.98 m²	99.32%
TOTAL SITE AREA	41974.51 m²	100%

SJD homes
433 Princes Hwy
Officer VIC 3809
Ph: 9095 8000
Fax: 9095 8010
info@sjdhomes.com.au

BL No. CDB-U 56523

PROPOSED:
HOUSE & GARAGE

HOUSE TYPE:
CAVERSHAM 307 - RH

SIGNED BUILDER:

SIGNED OWNER:

DATE:

CLIENT:
A. REYNOLDS

SITE ADDRESS:
LOT 1, No. 45 REYNOLDS ROAD
PAKENHAM, 3810

DRAWING TITLE:
LOCALITY PLAN

ISSUE: C
ISSUE DATE: 12.12.24
SCALE: 1 : 1500
MASTER DATE: 23.04.24
DRAWN: TLG
CHECKED: TLG
SHEET NO: 02
OF: 12

Planning Permit Application
Dwelling
45 Reynolds Road Pakenham

January 2025
Revised December 2025

xwb consulting
Town Planning and Bushfire Consultants

1. Introduction

XWB Consulting has been engaged by the Estate of Peter Charles Reynolds and Terry Reynolds to prepare a planning permit application for a dwelling on Lot 1 TP169609X and a driveway on Lot 2 TP169609X being part of 45 Reynolds Road Pakenham.

The planning permit application and planning report have been prepared by:

[redacted]
XWB Consulting
PO Box 752
Beaconsfield 3807

mail@xwbconsulting.com.au
Ph: 0408 517 143

2. Land and locality

Lot 1 is located on the north east corner of Pakenham Road and Reynolds Road approximately 4.2km north of the Princes Highway. Lot 1 has an area of 4.179ha and forms part of a larger property comprising 3 lots at 45 Reynolds Road Pakenham. The location of the property and details of Lot 1 are shown on the plan and aerial photograph below:

Lot 1 is vacant and comprises open paddocks with scattered trees with denser vegetation located in proximity to the western and eastern boundaries. The land falls with a moderate to steep slope to the south, with more moderate slopes located at the eastern end of the land. A driveway and powerline to the existing dwelling on Lot 2 to the north passes through Lot 1.

Reynolds Road is a rural standard road with a narrow sealed pavement.

The land is not within an area of Aboriginal cultural heritage sensitivity on the mapping available through the Department of Transport and Planning.

Lot 1 is contained in Certificate of Title Volume 12335 Folio 433. The title is not affected by any restrictive covenants or other encumbrances. Lot 2 containing the existing dwelling is contained in Certificate of Title Volume 12335 Folio 434. The title is not affected by any restrictive covenants or other encumbrances.

The surrounding area is generally characterised by smaller rural and rural residential lots within the Green Wedge, Green Wedge A and Rural Conservation Zones. Lots comprise a mix rural residential development, open paddocks used for limited grazing purposes and pockets of vegetation.

3. Proposal

The application proposes:

- The construction of a dwelling on Lot 1.
- The removal vegetation for the construction of the dwelling, defendable space and the upgrading of the driveway on Lot 1 including 13 pine trees, 2 native canopy trees, a group of native understorey trees and native vegetation ground cover.
- The construction of a new driveway to the existing dwelling on Lot 2.
- The removal native vegetation groundcover for the construction of the new driveway.

The proposal is shown on the site plan below:

The dwelling:

- Is located to the south east of the existing dwelling on the lot to the north and is setback a minimum of 124.7m from Reynolds Road to the east.
- Will have a floor area of 285.5sqm including the garage, outdoor living area and porch.
- Is a single storey building with a maximum height of 6.19m above natural ground level.
- Will have a mix of brick, rendered brick and rendered cement sheet walls. Bricks will be an "Austral Domain Sanctuary" and the render will be "Colourbond Wallaby". The roof will comprise concrete tiles which will be "Colourbond Monument".
- Involves cuts and fill with a cut of approximately 1000mm and a maximum fill depth of approximately 2000mm.
- Will utilise the existing driveway with a new driveway to be provided to the dwelling on Lot 2 to the north.

The site of the dwelling is largely clear of trees.

Detailed plans of the dwelling have been submitted with the application.

4. Planning Scheme Provisions

4.1 State Planning Policy

A number of state planning policies are relevant to the application as set out below:

Policy	Objective
11.01-1R Green Wedges	To protect the green wedges of metropolitan Melbourne from inappropriate development.
12.01-2S Native Vegetation Management	To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation.
13.02-1S Bushfire Planning	To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.
14.01 Agriculture	To protect the state's agricultural base by preserving productive farmland.
14.01-1R Protection of Agricultural Land Metropolitan Melbourne	Protect agricultural land in Metropolitan Melbourne's green wedges and peri-urban areas to avoid the permanent loss of agricultural land in those locations.

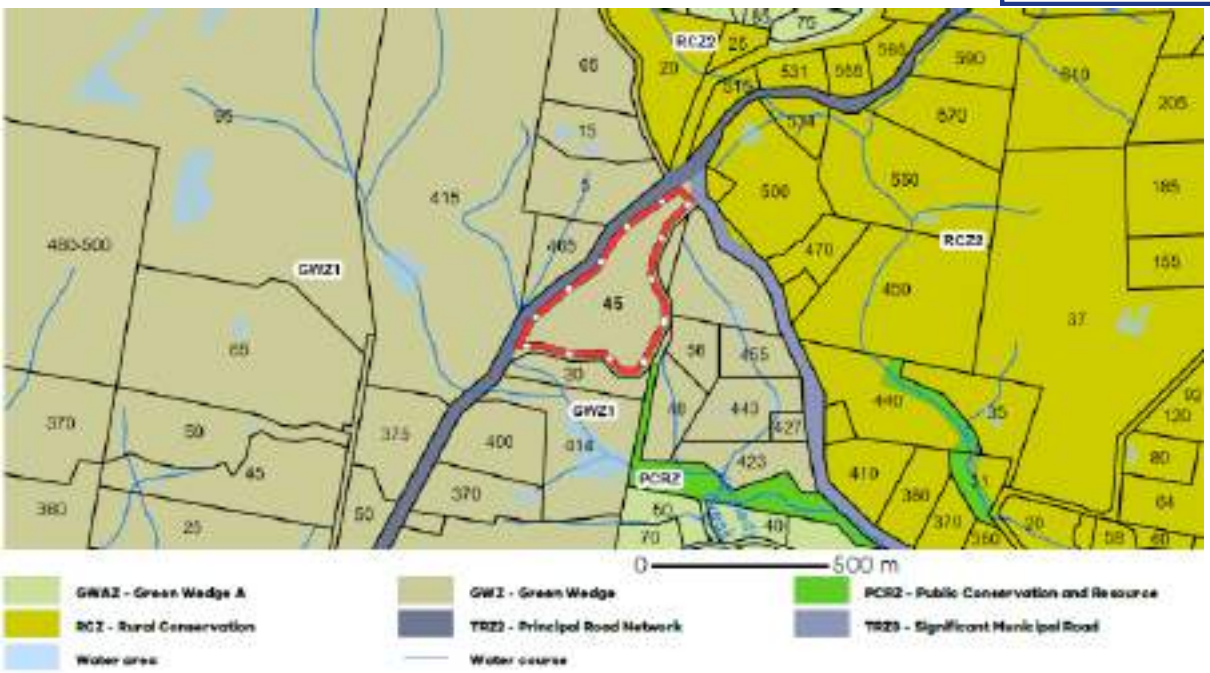
4.2 Local Planning Policy

A number of local planning policies are relevant to the application as set out below:

Policy	Objective/s
21.02-2 Landscape	To recognise and protect the diverse landscape and areas of significant landscape value.
21.02.3 Biodiversity	To achieve no net loss in the quantity and quality of native vegetation in the municipality. To maintain and enhance the diversity of indigenous habitats and species. To reduce the spread and extent of pest plants and animals.
21.02-4 Bushfire Management	To recognise that areas in the municipality are prone to bushfire and to minimise the potential risk to life, property and the environment.
21.04-2 Agriculture	To maintain agriculture as a strong and sustainable economic activity within the municipality.

4.3 Zone Provisions

The property is within a Green Wedge Zone (Schedule 1) (GWZ1) under the Cardinia Planning Scheme as shown on the plan below:

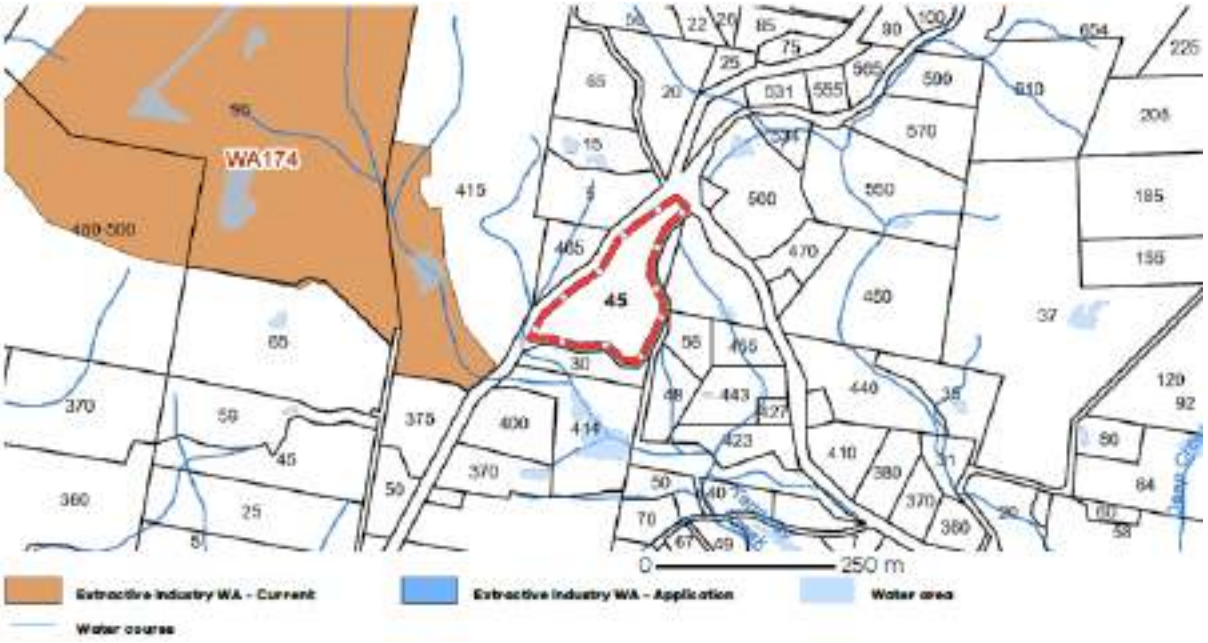


The purpose of the Green Wedge Zone is:

- To implement the Municipal Planning Strategy and Planning Policy Framework.
- To provide for the use of land for agriculture.
- To recognise, protect and conserve green wedge land for its agricultural, environmental, historic, landscape, recreational and tourism opportunities, and mineral and stone resources.
- To encourage use and development that is consistent with sustainable land management practices.
- To encourage sustainable farming activities and provide opportunity for a variety of productive agricultural uses.
- To protect, conserve and enhance the cultural heritage significance and the character of open rural and scenic non-urban landscapes.
- To protect and enhance the biodiversity of the area.

A planning permit is required for the use of Lot 1 for a dwelling under the Green Wedge Zone. A planning permit is required to construct a building, and to construct and carry out works under the Green Wedge Zone.

Under the Green Wedge Zone, a planning permit is required for a building or works associated with accommodation located within 500m from the nearest title boundary of land on which a work authority has been applied for or granted under the Mineral Resources (Sustainable Development) Act 1990. The site of the dwelling is within 500m of an existing work authority as shown on the plan below, however the site if the dwelling is located 850m from the nearest areas of extraction or processing of quarried materials.



4.4 Overlay Provisions

The land is within an Environment Significance Overlay (Schedule 1 under the Cardinia Planning Scheme.

The Environmental Significance Overlay (ESO1) is shown on the plan below:

The purpose of the Environmental Significance Overlay is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To identify areas where the development of land may be affected by environmental constraints.
- To ensure that development is compatible with identified environmental values.

The overlay sets out that a schedule to this overlay must contain a statement of environmental significance and the environmental objective to be achieved.

The schedule sets out the following statement of environmental significance:

The hills to the northern part of the municipality (generally to the north of the Princes Highway) is an area with significant landscape and environmental values. The area is characterised by a geology of Devonian Granitic and Sulrian Sediment origin, moderate to steep slopes, and areas of remnant vegetation. These characteristics contribute to environmental values including landscape quality, water quality, and habitat of botanical and zoological significance. These characteristics are also a significant factor in terms of environmental hazards including erosion and fire risk.

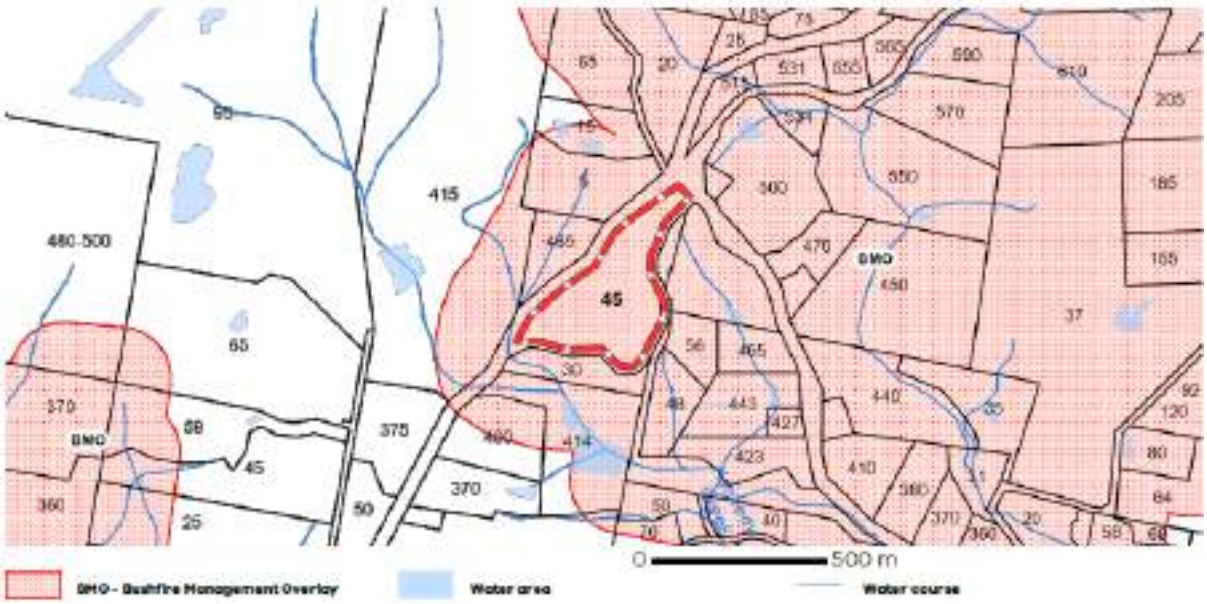
The vegetation supports the ecological processes and biodiversity of this area by forming core habitat areas within a complex network of biolink wildlife corridors. Sites containing threatened flora and fauna are defined as being of botanical and zoological significance. Development within and around these sites need to be appropriately managed to ensure the long term protection, enhancement and sustainability of these ecological processes and the maintenance of biodiversity.

The environmental objectives to be achieved under the schedule to the overlay are:

- To protect and enhance the significant environmental and landscape values in the northern hills area including the retention and enhancement of indigenous vegetation.
- To ensure that the siting and design of buildings and works does not adversely impact on environmental values including the diverse and interesting landscape, areas of remnant vegetation, hollow bearing trees, habitat of botanical and zoological significance and water quality and quantity.
- To ensure that the siting and design of buildings and works addresses environmental hazards including slope, erosion and fire risk, the protection of view lines and maintenance of vegetation as the predominant feature of the landscape.
- To protect and enhance biolinks across the landscape and ensure that vegetation is suitable for maintaining the health of species, communities and ecological processes, including the prevention of the incremental loss of vegetation.

A permit is required under the Environmental Significance Overlay to construct a building, or to construct and carry out works. A permit is required under the Environmental Significance Overlay to remove vegetation including exotic vegetation.

The land is also in a Bushfire Management Overlay under the Cardinia Planning Scheme as shown on the plan below:



The purpose of the Bushfire Management Overlay is to:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- 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.

A planning permit is required to construct a dwelling under the Bushfire Management Overlay.

4.5 Particular Provisions

The provisions at Clause 52.09 Extractive Industry and Extractive Industry Interest Areas apply to the application. The purpose of the provisions is:

- To ensure that use and development of land for extractive industry does not adversely affect the environment or amenity of the area during or after extraction.
- To ensure that excavated areas can be appropriately rehabilitated.
- To ensure that stone resources, which may be required by the community for future use, are protected from inappropriate use and development.

Land on the west side of Pakenham Road is within a Work Authority (174) associated with the Mt Shamrock Quarry.

There is no permit trigger under the provisions of Clause 52.09. The provisions set out application requirements and decision guidelines for applications for extractive industry, but not for development proximate to an extractive industry. The Secretary administering the Mineral Resources (Sustainable Development) Act 1990 is a recommending referral authority for an application to use or develop land for accommodation in a rural zone if the building or works associated with the accommodation is located within 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the Mineral Resources (Sustainable Development) Act 1990.

The native vegetation provisions at Clause 52.17 apply to the application. The purpose of the provisions is:

The purpose of the provisions is:

- To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017) (the Guidelines):
    - Avoid the removal, destruction or lopping of native vegetation.
    - Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
    - Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.
- To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.

A planning permit is required to remove native vegetation.

The provisions at Clause 53.02 Bushfire Planning apply to the application. The purpose of the provisions is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- 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.

The bushfire planning provisions set out the requirements related to an application under the Bushfire Management Overlay.

4.5 Summary of permit triggers

A planning permit under the Cardinia Planning Scheme is required for:

- The use of Lot 1 for a dwelling under Clause 35.04-1 of the Green Wedge Zone.
- Buildings and works under Clause 35.04-5 of the Green Wedge Zone for the construction of the dwelling and upgrading of the driveway on Lot 1.
- Works under Clause 35.04-5 of the Green Wedge Zone for the construction of a new driveway to the existing dwelling on Lot 2.
- Buildings and works under Clause 42.01-2 of the Environmental Significance Overlay for the construction of the dwelling and upgrading of the driveway on Lot 1.
- Buildings and works under Clause 42.01-2 of the Environmental Significance Overlay for the construction of the new driveway on Lot 2 to the existing dwelling.
- The removal of vegetation under Clause 42.01-2 of the Environmental Significance Overlay for the construction of the dwelling, defendable space and upgrading of the driveway on Lot 1.
- The removal of vegetation under Clause 42.01-2 of the Environmental Significance Overlay for the construction of the new driveway to the existing dwelling on Lot 2.
- Buildings and works associated with accommodation under Clause 44.06-2 of the Bushfire Management Overlay.
- The removal of native vegetation under Clause 52.17-1 for the construction of the dwelling, defendable space and upgrading of the driveway on Lot 1.
- The removal of native vegetation under Clause 52.17-1 for the construction of the the new driveway to the existing dwelling on Lot 2.

5 Consideration

Conditions for use of land

Access to the dwelling will be via Reynolds Road and the existing driveway. Reynolds Road is a sealed public road, and the existing driveway will be upgraded to meet bushfire access requirements. Reynolds Road and the upgraded driveway will provide for an all-weather road with dimensions adequate to accommodate emergency vehicles.

Reticulated sewerage is not available to Lot 1. An on-site wastewater management system will be provided to treat and retain all wastewater from the dwelling within the lot in accordance with the requirements of the Environment Protection Regulations under the Environment Protection Act 2017. A Land Capability Assessment has been undertaken by HardCore Geotech confirming Lot 1 is suitable for an onsite wastewater disposal system.

Reticulated water is not available to Lot 1. Tanks will be provided for the dwelling to provide water for domestic use as well as for fire fighting purposes.

Reticulated electricity is available to Lot 1 and the proposed dwelling will be connected to the reticulated electricity supply.

Agriculture

The surrounding area is generally characterised by smaller rural and rural residential lots within the Green Wedge, Green Wedge A and Rural Conservation Zones. Lots comprise a mix rural residential development, open paddocks used for limited grazing purposes and pockets of vegetation. The land and surrounding area would not be classified as high quality productive agricultural land with the map in Clause 21.04-2 identifying the land as being of poor agricultural quality and is not currently used for productive agricultural purposes. Therefore the dwelling will not result in the loss of productive agricultural land such as the areas in the Cardinia Shire used for larger scale grazing or horticultural purposes as required by state planning policy and will not adversely affect surrounding agricultural uses. The land is suitable for smaller scale agricultural uses such as horse husbandry which can be provided on the land consistent with the purpose of the Green Wedge zone to provide for the use of the land for agriculture. An agricultural zone has been identified as part of a land management plan prepared for the application.

Green Wedge Zone

Having regard to the purposes of the Green Wedge Zone:

- Lot 1 allows for the limited use of the land for smaller scale agricultural uses such as horse husbandry consistent with the nature of existing properties in the area.
- The application provides for land management for small scale agriculture, the protection and enhancement of native vegetation on the site, and the management of weeds and pest animals. The dwelling is sufficiently setback from extractive industry operations to avoid any amenity impacts.
- A land management plan has been prepared by Ranges Environmental Consulting to encourage use and development that is consistent with sustainable land management practices.
- Biodiversity impacts have been minimised in terms of native vegetation removal and there is the opportunity to increase biodiversity values through the land management plan.

The section above on agriculture outlines how relevant decision guidelines on agriculture in the Green Wedge Zone are met.

Vegetation

The dwelling is sited within an open paddock with minimal impact on vegetation.

A total of 7 Pinus radiata trees are located in close proximity to the proposed dwelling and are proposed to be removed. Whilst a permit is required for the removal of the tree under the Environmental Significance Overlay, removal of the trees is considered appropriate as they are recognised by the Cardinia Planning Scheme as an environmental weed, provide no biodiversity value and provide no specific landscape value given similar trees are scattered across the land.

The dwelling also impact a small treeless patch of low quality native vegetation.

A total of 10 trees (3 indigenous trees and 7 exotic trees) are to proposed be removed for the upgrading of the driveway to meet emergency access requirements. Widening of the driveway has been limited to one side which minimises the impact on native vegetation. Given the driveway currently serves the existing dwelling, it would be reasonable to allow for the upgrading of the driveway to ensure bushfire safety.

The new driveway proposed for Lot 2 utilises a gap in roadside vegetation (pine trees) along Reynolds Road avoiding the need for any significant vegetation removal. There is a small patch of understorey nature vegetation impacted.

Native vegetation impacts can be offset through an offset contribution of 0.011 general habitat units which is at the very low end of the scale.

Design

The siting and design of the dwelling are responsive to the characteristics of the site and surrounding area. The proposed building colours are muted tones and given the proposed site, height and colours, the dwelling will not be dominant in the landscape. The dwelling involves cuts and fill with a cut of approximately 1000mm and a maximum fill depth of approximately 2000mm. The fill batter once revegetated with grass will not be distinguishable from the general slope of the paddock.

Bushfire risk

A bushfire assessment has been undertaken for the proposed dwelling which concludes the bushfire risk can be mitigated to an acceptable level.

The proposed dwelling should be constructed to a bushfire attack level of BAL19. Defendable space should be provided for a distance of 20m or to the property boundary (which ever is the lesser) around the proposed dwelling.

A static water supply tank with a capacity of 10,000 litres should be provided for firefighting purposes. Access to the dwelling should be provided via the existing driveway which should be upgraded as required to provide suitable access for emergency vehicles with a new driveway constructed for the existing dwelling on Lot 2.

Extractive industry

Under the Green Wedge Zone, a planning permit is required for a building or works associated with accommodation located within 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the Mineral Resources (Sustainable Development) Act 1990.

The decision guidelines require consideration of:

- The potential for accommodation to be adversely affected by vehicular traffic, noise, blasting, dust and vibration from an existing or proposed extractive industry operation if it is located within 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the *Mineral Resources (Sustainable Development) Act 1990.*
- The need to locate and design buildings used for accommodation to avoid or reduce the impact from vehicular traffic, noise, blasting, dust and vibration from an existing or proposed extractive industry operation if it is located within 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the *Mineral Resources (Sustainable Development) Act 1990* .

Whilst the dwelling is sited within 500m of the title boundary to which a work authority applies, it is located over 850m from the nearest areas of extraction or processing of quarried materials as shown on the aerial photograph below:

Quarrying activities are not proposed with the section of the work authority land within 500m of the proposed dwelling. Therefore is it considered that the proposed dwelling will not be affected by any adverse impacts from the quarry.

It is considered that a planning permit should be issued for the proposed dwelling subject to appropriate permit conditions.

Bushfire Assessment
45 Reynolds Road Pakenham

January 2025
Revised December 2025

xwb consulting
Town Planning and Bushfire Consultants

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 2

1. Introduction

XWB Consulting has been engaged by the Estate of Peter Charles Reynolds and Terry Reynolds to prepare a bushfire assessment for a dwelling at 45 Reynolds Road Pakenham.

The bushfire assessment has been prepared by:

[redacted]
XWB Consulting
PO Box 752
Beaconsfield 3807

mail@xwbconsulting.com.au
Ph: 0408 517 143

2. Site Description

The land is located on the north east corner of Pakenham Road and Reynolds Road approximately 4.2km north of the Princes Highway. The land has an area of 4.179ha and forms part of a larger property comprising 3 lots at 45 Reynolds Road Pakenham. The location of the land and details of the land are shown on the plan and aerial photograph below:

The land is vacant and comprises open paddocks with scattered trees with denser vegetation located in proximity to the western and eastern boundaries. The land falls with a moderate to

steep slope to the south, with more moderate slopes located at the eastern end of the land. A driveway to the existing dwelling on the lot to the north and powerline servicing properties along Reynolds Road passes through the land.

Reynolds Road is a rural standard road with a narrow sealed pavement.

The surrounding area is generally characterised by smaller rural and rural residential lots within the Green Wedge, Green Wedge A and Rural Conservation Zones. Lots comprise a mix rural residential development, open paddocks used for limited grazing purposes and pockets of vegetation.

The site is contained within a Green Wedge Zone under the Cardinia Planning Scheme. The site is also in a Bushfire Management Overlay under the Cardinia Planning Scheme.

3. Proposal

The application proposes the construction of a dwelling on the land as shown on the site plan below:

The dwelling:

- Is located to the south east of the existing dwelling on the lot to the north and is setback a minimum of 124.7m from Reynolds Road to the east.
- Will have a floor area of 285.5sqm including the garage, outdoor living area and porch.
- Is a single storey building with brick, rendered brick and rendered cement sheet walls. The roof will comprise concrete tiles.
- Involves cuts and fill with a cut of approximately 1000mm and a maximum fill depth of approximately 2000mm.
- Will utilise the existing driveway with a new driveway to be provided to the dwelling on Lot 2 to the north.

Detailed plans of the dwelling are appended to this report.

Planning Context

4.1 State Planning Policy

State planning policy in relation to bushfire planning is set out in Clause 13.02-1S of the planning scheme. The objective of the state policy is to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life. Strategies to meet this objective are set out below:

Protection of human life
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.

Bushfire hazard identification and assessment
Identify bushfire hazard and undertake appropriate risk assessment by:

- Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.
- Considering the best available information about bushfire hazard including the map of designated bushfire prone areas prepared under the *Building Act 1993* or regulations made under that Act.
- Applying the Bushfire Management Overlay in planning schemes to areas where the extent of vegetation can create an extreme bushfire hazard.
- Considering and assessing the bushfire hazard on the basis of:
  - Landscape conditions - meaning the conditions in the landscape within 20 kilometres and potentially up to 75 kilometres from a site;
  - Local conditions - meaning conditions in the area within approximately 1 kilometre from a site;
  - Neighbourhood conditions - meaning conditions in the area within 400 metres of the site;
  - The site for the development.
- Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.
- Ensuring that strategic planning documents, planning scheme amendments, planning permit applications and development plan approvals properly assess bushfire risk and include appropriate bushfire protection measures.
- Not approving development where a landowner or proponent has not satisfactorily demonstrated that the relevant policies have been addressed, performance measures satisfied or bushfire protection measures can be adequately implemented.

Settlement planning
Plan to strengthen the resilience of settlements and communities and prioritise protection of human life by:

- Directing population growth and development to low risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metre under *AS 3959-2018 Construction of Buildings in Bushfire-prone Areas* (Standards Australia, 2018).

- Ensuring the availability of, and safe access to, areas assessed as a BAL-LOW rating under *AS 3959-2018 Construction of Buildings in Bushfire-prone Areas* (Standards Australia, 2018) where human life can be better protected from the effects of bushfire.
- Ensuring the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development.
- Achieving no net increase in risk to existing and future residents, property and community infrastructure, through the implementation of bushfire protection measures and where possible reduce bushfire risk overall.
- Assessing and addressing the bushfire hazard posed to the settlement and the likely bushfire behaviour it will produce at a landscape, settlement, local, neighbourhood and site scale, including the potential for neighbourhood-scale destruction.
- Assessing alternative low risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.
- Not approving any strategic planning document, local planning policy, or planning scheme amendment that will result in the introduction or intensification of development in an area that has, or will on completion have, more than a BAL-12.5 rating under AS 3959-2018.

Areas of high biodiversity conservation value
Ensure settlement growth and development approvals can implement bushfire protection measures without unacceptable biodiversity impacts by discouraging settlement growth and development in bushfire affected areas that are of high biodiversity conservation value.

Use and development control in a Bushfire Prone Area
In a bushfire prone area designated in accordance with regulations made under the *Building Act 1993,* bushfire risk should be considered when assessing planning applications for the following uses and development:

- Subdivisions of more than 10 lots
- Accommodation
- Childcare centre
- Education centre
- Emergency services facility
- Hospital
- Indoor recreation facility
- Major sports and recreation facility
- Place of assembly
- Any application for development that will result in people congregating in large numbers.

When assessing a planning permit application for the above uses and development:

- Consider the risk of bushfire to people, property and community infrastructure.
- Require the implementation of appropriate bushfire protection measures to address the identified bushfire risk.
- Ensure new development can implement bushfire protection measures without unacceptable biodiversity impacts.

Policy guidelines
The policy guidelines under State Planning Policy specify that planning must consider as relevant:

- Any relevant approved state, regional and municipal fire prevention plan.

- AS 3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia,2018).
- Building in bushfire-prone areas - CSIRO & Standards Australia (SAA HB36-1993)

4.2 Municipal Strategic Statement

The overview in the Municipal Strategic Statement in the Cardinia Planning Scheme sets out that:

Bushfire risk is the product of a number of factors including fuel levels, slope, climatic conditions, population, and the degree of preparation of individual property owners to cope with a fire. Other factors such as the accessibility of land to fire fighting vehicles and the availability of water will affect the risk levels for individual properties.

The objective in the Municipal Strategic Statement in relation to bushfire management is to recognise that areas in the municipality are prone to bushfire and to minimise the potential risk to life, property and the environment.

Relevant strategies to meet the objective in relation to bushfire management are set out below:

Siting and design

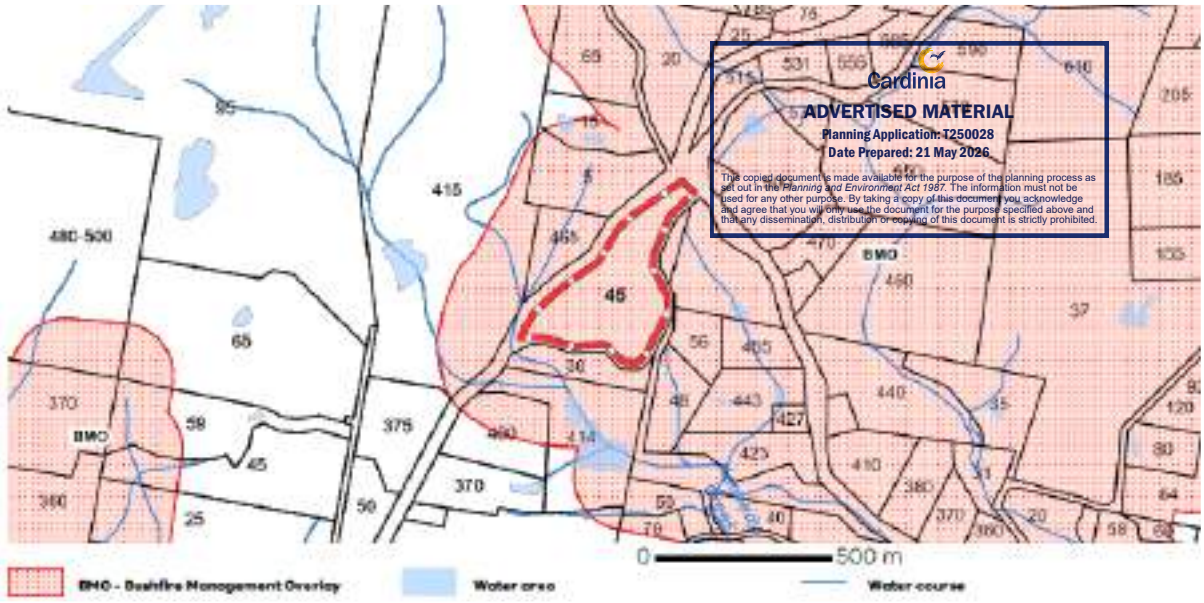
- Ensure that the siting and design of houses and other accommodation in high risk bushfire areas minimises the potential risk of loss of life or property from bushfire, particularly in terms of the existing slope, aspect and vegetation.
- Ensure all development has appropriately designed access for emergency vehicles.
- Ensure development provides adequate access to water.
- Encourage the use of roads as a buffer between housing and bushland.

Fuel reduction

- Encourage the use of controlled burning to reduce ground fuel levels and to help maintain healthy and diverse forests and woodlands consistent with the Ecological Vegetation Class (EVC).
- Support the implementation of the Municipal Fire Prevention Plan.

4.3 Bushfire Management Overlay

The proposed dwelling and outbuilding is contained within a Bushfire Management Overlay under the Cardinia Planning Scheme as shown on the plan below:



The purpose of the overlay is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- 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.

A planning permit is required under the Bushfire Management Overlay to construct a building or to construct and carry out works associated with accommodation.

4.4 Bushfire Planning

The bushfire planning provisions under Clause 53.02 of the Cardinia Planning Scheme apply where a planning permit is required under a Bushfire Management Overlay. The purpose of the provisions is to:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- 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.

5. Bushfire Hazard Assessment

Under the provisions of the Bushfire Management Overlay, an application must be accompanied by a bushfire hazard site assessment including a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard must be prepared in accordance with Sections 2.2.3 to 2.2.5 of AS3959:2018 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2. Photographs or other techniques may be used to assist in describing the bushfire hazard.

The plan below shows the bushfire hazard within 150m of the proposed dwelling and outbuilding:

The land within 45 Reynolds Road comprises open paddocks with scattered trees mainly pines. The open paddocks would be classified as grassland under AS3959.

To the south of Reynolds Road is a property with a high level of disturbance with some remnant eucalypt trees. Understorey vegetation has been removed. The vegetation would be considered modified with a classification closest to Woodland under AS3959.

The vegetation surrounding the proposed dwelling is shown in the photographs below:

Proposed dwelling site

Open paddocks to the north of the existing dwelling

Open paddocks to the west

Looking towards the dwelling site from Reynolds Road to the south

Land to east with pine trees along Reynolds Road

The bushfire site hazard assessment is summarised in the following table:

	North	West	South	East
Vegetation type	Grassland	Grassland	Grassland Woodland	Grassland
Slope under classified vegetation	Downslope 5°	Downslope 9°	Downslope 9° Downslope 7°	Downslope 9° °
Distance to classified vegetation (from proposed dwelling)	0m	0m	0m 110m	0m

6 Bushfire Hazard Landscape Assessment

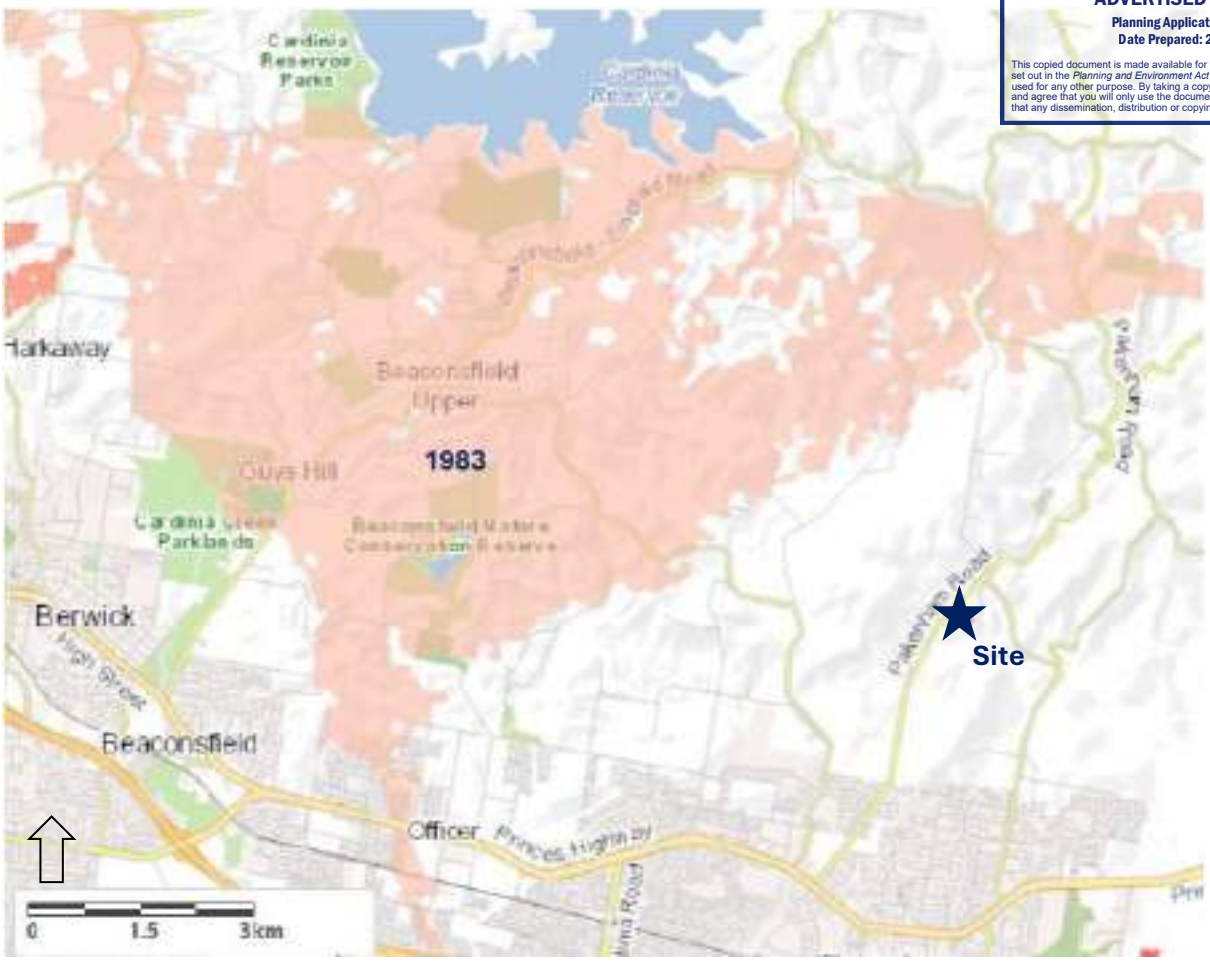
Under the provisions of the Bushfire Management Overlay, an application must be accompanied by a bushfire hazard landscape assessment including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site. Photographs or other techniques may be used to assist in describing the bushfire hazard.

The site and surrounding landscape context are shown on the plan below:

The site is located within an undulating area comprising a mixture of open paddocks and pockets of bushland. The site is located close to the Princes Highway corridor where there is a shift from steeper bushland areas to the north to flatter open paddocks and urban areas to the south.

In south eastern Australia, the greatest bushfire threat occurs when there is a strong dry north westerly wind followed by a south westerly wind change. Under these conditions there is the potential for a longer fire run from the bushland in the Dewhurst area to the north west, which will moderate to some degree with the more open landscape associated with the Toomuc Valley. There is a low landscape risk associated with south west aspect which comprises open paddocks and urban areas. While there are bushland areas to the east and north east, this aspect is not associated with more extreme bushfire conditions.

The history of bushfires in the area is shown on the plans below:



Most notable is the Ash Wednesday fire in 1983 to the west which impacted a large area. There is no history of larger bushfires within the immediate vicinity of the land, although part of the land was affected by a grassfire in 2013 which started along Pakenham Road on a day of extreme bushfire risk.

The site would be classified as a Broader Landscape Type 3 under the Technical Guide Planning Permit Applications in a Bushfire Management Overlay. (DELWP 2017) as:

- The type and extent of vegetation located more than 150 metres from the site may result in neighbourhood scale destruction as it interacts with bushfire hazard on and close to the 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 which provides shelter from a bushfire is not certain.

7 Bushfire Management Statement

Under the provisions of the Bushfire Management Overlay, an application must be accompanied by a bushfire management statement describing how the proposed development responds to the requirements in the overlay and Clause 53.02. If the application proposes an alternative measure, the bushfire management statement must explain how the alternative measure meets the relevant objective.

7.1 Landscape, siting and design

Objectives

- 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.

Applicable approved / alternative 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.

Bushfire management statement response

There is the limited potential for bushfires in the surrounding landscape to impact the site. The risk is likely to be from more localised fires with the run of a larger fire from the north west moderated by Toomuc Valley and limited potential for a fire from the south west. The bushfire risk from beyond the site can be mitigated to an acceptable level given it is sited with an area of open paddocks. The design of the dwelling is simple in form to assist in reducing the impact of ember attack. The existing driveway will be used to provide access the dwelling with a new driveway constructed for the existing dwelling on Lot 2. Appropriate access can be provided for emergency vehicles.

7.2 Defendable space and construction

Objective

Defendable space and building construction mitigate the effect of flame contact, radiant heat and embers on buildings.

Applicable approved / alternative measures

AM 3.1 A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person's unit, industry, office or retail premises is provided with defendable space in accordance with:

- Table 2 Columns A, B or C and Table 6 to Clause 53.02-5 wholly within the title boundaries of the land; or
- If there are significant siting constraints, Table 2 Column D and Table 6 to Clause 53.02-5.

The building is constructed to the bushfire attack level that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02-5.

Bushfire management statement response

Having regard to the location of the land and the nature of the surrounding landscape it is considered that the proposed dwelling should be constructed to a minimum bushfire attack level of BAL19.

Defendable space should be provided for a distance of 20m around the proposed dwelling or to the property boundary whichever is the lesser. 20m can be provided to the west, south and east with 15m to the property boundary to the north. The 20m is based on the 14° slope to the south, with the 6° slope to the north requiring a lesser distance of 15m under Table 2 to Clause 53.02. The woodland area south of Reynolds Road is located over 100m from the dwelling.

Table 6 of Clause 53.02 requires defendable space to be 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 3m 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 5 sq. metres 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.

7.3 Water supply and access

Objectives
• 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.
Applicable approved / alternative measures
AM 4.1 A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person's unit, industry, office or retail premises is provided with: • A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02-5. • Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5. The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire fighting water supplies.
Bushfire management statement response
A 10,000 static water supply for fire fighting purposes is proposed adjoining the driveway to the north of the dwelling. The static water supply should meet the following requirements: • The tank is in an above ground water tank constructed of concrete or metal with a minimum capacity of 10,000 litres. • All fixed above-ground water pipes and fittings required for fire fighting purposes must be made of corrosive resistant metal. • The tank must incorporate a ball or gate valve (British Standard Pipe (BSP) 65mm) and coupling (64 mm CFA 3 thread per inch male fitting) for firefighting purposes. • A separate outlet must be provided for the occupants use. • The tank must be located within 60 metres of the outer edge of the dwelling. • The outlets of the water tank must be within 4m of a driveway accessible at all times by a fire truck. • The water tank must be readily identifiable from the building or appropriate identification signage to the satisfaction of CFA must be provided. • Any pipework and fittings must be a minimum of 65 mm (excluding the CFA coupling). There is an existing driveway from Reynolds Road to the existing dwelling. This driveway will be used for access to the proposed dwelling with a new driveway constructed for the existing dwelling on Lot 2. The length of the driveway to the new dwelling is approximately 175m and average grade of the driveway does not exceed 1:7 noting that the slopes at the eastern end of the land are more moderate. The existing driveway is shown in the photographs below:

Existing driveway top east west section

Existing driveway section down to Reynolds Road

The driveway is required to be upgraded to meet the following requirements:

- 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.
- A turning area for fire fighting vehicles must be provided close to the dwelling by either: a turning circle with a minimum radius of eight metres; a driveway encircling the dwelling; or the provision of other vehicle turning heads – such as a T or Y head – which meet the specification of Austroad Design for an 8.8 metre Service Vehicle.

The current driveway will require widening to 3.5m which will require some tree removal on the lower section of the driveway. A T head turning area is provided near the dwelling adjoining the water tanks where there is a new section of driveway connecting to the dwelling.

Similarly the new driveway for the existing dwelling on Lot 2 should be constructed to meet the above requirements.

8 Conclusion

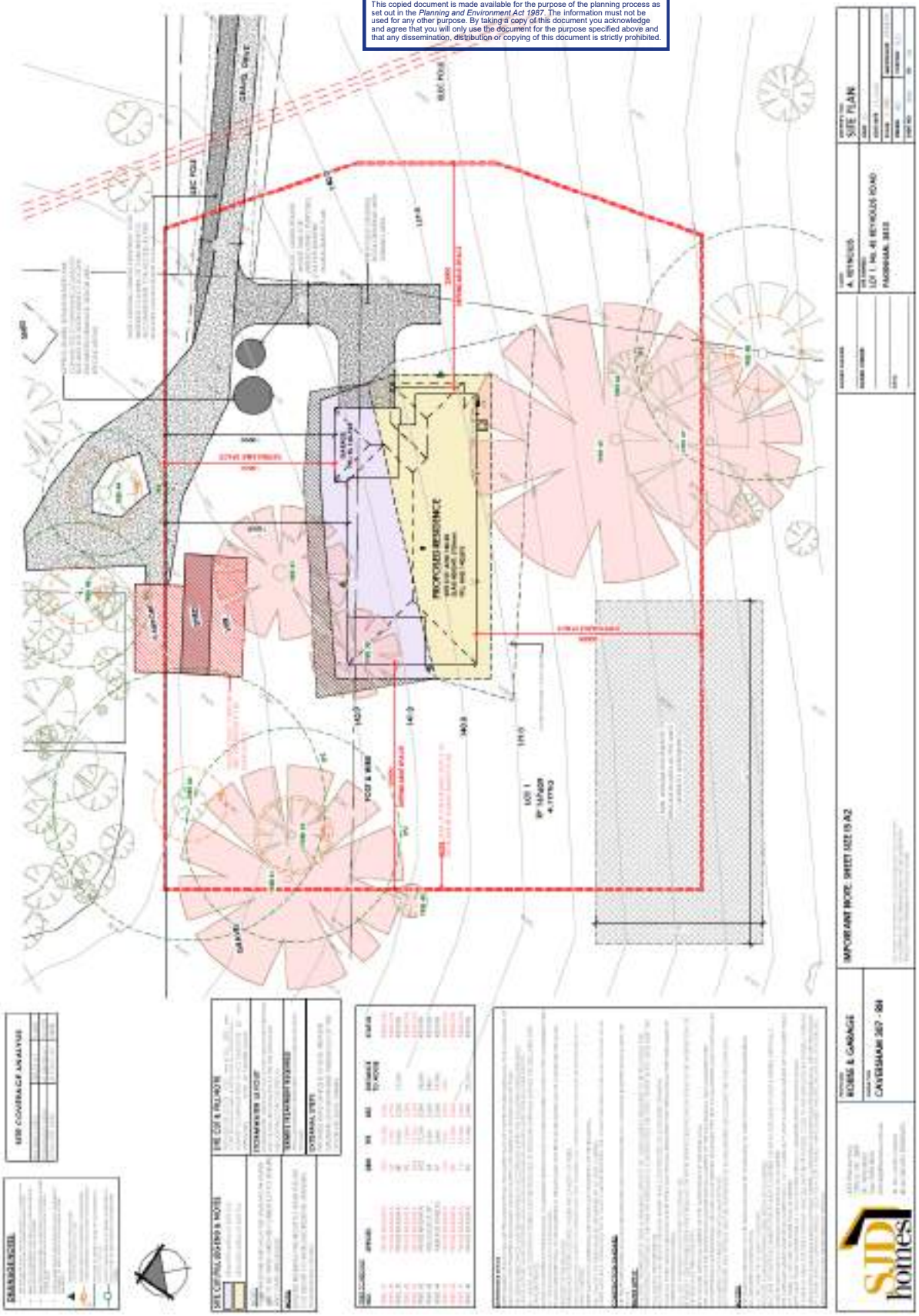
The application proposes a new dwelling at 45 Reynolds Road Pakenham.

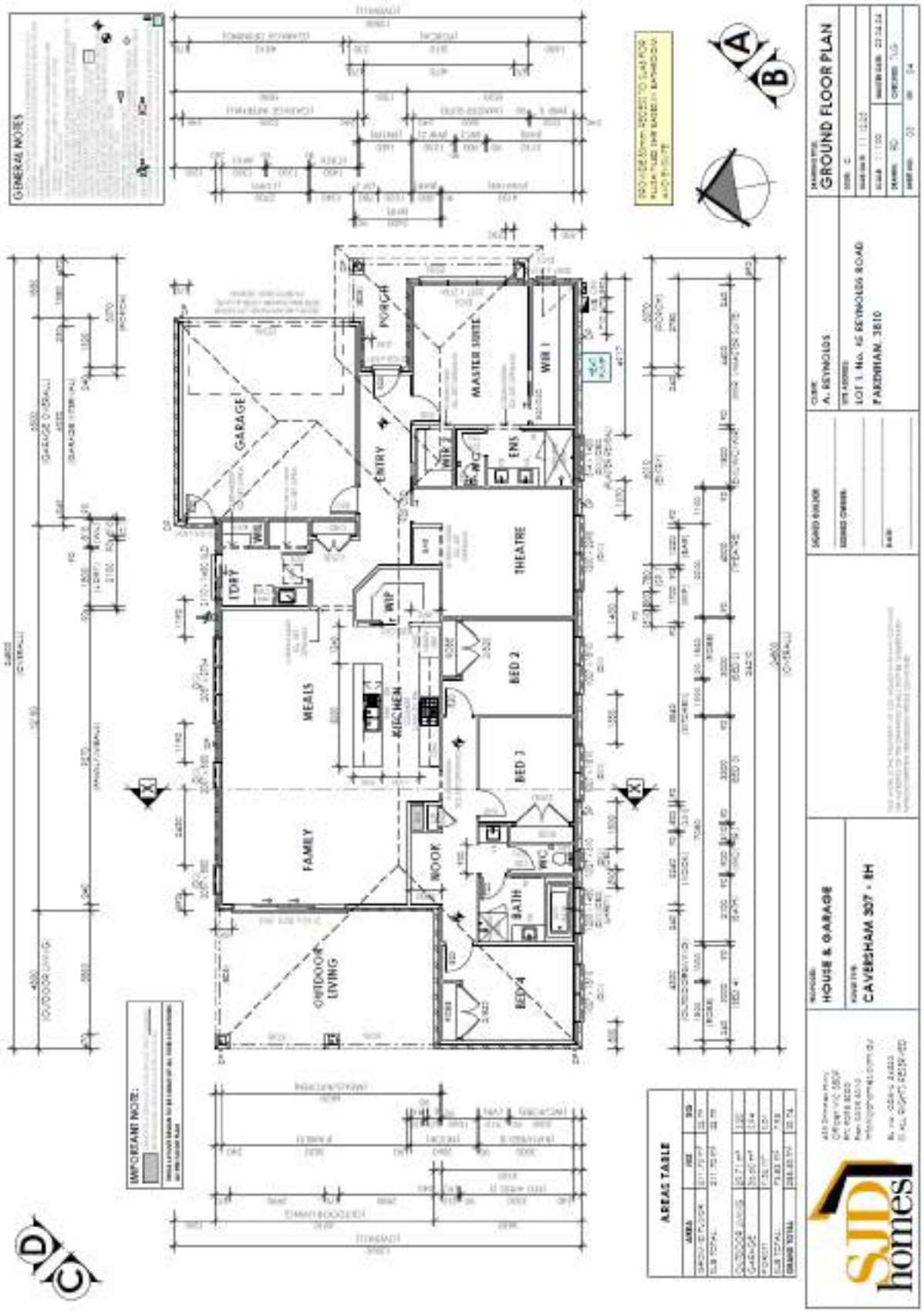
Based on the assessment undertaken, the bushfire risk can be mitigated to an acceptable level.

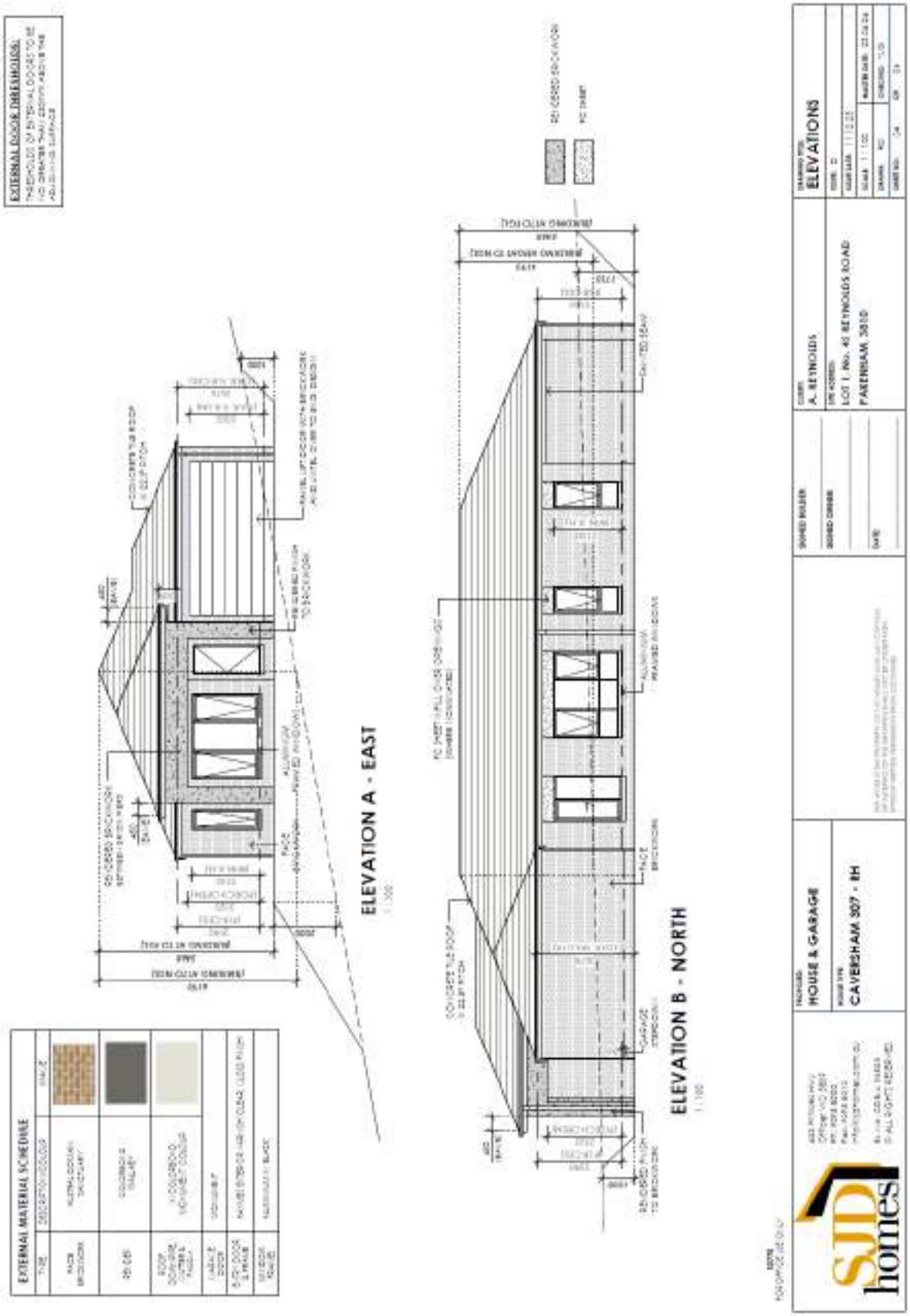
The proposed dwelling should be constructed to a bushfire attack level of BAL19. Defendable space should be provided for a distance of 20m or to the property boundary (whichever is the lesser) around the proposed dwelling.

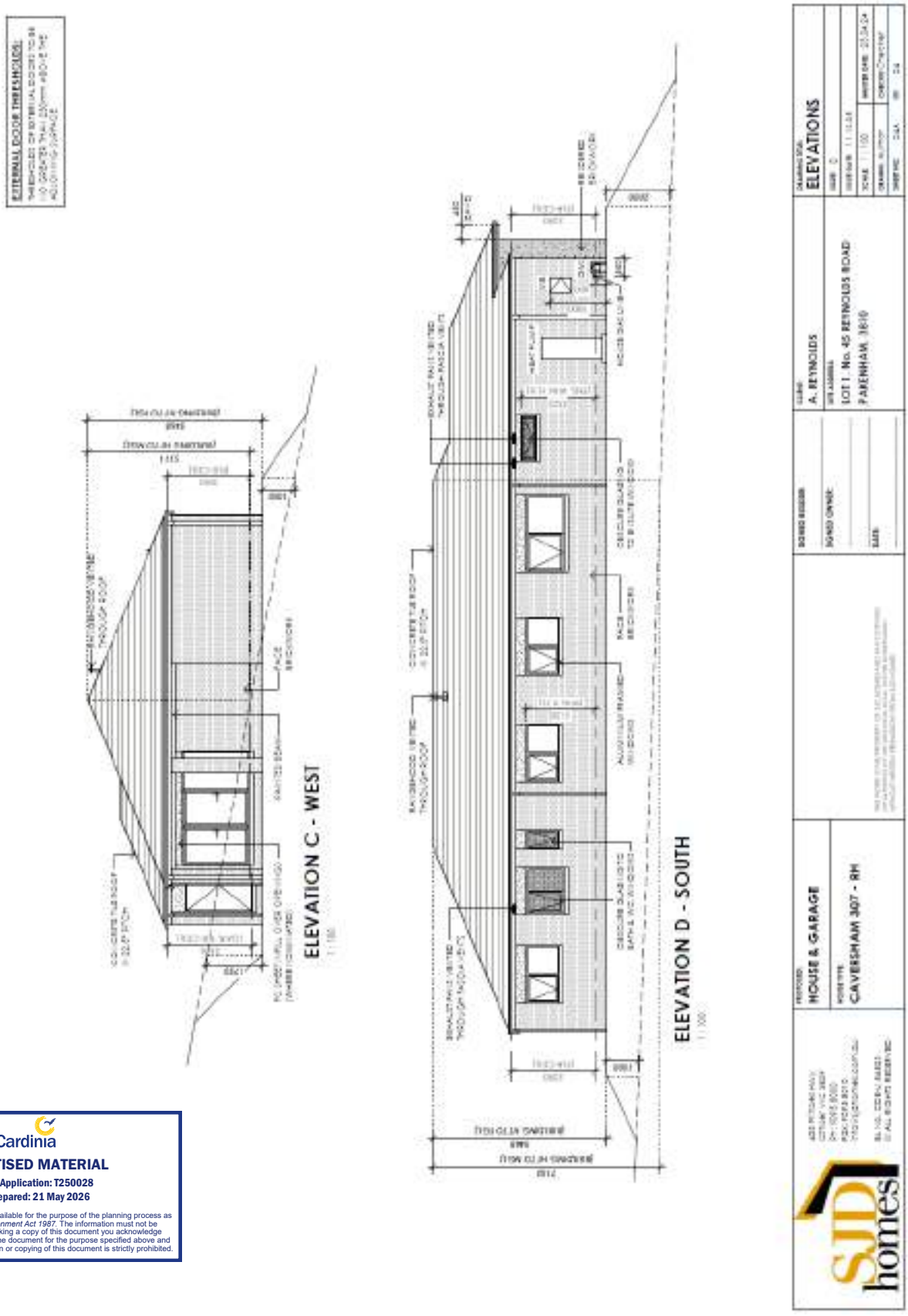
A static water supply tank with a capacity of 10,000 litres should be provided for firefighting purposes. Access to the dwelling should be provided via the existing driveway which should be upgraded as required to provide suitable access for emergency vehicles with a new driveway constructed for the existing dwelling on Lot 2.

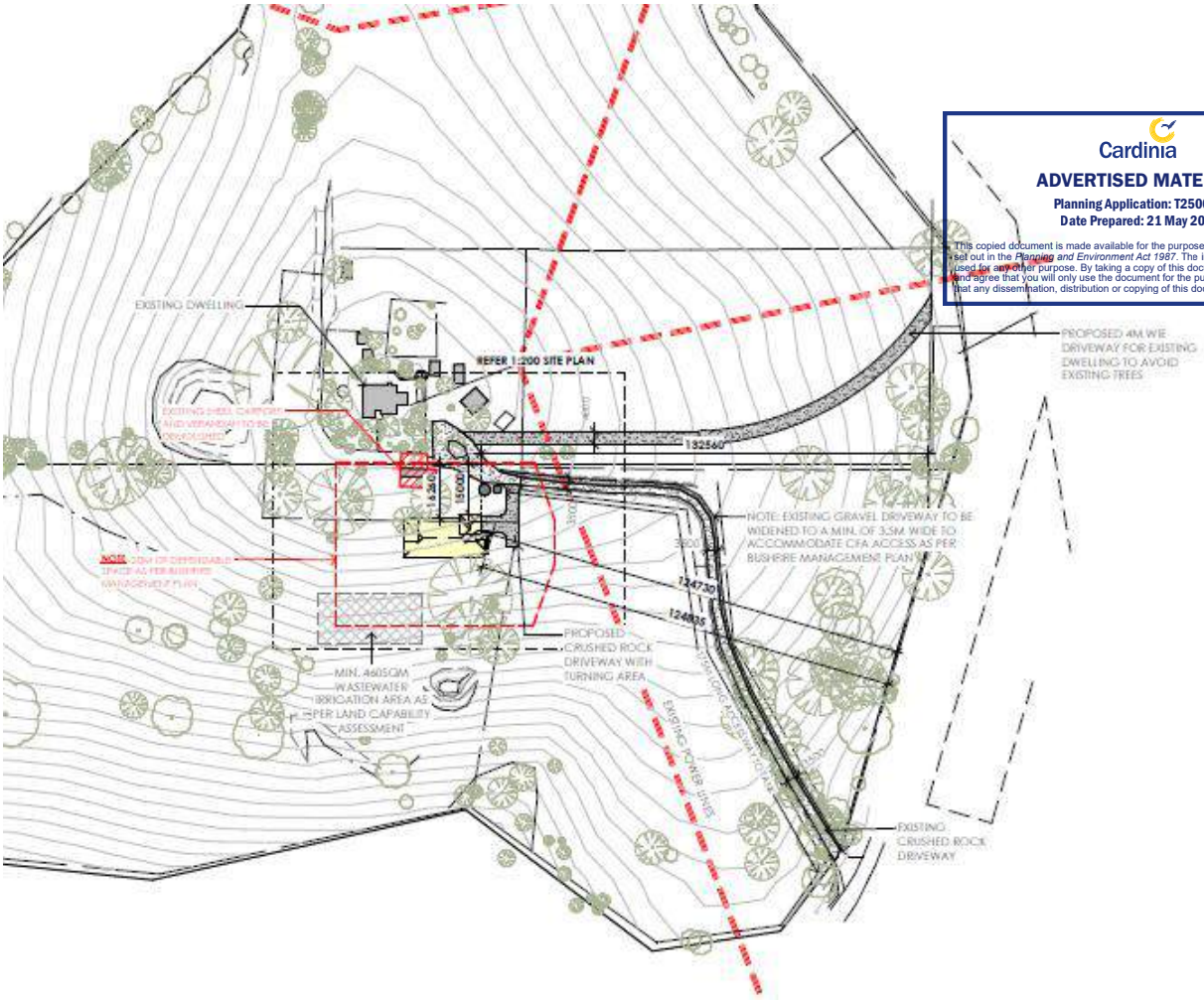
Development plans

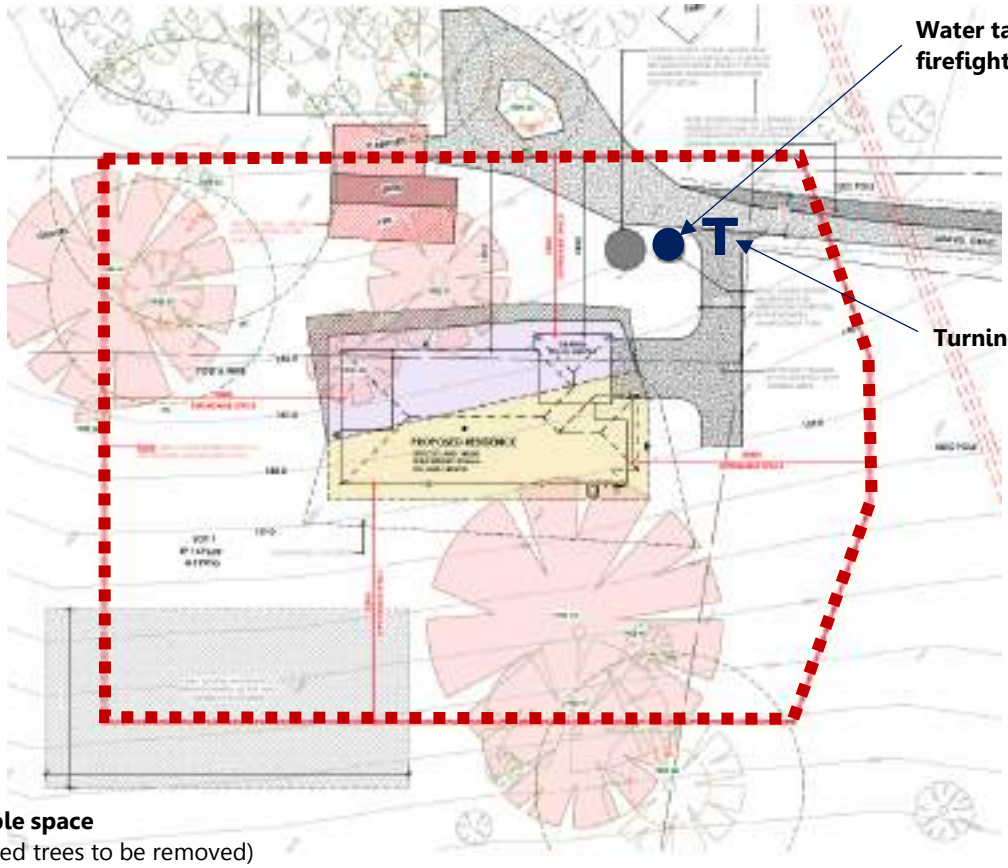












Defendable space
(Red shaded trees to be removed)

Defendable Space
Defendable space shall be provided from the outer face of the proposed dwelling for a distance of 20m or to the title boundary (whichever is the lesser) as shown on the plan.

The defendable space must be 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 the building, flammable objects must not be located close to the vulnerable parts of the building such as windows.
- Plants greater than 10 centimetres in height must not be placed within 3m 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 5 sq. metres 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.

Construction Standard
The proposed dwelling must be designed and constructed to a minimum Bushfire Attack Level of BAL19.

Water Supply
A static water supply with a minimum capacity of 10,000 litres must be provided for firefighting purposes at the time the dwelling is constructed as shown on the plan. The static 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 firefighting purposes made of corrosive resistant metal.
- Include a separate outlet for occupant use.
- Be readily identifiable from the dwelling or appropriate identification signs to the satisfaction of the relevant fire authority.
- Be located within 60 metres of the outer edge of the dwelling.
- 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).

Access
The existing driveway to the dwelling (175m) must be upgraded to meet the following requirements:

- 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.
- A turning area for fire fighting vehicles must be provided close to the dwelling by either a turning circle with a minimum radius of eight metres or the provision of other vehicle turning heads – such as a T or Y head – which meet the specification of Austroad Design for an 8.8 metre service vehicle.

A new driveway to the existing dwelling on Lot 2 must be constructed which meets the above requirements.

RANGES Environmental

Integrated Land Management Plan

Proposed Development

45 Reynolds Road Pakenham

September 2025

TABLE OF CONTENTS

Report:	**Land Management Plan – 45 Reynolds Road Pakenham**
Author:	[redacted]
Contact:	info@rangesconsulting.com
Date:	22 September 2025

1 Introduction

This Land Management Plan outlines strategies for land management and conservation outcomes to fulfill the requirements to use of the land for an additional dwelling, driveway and removal of vegetation at 45 Reynolds Road, Pakenham.

The development consists of:

- Lot 1: a new dwelling, defendable space and driveway upgrade
- Lot 2: A new driveway to access the existing dwelling
- Lot 3: No works are proposed

This property is zoned as Green Wedge Zone (GWZ 1) and the Bushfire Management Overlay and Environmental Significance Overlay (ESO 1) applies to the entire area.

The purpose of this report is to address the requirements of item 12 of the RFI Letter dated 18 of February 2025 as duplicated below.

> An Integrated Land Management Plan that outlines the proposed and ongoing works to achieve sustainable land management outcomes on the subject site, improve biodiversity and general conservation actions.

1.1 Site Context

The site is 10.202 hectares and divided in three lots under the same ownership. Lot 1 consists is 4.197 hectares, Lot 2 is 5.98 hectares and Lot 3 is 0.045 hectares. The study site is located 3.7 kilometres south from Pakenham Upper and 4 kilometres north from Pakenham township. The study site is located within the Highland Southern Fall Bioregion and within the Port Phillip and Westernport Catchment Management Region.

Appendix 1 provides maps of the subject site.

Map 1 provides an overview of the current vegetation conditions on site.

Map 2 provides an overview of the current development layout and the extent of remnant native vegetation.

Map 3 shows the locations of high threat woody weeds and a rabbit burrow.

1.2 Objectives of this Plan

The purpose of this management plan is to:

1. Provide general management recommendations where vegetation and fauna habitats are to be protected
2. Mitigation methods during the construction phase including priority areas for protection from construction activity
3. Strategies to manage threats to native vegetation and habitat including :

    a) Managed areas of native trees and understorey for conservation

    b) Potential opportunities for revegetation and biodiversity enhancement.

    c) Management of high threat and declared 'noxious' and 'environmental ' weeds, particularly Blackberry **Rubus fruticosus spp. agg.,* Spear Thistle *Cirsium vulgare,* Sweet Pittosporum *Pittosporum undulatum,* English Holly *Ilex aquifolium,* White Arum-lily *Zantedeschia aethiopica,* Bridal Creeper *Asparagus asparagoides,* Capeweed *Arctotheca calendula* Sweet Briar *Rosa rubiginosa* and Radiata Pine *Pinus radiata.*

    d) Management of pest animals (deer, rabbits and foxes)

    e) Recommendations for appropriate fencing that is 'fauna friendly' .

1.3 Background

A site investigation was undertaken during August 2025 by *Ranges Environmental Consulting* which informs a Native Vegetation Impact Assessment, Tree Assessment and this Integrated Land Management Plan included as a part of the submission for the current development proposal. During this time, land management issues were investigated including recording locations of high-threat weeds, evidence of pest animal species and other environmental threats.

2 Vegetation Condition

Map 1 illustrates the proposed development, areas of non-native vegetation (pasture and planted trees) and remnant native vegetation including canopy trees and sub-canopy trees.

2.1 Ecological Vegetation Classes (EVCs)

An Ecological Vegetation Class is a native vegetation type classified on the basis of a combination of its floristic, life form, environmental and ecological characteristics (DEPI 2013).

Mapping produced by the Department of Energy, Environment, and Climate Action (DEECA) indicates that prior to European settlement Lowland Forest (EVC 16), and Grassy Forest (EVC 128) were the dominant EVCs in the local area. Observations from site assessments determined that areas of native vegetation at the property are best classified as Grassy Forest (EVC 128).

2.2 Present Vegetation Condition

A total of 55 flora species were identified during the site assessment including 25 local native species and 30 species of non-Victorian origin that are naturalised or planted. Appendix 2 provides the list of flora species observed.

The majority of the property is covered by mown introduced pasture grasses and herbs, a Brown-top Bent *Agrostis capillaris*, Sweet Vernal-grass *Anthoxanthum odoratum*, Kikuyu *Cenchrus clandestinus*, Couch *Cynodon dactylon*, Cocksfoot *Dactylis glomerata*, Panic Veldt-grass *Ehrharta erecta*, Yorkshire Fog *Holcus lanatus*, Rat-tail Grass *Sporobolus africanus* and Cape Weed *Arctotheca calendula*. Cultivated trees among pastured areas include Pear *Pyrus communis* and Radiata Pine *Pinus radiata.*

The introduced vegetation also comprises some woody weeds and high-threat weeds which are located on the fringes of the study site and some within the defendable space area, this includes Bridal Creeper Asparagus asparagoides, Blackberry *Rubus fruticosus spp. agg.*, Spear thistle *Cirsium vulgare*, English Holly *Ilex aquifolium*, Radiata Pine *Pinus radiata*, Sweet Pittosporum *Pittosporum undulatum*, Sweet Briar *Rosa rubiginosa*, and White Arum-lily *Zantedeschia aethiopica*. Section 4 outlines weed control techniques to implement to control these species.

Native vegetation in majority is located within the fringes of the study site and connects with the surrounding road reserves, being minimum in the central area, however a habitat zone was recorded within the defendable space area of the proposed dwelling. The native vegetation includes canopy trees, understorey trees, grasses, ferns and groundstorey herbs. As indicated on Map 1 remnant patches occur on the site, which are attributable to Grassy Forest EVC 128 in the fringes of the property.

Native vegetation removal or impact from the development occurs in 3 significantly modified areas, all of habitat zone 1 and 3 and partial loss in habitat zone 2. However, the combined loss of native vegetation is limited to 0.117 hectares.

The property has no recent evidence of any agricultural use or farming activities.

3 Land Management Zones and Objectives

This section outlines the purpose of the plan and the applicable management zones.

3.1 Land Management Zones

Appendix 1 Map 2 shows the Land Management Zones.

Land Management Zones	Area	Objectives
Domestic Zone	0.835 ha	The area is suitable for a dwelling and residential activities.
Agricultural Zone	8.675 ha	The area is suitable for agricultural activities according to the Green Wedge Zone Objectives
Revegetation Zone	0.836 ha	Area to protect, revegetate and preserve

Domestic Zone

Located in the central area of the site, the Domestic Zone is 0.835 hectares, which includes the construction of a new dwelling, the existing dwelling and associated outbuildings.

Land Management activities in this zone is generally expected to include residential land use, such as landscaping and garden establishment, however control of pest animals and high threat weed species such as Radiata Pine *Pinus radiata*, Sweet Pittosporum *Pittosporum undulatum* and Blackberry *Rubus fruticosus spp. agg.* should be controlled in a manner consistent with other management zones.

Figure 1. Main overview of the Domestic Zone

Figure 2. Vegetation within Domestic Zone is dominated by exotic species

Agricultural Zone

The Agricultural Zone surrounds the domestic zone and accounts for approximately 8.675 hectares of land. The groundstorey is almost entirely dominated by introduced pasture grasses and the tree population is primarily composed of Monterey Pine (*Pinus radiata*). However, there are stands of native canopy trees that line the existing driveway and portions of the eastern boundary. Other than trees approved for removal to upgrade the driveway, native trees must be protected from adverse impacts from agricultural activities.

Figure 3.Agricultural Zone – General overview facing west

Figure 4. Agricultural Zone -facing south

Revegetation Zone

Revegetation Zone accounts for 0.836 hectares within the study site, and it is located in the south west corner of the study site. This area was selected because it possess consolidated stands of native trees and it represents an opportunity to enhance the area, according to the objectives of the Green Wedge by:

- protecting and retaining land for future agricultural activities,
- avoid the colonization of weeds,
- maintain and create connectivity with adjacent vegetated areas.

Figure 5. Revegetation Zone with higher quality vegetation to enhance

Figure 6. Gaps among canopy trees are ideal for revegetation

3.2 Purpose of the Land Management Plan

Cardinia Shire Council requires a response to the intended use of the land in accordance with item 12 of the further information request (RFI), which is tabled below.

Proposed Use and Purpose of the Green Wedge Zone (GWZ – Schedule 1)

Response:

The proposed land use and associated land management actions set out in this plan aims to achieve the following objectives relevant to the Green Wedge Zone.

- To provide for the use of land for agriculture.
- To recognize, protect and conserve green wedge land for its agricultural, environmental, historic, landscape, recreational and tourism opportunities, and mineral and stone resources.
- To protect and enhance the biodiversity of the area.

Land management actions outlined in section 4 of this plan provide recommendations for biodiversity protection and enhancement through revegetation and boundary planting as well as specific measures for pest plant and animal control which, if otherwise left unmanaged, would be detrimental to both biodiversity/remnant vegetation and agricultural production in the local area.

4 Land Management Recommendations

This section outlines management recommendations within the property.

Broad management outcomes for the property include pasture management, protection and enhancement of biodiversity and significant trees, pest animal control and weed management.

4.1 Management of the Revegetation Zone

Appendix 1 Map 2 shows two areas within this zone.

a) Remnant Vegetation: to be protected and managed so that natural regeneration can occur

b) Revegetation Zone: an area of infill planting area to create increased extent and connectivity between canopy and sub-canopy connectivity, thereby enhancing the flora and fauna habitat.

Table 1 shows a list of indigenous shrubs and trees that are suitable for the Lowland Forest EVC 16 and Grassy Forest EVC 128.

Prescriptions of the Revegetation Zone

To allow for optimum protection and enhancement of the Revegetation Zone, the following actions are required:

- Appropriate fencing is to be implemented to exclude domestic animals or livestock from entering the Revegetation Zone (see section 4.4 for specifications_.
- Protection of native vegetation from threatening processes including weed and pest invasion and inappropriate land uses (grazing, tilling, cropping etc).
- Aim to reduce high impact weeds to minimal levels.
- Facilitate natural regeneration of vegetation and other natural processes.
- Retain fallen timber, logs and organic matter for the benefit of ground dwelling fauna.
- Retain standing dead trees for the benefit of hollow dependent fauna.
- Prevent slashing of native vegetation.

Table 1. Revegetation and Landscape Enhancement Species.

Scientific Name	Common Name	Life Form	Density	No. of Plants
Eucalyptus rubida	Candlebark	Canopy Tree	15m	20
Eucalyptus radiata	Narrow-leaved Peppermint	Canopy Tree	15m	20
Eucalyptus melliodora	Yellow Box	Canopy Tree	15m	20
Eucalyptus obliqua	Messmate Stringybark	Canopy Tree	15m	20
Acacia mearnsii	Black Wattle	Understorey tree or large shrub	5m	40
Acacia melanoxylon	Blackwood	Understorey tree or large shrub	8m	40
Bursaria spinosa	Sweet Bursaria	Understorey tree or large shrub	5m	40
			Total	200

Areas within the Revegetation Zone are the primary focus for biodiversity protection, however the below recommendations apply to the Domestic Zone and Agricultural Zone, particularly the control of high-threat weeds.

4.2 Weed Control Objectives

Weed control within the properties should be a primary objective of this plan. This will assist in prevention of seed spread into nearby areas of ecological significance and also improve the amenity of the land.

Catchment and Land Protection Act (1994)

The *Catchment and Land Protection Act 1994* (the CaLP Act) is Victorian legislation that aims to protect and manage land and water catchments while providing a system of controls for listed noxious weeds. It is the landholder's responsibility to make all reasonable attempts to control the spread of these species on their land and adjoining roadsides.

Small occurrences of Blackberry are a high priority for control and is listed as a Weed Of National Significance (WONS) in addition to its 'Noxious' status under the CaLP Act. Site inspections show that occurrence of these species are currently localised but still have high impact where they occur and have high invasive potential into

nearby areas. Other weeds on the site that are listed under the CaLP Act includes Ragwort **Jacobaea vulgaris*, Spear Thistle **Cirsium vulgare,* Sweet Briar **Rosa rubiginosa* and Bridal Creeper **Asparagus asparagoides*.

High Threat Woody Weeds

Woody weed species such as Radiata Pine *Pinus radiata* and Sweet Pittosporum *Pittosporum undulatum* are prominent throughout the site. Although these species are not classified 'Noxious' under the CaLP Act, they are widely recognised as highly invasive and detrimental to natural ecosystems. **Note:** although removal of Radiata Pine is highly desirable, larger specimens do provide visual amenity to the landscape. Based on the ESO1, a permit is required to remove Radiata Pine where the diameter of the trunk is more than 40cm (equivalent to 125cm circumference).

Map 3 shows the key locations of woody weeds at the time of the assessment. Other than mature pines, the land owner must aim to eliminate all these weeds and future infestations including preventing the establishment of reproductively mature plants.

General Woody Weed Control Methods

Control strategies for high impact species are outlined below. On the following pages, control techniques for individual species are detailed where seasonally targeted methods are required for successful elimination. General control methods are applied to other species where seasonal timing is not critical to success.

Large Woody Weeds – Drill and Fill Method

Use the following method for any specimen 25cm in circumference or greater:

- Drill hole to 2-3cm deep, as close to the base of the tree as possible.
- Fill the hole immediately with herbicide (typically glyphosate with a nozzle gun)
- Repeat this process at intervals of 3-5 cm around the entire base of the tree including larger exposed roots.

Small to Medium Woody Weeds – Cut and Paint Method

Use the following method for any specimen less than 25cm in circumference:

- Make a clean cut with a saw or loppers as close to the base as possible
- Immediately apply herbicide to the base of the cut
- Undertaking these works in hot and dry conditions is not advised due to reduction of vascular translocation of systemic herbicides
- Cut stems with seed and flower heads should be taken to the nearest waste transfer station.

Control methods for Radiata Pine

Due the ESO – Schedule 1, Radiata Pine *Pinus radiata* generally requires a permit for removal where ≥ 40 centimetres trunk diameter. However, if this Land Management Plan is endorsed under the permit, it is expected that Monterey Pine will not require additional permits for incremental removal.

Monterey Pine ****Pinus radiata*		
Description	**Life cycle**	**Status**
Tall evergreen trees with needle-like leaves and rough and ridged brown bark. Produces large woody cones. Trees reach up to 40 m high.	**Germination:** Throughout most of the year **Flowering:** there are separate male and female cones on the same plant	Listed as a 'Very High Risk Weed' in the Advisory list of environmental weeds in Victoria (White, M .et al 2018).
	Methods of Dispersal	
	By seed, which is retained in the tree canopy and dispersed by wind.	
	Distribution and Control Options within the Site	
	Mature trees are distributed in the entire property, especially near to the existing dwelling and within the vegetation on the fringes. Juvenile and seedlings are also present. Monitoring and removal of seedlings can be undertaken by hand, which is a key part of any long-term pine removal program. Larger saplings can be cut and painted. Mature Pines can be destroyed by ringbarking, although stem injection may be a more efficient method if the appropriate equipment is available. Once the permit applications are granted, all pines should be removed in the long-term due to their status as a high impact weed	

Figure 7. Monterey Pine (Sample Photo)

Control Methods for Blackberry

Blackberry *Rubus fruticosus spp. agg.*			
Description	**Life cycle**	**Status**	**Methods of Dispersal**
Scrambling shrub, perennial, semi-deciduous. Prickly and multi-stemmed which spreads via arching canes that can take root and produce 'daughter plants' 5-petaled white to pink flowers. Produces small berries that change from green to red and ripens to black.	**Germination:** September to November. **Flowering:** November to January. **Fruiting:** January to March	Declared Noxious (Regionally Controlled within Port Phillip and Westernport Catchment Area). Declared Weed of National Significance (*National Weed Strategy, Thorp 2000)*	Spread by seed. Berries spread by birds or water. New plants often favour soil disturbance. Commonly planted garden specimen

Figure 8. Blackberry in flower

Distribution Across the Site
Small seedlings distributed all across the site.
Control options within the site
Target mature plants during the early flowering period to prevent fruiting. Any larger specimens can be slashed and re-growth treated with herbicide. Glyphosate is generally ineffective. Application with a broad-leaf selective herbicide (as per label directions) is generally effective but only if applied during the warmer months. Small areas can be cut and paint although this can be time consuming.

Control Methods for Sweet Pittosporum

Sweet Pittosporum # *Pittosporum undulatum*		
Description	**Life cycle**	**Status**
Dense spreading tree 5-20m high. Leaves shiny dark green on the upper surface. Paler green below, wavy margins. Creamy white flower clusters. Flowers differ between male and female plants Fruit (mostly from female trees) is produced in small, clustered capsules, initially green, ripening to orange. Splits when mature to reveal numerous sticky seeds	**Flowering:** midwinter – spring **Fruiting/Seeding:** April to August **Seed Maturity:** within 5 years of establishment **Seed viability:** (90% viability in the first year but declines significantly within 2 years.	Scheduled as a 'Very High Risk Weed' Advisory list of environmental weeds in Victoria (White, M .et al 2018).

Figure 9. Sweet Pittosporum in Fruit (Sample Photo)

Sweet Pittosporum in Flower (Sample Photo)

Methods of Dispersal

By seed. Spread by Birds.

While natural to far east Victoria, it is commonly planted outside of its natural range

Distribution and Control Options within the Site

Located through the entire property, most prominent in the vegetated margins. This includes mature, juvenile and seedlings.

Seedlings and young saplings can be removed by hand.

Cut and Paint or Drill and Fill larger specimens. Where possible, expose the root crown for drill and fill method.

Dispose of cut fruiting stems.

Foliar herbicide application has limited effect.

Note: initial controls should be focused on fruit bearing plants.

Control Methods for English Holly

English Holly *Ilex aquifolium

Description	Life cycle	Status
Upright Evergreen shrub tree 6-15 metres high. Glossy, leathery alternative leaves with 5-9 spine tipped teeth. Produces round green berries ripening to red	Growth Cycle: Dormant During winter Flowering: November to March Fruiting: April to June	Listed as a 'Very High Risk Weed' in the Advisory List of environmental weeds in Victoria (White, M .et al 2018)

Methods of Dispersal

Figure 10. Holly foliage and berries (Sample Photo)

Spread by seed, root suckering and branch layering.

Spread by birds and other animals

Distribution and Control Options within the Site

Juvenile plants were observed both sides of the existing driveway.

All specimens are currently small enough to remove by cut and paint method (with loppers or handsaw).

Should be located and treated at the soonest opportunity while easy to manage i.e. before plants mature and start layering.

The cut and paint method may not be effective during the winter dormancy period.

Control Methods for Sweet Briar

Sweet Briar **Rosa rubiginosa*		
Description	**Life cycle**	**Status**
Small shrub 1.5-2 metres. Many stems arise from perennial rootstock. Leaves are pinnate and consist of 2-4 pairs of oval leaflets plus one terminal leaflet. 5-petaled flowers in pink or white	**Germination:** September to November **Flowering:** November to January **Fruiting:** January to March	Declared Noxious (Regionally Controlled within the Port Philip and Western Port Region Region).

Methods of Dispersal

By seed. Spread by birds, foxes and water.

Figure 11. Sweet Briar in Fruit (Sample Photo)

Distribution and Control Options within the Site

An individual was observed as part of the garden beds of the existing dwelling. Removal of garden escapes is necessary as it is highly invasive.

Target mature plants during the early flowering period to prevent seeding.

Broad-leaf Herbicide application using a rig for larger infestations can be undertaken in unison with Blackberry control and backpack for smaller isolated infestations

Application of Metsulfuron Methyl using a knapsack whilst targeting other woody weeds or:

Individual specimens can be cut and paint with Vigilant Gel (Picloram)

If cut and paint method is undertaken during its fruiting period, ensure all infestations are taken to an approved waste transfer station, unless stockpiled and burnt.

Control Methods for Capeweed

Capeweed **Arctotheca calendula*		
Description	**Life cycle**	**Status**
Annual shortly stemmed herb with lobed basal rosettes. Underside of leaves pale and downy. Daisy flower with yellow ray florets and black disc florets.	**Flowering:** September to November **Seeding:** Summer	Listed as a 'Medium-Risk Weed' in the Advisory List of Environmental Weeds in Victoria (White et. al. 2018).

Methods of Dispersal

Spread by seed. Readily invades pasture and bushland.

Distribution and Control Options within the Site

Scattered individuals were distributed through the central area of the site.

It is recommended that Capeweed is targeted with a broad-leaf herbicide prior to flowering.

This method should be undertaken in conjunction with revegetation and follow-up control for best results.

Figure 12. Capeweed Rosette in Flower (Sample Photo)

Figure 13. Capeweed Flower (Sample Photo)

Control Methods for Spear Thistle

Spear Thistle ***Cirsium vulgare***

Description	Life cycle	Status
A purple flowered annual or biennial thistle to 1.5 m high. Basal leaves (rosettes) are lobed and stem leaves are spiny and divided, dark green on top and white underneath	**Germination:** Rosettes establish over autumn and winter **Flowering:** November to February **Seeding:** January to March	Declared Noxious (Regionally Controlled within the Port Philip and Western Port Region).

Methods of Dispersal

Figure 14. Spear Thistle in Flower

Figure 15. Spear Thistle Rosette

Spread by seed, generally by wind or animal fur.

New plants often favour soil disturbance.

Distribution and Control Options within the Site

Scattered individuals distributed in the central area of the site near the existing dwelling.

Broad-leaf selective Herbicide control is the most effective method to control Thistles and prevent off-target damage to native grasses.

The best time for herbicide application is during active growth prior to the presence of a flower stem. Herbicides may still be effective during flowering, however susceptibility is much lower and a greater amount of effort (and less sustainable practice) with regard to herbicide exposure will be required.

Control Methods for White Arum Lily

White Arum Lily ***Zantedeschia aethiopica***

Description	Life cycle	Status
A perennial Lily with tuberous rhizomes, large leaves and large, white flowers. Arum Lily is poisonous to stock and humans	**Flowering:** September to January Dies back in Summer and leaves regrow in Autumn	Listed as a 'Very High-Risk Weed' in the Advisory List of Environmental Weeds in Victoria (White et. al. 2018).

Methods of Dispersal

Figure 16. White Arum-Lily

Through seeds and vegetatively via rhizomes.

Distribution and Control Options within the Site

Small patches are distributed within the central area near to the existing dwelling.

Glyphosate (Roundup) is ineffective in killing Arum Lilies.

Where off target damage is unlikely, herbicide spray of chlorsulfuron with a penetrant is effective during the active growing period between August and November.

Where off target spray is likely to impact native vegetation or other desirable species, plants can be dug out. This requires deep excavation to ensure removal of tubers.

Both methods of treatment require monitoring and follow-up treatment.

Control Methods for Ragwort

**Ragwort ****Jacobaea vulgaris*

Description	Life cycle	Status
A biennial or short-lived perennial herb that grows around 1m high. It produces clusters of small, yellow daisy-like flowers. Basal leaves mostly form in a rosette until spring the following year. Stem leaves are deeply divided and irregularly lobed. Plants contain pyrrolizidine alkaloids, toxic to stock, that may retain some of their potency long after the pasture has been baled. Ragwort has the potential to dominate pasture and reduce carrying capacity.	**Germination**: All year, more common in spring / autumn. **Flowering**: December to March **Fruiting/Seeding**: January to April	Declared Noxious (Regionally Controlled within the Port Philip and Western Port Region).

Methods of Dispersal

Figure 17. Ragwort (Sample Photo)

Ragwort reproduces by seed and can germinate at any time of year.

Distribution and Control Options within the Site

Ragwort has been identified in small populations near the western boundary.

Mechanical or hand removal can be undertaken at any time of year, however, care should be taken to bag flowers/seed heads for appropriate disposal to avoid distribution of seeds.

Spraying or painting of broadleaf selective herbicide is most effective before flowering/seeding, but control can take place at any time of year.

Control methods for Bridal Creeper

Bridal Creeper **Asparagus asparagoides*

Description	Life cycle	Status
Bridal Creeper is a climbing plant that has annual, climbing shoot growth from a perennial root system consisting of many tubers grouped along a central rhizome. It thrives in a wide range of natural habitats and soils; and thrives in areas high in nutrients such as drainage lines.	Bridal Creeper grows rapidly in autumn/winter and dies back to the roots over summer.	Listed as a 'High-Risk Weed' in the Advisory List of Environmental Weeds in Victoria (White et. al. 2018).

Figure 18. Bridal Creeper Infestation within the site

Figure 19. Bridal Creeper foliage (Sample photo)

Methods of Dispersal

This plant spreads rapidly from bird and animal dispersed seed or from parts of the roots. Dumped garden waste, contaminated soil and machinery also contribute to its distribution.

Distribution and Control Options within the Site

Scattered patches across the site, mainly near the existing driveway.

Management strategies include preventing new infestations and targeting existing plants before they can set seed.

Herbicides are the most effective method of control. However, because Bridal Creeper often grows in areas of native vegetation, it is particularly important to avoid contact with desirable plants or near tree root zones. The best way to apply is with a hand sprayer, but it can also be wiped directly on to leaves. Using a herbicide coloured with dye helps show where it has been used.

Biological controls (A Leafhopper, Rust Fungus and Leaf Beetle) are available for Bridal Creeper and community involvement is possible and encouraged. Details are available on the CSIRO website www.ento.csiro.au/bridalcreeper.

Physical removal is not effective unless all the rhizomes are dug up and destroyed. This may be possible for new, small infestations or as a follow-up after several years of herbicide control.

4.3 Pest Animal Control

Rabbit presence has been detected during the site inspection. Rabbits and Hare are the primary food source for Foxes, therefore there is a high chance of fox activity within the study site. Both pest animals are primary threats to vegetation and fauna habitats in the local area. It appears that the impacts of rabbits on native vegetation are currently limited although populations can rapidly increase under favourable conditions.

Note: other than simple manual methods for controlling pest animals e.g. den/burrow destruction all other activity should be undertaken by a licensed pest control professional.

Rabbit Control

Rabbit and Hare activity should be monitored on a bi-annual basis and appropriate actions should be undertaken including (where necessary) the assistance of qualified professionals.

Destroying potential harbour sites is one of the simpler and cost-effective measures for discouraging rabbit populations. Potential harbour includes not only warrens, but also wood piles and building waste. Removal of these stockpiles will remove potential harbour sites while also allowing for regeneration of native vegetation.

Poison baits (such as pindone and 1080) are best used during mid to late summer during the non-breeding season when natural feed is scarce and rabbits are less territorial. The use of caged bait stations is preferred to avoid possible consumption by kangaroos, wallabies and other smaller mammals. Warren fumigation may be an option where significant warrens are identified; this is usually more effective following a successful baiting program.

Fox Control

Reducing fox activity generally relies on multiple methods ranging from den destruction, baiting, shooting and trapping. Buried baits or dedicated bait stations are less likely to be consumed by native birds or mammals. As a minimum, regular monitoring, location and destruction of dens should be undertaken.

As rabbits are a main food source for Foxes so an integrated rabbit control program will assist in discouraging fox activity within the estate.

Similar to rabbit control, fox control is most effective when part of an integrated strategy across multiple landholdings. No single method of fox control is reliable in the long-term and areas subject to fox eradication can often result in re-invasion of the area within 2 months from nearby untreated sites.

Deer Control

Species of Deer have seen by the landholder, this animal pest can cause significant damage to native vegetation and waterways by browsing and trampling vegetation, muddying streambanks an causing erosion.

Deer species prefer densely forested vegetation, which is the case of few areas within the study site, however, monitoring their appearance could be beneficial to reduce the damage to the understorey plants and other animals.

Fencing may be a preventative measure to deer incursion, however fencing would need to be at least 2m high to prevent entry, which may be too costly and not suitable for movement of native Macropods. The most successful current method for deer control is through licenced shooting. Professional shooters should be employed to undertake shooting and removal of the deer of the property if it is required.

4.4 Fencing

If there are plans to establish any other new boundary fence or internal fencing it should be fauna friendly and barbed wire free.

Barbed wire is known to be harmful to a range of fauna species and contributes to the death or permanent injury of thousands of animals each year. More than 75 wildlife species have been identified in Australia as occasional or regular victims of barbed wire fences. Nocturnal animals such as bats, gliders and owls are particularly vulnerable and terrestrial mammals are also susceptible to injury.

Fences for should be designed in a way that allow fauna to easily pass through. New fences should follow the specifications set out below:

1. Fences are to be constructed with a 50 cm gap between the ground and the lowest fence strand. (This is known to assist with the movement of larger mammals such as kangaroos, wallabies and wombats).
2. A minimum of 30 cm gaps between the rails or remaining strands will also assist with movement of smaller native species.
3. Use box wire mesh with squares of no less than 15 cm to reduce entanglement of fauna.
4. Limiting fence height to no more than 1.2 metres also allows most species to pass over the fence.

5 Conclusion

This Integrated Land Management Plan outlines objectives for biodiversity management and enhancement including methods of implementation. This document has been developed to inform the preliminary stages of the development plan prior to any form of approval by responsible planning authorities.

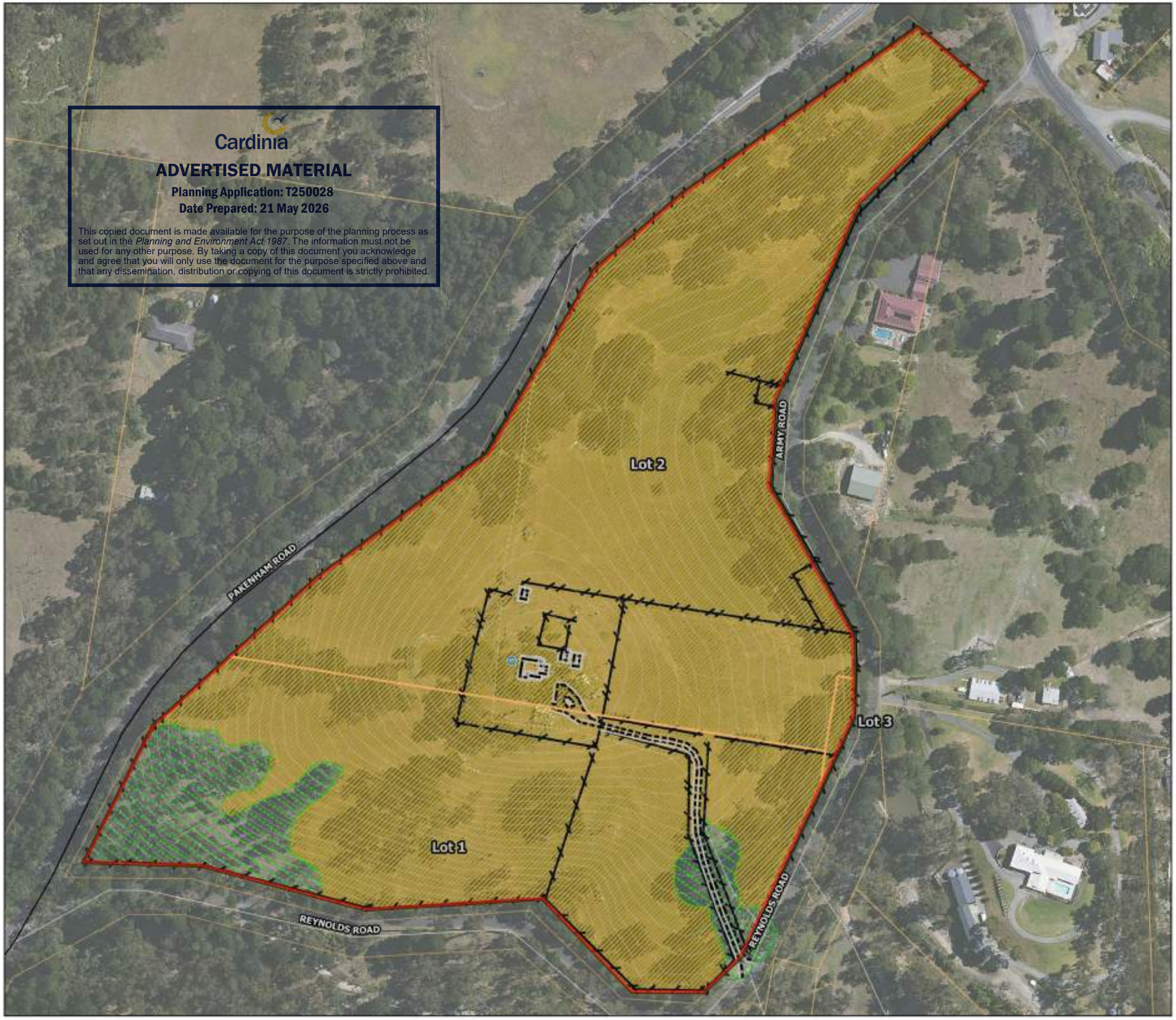
This plan has sought to address biodiversity management during the pre-development, construction and post construction phases.

While this plan is a key guiding document for land management at 45 Reynolds Road Pakenham, it should not be solely relied upon. Biodiversity and farm management is ever-changing process that is subject to environmental changes (such as seasonal variation, drought, flood and fire). Land managers will need to adapt to changing environmental conditions and respond with appropriate actions, particularly in the event of new emerging weeds or increased pest animal populations.

Appendix 1 – Maps

The following maps were produced using Quantum GIS (QGIS 3.34) and were developed from various datasets including:

- Aerial photography available through Google Earth (AusMap) and Nearmap
- VicMap layers (Parcel, Roads, Waterways and Local Government Boundaries)
- GPS based data collected in the field



Map 1 - Existing Conditions

45 Reynolds Road Pakenham

- Lot Boundary
- Title Boundary
- Driveway
- Existing Buildings
- Fences

Tree Assessment

- Indigenous Canopy tree
- Indigenous Understorey Tree

Habitat Zones

- Non-Native
- Intact Remnant Vegetation (Grassy Forest EVC 128)

Date: 22 September 2025
Created b[redacted]
Map Prog

Scale (A3) 1:1,900

0 25 50 m

N

RANGES Environmental
info@rangesconsulting.com

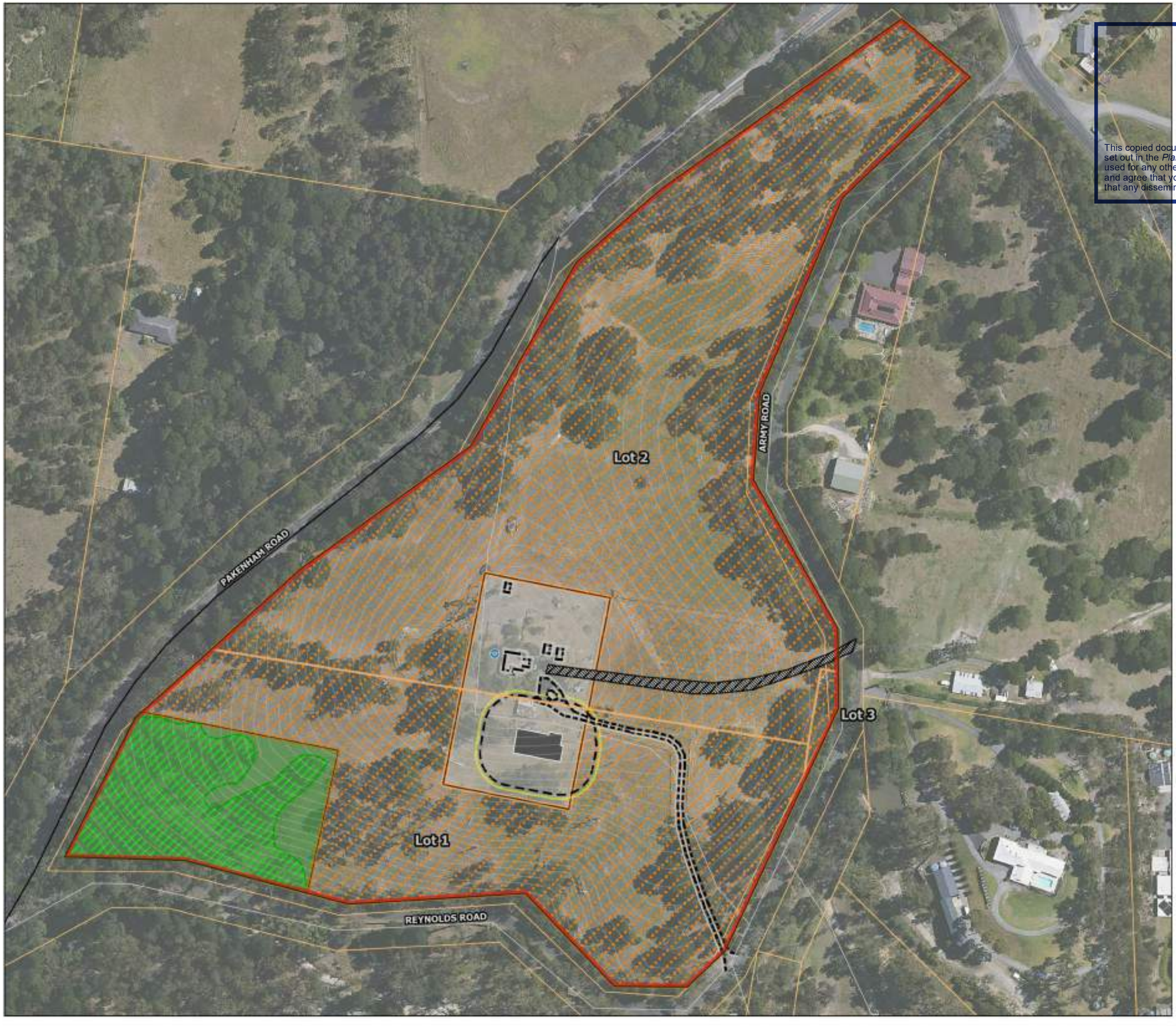
Map 2 - Land Management Zones and Development Overview

Cardinia

ADVERTISED MATERIAL

45 Reynolds Road
Pakenham

Planning Application: T250028
Date Prepared: 21 May 2026



Lot Boundary

Title Boundary

Development Layout

Proposed Dwelling

Defendable Space

Proposed Driveway

Existing Driveway

Existing Buildings

Land Management Zones

Domestic Zone

Agricultural Zone

Revegetation Zone

Remnant Vegetation to be managed with infill revegetation

Date: 22 [redacted]
Created b[redacted]
Map Program [redacted]
Survey features by
XWB Consulting

Scale (A3) 1:1,900

0 25 50 m

N

RANGES Environmental

info@rangesconsulting.com

Map 3 - Land Management Issues

Cardinia

- Property Boundary
- Study Site
- Driveway
- Existing Dwelling
- Internal Fence
- Shed
- Water Tank
- Proposed Dwelling
- Defendable Space
- Proposed Driveway
- Woody Weed Patch

Date: 13 August 2025
Created [redacted]
Map Program: QGIS 3.20

Scale (A3) 1:1,850

0 25 50 m

N

RANGES Environmental
info@rangesconsulting.com

Appendix 2 – Flora list of the Study Site

C - High-treat weed * Exotic # Victorian species occurring outside their natural range **E** - Endangered

Origin	Species	Common Name	Lifeform
	Acacia dealbata	Silver Wattle	Understorey tree or large shrub
	Acacia mearnsii	Black Wattle	Understorey tree or large shrub
	Acacia paradoxa	Hedge Wattle	Medium shrub
	Acacia sp	Wattle sp	Medium shrub
*	*Agapanthus praecox subsp. orientalis*	Agapanthus	Large herb
*	*Anthoxanthum odoratum*	Sweet Vernal-grass	Medium to small tufted graminoid
*	*Arctotheca calendula*	Cape Weed	Medium herb
*	*Avena fatua*	Wild Oat	Large non-tufted graminoid
	Billardiera scandens s.l.	Common Apple-berry	Scrambler or climber
*	*Cenchrus clandestinus*	Kikuyu	Large non-tufted graminoid
*	*Centaurium erythraea*	Common Centaury	Medium herb
*	*Cynodon dactylon var. dactylon*	Couch	Medium to tiny non-tufted graminoid
*	*Cyperus eragrostis*	Drain Flat-sedge	Medium to small tufted graminoid
*	*Dactylis glomerata*	Cocksfoot	Medium to tiny non-tufted graminoid
	Dichondra repens	Kidney-weed	Small or prostrate herb
*	*Ehrharta erecta*	Panic Veldt-grass	Medium to small tufted graminoid
*	*Erigeron spp.*	Fleabane	
	Eucalyptus baxteri s.s.	Brown Stringybark	Understorey tree or large shrub
E	*Eucalyptus fulgens*	Green Scentbark	Understorey tree or large shrub
	Eucalyptus obliqua	Messmate Stringybark	Understorey tree or large shrub
	Eucalyptus radiata s.l.	Narrow-leaf Peppermint	Understorey tree or large shrub
	Exocarpos cupressiformis	Cherry Ballart	Understorey tree or large shrub
	Gahnia radula	Thatch Saw-sedge	Large tufted graminoid
*	*Galium aparine*	Cleavers	Scrambler or climber
***C**	*Genista linifolia*	Flax-leaf Broom	Medium shrub
	Glycine clandestina	Twining Glycine	Scrambler or climber
	Gonocarpus humilis	Shade Raspwort	Medium herb
	Hakea sp.	Hakea	Medium shrub
#	*Hardenbergia violacea*	Purple Coral-pea	Scrambler or climber
*	*Hypochaeris radicata*	Flatweed	Medium herb
	Kunzea ericoides s.l.	Burgan	Medium shrub
*	*Leontodon saxatilis subsp. saxatilis*	Hairy Hawkbit	Medium herb
	Microlaena stipoides var. stipoides	Weeping Grass	Medium to tiny non-tufted graminoid
*	*Paspalum dilatatum*	Paspalum	Medium to small tufted graminoid
*	*Pinus radiata*	Radiata Pine	Understorey tree or large shrub
#	*Pittosporum undulatum*	Sweet Pittosporum	Understorey tree or large shrub
*	*Plantago lanceolata*	Ribwort	Large herb

Origin	Species	Common Name	Lifeform
	Poa labillardierei	Common Tussock-grass	Medium to small tufted graminoid
*	*Portulaca oleracea*	Common purslane	
*C	*Rubus fruticosus spp. agg.*	Blackberry	Scrambler or climber
	Rytidosperma setaceum	Bristly Wallaby-grass	Medium to small tufted graminoid
	Rytidosperma spp.	Wallaby Grass	
*	*Solanum nigrum s.l.*	Black Nightshade	Large herb
	Styphelia humifusa	Cranberry Heath	Prostrate shrub
	Themeda triandra	Kangaroo Grass	Medium to small tufted graminoid
*C	*Ulex europaeus*	Gorse	Medium shrub
	Viola hederacea sensu Entwisle (1996)	Ivy-leaf Violet	Medium herb

HardCore Geotech

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Ema[redacted]otech.com.au

LAND CAPABILITY ASSESSMENT

Client: [redacted]

Project: Lot 2, No. 45 Reynolds Road, PAKENHAM.

Date: 14th August 2025

Report Number: 250836 – LCA

Executive Summary

The proposed development at No. 45 Reynolds Road, PAKENHAM is suitable for on-site effluent disposal. The proposal is to subdivide into two lots. Lot 2 approximately size of area is 4.197 ha with an existing dwelling and shedding. Lot 1 approximately size of area is 5.985 ha with a new four (4) bedroom dwelling to be built.

The site is located in the Cardinia Council.

The site currently has an existing dwelling and shedding, The site has coverage of natural pasture grasses and dense vegetation (ranging from small to large), both on and surrounding the site. The site has a moderate to steep slope to the south – west. This has been used to determine areas on the site that have suitable slope conditions for the construction of an LAA for an onsite septic system.

The site selected as has slope ranging from 15-18% so a 20% decrease in the DIR has been used as per Table M2, AS1547-2012. There is an existing dwelling and existing septic system that is contained on the site. No change is proposed to this system.

The proposal is for Lot 1 to build a new dwelling with a new four (4) bedroom dwelling, with an occupancy of five (5) people, that will be constructed and will require an onsite wastewater system.

Testing at the site included soil profile logging and sampling and laboratory testing, and water and nutrient balance modeling. This analysis has revealed that on-site effluent is achievable and sustainable.

The effluent at the site will be treated to a minimum 20-30 standard via secondary treatment, a sand filter or AWTS, and distributed via a pressure compensated irrigation system.

The proposal for the site is for a new dwelling to be developed, with a new four (4) bedroom dwelling, with an occupancy of five (5) people, that will require a system to handle the following effluent loads based, based on a water usage rate of 150 litres/person/day. These values have taken into account and been increased due to the slope of the site. The site also has areas where the irrigation systems can be increased.

The site has slopes ranging from 15-18% and have had a 20% decrease in the DIR as per Table M2, AS1547-2012.

These loads are detailed in Table 1 below.

Number of bedrooms	Maximum occupancy (persons)	Total effluent load (Litres/day)	Total irrigation area required (m^2)	Total Irrigation area required (m^2) with 20% decrease in DIR
4	5	750	390	460

Table 1: Total effluent loads and irrigation area required, based on the total number of bedrooms and maximum occupancy the final house design adopts.

Potential surface flows can be managed through the design of the irrigation system having a cut-off drain around the high side. This will remove any surface flows before they reach the Land Application Area (LAA).

All requirements of SEPP (Waters of Victoria) can be met if the proposed system is used.

Contents

1. Introduction

Hardcore Geotech has been contracted to perform a Land Capability Assessment for the proposed new dwelling at No. 45 Reynolds Road, PAKENHAM. The current site is 10.182ha. The proposed new allotments anticipated to be Lot 2 approximately 4.187ha with an existing dwelling and shedding and Lot 1 approximately 5.985ha with new four (4) bedroom dwelling. The allotment falls within the Cardinia Council.

This report has been completed in order to show that No. 45 Reynolds Road, PAKENHAM. can comply with the SEPP (Waters of Victoria) requirements regarding an on – site wastewater system. This LCA looks at the size of the lots and the requirements of the wastewater system that will need to be met so that all effluent is contained on the site. This LCA provides a conceptual design with some recommendations on the management and monitoring of the system. The pressure compensating irrigation lines need to be laid in parallel with the contours of the site as shown on the site plan in this report. The spacing between the irrigation lines must be at least 1000mm.

The site is covered in native pasture grasses, and there are trees (ranging from small to large) both on and bordering the site. The site is typical of the natural undulating landscape throughout the area. The site has no potable water supplies close by. The site has a moderate to steep slope falling to the south-west. As the site is in the upper areas of Pakenham there is low risk of seasonal flooding.

The site is subject to moderate rainfall and the site will be supplied with onsite tank water. The area has a mean annual rainfall of 1016mm and a mean annual evaporation of 1205mm. These values were obtained from the stations at Beaconsfield Upper – 86261 and Scoresby Research Institute – 086104, respectively.

It is recommended that the effluent should be treated to at least a secondary level and be distributed on site by a sub-surface pressure compensated irrigation system.

2. Site Features

The LCA was undertaken by Luke Tymensen from Hardcore Geotech on the 14th August 2025. The site was analyzed and information was recorded to complete Appendix 1, Land Capability Assessment Table. This table is included later in the report. It was noted that the site will have moderate to high seasonal rainfall, a moderate to steep slope and a low permeable soil. Due to the slope of the site being between 10 and 20 %, the application rate will be reduced by 20%, as per Table M2, AS1547.2012 to 1.6mm per day.

The irrigation system is to be constructed in an area that is covered in natural grasses. The Water balance calculations have been calculated using a value taken from Table 10.6 Scheme for inferring the hydraulic conductivity range of soil horizons, Soil, Their Properties and Management, Third Edition, Peter E.V CHARMAN and Brian W. MURPHY. This gives a range of 0.1mm/h to 2.5mm/h.

The LCA has been worked out assuming that one (1) new dwelling will be constructed at the site. It has been assumed that the new dwelling will be a four (4) bedroom dwelling, that will be suitable for a maximum occupancy of five (5) people respectively. The site will be supplied with mains water and it is anticipated that sewer will not be available in the near future due to the low development density in the area and the considerable distance from the existing wastewater services.

The new dwelling will consist of new appliances that will have a low water rating label, based on the Water Efficiency Labelling and Standards Scheme, (WELS). A design wastewater load of 150L per person per day has been used giving a total daily design load of up to 750 liters. This design load was determined using Table 4, EPA Code of Practice 891.4.

Available land for LAA – For this site size is not a constraining factor. The site has areas where the LAA can be expanded in the future if required. This gives a medium rating risk for the secondary treatment system that is recommended within this report.

Aspect and Exposure – The area allocated for the system faces south. This area is located in elevated treed areas of PAKENHAM. The surrounding area is covered in pasture grasses and trees. This gives the site moderate to high sun and wind exposure.

Slope form and gradient – the area recommended as suitable for the LAA has a moderate to steep slope to the south of ranging from 15-18% based on contours from the survey supplied. The site slope will be a limiting factor and the Irrigation Rate will need to be reduced by 20%, as per Table M2, AS1547-2012, to 1.6mm/day. The pressure compensating subsurface irrigation should also run along the contours as mentioned in Section M9.3 of AS/NZS 1547, 2012.

Site Drainage – a cutoff drain will be required around the high side of the system. The cutoff drain will prevent overland water flow from entering the system during high rainfall events.

Landslip – At the time of the investigation no evidence of landslip was seen. The proposed effluent system won't increase the land slip risk in the area proposed for the LAA.

Erosion Potential – there are no signs of erosion at the site. This is a medium risk issue.

Flood Inundation – as the site is located in the upper areas of PAKENHAM, there is a low chance of the site being flooded. Cutoff drains around the high side of the LAA have been directed.

Distance to surface waters – the area on the site where the irrigation system is to be located is over 30m from any influencing water bodies, and over 200m (as water would run) from any potable reservoir supplies.

Distance to groundwater bores – there are zero (0) bores on the site. The LAA needs to be located in an area at least 20m away from any bores.

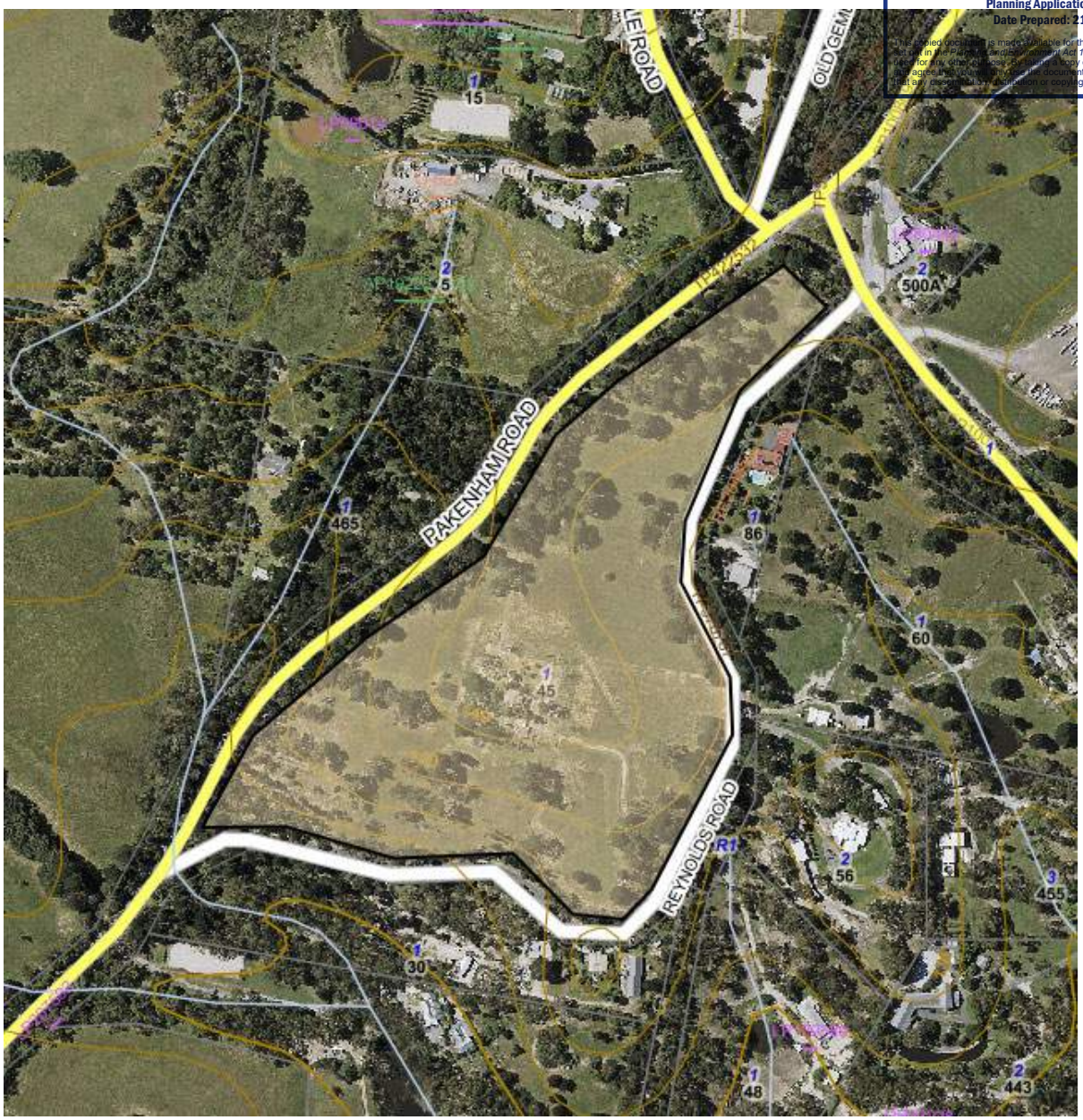
Vegetation – the site is covered in natural grasses and there are trees ranging from small to large both on and surrounding the site. The area for the LAA is covered in natural grasses. There are trees on the proposed LAA. This can be seen by looking at the photos from the site.

Depth to water table / perched water table – no perched water table / groundwater was encountered at the time of the investigation. A cut off drain will be constructed around the high side of the LAA to prevent any surface or subsurface waters entering the LAA.

Rainfall – the site has a moderate to high annual rainfall of 1016mm (mean). This is a limiting risk at the site that has been managed by using a cut off drain along the high sides of the LAA.

Pan Evaporation – the site has a moderate to high pan evaporation of 1205mm (mean), and this is a medium risk. Evaporation will exceed rainfall at the site for the warmer months of the year from October through to May.

3. Site Plan



No. 45 Reynolds Road, PAKENHAM.

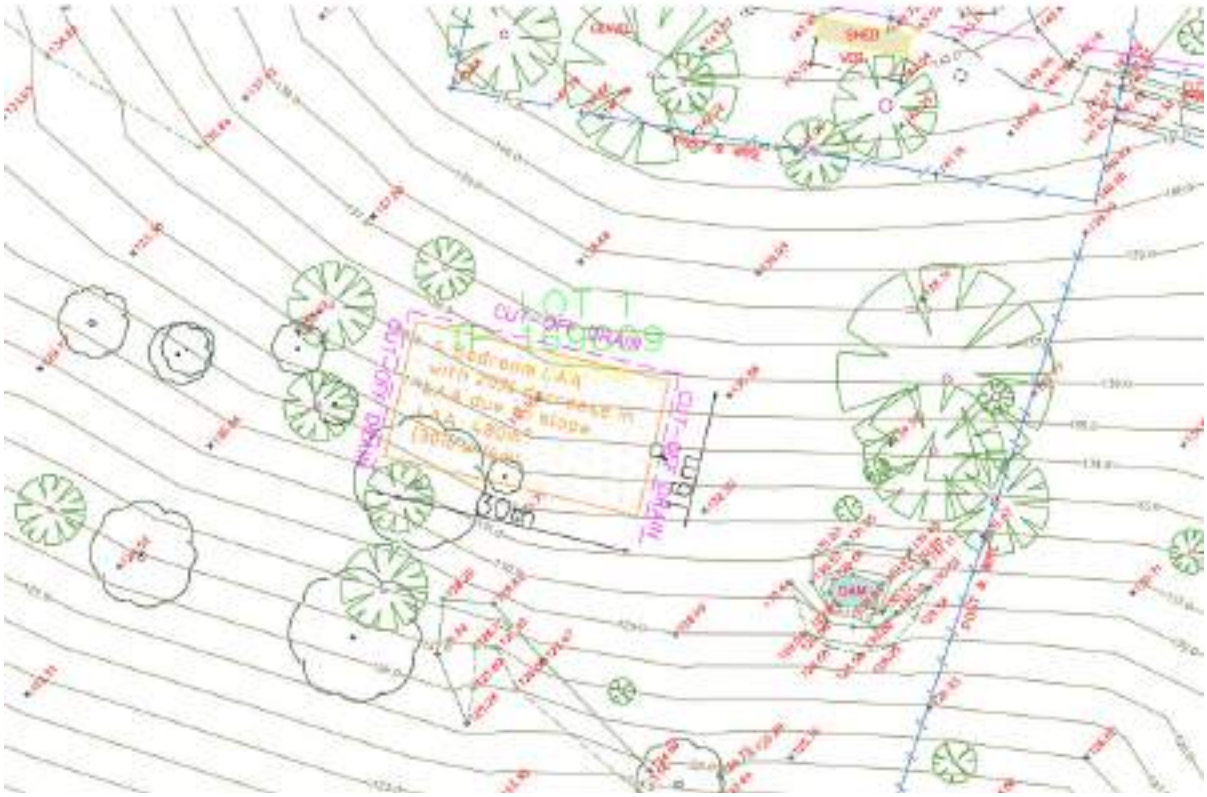
Please Note: Drawing is not to scale and indicative only.
Locations and offset distances to be confirmed to scale upon receipt of Site Survey

3.1 Site Plan – Borehole Locations

No. 45 Reynolds Road, PAKENHAM. – LAA's Boreholes.

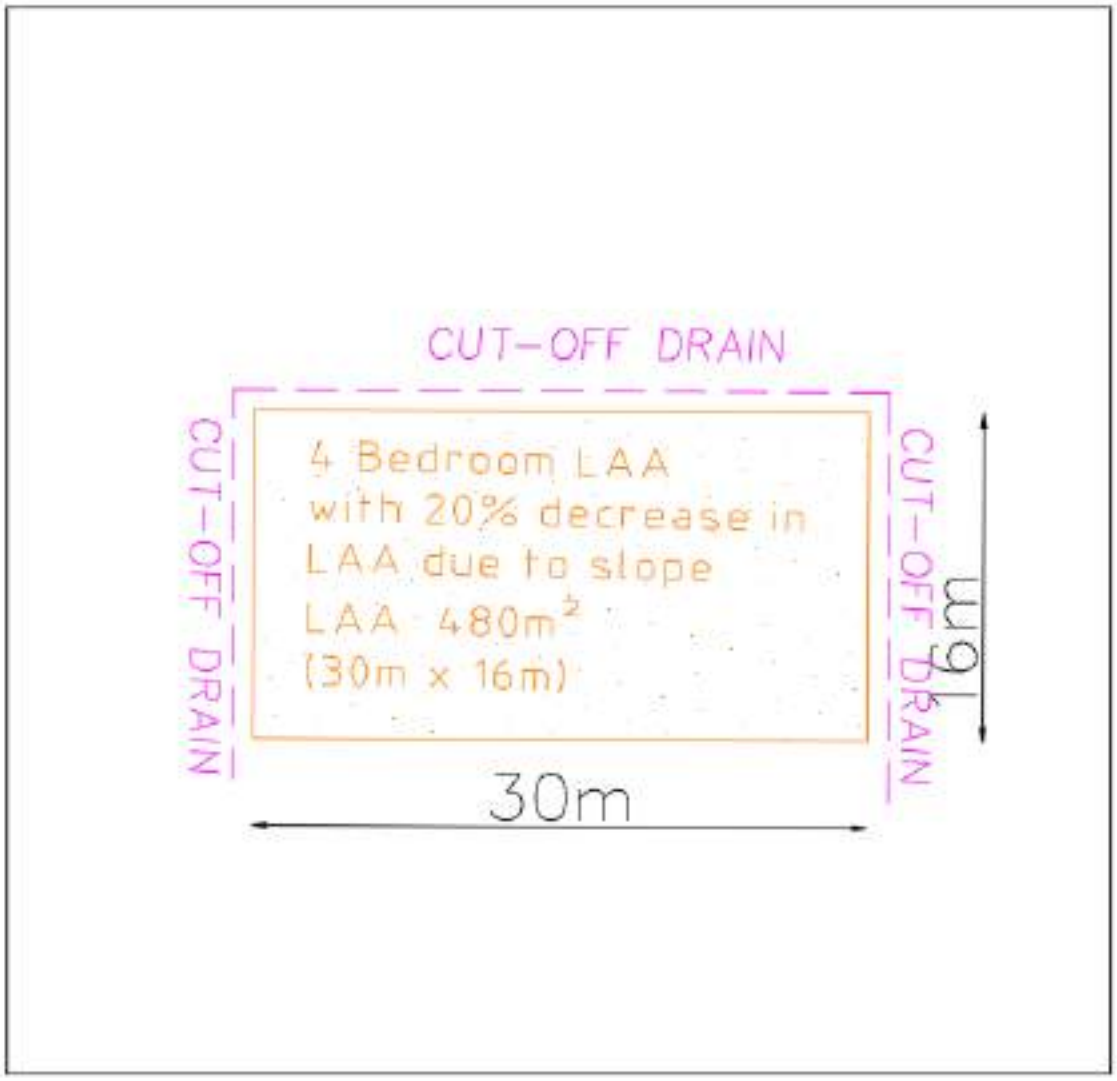
Please Note: Drawing is not to scale and indicative only.
Locations and offset distances to be confirmed to scale upon receipt of Site Survey

3.2. Site LAA Location



No. 45 Reynolds Road, PAKENHAM.
Note: Drawing is not to scale and indicative only.

3.3. Site LAA Sizing



No. 45 Reynolds Road, PAKENHAM.

Note: Drawing is not to scale and indicative only.

4. Soil Assessment

Two (2) boreholes were completed across the site to determine the geology across the site so that the soil in the area chosen for the LAA would be known. The boreholes show that the site consists of a natural brown, Clayey SILT overlying a brown / orange / mottled grey, Silty CLAY, overlying a grey / orange completely weathered MUDSTONE.

Borehole 1

Depth (m)		Description	Strength / Density	Moisture
0.500		Clayey SILT Brown Paler with depth Very Clayey below 300mm Mottled Orange below 300mm Traces of rounded gravels at depth	Medium dense	Moist
0.800		Silty CLAY Brown / orange / mottled grey Paler / moist / stiff / friable with depth	Firm-Stiff	Moist-very moist
1.300		Completely weathered MUDSTONE Grey / Orange Auger refusal at 1300mm on Highly weathered MUDSTONE	Dense	Dry-moist

Borehole 2

Depth (m)		Description	Strength / Density	Moisture
0.400		Clayey SILT Brown Paler with depth Very Clayey below 300mm Mottled Orange below 300mm Traces of rounded gravels at depth	Medium dense	Moist
0.900		Silty CLAY Brown / orange / mottled grey Paler / moist / stiff / friable with depth	Firm-Stiff	Moist-very moist
1.300		Completely weathered MUDSTONE Grey / Orange Auger refusal at 1300mm on Completely weathered / Highly weathered MUDSTONE	Dense	Dry-moist

4.1 Soil Features

Profile Depth – Two boreholes were completed to 1300mm. The profile is shown in the Borehole logs above.

Depth to water table: No perched water table was encountered at the time of the investigation. It is possible that a transient water table may exist in the wetter months of the year above the clay soils. A cut off drain will be constructed around the high side of the LAA to prevent any surface or subsurface waters entering the LAA.

Coarse Fragments – in the soil profile encountered there were approximately 30% rock fragments.

Soil Permeability – The soil permeability was determined through references to published soil properties as mentioned in Site Features on page 4.

Limiting Soil Layer – the limiting soil layer at this site is the silty CLAY soils. There are Category 5/6 as per AS1547-2012.

Design Irrigation Rate: the design irrigation rate for the pressure compensating subsurface irrigation for the site is based on previous experience and reference to published values is 2.0mm/day. This has been reduced by 20% as per Table M2, AS1547-2012, due to the slope of the site being between 10 and 20%, to 1.6mm/day. This has been incorporated into the Water Balance that has been completed that is contained later in this report.

pH – the pH of the CLAY soils was measured using a Hanna hand held pH/EC meter. The pH was found to be between the range of 4.1 to 5.3. This indicated an acid soil. Needs lime fertilizer, plants require acid tolerance.

Electrical Conductivity – the EC of the CLAY soils was measured using a Hanna hand held pH/EC meter. The EC(SE) was found to be between 0.20 to 0.52. This indicates that the CLAY soils are slightly to moderately-saline. This is very sensitive and will affect crops.

5. Wastewater Management System

After all of the above information has been processed and analyzed it has been determined that a system using secondary treatment, a sand filter or an AWTS, would be appropriate for the site. This choice will achieve a level of effluent quality that can be distributed on the site by a pressure compensating subsurface irrigation system. It is recommended that a secondary treatment system is used as it will reduce the risks at the site to negligible levels. By using a secondary treatment system, the effluent will be treated to a high standard before being allowed to pass through into the natural soils on the site.

The size of the irrigation areas required have been calculated using a water balance equation and nutrient balance to ensure that the system can handle the anticipated loads. The worksheet for this water balance equation can be seen in Appendix A and the nutrient balance is also included. The reduction in the DIR by 20% due to the slope being between 10% and 20% has been calculated in the table below. The size of the irrigation area has been calculated to be 460 square meters due to hydraulic load based on the number of bedrooms being four (4) and maximum occupancy being five (5) for the site. The pressure compensating subsurface irrigation should also run along the contours as mentioned in Section M9.3 of AS/NZS 1547, 2012. A cut off drain around the LAA will reduce the risk of a perched water table occurring.

Number of bedrooms	Maximum occupancy (persons)	Total effluent load (Litres/day)	Total irrigation area required (m^2)	Total Irrigation area required (m^2) with 20% decrease in DIR
4	5	750	390	460

Table 2: Total effluent loads and irrigation area required, based on the total number of bedrooms and maximum occupancy the final house design adopts.

Gypsum should be added to the LAA at a rate of 1kg per square meter and should be spread over the LAA area and then should be worked into the soil by a rotary hoe or some other mechanical means and relevelled prior to the laying of the pressure compensating sub surface irrigation. This will allow the soils to become more permeable.

The area that has been determined to be the most appropriate for the system on the site is shown on the previous site plan. This system also allows for the subsurface irrigation to be set up around the site in an area to ensure that as minimal surface runoff as possible will enter the site by the use of a cutoff drain along the higher sides of the LAA.

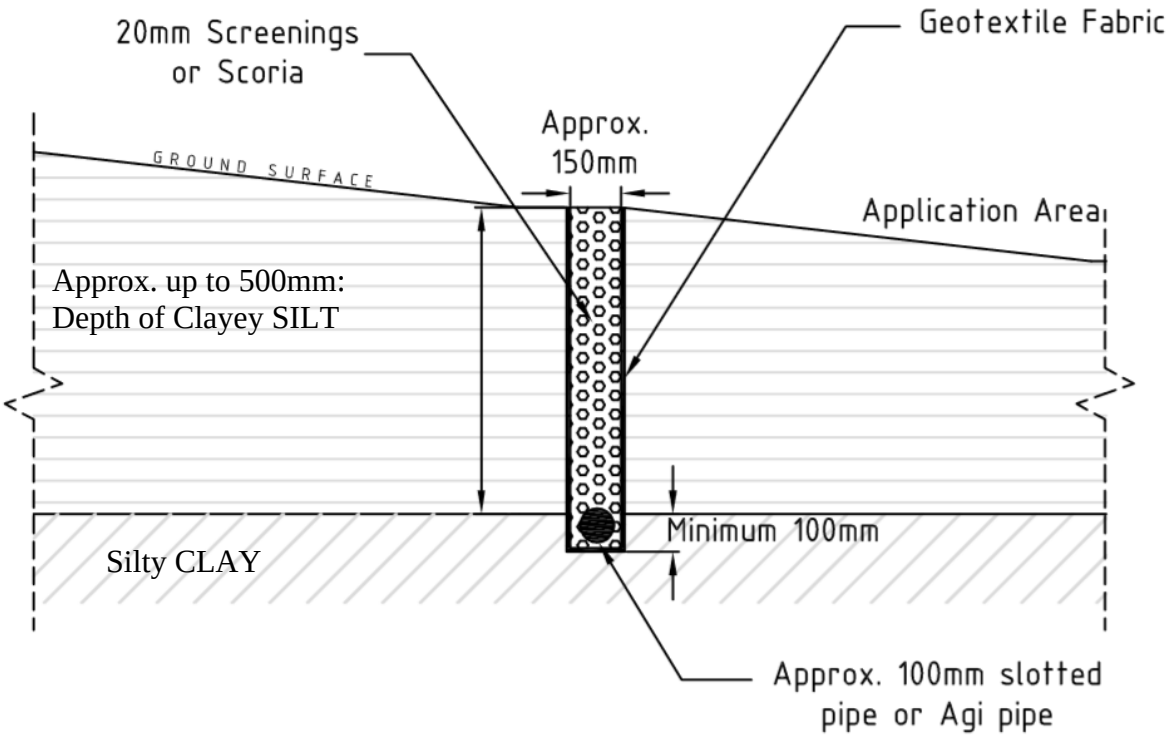
As the site has moderate to high rainfall, a heavy clay soil profile and a moderate to steep slope, it is recommended that a cutoff drain is installed along the high side of the LAA's. This is to ensure that no overland water enters the LAA. This cutoff drain should be located 1m from the edge of the LAA and be approximately 150mm wide and at least up to 600mm deep, to a depth 100mm into the CLAY soil.

This drain should have a geotextile placed in it and be backfilled with a socked aggie pipe and covered with screenings or scoria. This will ensure that the LAA only has to cope with the hydraulic loads that have been calculated (i.e. irrigation and incident rainfall). This cut off drain should continue for at least two metres past the lower side of the LAA and then be diverted away from the LAA.

The drain is to be constructed by a licensed and registered plumber and needs to be graded away from the LAA. Depending on the slope of the site and the soil profile this may require a pit and pump to be installed.

There are a set of minimum setback distances that are contained in the EPA code of practice. These need to be followed along with all local council requirements. Where secondary treatment is used these distances can be reduced by 50%. All of these have been met with the location of the LAA.

6. Cut – Off Drain Cross Section



NOTE: Drawing is not to scale.

A Cut-off drain is to be completed along the high sides of the LAA and completed across the site. This will give the drain somewhere to flow to as shown on the site plan of the site.

The drain is to be constructed by a licensed and registered plumber and needs to be graded away from the LAA. Depending on the slope of the site and the soil profile this may require a pit and pump to be installed.

7. Monitoring, Operation and Maintenance

In order for the systems to operate effectively the resident must ensure that the following requirements for the treatment system are followed.

- Water usage at the site should be kept to a minimum. AAA rated water fixtures and appliances are required. This will reduce the effluent load on the system.
- To reduce the amount of fats and oils that enter the system
- Use cleaning products that are suitable for sand filters
- Have the system regularly inspected by a suitable qualified contractor to ensure that the system is treating the effluent to at least 20/30.

In order for the system to operate effectively the resident must ensure that the following requirements for the irrigation systems are followed.

- Regularly mow the irrigation area to encourage further growth. This will encourage the uptake of nutrients from the system
- You are required to harvest the grass (i.e. cut and cart)

In order for the systems to work effectively and to maintain the reduced risk at the site it is recommended that the mandatory testing and reporting as described in the Code of Practice – Onsite Wastewater Management, EPA Publication 891.4, include an annual (post spring) and post periods of heavy and/or prolonged rainfall, report on the functioning and integrity of the distribution system and on the functioning and integrity of the cut-off drains, outfall areas and soil media. The effluent areas should be regularly inspected for excessively wet areas and vegetation integrity.

8. Conclusions

After the site has been visited and all of the information has been processed, our assessment has shown that at least one sustainable and suitable on-site effluent disposal method is appropriate for the site for the proposed new dwelling. It is recommended that a secondary treatment facility can be used at the site to handle the effluent for the site.

It is recommended that subsurface irrigation is used and that the effluent is distributed over an area calculated by the water balance to be 460 square meters, based on the dwelling design for the site. The LAA drawn on the previous site plan is 30m x 16m = 480 square meters.

A cut off drain around the high side of the irrigation area will be required to limit any surface water that may flow on to the area and impede the permeability of the soils and to remove the risk of a perched water table ingress during the wetter months of the year. All water saving appliances are required in the construction of the new residence and that all water saving practices are used by the occupiers. It is recommended that all maintenance requirements for the system as provided by the supplier are met in order that the system runs efficiently and according to design.

Luke Tymensen
BE (Civil) Hons
PE0002775
Hardcore Geotech

9. Other Information

The following table contains a list of plants, grasses and trees that will help with the transpiration in the effluent site.

Plants and grasses

Botanical Names	Common Names
Lolium / Trifolium	Rye / Clover
Phragmites australis	
Canna x Generalis	Canna Lily
	Calla Lily
	Ginger Lily
Acacia howittii	Sticky Wattle
Callistemon citrinus	Crimson Bottlebrush
Callistemon macropunctatus	Scarlet Bottlebrush
Leptospermum lanigerum	Wooley Tea-Tree
Malaeleuca decussata	Cross Honey Murtle
Malaeleuca ericifolia	Swamp Paperback
Malaeleuca halmaturorum	Salt Paperback
Tamarix juniperina	Flowering Tamarisk
Eleocharis acuta	Cannas
	Common Spike-Rush
	Buffalo / kikuyu
	Geranium
	Hydrangeas
	Tall wheat grass
	Strawberry Clover
	White Clover
	Perennial Rye
	Bougainvillea

Trees

Eucalyptus Camaldulensis	River Red Gum
Eucalyotus Citriodora	Lemon Scented Gum
Fraxinus Raywoodi	Claret Ash
Eucalyptus Cladocalyx	Sugar Gum
Platanus – all species	Plan Tree
Populus nigra etc	Poplar
Salix banylonica	Weeping Willow
Acacia longiflora	Swallow Wattle
Callistemon viminalis	Weeping Bottlebrush
Callistemon lilacinus	Lilac Bottlebrush
Eucalyptus pressiana	Bell-fruit Mallee
Viminaria juncea	Native Broom

10. Sources of Information

The information contained in this report was gathered from a variety of sources as listed below.

1) *SEPPs (Waters of Victoria)*

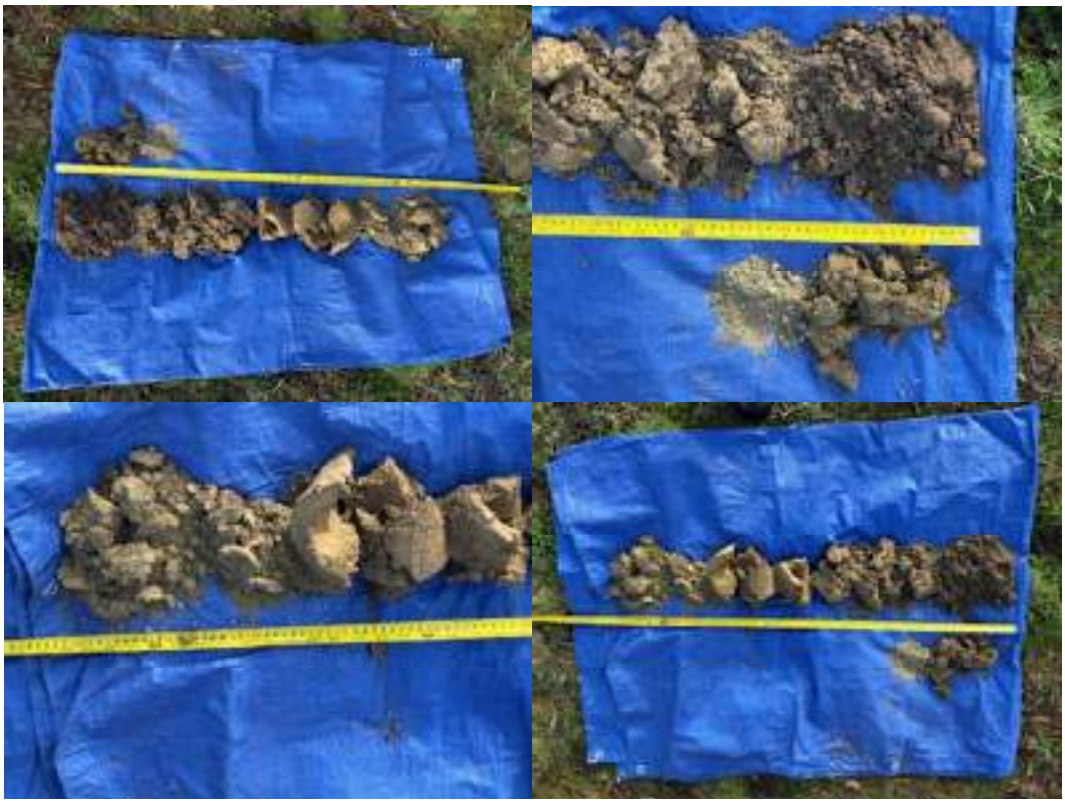
2) *"Disposal systems for effluent from domestic premises", Australian Standard AS/NZS 1547 – 2012*

3) *Code of Practice – Onsite Wastewater Management, Environmental Protection Agency, Publication No: 891.4*

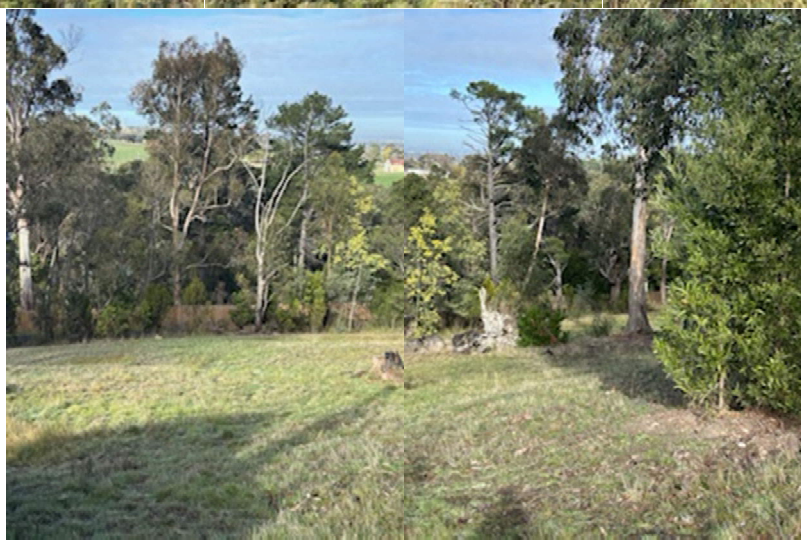
4) *Model Land Capability Assessment Report, MAV and DSE, February 2014*

11. Site Photos

BOREHOLE 1



BOREHOLE 2



Appendix A - Water/Nitrogen Balance

Hardcore Geotech Pty Ltd

HARDCORE 01

WATER/NITROGEN BALANCE (20/30 irrigation): With no wet month storage.

Rainfall Data: Beaconsfield Upper - 86261 / Evaporation Data: Scoresby Research Institute - 086104

Location: No.50 Reynolds Road, PAKENHAM

Date: 14th August 2025

Client:

ITEM		#	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Days in month:		D	31	28	31	30	31	30	31	31	30	31	30	31	365
Evaporation (Mean)	mm	A	174	154	124	81	53	39	43	59	78	105	132	155	1205
Rainfall (Mean)	mm	B1	65	61	71	81	88	89	87	95	99	100	90	81	1016
Effective rainfall	mm	B2	59	55	64	73	79	80	78	86	89	90	81	73	907
Peak seepage Loss[1]	mm	B3	171	154	171	165	171	165	171	171	165	171	165	171	2008
Evapotranspiration(IXA)	mm	C1	69	62	50	32	21	16	17	24	31	42	53	62	479
Waste Loading(C1+B3-B2)	mm	C2	181	161	157	125	113	101	109	108	107	123	136	160	1580
Net evaporation from lagoons (10(0.8A-B1xlagoon area(ha)))	L	NL	0	0	0	0	0	0	0	0	0	0	0	0	0
Volume of Wastew ater	L	E	23250	21000	23250	22500	23250	22500	23250	23250	22500	23250	22500	23250	273750
Total Irrigation Water(E-NL)/G	mm	F	51	46	51	49	51	49	51	51	49	51	49	0	545
Irrigation Area(E/C2)annual.	m^2	G													**460**
Surcharge	mm	H	-131	-115	-106	-76	-62	-52	-59	-58	-58	-72	-88	-109	0
Actual seepage loss	mm	J	40	39	64	89	108	113	112	113	107	98	77	61	1023
Direct Crop Coefficient:		I	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	Shade:

Rainfall Retained:	90	%	K
Lagoon Area:	0	ha	L
Wastew ater(Irrigation):	750	L	M
Seepage Loss (Peak):	5.5	mm	N
Irrig'n Area(No storage):	**460**	m^2	P2
Application Rate:	**1.6**	mm	Q
Nitrogen in Effluent:	30	mg/L	R
Denitrification Rate:	20	%	S
Plant Uptake:	220	kg/ha/y	T
Average daily seepage:	2.8	mm	U
Annual N load:	6.57	kg/yr	V
Area for N uptake:	**299**	m^2	W
Application Rate:	2.5	mm	X

1. Seepage loss (peak) equals deep seepage plus lateral flow : 5mm (<12% ksat)

CROP FACTOR												
0.7	0.7	0.7	0.6	0.5	0.45	0.4	0.45	0.55	0.65	0.7	0.7	Pasture:
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	Shade:
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Buffalo:
1	1	1	1	1	1	1	1	1	1	1	1	Woodlot

NITROGEN UPTAKE:

Species:	Kg/ha.yr	pH	Species:	Kg/ha.yr	pH	Species:	Kg/ha.yr	pH
Ryegrass	200	5.6-8.5	Bent grass	170	5.6-6.9	Grapes	200	6.1-7.9
Eucalyptus	90	5.6-6.9	Couch grass	280	6.1-6.9	Lemons	90	6.1-6.9
Lucerne	220	6.1-7.9	Clover	180	6.1-6.9	C cunn'a	220	6.1-7.9
Tall fescue	150-320	6.1-6.9	Buffalo (soft)	150-320	5.5-7.5	P radiata	150	5.6-6.9
Rye/clover	220		Sorghum	90	5.6-6.9	Poplars	115	5.6-8.5

Figure 1 (above): Calculations based on a four-bedroom house design with a 20% reduction in the application rate to 1.6mm/day.

Appendix B - Land Capability Assessment

The following table is a Land Capability Assessment that can be used for assessing a site for onsite domestic wastewater management.

APPENDIX B

LAND CAPABILITY ASSESSMENT TABLE

Site Address: No. 60 Reynolds Road PAKENHAM

Job No: 250836 LCA

HardCore Geotech

LAND FEATURE	LAND CAPABILITY RISK RATING				COMMENTS
	LOW	MEDIUM	HIGH	LIMITING	
Available land for LAA	Exceeds LAA and duplicate LAA requirements	Meets LAA and duplicate LAA requirements	Meets LAA and partial duplicate LAA requirements	Insufficient LAA area	Sufficient land available for use, and future expansion if required
Aspect	North, north-east and north west	East, west, south-east, south-west	South	South, full shade	South Facing
Exposure	Full sun and or high wind or minimal shading	Dappled light (partial shade)	Limited light, little wind to heavily shaded all day	perpetual shade	Site has moderate exposure
Site Drainage (runoff/run-on)	Very slow to slow	Moderate	Rapid	Very rapid or depressed	Site has a moderate slope
Slope gradient (%)	0-2	2-10	10-23	23+ or locally depressed	Slope ranges across the site from 10-17%
Slope form	Convex or divergent side slopes	straight sided slopes	Concave or convergent side slopes	Locally depressed	Slope is fairly uniform
Trenches and beds	<8%	8% to 10%	10% to 19%	>19%	Not suitable for the site conditions
Subsurface irrigation	<10%	10% to 30%	30% to 40%	>40%	Medium risk as there is variable slope across the s/site
Landslip	Potential	Potential	Potential	Existing	No signs of landslip at the site
Erosion potential	Low	Moderate	High	No practical amelioration	Non-dispersive soils
Flood/ Inundation	Never		<1% AEP	>6% AEP	Site is located in the elevated area of Pakenham Upper
Distance to non-potable surface waters (m)	Buffer distance complies with code requirements (>40m)		Buffer distance does not comply with code requirements	Reduced buffer distance not acceptable	LAA meets requirements
Distance to potable surface waters (m)	Buffer distance complies with code requirements (>100m for waterways, >600m for reservoirs)		Buffer distance does not comply with code requirements	Reduced buffer distance not acceptable	LAA meets requirements
Distance to groundwater bores (m)	No bores on site or within significant distance (<50m)	Buffer distance complies with code	Buffer distance does not comply with code requirements	No suitable treatment methods	There are no bores within 250m of the proposed LAA
Vegetation	Phreatic / healthy vegetation	Moderate vegetation	Sparse or no vegetation	Propagation not possible	Moderate cover of grass pasture
Trafficking	None to low	Moderate	High	Excessive	Provide fencing to stop any live stock access
Depth to water table (perched/artific.) (m)	>2	2 to 1.5	<1.5	surface	Cut off drain around the high sides of the LAA will prevent overland flow entering the LAA
Depth to water table (seasonal perched) (m)	>1.5	<0.5	0.5 to 1.5	surface	Cut off drain around the high sides of the LAA will prevent overland flow entering the LAA. Low chance of occuring due to slope
Rainfall (Mt Dandy)	<600	600-750	750-1000	>1000	Beaconsfield Upper - 86261
Pan Evaporation (mean) (mm)	>1250	1000-1250	750-1000	<750	Scoresby - 86104
SOIL PROFILE CHARACTERISTICS					
Structure	High or moderately structured	Weakly Structured	Structureless, massive or hardpan		
Fill materials	Nil or stripped good quality topsoil	Mapped variable depth and quality materials	Variable quality and/or uncontrolled filling	Uncontrolled poor quality/unsuitable filling	No fill material was encountered
Thickness (m)					
Trenches and beds	>1.4		<1.4	<1.2	Not suitable for the site conditions
Subsurface irrigation	1.8+	1.8 to 1.5	0.75	<0.75	
Permeability (limiting Horizon) (m/day)	0.15-0.30	0.03-0.15, 0.3-0.6	0.01-0.03, 0.6-3.0	>3.0, <0.03	
Permeability (surface application) (m/day)	<0.3	0.3-3	6 to 5	>5	
Stickiness	<15	15 to 20	>20		Some rock fragments becoming friable
Dispersion number	6, 5, 4, 3	7	2, 1	1 0	Not dispersive
Dispersion index	0	1 to 3	6 to 15	>15	Not dispersive
Reaction Trend (pH)	5.5-8	4.5-5.5	>4.5, >8		pH measured in between the range of 4.1 to 6.3 - Acid soils
E.C. (dS/m)	<4	0.8-2	>2	>2	Measured ecm between the range of 0.23 to 0.62 - soils are slightly to moderately saline
Sodicity (ESP) (%)	<6	6 to 8	>8	>14	Not measured however due to the pH will not be a problem
Cation Exchange Capacity (cmol+/kg)	>15	5 to 15	<5		Heavy Clay 20-30 as per published values
Free Swell	<20	20 to 80	80 to 120	>120	measured as 4m1 10/gr.

GENERAL NOTES (NCC 2019 BCA Vol 2)

- ALL MATERIALS AND WORK PRACTICES SHALL COMPLY WITH, BUT NOT LIMITED TO THE BUILDING REGULATIONS 2018, NATIONAL CONSTRUCTION CODE SERIES 2019, THE BUILDING CODE OF AUSTRALIA VOL 2 AND ALL RELEVANT CURRENT AUSTRALIAN STANDARDS (AS AMENDED) REFERRED TO THEREIN.
- UNLESS OTHERWISE SPECIFIED THE TERM BCA SHALL REFER TO NATIONAL CONSTRUCTION CODE SERIES 2019 BUILDING CODE OF AUSTRALIA VOLUME 2
- ALL MATERIALS AND CONSTRUCTION PRACTICE SHALL MEET THE PERFORMANCE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA. WHERE AN ALTERNATIVE SOLUTION IS PROPOSED THEN, PRIOR TO IMPLEMENTATION OR INSTALLATION, IT FIRST MUST BE ASSESSED AND APPROVED BY THE RELEVANT BUILDING SURVEYOR AS MEETING THE PERFORMANCE REQUIREMENTS OF THE BCA.
- GLAZING INCLUDING SAFETY GLAZING SHALL BE INSTALLED TO A SIZE, TYPE & THICKNESS SO AS TO COMPLY WITH:
  - BCA PART 3.6 FOR CLASS 1 AND 1O BUILDINGS WITHIN A DESIGN WIND SPEED OF NOT MORE THAN N3, AND
  - BCA VOL 1 PART B1.4 FOR CLASS 2 TO 9 BUILDINGS
- WATERPROOFING OF WET AREAS, BEING BATHROOMS, SHOWERS, SHOWER ROOMS, LAUNDRIES, SANITARY COMPARTMENTS AND THE LIKE SHALL BE PROVIDED IN ACCORDANCE WITH AS 3740-2010: WATERPROOFING OF DOMESTIC WET AREAS.

SUSTAINABILITY MEASURES FOR NEW CLASS 1 BUILDINGS.
THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ANY HOUSE ENERGY RATING (HERS) REPORT AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STAMPED PLANS ENDORSED BY THE ACCREDITED ENERGY RATER.

SITE BUSHFIRE ATTACK ASSESSMENT.
REFERENCE DOCUMENT AS 3959-2018 CONSTRUCTION OF BUILDINGS IN BUSHFIRE PRONE AREAS.
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL AND ALL OTHER CONSULTANTS DRAWINGS/ DETAILS AND WITH ANY OTHER WRITTEN INSTRUCTIONS ISSUED IN THE COURSE OF THE CONTRACT.
- SITE PLAN MEASUREMENTS IN MILLIMETRES - ALL OTHER MEASUREMENTS IN MILLIMETRES U.N.O.
- FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- THE BUILDER SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE STABILITY AND GENERAL WATER TIGHTNESS OF ALL NEW AND/OR EXISTING STRUCTURES DURING ALL WORKS.
- THE BUILDER AND SUBCONTRACTORS SHALL CHECK AND VERIFY ALL DIMENSIONS, SETBACKS, LEVELS AND SPECIFICATIONS AND ALL OTHER RELEVANT DOCUMENTATION PRIOR TO THE COMMENCEMENT OF ANY WORKS. REPORT ALL DISCREPANCIES TO THIS OFFICE FOR CLARIFICATION

SITE CLASSIFICATION

SITE CLASSIFICATION AS CLASS:	
REFER TO SOIL REPORT NO:	
BY:	

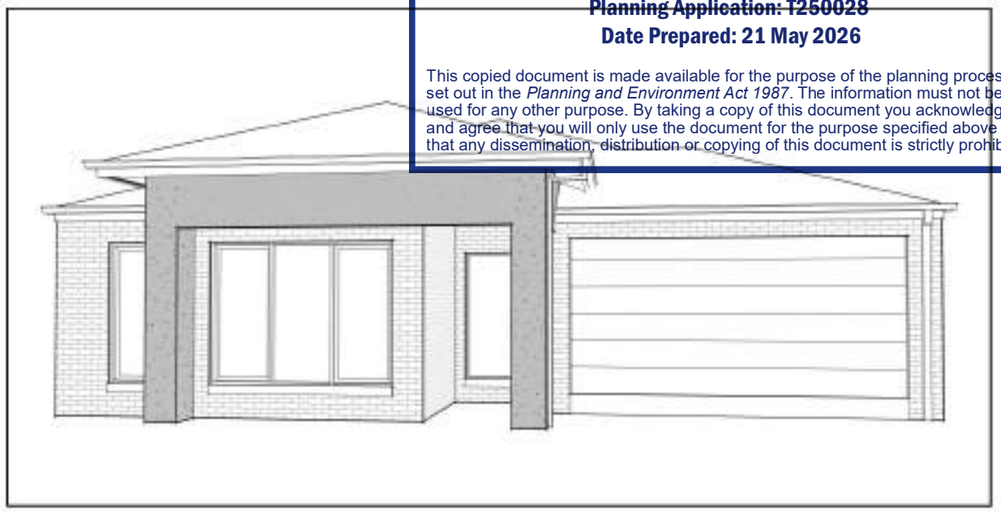
STORMWATER
90mmØ (UPTO 250m2) OR 100mmØ (OVER 250m2) CLASS 6 UPVC STORMWATER LINE LAID TO A MINIMUM GRADE OF 1:100 AND CONNECTED TO THE LEGAL POINT OF STORMWATER DISCHARGE. PROVIDE INSPECTION OPENINGS AT 9000MM C/C AND AT EACH CHANGE OF DIRECTION.
THE COVER TO UNDERGROUND STORMWATER DRAINS SHALL BE NOT LESS THAN
- 100MM UNDER SOIL
- 50MM UNDER PAVED OR CONCRETE AREAS
- 100MM UNDER UNREINFORCED CONCRETE OR PAVED DRIVEWAYS
- 75MM UNDER REINFORCED CONCRETE DRIVEWAYS

AUTHORITIES / CONSULTANTS

MUNICIPALITY NAME:	
SEWERAGE AUTHORITY:	
CONSULTING STRUCTURAL ENGINEER:	
GEOTECHNICAL ENGINEER:	
THERMAL PERFORMANCE ASSESSOR:	

STEP AND LANDINGS
- STEP SIZES (OTHER THAN FOR SPIRAL STAIRS) TO BE:
- RISERS (R) 190MM MAXIMUM AND 115MM MINIMUM
- GOING (G) 355MM MAXIMUM AND 240MM MINIMUM
- 2R + 1G = 700MM MAXIMUM AND 550MM MINIMUM
- WITH LESS THAN 125MM MAXIMUM GAP BETWEEN OPEN TREADS
- ALL TREADS, LANDINGS AND THE LIKE TO HAVE A SLIP-RESISTANCE CLASSIFICATIONOF P3 OR R10 FOR DRY SURFACE CONDITIONS AND P4 OR R11 FOR WET SURFACE CONDITIONS, OR A NOSING STRIP WITH A SLIPRESISTANCE CLASSIFIATION OF P3 FOR DRY SURFACE CONDITIONS AND P4 FOR WET SURFACE CONDITIONS.
- PROVIDE BARRIERS WHERE CHANGE IN LEVEL EXCEEDS 1000MM ABOVE THE SURFACE BENEATH LANDINGS, RAMPS AND/OR TREADS. BARRIERS (OTHER THAN TENSIONED WIRE BALUSTRADES) TO BE:
- 1000MM MIN. ABOVE FINISHED SURFACE LEVEL OF BALCONIES, LANDINGS OR THE LIKE, AND
- 865MM MIN. ABOVE FINISHED SURFACE LEVEL OF STAIR NOSING OR RAMP, AND
- VERTICAL WITH LESS THAN 125MM GAP BETWEEN, AND
- ANY HORIZONTAL ELEMENT WITHIN THE BALUSTRADE BETWEEN 150MM AND 760MM ABOVE THE FLOOR MUST NOT FACILITATE CLIMBING WHERE CHANGES IN LEVEL EXCEEDS 4000MM ABOVE THE SURFACE BENEATH LANDINGS, RAMPS AND/OR TREADS.
-WIRE BARRIER CONSTRUCTION TO COMPLY WITH BCA PART 3.9.2.3 FOR CLASS 1 AND 10 BUILDINGS AND NCC 2019 BCA VOLUME 1 PART D2.16 FOR OTHER CLASSES OF BUILDINGS.
- TOP OF HAND RAILS TO BE 865MM MINIMUM ABOVE STAIR NOSING AND FLOOR SURFACE OF RAMPS.
- WINDOW SIZES NOMINATED ARE NOMINAL ONLY. ACTUAL SIZE MAY VARY ACCORDING TO MANUFACTURER. WINDOWS TO BE FLASHED ALL AROUND.
- WHERE THE BUILDING (EXCLUDES A DETACHED CLASS 10) IS LOCATED IN A TERMITE PRONE AREA THE AREA TO UNDERSIDE OF BUILDING AND PERIMETER IS TO BE PROVIDED WITH A TERMITE MANAGEMENT SYSTEM.
- CONCRETE STUMPS: UP TO 1400MM LONG TO BE 100MM X 100MM (1 NO. H.D. WIRE) 1401MM TO 1800MM LONG TO BE 100MM X 100MM (2 NO. H.D. WIRES) 1801MM TO 3000MM LONG TO BE 125MM X 125MM (2 NO. H.D. WIRES)
100MM X 100MM STUMPS EXCEEDING 1200MM ABOVE GROUND LEVEL TO BE BRACED WHERE NO PERIMETER BASE BRICKWORK PROVIDED.
- BUILDINGS IN MARINE OR OTHER EXPOSURE ENVIRONMENTS SHALL HAVE MASONRY UNITS, MORTAR AND ALL BUILT IN COMPONENTS AND THE LIKE COMPLYING WITH THE DURABILITY REQUIREMENTS OF TABLE 4.1 OF AS4773.1-2010 MASONRY IN SMALL BUILDINGS PART 1:DESIGN
- ALL STORMWATER TO BE TAKEN TO THE LEGAL POINT OF DISCHARGE TO THE RELEVANT AUTHORITIES APPROVAL.
- INSTALLATION OF ALL SERVICES SHALL COMPLY WITH THE RESPECTIVE SUPPLY AUTHORITY REQUIREMENTS.
- THE BUILDER AND SUBCONTRACTOR SHALL ENSURE THAT ALL STORMWATER DRAINS, SEWER PIPES AND THE LIKE ARE LOCATED AT A SUFFICIENT DISTANCE FROM ANY BUILDINGS FOOTING AND/OR SLAB EDGE BEAMS SO AS TO PREVENT GENERAL MOISTURE PENETRATION, DAMPNESS, WEAKENING AND UNDERMINING OF ANY BUILDING AND ITS FOOTING SYSTEM.
- THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE BY THE CLIENT OF SJD HOMES ('THE DESIGNER') FOR THE PURPOSE EXPRESSLY NOTIFIED TO THE DESIGNER. ANY OTHER PERSON WHO USES OR RELIES ON THESE PLANS WITHOUT THE DESIGNER'S WRITTEN CONSENT DOES SO AT THEIR OWN RISK AND NO RESPONSIBILITY IS ACCEPTED BY THE DESIGNER FOR SUCH USE AND/ OR RELIANCE.
- A BUILDING PERMIT IS REQUIRED PRIOR TO THE COMMENCEMENT OF THESE WORKS. THE RELEASE OF THESE DOCUMENTS IS CONDITIONAL TO THE OWNER OBTAINING THE REQUIRED BUILDING PERMIT.
- THE CLIENT AND/OR THE CLIENT'S BUILDER SHALL NOT MODIFY OR AMEND THE PLANS WITHOUT THE KNOWLEDGE AND CONSENT OF SJD HOMES EXCEPT WHERE A REGISTERED BUILDING SURVEYOR MAKES MINOR NECESSARY CHANGES TO FACILITATE THE BUILDING PERMIT APPLICATION AND THAT SUCH CHANGES ARE PROMPTLY REPORTED BACK TO SJD HOMES.
- THE APPROVAL BY THIS OFFICE OF A SUBSTITUTE MATERIAL, WORK PRACTICE, VARIATION OR THE LIKE IS NOT AN AUTHORISATION FOR ITS USE OR A CONTRACT VARIATION. ANY SAID VARIATIONS MUST BE ACCEPTED BY ALL PARTIES TO THE AGREEMENT AND WHERE APPLICABLE THE RELEVANT BUILDING SURVEYOR PRIOR TO IMPLEMENTING THE SAID VARIATION.

SJD homes



CAVERSHAM 307 - RH

ISSUE	AMENDMENT DETAILS
A	
B	
C	
D	
E	
F	
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H	
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J	
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BUSHFIRE ATTACK LEVEL:- (BAL)
BAL NIL

ALL HOMES TO COMPLY WITH AS 3959-2009 (BAL)

WIND SPEED ASSESSMENT:
MAXIMUM DESIGN GUST WIND SPEED FOR THIS SITE IS:

IMPORTANT NOTE:
THE WIND SPEED CALCULATION IS TAKEN FROM THE JOB SPECIFIC SOIL REPORT (FRONT PAGE)
STANDARD HOMES ARE DESIGNED TO SUIT A MINIMUM WIND GUST SPEED OF 33 m/s

SJD homes
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BL No. CDB-U 56523

PROPOSED: **HOUSE & GARAGE**
HOUSE TYPE: **CAVERSHAM 307 - RH**

SIGNED BUILDER: .....
SIGNED OWNER: .....
.....
DATE: .....

CLIENT: [redacted]
SITE ADDRESS: **LOT 1, No. 45 REYNOLDS ROAD PAKENHAM, 3810**

DRAWING TITLE: **GENERAL NOTES**

ISSUE: D	
ISSUE DATE: 11.12.25	
SCALE:	MASTER DATE: 23.04.24
DRAWN: RD	CHECKED: TLG
SHEET NO: 01	OF: 04

DRAINAGE NOTES:

- SITE DRAINAGE SHALL COMPLY WITH NCC 3.1.2 STORMWATER AND ASSOCIATED PLUMBING DRAINAGE CODE.
- BASE OF CUT GRADED TO SET TRAP AT (-0.30) MIN. DRAINS SHALL BE PROTECTED BY GRAVEL FILTER.
- TEMPORARY DOWNPIPES CONNECTED TO THE STORM WATER SYSTEM TO BE INSTALLED AS SOON AS ROOF COVER IS COMPLETED.
- STORMWATER DRAINS ARE INDICATIVE ONLY. DRAINER TO CONNECT TO LEGAL POINT OF DISCHARGE AT THEIR DISCRETION.

GRADE SURFACES AWAY FROM HOUSE FOOTINGS (MINIMUM FALL 10B).

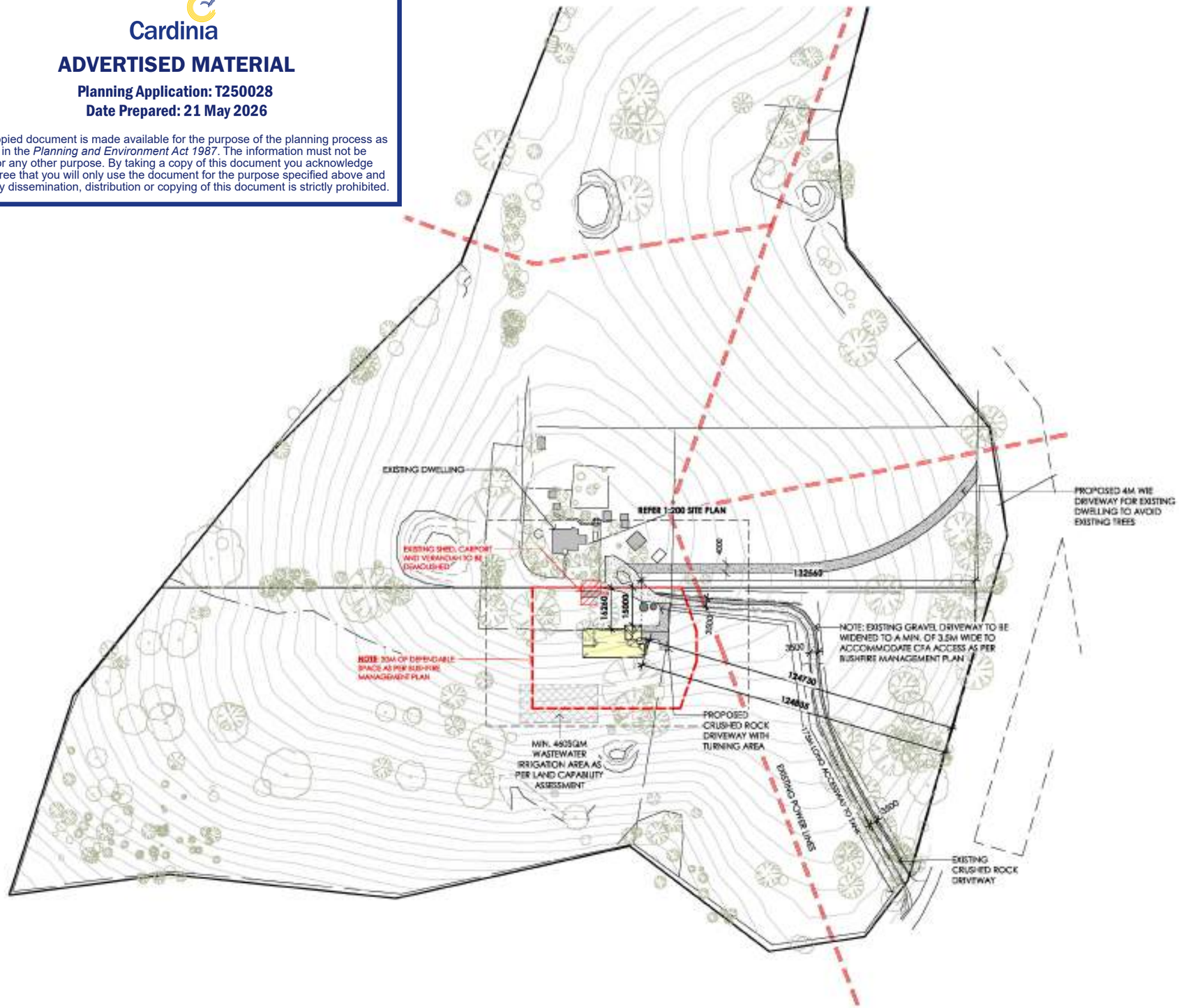
GRADED SWALE/DRN CONNECTED TO STORM WATER SYSTEM (DIRECTED TO LEGAL POINT OF DISCHARGE).

PROVIDE AG DRAIN AT BASE OF CUT GRADED TO SUMP AT (-) 600 MIN.

90 / 90 CONNECTED TO AG DRAIN & DIRECTED TO LEGAL POINT OF DISCHARGE VIA STORMWATER SYSTEM.

SITE COVERAGE ANALYSIS

BUILDING AREA	285.53 m²	0.68%
PERMEABLE AREA	41688.98 m²	99.32%
TOTAL SITE AREA	41974.51 m²	100%



DEFENDABLE SPACE
DEFENDABLE SPACE SHALL BE PROVIDED FROM THE OUTER FACE OF THE PROPOSED DWELLING FOR A DISTANCE OF 30M OR TO THE PROPERTY BOUNDARY (WHICHEVER IS THE LESSER) AS SHOWN ON THE PLAN.
THE DEFENDABLE SPACE MUST BE 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 THE BUILDING, FLAMMABLE OBJECTS MUST NOT BE LOCATED CLOSE TO THE VULNERABLE PARTS OF THE BUILDING SUCH AS WINDOWS.
PLANTS GREATER THAN 10 CENTIMETRES IN HEIGHT MUST NOT BE PLACED WITHIN 3M 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 5 SQ. METRES 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.

CONSTRUCTION STANDARD
THE PROPOSED DWELLING MUST BE DESIGNED AND CONSTRUCTED TO A MINIMUM BUSHFIRE ATTACK LEVEL OF BAL-19.

WATER SUPPLY
A A STATIC WATER SUPPLY WITH A MINIMUM CAPACITY OF 10,000 LITRES IS REQUIRED TO BE PROVIDED FOR FIREFIGHTING PURPOSES AT THE TIME THE DWELLING IS CONSTRUCTED. THE STATIC 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 FIREFIGHTING PURPOSES MADE OF CORROSIVE RESISTANT METAL.
INCLUDE A SEPARATE OUTLET FOR OCCUPANT USE.
BE READILY IDENTIFIABLE FROM THE DWELLING OR APPROPRIATE IDENTIFICATION SIGNS TO THE SATISFACTION OF THE RELEVANT FIRE AUTHORITY.
BE LOCATED WITHIN 60 METRES OF THE OUTER EDGE OF THE DWELLING.
THE OUTLETS 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).

ACCESS
THE EXISTING DRIVEWAY TO THE DWELLING MUST BE UPGRADED TO MEET THE FOLLOWING REQUIREMENTS:
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.
A TURNING AREA FOR FIRE FIGHTING VEHICLES MUST BE PROVIDED CLOSE TO THE DWELLING BY EITHER: A TURNING CIRCLE WITH A MINIMUM RADIUS OF EIGHT METRES; A DRIVEWAY ENCIRCLING THE DWELLING; OR THE PROVISION OF OTHER VEHICLE TURNING HEADS – SUCH AS A T OR Y HEAD – WHICH MEET THE SPECIFICATION OF AUSTROAD DESIGN FOR AN 8.8 METRE SERVICE VEHICLE.

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BL No. CDB-U 56523

PROPOSED: **HOUSE & GARAGE**

HOUSE TYPE: **CAVERSHAM 307 - RH**

IMPORTANT NOTE: SHEET SIZE IS A2

SIGNED BUILDER: .....

SIGNED OWNER: .....

DATE: .....

CLIENT: [redacted]

SITE ADDRESS:
LOT 1, No. 45 REYNOLDS ROAD
PAKENHAM, 3810

DRAWING TITLE: **LOCALITY PLAN**

ISSUE: D	
ISSUE DATE: 11.12.25	
SCALE: 1:1200	MASTER DATE: 23.04.24
DRAWN: TLG	CHECKED: TLG
SHEET NO: 02	OF: 04

DRAINAGE NOTES:

- SITE DRAINAGE SHALL COMPLY WITH NCC 3.1.2 DRAINAGE AND AS/NZS/NATIONAL PLUMBING DRAINAGE CODE.
- BASE OF CUT GRADED TO SLIT TRAP AT 1:30 MIN. DRAINS SHALL BE PROTECTED BY GRAVEL FILTER.
- TEMPORARY DOWNPIPES CONNECTED TO THE STORM WATER SYSTEM TO BE INSTALLED AS SOON AS ROOF COVER IS COMPLETED.
- STORMWATER DRAINS ARE INDICATIVE ONLY. DRAINER TO CONNECT TO LEGAL POINT OF DISCHARGE AT THEIR DISCRETION.

GRADE SURFACE AWAY FROM HOUSE FOOTINGS (MINIMUM FALL 1:20).

GRADED SWALE/PIPE CONNECTED TO STORMWATER SYSTEM DIRECTED TO LEGAL POINT OF DISCHARGE.

PROVIDE AG DRAIN AT BASE OF CUT GRADED TO SLIT PIT AT 1:100 MIN.

SLIT PIT CONNECTED TO AG DRAIN & DIRECTED TO LEGAL POINT OF DISCHARGE VIA STORMWATER SYSTEM.

SITE COVERAGE ANALYSIS

BUILDING AREA	285.53 m²	0.68%
PERMEABLE AREA	41688.98 m²	99.32%
TOTAL SITE AREA	41974.51 m²	100%

SITE CUT/FILL LEGEND & NOTES

DENOTES AREA OF SITE CUT

DENOTES AREA OF SITE FILL

NOTE:
PENETRATIONS THROUGH THE SISALATION PAPER ARE TO BE TAPED AROUND CAREFULLY TO ENSURE ANY GAPS ARE SEALED.

NOTE:
BUILDER RESERVES THE RIGHT TO ALTER THE SITE CUT HEIGHT TO THEIR DISCRESSION, PENDING CONDITIONS ON SITE

SITE CUT & FILL NOTE

PROVIDE SITE CUT OF 1750 mm & FILL 2000 mm OVER BUILDING AREA & PROVIDE AN ADDITIONAL SCRAPE TO GARAGE AREA TO ACCOMODATE 86 mm STEPDOWN. NOTE: 45 ° BATTER ANGLE

STORMWATER LAYOUT

STORMWATER DRAIN LAYOUT IS FOR INDICITIVE PURPOSES ONLY & WILL BE INSTALLED AS PER THE DRAINAGE SUB-CONTRACTORS DISCRETION.

TERMITE TREATMENT REQUIRED

PROVIDE TERMITE TREATMENT IN ACCORDANCE WITH AS 3660

EXTERNAL STEPS

PROVIDE STEPS OR BUILD UP SOIL AROUND EXTERNAL DOORS WHERE THRESHOLD OF THE DOOR EXCEEDS 190MM

TREE SCHEDULE

NO.	SPECIES	DBH	TPZ	SRZ	DISTANCE TO HOUSE	STATUS
TREE 37	PINUS RADIATA	103	12.4m	3.5m		REMOVE
TREE 38	PINUS RADIATA	63	7.6m	2.9m		REMOVE
TREE 39	PINUS RADIATA	80	9.6m	3.2m	15.5m	RETAIN
TREE 40	PINUS RADIATA	98	11.8m	3.3m		REMOVE
TREE 41	PINUS RADIATA	104	12.5m	3.6m		REMOVE
TREE 42	PINUS RADIATA	102	12.2m	3.3m	18.6m	RETAIN
TREE 43	MELALEUCA SP.	54	6.5m	2.6m	24m	RETAIN
TREE 44	ARBUTUS UNEDO	47	5.6m	3.3m	19.9m	RETAIN
TREE 45	PINUS RADIATA	155	15m	3.9m	12m	REMOVE
TREE 46	PINUS RADIATA	96	11.5m	3.3m		REMOVE
TREE 47	PINUS RADIATA	111	13.3m	3.6m		REMOVE
TREE 48	PINUS RADIATA	95	11.4m	3.4m	25.2m	RETAIN

DEFENDABLE SPACE

DEFENDABLE SPACE SHALL BE PROVIDED FROM THE OUTER FACE OF THE PROPOSED DWELLING FOR A DISTANCE OF 20M OR TO THE PROPERTY BOUNDARY (WHICH EVER IS THE LESSER) AS SHOWN ON THE PLAN.
THE DEFENDABLE SPACE MUST BE 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 THE BUILDING, FLAMMABLE OBJECTS MUST NOT BE LOCATED CLOSE TO THE VULNERABLE PARTS OF THE BUILDING SUCH AS WINDOWS.
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INDIVIDUAL AND CLUMPS OF SHRUBS MUST NOT EXCEED 5 SQ. METRES IN AREA AND MUST BE SEPARATED BY AT LEAST 5 METRES.
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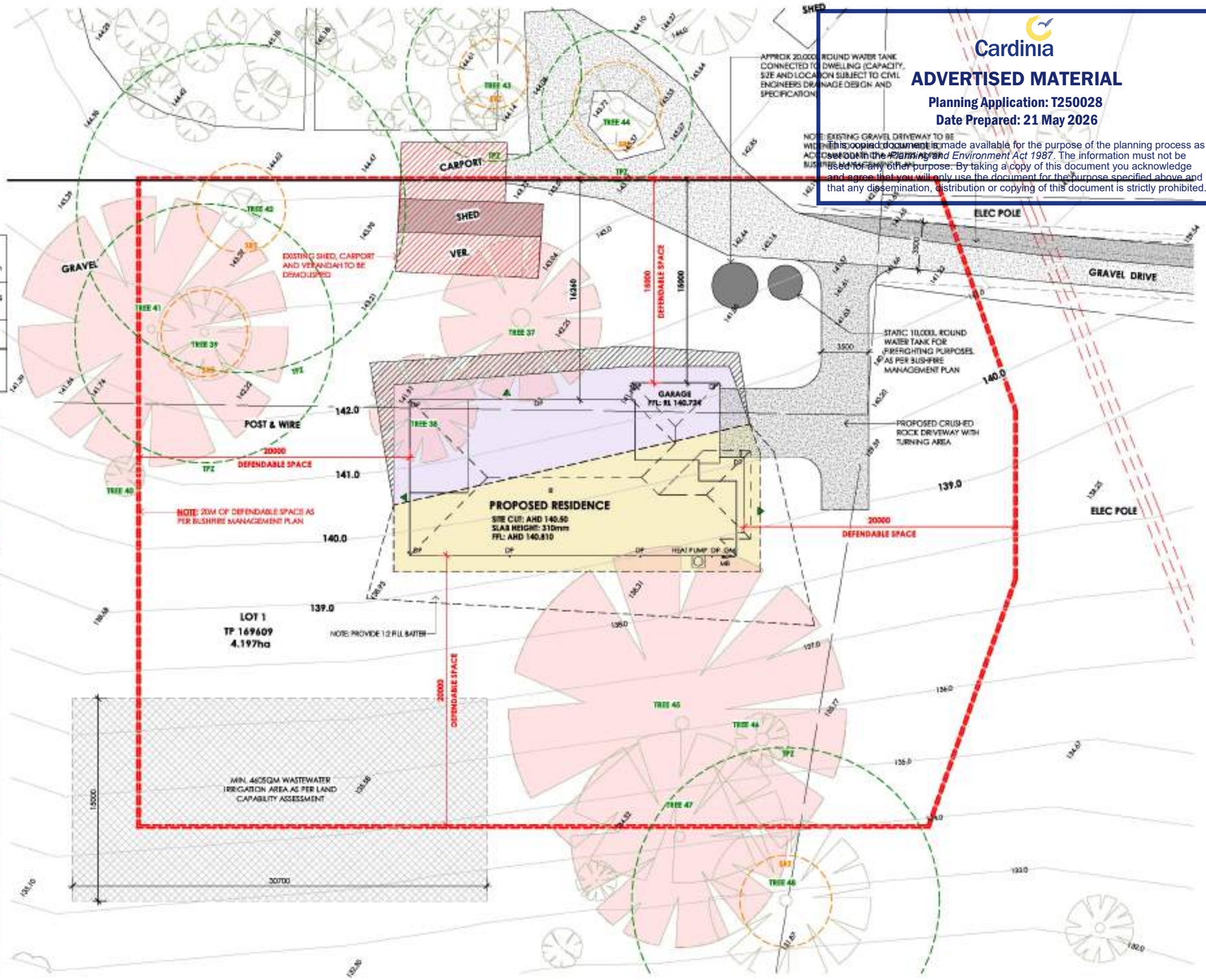
THE CANOPY OF TREES MUST BE SEPARATED BY AT LEAST 5 METRES.
THERE MUST BE A CLEARANCE OF AT LEAST 2 METRES BETWEEN THE LOWEST TREE BRANCHES AND GROUND LEVEL.

CONSTRUCTION STANDARD
THE PROPOSED DWELLING MUST BE DESIGNED AND CONSTRUCTED TO A MINIMUM BUSHFIRE ATTACK LEVEL OF BAL19.

WATER SUPPLY
A STATIC WATER SUPPLY WITH A MINIMUM CAPACITY OF 10,000 LITRES IS REQUIRED TO BE PROVIDED FOR FIREFIGHTING PURPOSES AT THE TIME THE DWELLING IS CONSTRUCTED. THE STATIC WATER SUPPLY MUST MEET THE FOLLOWING REQUIREMENTS:
BE STORED IN AN ABOVE GROUND WATER TANK CONSTRUCTED OF CONCRETE OR METAL.
HAVE ALL PIPED ABOVE GROUND WATER PIPES AND FITINGS REQUIRED FOR FIREFIGHTING PURPOSES MADE OF CORROSIVE RESISTANT METAL.
INCLUDE A SEPARATE OUTLET FOR OCCUPANT USE.
BE READILY IDENTIFIABLE FROM THE DWELLING OR APPROPRIATE IDENTIFICATION SIGNS TO THE SATISFACTION OF THE RELEVANT FIRE AUTHORITY.
BE LOCATED WITHIN 60 METRES OF THE OUTER EDGE OF THE DWELLING.
THE OUTLETS 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).

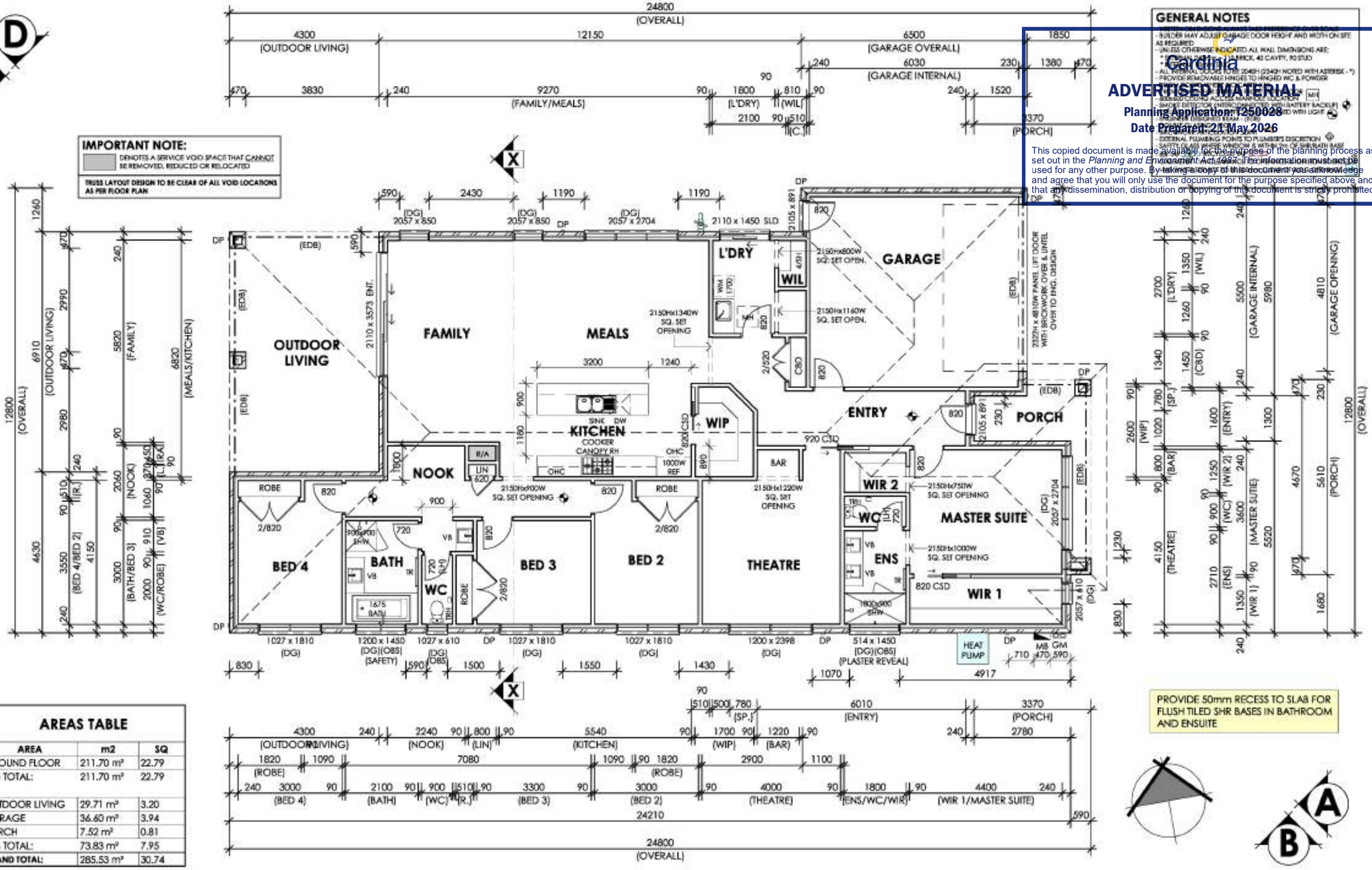
ACCESS
THE EXISTING DRIVEWAY TO THE DWELLING MUST BE UPGRADED TO MEET THE FOLLOWING REQUIREMENTS:
ALL-WEATHER CONSTRUCTION.
A LOAD LIMIT OF AT LEAST 15 TONNES.
PROVIDE A MINIMUM TRAFFICABLE WIDTH OF 3.5 METRES.
BE CLEAR OF ENCROACHMENTS FOR AT LEAST 0.5 METRES ON EACH SIDE AND AT LEAST 4 METRES VERTICALLY.
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.
A TURNING AREA FOR FIRE FIGHTING VEHICLES MUST BE PROVIDED CLOSE TO THE DWELLING BY EITHER: A TURNING CIRCLE WITH A MINIMUM RADIUS OF EIGHT METRES; A DRIVEWAY ENCIRCLING THE DWELLING; OR THE PROVISION OF OTHER VEHICLE TURNING HEADS – SUCH AS A T OR Y HEAD – WHICH MEET THE SPECIFICATION OF AUSTROAD DESIGN FOR AN 8.8 METRE SERVICE VEHICLE.



SJD homes 433 Princes Hwy Officer VIC 3809 Ph: 9095 8000 Fax: 9095 8010 info@sjdhomes.com.au BL No. CDB-U 56523 	PROPOSED: **HOUSE & GARAGE** HOUSE TYPE: **CAVERSHAM 307 - RH**	**IMPORTANT NOTE: SHEET SIZE IS A2** 	SIGNED BUILDER: SIGNED OWNER: DATE:	CLIENT: [redacted]NOLDS ROAD PAKENHAM, 3810	DRAWING TITLE: **SITE PLAN** ISSUE: D ISSUE DATE: 11.12.25 SCALE: 1 : 200 — MASTER DATE: 23.04.24 DRAWN: RD — CHECKED: TLG SHEET NO: 02A OF: 04

IMPORTANT NOTE:
DENOTES A SERVICE VOID SPACE THAT CANNOT BE REMOVED, REDUCED OR RELOCATED
TRUSS LAYOUT DESIGN TO BE CLEAR OF ALL VOID LOCATIONS AS PER FLOOR PLAN

GENERAL NOTES
- BUILDER MAY ADJUST GARAGE DOOR HEIGHT AND WIDTH ON SITE AS REQUIRED
- UNLESS OTHERWISE INDICATED ALL WALL DIMENSIONS ARE:
- ALL INTERNAL DOORS TO BE 2040H (2340H NOTED WITH ASTERISK - *)
- PROVIDE REMOVABLE HINGES TO HINGED WC & POWDER
- SMOKE DETECTOR INTERCONNECTED WITH BATTERY BACKUP
- EXTERNAL PLUMBING POINTS TO PLUMBER'S DISCRETION
- SAFETY GLASS WHERE WINDOW IS WITHIN 2m OF SHOWER BASE



PROVIDE 50mm RECESS TO SLAB FOR FLUSH TILED SHR BASES IN BATHROOM AND ENSUITE

AREAS TABLE

AREA	m2	SQ
GROUND FLOOR	211.70 m²	22.79
SUB TOTAL:	211.70 m²	22.79
OUTDOOR LIVING	29.71 m²	3.20
GARAGE	36.60 m²	3.94
PORCH	7.52 m²	0.81
SUB TOTAL:	73.83 m²	7.95
GRAND TOTAL:	285.53 m²	30.74

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BL No. CDB-U 56523

PROPOSED: **HOUSE & GARAGE**
HOUSE TYPE: **CAVERSHAM 307 - RH**

SIGNED BUILDER: .....
SIGNED OWNER: .....
DATE: .....

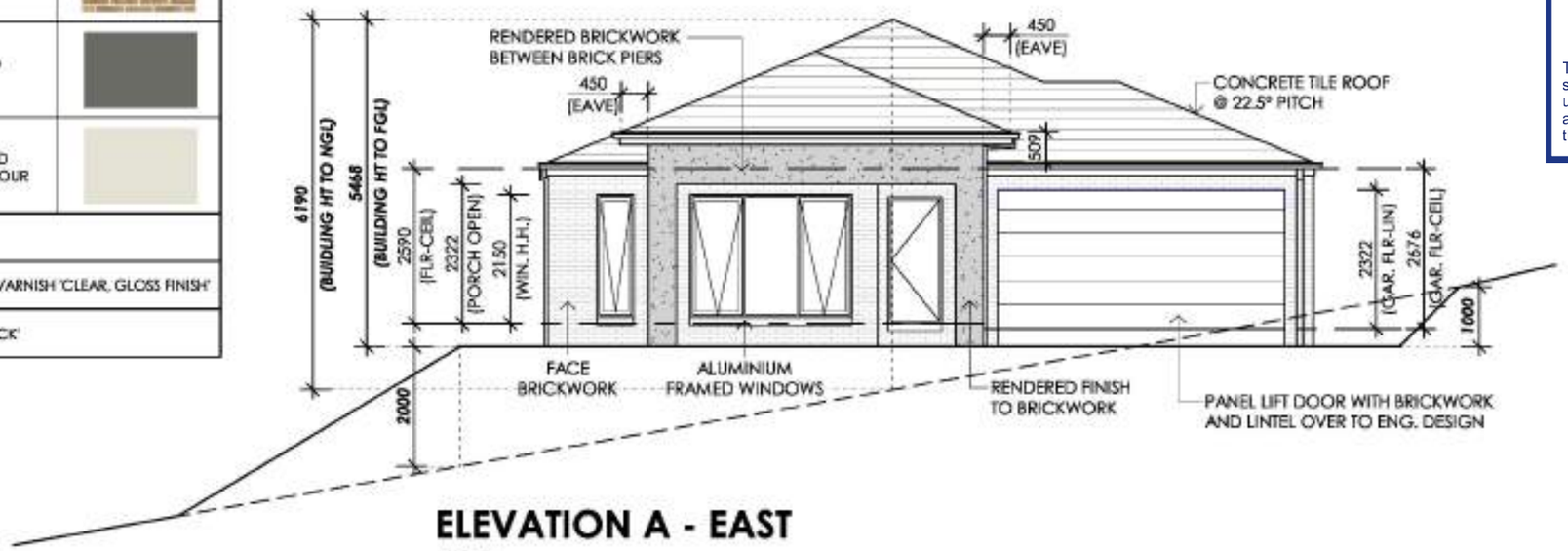
CLIENT: [redacted]
SITE ADDRESS: **LOT 1, No. 45 REYNOLDS ROAD PAKENHAM, 3810**

DRAWING TITLE: **GROUND FLOOR PLAN**

ISSUE: D	
ISSUE DATE: 11.12.25	
SCALE: 1 : 100	MASTER DATE: 23.04.24
DRAWN: RD	CHECKED: TLG
SHEET NO: 03	OF: 04

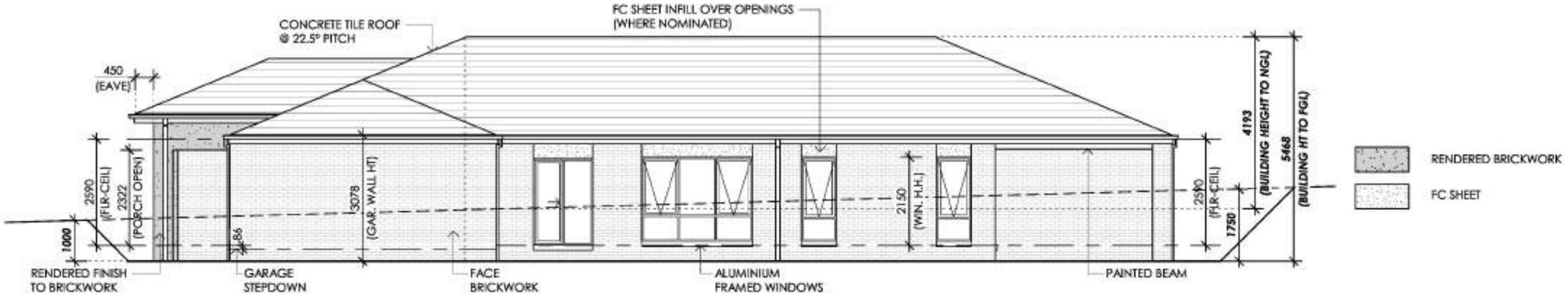
EXTERNAL MATERIAL SCHEDULE

TYPE	DESCRIPTION/COLOUR	IMAGE
FACE BRICKWORK	AUSTRAL DOMAIN 'SANCTUARY'	
RENDER	COLORBOND 'WALLABY'	
ROOF, DOWNPIPE, GUTTER & FASCIA	IN COLORBOND 'MONUMENT' COLOUR	
GARAGE DOOR	'MONUMENT'	
ENTRY DOOR & FRAME	HAYMES EXTERIOR VARNISH 'CLEAR, GLOSS FINISH'	
WINDOW FRAMES	ALUMINIUM IN 'BLACK'	



ELEVATION A - EAST

1 : 100



ELEVATION B - NORTH

1 : 100

EXTERNAL DOOR THRESHOLDS:
THRESHOLDS OF EXTERNAL DOORS TO BE NOT GREATER THAN 230mm ABOVE THE ADJOINING SURFACE

10770
FOR OFFICE USE ONLY

SJD homes
433 Princes Hwy
Officer VIC 3809
Ph: 9095 8000
Fax: 9095 8010
info@sjdhomes.com.au

BL No. CDB-U 56523

PROPOSED: **HOUSE & GARAGE**

HOUSE TYPE: **CAVERSHAM 307 - RH**

SIGNED BUILDER: .....
SIGNED OWNER: .....
.....
DATE: .....

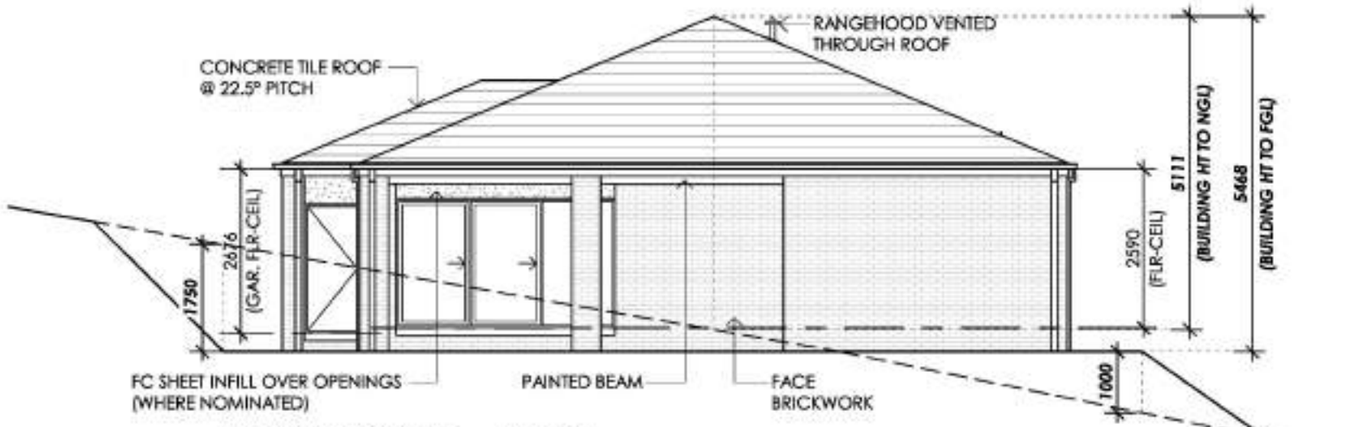
CLIENT: [redacted]

SITE ADDRESS:
LOT 1, No. 45 REYNOLDS ROAD
PAKENHAM, 3810

DRAWING TITLE: **ELEVATIONS**

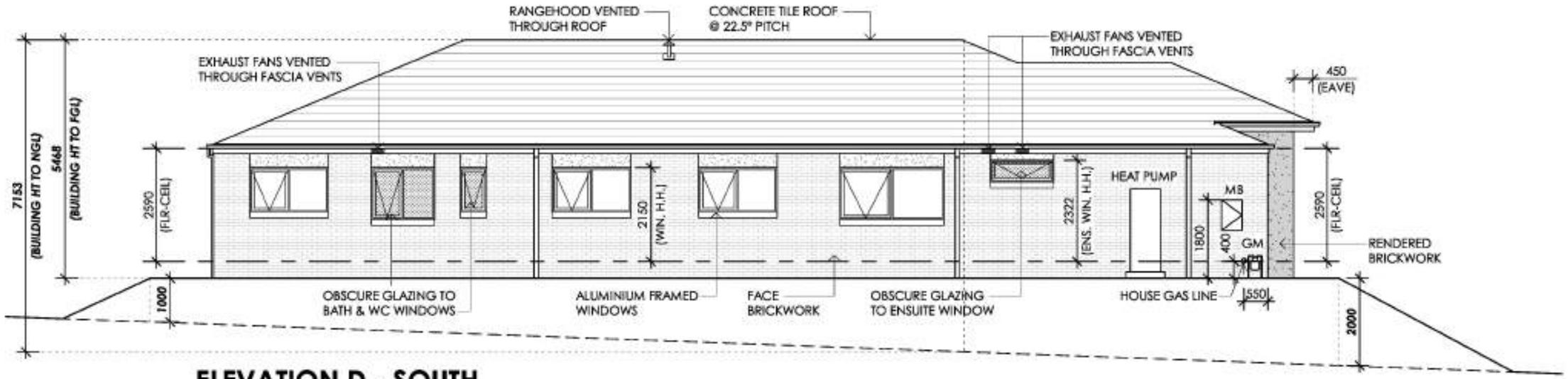
ISSUE: D	
ISSUE DATE: 11.12.25	
SCALE: 1 : 100	MASTER DATE: 23.04.24
DRAWN: RD	CHECKED: TLG
SHEET NO: 04	OF: 04

EXTERNAL DOOR THRESHOLDS:
THRESHOLDS OF EXTERNAL DOORS TO BE NO GREATER THAN 230mm ABOVE THE ADJOINING SURFACE



ELEVATION C - WEST

1 : 100



ELEVATION D - SOUTH

1 : 100

SJD homes
433 Princes Hwy
Officer VIC 3809
Ph: 9095 8000
Fax: 9095 8010
info@sjdhomes.com.au

BL No. CDB-U 56523

PROPOSED: **HOUSE & GARAGE**

HOUSE TYPE: **CAVERSHAM 307 - RH**

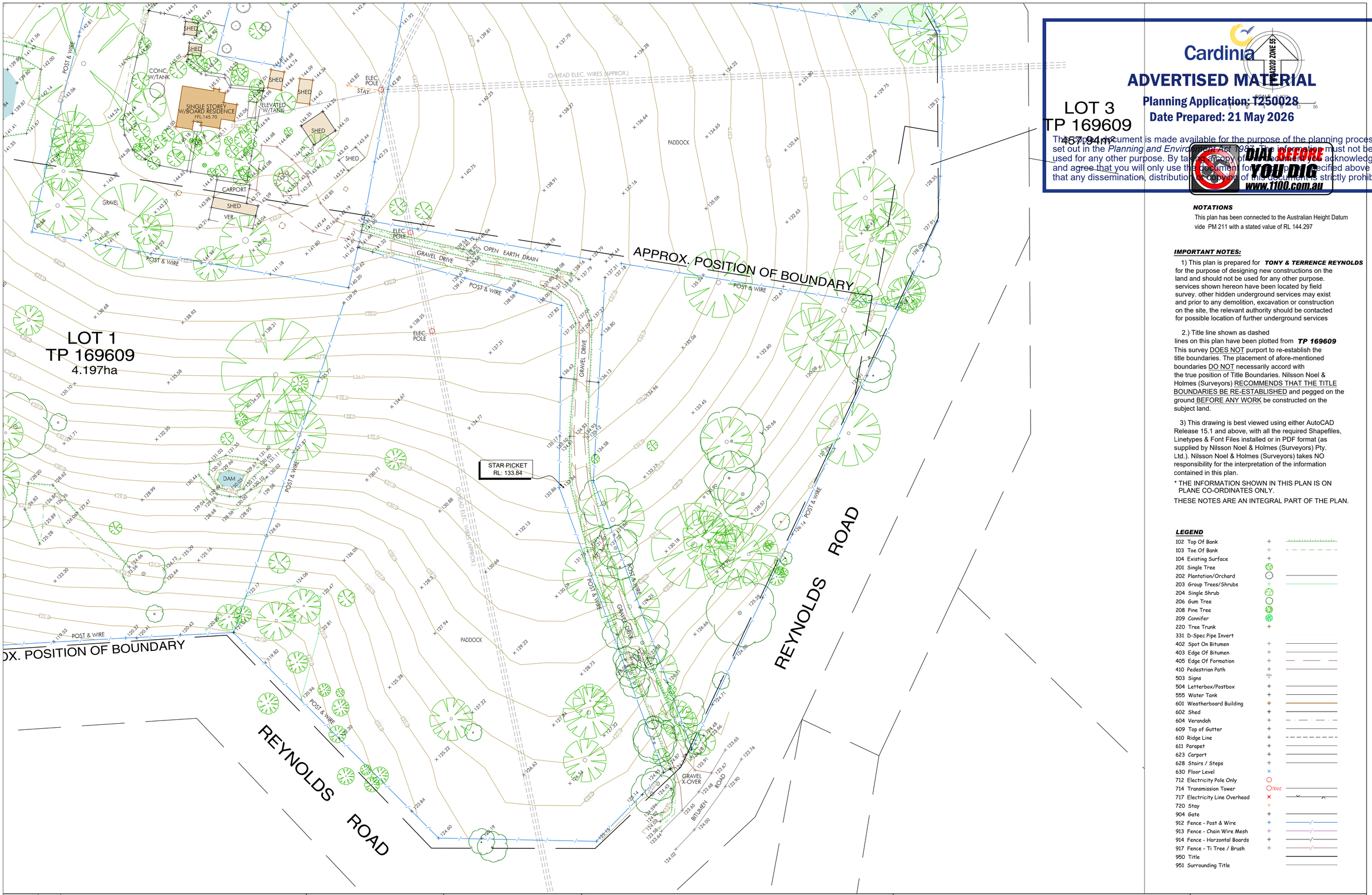
SIGNED BUILDER: .....
SIGNED OWNER: .....
.....
DATE: .....

CLIENT: [redacted]

SITE ADDRESS:
LOT 1, No. 45 REYNOLDS ROAD
PAKENHAM, 3810

DRAWING TITLE: **ELEVATIONS**

ISSUE: D	
ISSUE DATE: 11.12.25	
SCALE: 1 : 100	MASTER DATE: 23.04.24
DRAWN: Author	CHECKED: Checker
SHEET NO: 04A	OF: 04



Cardinia

MGA2020 ZONE 55

SCALE 1:400

ADVERTISED MATERIAL

Planning Application: T250028

Date Prepared: 21 May 2026

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NOTATIONS

This plan has been connected to the Australian Height Datum vide PM 211 with a stated value of RL 144.297

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THESE NOTES ARE AN INTEGRAL PART OF THE PLAN.

LEGEND

102	Top Of Bank	
103	Toe Of Bank	
104	Existing Surface	
201	Single Tree	
202	Plantation/Orchard	
203	Group Trees/Shrubs	
204	Single Shrub	
206	Gum Tree	
208	Pine Tree	
209	Connifer	
220	Tree Trunk	
331	D-Spec Pipe Invert	
402	Spot On Bitumen	
403	Edge Of Bitumen	
405	Edge Of Formation	
410	Pedestrian Path	
503	Signs	
504	Letterbox/Postbox	
555	Water Tank	
601	Weatherboard Building	
602	Shed	
604	Verandah	
609	Top of Gutter	
610	Ridge Line	
611	Parapet	
623	Carport	
628	Stairs / Steps	
630	Floor Level	
712	Electricity Pole Only	
714	Transmission Tower	TRANS
717	Electricity Line Overhead	
720	Stay	
904	Gate	
912	Fence - Post & Wire	
913	Fence - Chain Wire Mesh	
914	Fence - Horzontal Boards	
917	Fence - Ti Tree / Brush	
950	Title	
951	Surrounding Title	

Date:	Rev.	Amendments:

SURVEYED BY:	ET ST
DRAWN:	SS
CHECKED:	DN
APPROVED BY:	DN

DATUM:	AHD-MGA
DATE:	11/6/2025
SCALE:	1:400
MELWAY REF.:	315 G8

Nilsson, Noel & Holmes (Surveyors) Pty Ltd
Surveyors, Engineers & Town Planners
A.C.N. 067 949 615
8A Codrington Street, Cranbourne 3977
Phone (03) 5996 4133 Fax (03) 5996 6119
Email – mail@nnhsurveyors.net.au

TONY & TERRENCE REYNOLDS

45 REYNOLDS ROAD, PAKENHAM

PLAN OF EXISTING SITE FEATURES & LEVELS SURVEY

N.N.H. REF. NO. ***25-363***

SHEET 5 of 5

REV -

P:\2025\25-300\25-363\DTM\25-363FL.DWG

DRAWING NO. ***25-363FL***

A1

MGA2020 ZONE 55

SCALE 1:1000

10 0 10 20 30 40

LEGEND

102	Top Of Bank
103	Toe Of Bank
104	Existing Surface
201	Single Tree
202	Plantation/Orchard
203	Group Trees/Shrubs
204	Single Shrub
206	Gum Tree
208	Pine Tree
209	Connifer
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917	Fence - Ti Tree / Brush
950	Title
951	Surrounding Title

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NOTATIONS

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PAKENHAM ROAD

REYNOLDS ROAD

ARMY ROAD

APPROX. POSITION OF BOUNDARY

PSM RL: 144.30

STAR PICKET RL: 136.53

STAR PICKET RL: 133.64

LOT 1 TP 169609 4.197ha

LOT 2 TP 169609 5.985ha

LOT 3 TP 169609 457.94m²

SINGLE STOREY BRICK/WEATHERBOARD RES. RL: 145.70

DAM

SHED

PADDOCK

DENSE VEGETATION

GRAVEL DRIVEWAY

POST & WIRE

OVERHEAD ELEC. WIRES

ELEC POLE

Nilsson, Noel & Holmes (Surveyors) Pty Ltd

Surveyors, Engineers & Town Planners

8A Codrington Street, Cranbourne 3977

Phone (03) 5996 4133 Fax (03) 5996 6119

Email – mail@nnhsurveyors.net.au

Date:	Rev.	Amendments:

SURVEYED BY:	ET ST	DATUM:	AHD-MGA
DRAWN:	SS	DATE:	11/6/2025
CHECKED:	DN	SCALE:	1:1000
APPROVED BY:	DN	MELWAY REF.:	315 G8

TONY & TERRENCE REYNOLDS

45 REYNOLDS ROAD, PAKENHAM

PLAN OF EXISTING SITE FEATURES & LEVELS SURVEY

N.N.H. REF. NO. ***25-363***

SHEET 1 of 5

REV -

P:\2025\25-300\25-363\DTM\25-363FL.DWG

DRAWING NO. ***25-363FL***

A1

MGA2020 ZONE 55

SCALE 1:400

4 0 4 8 12 16

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NOTATIONS

This plan has been connected to the Australian Height Datum vide PM 211 with a stated value of RL 144.297

LEGEND

102	Top Of Bank	+
103	Toe Of Bank	+
104	Existing Surface	+
201	Single Tree	
202	Plantation/Orchard	
203	Group Trees/Shrubs	
204	Single Shrub	
206	Gum Tree	
208	Pine Tree	
209	Connifer	
220	Tree Trunk	+
331	D-Spec Pipe Invert	
402	Spot On Bitumen	+
403	Edge Of Bitumen	+
405	Edge Of Formation	+
410	Pedestrian Path	+
503	Signs	
504	Letterbox/Postbox	+
555	Water Tank	+
601	Weatherboard Building	+
602	Shed	+
604	Verandah	+
609	Top of Gutter	+
610	Ridge Line	+
611	Parapet	+
623	Carport	+
628	Stairs / Steps	+
630	Floor Level	×
712	Electricity Pole Only	
714	Transmission Tower	TRANS
717	Electricity Line Overhead	
720	Stay	Y
904	Gate	+
912	Fence - Post & Wire	+
913	Fence - Chain Wire Mesh	+
914	Fence - Horzontal Boards	+
917	Fence - Ti Tree / Brush	+
950	Title	
951	Surrounding Title	

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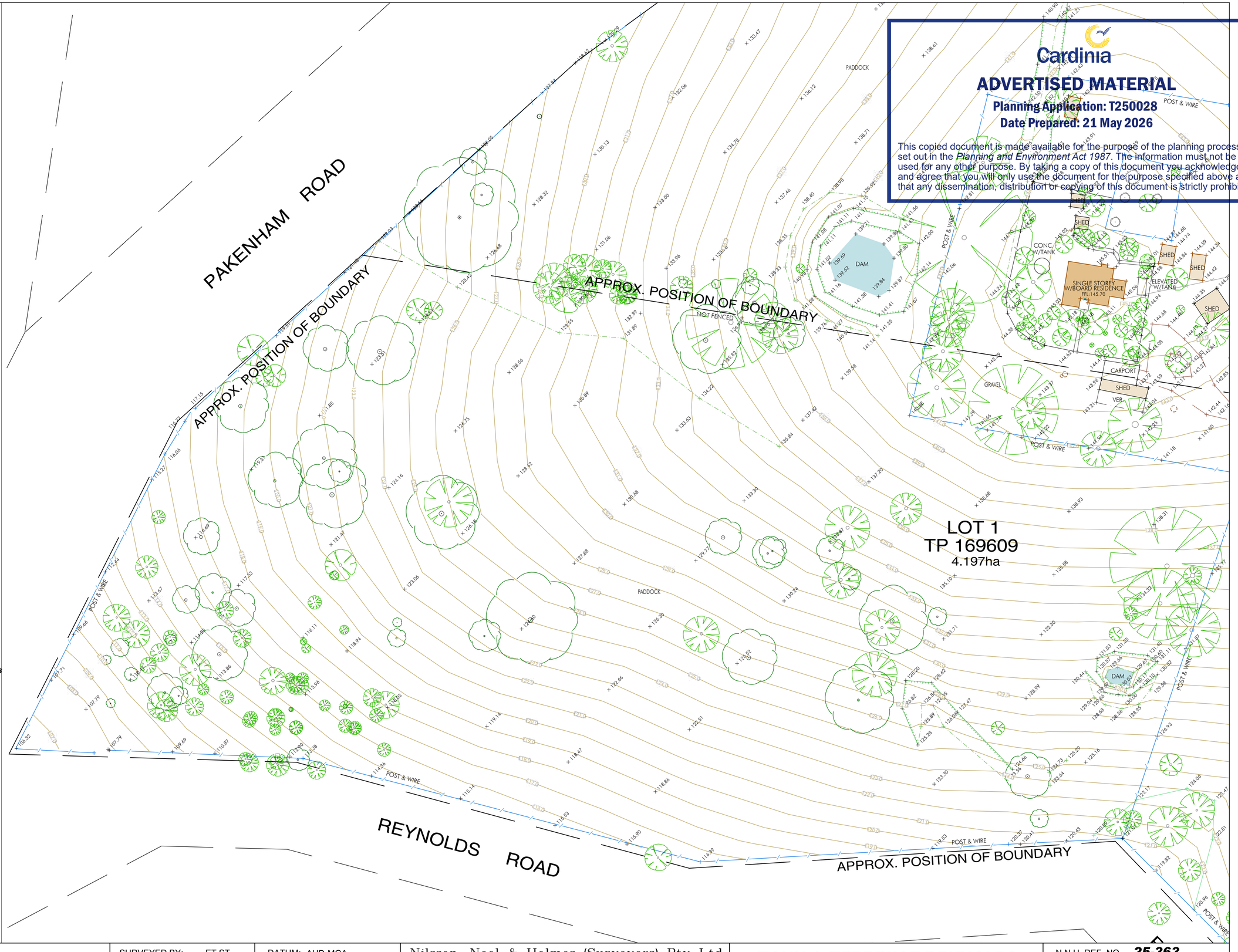

Date:	Rev.	Amendments:

SURVEYED BY:	ET ST	DATUM:	AHD-MGA
DRAWN:	SS	DATE:	11/6/2025
CHECKED:	DN	SCALE:	1:400
APPROVED BY:	DN	MELWAY REF.:	315 G8

Nilsson, Noel & Holmes (Surveyors) Pty Ltd
Surveyors, Engineers & Town Planners
A.C.N. 067 949 615
8A Codrington Street, Cranbourne 3977
Phone (03) 5996 4133 Fax (03) 5996 6119
Email – mail@nnhsurveyors.net.au

TONY & TERRENCE REYNOLDS

45 REYNOLDS ROAD, PAKENHAM

PLAN OF EXISTING SITE FEATURES & LEVELS SURVEY

N.N.H. REF. NO. **25-363**

SHEET 4 of 5

REV -

P:\2025\25-300\25-363\DTM\25-363FL.DWG

DRAWING NO. **25-363FL**

A1

MGA2020 ZONE 55

SCALE 1:400

4 0 4 8 12 16

LEGEND

102	Top Of Bank	+
103	Toe Of Bank	+
104	Existing Surface	+
201	Single Tree	
202	Plantation/Orchard	
203	Group Trees/Shrubs	+
204	Single Shrub	
206	Gum Tree	
208	Pine Tree	
209	Connifer	
220	Tree Trunk	+
331	D-Spec Pipe Invert	
402	Spot On Bitumen	+
403	Edge Of Bitumen	+
405	Edge Of Formation	+
410	Pedestrian Path	+
503	Signs	SIGN
504	Letterbox/Postbox	+
555	Water Tank	+
601	Weatherboard Building	+
602	Shed	+
604	Verandah	+
609	Top of Gutter	+
610	Ridge Line	+
611	Parapet	+
623	Carport	+
628	Stairs / Steps	+
630	Floor Level	×
712	Electricity Pole Only	
714	Transmission Tower	TRANS
717	Electricity Line Overhead	×
720	Stay	Y
904	Gate	+
912	Fence - Post & Wire	+
913	Fence - Chain Wire Mesh	+
914	Fence - Horzontal Boards	+
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951	Surrounding Title	

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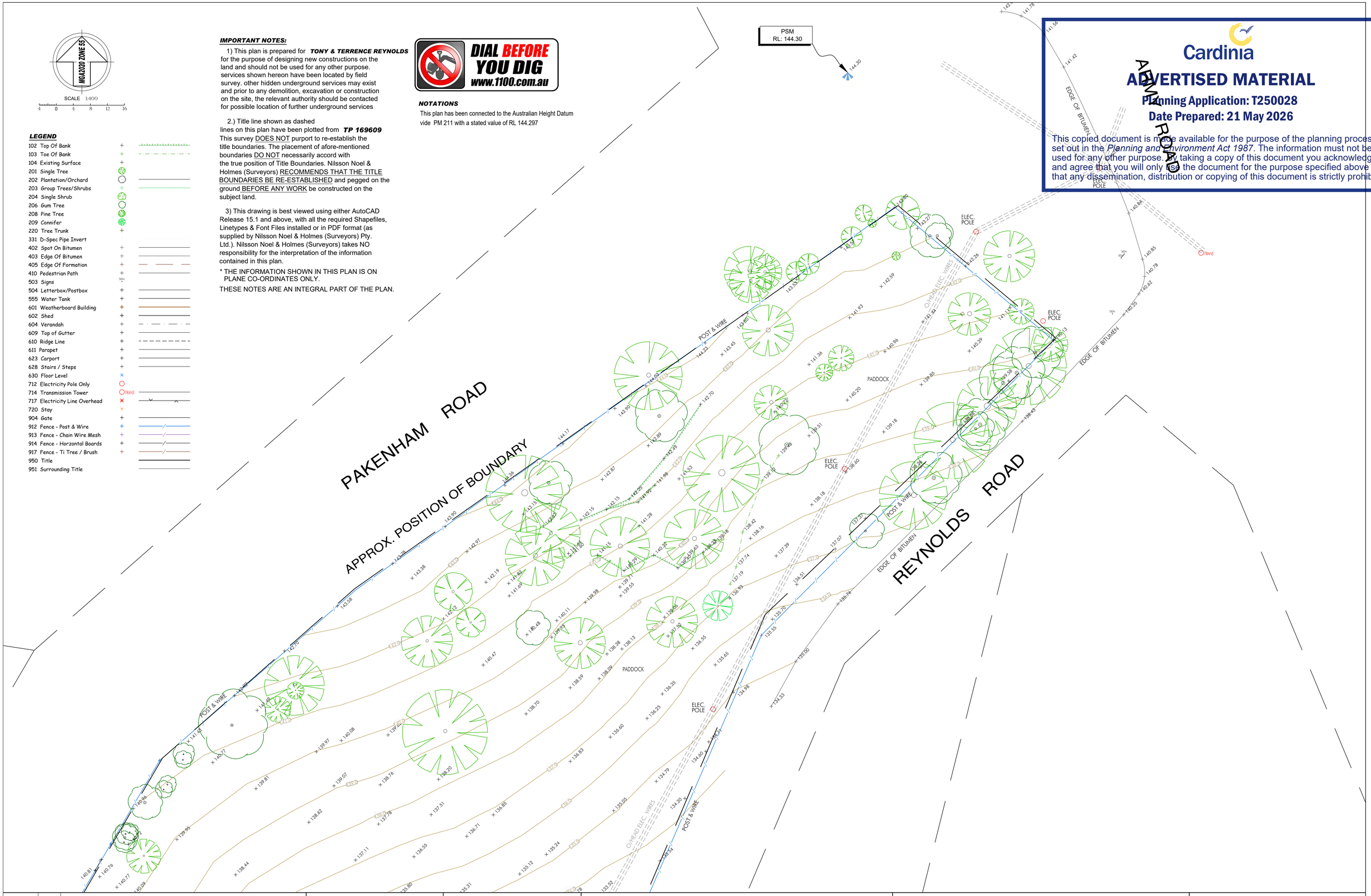

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APPROVED BY:	DN	MELWAY REF.:	315 G8

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PLAN OF EXISTING SITE FEATURES & LEVELS SURVEY

N.N.H. REF. NO. ***25-363***

SHEET 2 of 5

REV -

P:\2025\25-300\25-363\DTM\25-363FL.DWG

DRAWING NO. ***25-363FL*** A1

MGA2020 ZONE 55

SCALE 1:400

4 0 4 8 12 16

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331	D-Spec Pipe Invert	
402	Spot On Bitumen	
403	Edge Of Bitumen	
405	Edge Of Formation	
410	Pedestrian Path	
503	Signs	SIGN
504	Letterbox/Postbox	
555	Water Tank	
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602	Shed	
604	Verandah	
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913	Fence - Chain Wire Mesh	
914	Fence - Horzontal Boards	
917	Fence - Ti Tree / Brush	
950	Title	
951	Surrounding Title	

PAKENHAM ROAD

REYNOLDS ROAD

LOT 2
TP 169609
5.985ha

STAR PICKET
RL: 136.53

DAM

DENSE VEGETATION

GRAVEL DRIVEWAY

PADDOCK

SHED

POST & WIRE

O/HEAD ELEC. WIRES

O/HEAD ELEC. WIRES (APPROX.)

ELEC. POLE

APPROX. POSITION OF BOUNDARY

Date:	Rev.	Amendments:

SURVEYED BY:	ET ST	DATUM:	AHD-MGA
DRAWN:	SS	DATE:	11/6/2025
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PLAN OF EXISTING SITE FEATURES & LEVELS SURVEY

N.N.H. REF. NO. ***25-363***

SHEET 3 of 5

REV -

P:\2025\25-300\25-363\DTM\25-363FL.DWG

DRAWING NO. ***25-363FL***

A1

Receipt

Receipt No	EPLAN009248
Amount Paid	$1,535.00
Transaction Status	Processing
Transaction Date	24/02/2025 2:34:08 PM
Reference 1	T25685808
Reference 2	T250028
Reference 3	I12529LD

Applicant	[redacted]
Applicant Address	
Owner	
Owner Address	
Preferred Contact	
Preferred Contact Address	
Site Address	45 Reynolds Road, Pakenham VIC 3810
Portal Reference	I12529LD
ReferenceNumber	T250028
InvoiceNumber	
InvoiceDate	
InvoicePayByDate	

Regulation	Description	Amount	Modifier	Modified Amount

Total Amount

Cardinia Shire Council
ABN: 32 210 906 807
20 Siding Avenue, Officer

PO Box 7
Pakenham 3810
(DX 81006)

Phone: 1300 787 624
Fax: (03) 5941 3784
Email: mail@cardinia.vic.gov.au
Web: www.cardinia.vic.gov.au