Notice of an Application for an Amendment to a Planning Permit

Cardinia

The land affected by the application is located at:	L3 LP3145 V8289 F327 309 O'Neil Road, Beaconsfield VIC 3807
The application is to:	S72 Amendment to Alter the Approved Plans (Dwelling Design Amendment)

APPLICATION DETAILS

The applicant for the amendment to the permit is:	Lead Design Studio
Application number:	T210683 - 1

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:	18 April 2025

WHAT ARE MY OPTIONS?

Any person who may be affected by the proposed amendment to 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.

Application is here

1 Application lodged — 2 Council initial assessment — 3 Notice — 4 Consideration of submissions — 5 Assessment — 6 Decision

Cardinia ePlanning

Amendment Summary

Portal Reference	M3245CX
Reference No	T210683

Basic Information

Proposal Type	Single Dwelling, Advertising Has Occurred
Proposed Use	Use and Development of the site for a dwelling and a detached outbuilding (garage) and the removal of Native vegetation
Current Use	Has a single dwelling and out buildings to be demolished
Cost of Works	$754,000
Amended Cost of Works	-$4,000
Amendments	Plans Changed
Proposed Changes	Revised floor plan and elevations.
Site Address	309 O'Neil Road Beaconsfield VIC 3807

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?	No such encumbrances are breached

☐ Note: During the application process you may be required to provide more information in relation to any encumbrances.

Contacts

Type	Name	Address	Contact Details
Applicant	[redacted] Lead Design Studio	26 TANIA WAY, OFFICER VIC 3809	W: 0411-859-546 M: 0411-859-546 E: venkat@leaddesignstudio.com.au
Owner	[redacted]		
Preferred Contact	[redacted] Lead Design Studio	26 TANIA WAY, OFFICER VIC 3809	W: 0411-859-546 M: 0411-859-546 E: venkat@leaddesignstudio.com.au

Fees

Regulation	Fee Condition	Amount	Modifier	Payable
11 - Class 19	Amendment to a class 22 permit - A permit not otherwise provided for in the regulation	$1,453.40	100%	$1,453.40
		Total		**$1,453.40**

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

Documents Uploaded

Date	Type	Filename
24-08-2024	Floor Plans	L309 Oneil Rd Beaconsfield- TP.pdf
24-08-2024	Additional Document	TITLE.pdf
24-08-2024	Additional Document	POS.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] Lead Design Studio	26 TANIA WAY, OFFICER VIC 3809	W: 0411-859-546 M: 0411-859-546 E: venkat@leaddesignstudio.com.au
Submission Date	24 August 2024 - 10:53:AM		

Declaration

☑ By ticking this checkbox, I, [redacted] declare that 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.

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

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Cardinia Shire Council

Request to amend a current planning permit application

Cardinia

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.:	T210683-1
Address of the Land:	309 O'neil road Beaconsfield Vic 3807

APPLICANT DETAILS

Name:	[redacted]	
Organisation:		
Address:		3806
Phone:		
Email:		

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.
Amended Bushfire and Vegetation Reports.

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:	26-03-2025

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*.

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

VOLUME 08289 FOLIO 327

Security no : 124117700954J
Produced 24/08/2024 10:36 AM

LAND DESCRIPTION

Lot 3 on Plan of Subdivision 003145.
PARENT TITLE Volume 04215 Folio 909
Created by instrument B006067 05/07/1960

REGISTERED PROPRIETOR

[redacted]

ENCUMBRANCES, CAVEATS AND NOTICES

[redacted]

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 or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP003145 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
AY275842G (E)	NOMINATION OF ECT TO LC	Completed	05/08/2024
AY275948P (E)	DISCHARGE OF MORTGAGE	Registered	05/08/2024
AY275949M (E)	TRANSFER	Registered	05/08/2024
AY275950D (E)	MORTGAGE	Registered	05/08/2024

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

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

Street Address: 309 ONEIL ROAD BEACONSFIELD VIC 3807

ADMINISTRATIVE NOTICES

NIL

[redacted]

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	**LP003145**
Number of Pages (excluding this cover sheet)	**4**
Document Assembled	**24/08/2024 10:36**

PLAN

shewing Subdivision of Crown Allotment 94

Parish of Pakenham, County of Mornington

V1466 F018

Measurements are in Links
Conversion Factor
LINKS X 0.201168 = METRES

LP 3145
EDITION 3
PLAN MAY BE LODGED
16-1-1891

3 SHEETS
SHEET 1

ROADS COLOURED BROWN

ENCUMBRANCES

AS TO THE LAND MARKED E-1:
THE EASEMENT CREATED BY
INST. No.1169307

AS TO THE LAND MARKED E-2:
THE EASEMENT TO THE S.E.C.
CREATED BY A209637

AS TO THE LAND MARKED E-3:
THE EASEMENT TO SR & WSC
CREATED BY A798756

**AS TO THE LAND SHOWN BROWN
ANY EASEMENTS
AFFECTING THE SAME**

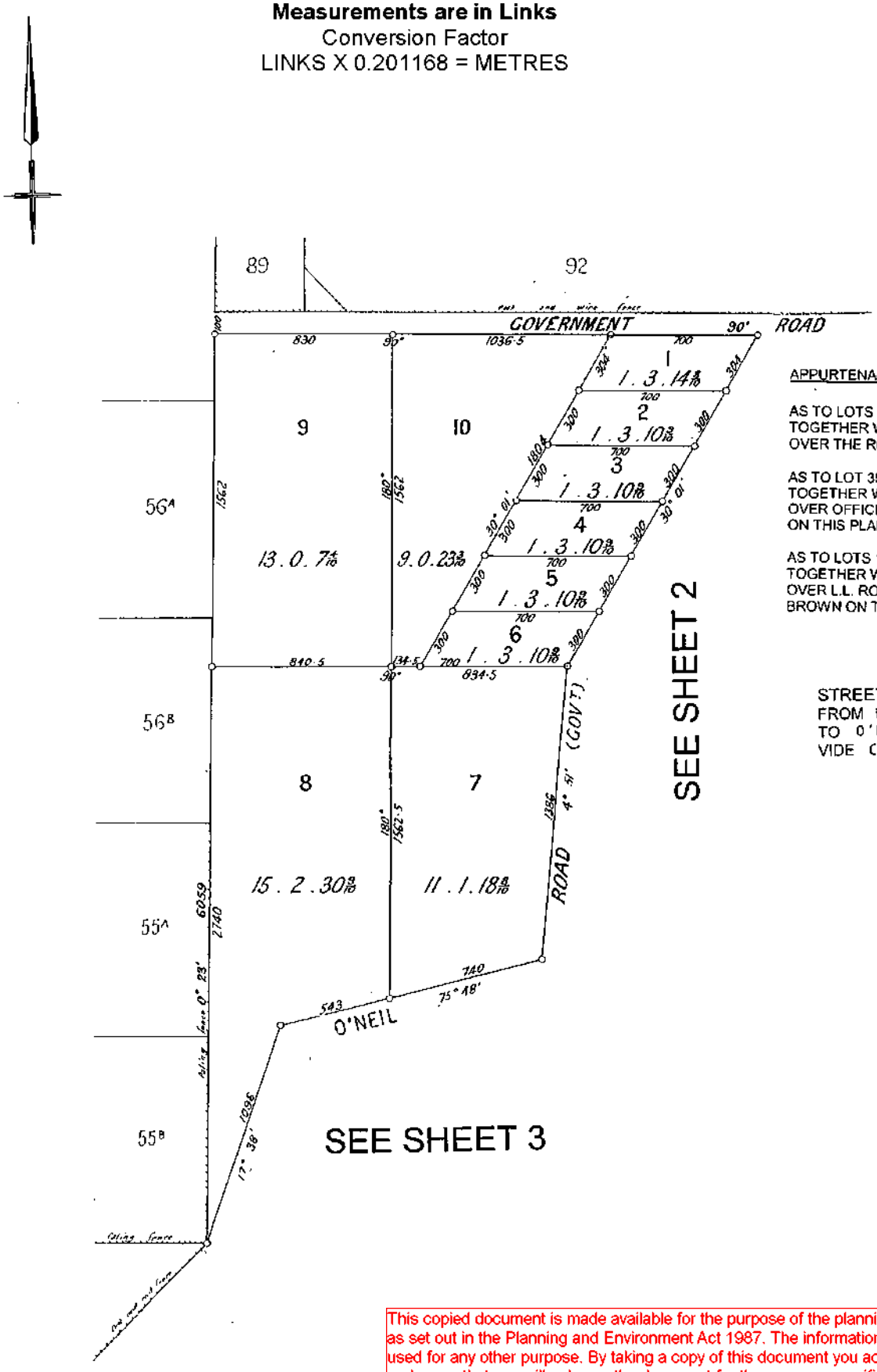
APPURTENANCES

AS TO LOTS 13, 17 AND 40
TOGETHER WITH A RIGHT OF CARRIAGEWAY
OVER THE ROADS COLOURED BROWN ON THIS PLAN

AS TO LOT 35
TOGETHER WITH A RIGHT OF CARRIAGEWAY
OVER OFFICERS ROAD COLOURED BROWN
ON THIS PLAN

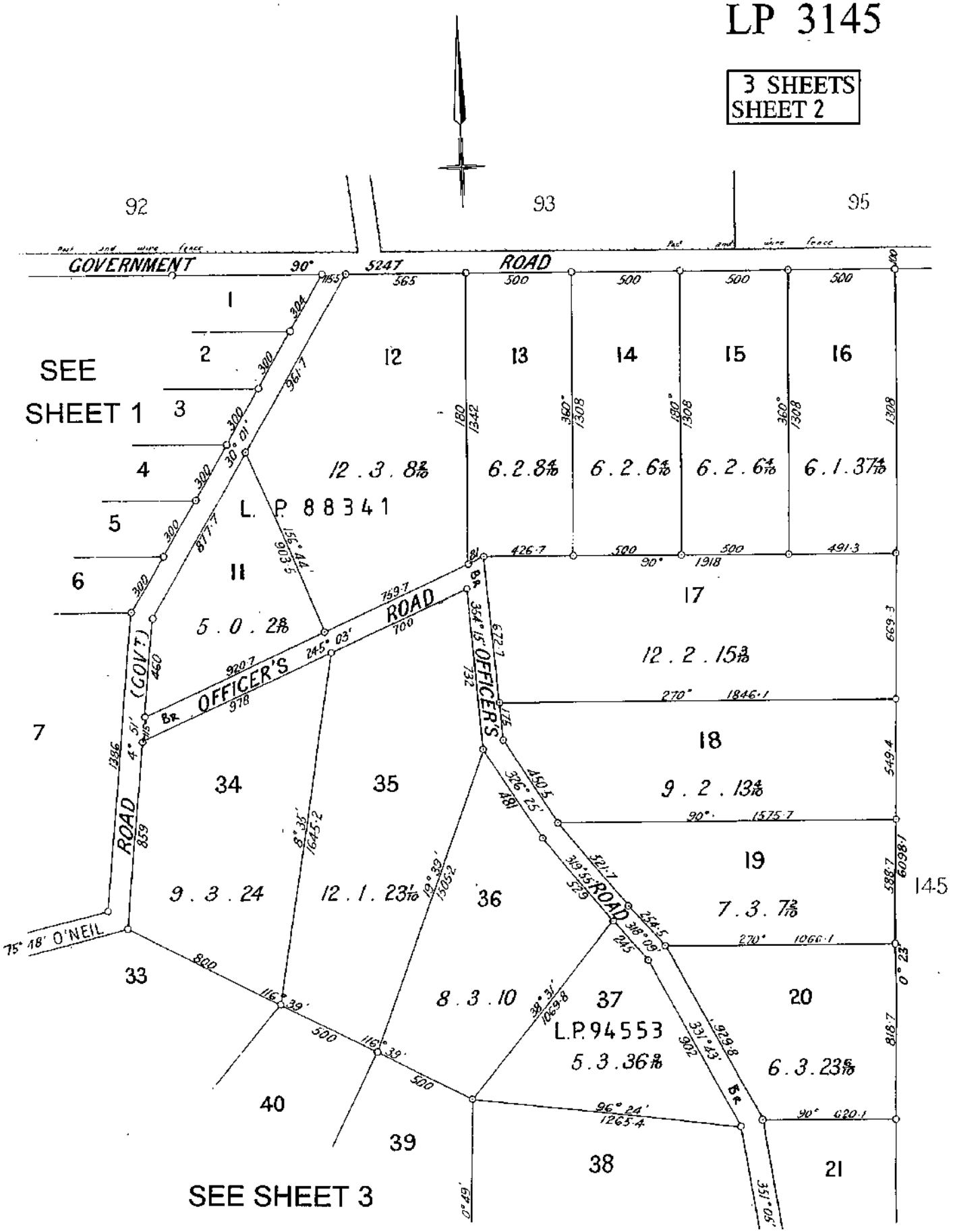
AS TO LOTS 19 & 38
TOGETHER WITH A RIGHT OF CARRIAGEWAY
OVER L.L. ROAD AND OFFICERS ROAD COLOURED
BROWN ON THIS PLAN

STREET NAME AMENDED
FROM HUGHENDEN ROAD
TO O'NEILL ROAD
VIDE CORR. 71/19213



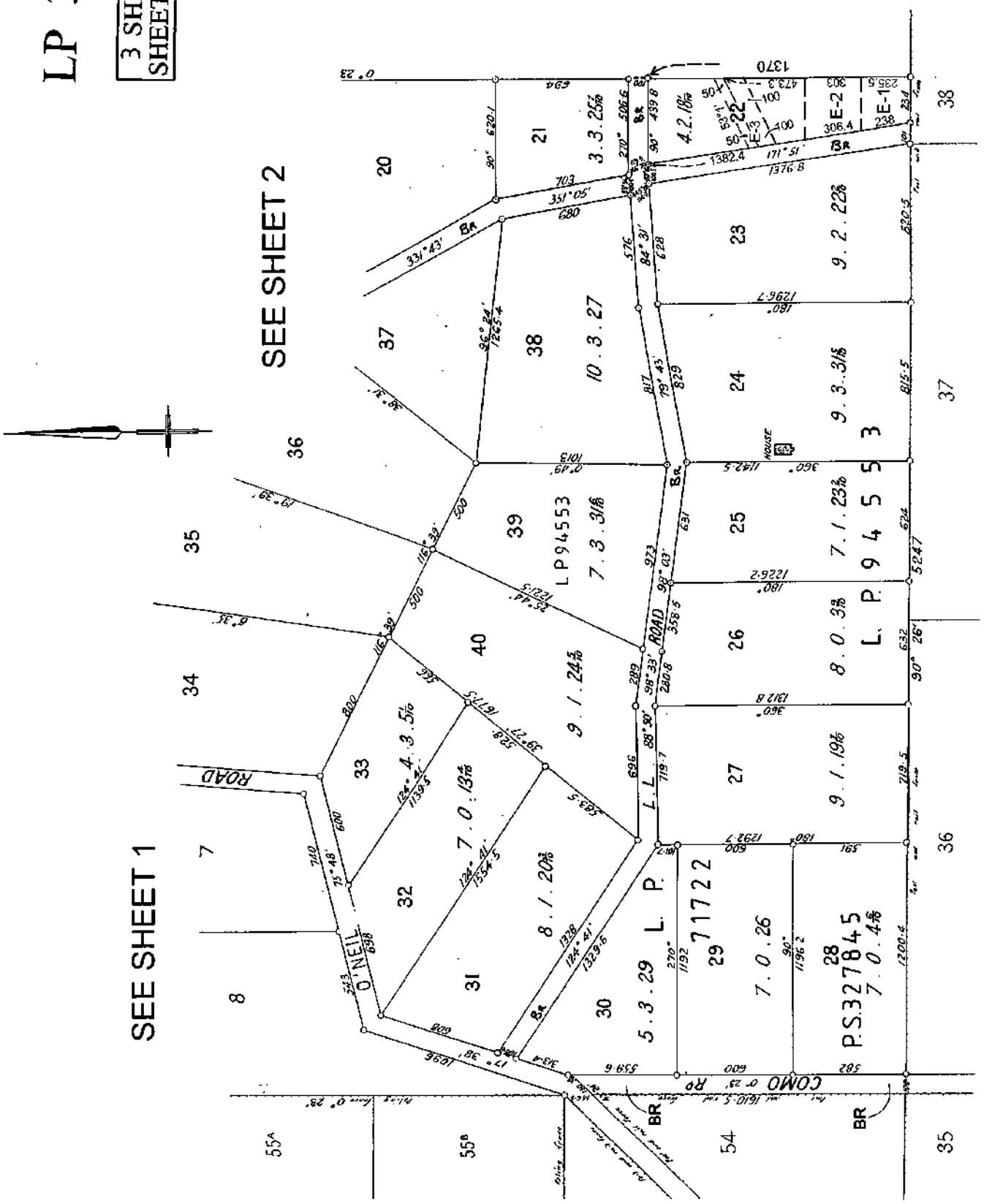
LP 3145

3 SHEETS
SHEET 2



LP 3145

3 SHEETS
SHEET 3



MODIFICATION TABLE

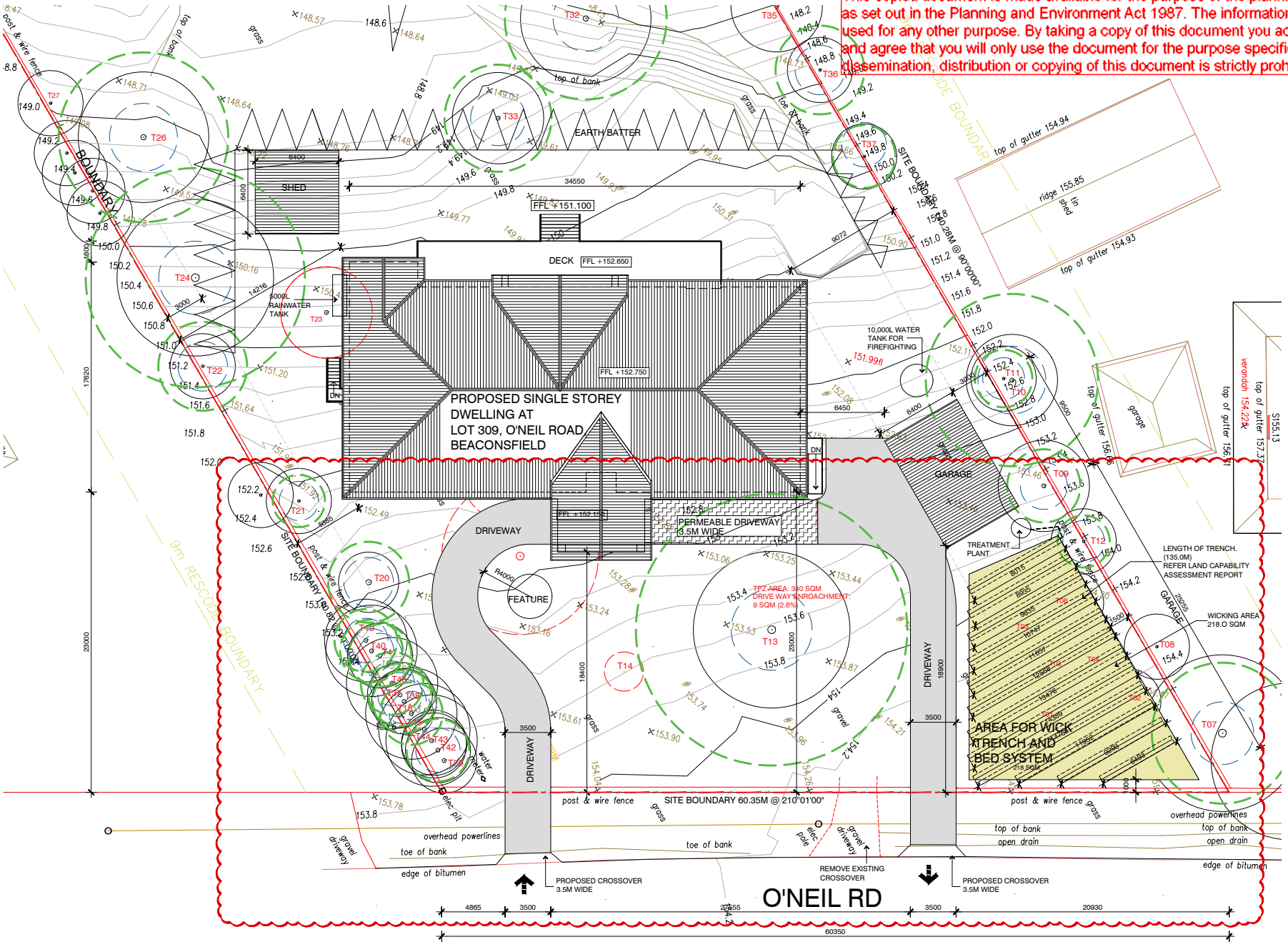
RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN

PLAN NUMBER

LP 3145

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
LOT 22	E-1	CREATION OF EASEMENT	1169307		2	AD
LOT 22	E-2	CREATION OF EASEMENT	A209637		2	AD
LOT 22	E-3	CREATION OF EASEMENT	A798756		2	AD
ROADS		**EASEMENTS ENHANCED**			**3**	**AD**



BAL WORKS MUST CONFORM WITH AS 3959.

ABOVE GROUND EXPOSED WATER AND GAS PIPES SHALL BE METAL.

TPZ- TREE PROTECTION ZONE
SRZ- STRUCTURAL ROOT ZONE
T10 TREE NUMBER
WICKING AREA

TREE HEALTH AND DEVELOPMENT IMPACT ASSESSMENT

BAXTER ECOLOGY PTY LTD
160 VICTORIA STREET, BRUNSWICK VIC
PH 0450400617, EMAIL
info@baxterecology.com.au
Report Dt 11 Nov 2024

FOR EFFLUENT DISPOSAL REFER LAND CAPABILITY ASSESSMENT PREPARED BY Oz Geos- Geotechnical & Structural
3 MULLANS STREET, MELTON SOUTH, VIC
PH 03 99073275, EMAIL info@ozgeos.com.au
Report No. GT1024-19, Dt 06 Nov 2024

DATE	REV	ISSUE
10.09.24	A	ISSUE FOR INFORMATION
20.11.24	B	TP RFI REVISION

NOTES:
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Do not scale drawings, contractors must verify all dimensions on site before commencing any work or preparing shop drawings

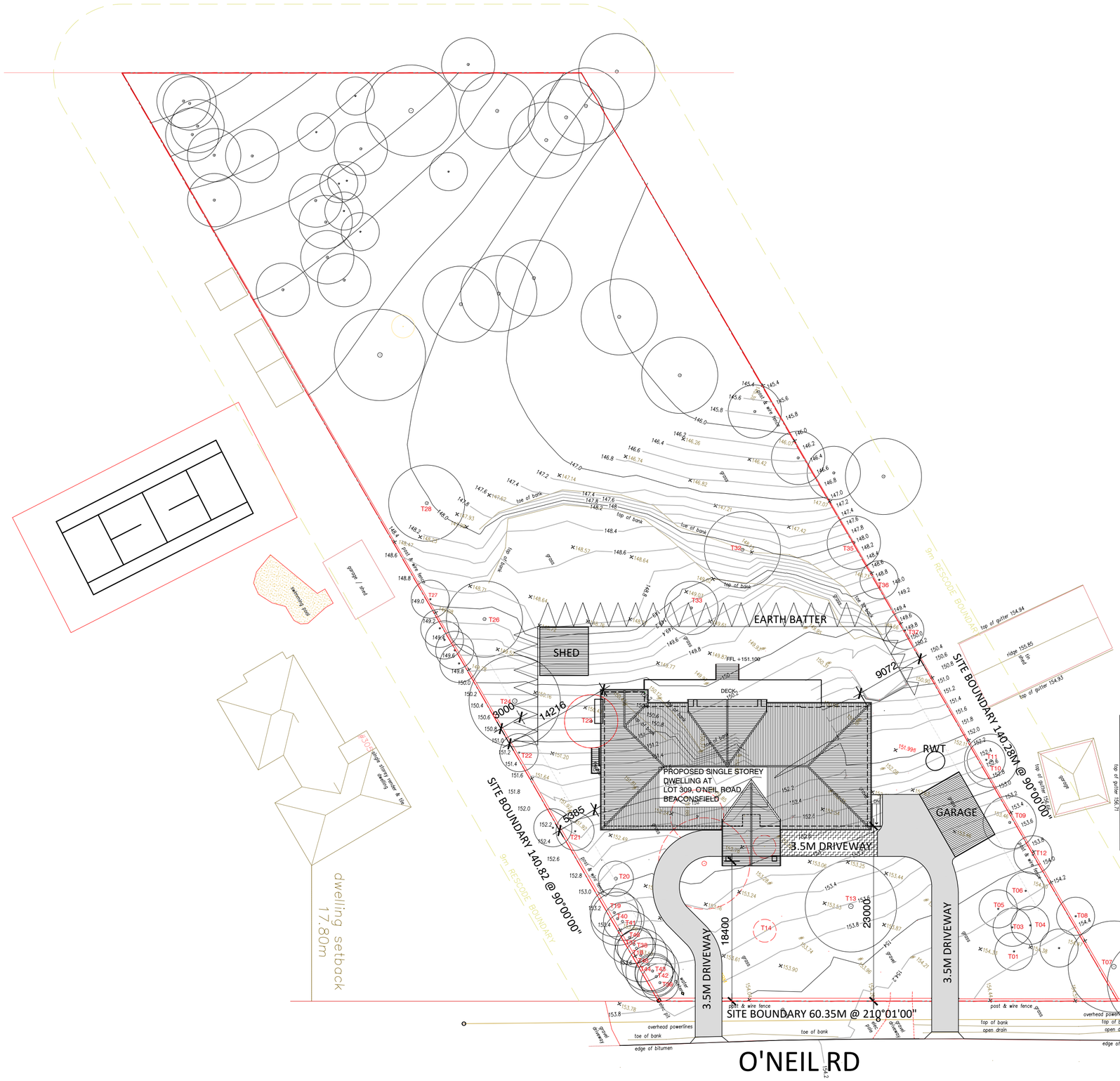
LEAD design studio
26 TANIA WAY, OFFICER, VIC 3809
ABN 68396261926 M 0411 859 546

CONSTRUCTION ISSUE

PROJECT
PROPOSED SINGLE STOREY DWELLING AT
LOT 309, O'NEIL ROAD,
BEACONSFIELD, VIC 3807

DRAWING
SITEPLAN

DATE	DRAWN	CHKD	SCALE @ A2	JOB NO.	DWG NO.	REV.
AUG 2024	JM	VP	1:200	224071	A02	B



TREE LEGEND

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE (HEIGHT x SPREAD)(m)	DBH(cm)	TPZ(m)	SRZ(m)
1	Eucalyptus botryoides	Bangalay	14 x 5	38	4.6	2.2
2	Eucalyptus botryoides	Bangalay	10 x 5	22	2.6	1.8
3	Eucalyptus botryoides	Bangalay	12 x 4	30	3.6	2.0
4	Eucalyptus botryoides	Bangalay	13 x 4	31	3.7	2.0
5	Eucalyptus botryoides	Bangalay	14 x 6	34	4.1	2.1
6	Eucalyptus botryoides	Bangalay	12 x 6	25	3.0	1.8
7	Eucalyptus obliqua	Messmate	15 x 10	45	5.4	2.4
9	Pinus radiata	Monterey Pine	14 x 6	23	2.8	1.8
10	Eucalyptus melliodora	Yellow Box	20 x 10	55	6.6	2.6
11	Acacia baileyana	Cootamundra Wattle	7 x 4	18	2.2	1.6
12	Photinia sp.	Photinia	6 x 29	17	2.0	1.6
13	Eucalyptus botryoides	Bangalay	18 x 11	87	10.4	3.1
18	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
20	Fraxinus oxycarpa	Desert Ash	9 x 6	26	3.1	1.9
21	Casuarina cunninghamiana	She - Oak	8 x 3	16	2.0	1.5
22	Acacia melanoxylon	Balckwood	10 x 4	28	3.4	1.9
23	Pittosporum eugenioides	Tarata	7 x 6	31	3.7	2.0
24	Eucalyptus grandis	Rose Gum	25 x 16	70	8.4	2.8
25	Eucalyptus cinerea	Argyle apple	8 x 8	38	4.6	2.2
26	Angophora costata	Sydney Red gum	12 x 10	54	6.5	2.6
27	Cotoneaster sp.	Cotoneaster	5 x 6	16	2.0	1.5
28	Tristaniopsis laurina	Water gum or kanooka	8 x 7	26	3.1	1.9
29	Quercus robur	English Oak	16 x 18	88	10.6	3.1
30	Acacia melanoxylon	Black wood	9 x 5	36	4.3	2.2
31	Acacia decurrens	Black wattle	10 x 8	34	4.1	2.1
32	Angophora costata	Sydney Red gum	14 x 12	52	6.2	2.5
33	Callistemon viminalis	Weeping bottlebrush	7 x 6	34	4.1	2.1
35	Pittosporum undulatum	Weeping bottlebrush	8 x 6	28	3.4	1.9
36	Pittosporum undulatum	Victorian box	8 x 6	29	3.5	2.0
37	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
38	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
39	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
40	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
41	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
42	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
43	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
44	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
45	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
46	Photinia sp.	Photinia	9 x 26	20	2.4	1.7
47	Angophora costata	Photinia	14 x 9	95	11.4	3.2

DATE	REV	ISSUE
10.09.24	A	ISSUE FOR INFORMATION
20.11.24	B	TP RFI REVISION

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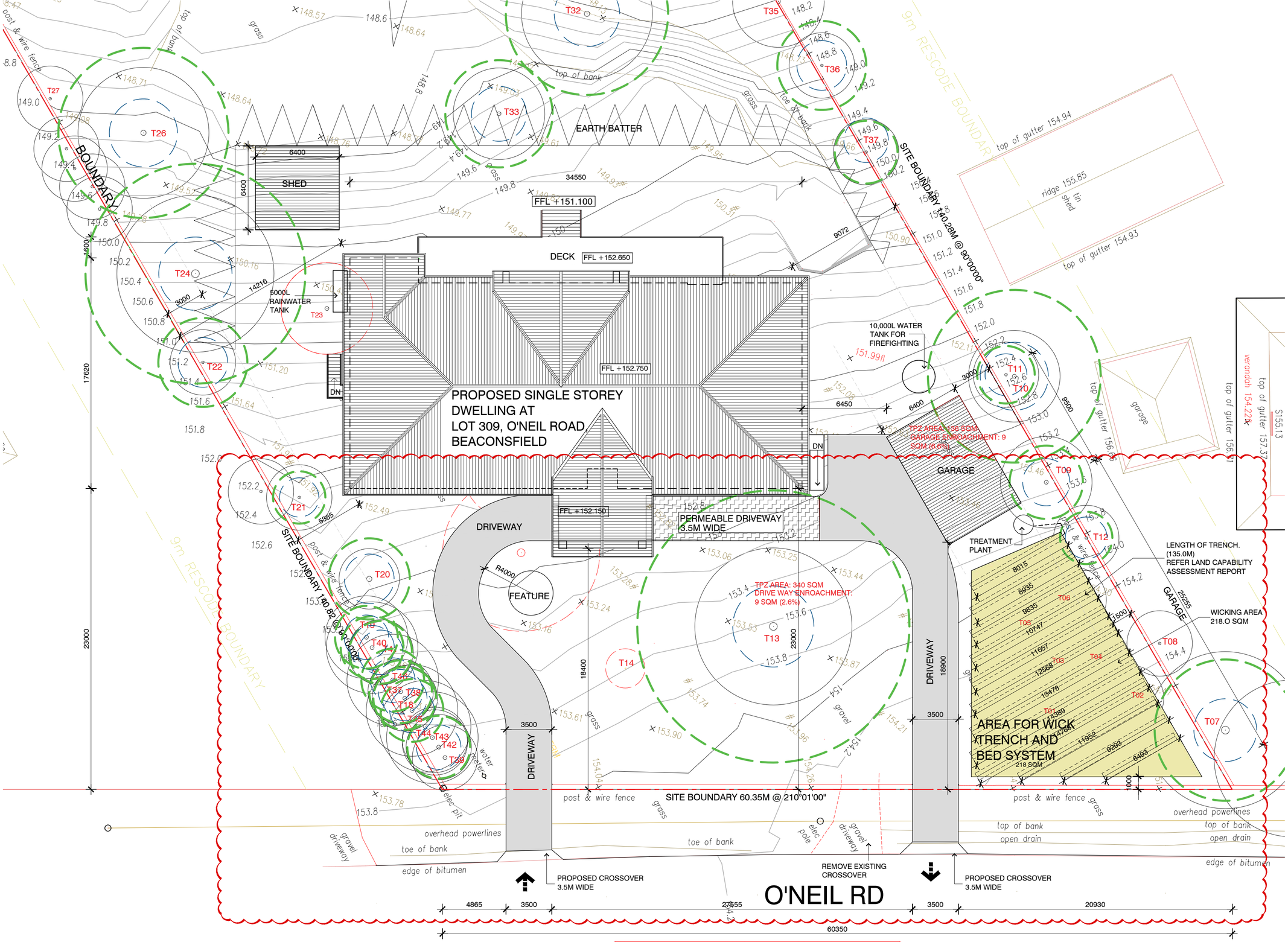
LEAD design studio
26 TANIA WAY, OFFICER, VIC 3809
ABN 68396261926 M 0411 859 546

CONSTRUCTION ISSUE

PROJECT
PROPOSED SINGLE STOREY DWELLING AT
LOT 309, O'NEIL ROAD,
BEACONSFIELD, VIC 3807

DRAWING
KEY SITE PLAN

DATE	DRAWN	CHKD	SCALE @ A2	JOB NO.	DWG NO.	REV.
AUG 2024	JM	VP		224071	A01	B



BAL WORKS MUST CONFORM WITH AS 3959.

ABOVE GROUND EXPOSED WATER AND GAS PIPES SHALL BE METAL.

TPZ- TREE PROTECTION ZONE

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T10 TREE NUMBER

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TREE HEALTH AND DEVELOPMENT IMPACT ASSESSMENT

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Report Dt 11 Nov 2024

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SITEPLAN

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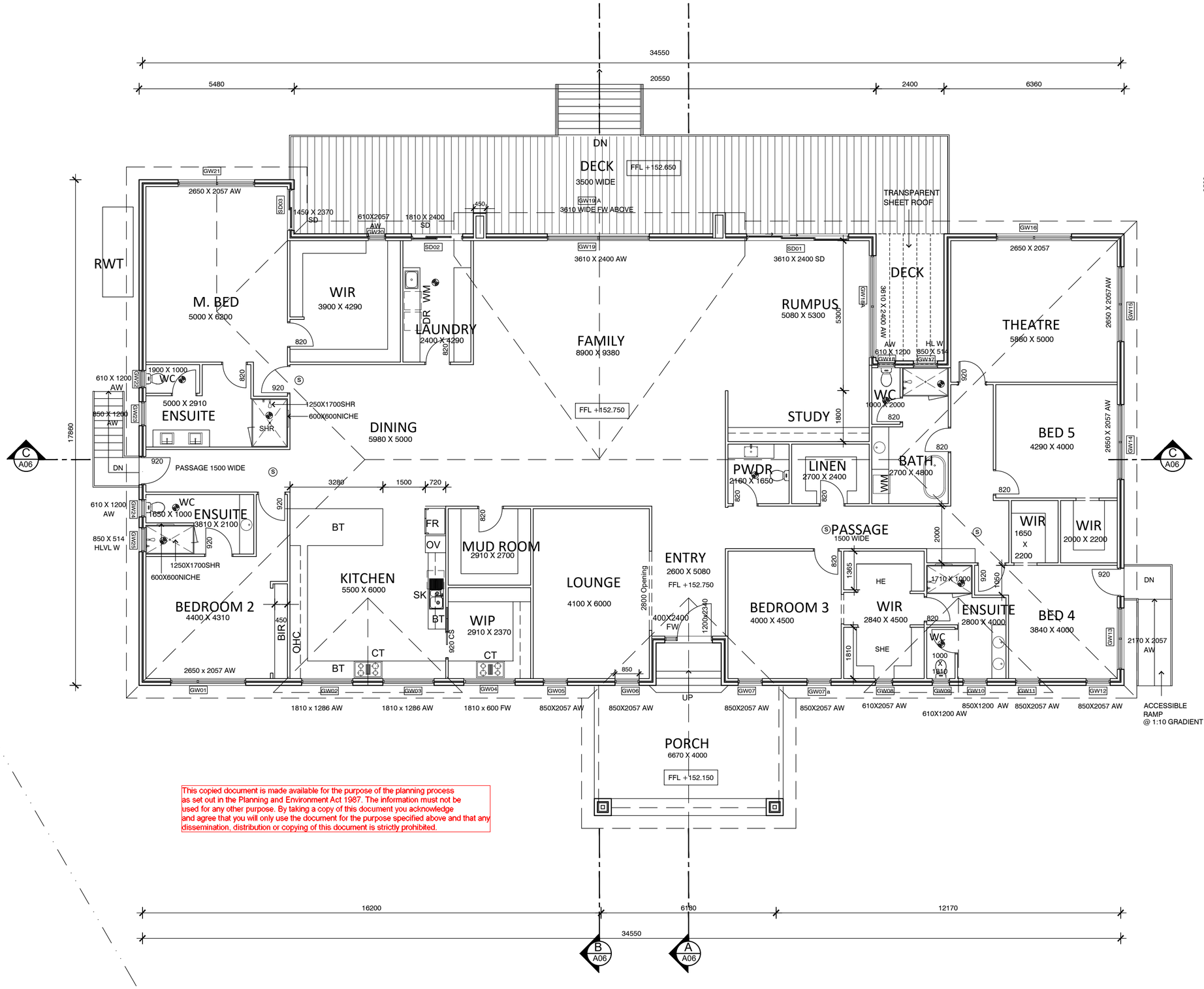
AUG 2024	JM	VP	1:200	224071	A02	B



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PROJECT
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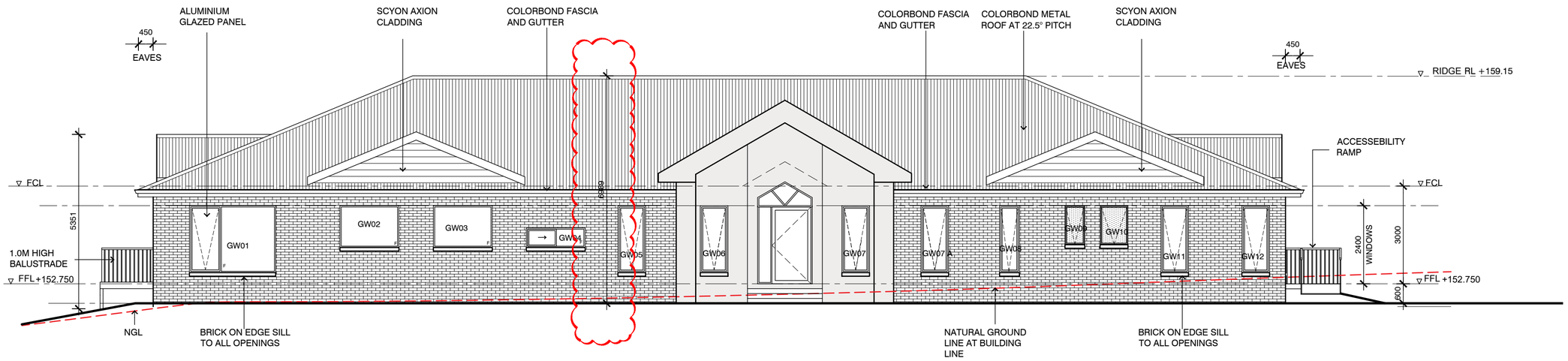
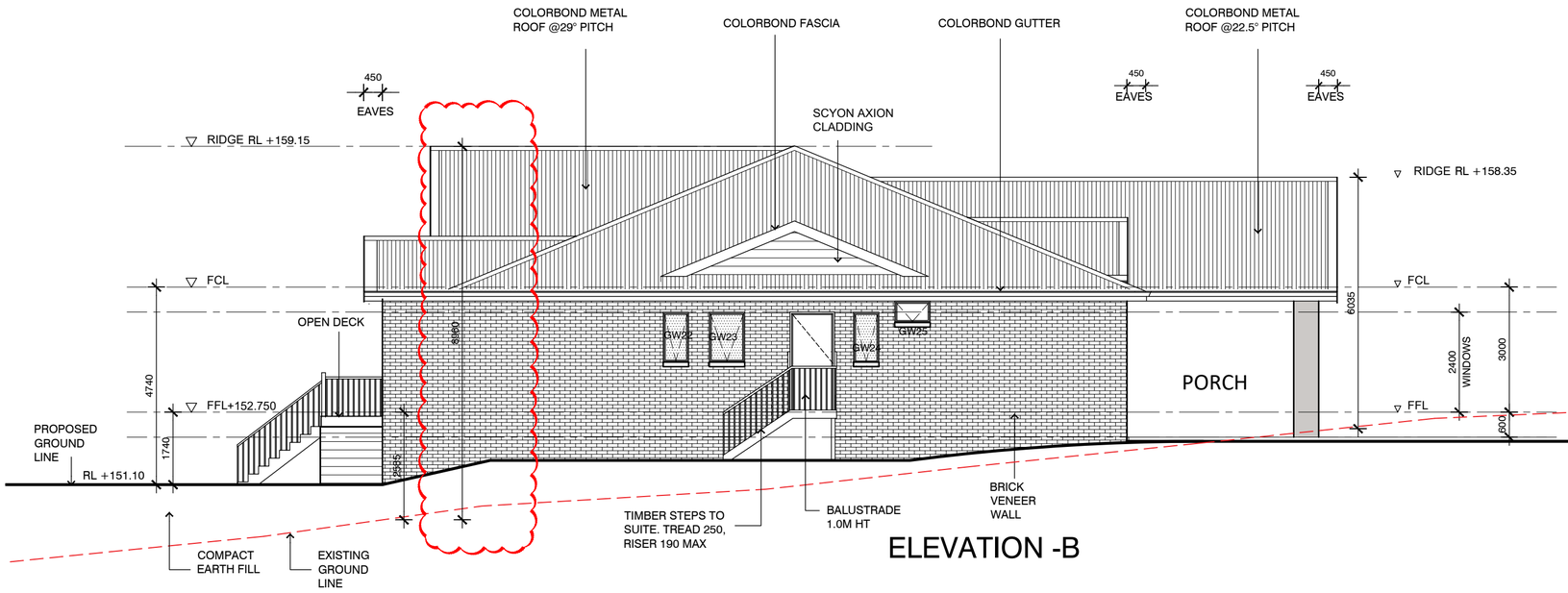
LOT 309, O'NEIL ROAD,
BEACONSFIELD, VIC 3807

DRAWING
GROUND FLOOR PLAN

DATE	DRAWN	CHKD	SCALE @ A2	JOB NO.	DWG NO.	REV.
AUG 2024	JM	VP	1:100	224071	A03	B



ELEVATION -A



ELEVATION -B

BUSHFIRE ATTACK LEVEL - BAL 12.5 (EMBER ATTACK)

BAL WORKS MUST CONFORM WITH AS 3959.

LOWER PORTION OF GARAGE DOOR THAT IS WITHIN 400MM OF THE GROUND WHEN CLOSED SHALL BE MADE FROM NON COMBUSTIBLE MATERIAL.

PANEL LIFT DOOR SHALL BE FITTED WITH SUITABLE WEATHER STRIPS, DRAUGHT EXCLUDERS, OR GUIDE TRACKS AS APPROPRIATE TO THE DOOR TYPE WITH A MAXIMUM GAP NO MORE THAN 3MM.

ALL JOINTS IN THE EXTERNAL SURFACE MATERIAL OF WALLS SHALL BE COVERED, SEALED OR BUTT JOINTED TO PREVENT GAPS GREATER THAN 3MM.

VENTS AND WEEPHOLES IN EXTERNAL WALLS SHALL BE SCREENED WITH A MESH WITH A MAXIMUM APERTURE OF 2MM MADE OF CORROSION RESISTANT STEEL, BRONZE OR ALUMINIUM.

OPENABLE PORTION OF WINDOWS SHALL BE SCREENED WITH MESH WITH A MAXIMUM APERTURE OF 2MM, MADE OF CORROSION RESISTANT STEEL, BRONZE OR ALUMINIUM.

EXTERNAL DOORS SHALL BE NON COMBUSTIBLE OR SOLID TIMBER WITH MINIMUM 35MM THICK FOR THE FIRST 400MM ABOVE THRESHOLD.

GLAZING IN SLIDING DOORS SHALL BE GRADE A SAFETY GLASS COMPLYING WITH AS1288.
SLIDING DOOR SHALL BE TIGHT-FITTING FRAME.

A EXTERNAL BRICK WALLS- GREY

B COLORBOND METAL ROOF- MOLNUMENT COLOUR

C RENDER DULUX- BEIGE ROYAL QTR

D SCYON AXON - DULUX- DARK GREY

E GUTTER, FASCIA, DOWNPIPES COLORBOND MONUMENT

F WINDOWS COLORBOND -NIGHTSKY

G GARAGE DOOR LIGHT COLOUR

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DRAWING
ELEVATIONS

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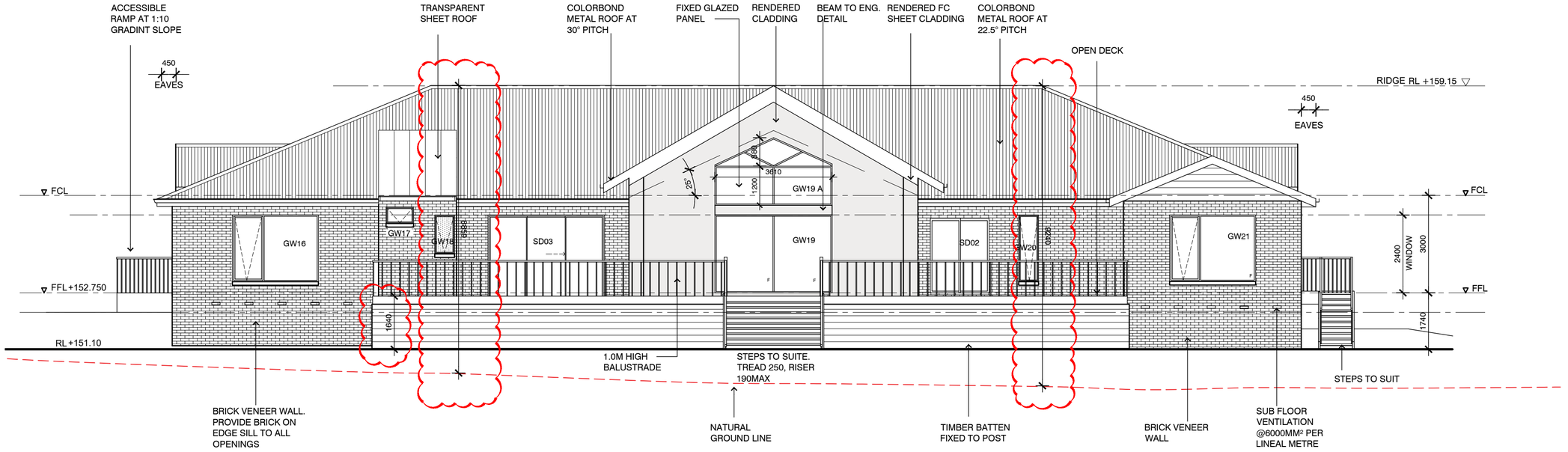
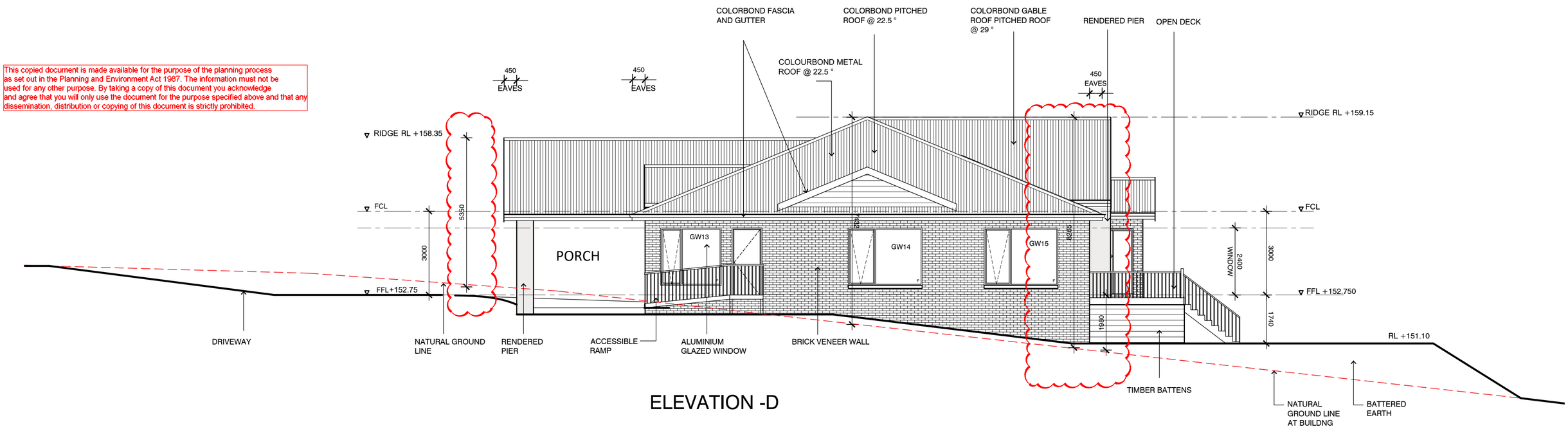
AUG 2024	JM	VP		224071	A04	B



ELEVATION -C



ELEVATION -D

DATE	REV	ISSUE
10.09.24	A	ISSUE FOR INFORMATION
20.11.24	B	TP RFI REVISION

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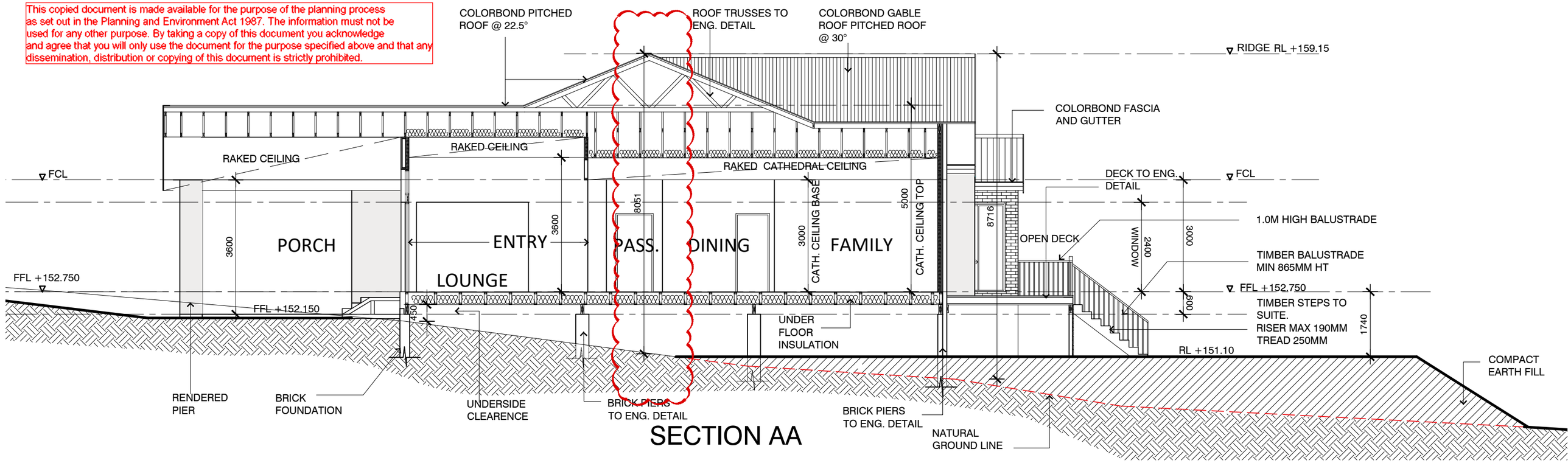
26 TANIA WAY, OFFICER, VIC 3809
ABN 68396261926 M 0411 859 546

CONSTRUCTION ISSUE

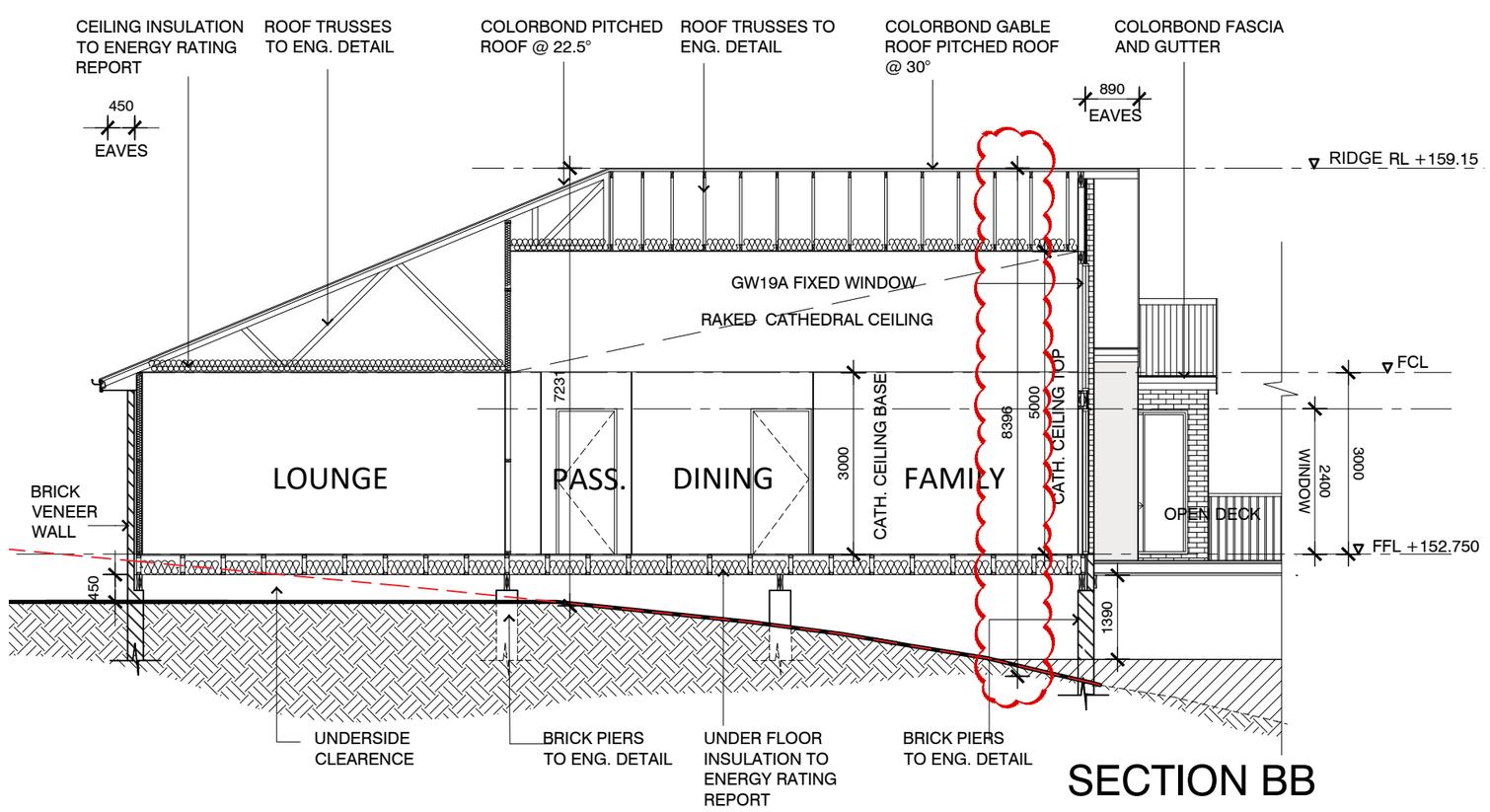
PROJECT
PROPOSED SINGLE STOREY DWELLING AT
LOT 309, O'NEIL ROAD,
BEACONSFIELD, VIC 3807

DRAWING
ELEVATIONS

DATE	DRAWN	CHKD	SCALE @ A2	JOB NO.	DWG NO.	REV.
AUG 2024	JM	VP		224071	A05	B



SECTION AA



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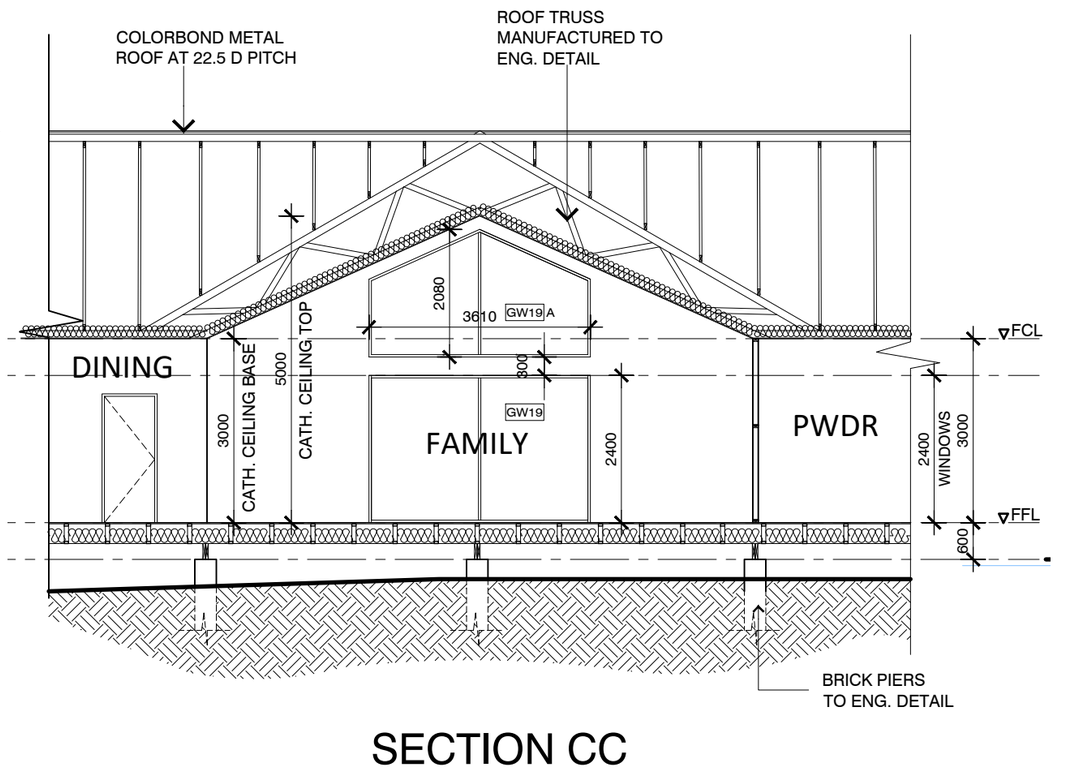

SECTION CC

DATE	REV	ISSUE
10.09.24	A	ISSUE FOR INFORMATION
20.11.24	B	TP RFI REVISION

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CLIENT

CONSTRUCTION ISSUE

PROJECT
PROPOSED SINGLE STOREY DWELLING AT LOT 309, O'NEIL ROAD, BEACONSFIELD, VIC 3807

DRAWING
SECTIONS

DATE	DRAWN	CHKD	SCALE	JOB NO.	DWG NO.	REV.
AUG 2024	JM	VP	1:100 @A3	224071	A06	B

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Bushfire Management Statement

Jul 30, 2021

Pathway 2 Application (Clause 53.02-4)

Construction of a replacement dwelling

PROPERTY DETAILS:	
Address	309 Oneil Rd, Beaconsfield, Victoria 3807
Applicant	[redacted]
Contact	[redacted]
Municipality	Cardinia
Standard Parcel Identifier (SPI)	3\LP3145
Council Property Number	1639000900

Statement prepared by:
Baxter Ecology Pty Ltd
ABN: 57-623-867-783

ASSESSOR:
[redacted]

All conclusions and calculations within this report are subject to Council approval.

Bushfire Management Statement

Introduction

Summary of Conclusions

Bushfire Management Statement

Application Details

Bushfire Landscape Assessment

Bushfire Landscape Assessment Plan

Bushfire hazard site assessment

Bushfire Site Hazard Plan

Bushfire Management Statement

53.02-4.1 Landscape, Siting and Design Objectives

53.02-4.2 – Defendable Space and Construction Objective

Approved Measure (AM) 3.1 – Bushfire Construction and Defendable Space

Alternative Measures

Approved Measure (AM) 4.1 Water Supply and Access

Introduction

This Bushfire Management Statement has been prepared in response to the requirements of Clause 44.06-1 – Bushfire Management Overlay, and in accordance with the application requirements of Clause 53.02 – Bushfire planning.

The plan contains three components:

1. A **bushfire hazard landscape assessment** including a plan that describes the bushfire hazard of the general locality **greater than 150m** from the site.

2. A **bushfire hazard site assessment** including a plan that describes the bushfire hazard **within 150 metres** of the proposed development as per Section 2.2.3 to 2.2.5 of *AS3959:2009 Construction of building in bushfire prone areas* excluding paragraph (a) of section 2.2.3.2.

3. A **bushfire management statement** describing how the proposed development responds to the requirements of Clause 44.06 and 53.02.

Summary of Conclusions

The surrounding patchy vegetation an undulating terrain will result in erratic fire behaviour in multiple waves of ember attack. It is unlikely a steady state fire will arrive at the site but extreme ember attack is anticipated. In the regard a BAL 29 Construction Standard is deemed appropriate. Defendable space to 50m or the property boundary response largely to the modified vegetation within the 150m bushfire site assessment area with reasonable assurance that the adjacent property across O'Neil Rd to the east will manage their property in a low fuel state.

Bushfire Management Statement

Application Details

PROPERTY DETAILS:	
Municipality	Cardinia
Title description	(SPI)3\LP3145 Council Property Number: 1639000900
Overlays	Bushfire Management Overlay Environmental Significance Overlay
Zoning	Rural Conservation Zone

Site Description

PROPERTY DETAILS*:	
Site Shape	Rectangle
Site Dimensions	60m x 140m
Site Area	7374 sq.m
Existing use and siting of buildings and works on and near the land	The site has a disused dwelling with separate garaging.
Existing vehicle arrangements	A cross-over is available off O'Neil Drive.
Location of nearest fire hydrant	Two hydrants are available to the north and south of the site and within 100m
Any other features of the site relevant to bushfire consideration	approximately 50m west and downslope of the existing dwelling a drainage line traverses the property

Site Dimensions

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

Area: 7374 sq. m
Perimeter: 402 m

For this property:
Site boundaries
Road frontages

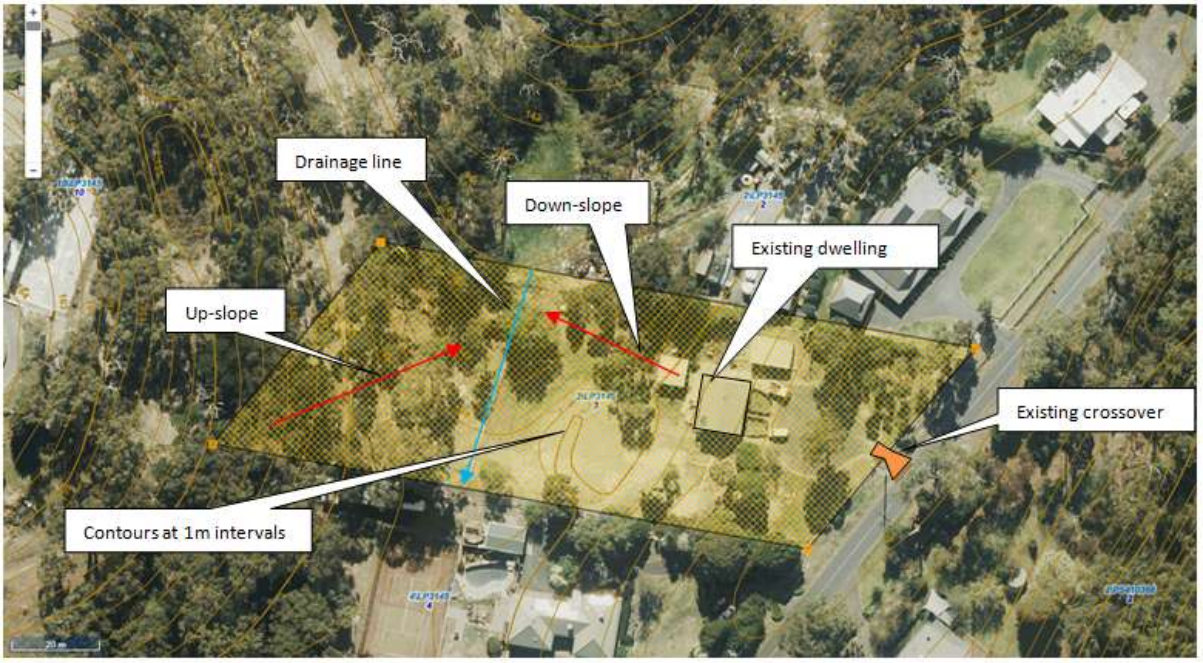
Dimensions for individual parcels require a separate search, but dimensions for individual units are generally not available.

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

Site dimensions - source: Planning Schemes on-line

Site Survey - Source: One Plan -Surveying Consultants - 20-05-2020

Reticulated water supply and hydrants - Source - South-East Water



Contours and existing site features- Source LASSI

Bushfire Landscape Assessment

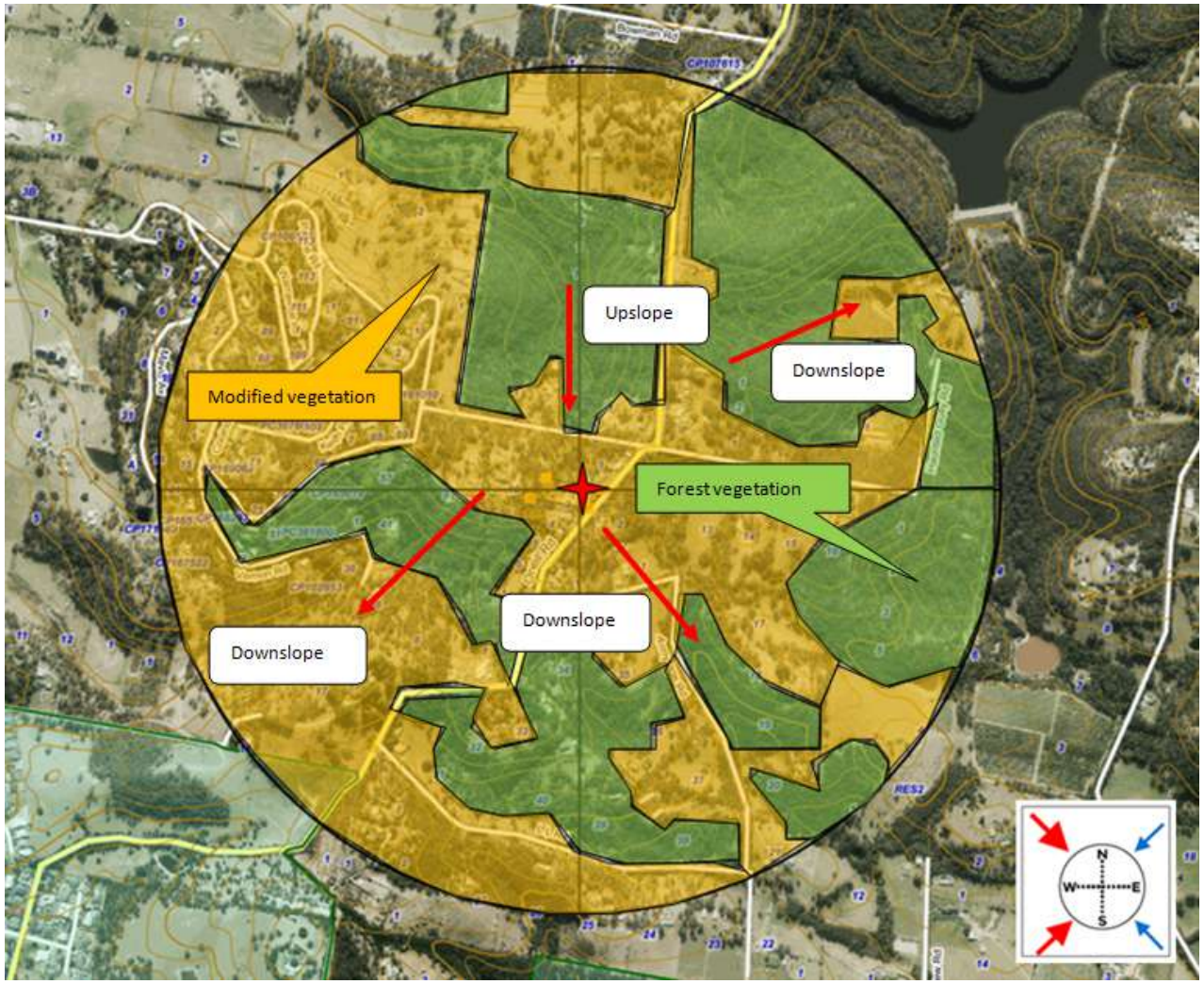
Which landscape scenario represents the site? Refer to Technical Guide for descriptions…

The Landscape scenario that represents this is…

What is the likely fire behaviour impacting the site

Fire in the landscape is likely to move quickly through surrounding grass-lands being slowed when reaching patches of forest intensifying radiant heat but soon dissipating and moving quickly again when reaching adjacent farmlands. Ember spotting ahead of the fire front is likely and may reduce available fuels particularly in grasslands. The surrounding topography and and patchy fuel types are likely to result in erratic fire behaviour. Erratic winds and ember activity from multiple approaches particularly where there is a n afternoon wind change may result in multiple attacks within the one event.

Bushfire Landscape Assessment Plan



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Bushfire hazard site assessment

Vegetation classification within 150metres of the proposed development in accordance with AS3959:2009 Construction of buildings in bushfire prone areas.

		N	NE	E	SE	S	SW	W	NW
Modified	Distance	52	100	88	100+	68	100+		100+
	Slope	up	up	down	down	down	down		up
Forest	Distance	X	X	X	X	X	X	80	X
	Slope	X	X	X	X	X	X	down	X
Woodland	Distance	X	X	X	X	X	X	X	X
	Slope	X	X	X	X	X	X	X	X
Scrub	Distance	X	X	X	X	X	X	X	X
	Slope	X	X	X	X	X	X	X	X
Shrubland	Distance	X	X	X	X	X	X	X	X
	Slope	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X
	Slope	X	X	X	X	X	X	X	X
Rainforest	Distance	X	X	X	X	X	X	X	X
	Slope	X	X	X	X	X	X	X	X
Grassland	Distance	X	X	X	X	X	X	X	X
	Slope	X	X	X	X	X	X	X	X

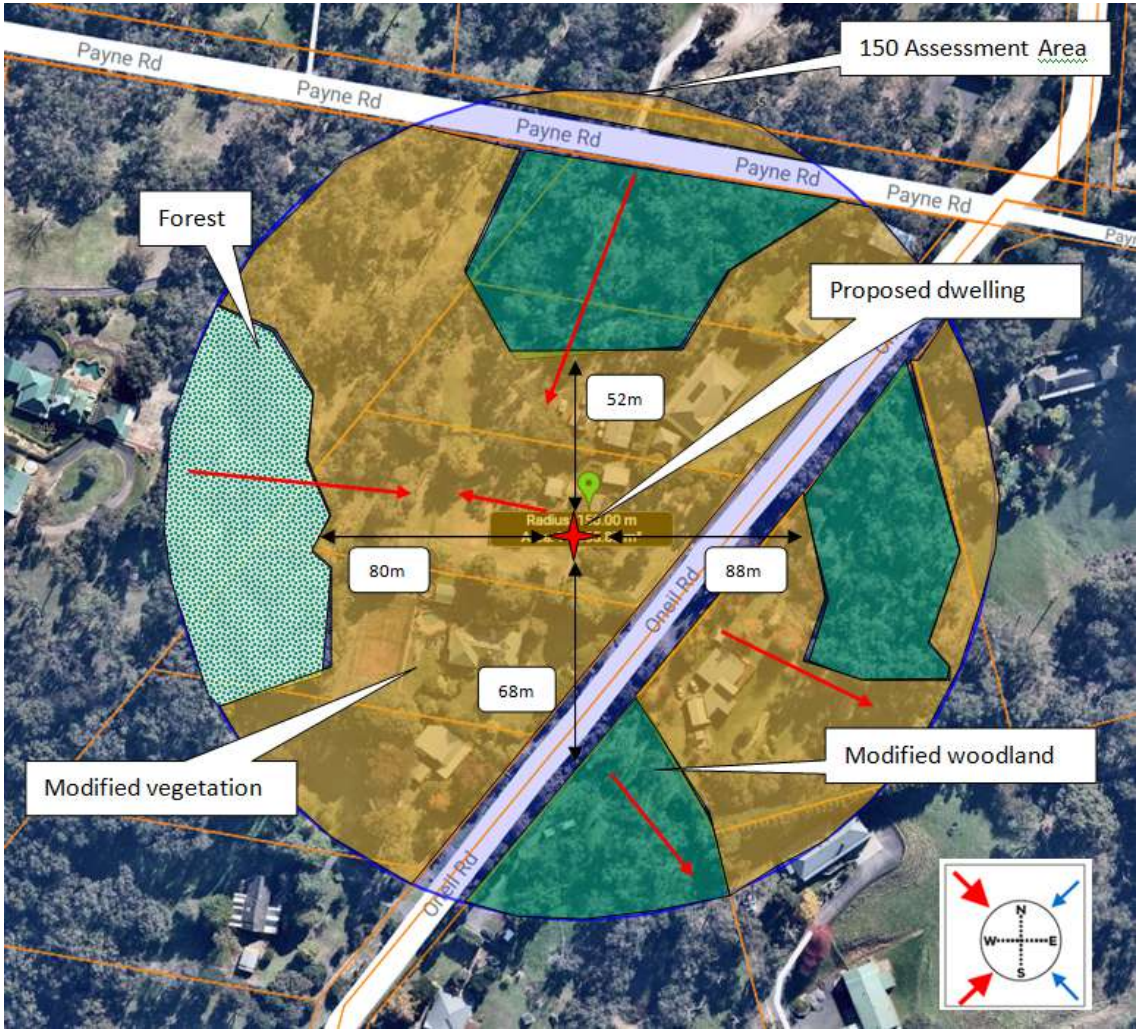
Exclusions

- Vegetation more than 150m from site
- Single areas of vegetation less than 1ha area, not within 100m of other classified areas
- Multiple areas of vegetation less than 0.25ha in area and not within 20m of site or each other
- Strips of vegetation less than 20m width and not within 20m of site, or each other or classified vegetation
- Non-vegetated areas; waterways, roads, footpaths, buildings, rocky outcrops
- Low threat vegetation, managed grassland, maintained lawns, golf courses, reserves and parklands, vineyards, orchards, nature strips and windbreaks.

Notes:

- All up-slopes and flat land are considered 0º
- Overstoreys of open woodland, low open woodland, tall open shrubland and low open shrubland are classified to the vegetation type on the basis of their understoreys

Bushfire Site Hazard Plan



Bushfire Management Statement

53.02-4.1 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.

Approved Measure (AM) 2.1 – Landscape

Requirement:

The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.

Response: (explain how the bushfire risk to the development from the landscape beyond the site has been mitigated to an acceptable level)

1. The bushfire risk from beyond the site is within complex terrain but with patches of forest vegetation surrounded by modified vegetation within low density residential allotments zoned rural conservation.
2. The greatest bushfire hazard lies to the north west and south west but is broken by low fuel modified landscapes around the subject allotment.

Has AM 2.1 (Landscape) been met? Yes

Approved Measure (AM) 2.2 – Siting

Requirement:

A building is sited to ensure the site best achieves the following:

- The maximum separation distance between the building and the bushfire hazard has been achieved
- The building is in close proximity to a O'Neil Road
- Access can be provided to the building for emergency service vehicles via a farm gate with excellent visibility on level ground

Has AM 2.2 (Siting) been met? Yes

Approved Measure (AM) 2.3 – Building Design

Requirement:

A building is designed to be responsive to the landscape risk and reduce the impact of bushfire on the building.

Response:

1. The proposed dwelling will be constructed to a **BAL 29 construction standard** in response to primary ember activity and some localised radiant heat but not a steady state fire with 100m radiant interface assumed in AS3959.2009

Has AM 2.3 (Building Design) been met? Yes

53.02-4.2 – Defendable Space and Construction Objective

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

Approved Measure (AM) 3.1 – Bushfire Construction and Defendable Space

Requirement:

A building used for a dwelling provides the defendable space in accordance with Table 2 Column A, B, C to Clause 53.02-5 and is managed in accordance with Table 6 to Clause 53.02-5 wholly within the title boundaries of the land.

Response:

- The building will be provided with defendable space in accordance with….
- Defendable space is to be provided for a distance of 50m, or the property boundary whichever is the lesser, for buildings constructed to all bushfire attack levels.
- The minimum construction standard is BAL 29

Table 6 of Clause 53.02-5 Vegetation management requirement:

Vegetation must be managed to the following standard:	***Accepted***
• 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. • 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.	*YES*

Are there significant siting constraints that would allow Column D of Table 2 to Clause 53.02-5?

Not Applicable

The building will be constructed to the required BAL.

The building will be constructed to BAL – 29 (in accordance with Table 1 to Clause 53.02-5

Is the defendable space wholly contained within the boundaries of your property?

No

Response

To the north, south and west of the site, adjoining lots are residential with maintained gardens and lawns with isolated patches of forested vegetation.

To the east, the defendable space extends across O'Neil Rd into residential lots opposite site. Lots contain residential gardens and lawns providing reasonable assurance the bushfire risk will be mitigated to an acceptable standard.

Has AM 3.1 (Bushfire Construction and Defendable Space) been met? YES

Alternative Measures

Alternative Measure (AltM) 3.3 – Defendable Space on adjoining land

Requirement:

Adjoining land may be included as defendable space where there is reasonable assurance that the land will remain or continue to be managed in that condition as part of the defendable space.

Response:

The adjoining land to the east is a mix of native and exotic trees with managed understorey

Has AltM 3.3 (Defendable Space on adjoining land) been met? Yes

Alternative Measure (AltM) 3.4 – Calculate defendable space using Method 2 of AS3959-2009

Requirement:

Defendable space and the bushfire attack level is determined using Method 2 of AS3959:2009 -*Construction of buildings in bushfire prone areas* subject to any guidance published by the relevant fire authority.

Response:

Not Applicable

Has AltM 3.4 (Calculate defendable space) been met? N/A

53.02-4.3 – 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

Approved Measure (AM) 4.1 Water Supply and Access

Water supply requirement

The building is supplied with a static water supply for firefighting and property protection as specified in Table 4 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.

Lot size (m_2)	*Hydrant available*	*Capacity (L)*	*Fire authority fittings and access required*	*Response*
Less than 500	NA	2,500	No	X
500 – 1000	Yes	5,000	No	X
500 – 1000	No	10,000	Yes	X
1001 and above	NA	10,000	Yes	**Yes**

A hydrant is available if it is located within 120m of the rear of the building

Static water supply must meet the following requirements:

- Is stored in an above ground water tank constructed of concrete or metal;
- All fixed above ground water pipes and fittings for fire- fighting purposes must be made of corrosive resistant metal; and
- Include a separate outlet for occupant use.

Additional requirements apply when 10,000 litres of static water is required:

- Be readily identifiable from the building or appropriate identification signage to the satisfaction of CFA must be provided.
- Be located within 60 metres of the outer edge of the approved building.
- The outlet/s of the water tank must be within 4 meters of the accessway and unobstructed
- Incorporate a ball or gate valve (BSP 65mm) and coupling (64mm CFA 3 thread per inch male fitting)
- Any pipework and fittings must be a minimum of 65mm (excluding the CFA coupling)

Response:

Confirm static water supply meets all the above requirements - YES

Has AM 4.1 (Water Supply) been met? Yes

Access requirement

Vehicle access is designed and constructed as specified in Table 5 to Clause 53.02-5

Length of access is less than 30m - Yes

There are no design and construction requirements if fire authority access to water supply is not required under AM 1.3

Has AM 4.1 (Access) been met? Yes No

Bushfire Management Plan - 309 ONeil Rd Beaconsfield VIC

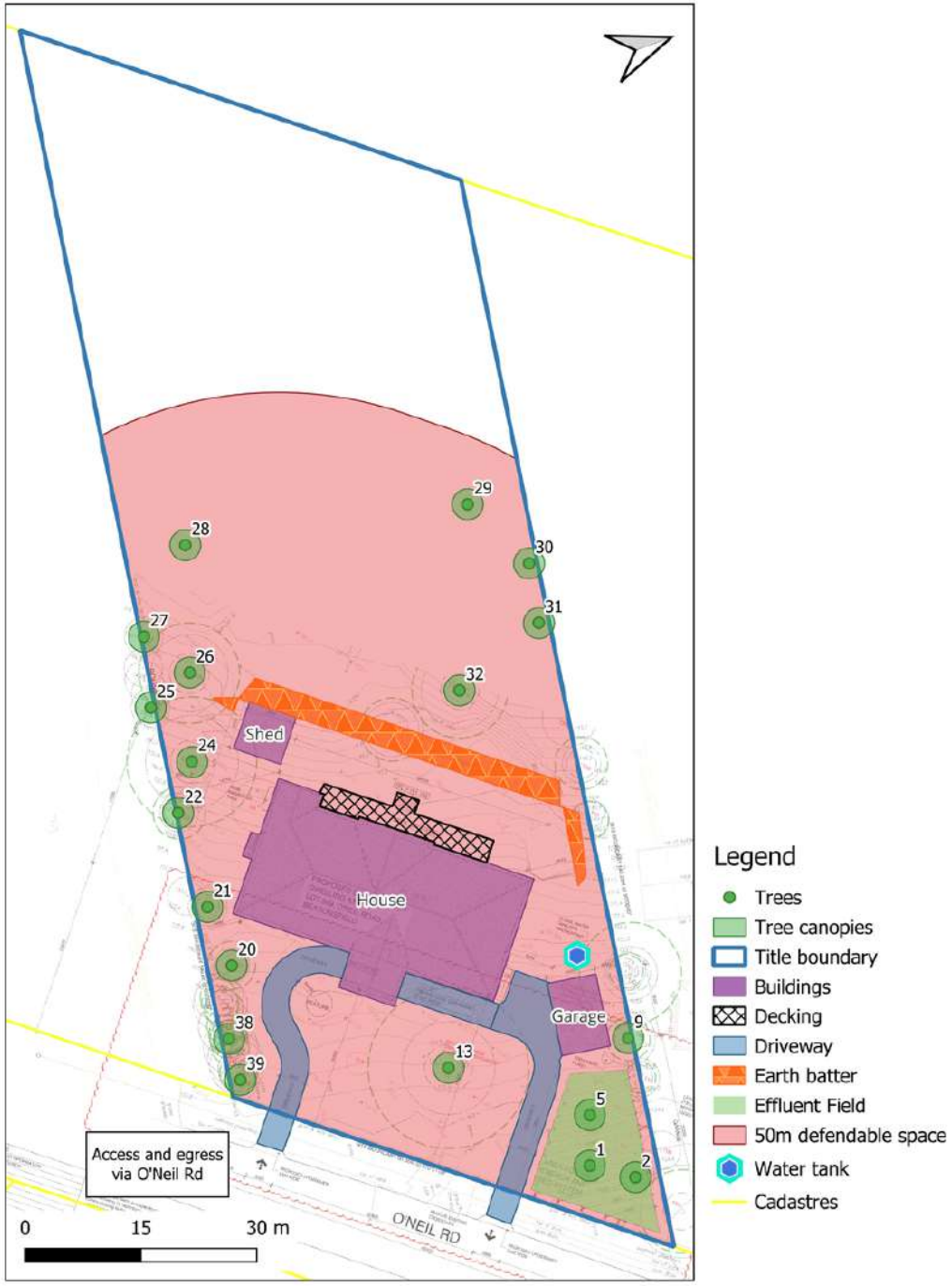


Figure 1. Bushfire Management Plan for 309 O'Neil Rd, Beaconsfield.

Bushfire Protection Measures

Mandatory condition
The bushfire protection measures forming part of this permit or shown on the endorsed plans, including those relating to construction standards, defendable space, water supply and access, must be maintained to the satisfaction of the responsible authority on a continuing basis. This condition continues to have force and effect after the development authorised by this permit has been completed

a) Defendable space
Defendable space is provided for a distance of 50 m around the dwelling or to the property boundary whichever is the lesser and managed in accordance with:
- Grass is short cropped during declared fire danger periods.
- Leaves and vegetation debris is regularly removed during declared fire danger periods.
- Rooves and roof gutters are clear of leaves and debris.
- Flammable objects are not located within 10 m of vulnerable parts of the building.
- Plants > 10 cm in height are not placed within 3 m of a building window or glass feature.
- Shrubs are not located under tree canopys.
- Individual and clumps of shrubs do not exceed 5 m2 in area.
- Shrubs are separated by at least 5 m.
- Trees do not overhang or touch any elements of the building, with 2 m clearance.
- Tree canopys are separated by > 5 m.
- Clearance of > 2 m between the lowest tree branches and ground.
- Trees taller than 10 m are a greater distance than their height from the shelter in place.

b) Construction standard
Dwelling designed and constructed to a minimum Bushfire Attack Level of 29.

c) Water supply
- An effective capacity of 10,000 litres.
- Water is stored in an above ground water tank constructed of concrete or metal.
- All fixed above ground water pipes and fittings required for firefighting are made of corrosive resistant metal.
- There is a separate outlet for occupant use.
- Fittings are readily identifiable from the building or appropriate identification signage to the satisfaction of the relevant fire authority.
- Fittings are located within 60 m of the outer edge of the approved building.
- Water tank outlet/s are within 4 m of the accessway and unobstructed.
- A separate ball or gate valve (British Standard Pipe (BSP 65 mm) and coupling (64 mm CFA 3 thread per inch male fitting) is incorporated.
- Pipework and fittings are a minimum of 65 mm (excluding the CFA coupling).

d) Access
The length of the driveway is < 30 m but fire authority must have access to the water supply. Fire authority vehicles must be able to get within 4 m of the water supply outlet.

BMP
309 O'Neil Rd Beaconsfield
Version 1
28.02.2025

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Tree Health and Development Impact Assessment

309 ONeil Rd Beaconsfield VIC

Shire of Cardinia

Report date: 28 / 02 / 2025

Version control.		
Version	**Date**	**Description**
1.0	11/11/2024	First submission to Council
2.0	28/02/2025	Updated report in response to email RFI from Council dated 17.02.2025

Tree Health and Development Impact Assessment Report prepared by Baxter Ecology Pty Ltd on behalf of [redacted]

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&

Leanne Greenwood
Fire Ecologist
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Contents

Report Brief

This report has been commissioned by [redacted] to meet the permit requirements associated with the demolition and rebuild of a single residential dwelling (Map 2 and 3).

An initial review and assessment of the vegetation at the subject site was conducted in 2021 by Baxter Ecology. From this a permit was granted by Council for the removal of four trees on site. In October 2024 Baxter Ecology was engaged to revisit the site and update the tree impact assessment for a new house and driveway design.

This current updated to the October 2024 report is in response to Council request for further information and clarification dated 17.02.2025.

Council Planning Context

The subject trees are situated in the Shire of Cardinia. A search of the Victorian Government's Department of Environment, Land, Water, and Planning (DELWP), Planning Schemes website, reveals that 309 ONeil Rd Beaconsfield VIC, Council Property Number 1639000900, Lot 3 LP3145 is located in a Rural Conservation Zone Schedule 2 (*protection and conservation of the environmental values and landscape qualities of the land, including habitat of botanical and zoological significance, and the conservation of natural resources, including native vegetation, waterways and soils*).

The subject site is subject to the following planning overlays:

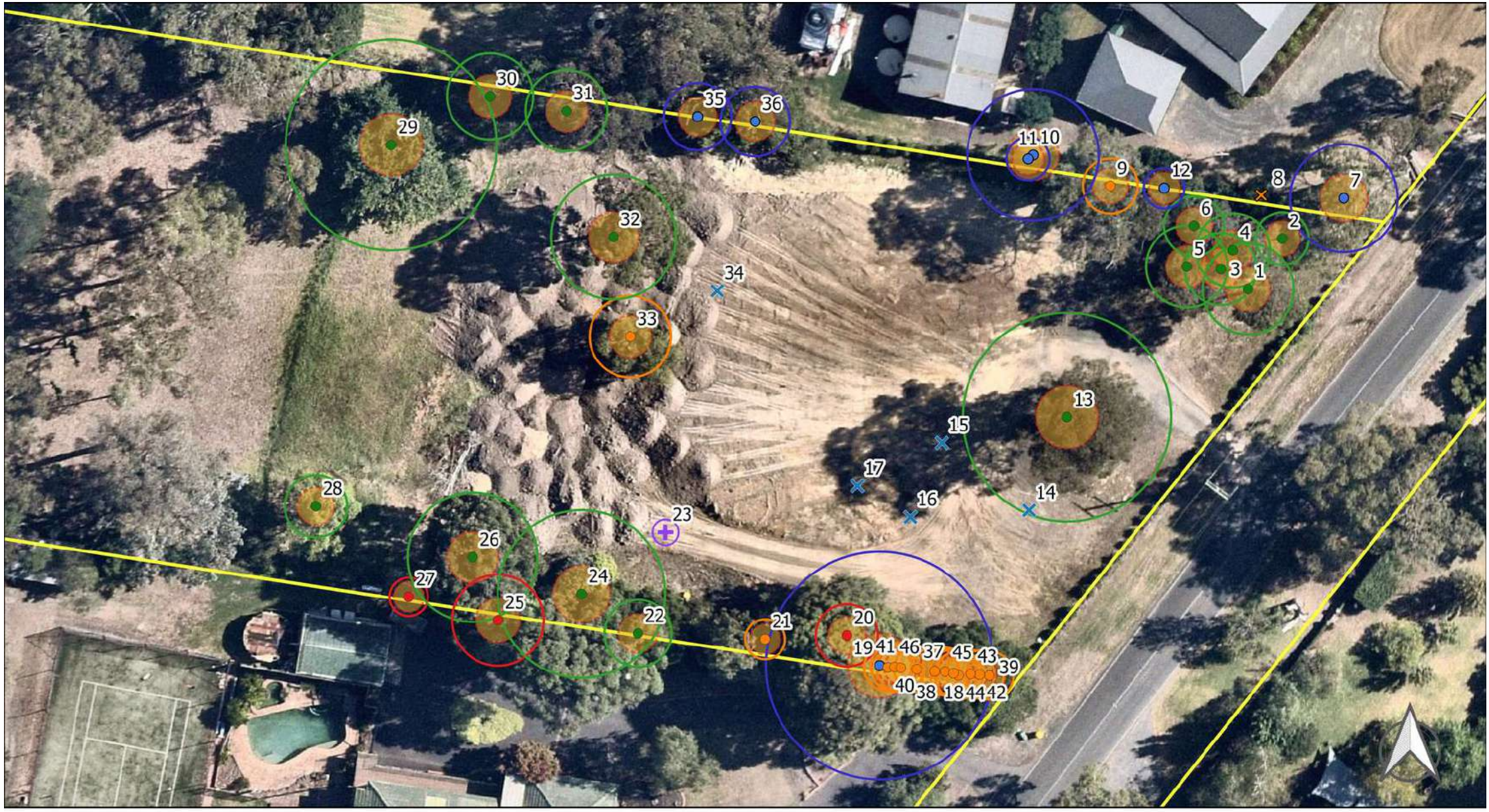
- Bushfire Management Overlay (BMO),
- Environmental Significance Overlay (ESO) and
- Schedule 1 to the Environmental Significance Overlay (ESO1).

Under the ESO1, a permit is required to remove, destroy, or lop any vegetation, except for:

- Environmental weeds as listed in the Schedule.
- Dead vegetation.
- Trees overhanging the roof of a building used for accommodation and whereby the removal is only of that part of the tree overhanging the building and which is necessary for fire protection.
- Minimising the risk to life and property from bushfires.

Council street trees in the Shire of Cardinia are recognised as an important part of the urban landscape and are protected under the *Local Law 17* whereby under *section 59 interference with vegetation:*

> *"A person must not destroy, damage, lop, remove or otherwise interfere with any trees or vegetation (whether living or dead) on any Council land or road (including a road reserve, footpath, or nature strip), without written consent of the Council."*



Map 1: Tree location assessment

309 Oneil Rd, Beaconsfield

0 10 20 m

Legend

Trees - retention value
- Third Party
- High
- Medium
- Low

Removed trees
- Removed - original permit
- Removed - permit required
- Tree 8 removed by others

Tree Protection Zone:
- Third Party
- High
- Moderate
- Low
- Structural Root Zone

DATE: 28/02/2025
DATA SOURCES:
On-site data collection
NearMap aerial imagery 01.02.2025
CRS: EPSG: 7855
TREE LOCATIONS:
Aligned to aerial imagery

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Methodology

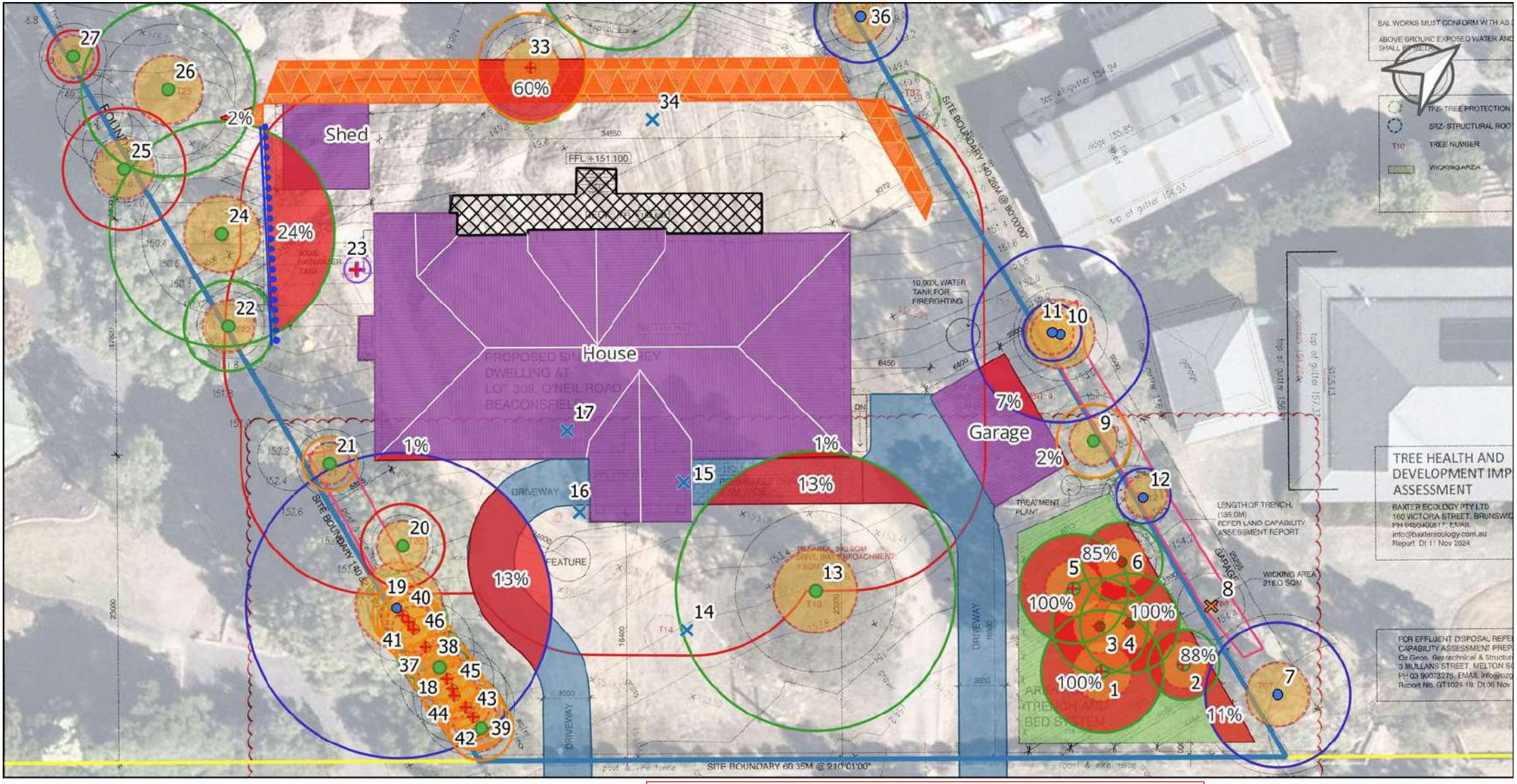
A site inspection was conducted at 309 ONeil Rd Beaconsfield VIC on 30/10/2024. A review of the site was carried out to determine the layout of landscape elements in relation to the proposed works and to assess the health of the trees identified by the client as being those which may be impacted by the proposed development.

The inspection was carried out in accordance with steps one and two of the visual tree assessment (VTA) methodology (Mattheck and Breloer, 1994; Harris et al., 2004; Lonsdale, 1999). No invasive or diagnostic tests were carried out. This assessment of trees in this report does not constitute an analysis of risk as defined by quantified tree risk assessment (QTRA) system.

Binoculars were used in the visual inspection, a clinometer was used to estimate tree height, and a tape measure was used to measure tree dimensions. Diameter at breast height (DBH) was measured at 1.3 m as per the *AS4970-2009 Protection of Trees on Development Sites*.

Tree Protection Zone (TPZ) was calculated as DBH x 12 as per the *AS4970-2009*. Tree health and structure were assessed based on descriptors from the aforementioned arboricultural texts.

Trees were assessed based on size, location, health, structure, significance, management requirements, and local by-laws. Based on the above mentioned descriptors, trees are categorised as having a retention value of none, low, moderate, or high. Descriptor definitions can be found in Appendix 1.



Map 2: Plans and tree impacts

309 Oneil Rd, Beaconsfield

0 5 10 m

Legend

Trees - Retention value

- Third Party
- High
- Medium
- Low
- Removed - permit required

Tree Protection Zone:

- Third Party
- High
- Moderate
- Low

- Structural Root Zone
- Proposed house, garages, shed
- Driveway
- Sub surface irrigation
- TPZ Incursions %
- RetainingWall

DATE: 11/11/2024
DATA SOURCES:
On-site data collection
NearMap aerial imagery
CRS: EPSG: 7855
Feature survey: Lead design studio
TREE LOCATIONS:
Aligned to aerial imagery &
Site survey: Lead Design Studio

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Summary and Recommendations

A total of **46 trees** with a height greater than 3 m were assessed on and adjacent to the subject property within a 3 m buffer around the subject site (Table 1 - 4, Map 1 - 3). Trees have been evaluated in compliance with *AS4970-2009 Protection of Trees on Development Sites*, which states that if there is any encroachment within the Structural Root Zone (SRZ) or that exceeds 10% into the Tree Protection Zone (TPZ) of a protected tree are classified as a major incursion, and it is necessary to demonstrate that the impact to the tree will be minimised, otherwise, it will be considered lost.

Removed Trees

Trees 14, 15, 16, 17 were removed in response to the original Planning Permit (refer Map 1). Map 2 shows the location of removed trees for context.

A semi-mature third party tree, listed as **Tree 8** had been removed by others. The removal of this tree was not in connection with the project as the project team had ensured the redesign would minimise any impact to this tree if it had still been present in the landscape.

Tree 23 was an exotic tree of medium retention value (*Pittosporum eugenioides 'Variegatum'*) that had been identified as not worthy of a design response. It had fair structure with bark delamination on one of its main trunks. We supported its removal. A permit was required for the removal of this tree (Map 3)

Tree 34 was removed with the demolition of the old shed. This was a low value self-seeded exotic Olive tree that was growing out of the footing of the shed and would have been damaged and removed during the demolition. Its removal was supported by Baxter Ecology in the first report and it should have been included in the removal list when seeking the tree removal permit from Council.

Driveway

The driveway has been redesigned to minimise impact to the trees on the subject property. It has been re-located outside of the SRZ and moved to minimise impact on TPZs of all trees. It will now impact on two trees only:

- **Tree 19,** third party *Angophora costata* - impact is 13%
- **Tree 13**, high value *Eucalyptus botryoides - impact 13%*

To ensure that the driveway will have an allowable minimal impact on the trees:

- The driveway must be installed above grade and made of a semi-permeable material such as eco-trihex or similar to minimise impacts to protected trees and ensure water penetration to roots.

Garage

The proposed siting of the Garage to the east of the proposed dwelling will now have a minor allowable incursion (<10%) into the TPZ of **Tree 10** - 7% and **Tree 9** - 2% and is supported.

Effluent field

The proposed effluent field has been reduced in size to minimise impact to trees. Its current location will result in the *assumed* loss of **trees 1 - 6** (incursions of 83 - 100% into tree TPZs) These are native trees and a permit from Council will be required due to this assumed loss. It is recommended that these trees are not physically removed from the landscape should actual decline be observed as there is conflicting research on the impact of effluent fields on native trees.

Earthworks and Batter

Earthworks and batter will impact on 3 trees:

- Tree 24 is *Eucalyptus grandis* and is a planted native tree that is not endemic to Victoria. It is a high value tree that is recommended for protection from works. It is recommended that a retaining wall be installed to protect the tree and minimise impact from earthworks. The retaining wall will ensure that no works come within the SRZ of the tree and while the assumed impact to the TPZ of the tree is still above 10%, the design response will protect the tree.
- Tree 33 is a Callistemon viminalis, it is a planted native tree that is not endemic to Victoria of moderate retention value. The batter will have a 33% implact to this tree. To retain this tree a retaining wall would be required to be built around the tree and protect its TPZ from earthworks. A permit will be required for its removal. As it has a moderate retention value, its removal is supported.

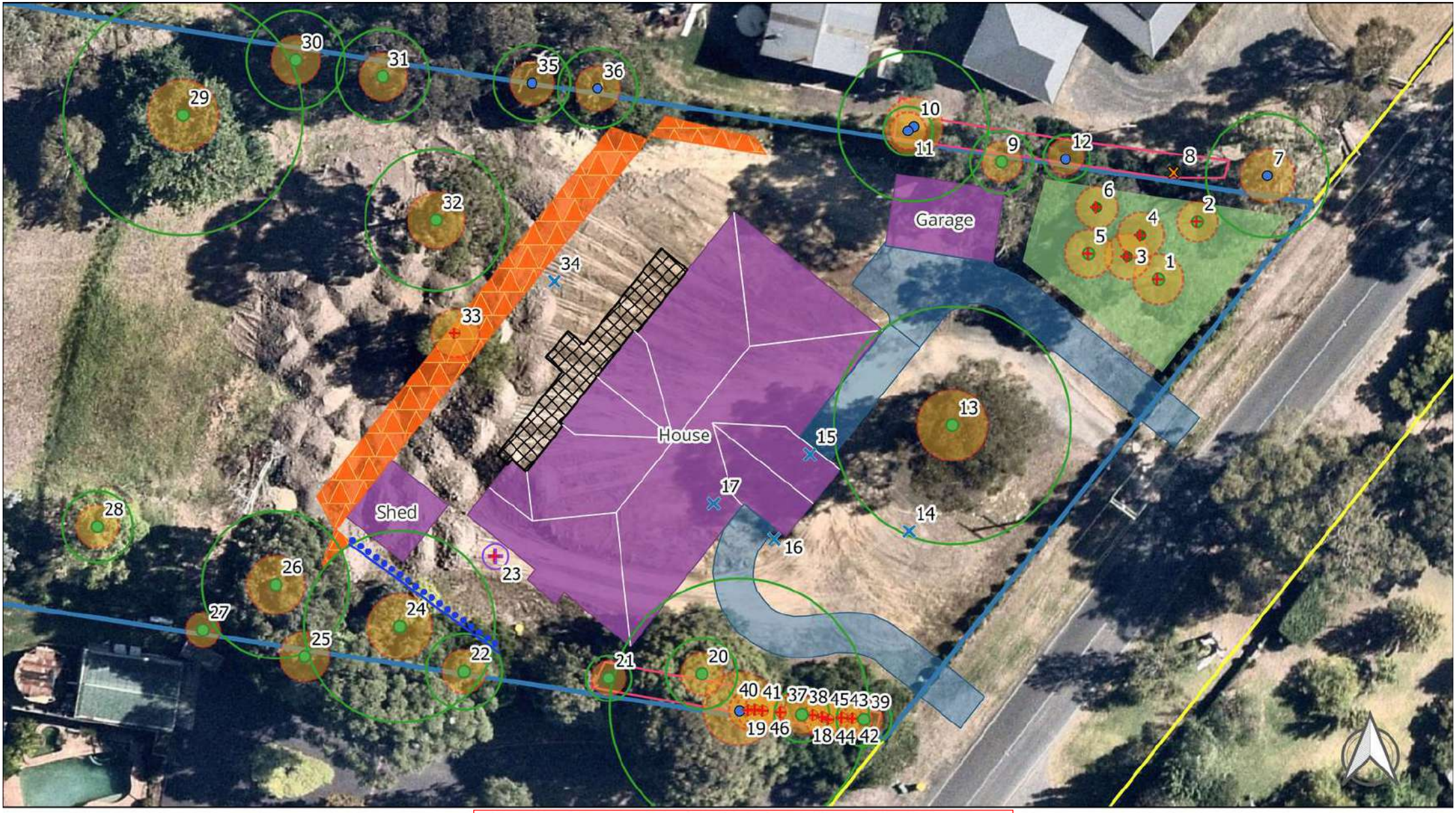
Tree 13 (*Eucalyptus botryoides*)

We recommend the retention and protection of **tree 13** (*Eucalyptus botryoides*). The current construction proposal will encroach into the TPZ of tree 13 more than 10% (Map 2 and 3):

- The house encroaches into the TPZ of by 1%.
- The driveway encroaches into the TPZ by 13%. As discussed above to ensure that construction impact is minimal and acceptable the driveway is to be built above grade and made of a semi-permeable material such as eco-trihex or similar to minimise impacts to the tree and ensure water penetration to roots.

Tree protection fencing

Tree protection fencing must be erected as per the specifications set out below and in accordance with *AS4970:2009 - Protection of Trees on Development Sites*. The fence must be installed prior to the commencement of works and maintained for the life of the project. Fencing is to be installed around trees at distances specified in the results table while still allowing pedestrian and vehicle access. See TPZ information below.



Map 3: Trees retain or remove

309 Oneil Rd, Beaconsfield

0 10 20 m

Trees remove/retain
- Retain
- Remove
- 10m Buffer House

Removed trees
- Removed - original permit
- Removed - permit required
- Tree 8 removed by others

Tree Protection Zone:
- Retain
- Structural Root Zone
- Driveway

- Effluent field
- Buildings
- Earth batter
- RetainingWall

DATE: 28/02/25
DATA SOURCES:
On-site data collection
NearMap aerial imagery
CRS: EPSG: 7855
Feature Survey: Lead design studio
TREE LOCATIONS:
Aligned to aerial imagery & Feature Survey

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Specialists in the Ecology of the Built Environment

Table 1. Construction Impact to Native Trees

Impact from construction on Tree Protection Zones (TPZ) of Native Trees. Where DBH: diameter at breast height, ULE: useful life expectancy, TPZ: tree protection zone (radius), and SRZ: structural root zone (radius).Incursions into the TPZ > 10 % are highlighted in blue.

Tree no.	Tree species	Height (m)	Crown (m)	DBH (cm)	Retention value	TPZ (m)	SRZ (m)	Incursion	Impact
1	*Eucalyptus botryoides*	14	5	38	High	4.6	2.2	**100%**	Effluent Field
2	*Eucalyptus botryoides*	10	5	22	High	2.6	1.8	**88%**	Effluent Field
3	*Eucalyptus botryoides*	12	4	30	High	3.6	2.0	**100%**	Effluent Field
4	*Eucalyptus botryoides*	13	4	31	High	3.7	2.0	**99%**	Effluent Field
5	*Eucalyptus botryoides*	14	6	34	High	4.1	2.1	**100%**	Effluent Field
6	*Eucalyptus botryoides*	12	6	25	High	3.0	1.8	**83%**	Effluent Field
7	*Eucalyptus obliqua*	15	10	45	Third party	5.4	2.4	9%	Effluent Field
10	*Eucalyptus melliodora*	20	10	55	Third party	6.6	2.6	7%	Garage
13	*Eucalyptus botryoides*	18	11	87	High	10.4	3.1	**1%** **13%**	House Driveway
19	*Angophora costata*	14	9	95	Third party	11.4	3.2	**13%**	Driveway
22	*Acacia melanoxylon*	10	4	28	High	3.4	1.9	**54%**	Driveway
24	*Eucalyptus grandis*	25	16	70	High	8.4	2.8	**24%**	Batter

Tree no.	Tree species	Height (m)	Crown (m)	DBH (cm)	Retention value	TPZ (m)	SRZ (m)	Incursion	Impact
26	*Angophora costata*	12	10	54	High	6.5	2.6	2%	Batter
33	Callistemon viminalis	34	7	6	Moderate	4.1	2.1	**60%**	Batter

Table 2. Construction Impact to Exotic Trees

Exotic species with impact from construction on Tree Protection Zones (TPZ). Incursions into the TPZ > 10 % are highlighted in blue.

Tree no.	Tree species	Height (m)	Crown (m)	DBH (cm)	Retention value	TPZ (m)	SRZ (m)	Incursion	Impact
9	*Pinus radiata*	14	6	23	Medium	2.8	1.8	**2%**	Effuent field
23	*Pittosporum eugenioides 'Variegatum'*	7	6	31	Medium	3.7	2.0	**100%**	House and Batter

Table 3. Trees considered lost (8 trees).

Tree no.	Tree species	Tree Origin	Removal reason
1	*Eucalyptus botryoides*	*Native*	Effluent field
2	*Eucalyptus botryoides*	*Native*	Effluent field
3	*Eucalyptus botryoides*	*Native*	Effluent field
4	*Eucalyptus botryoides*	*Native*	Effluent field
5	*Eucalyptus botryoides*	*Native*	Effluent field
6	*Eucalyptus botryoides*	*Native*	Effluent field
23	*Pittosporum eugenioides 'Variegatum'*	*Exotic*	Garage 1
33	*Callistemon viminalis*	*Native*	Batter

Photo Library

Photos are included as a guide only to provide an overall impression of the site however the images are not a true representation of the scale. These images are not intended as a substitute to a site visit.

Trees 1 - 6 - assumed lost

Tree 13 - protect

Tree 23 - removed

Tree 34 - removed

Tree group 18 - hedge of *Photinia* species

Conclusion

This assessment of trees at the property informs appropriate design consideration for the retention of valuable trees particularly those on adjoining allotments. The supplied scaled tree Map will ensure that the correct distances from trees can be maintained and that any encroachment into the TPZ of protected trees will not impact on the stability and long-term vitality of protected trees. If the reader should have any queries or require clarification of terms and/or concepts please do not hesitate to advise the author.

Appendix A - Complete Results

Address: 309 ONeil Rd Beaconsfield VIC Client: [redacted] Inspection date: 30/10/2024

Table 1. Complete Tree Assessment. Where DBH: diameter at breast height, ULE: useful life expectancy, TPZ: tree protection zone, and SRZ: structural root zone. Note: Tree 8 has now been removed by others; Trees 14-17 have been removed in accordance with permit; Tree 23 has been removed with permit pending.

Tree ID	Botanical Name	DBH (cm)	Height (m)	Crown (m)	Age	Health	Structure	ULE	Retention value	TPZ (m)	SRZ (m)
1	Eucalyptus botryoides	38	14	5	Mature	Good	Good	Long	High	4.6	2.2
2	Eucalyptus botryoides	22	10	5	Semi-mature	Good	Good	Long	High	2.6	1.8
3	Eucalyptus botryoides	30	12	4	Semi-mature	Fair	Good	Long	High	3.6	2.0
4	Eucalyptus botryoides	31	13	4	Mature	Good	Good	Long	High	3.7	2.0
5	Eucalyptus botryoides	34	14	6	Mature	Good	Good	Long	High	4.1	2.1
6	Eucalyptus botryoides	25	12	6	Semi-mature	Good	Good	Long	High	3.0	1.8
7	Eucalyptus obliqua	45	15	10	Mature	Good	Good	Long	Third party	5.4	2.4

Tree ID	Botanical Name	DBH (cm)	Height (m)	Crown (m)	Age	Health	Structure	ULE	Retention value	TPZ (m)	SRZ (m)
~~8~~	~~Eucalyptus melliodora~~	~~18~~	~~7~~	~~3~~	~~Semi-mature~~	~~Good~~	~~Good~~	~~Long~~	~~Third party~~	~~2.2~~	~~1.5~~
9	Pinus radiata	23	14	6	Semi-mature	Good	Fair	Long	Moderate	2.8	1.8
10	Eucalyptus melliodora	55	20	10	Mature	Good	Fair	Long	Third party	6.6	2.6
11	Acacia baileyana	18	7	4	Mature	Good	Fair	Medium	Third party	2.2	1.6
12	Photinia sp.	17	6	29	Semi-mature	Good	Fair	Medium	Third party	2.0	1.6
13	Eucalyptus botryoides	87	18	11	Mature	Good	Good	Long	High	10.4	3.1
~~14~~	~~Prunus sp.~~	~~Weeping Cherry~~	~~4x5~~	~~15~~	~~Mature~~	~~Good~~	~~Good~~	~~Medium~~	~~Medium~~	~~2.0~~	~~1.5~~
~~15~~	~~Prunus sp.~~	~~Plum~~	~~5x5~~	~~12, 14, 15~~	~~Mature~~	~~Good~~	~~Fair~~	~~Medium~~	~~Medium~~	~~2.9~~	~~1.8~~
~~16~~	~~Photinia sp.~~	~~Photinia~~	~~9x8~~	~~6x18, 20, 21~~	~~Mature~~	~~Good~~	~~Fair~~	~~Medium~~	~~Medium~~	~~6.3~~	~~2.5~~
~~17~~	~~Eucalyptus botryoides~~	~~Bangalay~~	~~12x6~~	~~90~~	~~Senescent~~	~~Fair~~	~~Poor~~	~~Short~~	~~Low~~	~~10.8~~	~~3.2~~
18	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
19	Angophora costata	95	14	9	Mature	Good	Good	Long	Third party	11.4	3.2

Tree ID	Botanical Name	DBH (cm)	Height (m)	Crown (m)	Age	Health	Structure	ULE	Retention value	TPZ (m)	SRZ (m)
20	Fraxinus oxycarpa	26	9	6	Mature	Good	Fair	Medium	Low	3.1	1.9
21	Casuarina cunninghamiana	16	8	3	Semi-mature	Good	Good	Long	Moderate	2.0	1.5
22	Acacia melanoxylon	28	10	4	Mature	Good	Good	Medium	High	3.4	1.9
23	Pittosporum eugenioides 'Variegatum'	31	7	6	Mature	Good	Fair	Medium	Moderate	3.7	2.0
24	Eucalyptus grandis	70	25	16	Mature	Good	Fair	Long	High	8.4	2.8
25	Eucalyptus cinerea	38	8	8	Mature	Fair	Fair	Medium	Low	4.6	2.2
26	Angophora costata	54	12	10	Mature	Good	Good	Long	High	6.5	2.6
27	Cotoneaster sp.	16	5	6	Mature	Fair	Fair	Short	Low	2.0	1.5
28	Tristaniopsis laurina	26	8	7	Mature	Good	Fair	Medium	High	3.1	1.9
29	Quercus robur	88	16	18	Mature	Good	Fair	Medium	High	10.6	3.1
30	Acacia melanoxylon	36	9	5	Mature	Good	Good	Medium	High	4.3	2.2
31	Acacia decurrens	34	10	8	Mature	Good	Fair	Medium	High	4.1	2.1
32	Angophora costata	52	14	12	Mature	Good	Good	Long	High	6.2	2.5
33	Callistemon viminalis	34	7	6	Mature	Good	Fair	Medium	Moderate	4.1	2.1
~~34~~	~~Olea europaea~~	~~Olive~~	~~6x4~~	~~12, 8~~	~~Semi-mature~~	~~Fair~~	~~Fair~~	~~Short~~	~~Low~~	~~2.2~~	~~1.5~~

Tree ID	Botanical Name	DBH (cm)	Height (m)	Crown (m)	Age	Health	Structure	ULE	Retention value	TPZ (m)	SRZ (m)
35	Pittosporum undulatum	28	8	6	Mature	Good	Good	Medium	Third party	3.4	1.9
36	Pittosporum undulatum	29	8	6	Mature	Fair	Fair	Medium	Third party	3.5	2.0
37	Photinia sp.	19	9	26	Mature	Good	Fair	Medium	Moderate	2.3	1.6
38	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
39	Photinia sp.	20	9	26	Mature	Fair	Fair	Medium	Moderate	2.4	1.7
40	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
41	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
42	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
43	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
44	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
45	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7
46	Photinia sp.	20	9	26	Mature	Good	Fair	Medium	Moderate	2.4	1.7

Appendix B - Tree Assessment Terms

Age

- Young: juvenile tree recently planted.
- Semi-mature: tree still growing.
- Mature: tree has reached expected size in current situation.
- Senescent: tree is over mature and in decline.

Form

- Good: canopy full and symmetrical.
- Fair: minor asymmetry or suppression. Considered typical for species in situation.
- Poor: canopy suppressed, major asymmetry. Stump re-growth.

Health

- Good: crown full with good density, foliage entire, with good colour, minimal or no pathogen damage. Good growth indicators, e.g. extension growth. No or minimal canopy dieback. Good wound-wood and callus formation.
- Fair: tree is exhibiting one or more of the following symptoms: <30% deadwood or minor canopy dieback. Foliage generally with good colour, some discolouration may be present, minor pathogen damage present. Typical growth indicators, e.g. extension growth, leaf size, canopy density for species in location may be slightly abnormal.
- Poor: tree has >30% deadwood and canopy dieback present. Discoloured or distorted leaves and/or excessive epicormic re-growth. Pathogen is present and/or stress symptoms that could lead to or are contributing to the decline of tree.
- Dead: tree is dead.

Structure

- Good: good branch attachment and/or no minor structural defects. Trunk and scaffold branches sound or only minor damage. Good trunk and scaffold branch taper. No branch or over extension. No damage to structural roots and/or good buttressing present. No obvious root pests or diseases.
- Fair: some minor structural defects and/or minimal damage to trunk. Bark missing. Cavities could be present. Minimal or no damage to structural roots. Typical structure for species.
- Poor: major structural defects and/or trunk damaged and/or missing bark. Large cavities and/or girdling or damaged roots that are problematic.
- Hazardous: tree poses immediate hazard potential that should be rectified as soon as possible.

Useful Life Expectancy

Useful Life Expectancy (ULE) in a planning context is the length of time a tree can be maintained as a useful amenity and not a liability. This is by far the most important long-term consideration. ULE is contingent on a number of management assumptions and the fundamental principles of public safety and usefulness in the landscape.

Retention value

Retention value is determined from the collation of data (species, size, age, health, structure, form, and site conditions etc.) in relation to the following retention descriptors:

- None: tree with severe health and/or structural defects that cannot be rectified through reasonably practicable aboricultural works. Tree may be interdependent with surrounding trees

and will be unable to be retained once adjacent shelter trees are removed. Tree is classed as a noxious or environmental weed and is detrimental to the environment. Trees with no retention value are likely to require immediate removal prior to any development works.

- Low: tree contributes little to future landscapes because of poor health, structural condition, or species suitability in relation to unacceptable growth habit, or combinations of these characteristics. Tree is not significant due to its size and/or age and can be easily replaced. Tree is likely to have a ULE of under 10 years. Trees with low retention value may be able to be retained in the mid to short term if they do not require a disproportionate expenditure of resources (i.e. design modification).
- Moderate: tree has some attributes that may benefit the site in relation to botanical, horticultural, historical, or local significance but may be limited to some degree by their current health condition or future growth in relation to existing or future site conditions and/or immediate/future maintenance requirements. Tree is likely to tolerate changes in its environment and will respond to arboricultural treatments. Trees with moderate retention value should be considered for retention if reasonably practicable. Arboricultural works may be required but should remain within reasonable limits. Tree may have a ULE of over 10 years if managed appropriately.
- High: tree in good overall condition with the potential to positively contribute to the landscape in the mid to long-term if appropriately managed. Species is suited to its existing site conditions and is capable of tolerating certain changes in its environment. Ideally, trees with a high retention value should be retained and incorporated into any development plans. The tree is considered to be worthy of material constraint.

Appendix C - Tree Protection Information

Tree Protection Zone Information

The Tree Protection Zone (TPZ) is a designated area to limit or exclude any activities during development that could be detrimental to tree health. The TPZ is designed to protect the tree crown, trunk, and the rooting area that is considered essential to tree health. Generally, a 10% encroachment of the TPZ area is permissible provided that the encroachment is compensated for resulting in no loss to the total TPZ area, and there is no encroachment into the Structural Root Zone (SRZ). The SRZ is essential to tree stability and is only calculated when there is major encroachment proposed into the TPZ.

Major encroachment (> 10% of TPZ area) may require tree sensitive construction techniques to minimise the impact on the tree and/or a non-destructive root investigation may be required to be carried out to conclusively prove to the responsible authority that the encroachment will not be detrimental to tree health as per the recommendations in AS4970-2009. No works within the TPZ should be undertaken unless stipulated by the relevant Consulting Arborist.

Activities generally excluded from the TPZ, but not limited to it, include:

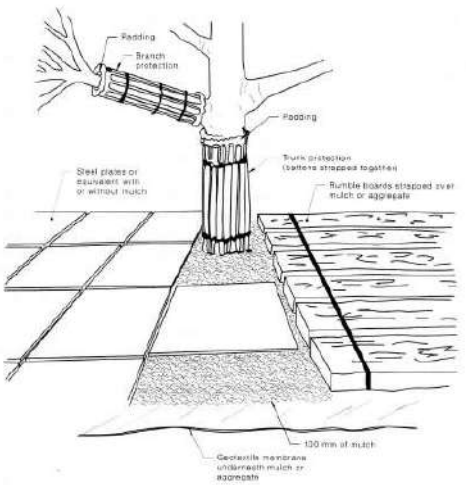
- Storage of materials and/or chemicals.
- Parking of vehicles and machinery.
- Excavation or compaction of existing soil levels, trenching, and/or soil level changes.
- Wash down and cleaning of equipment.
- Dumping of waste and/or chemicals.

Trunk and branch protection: installation of trunk and branch protection may be required using boards and padding, as instructed by the Consulting Arborist.

Ground protection: for areas in the TPZ that cannot be adequately fenced off, ground protection should be installed to prevent root damage and soil compaction. Methods of ground protection include but are not limited to:

- A permeable geotextile beneath 100 mm of mulch.
- A cellular structure such as Bodcell.
- A cellular structure such Bodcell© 35 - 20 (or equivalent), filled with 20 mm washed angular stone.
- Rumble boards over a layer of mulch or aggregate.
- Steel plates or equivalent with or without mulch.

These measures may be applied to root zones beyond the TPZ.



NOTES:
1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

Tree protection fencing

Where possible tree protection fencing should be used to isolate the TPZ. Tree protection fencing must be erected prior to the commencement of any works. Fencing should comply with *AS4687* for temporary fencing and hoarding. The fence should be appropriately signed to identify the TPZ with the contact details of the supervising Arborist and Responsible Authority.

Example:

TREE PROTECTION ZONE

KEEP OUT

Prohibited activities include:

- Storage of materials and/or chemicals
- Parking of vehicles and machinery
- Excavation, trenching or soil level changes
- Wash down and cleaning of equipment
- Dumping of waste/chemicals
- Mixing of cement

Penalties Will Apply

Supervising Arborist:

Contact Number:

Responsible Authority:

Contact Number:

Irrigation

Where possible an automated drip irrigation system should be installed in the TPZ of all retained trees to help the trees adapt and react to the changes within their growing conditions. Soil moisture levels within the TPZ should be monitored and irrigation applied accordingly. Drench irrigation applied through a hose is also adequate.

Mulch

During construction, a layer of composted organic mulch should be applied to the TPZ at a depth of 50 - 100 mm. Mulching will assist in moisture retention, ameliorate topsoil, and help minimise soil compaction. One cubic meter of mulch covers an area of approximately 10 m^2.

Service installation

Trenching in the TPZ to install services can have a detrimental effect on tree health and the structural stability of the tree. Where possible all services should be routed outside of the TPZ. If this is not possible, installation of services should be done using direct drilling techniques, at a minimum depth of 600 mm or using manual excavation to unsure significant roots are not damaged. The project arborist should assess the likely impacts of boring or bore pits on any

retained trees. Manual excavation should only be carried out under the supervision of the Project Arborist.

Soft landscaping

Soft landscaping within the TPZ can be potentially damaging to tree health. There should be no excavation or compaction of the existing soil grade, other than the removal of organic debris. Any fill should be permeable and not compacted. Soil grade around the trunk should be kept at the original level.

Landscaping works and pathways

Paving and pathways within the SRZ and TPZ of any retained trees should employ an above grade construction technique with no excavation or compaction to the natural ground level to establish a foundation. Paved surfaces should use pervious materials (block pavers, in situ concrete, crushed rock) on a foundation of sand or aggregate 20 mm in diameter or greater. This will assist in reducing the degree of compaction within the TPZ area and will allow for greater water permeability allowing water and oxygen to the trees feeder roots.

Appendix D - References

- AS4970 (2009) *Protection of Trees on Development Sites.*
- AS 4373 (2007) *Pruning of Amenity Trees.*
- Barrell, J. (2024), www.TreeAZ.com.
- Costermans L. (2007), *Native Trees of SE Australia*, Read New Holland.
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- Lonsdale D. (1999), *Principles of Tree Hazard Management and Assessment*, TSO Publishing.
- Matheck C. & Breloer H. (1994), *The Body Language of Trees*, TSO Publishing.
- Roberts J., Jackson N., & Smith M. (2006), *Tree Roots in the Built Environment*, TSO Publishing.

Appendix E - Limitations and Constraints

Tree Assessment is based on external visual examination from ground level only. No internal decay diagnostic equipment was used, no excavation of the root plate undertaken and no samples removed for further analysis unless otherwise stated. *Risk Assessment* is provided only as an estimation of the potential of the tree(s) listed in this report as to their probability to cause damage to people and / or property and cannot be considered to constitute a prediction of future events.

Recommendations contained in this report are based on the measurements and observations prevalent at the time of inspection. Future changes or site development may render this report and recommendations invalid. Care has been taken to obtain all information from reliable sources. All data has been verified where possible, however, *Baxter Ecology & Associates* can neither guarantee nor be responsible for the accuracy of the information provided by third parties.

Any legal description, titles and ownership of any property provided to the *Consulting Arborist* are assumed to be correct. No responsibility is assumed for matters legal in character.

Maps, diagrams and photographs in this report are included as visual aids. They cannot be considered to be to scale and are not intended to be used to locate trees or in the place of structural and / or architectural plans. Loss or alteration of any part of this report invalidates the entire report. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by anyone but the person to whom it was commissioned by, without the prior written consent of *Baxter Ecology & Associates.*

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Summary and Recommendations

A total of **46 trees** with a height greater than 3 m were assessed on and adjacent to the subject property within a 3 m buffer around the subject site (Table 1 - 4, Map 1 - 3). Trees have been evaluated in compliance with *AS4970-2009 Protection of Trees on Development Sites*, which states that if there is any encroachment within the Structural Root Zone (SRZ) or that exceeds 10% into the Tree Protection Zone (TPZ) of a protected tree are classified as a major incursion, and it is necessary to demonstrate that the impact to the tree will be minimised, otherwise, it will be considered lost.

Removed Trees

Trees 14, 15, 16, 17 were removed in response to the original Planning Permit (refer Map 1). Map 2 shows the location of removed trees for context.

A semi-mature third party tree, listed as **Tree 8** had been removed by others. The removal of this tree was not in connection with the project as the project team had ensured the redesign would minimise any impact to this tree if it had still been present in the landscape.

Tree 23 was an exotic tree of medium retention value (*Pittosporum eugenioides 'Variegatum'*) that had been identified as not worthy of a design response. It had fair structure with bark delamination on one of its main trunks. We supported its removal. A permit was required for the removal of this tree (Map 3)

Tree 34 was removed with the demolition of the old shed. This was a low value self-seeded exotic Olive tree that was growing out of the footing of the shed and would have been damaged and removed during the demolition. Its removal was supported by Baxter Ecology in the first report and it should have been included in the removal list when seeking the tree removal permit from Council.

Driveway

The driveway has been redesigned to minimise impact to the trees on the subject property. It has been re-located outside of the SRZ and moved to minimise impact on TPZs of all trees. It will now impact on two trees only:

- **Tree 19,** third party *Angophora costata* - impact is 13%
- **Tree 13**, high value *Eucalyptus botryoides - impact 13%*

To ensure that the driveway will have an allowable minimal impact on the trees:

- The driveway must be installed above grade and made of a semi-permeable material such as eco-trihex or similar to minimise impacts to protected trees and ensure water penetration to roots.

Garage

The proposed siting of the Garage to the east of the proposed dwelling will now have a minor allowable incursion (<10%) into the TPZ of **Tree 10** - 7% and **Tree 9** - 2% and is supported.

Effluent field

The proposed effluent field has been reduced in size to minimise impact to trees. Its current location will result in the *assumed* loss of **trees 1 - 6** (incursions of 83 - 100% into tree TPZs) These are native trees and a permit from Council will be required due to this assumed loss. It is recommended that these trees are not physically removed from the landscape should actual decline be observed as there is conflicting research on the impact of effluent fields on native trees.

Earthworks and Batter

Earthworks and batter will impact on 3 trees:

- Tree 24 is *Eucalyptus grandis* and is a planted native tree that is not endemic to Victoria. It is a high value tree that is recommended for protection from works. It is recommended that a retaining wall be installed to protect the tree and minimise impact from earthworks. The retaining wall will ensure that no works come within the SRZ of the tree and while the assumed impact to the TPZ of the tree is still above 10%, the design response will protect the tree.
- Tree 33 is a Callistemon viminalis, it is a planted native tree that is not endemic to Victoria of moderate retention value. The batter will have a 33% implact to this tree. To retain this tree a retaining wall would be required to be built around the tree and protect its TPZ from earthworks. A permit will be required for its removal. As it has a moderate retention value, its removal is supported.

Tree 13 (*Eucalyptus botryoides*)

We recommend the retention and protection of **tree 13** (*Eucalyptus botryoides*). The current construction proposal will encroach into the TPZ of tree 13 more than 10% (Map 2 and 3):

- The house encroaches into the TPZ of by 1%.
- The driveway encroaches into the TPZ by 13%. As discussed above to ensure that construction impact is minimal and acceptable the driveway is to be built above grade and made of a semi-permeable material such as eco-trihex or similar to minimise impacts to the tree and ensure water penetration to roots.

Tree protection fencing

Tree protection fencing must be erected as per the specifications set out below and in accordance with *AS4970:2009 - Protection of Trees on Development Sites*. The fence must be installed prior to the commencement of works and maintained for the life of the project. Fencing is to be installed around trees at distances specified in the results table while still allowing pedestrian and vehicle access. See TPZ information below.

Native vegetation removal report

A report to support an application to remove, destroy or lop native vegetation in the **Intermediate** Assessment Pathway using the modelled condition score

This report provides information to support an application to remove native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report is not an assessment by DELWP or local council of the proposed native vegetation removal. Biodiversity information and offset requirements have been calculated using modelled condition scores contained in the *Native vegetation condition map*.

Date and time: **12 August 2021 14:35 PM**

Lat./Long.: -38.0354978624692,145.398831060568

Native vegetation report ID: 311-20210812-017

Address: 309 ONEIL ROAD BEACONSFIELD 3807

Assessment pathway

The assessment pathway and reason for the assessment pathway

Assessment pathway	**Intermediate Assessment Pathway**
Extent of past plus proposed native vegetation removal	0.113 hectares
No. large trees	1 large tree(s)
Location category	Location 1 The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class, sensitive wetland or coastal area. Removal of less than 0.5 hectares will not have a significant impact on any habitat for a rare or threatened species.

Offset requirement

The offset requirement that will apply if the native vegetation is approved to be removed

Offset type	General offset
Offset amount	0.048 general habitat units
Offset attributes	
Vicinity	Port Phillip And Westernport Catchment Management Authority (CMA) or Cardinia Shire Council
Minimum strategic biodiversity value score	0.408
Large trees	1 large tree(s)

Native vegetation removal report

Biodiversity information about the native vegetation

Description of any past native vegetation removal

Any native vegetation that was approved to be removed, or was removed without the required approvals, on the same property or on contiguous land in the same ownership, in the five year period before the application to remove native vegetation is lodged is detailed below.

Permit/PIN number	Extent of native vegetation (hectares)
None entered	0 hectares

Description of the native vegetation proposed to be removed

Extent of all mapped native vegetation	0.113 hectares
Condition score of all mapped native vegetation	0.375
Strategic biodiversity value score of all mapped native vegetation	0.510
Extent of patches native vegetation	0.000 hectares
Extent of scattered trees	0.113 hectares
No. large trees within patches	0 large tree(s)
No. large scattered trees	1 large tree(s)
No. small scattered trees	4 small tree(s)

Additional information about trees to be removed, shown in Figure 1

Tree ID	Tree circumference (cm)	Benchmark circumference (cm)	Scattered / Patch	Tree size
A	280	220	Scattered	Large
B	103	220	Scattered	Small
C	78	220	Scattered	Small
D	97	220	Scattered	Small
E	87	220	Scattered	Small

Other information

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.

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 or scattered trees, 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.

Topographical and land information

Description of the topographic and land information relating to the native vegetation to be removed, including any ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan. **This is an application requirement and your application will be incomplete without it.**

The property has a 5-10 dgree slope to the west toward a small drainage line before leveling and rising at 0-5 degrees toward the west title boundary.

Avoid and minimise statement

This statement describes what has been done to avoid the removal of, and minimise impacts on the biodiversity and other values of native vegetation. **This is an application requirement and your application will be incomplete without it.**

The siting of the dwelling seek to maintain the existence of large native trees. The nominated location of the effluent field seeks to minimise impact to the drainage line within the rear set-back

Defendable space statement

Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required if your application also includes an application under the Bushfire Management Overlay.

Not applicable - while the site is within the BMO no trees nominated for removal are a result of creating or managing defendable space.

Offset statement

An offset statement that demonstrates that an offset is available and describes how the required offset will be secured. **This is an application requirement and your application will be incomplete without it.**

Off-sets are available from Council's in-house off-set credit purchase scheme and or from brokers who trade within the Port Philip & Western Port Catchment.

Next steps

Applications to remove, destroy or lop native vegetation must address all the application requirements specified in *Guidelines for the removal, destruction or lopping of native vegetation.* If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. This *Native vegetation removal report* must be submitted with your application and meets most of the application requirements. The following needs to be added as applicable.

Property Vegetation Plan

Landowners can manage native vegetation on their property in the longer term by developing a Property Vegetation Plan (PVP) and entering in to an agreement with DELWP.

If an approved PVP applies to the land, ensure the PVP is attached to the application.

Applications under Clause 52.16

An application to remove, destroy or lop native vegetation is under Clause 52.16 if a Native Vegetation Precinct Plan (NVPP) applies to the land, and the proposed native vegetation removal is not in accordance with the relevant NVPP. If this is the case, a statement that explains how the proposal responds to the NVPP considerations must be provided.

If the application is under Clause 52.16, ensure a statement that explains how the proposal responds to the NVPP considerations is attached to the application.

Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

www.delwp.vic.gov.au

Disclaimer
This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Obtaining this publication does not guarantee that an application will meet the requirements of Clauses 52.16 or 52.17 of planning schemes in Victoria or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of planning schemes in Victoria.

Figure 1 – Map of native vegetation to be removed, destroyed or lopped

Figure 2 – Map of property in context

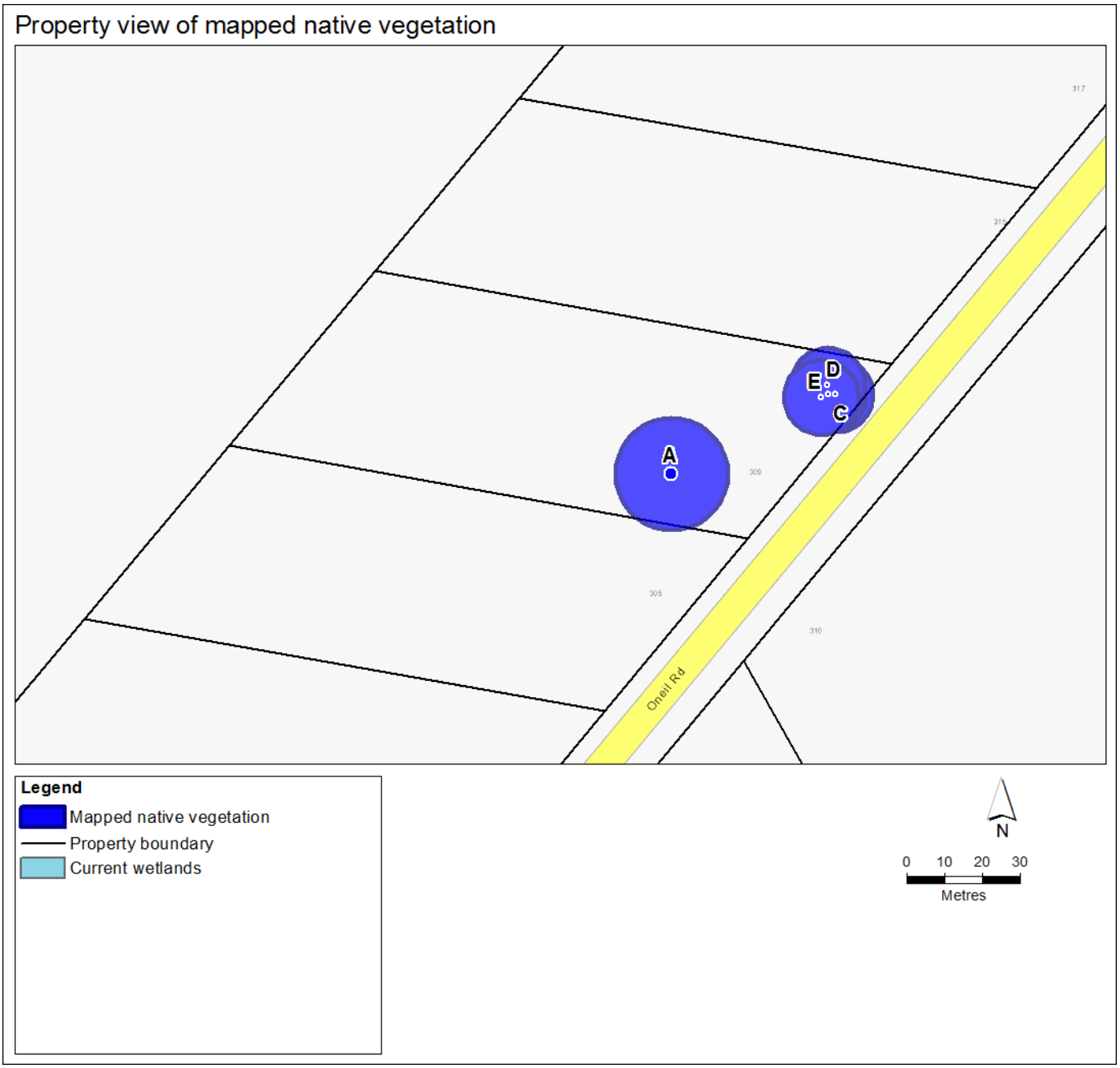
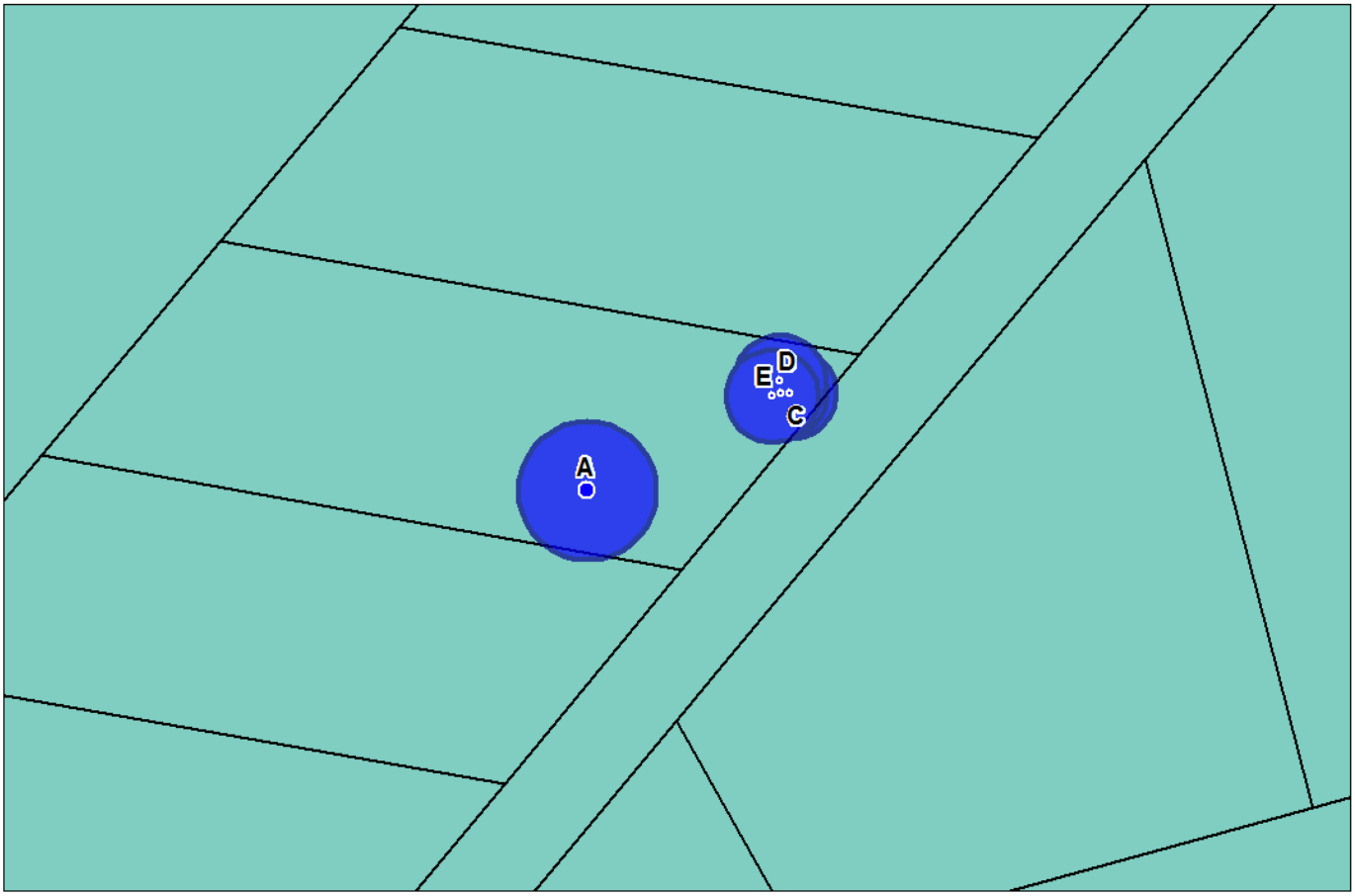


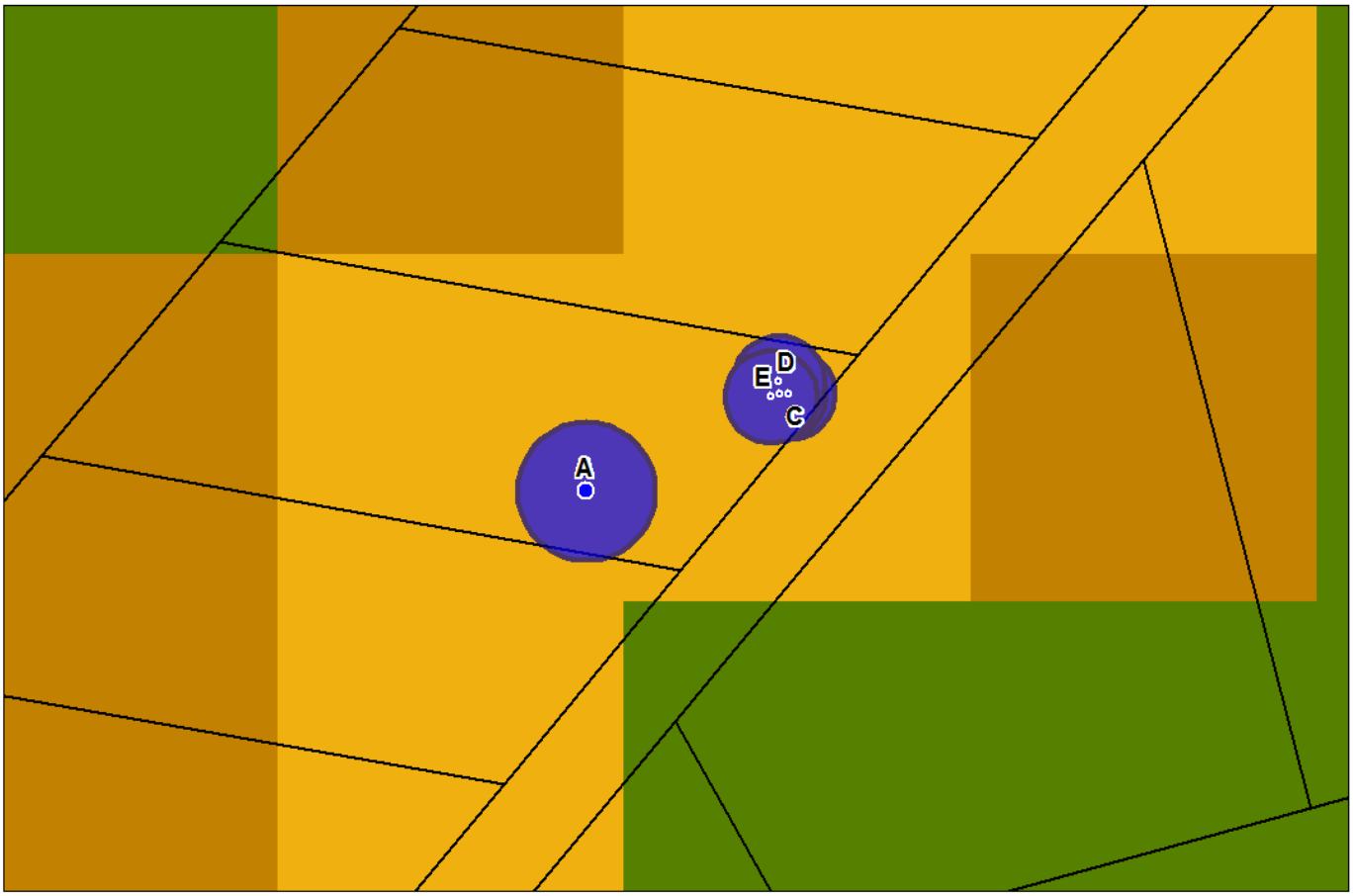
Figure 3 – Biodiversity information maps

Mapped native vegetation and the *Native vegetation location map*



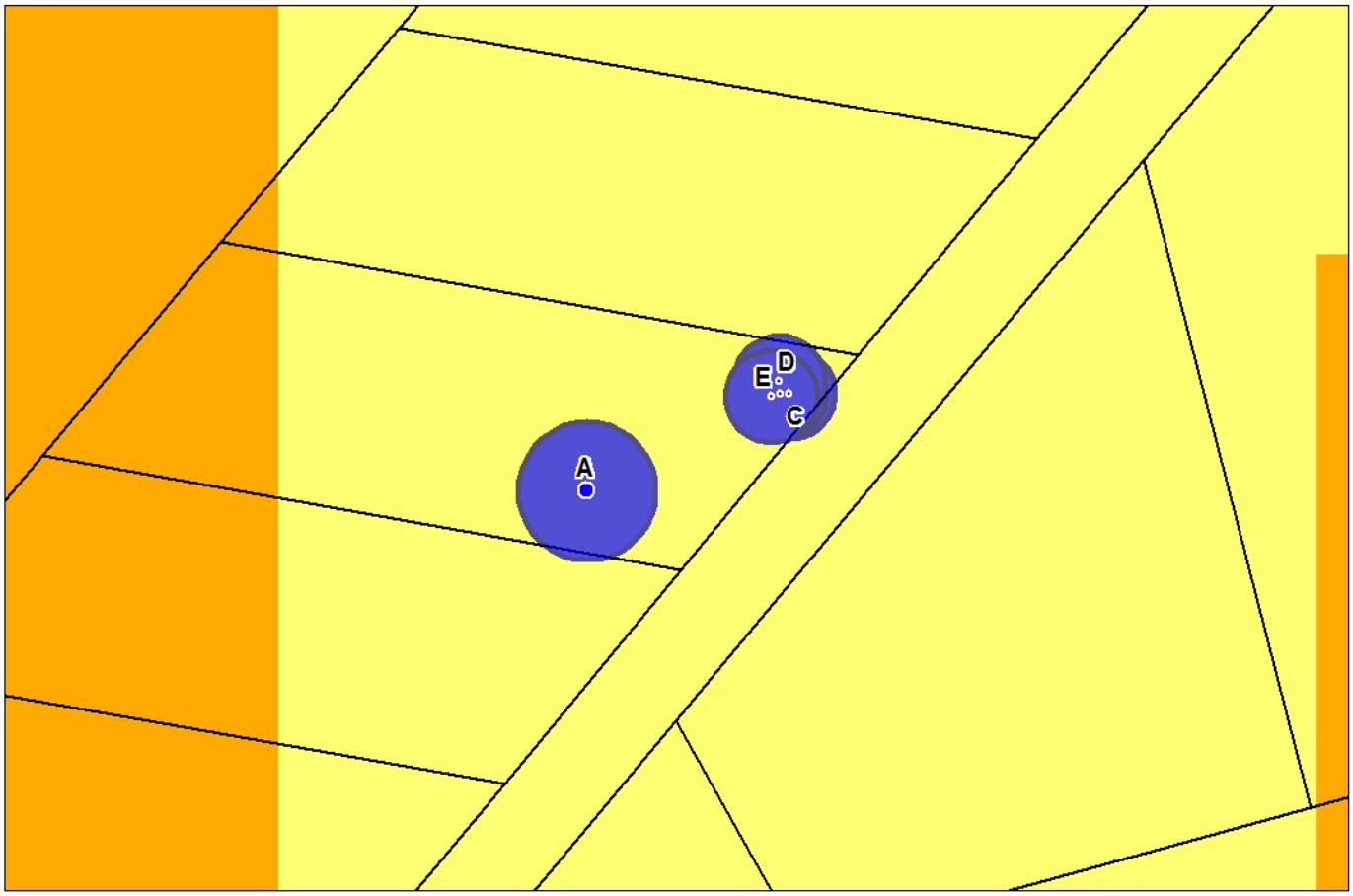
Native vegetation removal report

Mapped native vegetation and the *Native vegetation condition map*



Native vegetation removal report

Mapped native vegetation and the *Strategic biodiversity value map*



Appendix 1 - Details of offset requirements

Native vegetation to be removed

Extent of all mapped native vegetation (for calculating habitat hectares)	0.113	The area of land covered by a patch of native vegetation and/or a scattered tree, measured in hectares. Where the mapped native vegetation includes scattered trees, each tree is assigned a standard extent and converted to hectares. A small scattered tree is assigned a standard extent defined by a circle with a 10 metre radius and a large scattered tree a circle with a 15 metre radius. The extent of all mapped native vegetation is an input to calculating the habitat hectares.
Condition score*	0.375	The condition score of native vegetation is a site-based measure that describes how close native vegetation is to its mature natural state. The condition score is the weighted average condition score of the mapped native vegetation calculated using the *Native vegetation condition map.*
Habitat hectares	0.042	Habitat hectares is a site-based measure that combines extent and condition of native vegetation. It is calculated by multiplying the extent of native vegetation by the condition score: ***Habitat hectares = extent x condition score***
Strategic biodiversity value score	0.510	The strategic biodiversity value score represents the complementary contribution to Victoria's biodiversity of a location, relative to other locations across the state. This score is the weighted average strategic biodiversity value score of the mapped native vegetation calculated using the *Strategic biodiversity value map*.
General landscape factor	0.755	The general landscape factor is an adjusted strategic biodiversity value score. It has been adjusted to reduce the influence of landscape scale information on the general habitat score.
General habitat score	0.032	The general habitat score combines site-based and landscape scale information to obtain an overall measure of the biodiversity value of the native vegetation. The general habitat score is calculated as follows: ***General habitat score = habitat hectares x general landscape factor***

* **Offset requirements for partial removal:** If your proposal is to remove parts of the native vegetation in a patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the condition score and an update to the calculations that the native vegetation removal tool has provided: habitat hectares, general habitat score and offset amount.

Offset requirements

Offset type	General offset	A general offset is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species. All proposals in the Basic and Intermediate assessment pathways will only require a general offset.
Offset multiplier	1.5	This multiplier is used to address the risk that the predicted outcomes for gain will not be achieved, and therefore will not adequately compensate the biodiversity loss from the removal of native vegetation.
Offset amount (general habitat units)	0.048	The general habitat units are the amount of offset that must be secured if the application is approved. This offset requirement will be a condition to any permit or approval for the removal of native vegetation. ***General habitat units required = general habitat score x 1.5***
Minimum strategic biodiversity value score	0.408	The offset site must have a strategic biodiversity value score of at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic biodiversity value that is comparable to the native vegetation to be removed.
Vicinity	Port Phillip And Westernport CMA or Cardinia Shire Council	The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.
Large trees	1 large tree (s)	The offset site must protect at least one large tree for every large tree removed. A large tree is a native canopy tree with a Diameter at Breast Height greater than or equal to the large tree benchmark for the local Ecological Vegetation Class. A large tree can be either a large scattered tree or a large patch tree.

Native Vegetation Removal Report

NVRR ID: 311_20241114_1K8

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. Offset requirements have been calculated using modelled condition scores.

Report details

Date created: 14/11/2024

Local Government Area: CARDINIA SHIRE

Registered Aboriginal Party: Bunurong

Coordinates: 145.39904, -38.03537

Address:
315 ONEIL ROAD BEACONSFIELD 3807
309 ONEIL ROAD BEACONSFIELD 3807

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*	**0.01**	*Extent of past removal (ha)*	*0*
		Extent of proposed removal - Patches (ha)	*0.010*
		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]	**0.004 General Habitat Units**
Minimum strategic biodiversity value score [2]	0.408
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.

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 (modelled)**	**Bioregional conservation status**	**Large Tree(s)**	**Condition score (modelled)**	**Polygon extent (ha)**	**Extent without overlap (ha)**	**SBV score**	**General Habitat Units**
1	Patch	-	HSF_0128	Vulnerable	-	0.370	0.010	0.010	0.510	0.004

Appendix 2: Images of mapped native vegetation

1. Property in context

Proposed Removal

Property Boundaries

N

200 m

2. Aerial photograph showing mapped native vegetation

Proposed Removal

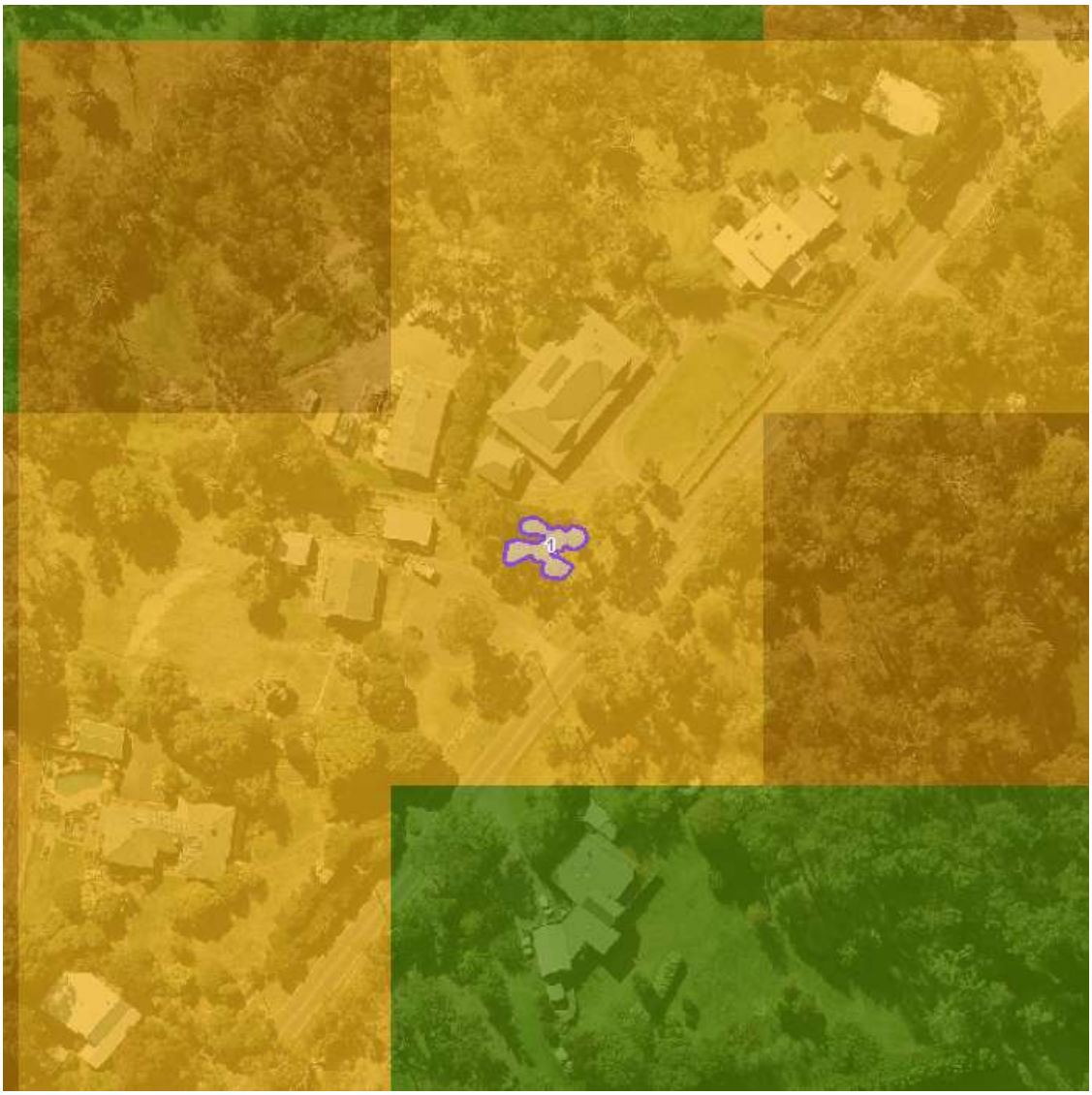
N

35 m

3. Location Risk Map

4. Strategic Biodiversity Value Score Map

5. Condition Score Map



6. Endangered EVCs

Not Applicable

BAXTER ECOLOGY & ASSOCIATES

Aboriculture · Bushfire · Biodiversity · Sustainable Landscapes

Specialists in the Ecology of the Built Environment

Report prepared by [redacted]

Report date: Jul 30, 2021

Native Vegetation Assessment & Offset Report

City of Cardinia

Proposal: New dwelling in a BMO resulting in the removal of native vegetation
Address: 309 Oneil Rd, Beaconsfield, Victoria 3807, Cardinia

This report has been prepared with regard to an extensive design and siting investigation to achieve minimum native vegetation removal. The proposal to construct a single dwelling accords with the zoning and planning overlay objectives of the Cardinia planning scheme. The building envelope is sited in response to access and egress constraints but also to minimise impact to native vegetation values within the west of the block. The retention of locally endemic mature trees and weed tree removal further demonstrates the achievement of an Avoid, Minimise and Off-set approach to the proposed development.

Summary

The proposed removal of native vegetation as defined in the Guidelines has been assessed as triggering a *Intermediate Assessment Pathway*.

To achieve defendable space mandatory prescriptions in accordance with Table 6 Clause 53.02 *Planning for Bushfire* only minor pruning of retained trees is required to achieve a 5m crown separation.

The Land Capability Assessment has been reviewed in the preparation of this report which nominates the north east corner of the site for placement of the effluent field resulting in the removal of 6 trees.

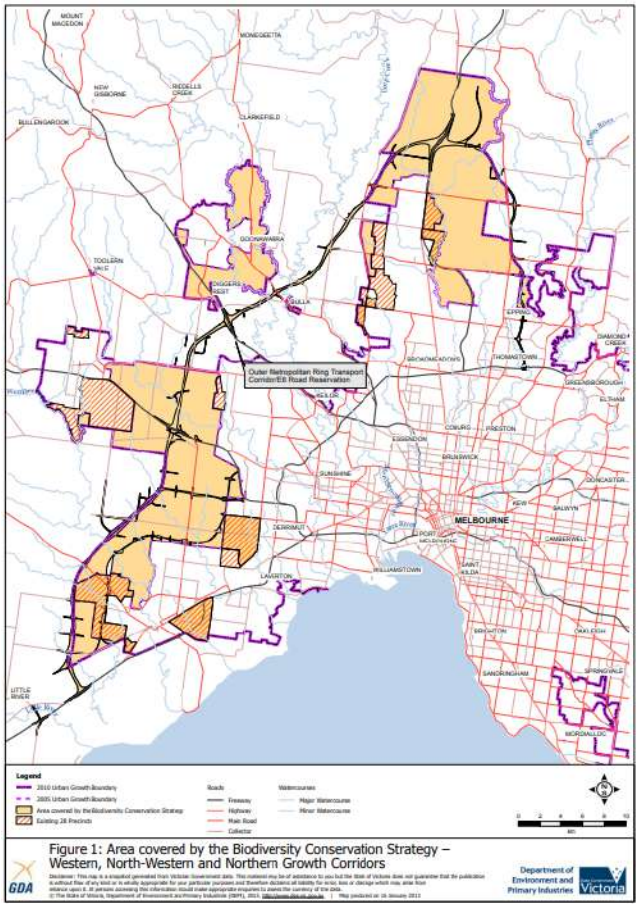
Exemptions - Clause 52.12

Exemptions at Clause 52.12 apply to the removal all nominated removals as follows

Tree 17 is within 10m of the existing dwelling.
Trees 2 & 6 are within 4m of the north title boundary
Trees 1, 3, 4, 5 are located within 4m of each other negating the opportunity to achieve 5m crown separation resulting in their removal to achieve defendable space.

State Context

The subject site is not covered by the Biodiversity Conservation Strategy. Wesburn is located to the east of the northern Melbourne Strategic Assessment Area (see below) identified in the Biodiversity Conservation Strategy.



Municipal context

Clause 52.17 Native Vegetation; To determine offset obligations at this location, a Native Vegetation Removal Report has been generated through the NVIM tool with the following results (Attachment 1).

Summary of marked native vegetation	
Risk-based pathway	**Intermediate Assessment Pathway**
Total extent of past plus proposed native vegetation removal	**0.113 hectares**
Large Trees	**1 Large Tree**
Location risk	**Location 1** The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class, sensitive wetland or coastal area. Removal of less than 0.5 hectares will not have a significant impact on any habitat for a rare or threatened species
Minimum Strategic Biodiversity Score for all marked native vegetation	**0.408**

Off-set Requirement Details

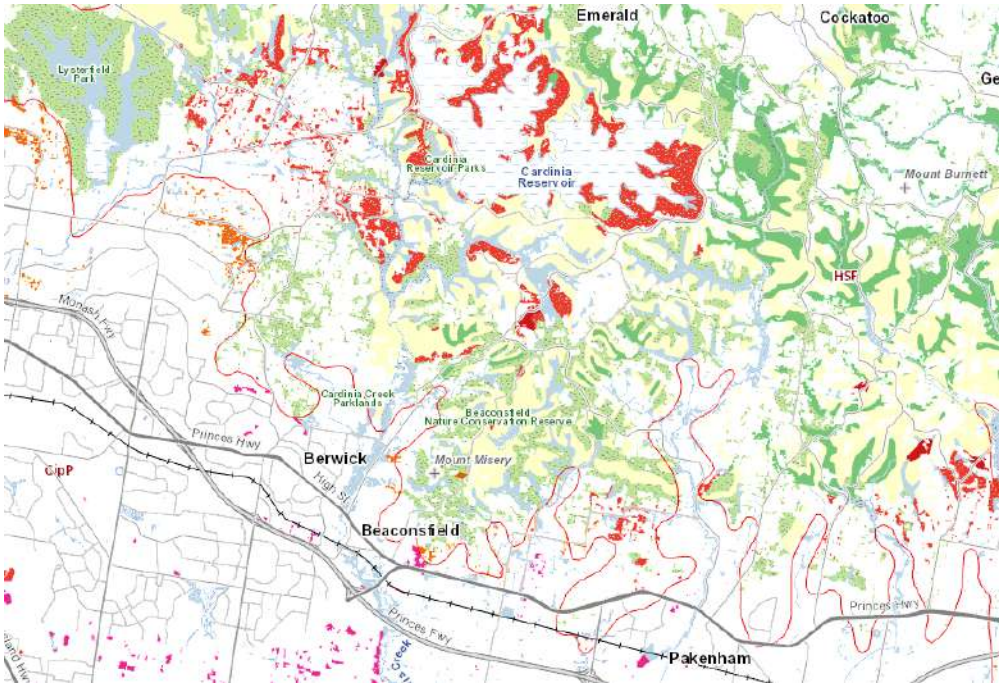
Offset type	General offset
Offset amount	0.048 General Habitat Units
Offset attributes	
Vicinity	Port Phillip And Westernport Catchment Management Authority (CMA) or Nillumbik Shire Council.
Minimum strategic biodiversity value score	0.408
Large Trees	1 Large Trees

Application requirements for a permit to remove native vegetation;

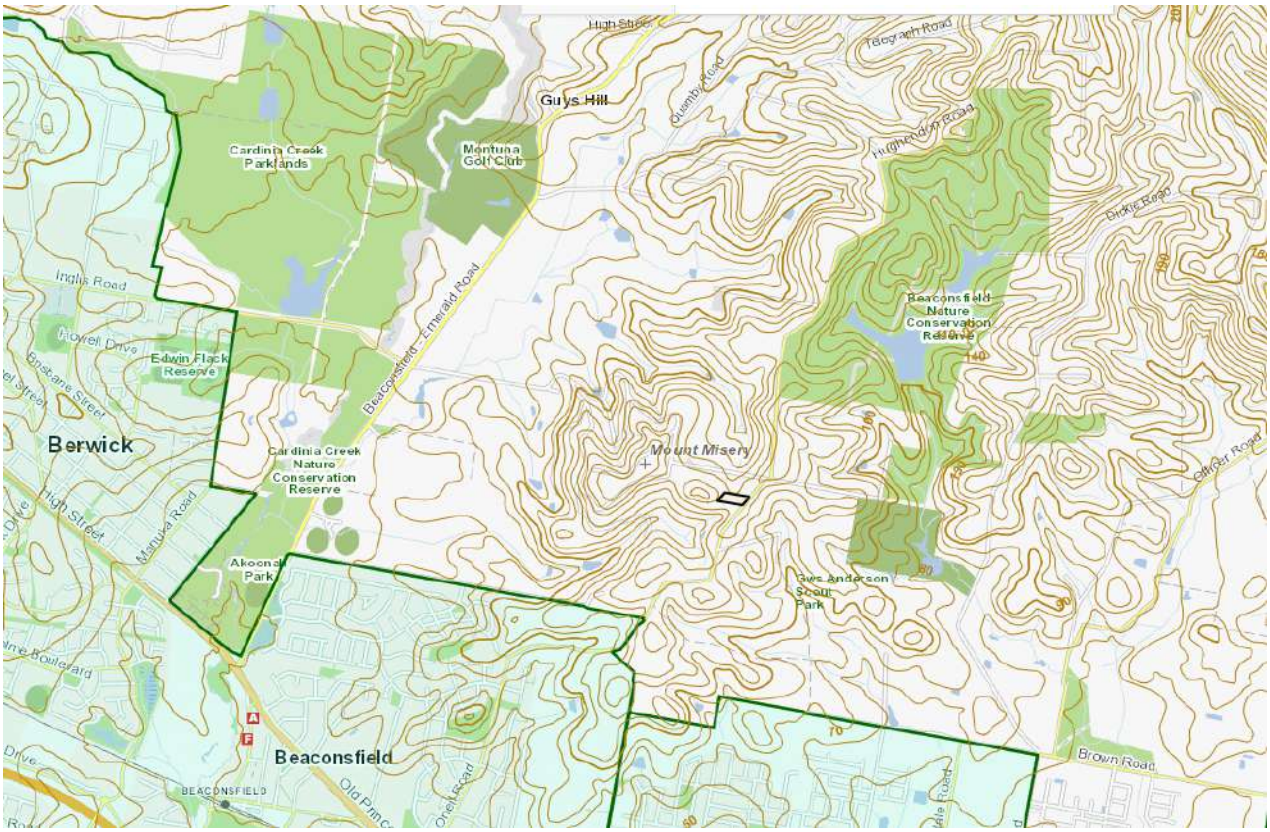
In accordance with general application requirements set out in The Guidelines all applications to remove, destroy or lop native vegetation must be accompanied by the following information, as appropriate:

Site Context

The subject site is located within the Highlands South Fall Bioregion in the Yarra Ranges Shire. **Map 1** shows the subject site (star) within the southern extent of the Bioregion (Grey) adjacent to adjacent to Gippsland Central Bioregion (Blue) to the south. **Map 2** provides cadaster and broad topographic features.



Map 1 – Nature Kit - Showing subject site located within the Highland South Fall Bio-region.



Map 2 - Subject site showing 10 m contour intervals and site cadaster boundary with gully and tributaries falling south-southwest.

Assessment Pathway

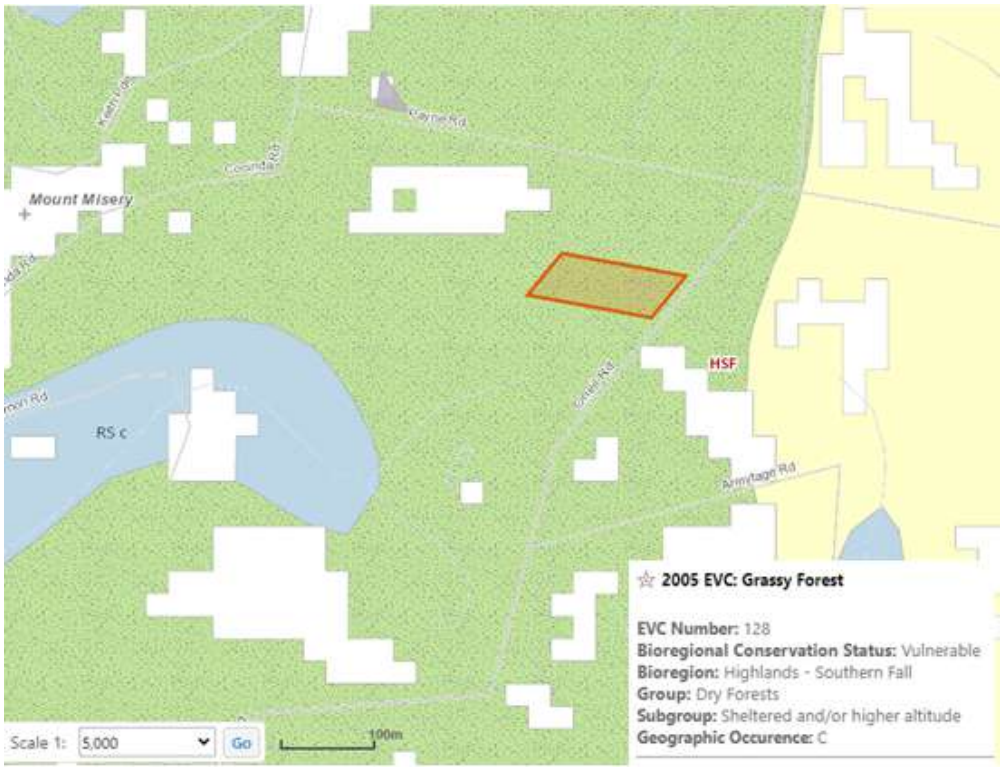
1. The assessment pathway has been determined as Intermediate.
    a. The location Category has been modeled as “Location 1”
    b. The “Extent” of the clearing is ‘*Less than 0.5 hectares and including 1 large tree.’*
    c. The mapping of “complete” native vegetation removal using the NVIM tool revealed the area totaled less than 0.5 ha including one large trees as defined by associated EVC benchmark circumference.
2. Surrounding the Building envelope “Partial removal” by mowing in summer has been estimated at < 25% removal of the native vegetation biomass within the defendable space area.
    a. Defendable space requirement in accordance with AS3959.2009 has been calculated at 50 m from the habitable structure (building footprint) or to the property boundary.

Table 1 Modelled EVC present at the subject site (Source Naturelink)

EVC Name	EVC Number	Geographic Occurance
Grassy Forest	EVC 128	Vulnerable

Map 3 (below) details the dominant EVC at the property and shows the extent of the adjacent EVC's as per the publicly available dataset Nature Kit.

Site inspection revealed that while the EVC's identified during the desktop assessment were present, very little understorey species were observed within the area of interest in the west of the site and tree distribution was highly fragmented to small patches within and adjacent to the title boundary.



Map 3 – NatureKit- Modelled Vegetation Class on and adjacent to subject site.

Avoid and Minimise Statement

The site has been the subject of considerable due diligence on the part of the land owner. Preliminary desk-top and site specific analysis of biodiversity and fire risk has resulted in a process of site selection in collaboration with both CFA and; Council's Environment Department and Planning Officers to achieve a development outcome which best meets the objectives of the planning scheme.
The location of the existing internal access road which provides access and egress to the proposed dwelling has been maintained to avoid and minimise impact to existing vegetation. The building envelope have been positioned to ensure protection of exiting trees

The selective retention of EVC benchmark canopy trees demonstrates further the intent to avoid and minimise vegetation loss. Only one large tree in poor condition and four small trees are nominated for removal (Refer NVR Report).

Off-set Statement

On 5 August 2020 Amendment VC176 (Amendment) was gazetted, varying clause 52.12 (Bushfire Protection Exemptions) of the Victorian Planning Provisions, including but not limited to:

· Clarifying that no permit is required to remove vegetation for the construction of a dwelling, and alteration and extension to a dwelling, or the creation of its defendable space when approved under clause 44.06 (Bushfire Management Overlay) (Amended Exemptions).

Conclusion

The proposal to develop the land, construct a new dwelling will result in the removal of native trees protected under various overlays.

The General Application Requirements of Clause 52.17 have been met in this report and Offset Requirements are detailed but exempt at VC176 (Amendment).

Notwithstanding considerable effort on the part of the client has been invested to avoid and minimise vegetation loss.

The proposed removal of vegetation has been assessed as a Intermediate Risk Based Pathway in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation-2017* with an Off-set amount of 0.048 general habitat units.

BAXTER ECOLOGY & ASSOCIATES

Aboriculture • Bushfire • Biodiversity • Sustainable Landscapes

Specialists in the Ecology of the Built Environment

Addendum for Request for Further Information

309 O'Neil Road, Beaconsfield VIC, Australia

Shire of Cardinia

Version control.		
Version	**Date**	**Description**
1.0	25 / 02 / 2025	Response to Council RFI

This report has been prepared by Baxter Ecology Pty Ltd on behalf of Aman Dhillon.

We acknowledge the Traditional Owners of the Country we live and work on, the Wurundjeri Woi Wurrung People. We pay our respects to their Elders past, present, and emerging.

Baxter Ecology Pty Ltd
ABN: 57 623 867 783
160 Victoria St, Brunswick, Victoria, 3056
0450 400 617
info@baxterecology.com.au

Introduction

This report is for application number T210683 - 1 associated with the proposal for an S72 amendment to alter the approved plans (dwelling design amendments). This report has been commissioned by Aman Dhillon to respond to the:

- Request for Further Information from Shire of Cardinia (08/10/24)

This addendum is to be read in conjunction with:

- Baxter Ecology, Arboricultural Impact Assessment (11/11/24)
- Baxter Ecology, Bushfire Management Statement (30/07/21)
- Baxter Ecology, Ecology and Offset Report (29/10/24)
- TJ Building Consultants, Bushfire Management Statement (24/10/24)

The following documents have been reviewed in response to this RFI:

- Original planning permits (05/03/24)
- Reviewed development plans (20/11/25)

Arborist report

RFI request: *Arborist Report updated to show findings in accordance with the new dwelling design (Drafted by Lead Design Studio, Dated AUG 2024, Rev. B). An updated Arborist Report or Development Impact Assessment is required to show the impacts onto vegetation specifically with regard to the new design.*

Response: Maps have now been updated to the most current plans. See Tree Health and development Impact report, Baxter Ecology dated 28/02/2025:

RFI request: *Arborist Report should include information relation to what is already approved, and what additional permissions are being sought. This is to ensure our assessment is focused only on the additional permissions sought to remove vegetation (I have attached my notes for reference if it is of assistance). Refer to Table attached – Trees 8, 9, 13, 21-24 are native trees (triggering under Clause 52.17) and are shown as lost (TPZ Encroachment greater than 10%) within the Arborist Report. However, this was not assessed as lost as part of the original planning permit. As such, if these are not amended to be retained, further offsets may be required and the NVR is required to be amended.*

Response: Arborist and NVR report have been updated to clearly show what has been approved and the additional approvals being sort. Please note that:

- **Tree 8** was a neighbouring tree located on the fenceline, on review of the site this tree had been removed by others and was not removed as part of the scope for this project. Updated plans would have had minimal impact on the tree.

- The redesign has reduced impact to **Tree 9** which is an exotic pine tree and it is no longer deemed lost.
- The redesign has reduced impact to **Tree 13** to 13% and with the additional instruction to ensure that the driveway is to be laid above grade will reduce the impact to this tree further. We support the updated driveway design and deem that the impact to Tree 13 is allowable.
- The redesign will now have only a minor impact to **Trees 21 and 22**.
- **Tree 23** required removal for the location of the house. This was a medium value exotic tree that was not worthy of a design response. We supported the removal of this tree.
- A retaining wall is recommended to protect **Tree 24** from earthwork batter. Tree 24 is a planted *Eucalyptus grandis* which is not indigenous to Victoria and does not require an offset.

RFI request: Map 3: 'Trees Retain or Remove': Currently showing all vegetation to be retained and is required to be updated to show: trees that have been removed, trees proposed to be removed, trees to be pruned, and trees to be retained.

Response: Map 3 has now been updated as request.

RFI request: *Table 4. 'Trees Considered lost': Currently only showing 8 trees proposed to be removed. This should be amended to consider all vegetation that incurs greater than 10% incursion (unless associated recommendations are proposed to retain subject trees- such as building the driveway to grade etc.).*

Response: Table 4 is now updated and has been renumbered as Table 3. Trees 13 and 24 both have incursions greater than 10% but with our construction recommendations both these trees are retained.

RFI request: It is currently unclear how the Defendable Space Requirements in relation to vegetation management are being met within Table 6 of Clause 53.02-5 (specifically 5m canopy separation). It is noted that within 'Summary Findings' it is stated that Defendable space requirements can be met without tree removal, however a Tree Canopy Plan is required in order to confirm and endorse this. Should further vegetation be required to be removed, the Site Plan and Arborist Report should be amended.

Response: An updated Bushfire Management Plan (refer to Figure 1 below) has completed which

RFI request: Further Information is required in relation to: Trees 19 and 34 (no information currently provided) – Noting that Tree 19 cannot be removed as it is a neighbouring tree. How Tree 33 is proposed to be retained with earthworks.

Response:

- Tree 19 - The house and driveway have both been re-located with construction recommendations for the driveway to ensure that impact to Tree 19 is minimised.
- Tree 34 - report has been updated with maps and table to include tree 34, a low value self-seeded Olive tree that was removed during demolition.

- Tree 33 - will require a retaining wall to be built if it is to be retained alternatively a permit for its removal will be required under the ESO1

Bushfire Planning Documents

RFI request: The Bushfire Management Statement provided appears to be incomplete and should be updated to be completed accordingly. Please ensure a Bushfire Management Plan is included.

Please refer to previous Bushfire Management Statement iterations completed by Baxter Ecology and by TJ Building Consultants for complete reports. We have included a Bushfire Management Plan (Fig. 1).

RFI request: Similarly to Item 5 above, the Bushfire Planning Documents should be amended in accordance with Table 6 of Clause 53.02-5 (specifically 5m canopy separation) to show how vegetation is proposed to be managed. Ideally, a Tree Canopy Plan, drawn to a state scale clearly showing all vegetation to be retained and details to any pruning/lopping required to meet the Vegetation Management requirements of Table 6 of Clause 53.02-5 are met.

We recommend the removal of thirteen trees to achieve defendable space requirements as per *Table 6 to Clause 53.02-5.* We recommend the removal of native *Eucalyptus botryoides* trees 3, 4, and 6. We recommend the removal of introduced *Pittosporum eugenioides* and *Photinia* species trees 18, 23, 37, 40, 41, 42, 43, 44, 45, and 46. The Bushfire Management Plan details the trees to be retained (Fig. 1).

Oz Geos
GEOTECHNICAL & STRUCTURAL

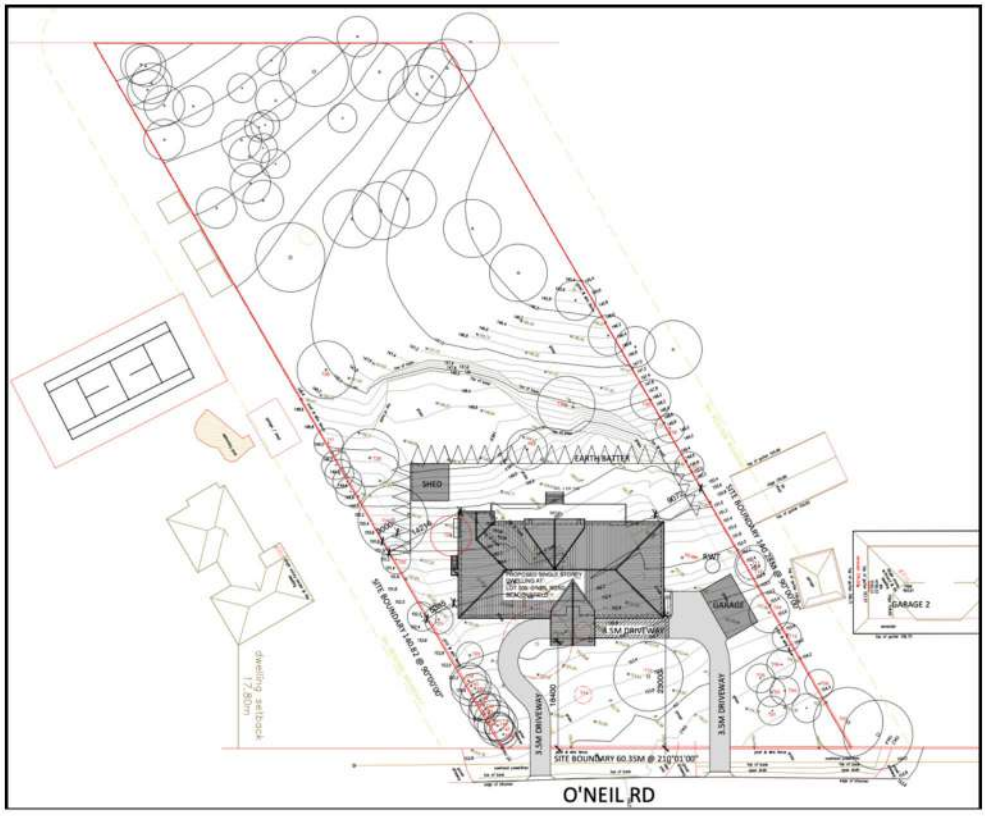
ISO 9001 CERTIFIED
ISO 14001 CERTIFIED
ISO 45001 CERTIFIED

REPORT ON LAND CAPABILITY ASSESSMENT FOR EFFLUENT DISPOSAL AT THE PROPOSED DEVELOPMENT AT LOT 309 O'NEIL RD, BEACONSFIELD, VIC 3807

[redacted]

Project:
Report No. GT1024-19

Date:
29 NOV 2024



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Oz Geos
GEOTECHNICAL & STRUCTURAL

To:
[redacted]
Lot 309 O'Neil Road,
Beaconsfield, VIC 3807

Project: Land Capability Assessment at the Proposed Development at Lot 309 O'Neil Road, Beaconsfield VIC 3807

Dear [redacted]

You have engaged Oz Geos (AM & PU PTY LTD), Victoria, to carry out a Land Capability Assessment work for the design and construction of the on-site wastewater management system at the above-mentioned project site at Lot 309 O'Neil Road, Beaconsfield VIC 3807.

This report presents the results of the Land Capability Assessment (LCA) performed for the above-mentioned project site.

We appreciate the opportunity of providing our services for this project. If you have questions regarding this report or if we may be of further assistance, please contact the undersigned.

Sincerely,

[redacted]
Director – Operations
MSc (Applied Geology), MBA (Operations)
[redacted]

[redacted]
Director – Technical
B. Eng (Civil), M. Eng (Geotech), Ph. D (Geotech)
[redacted]

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REVISION HISTORY

Project	**GT1024-19** **Land Capability Assessment**			
Location	Lot 309 O'Neil Rd, Beaconsfield, VIC 3807			
Rev	Description	Date	Prepared by	Approved by
0	Issued to Client	06 Nov 2024	A.M	P.U
1	Issued to Client	29 Nov 2024	A.M	P.U

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Contents

EXECUTIVE SUMMARY

A Land Capability Assessment (LCA) was conducted by Oz Geos (AM & PU PTY LTD) for a proposed development at Lot 309 O'Neil Road, Beaconsfield, VIC 3807. The aim of the field investigation is to provide recommendation and comment on the nominated land application area for the proposed development. It also provides a detailed LCA for the proposed development, and includes a conceptual design for a suitable onsite wastewater management system, including recommendations for monitoring and management requirements.

The following effluent disposal is proposed:

Option 1: The minimum land application area for subsurface irrigation for the proposed development is estimated as 442m^2 for standard water fixtures.

Option 2: The minimum length using wick trench and bed of 1.6m wide is 135m for standard water fixtures.

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1. INTRODUCTION

Oz Geos (AM & PU PTY LTD) has been engaged to carry out a Land Capability Assessment (LCA) for the proposed development of a dwelling located at Lot 309 O'Neil Road, Beaconsfield, VIC 3807, Australia. The field assessment was undertaken on 28 Oct 2024. The results are presented in this report.

The report will accompany an application submitted to the Cardinia Shire Council for the facility development with an on-site wastewater system. This document provides information about the site and soil conditions. It also provides a detailed LCA for the proposed development and includes a conceptual design for a suitable onsite wastewater management system, including recommendations for monitoring and management requirements.

A number of options were reviewed during production of this report for both the treatment system and land application area (LAA). The effluent should be treated to at least secondary level and land application can be sub-surface irrigation (drip line irrigation system), wick trench and bed system or other proposed system that suites the site conditions.

The scope of services included:

- To determine the capability rating for on-site effluent treatment and attenuation in accordance with the EPA Land Capability Assessment procedure for Onsite Domestic Wastewater Management, July 2016, Publication 891.4.
- If the area tested is found suitable, to give some guidance as to the dimension required for effluent disposal by soil absorption and/or Evapotranspiration and absorption and/or surface or subsurface irrigation area required for effluent disposal.
- To provide recommendation and comment on the nominated land application area for the proposed allotment.

Source of information:

- Oz Geos - Field data (where applicable) collected and recorded.
- Zoltan Lorincz – Laboratory data from the LCA Report (Ref.: LCA17062021, dated June 2021).
- Environmental Protection Authority – Victoria: "Code of Practice Onsite Wastewater Management," July 2016, Publication 891.4.
- Standards Australia AS/NZS 1547:2012 On site Domestic Wastewater Management System.
- Standards Australia AS 2870-2011: Residential Footing Design and Constructions.
- Municipal Association of Victoria and DSE: "Victorian Land Capability Assessment Framework", January 2014.

2. DESCRIPTION OF THE DEVELOPMENT

The following **Table 1** depicts the brief information about the proposed development at the site being investigated.

Table 1. Site Description/LCA & Details of Proposal

Features	Description
Field Work undertaken by	[redacted]
Report completed by	[redacted]
Proposal	Type : Residential Size : 5 Bedrooms Occupancy : Full time
Site Address/Location	Lot 309 O'Neil Road, Beaconsfield VIC 3807
Owner/Project Manager	[redacted]
Postal Address	Lot 309 O'Neil Road, Beaconsfield VIC 3807
Contact	[redacted]
Allotment Size	7,358.18m^2.
Council Area	Cardinia Shire Council
Domestic Water Supply	Onsite roof water collection – no reticulated supply available or likely to be provided in the short to medium term future. Bore water is proposed to be used in future.
Wastewater disposal	This is a proposed 5-Bedroom house development, where around 6 People will be occupying on a full time basis. Thus, maximum occupancy of 6 people can be considered. Design wastewater load is 150L/person/day, therefore total design load = 900L/day. This design load is sourced from EPA Handbook.
Infrastructure available	The area is unsewered and unlikely to be sewered in the short to medium term future

Fig. 01 depicts the aerial view of the subject site. **Fig. 02** indicates the location of the site of the proposed development.

Figure 1. Site location (Source - Landchecker)

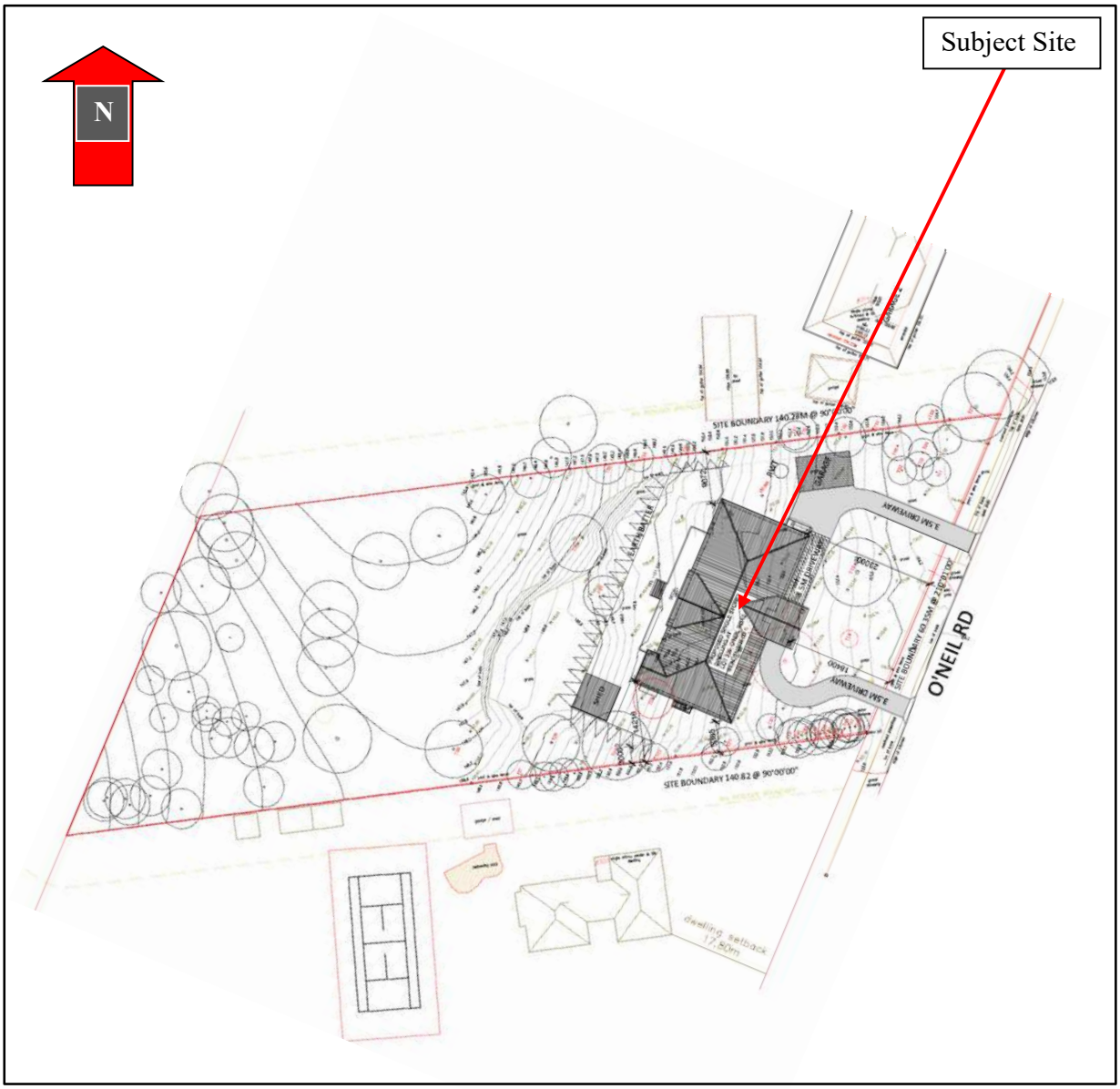

Figure 2. Contour map of the proposed site (Source – Lead Design Studio)

3. SITE AND SOIL ASSESSMENT

3.1. Site Assessment

[redacted] (Sr. Engineering Geologist) and [redacted] (Civil Engineer) were the two staffs from Oz Geos (AM & PU PTY LTD) who carried out the site investigations on 28 Oct 2024.

Table 2 depicts the detail assessment to the existing site, to find the rating of the proposed site. **Table 3** summarizes the key features of the site in relation to effluent management proposed for the site.

Based on the site investigation works the following were noted:

- The site is not in a special water supply catchment area.
- There is no evidence of a shallow water-table or other significant constraints, and
- The risk of effluent transport offsite is very low.

Table 2. Land Capability Class Rating Assessment

	Land Capability Class Rating					
Land Features	**Very Good (1)**	**Good (2)**	**Fair (3)**	**Poor (4)**	**Very Poor (5)**	**Site Rating**
General Characteristics						
Site Drainage	No visible sign of dampness	Moist soil, but no standing water	-	Visible sign of dampness	Water ponding on surface	2
Runoff	None	Low	Moderate	High	Very high	1
Flood Levels	Never	-	<1 in 100	>1 in 100 and <1 in 20	<1 in 20	1
Proximity to Water course	>60m	-	-	-	<60m	1
Slope %	0-2	2-8	8-12	12-20	>20	2
Landslip Risk	None	-	Low	High	Present or past failure	1
Groundwater depth (m)	>5	2.5-5	2.0-2.5	1.5-2.0	<1.5	1
Rock outcrop (% of land surface containing rocks >200mm)	0	<10%	10-20%	20-50%	>50%	1
Erosion potential	None	Minor	Moderate	High	Severe Erosion Potential	1

	Land Capability Class Rating					
Land Features	**Very Good (1)**	**Good (2)**	**Fair (3)**	**Poor (4)**	**Very Poor (5)**	**Site Rating**
Exposure to sun and wind	very high	high	moderate	low	very low	1
Landform	Hill crests, convex side slopes and plains		Concave sideslopes and footslopes		Floodplains and incised channels	1
Vegetation type	Turf or pasture	-		-	Dense forestry	1
Average rainfall (mm/year)	<450	450-650	650-750	750-1000	>1000	4
Pan evaporation	<1500	1250-1500	1000-1250	-	<1000	2
Fill	None	-	Fill present	-		1
Soil Profile Characteristics						
Soil permeability category	2 and 3	4	-	5	1 and 6	5
Profile depth	>2m	1.5-2m	1-1.5m	0.5-1m	<0.5m	1
Presence of mottling	None	-	-	-	extensive	1
Coarse fragments %	<10	10-20	20-40		>40	1
Emerson Class	4, 6, 8	5	7	2, 3	1	4
pH	6-8	-	4.5-6		<4.5, >8	3
Electrical Conductivity (Ece) (dS/m)	<0.3	0.3-0.8	0.8-2	2-4	>4	2
Sodicity ESP %	<3	3-6	6-8	8-14	>14	4
					Overall Rating	**5**

Table 3. Land Capability Class Rating Description

Rating	Description
1	Suitable: The limitations or environmental hazard from long term use are considered very slight. Standard performance measures for design, installation and management should prove satisfactory
2	Slight Environmental Risk: Generally suitable for onsite effluent disposal but there is slight associated environmental hazard. One or two more land limitations are present. The wastewater management program requires careful planning, adherence to specifications and adequate supervision
3	Moderate Environmental Risk: The site has fair capability for onsite effluent disposal with a moderate associated environmental risk present. Site should be carefully selected and prepared. The treatment system should attain a higher level of treatment with basic monitoring as an alternative to standard conventional trench disposal.
4	High environmental risk: Poor capability rating with a high associated environmental risk. Considerable difficulties during siting and installation of wastewater treatment system and during routine operation. A system capable of consistently producing a high quality secondary effluent such as AWTS together with an intense monitoring program should be adopted.

5	**Severe Environmental Risk:** The site has a very poor capability and there is severe associated environmental risk. The areas are not generally considered suitable for disposal of effluent by conventional trench systems. A high quality secondary effluent processed using a AWTS will be required.

Table 4. Summary of Site Assessment

Feature	Description	Level of Constraint	Mitigation Measures
Buffer Distances	The setback distance between the proposed location of the LAA to surrounding boundaries is minimum of 3m. This is achieved according to the requirement in Table 5 of the EPA Code No. 891.4 (2016).	MINOR	NN
Climate/Rainfall	The site experiences an average annual rainfall of 641.2mm (Coldstream Weather Station No: 086383) and the annual pan evaporation of 1200mm (Coldstream Weather Station No: 086383)	MINOR	NN
Drainage and Subsurface Drainage	No signs of dampness were observed in the vicinity of the proposed LAA nor was there any hydrophilic vegetation present. No mottling of the soil was observed in the boreholes drilled during the investigation	MINOR	NN
Erosion and Landslip Potential	No evidence of sheet or rill erosion or landslips	MINOR	NN
Exposure and Aspect	The LAA provides exposure to the north and south, high sun and wind exposure.	MINOR	NN
Flood Potential	No flood potential.	MINOR	NN
Groundwater	Depth to water table is estimated more than 20m. Based on the information taken from Visualizing Victoria's Groundwater (VVG).	MINOR	NN
Imported Fill	No presence of any imported fill in proposed LAA or across the site	MINOR	NN
Land Available for LAA	There is sufficient land available for land application of treated effluent	MINOR	NN
Landform	The site is considered on nearly flat ground.	MINOR	NN

Feature	Description	Level of Constraint	Mitigation Measures
Rocks and Rock Outcrops	No rocky outcrops.	MINOR	NN
Slope	The site is on a sloping ground, but the proposed LAA area was found on a near flat ground.	MINOR	NN
Stormwater Run-on and Runoff	The proposed effluent management area is expected to receive low storm-water run-off.	MINOR	NN
Surface waters	There are no watercourses within the lot.	MINOR	NN
Vegetation	A mixture of pasture grass cover is present in the LAA. Root zone depth is 200mm.	MINOR	NN

*Not Necessary

3.2. Site Assessment Results

Based on the site analysis against the different parameters, the overall land capability of the site to sustainably manage **effluent onsite** is not fully satisfactory (**Overall Rating is 5**), it is close to this clause: **Severe Environmental Risk:** The site has a very poor capability and there is severe associated environmental risk. The areas are not generally considered suitable for disposal of effluent by conventional trench systems. A high quality secondary effluent processed using a AWTS will be required.

3.3. Soil Assessment

The soils of the site have been assessed for their suitability for onsite wastewater management by a combination of soil survey and desktop review of published soil survey information as outlined below.

Top soil : Clayey SILT to a depth of 0.40m overlying the subsoil layer of brown Silty CLAY to depth 1.50m.

The following Table describes the soil properties in detail for each of the soils encountered. The generalised soil profiles from the investigation boreholes and their properties are tabulated in accordance with AS/NZS 1547:2012 presented below:

Table 5. Soil Assessment

Soil Feature	
Soil Depth	Soil depth is between 0.00 to 1.50m
Depth to groundwater table	No groundwater observed in the boreholes, boreholes terminated at maximum 1.5m depth.
Coarse Fragments (%)	Some rock fragments were encountered, less than 10%

Soil Feature	
Soil Permeability	Soil permeability was measured using Constant Head Permeameter and was also inferred from Table 9 (EPA 891.3) that describes conservative design loading rates (DLRs) and Design Irrigation Rates (DIRs) for various effluent application systems according to soil type. Critical soil properties are texture and structure, but depth, color and degree of mottling are also used to infer drainage conditions.
Soil Type	
Soil Description	Weakly structured Heavy clay
Depth (m)	0.0 – 1.50
Soil Category (AS1547-2012)	5
DIR (Design Irrigation Rate AS1547, Table M1) (mm/day)	3
DLR (Design Loading Rate - AS1547, Table N1) (mm/day)	5
pH The pH of 1:5 soil/water suspensions was measured using a Hanna hand held pH/EC meter.	5.5
Electrical Conductivity (Ece) (dS/m) as calculated by first measuring the electrical conductivity of 1:5 soil in water suspensions and using appropriate multiplier factors to convert EC (1:5)	0.4
Emerson Class	2
Ksat (m/day)	0.072
ESP (%)	12

Note: Ksat = coeff. of permeability; DIR: Design Irrigation Rate for irrigation; DLR: Design loading rate for wick trenches & beds

Soil Permeability

An appraisal of the soil permeability was conducted by visual and tactile estimation in accordance with the site and soil evaluation procedure as outlined in AS1547:2012 Appendix B - Soil Permeability Measurement – Constant Head Test. Critical soil properties are texture and structure, but depth, color and degree of mottling are also used to infer drainage conditions. In addition to that, a Constant Head Test to determine the coefficient of permeability test was undertaken in test hole BH1. The test result indicates that the coefficient of permeability at the test location BH1 is **0.072m/day (BH1).**

pH, Electrical Conductivity and Emerson Class

The pH of 1:5 soil/water suspensions was measured using a Hanna hand held pH/EC meter. The **pH of soil is 5.5 (BH1)**.

Electrical conductivity was calculated by first measuring the electrical conductivity of 1:5 soils in water suspensions and using appropriate multiplier factors to convert EC (1:5).

The soil samples were tested for their Modified Emerson in soil laboratory which indicate the EC and Emerson Number are **0.4dS/m** and **2** respectively.

Exchangeable Sodium Percentage (ESP)
The ESP was measured on one of the soil samples in MGT NATA accredited laboratory. The ESP was reported as **12%** at BH1 (0.00 - 0.6m).

The test certificates are presented in the attachment to this report.

Table 6. Summary of Soil Assessment

Feature	Assessment	Level of Constraint	Mitigation Measures
Electrical Conductivity (EC) Soil Salinity (dS/m)	Topsoil: 0.4	**Minor (<0.8),** Moderate (0.8-1.5), Major (1.5-4)	NN
Dispersion Index (DI)	Topsoil: 9	Minor (0), Moderate (1-8), **Major (8-15)**	Conduct analysis with Water Balance with low DLR
pH ($CaCl_2$)	Topsoil: 5.5	**Minor (5.5 - 8 is the optimum range for a wide range of plants; 4.5 - 5.5 suitable for many acid-loving plants)**, Major (<4.5 or >8)	NN
Rock Fragments	Less than 10%	**Minor (<10),** Moderate (10-20), Major (20-40)	NN
Sodicity (ESP)	Topsoil: 12%	Minor (<6), Moderate (6-8), **Major (>8<15)**	Conduct analysis with Water Balance with low DLR
Soil Profile Thickness	Total depth to 2.0m	**Minor (>1.5m),** Moderate (1.0m to 1.5m), Major (0.75m to 1.0m)	NN
Soil Permeability (Geometrical Mean)	Topsoil: in-situ permeability testing = 0.072m/day (Soil Category 5 as per AS1547-2012)	Low (0.15 – 0.3), Moderate (0.03 – 0.15, 0.3 – 0.6), **Major (0.01 – 0.03 0.6 – 3.0)**	Conduct analysis with Water Balance with low DLR

Feature	Assessment	Level of Constraint	Mitigation Measures
Soil Texture and Structure	Topsoil: brown, silty CLAY, weakly structured	**Moderate**	NN
Water Table Depth	Estimated at 20m from existing ground level (data retrieved from Visualizing Victoria's Groundwater (VVG) website	**Nil/Minor**	NN

*Not Necessary

Figure 3. Location of the boreholes and permeability test at the site

3.4. Overall land capability rating

Based on the results of the site and soil assessment tabled above, the overall land capability of the proposed effluent management area is **moderately constrained**. The effluent management system will be designed, installed and maintained in ways which will mitigate few constraints.

4. MANAGEMENT PROGRAM

This LCA has been prepared to accompany the development application for the proposed facility and associated necessary wastewater management system. As such, this report provides recommendations for treatment and land application systems that are appropriate to the land capability and meet the local council's practices. The following sections provide an overview of a suitable system, with sizing and design considerations and justification for its selection. Detailed design for the system is beyond the scope of this study, but should be undertaken at the time of building application and submitted to Council.

4.1. Wastewater Treatment System

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

Biochemical Oxygen Demand (BOD) < 20 mg/L;
Total Suspended Solid < 30 mg/L;

Several suitable options approved by EPA Victoria (www.epa.vic.gov.au) are available. The chosen option should be designed and installed to achieve the desired level of performance and final selection is the responsibility of the property owner, who will forward details to Council for

approval. Only treatment systems with a current Certificate of Approval (CA) can be installed in Victoria [Environment Protection Act, section 53M (7)(a)].

If an onsite wastewater treatment system does not have a Certificate of Approval on the EPA website, the system does not have current approval and cannot be installed. Any currently approved onsite treatment system can be installed in an unsewered area, if the treatment system and the design loading rate of the effluent dispersal system are appropriate for the site. Some common treatment systems include Aerated Wastewater Treatment System (AWTS) and Sand Filters.

AWTS are pre-fabricated or pre-engineered treatment systems designed to treat small (< 2,000 L/day) wastewater flows. They are tank-based systems that typically employ the following processes:

- Settling of solids and flotation of scum in an anaerobic primary chamber;
- Oxidation and consumption of organic matter through aerobic biological processes;
- Clarification – secondary settling of solids; Disinfection; and
- Regular removal of sludge to maintain the process.

Good maintenance of AWTS is essential to ensure a consistently high level of performance. By law, AWTS systems are required to be serviced quarterly by an approved maintenance contractor. Sand filters provide advanced secondary treatment to water that has already undergone primary treatment in a septic tank or similar device. They contain approximately 600mm depth of filter media (usually medium to coarse sand, but other media can be incorporated) within a lined excavation containing an underdrain system. Selection of the filter media is critical and a carefully designed distribution network is necessary. A dosing well and pump is normally used to allow periodic dosing. Depending on the desired level of treatment, sand filters can be single pass or may incorporate partial recirculation. A subsequent disinfection system is required to allow reuse by surface irrigation. There are several proprietary sand filter systems available today and detailed sizing and design of these systems is generally undertaken by the manufacturer.

4.2. Effluent Disposal System

Option 1: Subsurface Irrigation

The minimum subsurface irrigation area is presented in Table below.

Table 7. Minimum sub-surface irrigation area based on water balance calculation

Water Fixtures	Daily Flow (L/day)	Min. Subsurface Irrigation Area (m^2)
Standard	900	442

The size of the area is calculated by the water balance method and storage calculation expressed by the following equation:

Precipitation + Effluent Applied = Evapotranspiration + Percolation

It should be noted that the water reduction fixtures and fittings, when selected, should be installed at the time the treatment system is commissioned and operational.

A detailed irrigation system design is beyond the scope of this report, however a general description of subsurface irrigation is provided here for the information of the client and Council. Subsurface irrigation comprises a network of drip-irrigation lines that is specially designed for use with wastewater. The pipe contains pressure compensating emitters that employ a biocide to prevent build-up of slimes and inhibit root penetration. The lateral distances are usually 0.6 to 1.0 m apart, roughly parallel, and along the contour if possible. Installation depth is commonly 100-150 mm. It is critical that the irrigation pump be sized properly to ensure adequate pressure and delivery rate to the irrigation network. It is recommended that the owner consult an irrigation specialist familiar with wastewater irrigation equipment, to help design and install the irrigation system. The irrigation plan must ensure well, even application of effluent.

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

Nutrient Balance

Within a proposed effluent application area, nutrients are removed by vegetation, chemical precipitation, soil adsorption, volatilization, microbial digestion and leaching. Generally, nutrient removal by vegetation occurs only during the active growth period of the vegetation, and varies greatly among different vegetation types. The proposed effluent must be available to the root zone of the vegetation for nutrient uptake to occur and the nutrients must be bio-available. Harvesting plants (which may include mowing or pruning) and removing or relocating them from the site is required to maintain the nutrient uptake rate and export the nutrients. Nutrients retained in a standing crop, detritus, or residual humus must be regarded as potential reservoirs of soluble nitrogen on the site, although the contribution of organic carbon may ensure their slow mineralization (Municipal Association of Victoria and DSE, 2014).

Table 8. Minimum subsurface irrigation area based on Nutrient Balance Calculation

Water Fixtures	Daily Flow (L/day)	Min. Subsurface Irrigation Area (m^2)
Standard	900	299

The total area estimated above was based on nitrogen balance, it is smaller than the subsurface irrigation area estimated using water balance method. Hence, the subsurface irrigation area estimated using water balance method should be adopted.

Option 2: Wick Trench and Bed

The Wick Trench and Bed land application system was developed for use in clay soils for primary and secondary effluent. The system is designed to maximise the movement of effluent up through the soil to plant roots and the atmosphere. The Wick System is a series of trenches with adjacent evapo-transpiration (EVT) beds that are underlain and joined by a layer of geotextile. The EVT bed may be installed on either side of the trench. The surface of the combined trench and EVT bed, which is approximately three times the width of a conventional trench, is planted with herbaceous vegetation to maximise the wicking effect over the large surface area. The geotextile acts as the 'wick' to continuously draw liquid upwards through capillary action. Plant roots and leaves, the sun and the wind act as 'pumps' to draw the liquid upwards out of the soil and into the atmosphere.

The Wick Trench design aspects include:

- It must be installed on flat land. Where the available land is not flat, it must be terraced to provide a flat platform.
- The trench must have uniform depth to provide uniform performance along its length.
- For effective gravity flow from the septic tank to the Wick Trench the surface level of the Wick Trench must be at least 150 mm below the invert of the septic tank outlet (e.g. where the tank outlet invert is 400 mm below the top of the tank, the ground level of the Wick Trench must be at least 550 mm lower). On sites where it is not possible to have a 550 mm height difference between the septic tank outlet invert and the Wick Trench, a suitably-sized distribution pump must be used.

Table 9. Minimum length and area of Wick Trench and Bed system of 1.6m wide

Water Fixtures	Daily Flow (L/day)	Total length of trench/bed (m)	Total Area (m^2)
Standard	900	135	216

The total area estimated above should be added with spacing between the trenches. Installation method for the Wick Trench and Bed is presented in EPA Publication No. 891.4 (2016).

4.3. Monitoring, Operation and Maintenance

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

To ensure the treatment system functions adequately, the land owner must:

- Have a suitably qualified maintenance contractor service the wastewater treatment system every three months, as required by Council under the approval to operate.
- Use household cleaning products sparingly and check that they are suitable for septic tanks;
- Try to reduce fat and oil out of the system as possible; and conserve water.

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

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

5. MINIMUM SET-BACK DISTANCES

The nominated Land Application Area should be situated with the following setback distances (Source EPA Publication 891.4):

Table 5: Setback distances for primary and secondary treatment plants and effluent disposal/irrigation areas in sewered and unsewered areas (where applicable) [1, 2, 6, 10,

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

1. Distances must be measured horizontally from the external wall of the treatment system and the boundary of the disposal/irrigation area, except for the 'Watertable' category which is measured vertically through the soil profile. For surface waters, the measuring point shall be from the 'bank-full level'.
2. Primary water-based sewerage systems must only be installed in unsewered areas; secondary sewerage systems must only be installed and managed in sewered areas by Water Corporations; secondary greywater systems can be installed in sewered and unsewered areas (see Section 3.12.3).
3. Advanced secondary greywater systems treating effluent to ≤10/10/10 standard.
4. The setback distance in a Special Water Supply Catchment area may be reduced by up to a maximum of 50% conditional on the following requirements (otherwise the setback distances for primary treatment systems apply):
   - effluent is secondary treated to 20/30 standard as a minimum
   - a maintenance and service contract, with a service technician accredited by the manufacturer, is in place to ensure the system is regularly serviced in accordance with Council Septic Tank Permit conditions and
   - Council is satisfied the reduction in set-back distance is necessary to permit the appropriate development of the site and that risks to public health and the environment are minimised.

6. CONCLUSION

1. For Subsurface irrigation system, the minimum land application area is 442m^2.
2. For Wick Trench and Bed system of 1.6m wide, the minimum length of the trench and total area required are 135m and 216m^2 respectively with standard water fixture.
3. Operation and management of the treatment and disposal system in accordance with manufacturer's recommendations and the recommendations made in this report.
4. Considering all site constraints and the buffers mentioned above, the whole site has ample land that is suitable and available for land application of treated effluent on the proposed site.

7. CCONDITIONS OF THE RECOMMENDATIONS

- The advice given in this report is based on the assumption that the test results are representative of the overall subsurface conditions. However, it should be noted that actual conditions in some parts of the site may differ from those found in the conducted investigation. If excavations reveal soil conditions significantly different from those shown in the attached Borehole Log(s), Oz Geos must be consulted immediately.
- Any sketches in this report should be considered as only an approximate pictorial evidence of the works. Therefore, unless otherwise stated, any dimensions or slope information should not be used for any building cost calculations and/or positioning of the building.
- Whilst Oz Geos has accepted the commission for the work reported herein, the ownership of the report and any liabilities associated with it, remain with Oz Geos until all relevant accounts have been paid.
- Have a suitably qualified plumber to inspect and locate the existing effluent field. If any structures are proposed on the area of existing effluent field, we recommend that the area be inspected and assessed by a qualified environmental engineer to determine the suitability of the area for proposed land use.

8. REFERENCES

EPA Victoria. (2016). *Code of Practice - Onsite wastewater management - Publication No. 891.4 July 2016.* Melbourne: EPA Victoria.

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Municipal Association of Victoria and DSE. (2014). *Victorian Land Capability Assessment Framework - January 2014.* Melbourne: Municipal Association of Victoria and DSE.

National Committee on Soil and Terrain. (2009). *Australian Soil and Land Survey - Field Handbook* (Third ed.). Melbourne: CSIRO Publishing.

Rengasamy, P., & Walters, L. (1994). *Introduction to soil sodicity.* Adelaide: CSIRO Division of Soils.

Standards Australia. (2011). *AS2870-2011 : Residential Slabs and Footings.* Sydney: Standards Australia.

Standards Australia. (2012). *AS1547-2012: Onsite domestic wastewater management.* Sydney: Standards Australia.

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APPENDIX A: BOREHOLE LOG

Oz Geos GEOTECHNICAL & STRUCTURAL	**BOREHOLE LOG**	Borehole No.:	**LCA-01**
		Client:	WG Dream Homes
		Project:	Residential Development
		Project Location:	Lot 309 ONEIL ROAD, BEACONSFIELD VIC 3807
		Project No:	GT1024-19
		Date Drilled:	28-Oct-24

Coordinates		Drilling Method:	Rotary Drilling	Drilling Contractor:	Oz Geos
Grid Datum		Drilling Dia.:	100 mm	In Situ test:	Permeameter Test
Surface RL, m		Casing Details:	Not used	Logged by:	NA
Borehole depth, m	1.5	Drilling Fluid:	Not Used	Checked by:	AM
Ground Water, m	Not Encountered	Drilling Rig:	Manual Auger	Sheet:	1 of 1

Scale (m)	Depth (m) bgl	Sample Depth, m (Sample No.)	USCS Group Symbol	STRATA DESCRIPTION	Legend	Moisture	Consistency / Density	Dynamic Cone (blows/100mm)	DCPT Graph (blows per 100mm)	Water Strike, m	TCR%	SCR %	RQD%	Remarks
	0.00	N.A	TOP SOIL	**Clayey SILT (ML)**: Grey, low plasticity, firm to stiff, moist with rootlets.		M				NOT ENCOUNTERED	N.A	N.A	N.A	Permeameter Test
0.50	0.40	N.A	CH	**Silty CLAY (CH)**: Brown, high plasticity, stiff to very stiff, moist.		M								
1.00														
1.50	1.50			BOREHOLE COMPLETED (Target Depth)										
2.00														
2.50														
3.00														
3.50														
4.00														
4.50														
5.00														

Notes:
The borehole was backfilled by using the same spoil material.
Ground water was not encountered.

Soil classification:	Consistency:	Relative Density:	Strength (Rock)	Sampling / Testing:	Moisture:	Water:
Soil is classified in accordance with AS1726:2017, unless otherwise noted	VS very soft S soft F firm ST stiff VST very stiff H hard	VL very loose L loose MD medium dense D dense VD very dense	VL Very Low L Low M Medium H High VH Very High EH Extremely High	Disturbed sample B Bulk sample Supp Su from Pocket Penetrometer Suv Su from Field Vane Shear test Intact sample from core T Intact tube sample HB Hammer Bounce	D Dry M Moist W Wet S Saturated	water level level risen to water inflow

APPENDIX B: SOIL PERMEABILITY TEST RECORD

SOIL PERMEABILITY - CONSTANT HEAD TEST

Oz Geos
GEOTECHNICAL & STRUCTURAL

Project/job:	GT1024-19	Date:	28/10/2024
Location:	Lot 309 ONEIL ROAD, BEACONSFIELD VIC 3807	Operator:	NA/AM
Test site #:			
Test method: AS1547-2012			

Depth of auger hole (D):	60	cm
Depth of water in auger hole (H):	60	cm
Average radius of auger hole (r):	5	cm
Depth to any impermeable layer (S):		cm

Vegetation at test site: Grass, and small to medium trees

Time elapsed between first filling and start of measurement: 22 Secs

Soil moisture condition: Moist

Remarks

PERMEAMETER AND TIME READINGS

Test # 1

Day	Time	Water Level in tube (mm)	Reading (cm)
28/10/2024	11:00:00	435	0
	11:05:00	290	14.5
	11:10:00	226	6.4
	11:15:00	200	2.6
	11:20:00	185	1.5
	11:25:00	160	2.5
	Q =	31.89	cm^3/min
	K_{sat} =	7.3E-02	m/day

APPENDIX C: WATER BALANCE AND NITROGEN BALANCE

Victorian Land Capability Assessment Framework

Please read the attached notes before using this spreadsheet

Irrigation area sizing using Nominated Area Water Balance for Zero Storage

Site Address:	**309 O'Neil Rd, Beaconsfield, VIC 3807**		
Date:		**Assessor:**	Dr. Pontjo UTOMO & Abhishek MUKHERJEE

INPUT DATA

Design Wastewater Flow	Q	900	L/day	Based on maximum potential occupancy and derived from Table 4 in the EPA Code of Practice (2016)
Design Irrigation Rate	DIR	3.0	mm/day	Based on soil texture class/permeability and derived from Table 9 in the EPA Code of Practice (2016)
Nominated Land Application Area	L	4300	m^2	[1]
Crop Factor	C	0.6-0.8	unitless	Estimates evapotranspiration as a fraction of pan evaporation; varies with season and crop type[2]
Rainfall Runoff Factor	RF	0.7	untiless	Proportion of rainfall that remains onsite and infiltrates, allowing for any runoff
Mean Monthly Rainfall Data		Berwick (Sta No. 86299)		BoM Station and number
Mean Monthly Pan Evaporation Data		Cranbourne Botanical Garden		BoM Station and number

Parameter	Symbol	Formula	Units	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Days in month	D		days	31	28	31	30	31	30	31	31	30	31	30	31	**365**
Rainfall	R		mm/month	60	56	55	77	78	85	81	84	86	89	84	75	**910**
Evaporation	E		mm/month	192	157	136	87	62	51	56	71	93	124	141	171	**1341**
Crop Factor	C		unitless	0.80	0.80	0.70	0.70	0.60	0.60	0.60	0.60	0.70	0.80	0.80	0.80	
OUTPUTS																
Evapotranspiration	ET	ExC	mm/month	154	126	95	61	37	31	34	43	65	99	113	137	**993.2**
Percolation	B	DIRxD	mm/month	93.0	84	93.0	90.0	93.0	90.0	93.0	93.0	90.0	93.0	90.0	93.0	**1095.0**
Outputs		ET+B	mm/month	246.6	209.6	188.2	150.9	130.2	120.6	126.6	135.6	155.1	192.2	202.8	229.8	**2088.2**
INPUTS																
Retained Rainfall	RR	RxRF	mm/month	42	39.2	38.5	53.9	54.6	59.5	56.7	58.8	60.2	62.3	58.8	52.5	**637**
Applied Effluent	W	(QxD)/L	mm/month	6.5	5.9	6.5	6.3	6.5	6.3	6.5	6.5	6.3	6.5	6.3	6.5	**76.4**
Inputs		RR+W	mm/month	48.5	45.1	45.0	60.2	61.1	65.8	63.2	65.3	66.5	68.8	65.1	59.0	**713.4**
STORAGE CALCULATION																
Storage remaining from previous month			mm/month	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Storage for the month	S	(RR+W)-(ET+B)	mm/month	-198.1	-164.5	-143.2	-90.7	-69.1	-54.8	-63.4	-70.3	-88.6	-123.4	-137.7	-170.8	
Cumulative Storage	M		mm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Maximum Storage for Nominated Area	N		mm	0.00												
	V	NxL	L	0												
LAND AREA REQUIRED FOR ZERO STORAGE			m^2	136	148	186	278	369	442	399	363	285	215	188	157	

MINIMUM AREA REQUIRED FOR ZERO STORAGE: 442.0 m^2

CELLS

	Please enter data in blue cells
XX	Red cells are automatically populated by the spreadsheet
XX	Data in yellow cells is calculated by the spreadsheet, DO NOT ALTER THESE CELLS

NOTES

[1] This value should be the largest of the following: land application area required based on the most limiting nutrient balance or minimum area required for zero storage

[2] Values selected are suitable for pasture grass in Victoria

Victorian Land Capability Assessment Framework

Please read the attached notes before using this spreadsheet

Nitrogen Balance

Site Address:	**309 O'Neil Rd, Beaconsfield, VIC 3807**

SUMMARY - LAND APPLICATION AREA REQUIRED BASED NITROGEN BALANCE	**299**	m^2

INPUT DATA[1]

Wastewater Loading			**Nutrient Crop Uptake**					
Hydraulic Load	900	L/day	Crop N Uptake	220	kg/ha/yr	which equals	60.27	$mg/m^2/day$
Effluent N Concentration	25	mg/L						
% N Lost to Soil Processes (Geary & Gardner 1996)	0.2	Decimal						
Total N Loss to Soil	4500	mg/day						
Remaining N Load after soil loss	18000	mg/day						

NITROGEN BALANCE BASED ON ANNUAL CROP UPTAKE RATES

Minimum Area required with zero buffer			**Determination of Buffer Zone Size for a Nominated Land Application Area (LAA)**		
Nitrogen	299	m^2	Nominated LAA Size	4300	m^2
			Predicted N Export from LAA	-88.03	kg/year
			Minimum Buffer Required for excess nutrient	0	m^2

CELLS

	Please enter data in blue cells
XX	Red cells are automatically populated by the spreadsheet
XX	Data in yellow cells is calculated by the spreadsheet, DO NOT ALTER THESE CELLS

NOTES

[1] Model sensitivity to input parameters will affect the accuracy of the result obtained. Where possible site specific data should be used. Otherwise data should be obtained from a reliable source such as:

- *EPA Guidelines for Effluent Irrigation*
- *Appropriate Peer Reviewed Papers*
- *Environment and Health Protection Guidelines: Onsite Sewage Management for Single Households*
- *USEPA Onsite Systems Manual*

TABLE M1
RECOMMENDED DESIGN IRRIGATION RATE (DIR) FOR IRRIGATION SYSTEMS

Soil Category (see Note 1)	Soil texture	Structure	Indicative permeability (K_{sat}) (m/d)	Design irrigation rate (DIR) (mm/day)		
				Drip irrigation	Spray irrigation	LPED irrigation
1	Gravels and sands	Structureless (massive)	> 3.0	5 (see Note 2)	5	(see Note 3)
2	Sandy loams	Weakly structured massive	> 3.0			4
			1.4 – 3.0			
3	Loams	High/ moderate structured	1.5 – 3.0	4 (see Note 1)	4	3.5
		Weakly structured or massive	0.5 – 1.5			
4	Clay loams	High/ moderate structured	0.5 – 1.5	3.5 (see Note 1)	3.5	3
		Weakly structured	0.12 – 0.5			
		Massive	0.06 – 0.12			
5	Light clays	Strongly structured	0.12 – 0.5	3 (see Note 1)	3	2.5 (see Note 4)
		Moderately structured	0.06 – 0.12			
		Weakly structured or massive	< 0.06			
6	Medium to heavy clays	Strongly structured	0.06 – 0.5	2 (see Note 2)	2	(see Note 3)
		Moderately structured	< 0.06			
		Weakly structured or massive	< 0.06			

NOTES:

1 For Category 3 to 5 soils (loams to light clays), the drip irrigation system needs to be installed in an adequate depth of topsoil (in the order of 150 – 250 mm of in situ or imported good quality topsoil) to allow the soakage and assist with nutrient reduction.

2 For Category 1, 2, and 6 soils, the drip irrigation system has a depth of 100 – 150 mm in good quality topsoil (see CM1 and M3.1).

3 LPED irrigation is not advised for Category 1 or Category 6 soils – drip irrigation of secondary effluent is the preferred irrigation method.

4 LPED irrigation for Category 5 soils needs a minimum depth of 250 mm of good quality topsoil (see M5 and CM7.1).

APPENDIX D: WICK TRENCH AND BED

WICK TRENCH AND BED		
Standard Water Fixture		
Daily design Flow rate, Q	900	L/day
Width of trench and bed, W	1.6	m
Design Loading Rate, DLR	5	mm/day
Factor, F	1.2	
Length of trench/bed	Q/ [DLR x (W/F)]	
L=	**135**	m
Area of the Wick Trench and Bed System		
A=	LxW	
	216	m^2

APPENDIX E: SITE PHOTOGRAPHS

Photo 1. **Auger Drilling**

Photo 2. **Soil Permeability Testing**

APPENDIX F: PROFESSIONAL INDEMNITY INSURANCE CERTIFICATE

Certificate of Currency

about UNDERWRITING

Date of Issue:	12 February 2024
Class of Insurance:	Excess of Loss Professional Indemnity
Policy Number:	EOL 23 000034
Named Insured:	AM & PU Pty Ltd T/as Oz Geos
Professional Services:	Geotechnical Engineering, Structural Engineering, Civil Engineering
Period of Insurance:	From: 4.00 pm on 28 February 2024 To: 4.00 pm on 28 February 2025 Local Standard Time at the **insured's** head office.
Limit of Liability:	**$5,000,000** excess of **$5,000,000** any one **Claim** during any one **Period of Insurance.**
	Primary Policy Details: Insurer Name: About Underwriting Pty Ltd Limit of Liability: $5,000,000 Policy Number: ENG 23 000198 Period of Insurance: From – 28 February 2024 (4pm) To 28 February 2025 (4pm)
Security:	Certain Underwriters at Lloyd's

This Certificate of Currency is current at the Date of Issue only and is issued as a matter of information only, conferring no rights upon the holder. Coverage is always subject to policy terms, conditions, limitations, exclusions and endorsements. This Certificate does not extend, amend or alter such coverage. For the avoidance of doubt, Named **Insured** may include other parties as defined in the Policy.

This Policy is current as shown in the Period of Insurance details above unless it is cancelled in the meantime.

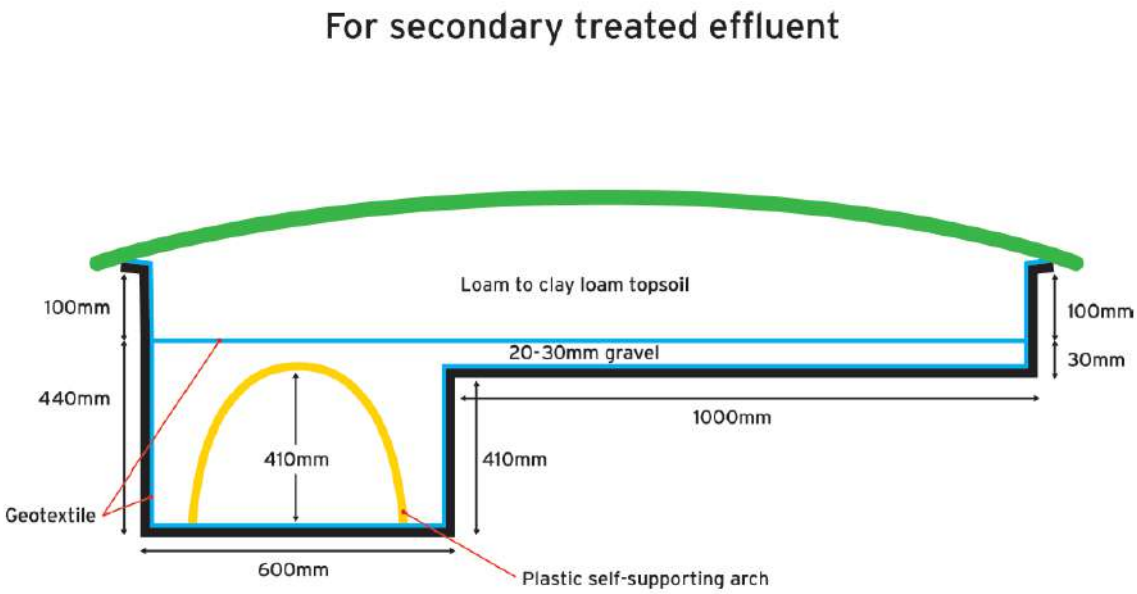
Signed on behalf of the underwriter(s):

[redacted]

Title: Portfolio Manager **Date:** 12 February 2024

about | UNDERWRITING | ABN: 78 608 848 479 | AFSL: 483210
Suite 302/546 Collins Street, Melbourne, VIC 3000 | PO Box 16106, Collins Street West, Melbourne, VIC 8007
Web: aboutunderwriting.com | Office: 03 9998 9080 | Fax: 03 9998 9099

APPENDIX G: SKETCH OF WASTEWATER TREATMENT



Wick Trench & Bed System Section

Notes:

1. The area for the wick trench & bed would be 216m^2. With 1.6m wide wick trench and bed plus spacings of 1.0m between the wick trench & bed.
2. The set-back to the edge of plot boundaries' shall be min 3m.

APPENDIX H: SKETCH OF WASTEWATER TREATMENT