Notice of Application for a Planning Permit

Cardinia

The land affected by the application is located at:	L1 PS335048 V10188 F654 80 Gordon Road, Pakenham Upper VIC 3810
The application is for a permit to:	Buildings and works (Construction of a replacement dwelling) and removal of vegetation

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

35.06-5	Construct a building or construct or carry out works
42.01-2	Construct a building or construct or carry out works
42.01-2	Remove, destroy or lop vegetation
44.06-2	Construct a building or construct or carry out works associated with accommodation

APPLICATION DETAILS

The applicant for the permit is:	XWB Consulting
Application number:	T240054

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:	28 January 2025

WHAT ARE MY OPTIONS?

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

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

An objection must:

- be made to the Responsible Authority in writing;
- include the reasons for the objection; and
- state how the objector would be affected.

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

Application is here

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

Cardinia

ePlanning

Application Summary

Portal Reference	A124455K

Basic Information

Proposed Use	Construction of a replacement dwelling
Current Use	Dwelling on small rural property
Cost of Works	$1,100,000
Site Address	80 Gordon Road Pakenham Upper 3810

Covenant Disclaimer

Does the proposal breach, in any way, an encumbrance on title such as restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?	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] C/- XWB Consulting	PO BOX 752, Beaconsfield VIC 3807	M: 0408-517-143 E: mail@xwbconsulting.com.au
Owner	[redacted]		
Preferred Contact	[redacted] C/- XWB Consulting	PO BOX 752, Beaconsfield VIC 3807	M: 0408-517-143 E: mail@xwbconsulting.com.au

Fees

Regulation	Fee Condition	Amount	Modifier	Payable
9 - Class 6	More than $1,000,000 but not more than $2,000,000	$1,605.90	100%	$1,605.90
		Total		**$1,605.90**

Documents Uploaded

Date	Type	Filename
13-02-2024	A Copy of Title	Title.pdf
13-02-2024	A Copy of Title	Title plan.pdf
13-02-2024	Site plans	TP Plans Feb 24.pdf
13-02-2024	Overlay Requirements	Bushfire Assessment 80 Gordon Road Pakenham Upper.pdf
13-02-2024	Overlay Requirements	Bushfire Management Plan 80 Gordon Road Pakenham Upper Feb 24.pdf
13-02-2024	Additional Document	Arborist report 80 Gordon Road Pakenham Upper.pdf
13-02-2024	Additional Document	LCA Report 80 Gordon Road Pakenham Upper.pdf
13-02-2024	Additional Document	Planning submission 80 Gordon Road Pakenham Upper.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] XWB Consulting	PO BOX 752, Beaconsfield VIC 3807	M: 0408-517-143 E: mail@xwbconsulting.com.au
Submission Date	13 February 2024 - 11:22AM		

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.

Civic Centre
20 Siding Avenue, Officer, Victoria

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

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

Email: mail@cardinia.vic.gov.au

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

Cardinia 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.:	T240054
Address of the Land:	8C GORDON RD PAKENHAM UPPER

APPLICANT DETAILS

Name:	[redacted]
Organisation:	XWB CONSULTING
Address:	PO BOX 752 BEACONSFIELD 3807
Phone:	0408571143
Email:	mail@xwbconsulting.com.au

AMENDMENT TYPE

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

AMENDMENT DETAILS

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

Describe the changes. If you need more space, please attach a separate page.
• AMENDED PLANS DUE TO CFA REQUEST FOR FURTHER INFORMATION
• INCLUDE THE REMOVAL OF VEGETATION FOR THE DWELLING + DEFENDABLE SPACE

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:	[redacted]
Date:	12 DECEMBER 2024

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 10188 FOLIO 654

Security no : 124111834022J
Produced 12/01/2024 03:37 PM

LAND DESCRIPTION

Lot 1 on Plan of Subdivision 335048C.
PARENT TITLES :
Volume 06727 Folio 344 to Volume 06727 Folio 345
Created by instrument PS335048C 08/09/1994

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 set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE PS335048C FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

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

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

Street Address: 80 GORDON ROAD PAKENHAM UPPER VIC 3810

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	**PS335048C**
Number of Pages (excluding this cover sheet)	**2**
Document Assembled	**12/01/2024 15:37**

PLAN OF SUBDIVISION

STAGE NO /

LTO use only
EDITION 1

Plan Number
PS 335048C

Location of Land

Parish NAR-NAR-GOON
Township: -
Section: -
Crown Allotment: 17H (PART)
Crown Portion: -
LTO Base Record: LITHO (3272)
Title Reference: VOL 6727 FOL 345
VOL 6727 FOL 344
Last Plan Reference: -
Postal Address: 120 GORDON ROAD,
(at time of subdivision) PAKENHAM UPPER 3810
AMG Co-ordinates E -
(of approx. centre of land in plan) N - Zone 55

Council Certification and Endorsement

Council Name: SHIRE OF PAKENHAM Ref: S94/063

1. This plan is certified under section 6 of the Subdivision Act 1988.

~~2. This plan is certified under section 11(7) of the Subdivision Act 1988.~~
~~Date of original certification under section 6 / /~~

~~3. This is a statement of compliance issued under section 21 of Subdivision Act 1988.~~

OPEN SPACE

(i) A requirement for public open space under section 18 of the Subdivision Act 1988 ~~has~~/has not been made.

~~(ii) The requirement has been satisfied.~~

~~(iii) The requirement is to be satisfied in Stage~~ .....

Council Delegate
~~Council Seal~~
Date 26/ 7 / 94

~~Re-certified under section 11(7) of the Subdivision Act 1988.~~
~~Council Delegate~~
~~Council Seal~~
~~Date / /~~

Vesting of roads and/or Reserves

Identifier	Council/Body/Person
NIL	NIL

Notations

Staging This ~~is~~/is not a staged subdivision
Planning Permit No. T 93/032

Depth Limitation DOES NOT APPLY

AREA OF LOT 2 AND THE DIMENSIONS SHOWN UNDERLINED HAVE BEEN OBTAINED BY DEDUCTION FROM TITLE.

Survey This plan is/~~is not~~ based on survey
This survey has been connected to permanent marks no(s)
In proclaimed Survey Area No.

Easement Information

Legend: A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)

-

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	ELECTRICITY SUPPLY	12m	THIS PLAN	S.E.C.V.

LTO use only

Statement of Compliance/ Exemption Statement

Received ☑

Date 2 / 9 / 94

LTO use only

PLAN REGISTERED

TIME 2:30

Date 8 / 9 / 94

[redacted]
Assistant Registrar of Titles

Sheet 1 of 2 sheets

Nilsson, Noel & Holmes Pty Ltd.
Surveyors, Engineers & Town Planners
146A High Street, Cranbourne 3977
phone 059 964 133

LICENSED SURVEYOR (PRINT) [redacted]

SIGNATURE ..... DATE 30/05/94

REF 4127S VERSION DISK No. 478

DWG No. 4127S-1 VER A

..... DATE / /

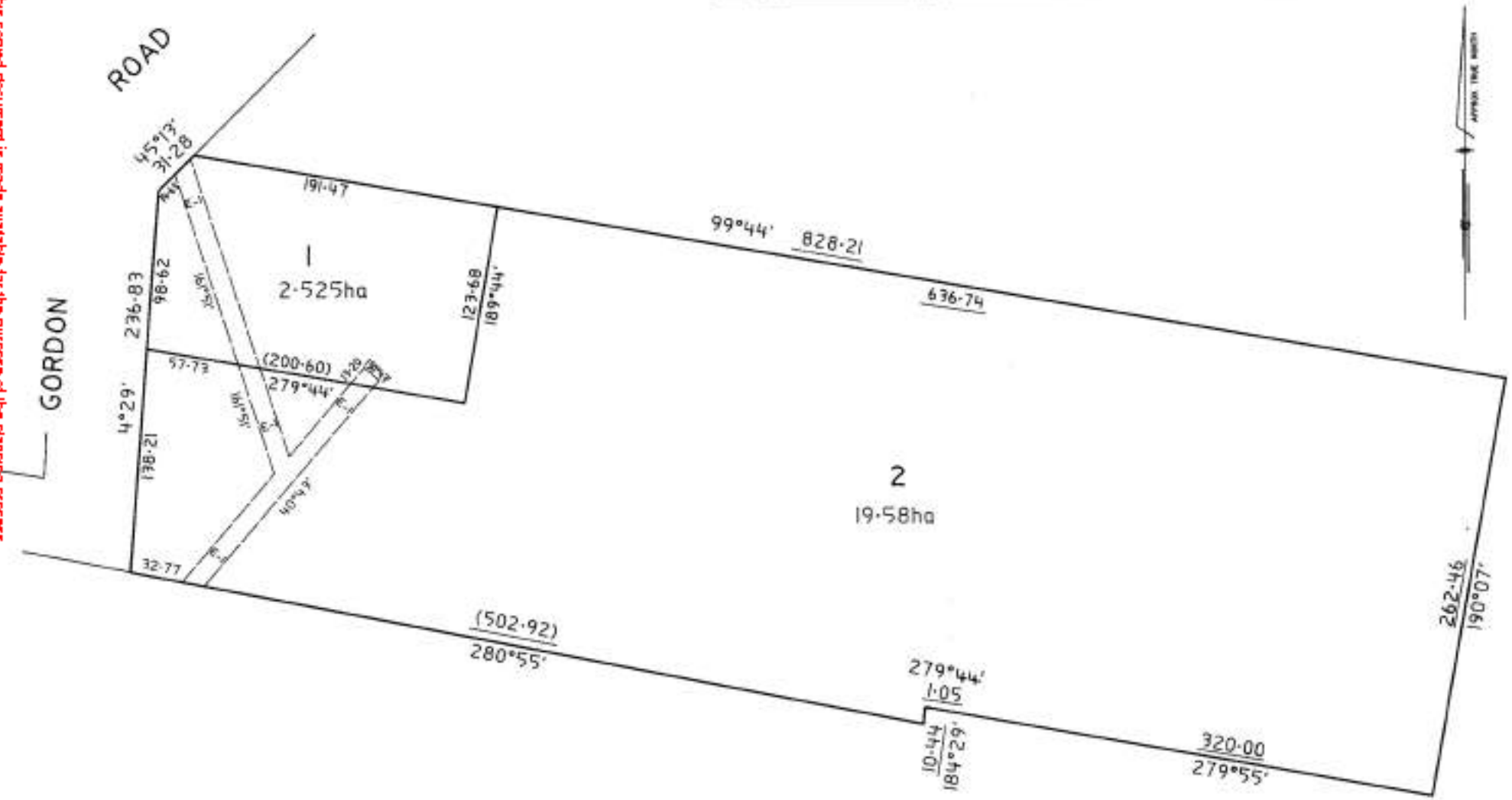
COUNCIL DELEGATE SIGNATURE

Original sheet size A3

PLAN OF SUBDIVISION

Stage No. /

Plan Number PS 335048C



Sheet 2 of 2 sheets

Nilsson, Noel & Holmes Pty Ltd.
Surveyors, Engineers & Town Planners.
146A High Street, Cranbourne 3977.
phone 059 964 133

ORIGINAL

SCALE	SHEET SIZE
1:2500	A3

SCALE

-25 0 25 50 75 100

LENGTHS ARE IN METRES

LICENSED SURVEYOR (PRINT) [redacted]

SIGNATURE ..... DATE 2 /6 /94

REF 4127S

DRAWING No. 4127S-2 VERSION A

DISK No. 479

.....

DATE / /

COUNCIL DELEGATE SIGNATURE

NORTH

This copied document is made available for the purpose of the planning process as set out in the Planning and Environment Act 1987. The information must not be used for any other purpose. By taking a copy of this document you acknowledge and agree that you will only use the document for the purpose specified above and that any dissemination, distribution or copying of this document is strictly prohibited.

Notes:

OWNER and/or BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

Report any discrepancies to 3D Design Group for directions prior to ordering materials and start of building works.

Do not scale drawings, written dimensions are to take precedence over scaled drawings.

Sheet Index

Sheet Number	Sheet Name	Rev.
100 Series – Site Plans		
A100	Site Context Plan	C
A101	Demolition Site Plan	C
A102	Tree Retention & Removal Plan	C
A103	Site Works Plan	B
A104	Proposed 500 Site Plan	C
A105	Proposed 200 Site Plan	C
200 Series – Floor Plans		
A200	Ground Floor & First Floor Plans	C
300 Series – Elevations		
A301	Elevations – Proposed	C
A302	Elevations – Proposed	B
900 Series – 3D Drawings		
A901	3D Perspectives	C

101 - 1 to 500 Site Context Plan

1 : 500

PLAN OF SURVEY

PHOTO 1: EXISTING DAM AT FRONT OF PROPERTY

PHOTO 2: EXISTING TREES LINING EXISTING GRAVEL DRIVEWAY

PHOTO 3: VIEW TOWARDS EXISTING SHED ON SUBJECT SITE

PHOTO 4: GARDENS AROUND EXISTING DWELLING ON SUBJECT SITE

PHOTO 5: EXISTING DWELLING TO BE DEMOLISHED

PHOTO 6: VIEW EAST FROM SUBJECT SITE

M. J. Reddie Surveys Pty Ltd

Revision: C

3D DESIGN GROUP

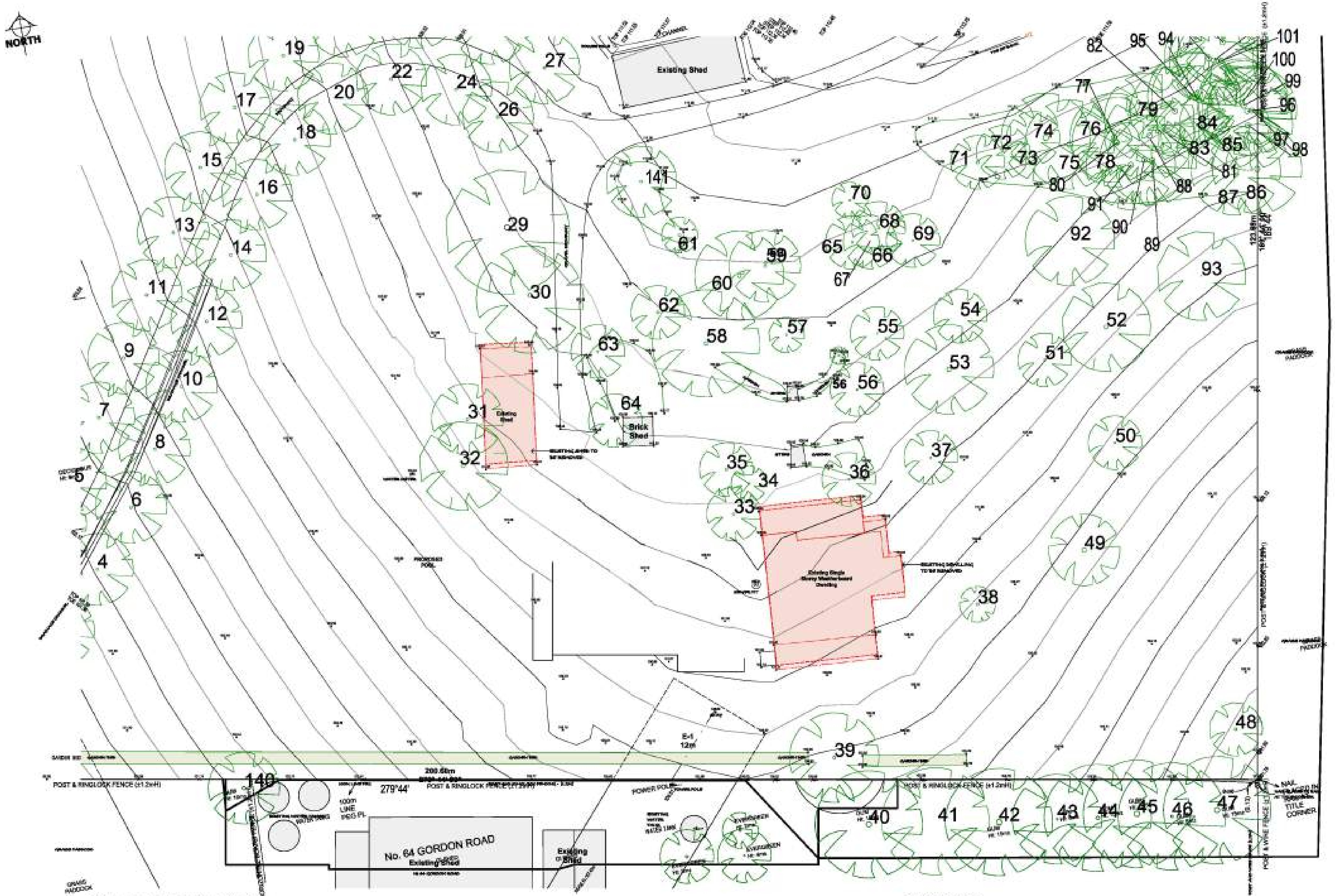
Title: Site Context Plan

Job: Proposed Dwelling

[redacted]

Address: 30 Gordon Road, Pakenham Upper VIC 3810

Design	Client	Sheet Size	A3
Drawn		Scale	1 : 500
Checked		Sheet	
Date	24.07.2025	Revision	C
Proj No.	23.014	Sheet No.	A100



101 - Proposed Building Demolition Plan

Notes:

OWNER and/or BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

Report any discrepancies to 3D Design Group for directions prior to ordering materials and start of building works.

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DEMOLITION NOTES

- Ensure reference is made to the supplied HAZMET report for the site to ensure that all identified hazardous materials are clearly identified and treated in accordance with this report
- Any unidentified materials located on site that may be of a hazardous nature are to be reported to 3D Design immediately. Any further works in this area are to cease until these materials can be identified
- Ensure that any demolition works are co-ordinated to minimise disruption / inconvenience to the Pakenham Main Street Kinder and its operations
- Ensure necessary consideration is given to the minimisation of noise pollution and dust suppression as part of the demolition works and provide detail of how these will be actioned prior to works commencing
- As part of the documented Scope of Works, all existing boundary fences are to be replaced. Ensure that all necessary notifications to adjoining property owners have been allowed for and that these works are co-ordinated with all neighbouring properties. Where the fence bordering the Pakenham Main Street Kinder is to be replaced, these works must be allowed to be completed outside of the Kinder operational hours, (i.e. during school holidays), to ensure segregation of the site from the Kinder and its clients

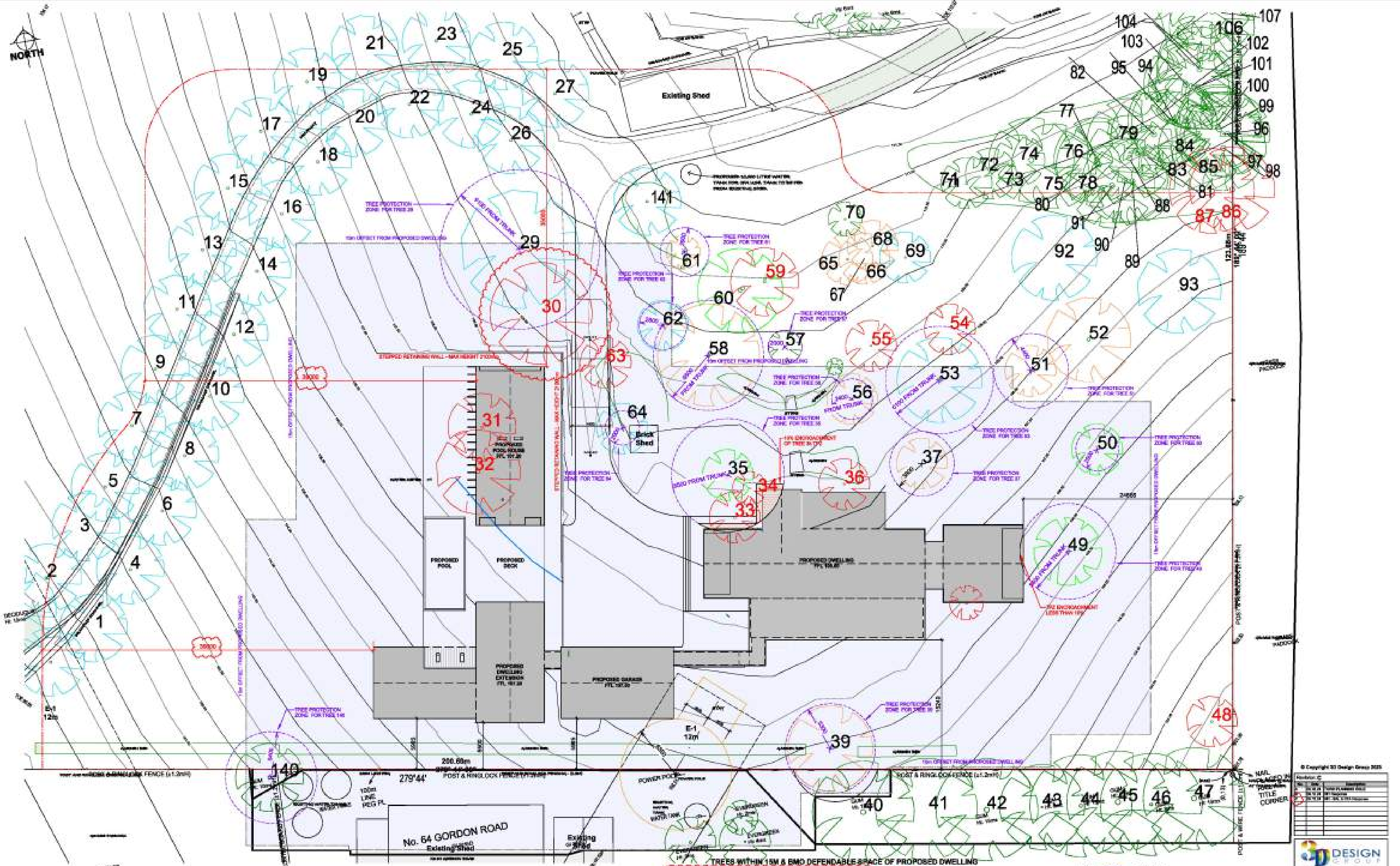
Revision: C

3D DESIGN GROUP

Title: Demolition Site Plan

Job: Proposed Dwelling

Design	Client	Sheet Size	A1
Drawn		Scale	As indicated
Checked	BE		
Date		Revision	C


NORTH
Existing Shed
PROPOSED POOL
PROPOSED DECK
PROPOSED POOL HOUSE
PROPOSED DWELLING EXTENSION
PROPOSED GARAGE
PROPOSED DWELLING
Brick Shed
No. 64 GORDON ROAD
Existing Shed
POST & RINGLOCK FENCE (±1.2mH)
POWER POLE
TITLE CORNER
E-1 12m
279°44'
206.88m
TREE PROTECTION ZONE FOR TREE 29
15m OFFSET FROM PROPOSED DWELLING
STEPPED RETAINING WALL - MAX HEIGHT 2100mm
PADDOCK
GRASS

TREES WITHIN 15M & BMO DEFENDABLE SPACE OF PROPOSED DWELLING

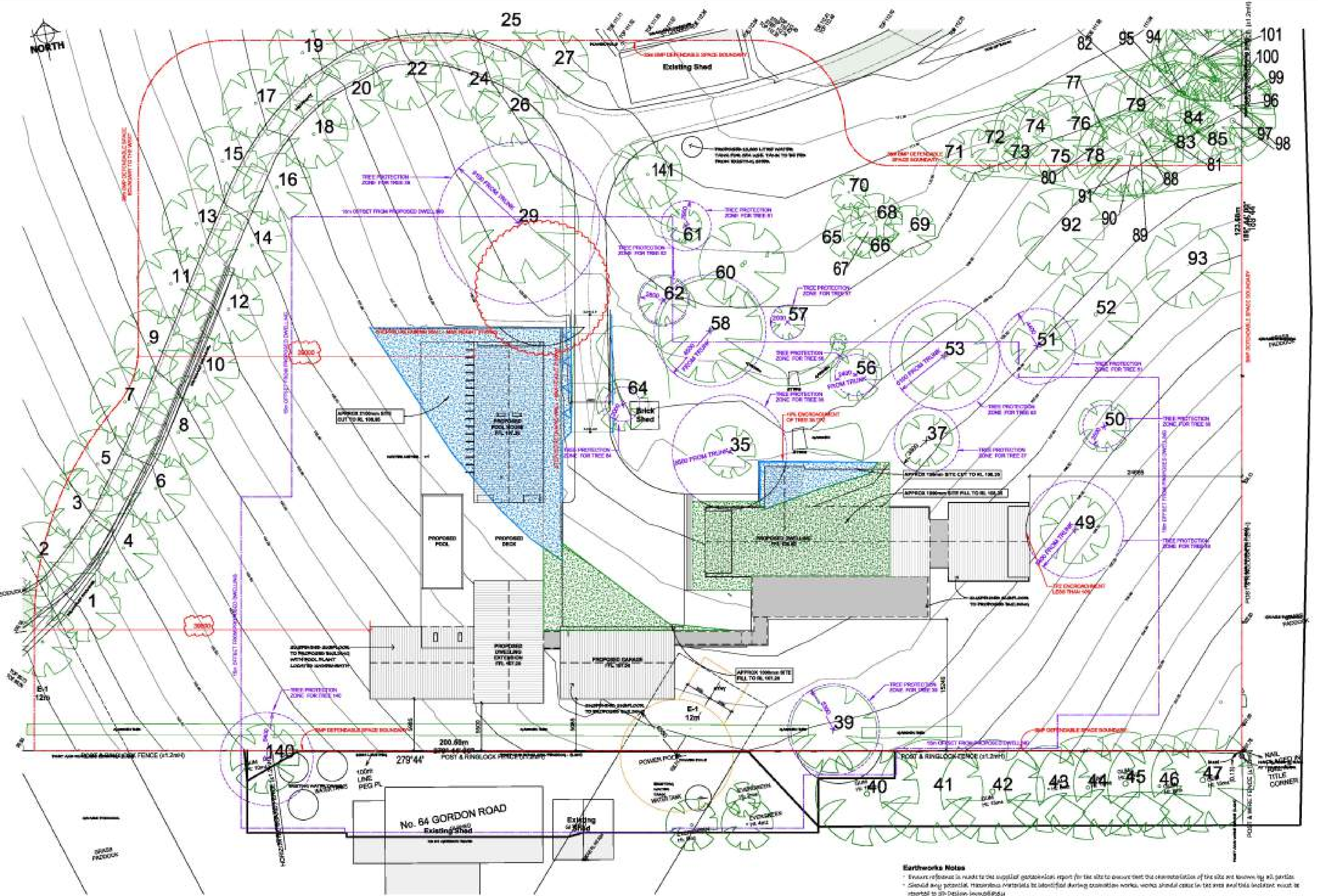
101 - Proposed Tree Retention and Removal Plan

3D DESIGN GROUP

Tree Retention & Removal Plan

Proposed Dwelling

[redacted]



101 - Proposed Site Works Plan

Notes:

OWNER and/or BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

Report any discrepancies to 3D Design Group for directions prior to ordering materials and start of building works.

Do not scale drawings, written dimensions are to take precedence over scaled drawings.

SITE WORKS

BUILDER IS TO CONFIRM ALL SITE WORKS PRIOR TO COMMENCEMENT OF ANY CROPS WORKS

- SITE CUT
- SITE FILL

Earthworks Notes

- Ensure reference is made to the supplied geotechnical report for the site to ensure that the characterisation of the site are known by all parties.
- Should any potential Hazardous Materials be identified during excavation works, works should cease in the area and this location must be reported to 3D Design immediately
- Should any rock or reef material, unstable ground or soft spots that are not outlined in the site geotechnical report be encountered, these are to be notified to 3D Design immediately for further instruction
- The contractor is responsible for the maintenance of the site for the duration of the project, which includes, but is not limited to the following:
  - Access / vehicle crossover
  - Temporary tracks / hardstands / working benches / set-down areas
  - Cleanliness
  - External road & footpath maintenance
  - Council nature strip
- Ensure necessary consideration is given to the minimisation of environmental pollution, including dust suppression, waste water run-off, etc. as part of the demolition works and provide detail of how these will be actioned prior to works commencing.

3D DESIGN GROUP

Title: Site Works Plan

Job: Proposed Dwelling

[redacted]

Address: 33 Gordon Road, Pakenham Upper VIC 3810

Design	Client	Sheet Size	A3
Drawn		Scale	As indicated
Checked			
Date	24.07.2025	Revision	B
Dwg No.	23.074	Sheet No.	A100

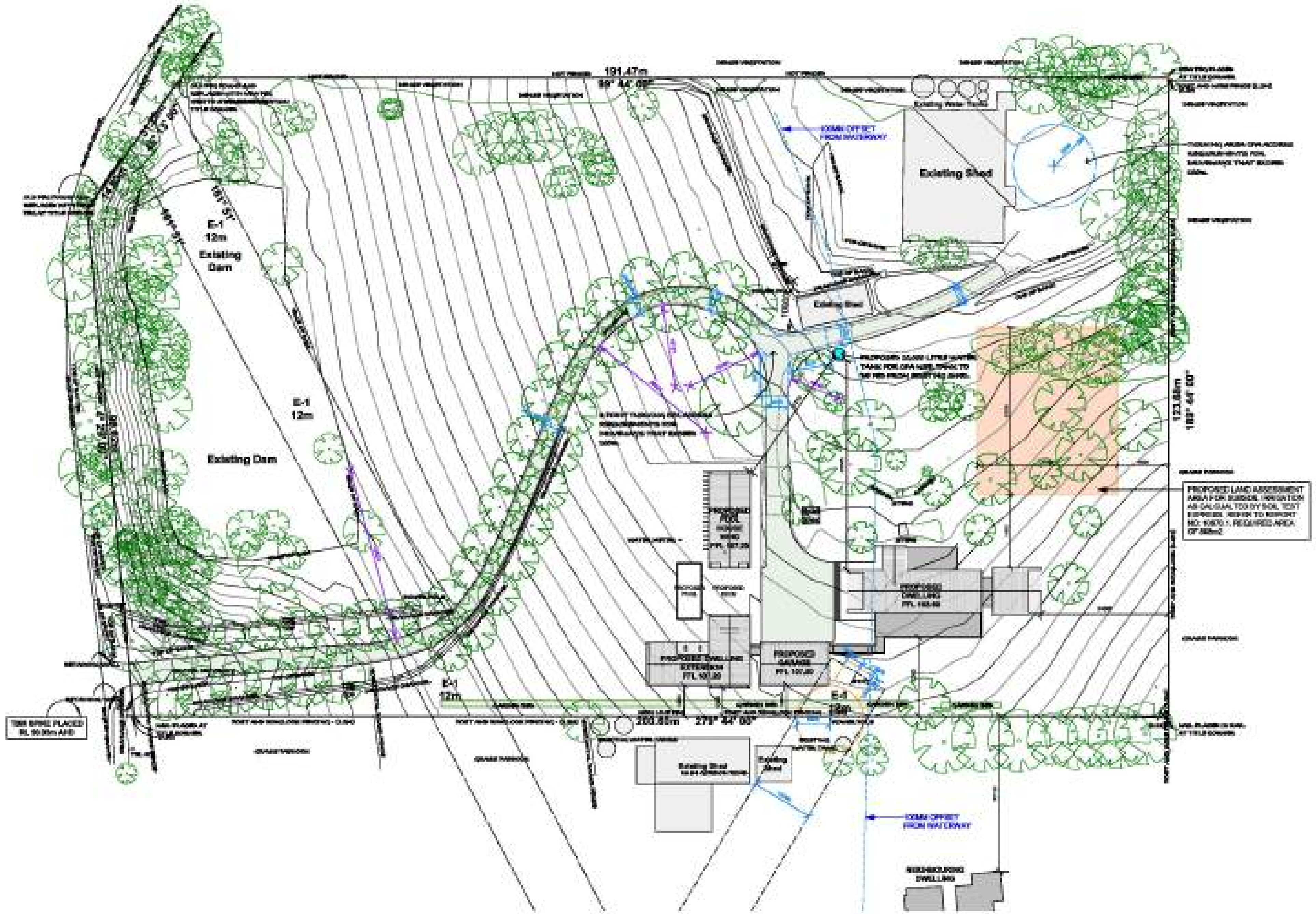
NORTH

Notes:

OWNER and/or BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

Report any discrepancies to 3D Design Group for directions prior to ordering materials and start of building works.

Do not scale drawings, written dimensions are to take precedence over scaled drawings.



101 - 1 500 Proposed Site Plan

PLAN OF SURVEY

M. J. Reddie Surveys Pty Ltd

Revision: C

3D DESIGN GROUP

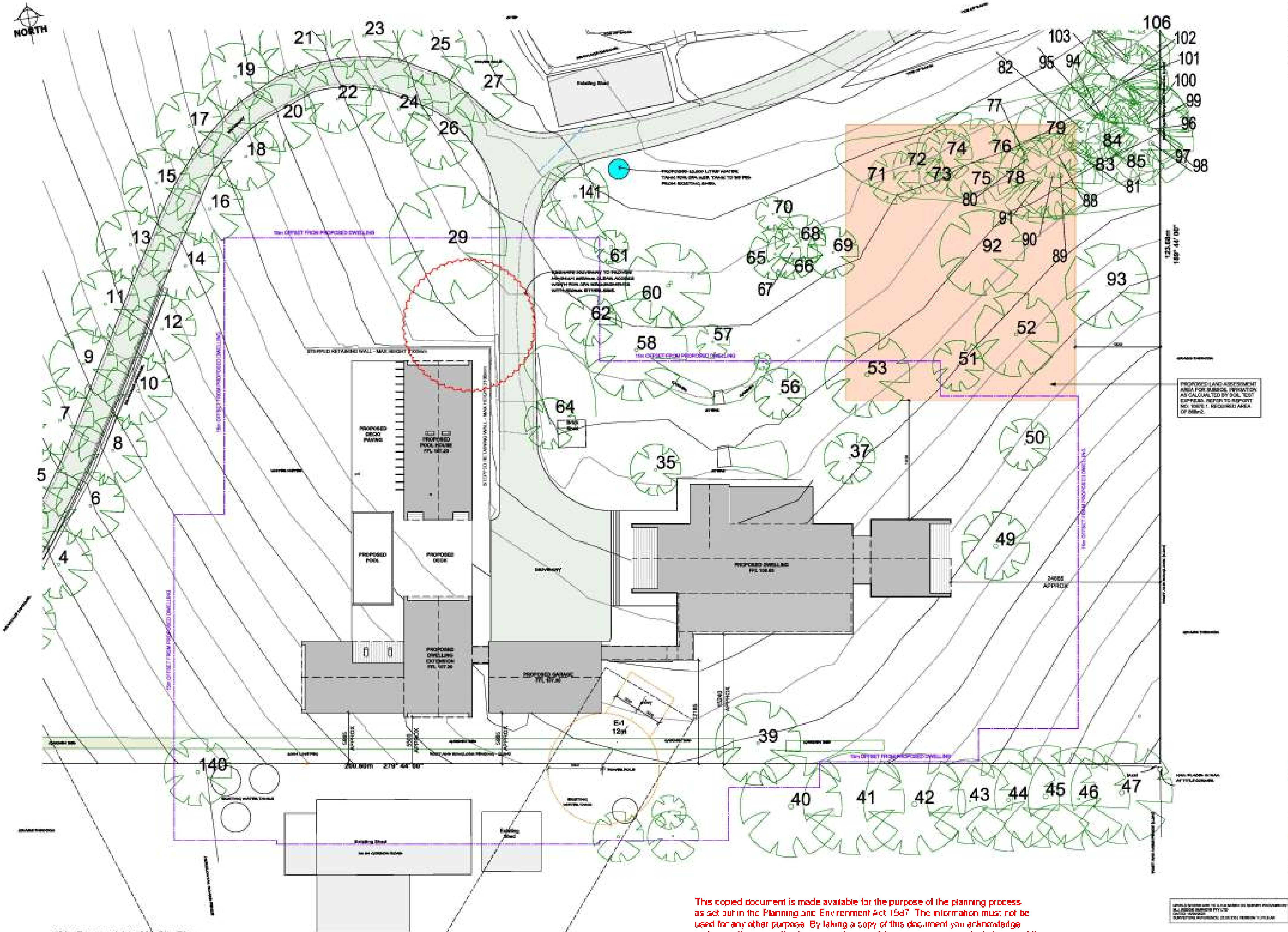
Title: Proposed 500 Site Plan

Job: Proposed Dwelling

[redacted]

Address: 38 Gordon Road, Pakenham Upper VIC 3810

Design	Client	Sheet Size	A3
Drawn		Scale	1 : 500
Checked			
Date	24.07.2025	Revision	C
Dwg No		Sheet No	A104


NORTH
PROPOSED POOL HOUSE
PROPOSED DECK PAVING
PROPOSED POOL
PROPOSED DECK
PROPOSED DWELLING EXTENSION
PROPOSED GARAGE
PROPOSED DWELLING
DRIVEWAY
Existing Shed
E-1
12m
APPROX
24668
APPROX.
260.60m 279° 44' 00"
123.68m
189° 44' 00"
PROPOSED LAND ASSESSMENT AREA FOR SUBSOIL IRRIGATION AS CALCULATED BY SOIL TEST EXPRESS. REFER TO REPORT NO. 10676.1. REQUIRED AREA OF 560m2.
STEPPED RETAINING WALL - MAX HEIGHT 2100mm
15m OFFSET FROM PROPOSED DWELLING
M. J. Reddie Surveys Pty Ltd
DESIGN GROUP
Proposed Dwelling
As indicated
A1

101 - Proposed 1 to 200 Site Plan

Notes:

OWNER and/or BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

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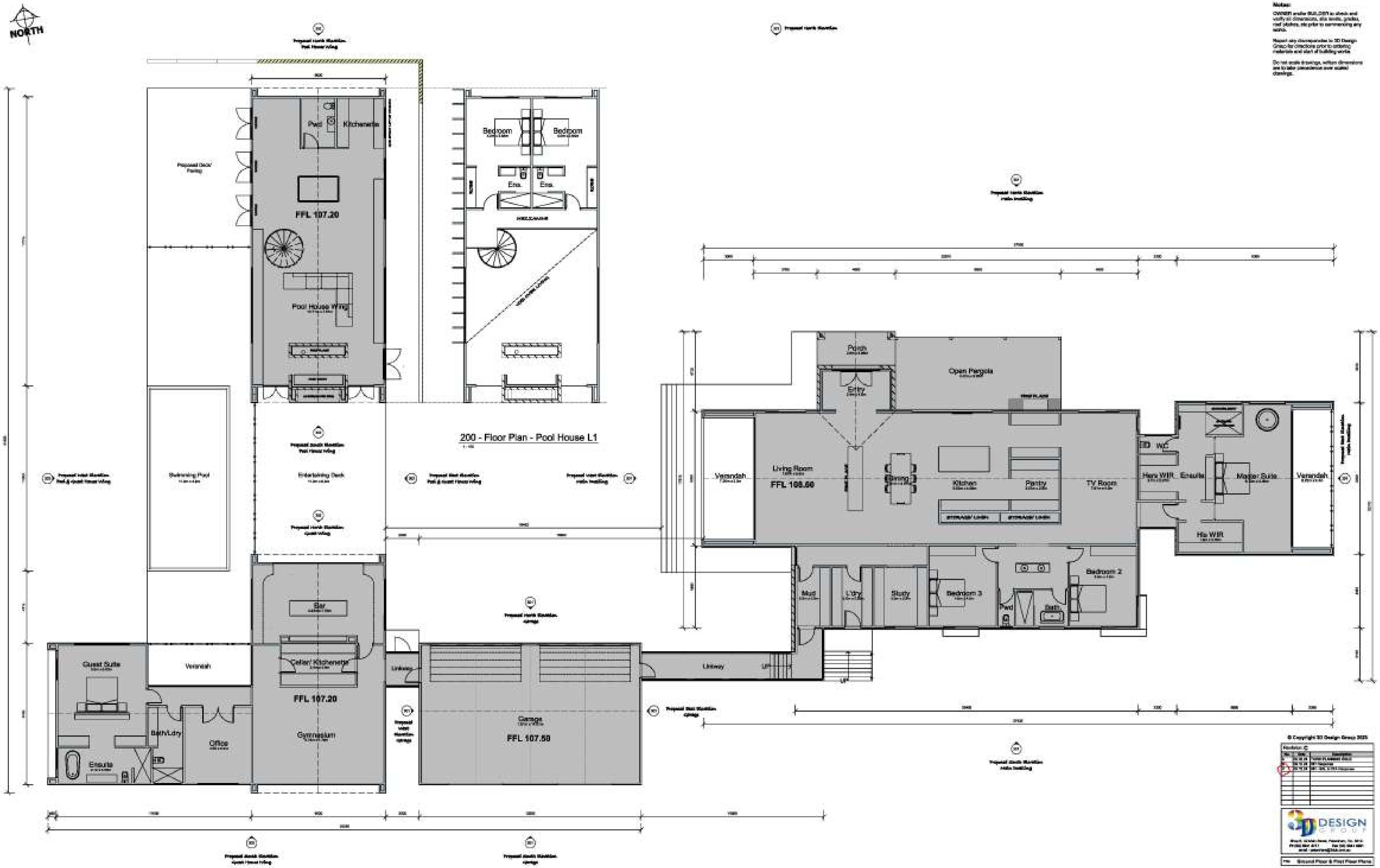
[redacted]



Proposed Floor Plan

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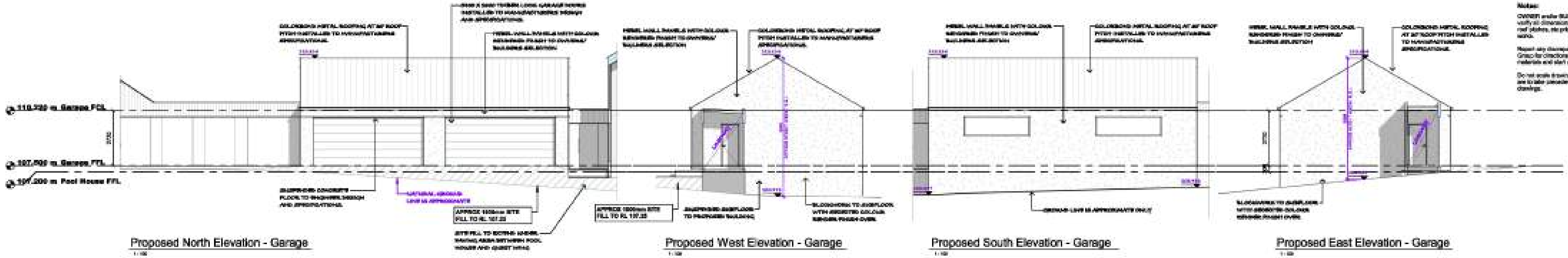
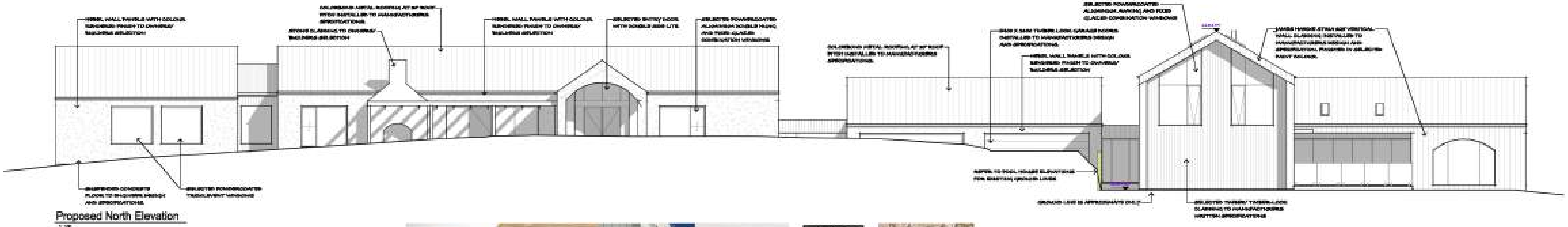


Proposed North Elevation - Garage

Proposed West Elevation - Garage

Proposed South Elevation - Garage

Proposed East Elevation - Garage

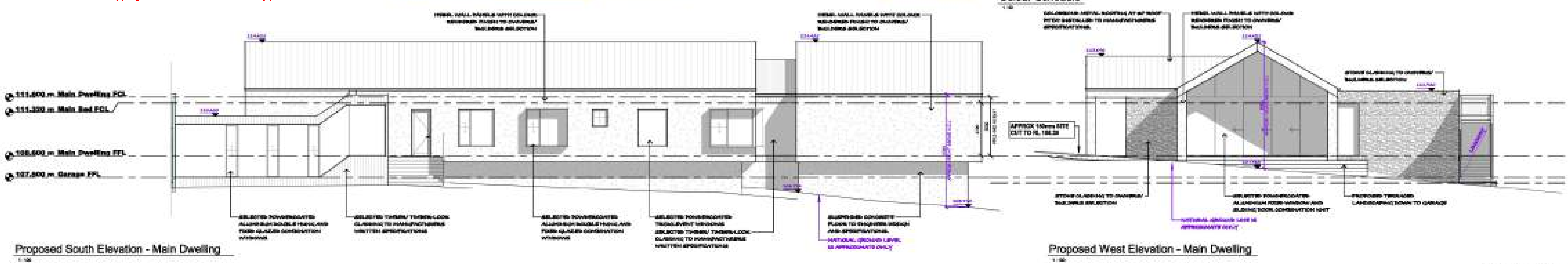


Proposed North Elevation

FINISH / COLOUR SCHEDULE

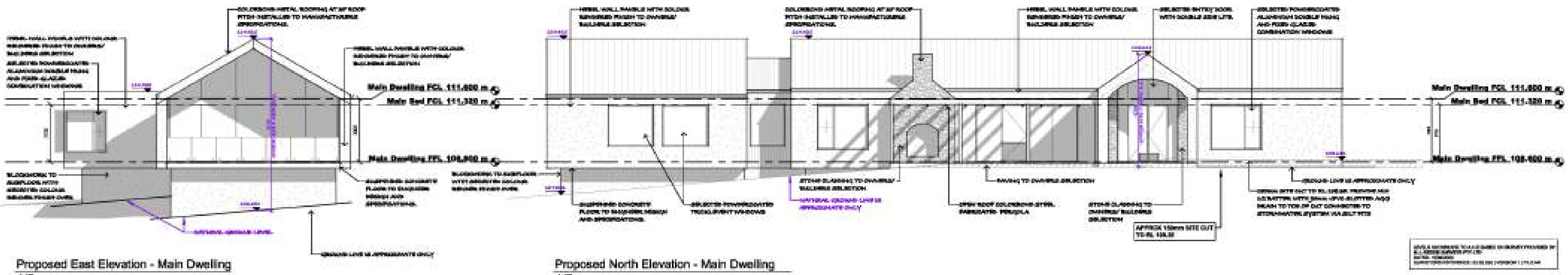
No.	Material	Colour
A	RENDER	WHITE
B	CLADDING	LIGHT TIMBER
C	JH STRIA CLADDING	WHITES
D	COLORBOND ROOF	COLORBOND - BLACK CHARCOAL MATT FINISH
E	WINDOWS/ALUMO	BLACK
F	STONEWORK	LIGHT WHITE/ BEIGE STONE

Colour Schedule



Proposed South Elevation - Main Dwelling

Proposed West Elevation - Main Dwelling



Proposed East Elevation - Main Dwelling

Proposed North Elevation - Main Dwelling

3D DESIGN GROUP

Notes:

OWNER/ builder BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

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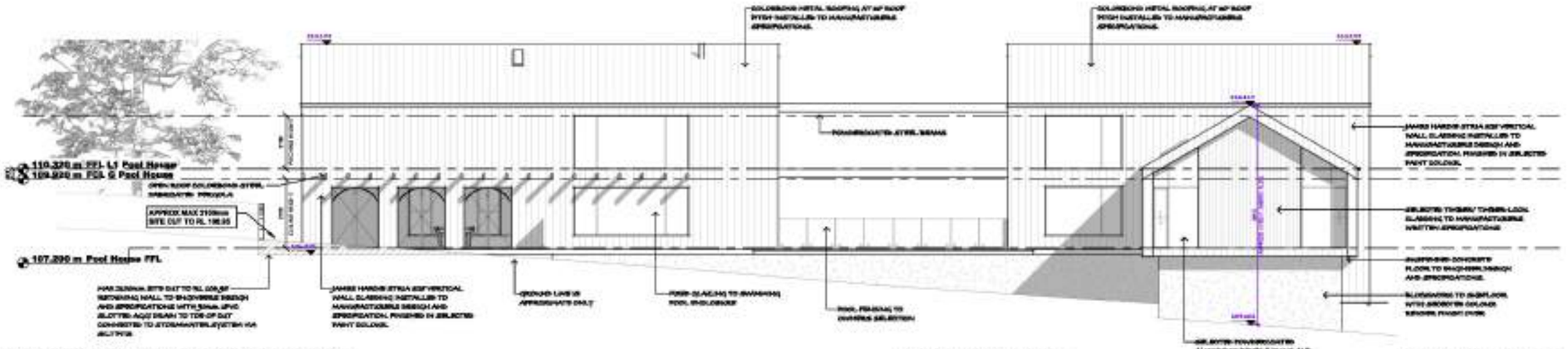
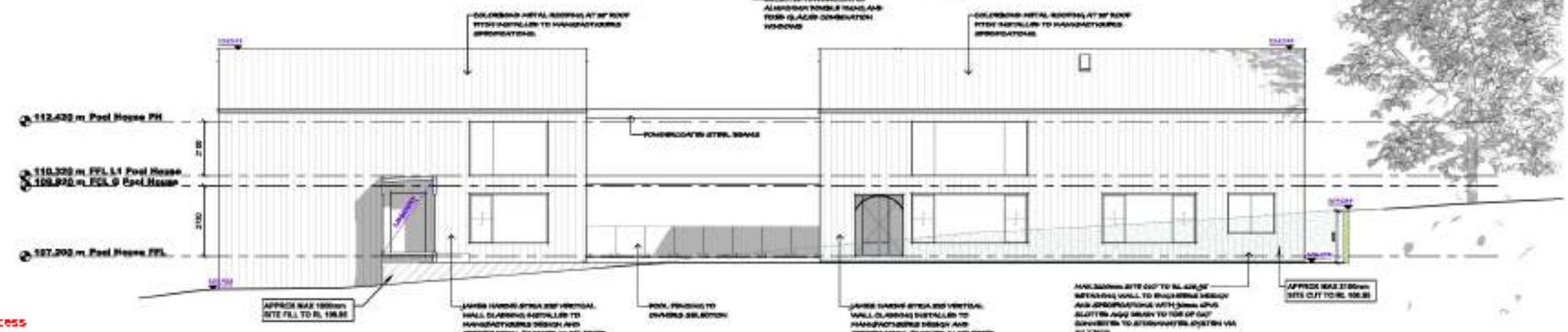
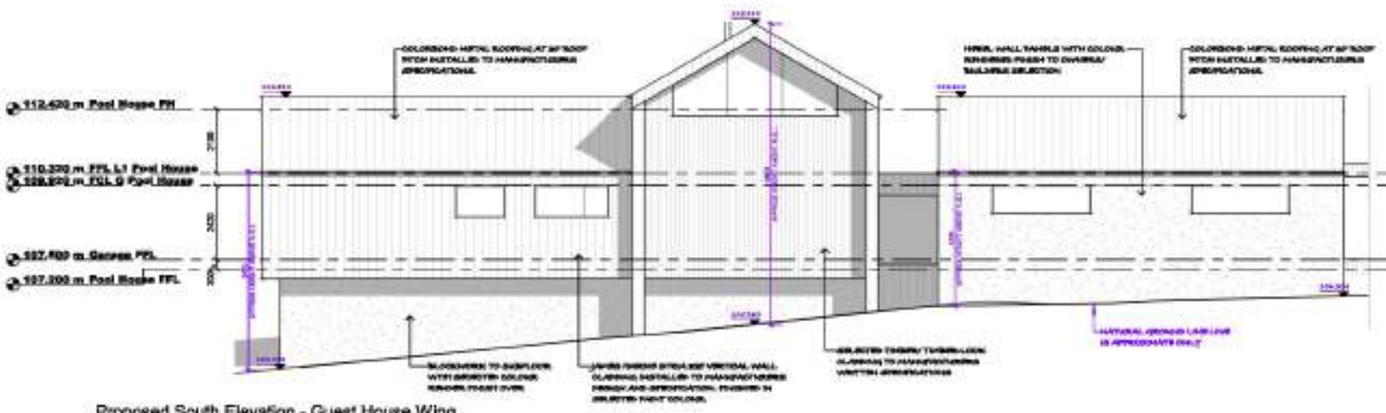


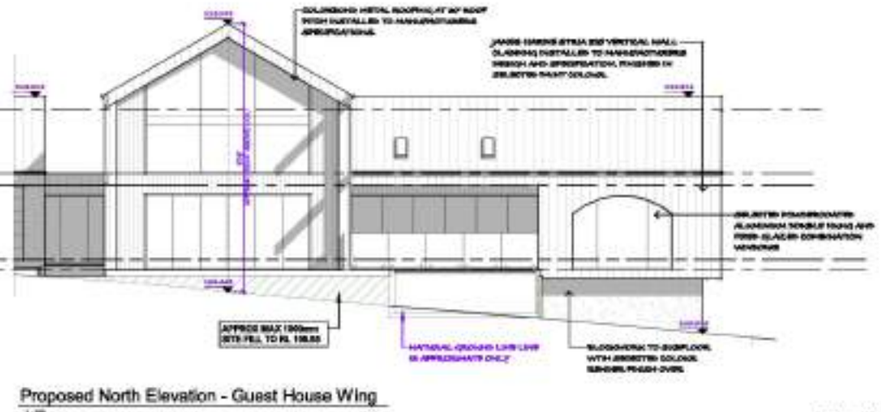
Proposed West Elevation - Pool & Guest House Wing



Proposed East Elevation - Pool & Guest House Wing

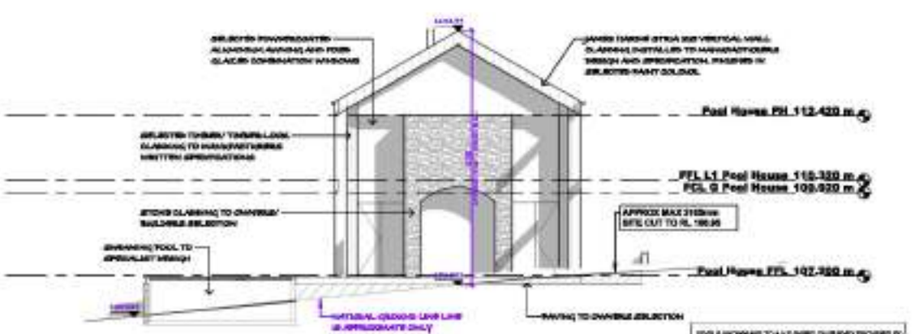


Proposed South Elevation - Guest House Wing



Proposed North Elevation - Guest House Wing

Proposed North Elevation_Pool House Wing



Proposed South Elevation - Pool House Wing

Title	Elevations - Proposed
Job	Proposed dwelling
	[redacted]
Address	33 Gordon Road, Pakenham Upper VIC 3810
Drawn	BD
Checked	BE
Date	04.07.2025
Dwg No	23.014
Sheet Size	A3
Scale	1 : 100
Issue	TP1
Revision	B
Sheet No	A202

Notes:

OWNER and/or BUILDER to check and verify all dimensions, site levels, grades, roof pitches, etc prior to commencing any works.

Report any discrepancies to 3D Design Group for directions prior to ordering materials and start of building works.

Do not scale drawings, written dimensions are to take precedence over scaled drawings.

View from Main Dwelling to Pool

3D View of Proposed Dwelling

3D View Main Dwelling & Garage

3D View Main Dwelling South

3D View Pool House

3D View back to Dwelling

Revision: C

3D DESIGN GROUP

Title: 3D Perspectives

Job: Proposed Dwelling

[redacted]

Address: 33 Gordon Road, Pakenham Upper VIC 3810

Design	Client	Sheet Size	A1
Drawn		Scale	
Checked	BE	North	
Date	24.07.2023	Revision	C
Dwg No	23.014	Sheet No	A001

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

8 October 2024

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

Dea[redacted]

Re: Planning permit application T240054PA
80 Gordon Road Pakenham Upper

I refer to Council's letter dated 12 March 2024 requesting further information in relation to the above application for a replacement dwelling. In response to Council's letter, the following information is provided:

1 Description of use
Access to the dwelling is provided via the existing driveway. As noted in the bushfire assessment, the driveway can be readily upgraded to provide suitable access for emergency vehicles.
Reticulated sewerage is not available to the site. A new onsite waste water system will be provided with the dwelling. The Land Capability Assessment undertaken by Soil Test Express and submitted with the application demonstrates that the land is suitable.
Reticulated water is not available to the site. Water for domestic and firefighting purposes will be provided via onsite tanks.
Reticulated electricity supply is available to the site with a supply pole located on the southern boundary of the site.

2 Electricity easement
Please find attached a letter of written consent from SP Ausnet for works within the electricity easement.

3 Site plan
Please find attached a set of revised plans including a tree retention and removal plan.

4 Elevation plans
Please find attached a set of revised plans including elevation plans.

5 Arborist report
Please find attached an updated arborist report as requested.

6 Native vegetation
No native vegetation requiring a permit under Clause 52.17 is proposed to be removed to construct the dwelling or provide defendable space for the dwelling. The only "native vegetation" to be removed is Pittosporum undulatum which is exempt as an environmental weed under the schedule to Clause 52.17.

7 Avoid and minimise statement

The proposed dwelling has been sited in close proximity to the existing dwelling which is surrounded by extensive managed gardens dominated by exotic species avoiding any impact on native vegetation and limiting any impact on other vegetation to smaller exotic species or environmental weeds. A variation has been sought to the defendable space requirements of the Bushfire Management Overlay to allow the retention of additional low risk trees in a managed garden setting.

8 Prohibited application

The definition of a dwelling under the Cardinia Planning Scheme is a building used as a self-contained residence which must include:

a) a kitchen sink;
b) food preparation facilities;
c) a bath or shower; and
d) a toilet and wash basin.

It includes outbuildings and works normal to a dwelling.

Whilst the proposed dwelling is large and contains 3 wings, there is nothing to say that it is more than one self contained dwelling. The design of the dwelling does not provide for the 3 wings to operate as separate independent dwellings. There is one main front access to the dwelling with other access points provided. A indicated in the documentation submitted with the application, my client has mature age children who still live at home but seek a level of independence and has regularly has family and friend come to visit but are unable to stay within the existing dwelling. The application before Council is for a single replacement dwelling to accommodate my clients family circumstances which is what Council should consider, and Council should not be speculating about how the dwelling may be alternatively used.

This position is reinforced by a number of decisions by VCAT.

In Percic v Cardinia SC (2004) VCAT1347, there was an application for a large dwelling with 3 wings and including 2 kitchens. The Tribunal found:

- It is therefore irrelevant to the Tribunal's consideration as to whether it is or is not contemplated that the property could at some future time be used for some other purpose. The application before the Tribunal is for a dwelling and if a permit is to issue that will be what is permitted and no other use. (Paragraph 13).
- There is nothing within the planning scheme that prohibits more than one kitchen sink, food preparation facilities or bathrooms and it is a matter of considering the facts and circumstances of each application to ascertain whether what is proposed constitutes one self contained residence, albeit large, or two self contained residences. (Paragraph 14).
- Although designed with separate wings all form part of the one building and the main access to all areas of the building is via a single main entry and access to the northern wing is gained internally via the main entry hallway and living area. Whilst there are numerous entry points to different parts of the building via the decks, this is not unusual

in a dwelling and does not lead to the conclusion that the northern wing is a separate dwelling. (Paragraph 19).

In Biasin v Mornington Peninsula SC (2004) VCAT1149, there was an application for a large dwelling with 2 wings. The Tribunal found:

- A *'dwelling'* is defined in the planning scheme as *'A building used as a self-contained residence which must include: a) a kitchen sink; b) food preparation facilities; c) a bath or shower; and d) a closet pan and wash basin. It includes out-buildings and works normal to a dwelling'*. Within this definition there is no restriction in relation to the number of such items including kitchen sinks and food preparation facilities that can be included in a dwelling. There is certainly a requirement that there must be at least a kitchen sink. The dwelling must be a building used as a self contained residence. (Paragraph 32)
- There is clearly one main entrance to the building although there are other points of entry where entry can be gained to the building via the three decks located at the southern end of the front wing, the north west corner of the front wing and the north east corner of the rear wing, this is not unusual for a dwelling. Whilst the area of the family room in the rear wing could have a microwave or such other food preparation facilities installed in it, there is no restriction on the number of areas with such facilities which could be located in a dwelling. There is only one door that allows access to the carport to and from the building and this is located midway along the hall way of the rear wing. Merely having separate living areas does not indicate this is more than one dwelling. A family can include parents, children and grandchildren and this type of design would no doubt allow for all members of the family to be accommodated. Paragraph 33)

In Sullivan v Moorabool SC [2021] VCAT 1240, the Tribunal deals with the question of what constitutes a dwelling which supports my clients proposal of being a single albeit large dwelling. (Refer to Paragraphs 20-32) The tribunal found:

- In terms of what constitutes a 'self-contained residence', the Tribunal said in *Banyule CC v Girbau* that a 'residence connotes a degree of permanence' and 'self-contained' in the context of a residence means a house or flat having its own kitchen, bedroom and toilet (i.e., not sharing any of these).
- On the basis of the permit applicant's submissions that immediate family (or friends) might occupy the west wing a few days once a fortnight, there would not be anyone occupying the west wing permanently (or for a considerable period of time). In the absence of a person living permanently in the west wing (or for a considerable period of time) I do not consider that the west wing would be used as a permanent residence, which would exclude the use of the west wing as a self-contained residence.
- Whilst the west wing has its own kitchen, bedrooms, toilet, and separate doorway access, it is proposed that the occupant of the west wing (the permit applicant's son) would share the

facilities in the east wing including the kitchen, laundry, dining and living areas, the alfresco area and bedrooms in the east wing with his parents. The expectation is that there will be a level of interaction between permit applicant's son (and grandchildren when they stay) with the permit applicant on a daily basis.

In terms of Council's questions in its email dated 10 May 2024 in relation to the use of the dwelling, the following responses are provided:

Who will be the respective occupants of the Main Wing, the Guest Wing and the Pool House Wing and for what period of time are they expected to occupy each wing?
The construction of the dwelling is proposed to be stage with my client and her family moving into the pool & guest house while the main wing is under construction. The Main Wing will be occupied by my client, her husband [redacted] and two of her three children who live at home, currently aged 12 and 6. One of the bedrooms on the upper level of the building marked "Pool House" will be occupied by a third child who live at home, who is currently 15. The idea of the Pool House is that it is a teenagers retreat, with some simple kitchen facilities and ensuite bathrooms to the bedrooms as if often the case in display homes these days. The main house and the pool house will be occupied permanently by my client's immediate family.

With respect to the building marked Guest House, the accommodation quarters are just that, guest facilities. They will be mostly unoccupied. My client's oldest son (28 years) and his fiancé will use these quarters approximately once per month when they visit for the weekend. [redacted] mother, who has been physically disabled due to a stroke for the past 25 years and who has recently been diagnosed with dementia, will also use these quarters approximately once per month, as respite for [redacted] who is her permanent carer. Note this building has been designed on one level to facilitate wheelchair accessibility.

What level of interaction is proposed between the occupants of the various wings?
The buildings are under one roofline to facilitate free flowing access between the buildings while maintaining privacy for family members as required. My client's family propose to interact as a normal family across three wings as per a normal large house. They simply propose to do this with a greater level of separation because we have the space to do so. They bought the 6 acre property for this very reason, to enable the family to have more space for independent activities including work, recreation and social interactions. They will still come together for meals on a daily basis in the Main Wing and/or the Outdoor Pool Deck, and the use of the pool and pool deck by the family would be inconsistent either the pool wing or guest wing being used as an independent permanent dwelling.

Are there shared spaces in the three wings and, if so, how are these spaces expected to be used by the occupants? For example, who is expected to use the gymnasium, office and bar in the Guest Wing?
All spaces within the three wings are shared spaces, hence a number of access points have been included for all wings to be easily accessed. The Pool House and Guest House fully open up onto a central pool deck consistent with being a single dwelling. Whereas the Pool House is designed to be a "Teenagers Retreat" with living space for a large television, games (e.g., pool table) and a small kitchenette to prepare snacks, the Guest House living space and kitchenette have been designed to facilitate food and drink preparation for the outdoor living space and pool. There is direct access from each end of the pool into both wings to enable toilet and shower access. The gymnasium will be used by all members of the family and has been located next to shower and

toilet facilities but away from frequently used sleeping quarters. The idea is to keep these recreational facilities away from the Main House, to enable 24/7 access without waking other family members.

The office in the Guest House is a private space to be used by my client [redacted] is a Professor at Victoria University including roles as Principal Research Fellow – Institute for Health and Sport, Victoria University, Course Chair – Bachelor of Biomedicine, Victoria University, and Program Director – Inherited & Acquired Myopathies, Australian Institute for Musculoskeletal Science, College of Health and Biomedicine, Victoria University. My client works from home 3-4 days per week, providing lectures to university students via Zoom, and providing research presentations and attending international meetings via Zoom at all hours of the day and night. An office outside of the Main Dwelling and away from family members who may be sleeping is necessary for her to her my job effectively with minimal disturbance.

How is each wing proposed to be accessed and what is the meaning of 'other access points provided' to the Guest Wing and the Pool House Wing?
Other access points simply means there are ways of accessing the pool wing and guest wing without going through the main dwelling, but there is only one main access (front door) to the dwelling. There are multiple access points to all wings to increase usability of shared spaces. All wings have direct access from the central courtyard, the garage (the Pool House Wing accesses the garage via the Guest Wing) and the Pool and Guest wing have additional access points via the pool deck and either end of the pool to facilitate shared recreational activities, showering and toileting.

What does the 'kitchenette' in the Guest Wing and the Pool House Wing comprise?
The kitchenettes in the Guest Wing and the Pool House Wing will include a bench, small (single sink) with running tap water and basic cooking facilities to facilitate snack preparation. A bar fridge will be included in the kitchenette in the Pool House to store condiments and drinks. A larger refrigerator will be included in the Guest Wing kitchenette to store a larger selection of drinks including wine and mixers, since this will be a functional bar that services all three wings around the central pool deck.

9 Location of effluent area
The Arborist Report notes that Trees 51, 52, 53, 71, 72, 73, 74, 75, 79, 80, 88, 89, 90, 91 & 92 are located within the proposed subsoil effluent envelope. In response to Council's concerns the effluent distribution system is proposed to be drip irrigation laid at grade within the specified area and covered with a layer of mulch. The Arborist Report notes the only impact of this system will be the delivery plumbing and the increased nutrient load of the effluent liquids. Given that the trees in this area are mostly exotic species and that it is likely that this soil has a good infiltration rate, it is likely that the increased nutrient load created by the effluent discharge will have little impact on the health or longevity of the affected trees. The location of the delivery plumbing for the effluent envelope is not specified and so its impact has not been calculated. However, provided that it is located outside the TPZ of retained trees, it will have little impact on the health and longevity of these trees.

10 Design issues

We say the design of the proposed dwelling is appropriate and is not inconsistent with other dwellings in the area. A bulky multi level dwelling has been avoided in favour of a largely single storey dwelling which more effectively blends into the landscape. As indicated the siting of the proposed dwelling has avoided any impacts on native vegetation and limited impacts on other planted trees associated with gardens on the site.

I trust this information is sufficient to allow Council to progress the consideration of the application.

Regards

[redacted]

Supporting submission
Planning permit application for a replacement dwelling
80 Gordon Road Pakenham Upper

XWB Consulting has been engaged by [redacted] to make a planning permit application for a replacement dwelling at 80 Gordon Road Pakenham Upper.

Site and locality

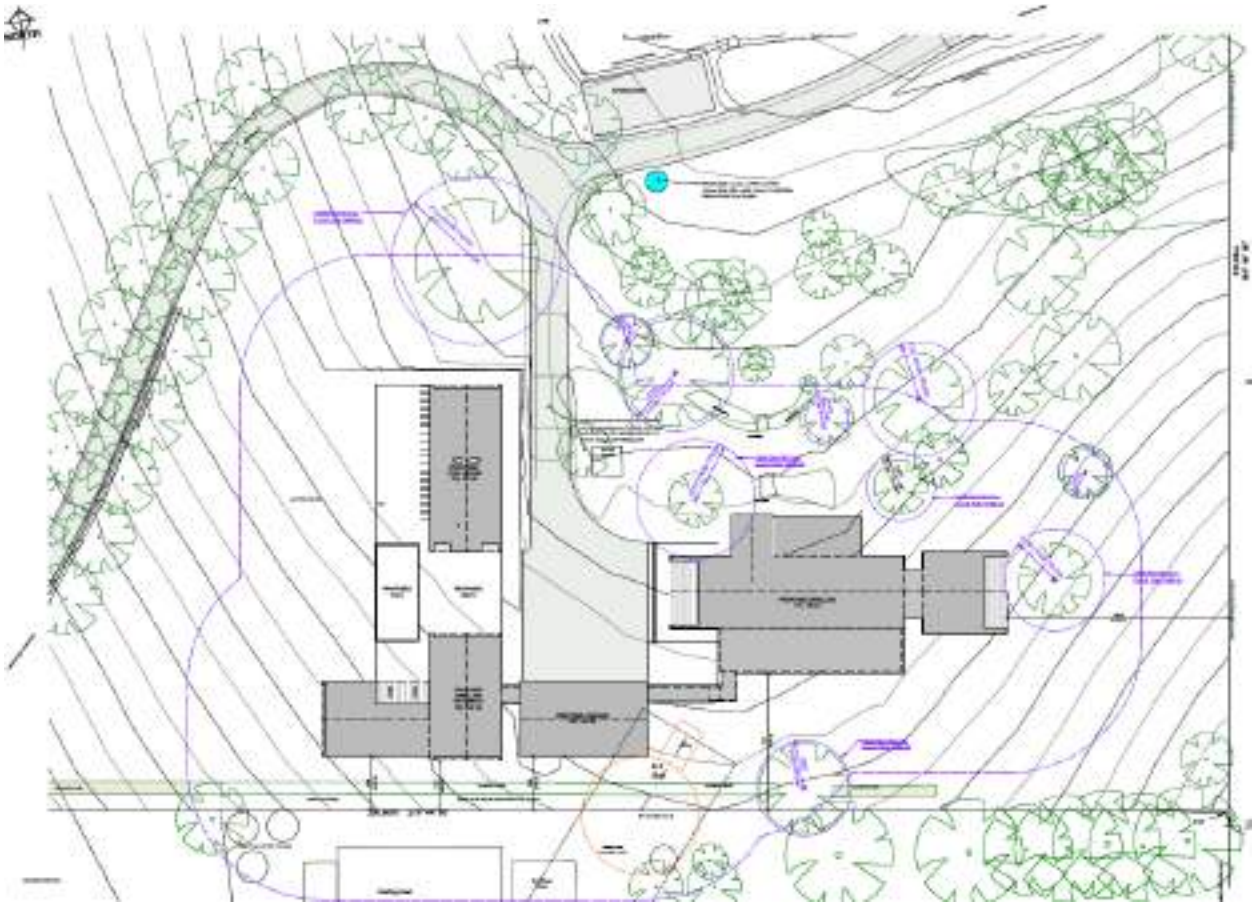
The site is located on east side of Gordon Road approximately 980m from Army Road. The site has a frontage to Gordon Road of 129.9m and an area of 2.525ha. The site contains an existing single storey dwelling and a number of outbuildings / sheds. There is a gentle ridge running north south through the middle of the site with the land falling to the west, south and east. The site has been largely cleared with planted vegetation along the driveway and around the existing dwelling. There is a large dam adjoining Gordon Road with some remnant vegetation around the dam. The site is shown on the locality plan and aerial photograph below:

The surrounding area comprises a mixture of open paddocks, apple orchards and areas of remnant bushland.

The land is contained in Certificate of Title Volume 10188 Folio 654, a copy of which has been submitted with the application. The land is not affected by any restrictive covenants which would affect the development of the land.

Proposal

The application proposes the construction of a replacement dwelling as shown in the plan below. Detailed plans have been submitted with the application.



The dwelling is a large dwelling with a number of interconnected elements. The elements will include the main dwelling wing, guest wing, pool house wing, pool and deck, and garage. My client has mature age children who still live at home but seek a level of independence and has regularly has family and friend come to visit but are unable to stay within the existing dwelling. Details of the proposed development include:

Main dwelling

- The main dwelling element will be setback approximately 145m from Gordon Road and will be setback 15m from southern property boundary. The main dwelling element is in the same location as the existing dwelling.
- The main dwelling element will have a floor area of 367.3sqm.
- The main dwelling element is single storey dwelling with a maximum height of 8.14m.
- The dwelling will comprise hebel and blockwork walls and a colourbond metal roof. The brick walls will be painted white and the roof colour is charcoal.

Garage

- The garage is located to the south west of the main dwelling element and is setback 5.5m from the southern property boundary.
- The garage will have a floor area of 119.2sqm.

- The maximum height of the garage is 5.97m above natural ground level.
- The garage will comprise rendered hebel walls and a metal roof. The rendered walls will be painted white and the roof colour is charcoal matching the dwelling.

Guest wing

- The guest wing is the closest element to Gordon Road with a setback of approximately 100m. The guest wing will be setback 5m from the southern property boundary.
- The guest wing will have a floor area of 188.8sqm. The guest wing will contain a guest suite with bedroom and ensuite, a kitchette, an office, gymnasium and entertaining area facing onto the pool deck.
- The guest wing is single storey although it will have a more significant building height due to the fall of the site and high vaulted ceilings. The maximum height is 9.8m above natural ground level.
- The guest wing will comprise metal sheet and timber clad walls and a metal roof. The metal walls will be white and the roof colour is charcoal matching the dwelling.

Pool house

- The pool house is located to the north of the guest wing and is well setback from Gordon Road and the southern property boundary.
- The pool will have a total floor area of 195.2sqm over 2 levels. The lower level will comprise an entertainment area with the upper level comprising 2 bedrooms.
- The maximum height of the pool house is 8.65m above natural ground level.
- The pool house will comprise metal sheet and timber clad walls and a metal roof. The metal walls will be white and the roof colour is charcoal matching the dwelling.

General

- The swimming pool and pool deck is located between the guest wing and pool house.
- The guest wing and garage adjoining existing sheds on the property to the south.
- Cut and fill will be required for the construction of the dwelling. The main area of cut is associated with the pool house element with a maximum cut in the north east corner of 2.35m. Filling is required for the main dwelling element and garage with a maximum depth of filling of 1m for the main dwelling element.
- A wastewater envelope is proposed to the east of the dwelling based on a land capability assessment undertaken by Soil Test Express.
- No removal of native vegetation is required for the construction of the replacement dwelling. The removal of a limited number of planted garden species of trees and shrubs is required for the construction of the dwelling.
- It is proposed to stage construction with the initial construction of the guest wing and pool wing which the clients will live in while the existing dwelling is demolished and the main dwelling wing is constructed.

Planning provisions

Planning policy

The following state planning policy provisions are relevant to the planning permit application:

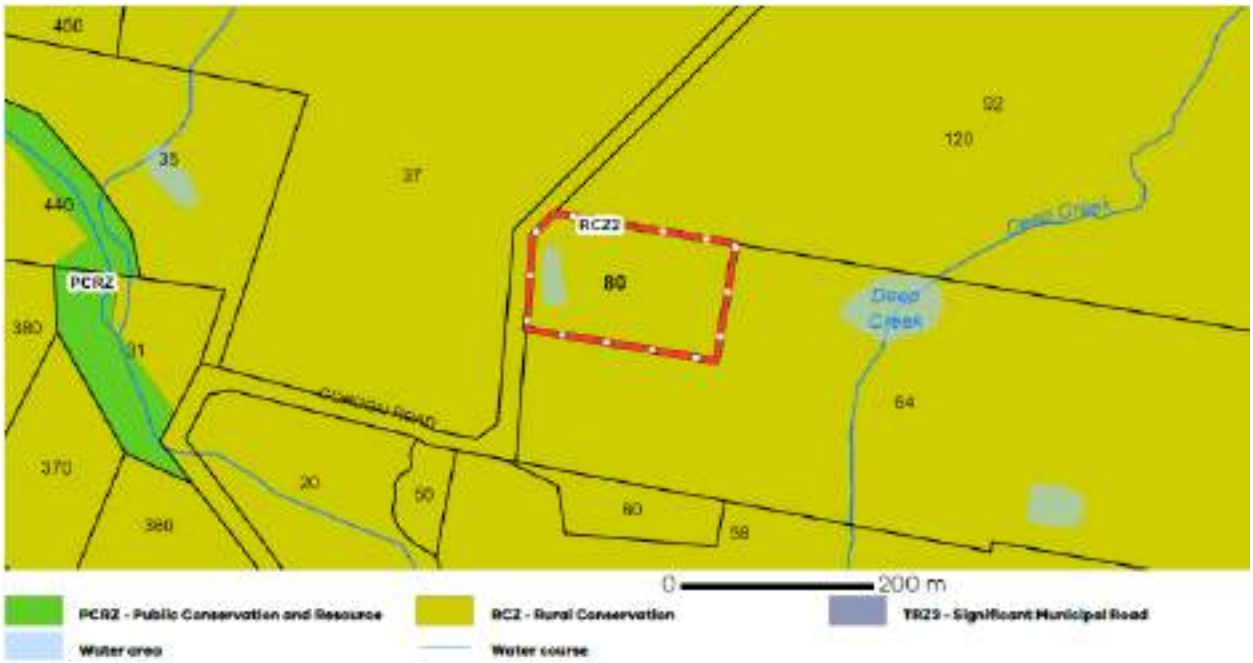
- 11.01-1R Green wedges
- 13.02-1S Bushfire planning

The following local planning policy provisions are relevant to the planning permit application:

- 21.02-2 Landscape
- 21.02-3 Bushfire risk

Zone provisions

The land is in a Rural Conservation Zone Schedule 2 (RCZ2) under the Cardinia Planning Scheme as shown on the plan below:



The purpose of the Rural Conservation Zone is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To conserve the values specified in a schedule to this zone.
- To protect and enhance the natural environment and natural processes for their historic, archaeological and scientific interest, landscape, faunal habitat and cultural values.
- To protect and enhance natural resources and the biodiversity of the area.
- To encourage development and use of land which is consistent with sustainable land management and land capability practices, and which takes into account the conservation values and environmental sensitivity of the locality.
- To provide for agricultural use consistent with the conservation of environmental and landscape values of the area.

- To conserve and enhance the cultural significance and character of open rural and scenic non urban landscapes.

The conservation values specified in the schedule to the zone are the 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.

A planning permit is required under the Rural Conservation Zone for the buildings and works associated with a dwelling.

Overlay provisions

The land is in an Environmental Significance Overlay Schedule 1 (ESO1) as shown on the plan below:

The purpose of the Environmental Significance Overlay is:

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

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

The schedule sets out the following statement of environmental significance:

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

characteristics are also a significant factor in terms of environmental hazards including erosion and fire risk.

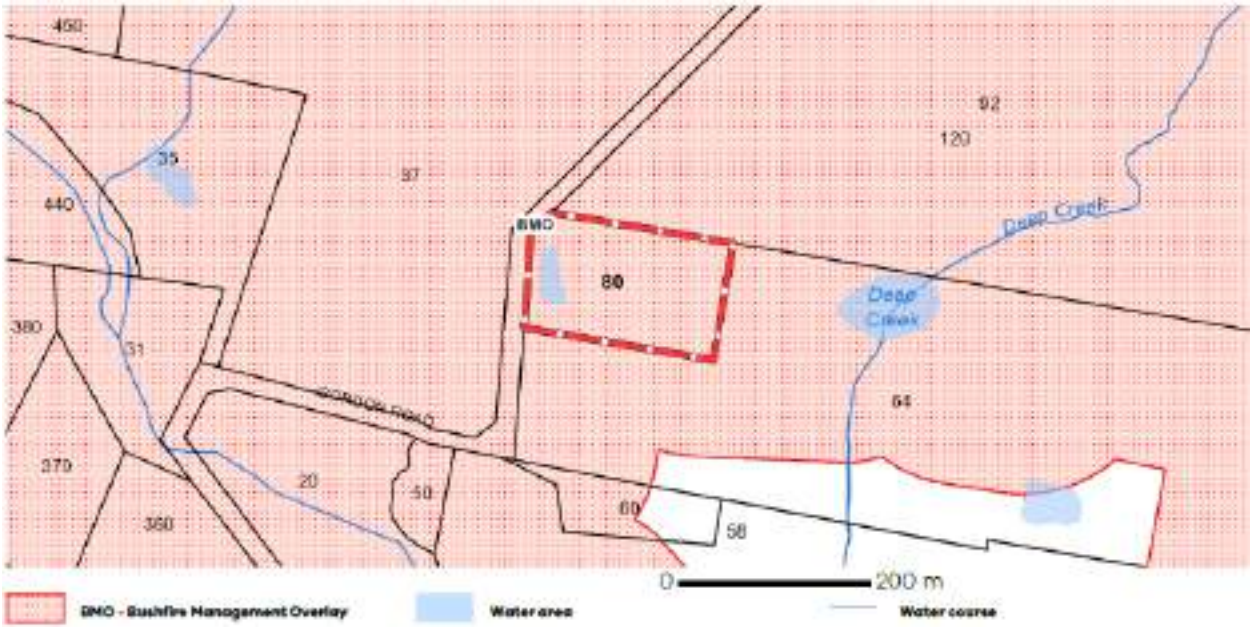
The vegetation supports the ecological processes and biodiversity of this area by forming core habitat areas within a complex network of biolink wildlife corridors. Sites containing threatened flora and fauna are defined as being of botanical and zoological significance. Development within and around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

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

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

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

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



The purpose of the Bushfire Management Overlay is to:

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

A planning permit is required to construct a building or construct or carry out works associated with the use of the land for accommodation.

Particular Provisions

The bushfire planning provisions at Clause 53.02 apply to the application. The purpose of the provisions is:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.
- To ensure that the location, design and construction of development appropriately responds to the bushfire hazard.
- To ensure development is only permitted where the risk to life, property and community infrastructure from bushfire can be reduced to an acceptable level.
- To specify location, design and construction measures for a single dwelling that reduces the bushfire risk to life and property to an acceptable level.

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

Consideration of proposal

The application proposes a replacement dwelling. The use of the land for a dwelling has already been established and it is not necessary to consider the appropriateness of the use as part of the application. Whilst the dwelling is large and contains a number of linked elements, it is still a single dwelling. The dwelling has been designed having regard to the needs to the client including the accommodation of mature children and visits from family and friends.

The replacement dwelling is largely located on the footprint of the existing dwelling and associated outbuildings. In this context, the setback of the dwelling from the neighbouring dwelling to the south is appropriate. A minimum setback of 5m is provided from the southern boundary for the guest wing and garage which largely adjoining existing sheds on the property to the south which provide a level of screening. The main dwelling element is setback 15m from the southern boundary similar to the existing dwelling and there a number of trees on the property to the south which also provide a level of screening. The built form is well articulated using materials and colours sympathetic to the landscape context of the site.

There is no native vegetation to be removed associated with the replacement dwelling. Four exotic trees planted as part of the existing gardens around the dwelling will need to be removed to construct the replacement dwelling. These trees have been identified as part of the arborist report submitted with the application. Two of the trees being evergreen alder trees have a moderate retention value while the other two trees have a very low retention value.

A bushfire assessment has been undertaken for the dwelling which concludes that the bushfire risk can be mitigated to an acceptable level. The proposed dwelling should be constructed to a bushfire attack level of BAL19. Defendable space should be provided for a distance of 35m or to the property boundary (whichever is the lesser) around the proposed dwelling. static water supply tank with a capacity of 10,000 litres should be provided for firefighting purposes. Access to the proposed dwelling should be provided via the existing driveway from Gordon Road which can be readily upgraded to provide suitable access for emergency vehicles.

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

AusNet services

8 Beaconsfield Avenue
Beaconsfield
Victoria 3807 Australia
T: 1300 360 795
www.ausnetservices.com.au

Date: 19th February 2024

[redacted]
3D DESIGN GROUP
42B MAIN ST
PAKENHAM VIC 3810

Dear [redacted]

BUILDING PERMISSION: 80 GORDON ROAD, PAKENHAM UPPER

Thank you for your request for an approval letter relating to building on an Electrical Distribution Easement across your property at the above address.

PERMISSIONS

Permission is granted subject to below conditions being met:

(1) No excavation within 3 metres of stay wire is permitted.

(2) No part of building or concrete paths etc are to be within 3 metres of stay wire. If any construction within this area is damaged during any maintenance of AusNet assets, property owner is responsible for costs.

(3) Building/s proposed to be built, require a minimum 6.0m horizontal offset to closest overhead electrical conductor (wire) and pole.

(4) Under No Go Zone guidelines, during construction all mobile plant to remain greater that 3000mm from overhead electrical assets and a spotter to be used between 3000-6400mm. Contact Extec on (03) 5941 7333 for a No Go Zone assessment if required prior to construction.

If you require any further information in relation to the above, please do not hesitate to contac[redacted]

Yours sincerely

[redacted]

Extec Services
On behalf of Ausnet Services

Bushfire Assessment
80 Gordon Road Pakenham Upper

February 2024
Revised December 2024

xwb consulting
Town Planning and Bushfire Consultants

BPAD Bushfire Planning & Design Accredited Practitioner Level 2

1. Introduction

XWB Consulting has been engaged by Emma Owen to prepare a bushfire assessment for a replacement dwelling on 80 Gordon Road Pakenham Upper.

The bushfire assessment has been prepared by:

2. Site Description

The site is located on east side of Gordon Road approximately 980m from Army Road. The site has a frontage to Gordon Road of 129.9m and an area of 2.525ha. The site contains an existing single storey dwelling and a number of outbuildings / sheds. There is a gentle ridge running north south through the middle of the site with the land falling to the west, south and east. The site has been largely cleared with planted vegetation along the driveway and around the existing dwelling. There is a large dam adjoining Gordon Road with some remnant vegetation around the dam. The site is shown on the locality plan and aerial photograph below:

The surrounding area comprises a mixture of open paddocks, apple orchards and areas of remnant bushland.

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

3. Proposal

The application proposes the demolition of the existing dwelling and the construction of a replacement dwelling largely in the same location.
The dwelling is a large dwelling with a number of interconnected elements. The elements will include the main dwelling, guest wing, pool house, pool and deck, and garage. Details of the proposed development include:

Main dwelling

- The main dwelling element will be setback approximately 145m from Gordon Road and will be setback 15m from southern property boundary. The main dwelling element is in the same location as the existing dwelling.
- The main dwelling element will have a floor area of 367.3sqm.
- The main dwelling element is single storey dwelling with a maximum height of 8.14m.
- The dwelling will comprise hebel and blockwork walls and a colourbond metal roof. The brick walls will be painted white and the roof colour is charcoal.

Garage

- The garage is located to the south west of the main dwelling element and is setback 5.5m from the southern property boundary.
- The garage will have a floor area of 119.2sqm.
- The maximum height of the garage is 5.97m above natural ground level.
- The garage will comprise rendered hebel walls and a metal roof. The rendered walls will be painted white and the roof colour is charcoal matching the dwelling.

Guest wing

- The guest wing is the closest element to Gordon Road with a setback of approximately 100m. The guest wing will be setback 5m from the southern property boundary.
- The guest wing will have a floor area of 188.8sqm. The guest wing will contain a guest suite with bedroom and ensuite, a kitchette, an office, gymnasium and entertaining area facing onto the pool deck.
- The guest wing is single storey although it will have a more significant building height due to the fall of the site and high vaulted ceilings. The maximum height is 9.8m above natural ground level.
- The guest wing will comprise metal sheet and timber clad walls and a metal roof. The metal walls will be white and the roof colour is charcoal matching the dwelling.

Pool house

- The pool house is located to the north of the guest wing and is well setback from Gordon Road and the southern property boundary.
- The pool will have a total floor area of 195.2sqm over 2 levels. The lower level will comprise an entertainment area with the upper level comprising 2 bedrooms.
- The maximum height of the pool house is 8.65m above natural ground level.
- The pool house will comprise metal sheet and timber clad walls and a metal roof. The metal walls will be white and the roof colour is charcoal matching the dwelling.

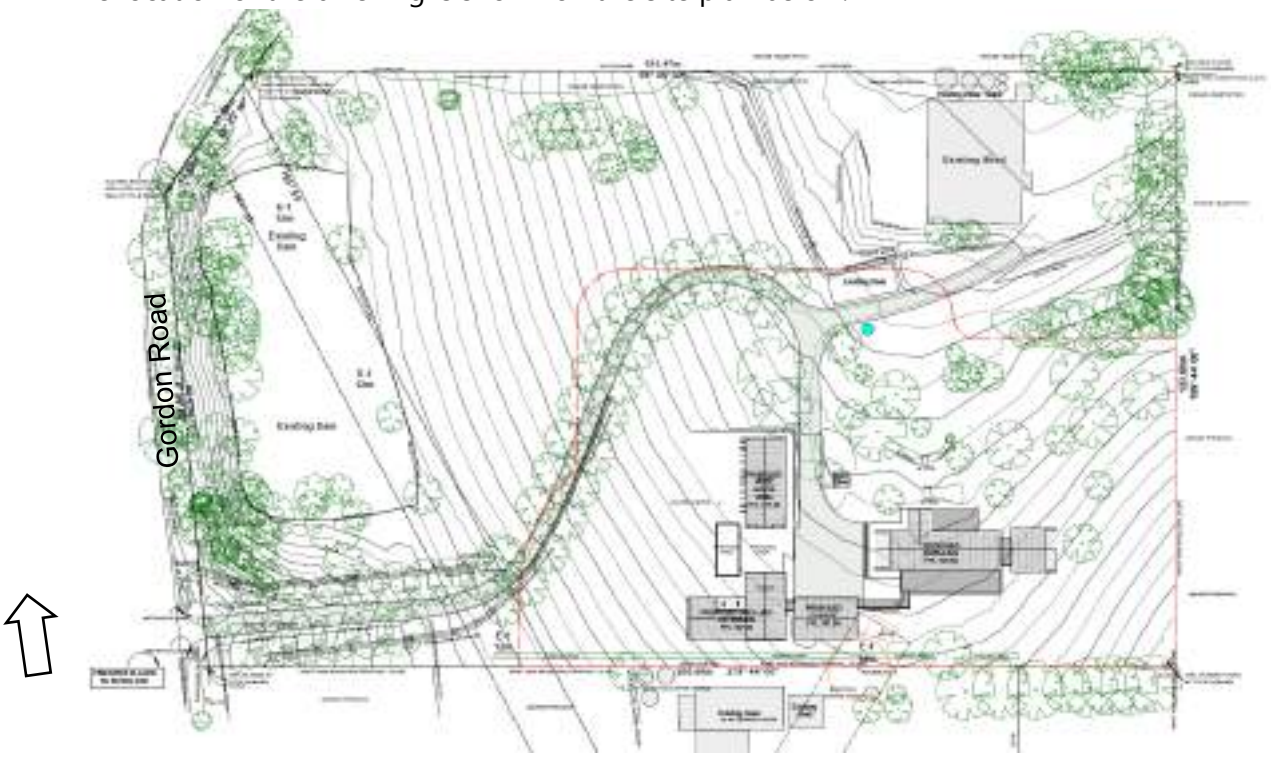
General

- The swimming pool and pool deck is located between the guest wing and pool house.
- The guest wing and garage adjoining existing sheds on the property to the south.
- Cut and fill will be required for the construction of the dwelling. The main area of cut is associated with the pool house element with a maximum cut in the north east corner

of 2.35m. Filling is required for the main dwelling element and garage with a maximum depth of filling of 1m for the main dwelling element.

- No removal of native vegetation is required for the construction of the replacement dwelling. The removal of a limited number of planted garden species of trees and shrubs is required for the construction of the dwelling.
- It is proposed to stage construction with the initial construction of the guest wing and pool wing which the clients will live in while the existing dwelling is demolished and the main dwelling wing is constructed.

The location of the dwelling is shown on the site plan below:



Planning Context

4.1 State Planning Policy

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

Protection of human life
Give priority to the protection of human life by:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4.2 Municipal Strategic Statement

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

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

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

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

Siting and design

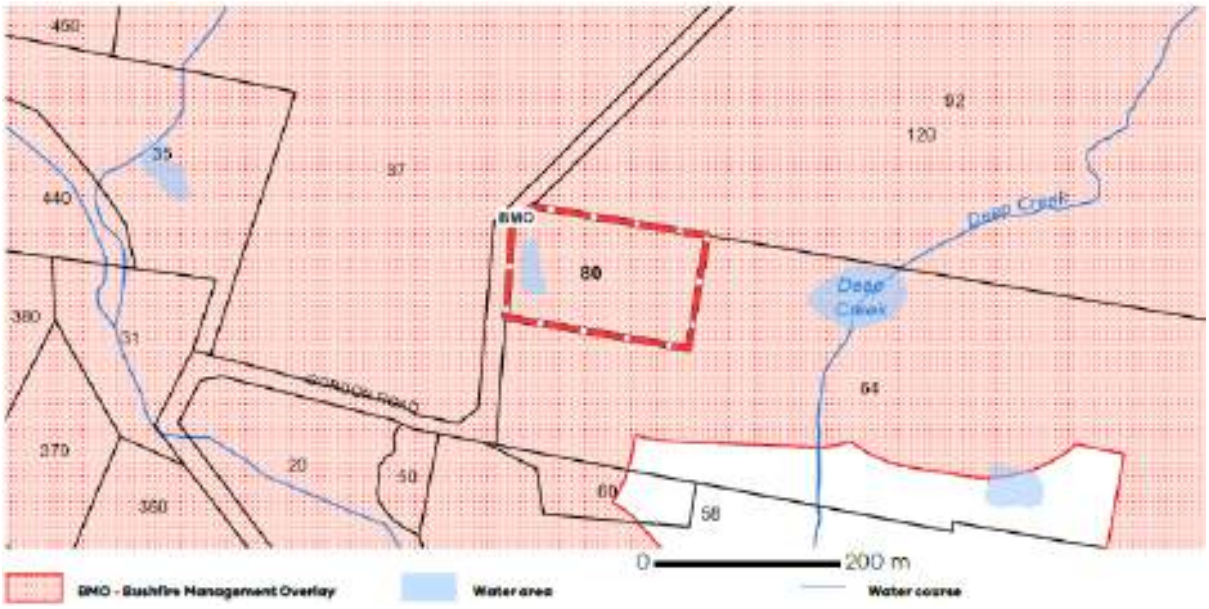
- Ensure that the siting and design of houses and other accommodation in high risk bushfire areas minimises the potential risk of loss of life or property from bushfire, particularly in terms of the existing slope, aspect and vegetation.
- Ensure all development has appropriately designed access for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

Fuel reduction

- Encourage the use of controlled burning to reduce ground fuel levels and to help maintain healthy and diverse forests and woodlands consistent with the Ecological Vegetation Class (EVC).
- Support the implementation of the Municipal Fire Prevention Plan 2016 and Municipal Wildfire Preparedness Plan 2006.

4.3 Bushfire Management Overlay

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



The purpose of the overlay is:

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

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

4.4 Bushfire Planning

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

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.
- To ensure that the location, design and construction of development appropriately responds to the bushfire hazard.
- To ensure development is only permitted where the risk to life, property and community infrastructure from bushfire can be reduced to an acceptable level.
- To specify location, design and construction measures for a single dwelling that reduces the bushfire risk to life and property to an acceptable level.

5. Bushfire Hazard Site Assessment

Under the provisions of the Bushfire Management Overlay, an application must be accompanied by a bushfire hazard site assessment including a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard must be prepared in accordance with Sections 2.2.3 to 2.2.5 of AS3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2. Photographs or other techniques may be used to assist in describing the bushfire hazard.

The plan below shows the bushfire hazard within 150m of the dwelling site:

The land to the north comprises managed areas within the site which would be classified as low threat vegetation under AS3959. The adjoining property to the north contains remnant bushland which would be classified as forest under AS3959. The slope of the forest area is upslope from the proposed dwelling. The areas to the north are shown in the photographs below:

Managed gardens to the north

Bushland area to the north

The land to the west comprises managed areas within the site which would be classified as low threat vegetation under AS3959. There is a small patch of bushland adjoining the dam which would be classified as forest under AS3959. The slope of the forest area is downslope from the proposed dwelling with a slope of 6°. There are areas of open paddock to the south west which would be classified as grassland under AS3959. The slope of the grassland area is downslope from the proposed dwelling with a slope of 6°. The areas to the west are shown in the photographs below:

Managed gardens to the west

Managed gardens down to the dam

West side of dam adjoining Gordon Road

West of Gordon Road

The land to the south comprises managed areas within the site and on the adjoining property to the south which would be classified as low threat vegetation under AS3959. There are areas of open paddock to the south west and south east which would be classified as grassland under AS3959. The slope of the grassland area is downslope from the proposed dwelling with a slope of 6° to the south west and 8° to the south east. The area to the south is shown in the photographs below:

Dwelling to south

To the south east, managed gardens in foreground, open paddocks in background

The land to the east comprises managed areas within the site which would be classified as low threat vegetation under AS3959. There are areas of open paddock to the east which would be classified as grassland under AS3959. The slope of the grassland area is downslope from the proposed dwelling with a slope of 9° to the south east. The areas to the east are shown in the photograph below:

To the east, managed gardens in foreground, open paddocks in background

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

	North	West	South	East
Vegetation type	Low threat Forest	Low threat Grassland Forest	Low threat Grassland	Low threat Grassland
Slope under classified vegetation	n/a Upslope	n/a Downslope 6° Downslope 6°	n/a Downslope 8°	n/a Downslope 8°
Distance to classified vegetation (from proposed dwelling)	n/a 75m	n/a 20m 70m	n/a 20m	n/a 25m

6 Bushfire Hazard Landscape Assessment

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

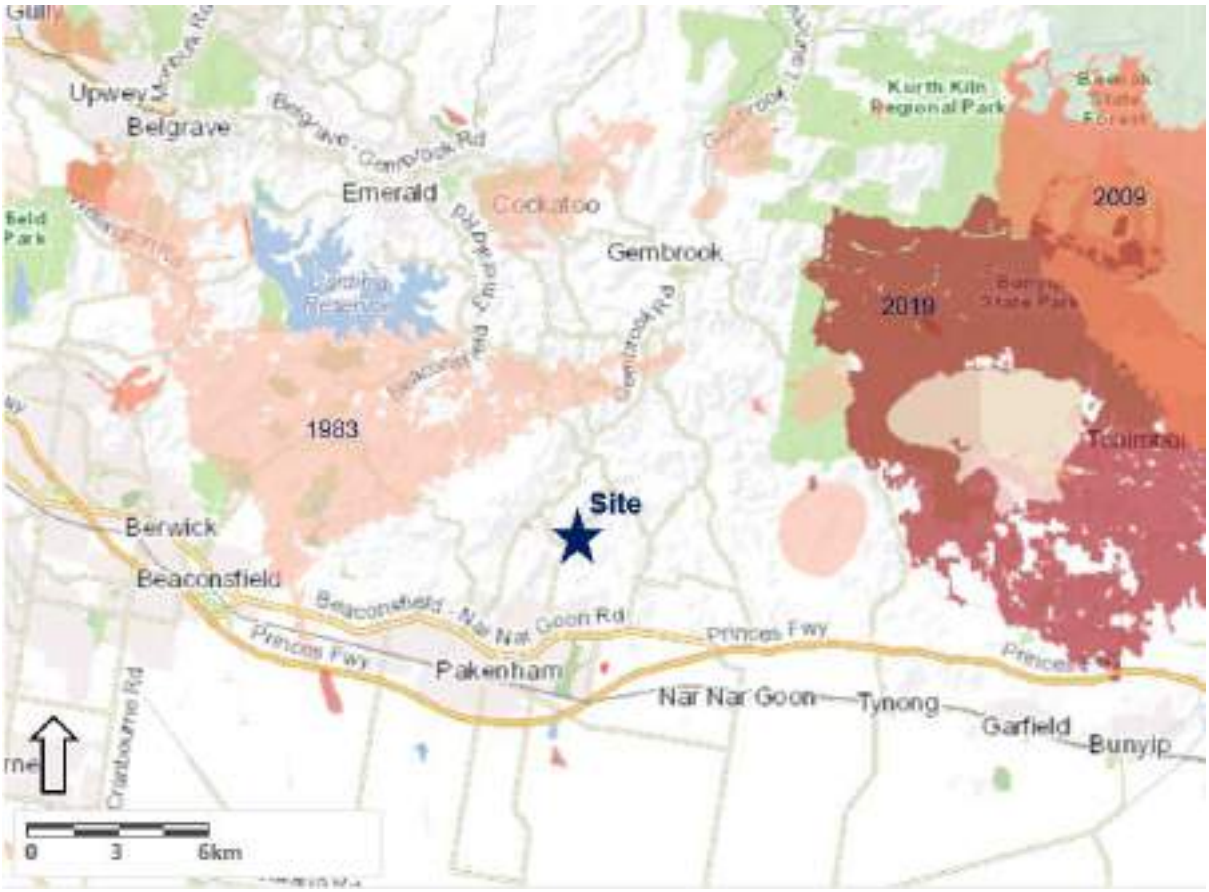
The site and surrounding landscape context are shown on the plan below:

The area to the north west and north comprises significant areas of bushland with moderate to steep slopes in the Pakenham Upper, Mount Burnett and Dewhurst areas. To the south are existing urban areas around Pakenham whilst to the east are a mix of open paddocks and pockets of bushland.

In south eastern Australia, the greatest bushfire threat occurs when there is a strong dry north westerly wind followed by a south westerly wind change such as occurred on Black Saturday in 2009 and Ash Wednesday in 1983. Under these conditions there is the potential for:

- Long run fires from the north and north west through bushland areas.
- Such fires are likely to result in spot fires ahead of the main fire as a result of embers.

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



Most notable is the Ash Wednesday fire in 1983, Bunyip State Park fire in 2019 and the Black Saturday fire in 2009. All fire indicate the risk associated with a fire run under the influence of a strong north westerly wind and the potential risk for a fire to the north or north west of the site.

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

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

6 Bushfire Management Statement

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

6.1 Landscape, siting and design

Objectives

- Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.
- Development is sited to minimise the risk from bushfire.
- Development is sited to provide safe access for vehicles, including emergency vehicles.
- Building design minimises vulnerability to bushfire attack.

Applicable approved / alternative measures

AM 2.1 The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.

AM 2.2 A building is sited to ensure the site best achieves the following:

- The maximum separation distance between the building and the bushfire hazard.
- The building is in close proximity to a public road.
- Access can be provided to the building for emergency service vehicles.

AM 2.3 A building is designed to be responsive to the landscape risk and reduce the impact of bushfire on the building.

Bushfire management statement response

There is the potential for bushfires in the surrounding landscape to impact on the site, particularly fires within the bushland to the north / north west. The proposed dwelling is a replacement dwelling and is to be constructed largely on the site of the existing dwelling which has managed grass areas around it and managed areas on the property to the south. The separation from the bushland to the north and west has been maximised. The bushfire risk from the landscape beyond the site can be mitigated to an acceptable level subject to the ongoing management of the land surrounding the dwelling as managed gardens and subject to appropriate building construction measures. The design dwelling and proposed materials are bushfire resilient. The dwelling is located in relatively close proximity to Gordon Road which is a public road and access can be readily provided for emergency vehicles.

6.2 Defendable space and construction

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

Applicable approved / alternative measures
AM 3.1 A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person's unit, industry, office or retail premises is provided with defendable space in accordance with: • Table 2 Columns A, B or C and Table 6 to Clause 53.02-5 wholly within the title boundaries of the land; or • If there are significant siting constraints, Table 2 Column D and Table 6 to Clause 53.02-5. The building is constructed to the bushfire attack level that corresponds to the defendable space provided in accordance with Table 2 to Clause 53.02-5.

Bushfire management statement response
Having regard to the nature of the surrounding landscape it is considered that the proposed dwelling should be constructed to a bushfire attack level of BAL29 given the setback from the bushland type vegetation to the west. This will afford a higher level of bushfire resilience from ember attack, burning debris and radiant heat. Defendable space should be provided for a distance of 39m to the west, 35m to the north and to the property boundary to the east and south noting the grassland or low threat vegetation to the south west, south and south east. Table 6 of Clause 53.02 requires defendable space to be managed in accordance with the following requirements: • Grass must be short cropped and maintained during the declared fire danger period. • All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period. • Within 10 metres of a building, flammable objects must not be located close to the vulnerable parts of the building. • Plants greater than 10 centimetres in height must not be placed within 3m of a window or glass feature of the building. • Shrubs must not be located under the canopy of trees. • Individual and clumps of shrubs must not exceed 5 sq. metres in area and must be separated by at least 5 metres. • Trees must not overhang or touch any elements of the building. • The canopy of trees must be separated by at least 5 metres. • There must be a clearance of at least 2 metres between the lowest tree branches and ground level. Two variations are sought to the defendable space requirements as alternative measures based on the managed nature of the gardens around the existing and proposed dwelling. Firstly it is proposed to retain the existing rows of plane trees either side of the driveway which would not meet the canopy separation requirements above on the basis that trees pose a low bushfire risk given they are exotic trees with tight smooth bark and are in a managed lawn environment as shown in the photographs below:

The second is the retention of a number of smaller exotic trees within the existing managed garden which would not meet the canopy separation requirements. The trees pose a low bushfire risk given their location within a managed exotic garden and includes trees 39, 51, 52, 56, 58, 61, 65, 66, 67 and 68.

Tree ID: **39**

Genus / species: *Robinia pseudoacacia*
Deciduous — Black Locust

Height (m):	9	Structure:	Poor
Width (m):	10	Health:	Good
DBH (cm):	44 Measured	Maturity:	Mature
Origin:	Exotic	ULE (years):	15 - 30
Retained?:	Retained	Form:	Good
Retention Value:		Moderate	
Removal / retention reason:	N/A.		
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	2.4	Works priority:	N/A
TPZ (m):	5.3	Construction Proximity:	12.3
mTPZ (m):			

Tree ID: **51**

Genus / species: *Robinia pseudoacacia*
Deciduous — Black Locust

Height (m):	12	Structure:	Poor
Width (m):	9	Health:	Good
DBH (cm):	37 Measured	Maturity:	Mature
Origin:	Exotic	ULE (years):	15 - 30
Retained?:	Retained	Form:	Good
Retention Value:		Moderate	
Removal / retention reason:	N/A.		
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	2.3	Works priority:	N/A
TPZ (m):	4.4	Construction Proximity:	0.1
mTPZ (m):			

Tree ID: **52**

Genus / species: *Quercus palustris*
Deciduous — Pin Oak

Height (m):	16	Structure:	Good
Width (m):	4	Health:	Good
DBH (cm):	27 Measured	Maturity:	Mature
Origin:	Exotic	ULE (years):	> 60
Retained?:	Retained	Form:	Good
Retention Value:		Very high	
Removal / retention reason:	N/A.		
Amenity value:		High	
Works Required:	N/A.		

SRZ (m):	2	Works priority:	N/A
TPZ (m):	3.2	Construction Proximity:	0.7
mTPZ (m):			

Tree ID: 56

Genus / species: *Morus alba*
Deciduous Mulberry

Height (m):	5	Structure:	Good
Width (m):	5	Health:	Good
DBH (cm):	20 Measured	Maturity:	Mature
Origin:	Exotic	ULE (years):	> 60
Retained?:	Retained	Form:	Good

Retention Value: Moderate
Removal / retention reason: N/A
Amenity value: Low
Works Required: N/A

SRZ (m):	1.8	Works priority:	N/A
TPZ (m):	2.4	Construction Proximity:	11.6
mTPZ (m):			

Tree ID: 58

Genus / species: *Prunus serrulata*
Deciduous Japanese Flowering Cherry

Height (m):	6	Structure:	Good
Width (m):	12	Health:	Fair
DBH (cm):	54 Measured	Maturity:	Over mature
Origin:	Exotic	ULE (years):	5 - 15
Retained?:	Retained	Form:	Fair

Retention Value: Low
Removal / retention reason: N/A
Amenity value: Moderate
Works Required: N/A

SRZ (m):	2.7	Works priority:	N/A
TPZ (m):	6.5	Construction Proximity:	15
mTPZ (m):			

Tree ID: 61

Genus / species: *Prunus serrulata*
Deciduous Japanese Flowering Cherry

Height (m):	3	Structure:	Good
Width (m):	5	Health:	Good
DBH (cm):	24 Measured	Maturity:	Mature
Origin:	Exotic	ULE (years):	30 - 60
Retained?:	Retained	Form:	Good

Retention Value: Very low
Removal / retention reason: N/A
Amenity value: Very low
Works Required: N/A

SRZ (m):	1.9	Works priority:	N/A
TPZ (m):	2.9	Construction Proximity:	15
mTPZ (m):			

Tree ID: 65

Genus / species: *Prunus serrulata*
Deciduous Japanese Flowering Cherry

Height (m):	4	Structure:	Fair
Width (m):	2	Health:	Good
DBH (cm):	10 Measured	Maturity:	Immature
Origin:	Exotic	ULE (years):	15 - 30
Retained?:	Retained	Form:	Poor

Retention Value: Very low
Removal / retention reason: N/A
Amenity value: Very low
Works Required: N/A

SRZ (m):	1.6	Works priority:	N/A
TPZ (m):	2.0	Construction Proximity:	15
mTPZ (m):			

Tree ID: 66

Genus / species: *Prunus serrulata*
Deciduous — Japanese Flowering Cherry

Height (m):	5	Structure:	Fair
Width (m):	3	Health:	Good
DBH (cm):	9 Measured	Maturity:	Immature
Origin:	Exotic	ULE (years):	15 - 30
Retained?:	Retained	Form:	Poor

Retention Value: Low
Removal / retention reason: N/A
Amenity value: Low
Works Required: N/A

SRZ (m):	1.6	Works priority:	N/A
TPZ (m):	2.0	Construction Proximity:	15
mTPZ (m):			

Tree ID: 67

Genus / species: *Malus domestica*
Deciduous — Apple

Height (m):	5	Structure:	Good
Width (m):	5	Health:	Good
DBH (cm):	20 Measured	Maturity:	Mature
Origin:	Exotic	ULE (years):	15 - 30
Retained?:	Retained	Form:	Poor

Retention Value: Low
Removal / retention reason: N/A
Amenity value: Low
Works Required: N/A

SRZ (m):	1.8	Works priority:	N/A
TPZ (m):	2.4	Construction Proximity:	15
mTPZ (m):			

Tree ID: 68

Genus / species: *Prunus serrulata*
Deciduous — Japanese Flowering Cherry

Height (m):	6	Structure:	Fair
Width (m):	5	Health:	Poor
DBH (cm):	25 Measured	Maturity:	Over mature
Origin:	Exotic	ULE (years):	5 - 15
Retained?:	Retained	Form:	Poor

Retention Value: Low
Removal / retention reason: N/A
Amenity value: Low
Works Required: N/A

SRZ (m):	1.9	Works priority:	N/A
TPZ (m):	3.0	Construction Proximity:	15
mTPZ (m):			

6.3 Water supply and access

Objectives

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

Applicable approved / alternative measures

AM 4.1 A building used for a dwelling (including an extension or alteration to a dwelling), a dependant person's unit, industry, office or retail premises is provided with:

- A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02-5.
- Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5.

The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire fighting water supplies.

Bushfire management statement response

A static water supply with a minimum capacity of 10,000 litres is required to be provided for firefighting purposes. The water supply should meet the following requirements:

- The tank is in an above ground water tank constructed of concrete or metal with a minimum capacity of 10,000 litres.
- All fixed above-ground water pipes and fittings required for fire fighting purposes must be made of corrosive resistant metal.
- The tank must incorporate a ball or gate valve (British Standard Pipe (BSP) 65mm) and coupling (64 mm CFA 3 thread per inch male fitting) for firefighting purposes.
- A separate outlet must be provided for the occupants use.
- The tank must be located within 60 metres of the outer edge of the dwelling.
- The outlets of the water tank must be within 4m of a driveway accessible at all times by a fire truck.
- The water tank must be readily identifiable from the building or appropriate identification signage to the satisfaction of CFA must be provided.
- Any pipework and fittings must be a minimum of 65 mm (excluding the CFA coupling).

A water tank for firefighting purposes is proposed to the north of the proposed dwelling near the existing shed.

There is an existing driveway from Gordon Road which will provide access to the proposed dwelling. The length of the driveway to the proposed dwelling is approximately 200m and the driveway is required under Table 5 to meet the following requirements:

- All-weather construction.
- A load limit of at least 15 tonnes.
- Provide a minimum trafficable width of 3.5 metres.
- Be clear of encroachments for at least 0.5 metres on each side and at least 4 metres vertically.
- Curves must have a minimum inner radius of 10 metres.

- The average grade must be no more than 1 in 7 (14.4%) (8.1°) with a maximum grade of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres.
- A turning area for fire fighting vehicles must be provided close to the dwelling by the provision of a vehicle turning heads– such as a T or Y head – which meet the specification of Austroad Design for an 8.8 metre service vehicle.
- Passing bays must be provided at least every 200 metres. Passing bays must be a minimum of 20 metres long with a minimum trafficable width of 6 metres.

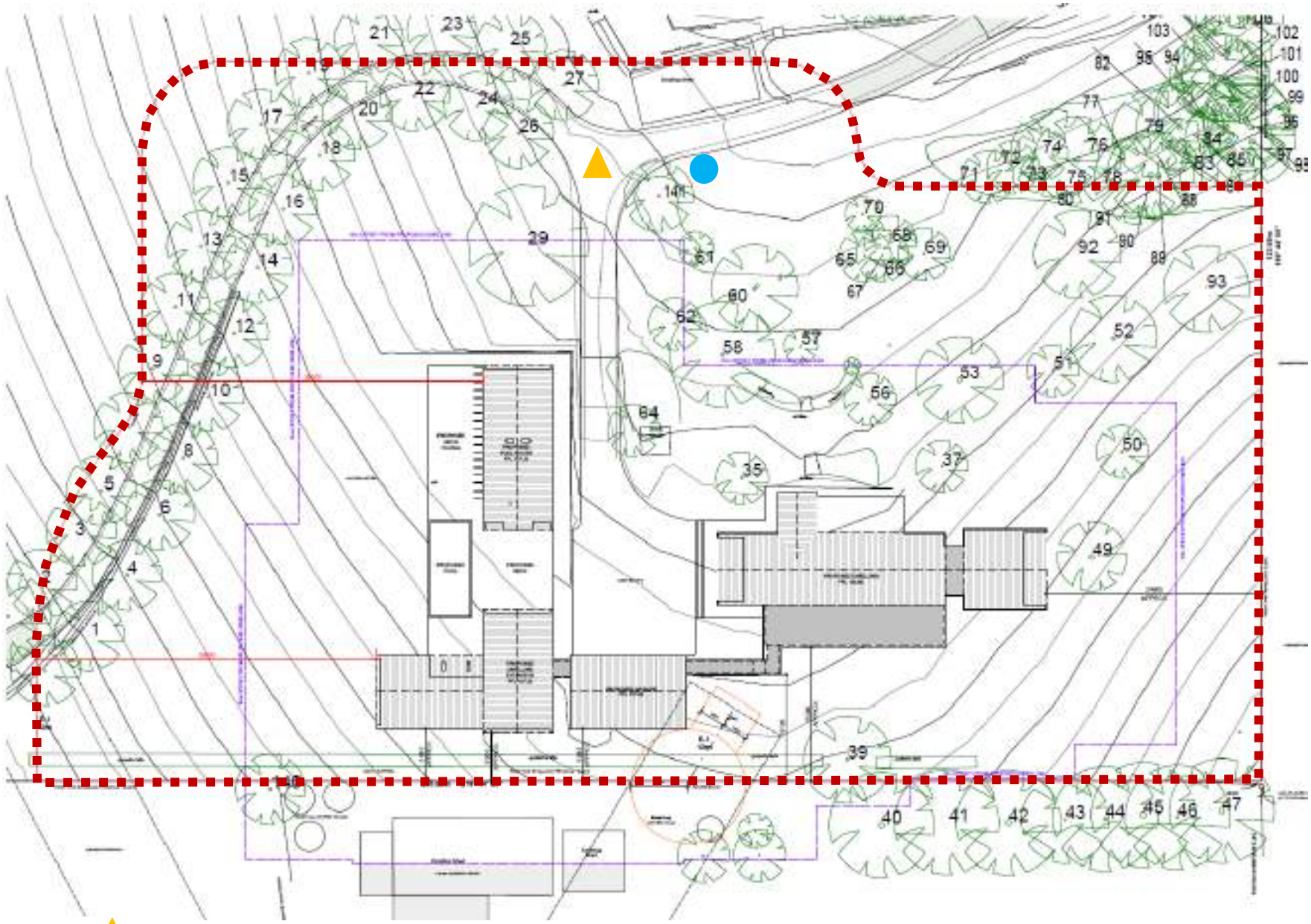
The existing driveway largely meets these requirements with a width of 3m-3.5m and a clearance between the trees along the driveway of 6m. Pruning of the lower limbs on the trees will be required to achieve a vertical clearance of 4m. A turning area can be accommodated adjoining the proposed water tank and adjoining the existing shed to the north east. Given the length of the driveway is equivalent to the threshold for a passing bay, there is an ability for two vehicles to pass at the turning area without the need for a full passing bay. In summary the driveway can be readily upgraded to meet the above requirements subject to a variation in relation to the passing bay.

7 Conclusion

The application proposes the construction of a replacement dwelling at 80 Gordon Road Pakenham Upper.

Based on the assessment undertaken, the bushfire risk can be mitigated to an acceptable level. The proposed dwelling should be constructed to a bushfire attack level of BAL29. Defendable space should be provided for a distance of 39m to the west, 35m to the north and to the property boundary to the south and east. A variation to the defendable space canopy separation requirements should be allowed for a number of exotic trees within a managed garden setting which pose a low bushfire risk.

A static water supply tank with a capacity of 10,000 litres should be provided for firefighting purposes. Access to the proposed dwelling should be provided via the existing driveway from Gordon Road which can be readily upgraded to provide suitable access for emergency vehicles.



Defendable space

Turning and passing bay area

Water tank location

Defendable Space

Defendable space shall be provided from the outer face of the dwelling for a distance of 39m or to west, 35m to the north and to the property boundary to the south and east as shown on the plan.

The defendable space must be managed in accordance with the following requirements:

- Grass must be short cropped and maintained during the declared fire danger period.
- All leaves and vegetation debris must be removed at regular intervals during the declared fire danger period.
- Within 10 metres of the building, flammable objects must not be located close to the vulnerable parts of the building such as windows.
- Plants greater than 10 centimetres in height must not be placed within 3m of a window or glass feature of the building.
- Shrubs must not be located under the canopy of trees.
- Individual and clumps of shrubs must not exceed 5 sq. metres in area and must be separated by at least 5 metres.
- Trees must not overhang or touch any elements of the building.
- The canopy of trees must be separated by at least 5 metres, except for Trees 1-27 being the plane trees along the driveway, and Trees 39, 51, 52, 56, 58, 61, 65, 66, 67 and 68 which are exotic trees in a managed garden.
- There must be a clearance of at least 2 metres between the lowest tree branches and ground level.

Construction Standard

The dwelling must be designed and constructed to a Bushfire Attack Level (BAL) of BAL29.

Water Supply

A static water supply with a minimum capacity of 10,000 litres is required to be provided for firefighting purposes at the time the replacement dwelling is constructed. The static water supply must meet the following requirements:

- Be stored in an above ground water tank constructed of concrete or metal.
- Have a minimum of 10,000 litres reserved for firefighting purpose.
- Have all fixed above ground water pipes and fittings required for firefighting purposes made of corrosive resistant metal.
- Include a separate outlet for occupant use.
- Be readily identifiable from the dwelling or appropriate identification signs to the satisfaction of the relevant fire authority.
- Be located within 60 metres of the outer edge of the dwelling.
- The outlet/s of the water tank must be within 4 metres of the accessway and unobstructed.
- Incorporate a separate ball or gate valve (British Standard Pipe (BSP 65 millimetre) and coupling (64 millimetre CFA 3 thread per inch male fitting).
- Any pipework and fittings must be a minimum of 65 millimetres (excluding the CFA coupling).

Access

The existing driveway to the dwelling must be upgraded as necessary to meet the following requirements:

- All-weather construction.
- A load limit of at least 15 tonnes.
- Provide a minimum trafficable width of 3.5 metres.
- Be clear of encroachments for at least 0.5 metres on each side and at least 4 metres vertically. The plane trees along the driveway must be pruned to achieve a 4m vertical clearance.
- Curves must have a minimum inner radius of 10 metres.
- The average grade must be no more than 1 in 7 (14.4%) (8.1°) with a maximum grade of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres.
- Dips must have no more than a 1 in 8 (12.5 per cent) (7.1 degrees) entry and exit angle.
- A turning area for fire fighting vehicles must be provided close to the dwelling by the provision of a vehicle turning heads– such as a T or Y head – which meet the specification of Austroad Design for an 8.8 metre service vehicle.
- A passing bay must be provided in the location shown on the plans.

No	Species	Common name	Origin	Retention value	Action	Reason	Exemptions	Location	DBH (cm)	Height (m)	TPZ (m)	SRZ (m)	TPZ encroachment
1	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	35	11	4.2	2.2	n/a
2	Platanus orientalis "digitata"	Plane tree	Exotic	Low	Prune	4m access clearance	Horticultural practice	site defendable space	22	11	2.8	1.9	n/a
3	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	31	13	3.7	2.1	n/a
4	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	29	14	3.4	2	n/a
5	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	29	14	3.6	2.1	n/a
6	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	27	10	3.2	2	n/a
7	Platanus orientalis "digitata"	Plane tree	Exotic	High	Prune	4m access clearance	Horticultural practice	site defendable space	38	15	4.6	2.3	n/a
8	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	36	13	4.3	2.3	n/a
9	Platanus orientalis "digitata"	Plane tree	Exotic	High	Prune	4m access clearance	Horticultural practice	site defendable space	35	16	4.2	2.2	n/a
10	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	29	11	3.4	2	n/a
11	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	24	13	2.9	1.9	n/a
12	Platanus orientalis "digitata"	Plane tree	Exotic	Very high	Prune	4m access clearance	Horticultural practice	site defendable space	35	16	4.1	2.2	n/a
13	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	37	14	4.4	2.3	n/a
14	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	27	14	3.2	2	n/a
15	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	37	12	4.3	2.3	n/a
16	Platanus orientalis "digitata"	Plane tree	Exotic	High	Prune	4m access clearance	Horticultural practice	site defendable space	37	17	4.4	2.3	n/a
17	Platanus orientalis "digitata"	Plane tree	Exotic	Low	Prune	4m access clearance	Horticultural practice	site defendable space	30	15	3.6	2.1	n/a
18	Platanus orientalis "digitata"	Plane tree	Exotic	Very high	Prune	4m access clearance	Horticultural practice	site defendable space	41	17	4.9	2.4	n/a
19	Platanus orientalis "digitata"	Plane tree	Exotic	High	Prune	4m access clearance	Horticultural practice	site defendable space	41	16	4.9	2.4	n/a
20	Platanus orientalis "digitata"	Plane tree	Exotic	High	Prune	4m access clearance	Horticultural practice	site defendable space	30	15	3.6	2.1	n/a
21	Platanus orientalis "digitata"	Plane tree	Exotic	High	Prune	4m access clearance	Horticultural practice	site defendable space	33	11	4.1	2.2	n/a
22	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	32	13	3.8	2.2	n/a
23	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	27	12	3.2	2	n/a
24	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	30	14	3.7	2.1	n/a
25	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	43	14	5.2	2.4	n/a
26	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	35	14	3.8	2.2	n/a
27	Platanus orientalis "digitata"	Plane tree	Exotic	Moderate	Prune	4m access clearance	Horticultural practice	site defendable space	38	14	4.6	2.3	n/a
28	Schinus molle var areira	Peppercorn tree	Exotic	Remove	Retain	n/a		site defendable space	35	8	4.2	2.2	n/a
29	Cedrus deodara	Cedar	Exotic	Very high	Retain	n/a		Site within 15m of building	76	14	9.1	3	n/a
30	Cedrus deodara	Cedar	Exotic	Very high	Remove	Bushfire proximity to building		Site within 15m of building	55	14	6.7	2.7	9.60%
31	Alnus acuminata	Evergreen alder	Exotic	Moderate	Remove	Within building footprint		Within building footprint	40	11	4.7	2.3	>20%
32	Alnus acuminata	Evergreen alder	Exotic	Moderate	Remove	Within building footprint		Within building footprint	40	16	4.7	3.4	>20%
33	Jacaranda mimosifolia	Fern tree	Exotic	Remove	Remove	Bushfire proximity to building		Site within 15m of building	16	5	2	1.7	>20%
34	Cotoneaster glaucophyllus	Bright bead cotoneaster	Exotic	Low	Remove	Within building footprint	Environmental weed	Site within 15m of building	25	5	3	1.9	>20%
35	Liquidambar styraciflua	American sweetgum	Exotic	High	Prune	Bushfire canopy lift	Horticultural practice	Site within 15m of building	54	16	6.5	2.7	16.10%
36	Citrus lemon	Lemon	Exotic	Very low	Remove	Within building footprint		Site within 15m of building	14	4	2	1.6	>20%
37	Ficus carica	Common fig	Exotic	Moderate	Remove	Defendable space canopy seperation		Site within 15m of building	32	5	3.8	2.2	n/a
38	Rhaphiolepis umbrellata	Indian hawthorn	Exotic	Very low	Remove	Within building footprint		Within building footprint	14	3	2	1.6	n/a
39	Robinia pseudoacacia	Black locust	Exotic	Moderate	Retain	n/a	Environmental weed	Site within 15m of building	44	3	2	1.6	n/a

40	Eucalyptus camaldulensis	River red gum	Native	High	Retain	n/a		Offsite	105	23	12.5	3.6	n/a
41	Eucalyptus leucoxylon	Yellow gum	Native	High	Retain	n/a		Offsite	49	22	6	2.6	n/a
42	Eucalyptus botryoides	Southern mahogany	Native	High	Retain	n/a		Offsite	77	2.1	9.2	3.2	n/a
43	Eucalyptus nicholii		Indigenous	Moderate	Retain	n/a		Offsite	32	14	3.7	2.1	n/a
44	Eucaluptus scoparia	Wallangarra white gum	Australian	High	Retain	n/a		Offsite	59	22	7.1	2.8	n/a
45	Eucaluptus scoparia	Wallangarra white gum	Australian	High	Retain	n/a		Offsite	94	22	11.3	3.4	n/a
46	Eucalyptus botryoides	Southern mahogany	Native	Low	Retain	n/a		Offsite	35	12	4.2	2.2	n/a
47	Eucalyptus sp.	Eucalyptus		High	Retain	n/a		Offsite	84	21	10.1	3.3	n/a
48	Salix matsudana	Tortured willow	Exotic	Remove	Remove	Defendable space canopy seperation	Environmental weed	site defendable space	40	7	4.8	2.4	>20%
49	Quercus palustris	Pin oak	Exotic	Very high	Retain	n/a	Environmrntal weed	Site within 15m of building	45	12	5.4	2.5	0.30%
50	Abelia grandiflora	Glossy abelia	Exotic	Low	Retain	n/a		Site within 15m of building	20	5	2.4	1.8	n/a
51	Robinia pseudoacacia	Black locust	Exotic	Moderate	Retain	n/a		site defendable space	37	12	4.4	2.3	n/a
52	Quercus palustris	Pin oak	Exotic	Very high	Retain	n/a	Environmental weed	site defendable space	27	16	3.2	2	n/a
53	Ulmus parvifolia	Chinese elm	Exotic	Very high	Prune	Defendable space canopy seperation		Site within 15m of building	51	11	6.1	2.6	n/a
54	Prunus cerasifera "nigra"	Canadian plum	Exotic	Low	Remove	Defendable space canopy seperation	Environmental weed	site defendable space	20	7	2.4	1.8	n/a
55	Unknown sp.	Unknown	Exotic	Remove	Remove	Defendable space canopy seperation		site defendable space	16	5	2	1.7	n/a
56	Morus alba	White mulberry	Exotic	Moderate	Retain	n/a		Site within 15m of building	21	5	2.4	1.8	n/a
57	Ginkgo biloba	Maidenhair tree	Exotic	Moderate	Retain	n/a		site defendable space	14	8	2	1.6	n/a
58	Prunus serrulata	Japanese cherry	Exotic	Low	Retain	n/a	Environmental weed	site defendable space	54	6	6.5	2.7	n/a
59	Citrus lemon	Lemon	Exotic	Very low	Remove	Defendable space canopy seperation		site defendable space	14	3	2	1.6	n/a
60	Arbutus enedo	Strawberry tree	Exotic	Moderate	Retain	n/a	Environmental weed	site defendable space	47	7	5.6	2.5	n/a
61	Prunus serrulata	Japanese cherry	Exotic	Very low	Retain	n/a	Environmental weed	site defendable space	24	3	2.9	1.9	n/a
62	Gleditsia triacanthos	Honey locust	Exotic	Low	Prune	Defendable space canopy seperation		Site within 15m of building	22	6	2.8	1.8	n/a
63	Lagerstroemia indica	Crepe myrtle	Exotic	Moderate	Remove	Within drieway footprint		Site within 15m of building	20	6	2.4	1.8	>20%
64	Lagerstroemia indica	Crepe myrtle	Exotic	Low	Prune	Defendable space canopy seperation		Site within 15m of building	17	5	2	1.6	n/a
65	Prunus serrulata	Japanese cherry	Exotic	Very low	Retain	n/a	Environmental weed	site defendable space	10	4	2	1.6	n/a
66	Prunus serrulata	Japanese cherry	Exotic	Low	Retain	n/a	Environmental weed	site defendable space	10	5	2	1.6	n/a
67	Malus domestica	Apple	Exotic	Low	Retain	n/a		site defendable space	21	5	2.4	1.8	n/a
68	Prunus serrulata	Japanese cherry	Exotic	Low	Retain	n/a	Environmental weed	site defendable space	25	6	3	1.9	n/a
69	Acer japonica	Japanese maple	Exotic	Low	Prune	Defendable space canopy seperation	Environmental weed	site defendable space	25	6	3	1.9	n/a
70	Brachychiton acerifolius	Illawarra flame tree	Australian	Low	Retain	n/a		site defendable space	23	8	2.9	1.9	n/a
86	Pittosporum tenuifolium	Black matipo	Exotic	Low	Remove	Defendable space canopy seperation		site defendable space	21	7	2.4	1.8	n/a
87	Pittosporum tenuifolium	Black matipo	Exotic	Low	Remove	Defendable space canopy seperation		site defendable space	10	6	2	1.6	n/a
92	Cedrus atlantica	Atlas cedar	Exotic	High	Retain	n/a		site defendable space	84	19	10.2	3.3	n/a
93	Abies nordmanniana	Nordmann fir	Exotic	Very high	Retain	n/a		site defendable space	45	23	5.4	2.5	n/a
141	Pyrus calleryana	Callery pear	Exotic	Low	Retain	n/a	Environmental weed	site defendable space	41	9	4.9	2.4	n/a

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For

3D Design Group P/L

Site location

80 Gordon Road
Pakenham Upper

Report type

Arboricultural Construction Impact & BMO Action Assessment

Prepared by

[redacted]

Grad. Cert. Arb.
B. App. Sci. (Hort)
Dip. App. Sci. (Hort)
Adv. Cert. Arb.

Tuesday, 1 October 2024

Ref: 7649 241001 BMO CIR 3D Gordon Pakenham Upper 80 Rd.Docx

Table of contents

1. Summary

This report was commissioned by [redacted] of 3D Design Group P/L to assess the condition of 141 trees located on or adjacent to 80 Gordon Road Pakenham Upper and to:

1. Evaluate the impacts on these trees arising from the proposed development on this site.
2. Specify the appropriate actions for each tree within the Defendable Space as specified within Bushfire Management Overlay (BMO) reporting to achieve compliance with the Country Fire Authority (CFA) defendable space tree canopy separation requirements.

A total of 141 trees were assessed within the tree assessment area for this site.

Of these trees:

1. 23 of these trees are of High or Very high retention value.
    a. 7 of these trees are *Pinus radiata* (Monterey Pine), a significant environmental weed species.
    b. None of these trees will be significantly impacted by the proposed development.
        i. The proposed effluent envelope will have little impact on the trees around which it will be installed.
2. 40 of these trees are of Moderate retention value.
    a. 12 of these trees are *Pinus radiata* (Monterey Pine), a significant environmental weed species.
    b. None of these trees will be significantly impacted by the proposed development.
        I. The proposed effluent envelope will have little impact on the trees around which it will be installed.
3. 44 of these trees are of Low retention value.
    a. 18 of these trees are *Pinus radiata* (Monterey Pine) and *Pittosporum undulatum* (Sweet Pittosporum), a significant environmental weed species.
    b. None of these trees will be significantly impacted by the proposed development.
4. 12 of these trees have a retention value of Remove.
5. 21 of these trees are located on adjoining properties.
    a. None of these trees will be impacted by the proposed development.
6. 4 trees are required to be removed by the project building design.
7. A total of 61 trees are located within the defendable space
8. 37 trees are required to be removed to achieve the BMO tree canopy clearance requirements.
    a. However, it is proposed that only 24 of these trees will actually be removed and it is the property owners intention to retain 24 of these trees.

i. Agreement from the CFA is likely to be required to retain these trees as they will not comply with the CFA BMO specification.

b. With agreement from the CFA it may be possible to group two or more trees together so as to be considered a single tree canopy within the Defendable Space and so that tree removals may be minimised.

i. This may only be adopted with the express consent of the CFA and must be negotiated with the CFA.

ii. Within the Defendable Space for this site, it is possible that the following trees may be considered as a single tree from a canopy separation perspective.

1. Trees 1 – 27.

2. Trees 29 & 30.

9. The BMO access requirements specify:

a. A driveway with a width of 3.5 metres, a clearance of at least 0.5 metres on each side of the driveway and 4 metres vertically.

i. The current driveway is approximately 2.5 metres wide and so it may be the case that the driveway will need to be widened.

1. It is understood that the existing driveway will be retained as is and accordingly that Trees 1 – 27 will not be impacted by any works.

10. The BMO canopy clearance and access requirements and the impacts of these requirements on the site trees should be resolved with the CFA prior to any further actions are taken regarding the impacted trees.

11. 3 trees (Trees 30, 35 & 49) will suffer TPZ intrusions (excluding the effluent envelope) resulting from the proposed development.

a. The impact for Trees 30 & 49 is minor while the impact for Tree 35 is moderate.

i. Provided that the works in the area or Tree 35 are managed carefully, this tree will remain viable within the proposed development.

12. No hollow bearing trees were observed at this site.

2. Document control

File reference	File type	Modifications	Author	Date
7649 231204	*CIR*	Original document. Construction Impact Assessment for 140 trees.	RGG	04/12/2023
7649 240729	*CIR*	Construction Impact Assessment & Bushfire Management Overlay tree canopy clearance report for 141 trees.	RGG	29/07/2024
7649 240924	*CIR*	Tree removal and retention adjusted as advised and effluent envelope impacts added.	RGG	24/09/2024
7649 241001	*CIR*	Report modified for intended tree retention and driveway remaining as is.	RGG	01/10/2024

3. Introduction

This report was commissioned by [redacted] of 3D Design Group P/L to assess the condition of 141 trees located on or adjacent to 80 Gordon Road Pakenham Upper and to:

1. Evaluate the impacts on these trees arising from the proposed development on this site.
2. Specify the appropriate actions for each tree within the BushFire Management Overlay (BMO) to achieve compliance with the Country Fire Authority (CFA) defendable space tree canopy clearance requirements.
    a. It is understood that the clients intend to retain some trees that would generally be expected to be removed if strict compliance with the CFA defendable space requirements is observed.

Specifically, the report addresses the following issues:

- The health and structural condition of the trees.
- The suitability of these trees for retention on the site in light of the proposed development.
- The impact of the development on these trees.
- General recommendations for the protection of these trees.
- The canopy clearance requirements of the CFA Defendable Space.

This report is based, in part, on the plans provided and the accuracy of these plans is assumed. Inaccuracies in the plans provided may invalidate all or parts of this report.

The location of services within the site is not known and the possible impact of any services installation on the retained trees at this site is not included within this report.

The site was inspected by [redacted] of this office on Saturday 18th November 2023 and by [redacted] of this office on the 12th July 2024.

4. Documents reviewed

The following documents were reviewed in the preparation of this report.

Date	Title	Author	Company
15/09/2023	Plan of Survey (Ref: 23-05-335)	Not stated	MJ Reddle Surveys P/L
11/09/2024	Proposed 500 Site Plan (Ref: TP1 A104 Rev: B)	RDH BE	3D Design Group
11/09/2024	Tree Retention and Removal Plan (Ref: TP1 A102 Rev: B)	RDH BE	3D Design Group
February 2024	Bushfire Management Plan – Replacement Dwelling – 80 Gordon Road Pakenham Upper. (Ref: No reference)	Not stated	XWB Consulting

5. Scope

All of those trees that are considered significant to the site and that are located within the assessment area are addressed in this report. The assessment area has been created with input from the project designers (3D Design Group) and the project arborist (R. Greenwood Consulting P/L).

Significant trees are generally those that are greater than five metres in height and/or with a Diameter at Breast Height (DBH) of greater than 15 cm.

6. Site context

This site is located within a Rural Conservation Zone within the local government area of Cardinia.

The following town planning overlays are applicable to this site:

1. *A Bushfire Management Overlay (BMO) pertains to this site.*
2. An Environmental Significance Overlay (ESO1) pertains to this site.

7. Methodology

This assessment was carried out from the ground and will generally include assessment of trees within the subject site, on the road reserve/s and on adjoining properties as set out in Section 10.1 Site plan (Proposed – 15m Works offset).

The following fields of information were documented:

1. Genus / species & common name.
2. Height, width and DBH (Diameter at Breast Height).
3. Origin of the species (Native, endemic, or exotic).
4. Assessment of health, structure, and general condition.
5. Estimate of Useful Life Expectancy (ULE).
6. Assessment of the amenity value to the site and canopy form.

Digital images were captured of each tree on site.

DBH measurements were taken using a diameter tape.

Distances and tree heights were measured using a laser range finder and inclinometer.

8. Scope

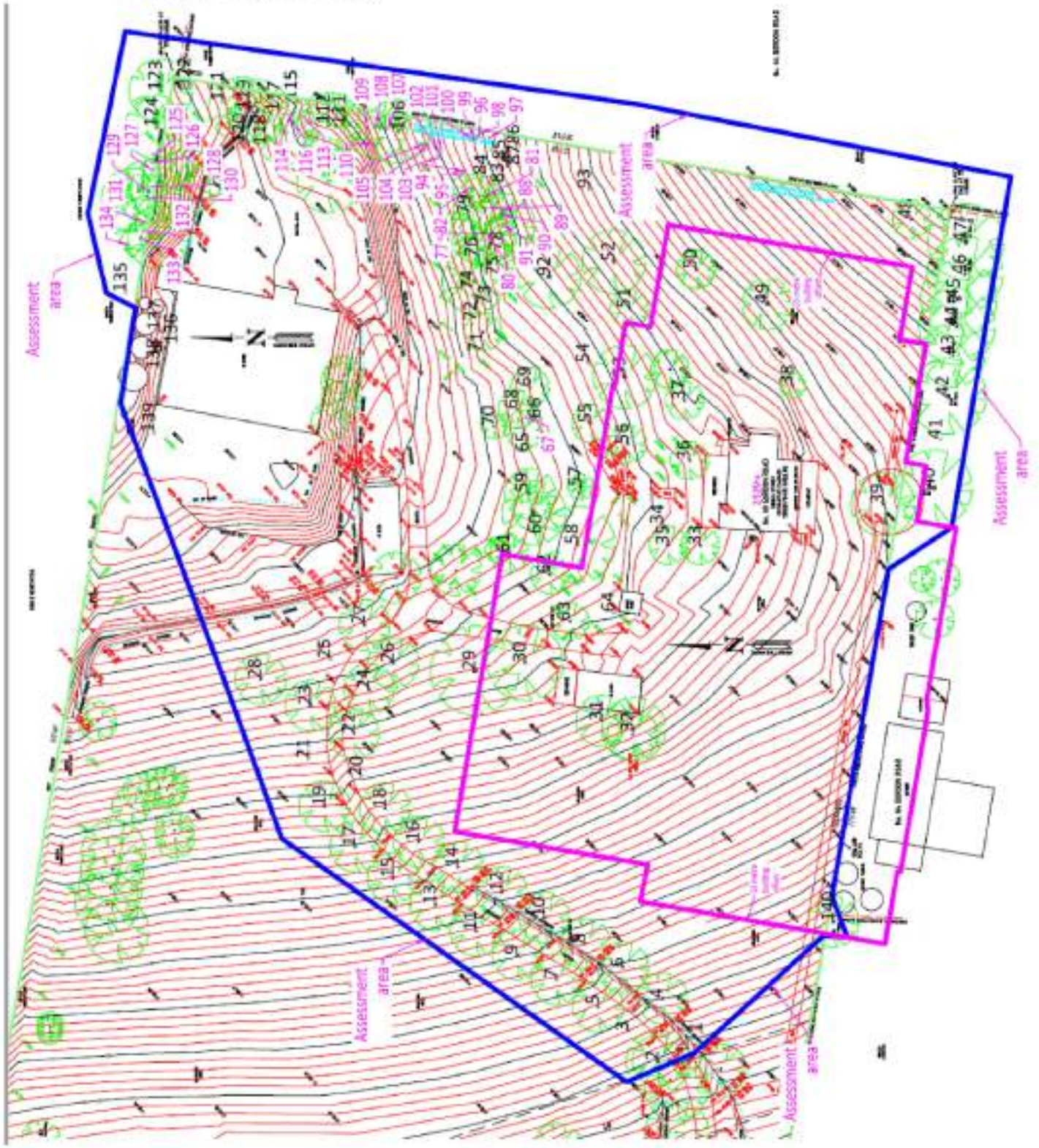
Trees were assessed at this site based on the Assessment Area as agreed with 3D Design P/L.

This assessment area is illustrated in Section 10 Site plan (Existing).

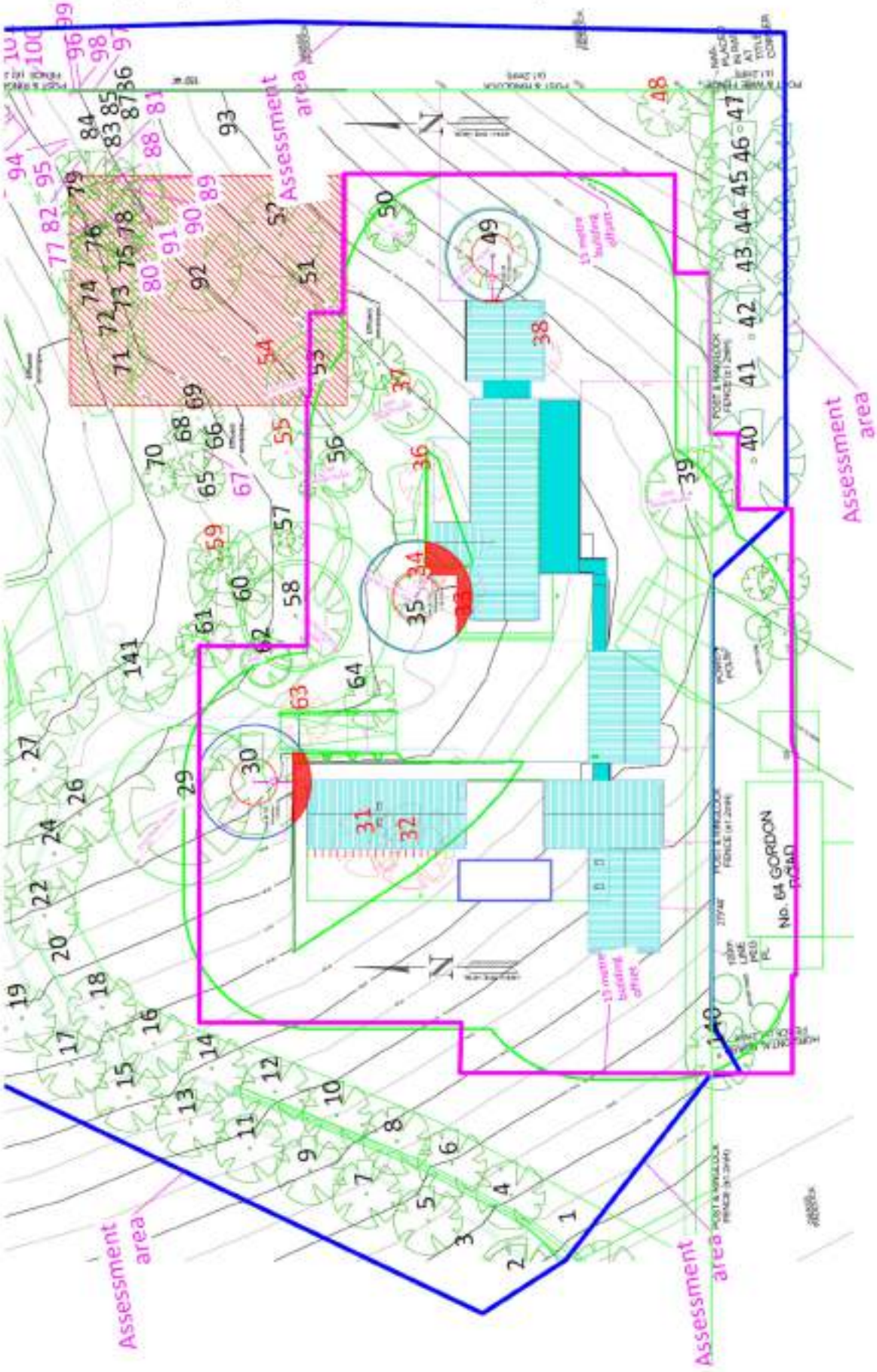
9. Notes

1. The feature and levels survey appears to have a number of errors:
    a. A number of trees are shown on the survey that do not appear to exist at the site.
    b. A number of trees exist on the site that are not shown on the plan of survey.
        i. The trees addressed in this report have been located using sub metre GPS.
        ii. These trees have been aligned with the survey drawing as far as is possible.
        iii. Some level of inaccuracy in tree location is expected in the tree location information and this is particularly so in dense tree stands or other difficult GPS reception settings.
2. The construction impact aspect of this report pertains only to Trees 30 – 39, 49, 50, 53, 56, 62, 63, 64 and 140.
    a. All other trees in this assessment are outside a 15 metre offset for the proposed works and will not be impacted by the proposed development.
3. Data for Tree 140 was not captured during the site inspection.
    a. Data for this tree has been estimated from site images.
    b. Given that this tree is approximately 14.5 metres from the nearest works, it cannot be significantly impacted by these works.

10. Site plan (Existing)



10.1. Site plan (Proposed – 15m Works offset)



12. Tree summary data

This table contains a summary of data pertaining to all trees shown and numbered on the enclosed feature and levels survey.

Underlined and italicised species names have not been assessed. Generally these trees are <5m tall, not found or stumps. The construction impact values are blank for these records.

1. **Retention value**: The retention value of the tree to the site.
    a. Tree number and species name are **Bold** for High and Very high values trees.
2. **Retained?:** Indicates whether the tree is proposed to be retained on the site.
3. **Construction impact:** Indicates the impact of the proposed development on the tree.
    a. **None:** Works do not intrude onto the tree's TPZ.
    b. **Low:** Construction intrusion is less than 10% of TPZ and contiguous area exists to compensate for any loss.
    c. **Moderate:** Construction intrusion exceeds 10% of TPZ but construction methods or other factors make tree retention possible.
    d. **High:** Construction intrusion is excessive and tree retention is generally considered not possible within the development as currently proposed.
    e. **Blank:** The tree has not been assessed.
4. **Location:** Whether the tree is located on the site or adjacent to the site.
    a. **Site:** the tree is located on the site.
    b. **Off site:** the tree is located on land adjoining the site.
        i. Trees in this category should generally be preserved without significant impact.

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
1	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.2	4.2	11/110
2	Platanus orientalis 'Digitata'	Low	Retained	None	Site	1.9	2.8	11/72
3	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.1	3.7	13/97
4	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2	3.4	14/88
5	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.1	3.6	14/94
6	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2	3.2	10/85
7	**Platanus orientalis 'Digitata'**	High	Retained	None	Site	2.3	4.6	15/119
8	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.3	4.3	13/113
9	**Platanus orientalis 'Digitata'**	High	Retained	None	Site	2.2	4.2	16/110
10	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2	3.4	11/88
11	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	1.9	2.9	13/75
12	**Platanus orientalis 'Digitata'**	Very high	Retained	None	Site	2.2	4.1	16/107
13	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.3	4.4	14/116
14	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2	3.2	14/85
15	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.3	4.3	12/113
16	**Platanus orientalis 'Digitata'**	High	Retained	None	Site	2.3	4.4	17/116

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
17	Platanus orientalis 'Digitata'	Low	Retained	None	Site	2.1	3.6	15/94
18	**Platanus orientalis 'Digitata'**	Very high	Retained	None	Site	2.4	4.9	17/129
19	**Platanus orientalis 'Digitata'**	High	Retained	None	Site	2.4	4.9	16/129
20	**Platanus orientalis 'Digitata'**	High	Retained	None	Site	2.1	3.6	15/94
21	**Platanus orientalis 'Digitata'**	High	Retained	None	Site	2.2	4.1	11/107
22	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.2	3.8	13/101
23	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2	3.2	12/85
24	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.1	3.7	14/97
25	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.4	5.2	14/135
26	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.2	3.8	14/101
27	Platanus orientalis 'Digitata'	Moderate	Retained	None	Site	2.3	4.6	14/119
28	Schinus molle var areira	Remove.	Retained	None	Site	2.2	4.2	8/110
29	**Cedrus deodara**	Very high	Retained	None	Site	3	9.1	14/239
30	**Cedrus deodara**	Very high	Retained	Low	Site	2.7	6.7	14/176
31	Alnus acuminata	Moderate	Removed	High	Site	2.3	4.7	11/123
32	Alnus acuminata	Moderate	Removed	High	Site	3.4	4.7	16/123
33	Jacaranda mimosifolia	Remove.	Removed	High	Site	1.7	2	5/53
34	Cotoneaster glaucophyllus	Low	Removed	High	Site	1.9	3	5/79
35	**Liquidambar styraciflua**	High	Removed	Moderate	Site	2.7	6.5	16/170
36	Citrus limon	Very low	Removed	High	Site	1.6	2	4/47
37	Ficus carica	Moderate	Removed	None	Site	2.2	3.8	5/101
38	Rhaphiolepis umbellata	Very low	Removed	High	Site	1.6	2	3/47
39	Robinia pseudoacacia	Moderate	Retained	None	Site	2.4	5.3	9/138
40	**Eucalyptus camaldulensis**	High	Retained	None	Off site	3.6	12.5	23/327
41	**Eucalyptus leucoxylon**	High	Retained	None	Off site	2.6	6	22/157
42	**Eucalyptus botryoides**	High	Retained	None	Off site	3.2	9.2	21/242
43	Eucalyptus nicholii	Moderate	Retained	None	Off site	2.1	3.7	14/97
44	**Eucalyptus scoparia**	High	Retained	None	Off site	2.8	7.1	22/185
45	**Eucalyptus scoparia**	High	Retained	None	Off site	3.4	11.3	22/295
46	Eucalyptus botryoides	Low	Retained	None	Off site	2.2	4.2	12/110
47	**Eucalyptus sp.**	High	Retained	None	Off site	3.3	10.1	21/264
48	Salix matsudana	Remove.	Removed	None	Site	2.4	4.8	7/126
49	**Quercus palustris**	Very high	Retained	Low	Site	2.5	5.4	12/141
50	Abelia grandiflora	Low	Retained	None	Site	1.8	2.4	5/63
51	Robinia pseudoacacia	Moderate	Retained	Low	Site	2.3	4.4	12/116
52	**Quercus palustris**	Very high	Retained	Low	Site	2	3.2	16/85
53	**Ulmus parvifolia**	Very high	Retained	Low	Site	2.6	6.1	11/160
54	Prunus cerasifera 'Nigra'	Low	Removed	Low	Site	1.8	2.4	7/63
55	Unknown sp.	Remove.	Removed	None	Site	1.7	2	5/53

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
56	Morus alba	Moderate	Retained	None	Site	1.8	2.4	5/63
57	Ginkgo biloba	Moderate	Retained	None	Site	1.6	2	8/47
58	Prunus serrulata	Low	Retained	None	Site	2.7	6.5	6/170
59	Citrus limon	Very low	Removed	None	Site	1.6	2	3/47
60	Arbutus unedo	Moderate	Retained	None	Site	2.5	5.6	7/148
61	Prunus serrulata	Very low	Retained	None	Site	1.9	2.9	3/75
62	Gleditsia triacanthos	Low	Retained	None	Site	1.9	2.8	6/72
63	Lagerstroemia indica	Moderate	Removed	None	Site	1.8	2.4	6/63
64	Lagerstroemia indica	Low	Retained	None	Site	1.6	2	5/47
65	Prunus serrulata	Very low	Retained	None	Site	1.6	2	4/31
66	Prunus serrulata	Low	Retained	None	Site	1.6	2	5/28
67	Malus domestica	Low	Retained	None	Site	1.8	2.4	5/63
68	Prunus serrulata	Low	Retained	None	Site	1.9	3	6/79
69	Acer japonica	Low	Retained	None	Site	1.9	3	6/79
70	Brachychiton acerifolius	Low	Retained	None	Site	1.9	2.9	8/75
71	Picea pungens	Low	Retained	Low	Site	1.9	2.9	9/75
72	Acacia melanoxylon	Low	Retained	Low	Site	1.6	2	5/31
73	Acacia melanoxylon	Low	Retained	Low	Site	1.8	2.4	6/63
74	**Pinus radiata**	High	Retained	Low	Site	2.7	6.8	26/179
75	**Pinus radiata**	High	Retained	Low	Site	3.2	9.4	26/245
76	Pinus radiata	Remove.	Retained	Low	Site	2.5	5.6	14/148
77	Pinus radiata	Remove.	Retained	Low	Site	2.9	7.8	18/204
78	Pinus radiata	Remove.	Retained	Low	Site	2.5	5.4	11/141
79	Pinus radiata	Moderate	Retained	Low	Site	2.2	4.1	15/107
80	Pinus radiata	Moderate	Retained	Low	Site	3.2	9.4	26/245
81	Pinus radiata	Moderate	Retained	Low	Site	3.2	9.4	27/245
82	**Pinus radiata**	High	Retained	None	Site	2.5	5.6	16/148
83	Pinus radiata	Low	Retained	None	Site	2.3	4.7	18/123
84	Pinus radiata	Moderate	Retained	None	Site	3.5	12	28/314
85	Pinus radiata	Moderate	Retained	None	Site	2.9	8	25/211
86	Pittosporum tenuifolium	Low	Removed	None	Site	1.8	2.4	7/63
87	Pittosporum undulatum	Low	Removed	None	Site	1.6	2	6/31
88	Pinus radiata	Low	Retained	Low	Site	1.6	2	8/31
89	Pittosporum undulatum	Low	Retained	Low	Site	1.6	2	7/31
90	Pinus radiata	Moderate	Retained	Low	Site	2	3.2	13/85
91	Pinus radiata	Moderate	Retained	Low	Site	2.2	4.2	12/110
92	**Cedrus atlantica**	High	Retained	Low	Site	3.3	10.2	19/267
93	**Abies nordmanniana**	Very high	Retained	None	Site	2.5	5.4	23/141
94	Pittosporum undulatum	Low	Retained	None	Site	1.6	2	8/47

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
95	Pittosporum undulatum	Low	Retained	None	Site	1.6	2	7/47
96	Pinus radiata	Low	Retained	None	Site	2.1	3.6	13/94
97	Pinus radiata	Low	Retained	None	Site	1.6	2	10/47
98	Eucalyptus obliqua	Remove.	Retained	None	Site	2.1	3.6	11/94
99	Pittosporum undulatum	Low	Retained	None	Site	1.6	2	6/31
100	Acacia melanoxylon	Moderate	Retained	None	Site	1.7	2.2	11/57
101	Acacia melanoxylon	Low	Retained	None	Site	1.6	2	8/44
102	Acacia melanoxylon	Low	Retained	None	Site	1.6	2	10/47
103	Acacia melanoxylon	Low	Retained	None	Site	1.6	2	10/41
104	Acacia melanoxylon	Remove.	Retained	None	Site	1.8	2.4	7/63
105	Pinus radiata	Low	Retained	None	Site	1.8	2.4	13/63
106	Pinus radiata	Remove.	Retained	None	Site	2.2	4.2	10/110
107	**Pinus radiata**	High	Retained	None	Site	3	9	22/236
108	**Pinus radiata**	High	Retained	None	Site	3	9	28/236
109	Pittosporum undulatum	Low	Retained	None	Site	1.6	2	9/47
110	Pittosporum undulatum	Low	Retained	None	Site	1.9	3	9/79
111	Pinus radiata	Moderate	Retained	None	Site	3	9	15/236
112	Pinus radiata	Remove.	Retained	None	Site	3.4	10.8	25/283
113	Pinus radiata	Moderate	Retained	None	Site	2.4	4.8	21/126
114	Pinus radiata	Moderate	Retained	None	Site	3.4	10.8	28/283
115	Pinus radiata	Low	Retained	None	Site	1.8	2.4	14/63
116	Pittosporum undulatum	Low	Retained	None	Site	1.8	2.4	7/63
117	Melaleuca armillaris	Low	Retained	None	Site	2.5	5.8	23/151
118	**Pinus radiata**	High	Retained	None	Site	3.2	9.2	26/242
119	**Pinus radiata**	High	Retained	None	Site	3	8.9	24/233
120	Pinus radiata	Moderate	Retained	None	Site	2.4	5	18/132
121	Eucalyptus sp.	Remove.	Retained	None	Site	2.5	5.6	13/148
122	Pinus radiata	Low	Retained	None	Site	1.6	2	9/44
123	**Pinus radiata**	High	Retained	None	Off site	3.3	10.4	34/273
124	**Pinus radiata**	High	Retained	None	Off site	3.4	11.2	34/292
125	Pinus radiata	Remove.	Retained	None	Off site	2.7	6.6	34/173
126	**Pinus radiata**	High	Retained	None	Off site	2.9	7.8	22/204
127	**Pinus radiata**	High	Retained	None	Off site	2.8	7.4	22/195
128	**Pinus radiata**	High	Retained	None	Off site	3	9.1	34/239
129	**Pinus radiata**	High	Retained	None	Off site	2.8	7.1	27/185
130	**Pinus radiata**	High	Retained	None	Off site	3.2	9.8	31/258
131	**Pinus radiata**	High	Retained	None	Off site	3	9.1	28/239
132	Pinus radiata	Low	Retained	None	Off site	2.3	4.7	16/123
133	Pinus radiata	Moderate	Retained	None	Off site	2.4	5	16/132

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
134	Eucalyptus sp.	Moderate	Retained	None	Off site	2.7	6.8	16/179
135	Pinus radiata	Moderate	Retained	None	Site	1.6	2	8/41
136	Eucalyptus obliqua	Moderate	Retained	None	Site	1.9	3	12/79
137	Pinus radiata	Low	Retained	None	Site	1.6	2	7/47
138	Pinus radiata	Low	Retained	None	Site	1.6	2	10/47
139	Eucalyptus globulus	Low	Retained	None	Site	2.9	7.8	17/204
140	Eucalyptus leucoxylon	Moderate	Retained	None	Off site	2.5	5.4	14/141
141	Pyrus calleryana	Moderate	Retained	None	Site	2.4	4.9	9/129

Total number of tree/s referred to in this report(Total): 141

13. Construction impact

The following trees are regarded as being suitable for retention and are located within close proximity to elements of the proposed development. The successful retention of those trees that are proposed to be retained may require additional care and the adoption of the following recommendations.

Note: ***Construction Proximity*** of 0.1 indicates construction over or immediately adjacent to the tree.

ID	Genus / species	DBH	SRZ	TPZ	TPZ	ConP	Ret Value	Retained?
The following 6 tree/s are shown as Removed on the plans provided.								
31	*Alnus acuminata*	39	2.3	4.7		0.1	Moderate	Removed
32	*Alnus acuminata*	39	3.4	4.7		0.1	Moderate	Removed
35	*Liquidambar styraciflua*	54	2.7	6.5		3	High	Removed
36	*Citrus limon*	15	1.6	2.0		0.4	Very low	Removed
38	*Rhaphiolepis umbellata*	15	1.6	2.0		0.1	Very low	Removed
54	*Prunus cerasifera 'Nigra'*	20	1.8	2.4		0.1	Low	Removed
The following 18 tree/s are shown as Retained on the plans provided.								
30	*Cedrus deodara*	56	2.7	6.7		4.5	Very high	Retained
49	*Quercus palustris*	45	2.5	5.4		5.3	Very high	Retained
51	*Robinia pseudoacacia*	37	2.3	4.4		0.1	Moderate	Retained
52	*Quercus palustris*	27	2	3.2		0.1	Very high	Retained
53	*Ulmus parvifolia*	51	2.6	6.1		0.1	Very high	Retained
71	*Picea pungens*	24	1.9	2.9		0.1	Low	Retained
72	*Acacia melanoxylon*	10	1.6	2.0		0.1	Low	Retained
73	*Acacia melanoxylon*	20	1.8	2.4		0.1	Low	Retained
74	*Pinus radiata*	57	2.7	6.8		0.1	High	Retained
75	*Pinus radiata*	78	3.2	9.4		0.1	High	Retained
79	*Pinus radiata*	34	2.2	4.1		0.1	Moderate	Retained
80	*Pinus radiata*	78	3.2	9.4		0.1	Moderate	Retained
81	*Pinus radiata*	78	3.2	9.4		0.1	Moderate	Retained
88	*Pinus radiata*	10	1.6	2.0		0.1	Low	Retained
89	*Pittosporum undulatum*	10	1.6	2.0		0.1	Low	Retained
90	*Pinus radiata*	27	2	3.2		0.1	Moderate	Retained
91	*Pinus radiata*	35	2.2	4.2		0.1	Moderate	Retained
92	*Cedrus atlantica*	85	3.3	10.2		0.1	High	Retained

SRZ: Structural Root Zone. TPZ: Tree Protection Zone. mTPZ: Tree Protection Zone.(Canopy) ConP: Construction Proximity.

Number of trees in this section (total): 24

13.1. Tree 30

Tree 30 is a mature Cedrus deodara (Deodar Cedar) that exhibits Good health and Good structure and has a Useful Life Expectancy of > 60 years. It is located on the subject site and has a retention value of Very high.

This tree has a DBH of 56 cm, an SRZ of 2.7 m, a TPZ of 6.7 m and a construction impact of Low.

The retaining wall for the proposed Pool House will permanently excise the occupied soil volume from the TPZ for this tree.

The TPZ intrusion from the proposed dwelling is 9.6% of the TPZ surface area.
Under AS 4970 this is a minor encroachment and it is expected that this tree will remain viable within the proposed works.

This tree will remain viable within the proposed development.

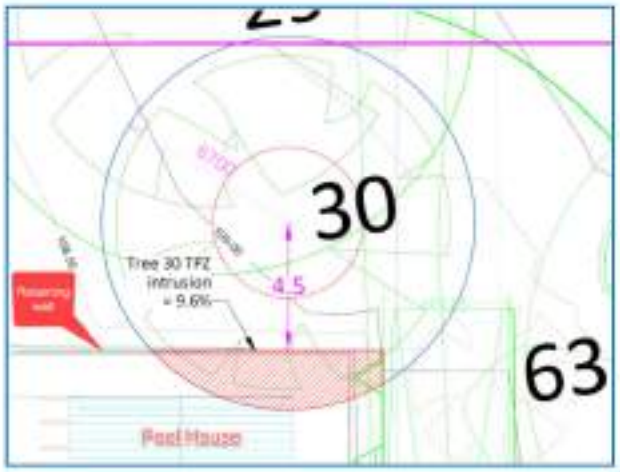


Figure 1 Tree 30 TPZ intrusion

13.2. Tree 35

Tree 35 is an over mature Liquidambar styraciflua (Liquidambar) that exhibits Fair health and Fair structure and has a Useful Life Expectancy of 15 - 30 years. It is located on an adjoining property and has a retention value of High.

This tree has a DBH of 54 cm, an SRZ of 2.7 m, a TPZ of 6.5 m and a construction impact of Moderate.

The proposed dwelling will occupy approximately 16.1% of the TPZ for this tree and this soil volume is likely to be permanently excised from the TPZ for this tree.

Under AS 4970 this is a major encroachment and it must be demonstrated that the tree will remain viable within the proposed works.

Provided that the excavation alignment for the proposed works within the TPZ for this tree are undertaken under arboricultural supervision and any tree roots found are neatly pruned then it is likely that this tree will remain viable within the proposed development.

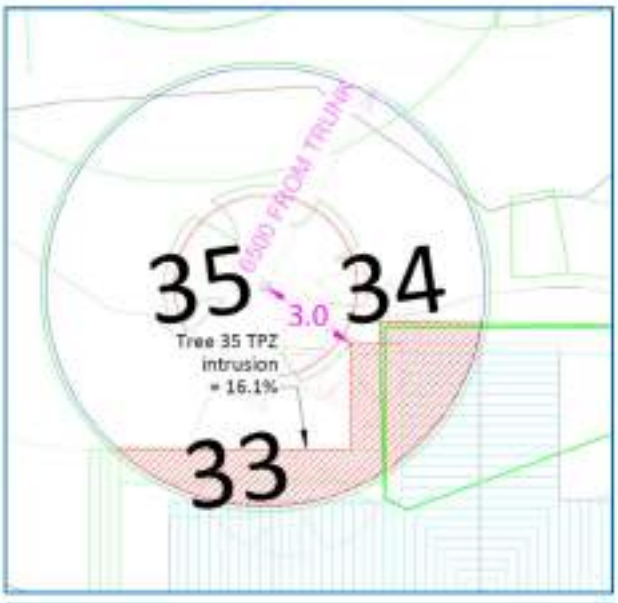


Figure 2 Tree 35 TPZ intrusion

This tree will remain viable within the proposed development provided that the recommendations of this report are adopted and effectively implemented.

13.3. Tree 49

Tree 49 is a mature Quercus palustris (Pin Oak) that exhibits Good health and Good structure and has a Useful Life Expectancy of > 60 years. It is located on the subject site and has a retention value of Very high.

This tree has a DBH of 45 cm, an SRZ of 2.5 m, a TPZ of 5.4 m and a construction impact of Low.

The footing for the proposed dwelling will permanently excise the occupied soil volume from the TPZ for this tree.

The TPZ intrusion from the proposed dwelling is 0.3% of the TPZ surface area.
Under AS 4970 this is a minor encroachment and it is expected that this tree will remain viable within the proposed works.

This tree will remain viable within the proposed development.

Figure 3 Tree 49 TPZ intrusion

13.4. Trees 51, 52, 53, 71, 72, 73, 74, 75, 79, 80, 88, 89, 90, 91 & 92

These trees are located within the proposed subsoil effluent envelope (Figure 4).

However, the effluent distribution system is proposed to be drip irrigation laid at grade within the specified area and covered with a layer of mulch the only impact of this system will be the delivery plumbing and the increased nutrient load of the effluent liquids.

Given that the trees in this area are mostly exotic species and that it is likely that this soil has a good infiltration rate, it is likely that the increased nutrient load created by the effluent discharge will have little impact on the health or longevity of the affected trees.

The location of the delivery plumbing for the effluent envelope is not specified and so its impact has not been calculated. However, provided that it is located outside the TPZ of retained trees, it will have little impact on the health and longevity of these trees.

These trees will remain viable within the proposed effluent envelope.

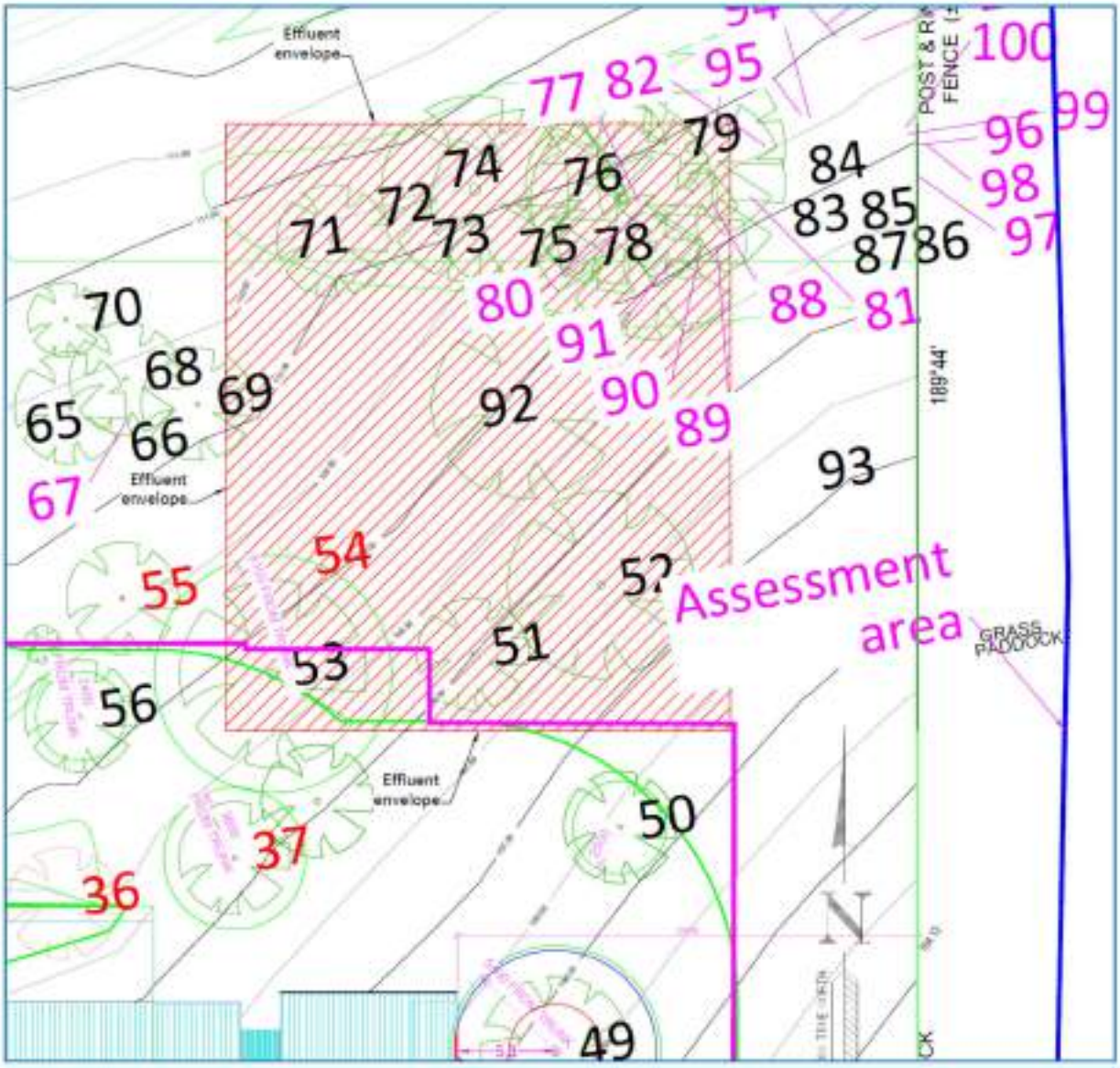


Figure 4 Trees impacted by the effluent envelope

14. Recommendations

The following recommendations should be adopted to ensure the successful retention of those trees that are proposed to be retained.

1. A services plan should be created for this site and this construction impact report should be revised as required to ensure that services installation impacts on retained trees are avoided.
2. A Tree Management Plan should be created for this site to inform tree management guide construction within the Tree Protection Zones for retained trees.
3. The excavation for the proposed dwelling within the TPZ for Tree 35 must be undertaken under arboricultural supervision.
    a. Any tree roots encountered must be pruned neatly using sharp hand tools.
4. The proposed effluent distribution system must be installed at existing grade within the effluent envelope.

5. The effluent delivery plumbing must be installed outside the TPZ for any retained trees.

15. Trees shown as removed

The following trees are shown as removed on the plans provided.

ID	Genus / species	Common name	ULE	Ret value
The retention value for the following 1 tree/s is High				
35	*Liquidambar styraciflua*	Liquidambar	15 - 30	High
The retention value for the following 4 tree/s is Low				
34	*Cotoneaster glaucophyllus*	Cotoneaster	15 - 30	Low
54	*Prunus cerasifera 'Nigra'*	Purple Cherry Plum	5 - 15	Low
86	*Pittosporum tenuifolium*	Kohuhu	15 - 30	Low
87	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
The retention value for the following 4 tree/s is Moderate				
31	*Alnus acuminata*	Evergreen Alder	15 - 30	Moderate
32	*Alnus acuminata*	Evergreen Alder	15 - 30	Moderate
37	*Ficus carica*	Common Fig	> 60	Moderate
63	*Lagerstroemia indica*	Crepe Myrtle	> 60	Moderate
The retention value for the following 3 tree/s is Remove.				
33	*Jacaranda mimosifolia*	Jacaranda	1 - 5	Remove.
48	*Salix matsudana*	Tortured Willow	1 - 5	Remove.
55	*Unknown sp.*	Unknown	1 - 5	Remove.
The retention value for the following 3 tree/s is Very low				
36	*Citrus limon*	Lemon	15 - 30	Very low
38	*Rhaphiolepis umbellata*	Yeddo Hawthorn	5 - 15	Very low
59	*Citrus limon*	Lemon	15 - 30	Very low
Number of tree/s in this section (Total): 15				

16. Trees recommended for removal

The following trees are recommended for removal generally on the basis of poor, or worse, health and/or structure.

ID	Genus / species	Common name	ULE	Reason:	Ret value
The following 3 tree/s are shown as Removed on the plans provided.					
33	*Jacaranda mimosifolia*	Jacaranda	1 - 5	N/A.	Remove.
48	*Salix matsudana*	Tortured Willow	1 - 5	Health ULE.	Remove.
55	*Unknown sp.*	Unknown	1 - 5	N/A.	Remove.
The following 10 tree/s are shown as Retained on the plans provided.					
28	*Schinus molle var areira*	Pepper Tree	1 - 5	N/A.	Remove.
76	*Pinus radiata*	Monterey Pine	0	Health ULE.	Remove.
77	*Pinus radiata*	Monterey Pine	0	Health ULE.	Remove.
78	*Pinus radiata*	Monterey Pine	0	Health ULE.	Remove.
98	*Eucalyptus obliqua*	Messmate	0	N/A.	Remove.
104	*Acacia melanoxylon*	Blackwood	0	N/A.	Remove.
106	*Pinus radiata*	Monterey Pine	0	N/A.	Remove.
112	*Pinus radiata*	Monterey Pine	1 - 5	N/A.	Remove.
121	*Eucalyptus sp.*	Gum	0	N/A.	Remove.
125	*Pinus radiata*	Monterey Pine	0	Adjoining property.	Remove.
Number of tree/s in this section (Total): 13					

17. Works required

The following section pertains to those trees that are recommended for retention (Retention recommendation).

If any of these trees are retained then the listed works should be performed as per the Priority section of the Explanation of Terms. The recommended works are of a general nature only and should be reviewed following the completion of the project.

ID	Genus / species	Works Required	Priority:
75	*Pinus radiata*	50mm dead wood	Very low
111	*Pinus radiata*	50mm dead wood	Very low
114	*Pinus radiata*	50mm dead wood	Very low
139	*Eucalyptus globulus*	50mm dead wood	Very low
Number of trees in this section (Total):		4	

18. Weed species

The following trees are regarded by authorities as being environmental weeds (Muyt, 2001) (Yarra Ranges, 2004). Consideration should be given to the removal of these trees on the basis of their potential to contribute to environmental weed problems within the local area.

Trees located on adjoining properties are not included in this list.

ID	Genus / species	Common name	ULE	Ret value
28	*Schinus molle var areira*	Pepper Tree	1 - 5	Remove.
34	*Cotoneaster glaucophyllus*	Cotoneaster	15 - 30	Low
60	*Arbutus unedo*	Irish Strawberry Tree	> 60	Moderate
74	*Pinus radiata*	Monterey Pine	15 - 30	High
75	*Pinus radiata*	Monterey Pine	15 - 30	High
76	*Pinus radiata*	Monterey Pine	0	Remove.
77	*Pinus radiata*	Monterey Pine	0	Remove.
78	*Pinus radiata*	Monterey Pine	0	Remove.
79	*Pinus radiata*	Monterey Pine	30 - 60	Moderate
80	*Pinus radiata*	Monterey Pine	5 - 15	Moderate
81	*Pinus radiata*	Monterey Pine	5 - 15	Moderate
82	*Pinus radiata*	Monterey Pine	30 - 60	High
83	*Pinus radiata*	Monterey Pine	5 - 15	Low
84	*Pinus radiata*	Monterey Pine	5 - 15	Moderate
85	*Pinus radiata*	Monterey Pine	5 - 15	Moderate
87	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
88	*Pinus radiata*	Monterey Pine	30 - 60	Low
89	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
90	*Pinus radiata*	Monterey Pine	30 - 60	Moderate
91	*Pinus radiata*	Monterey Pine	30 - 60	Moderate
94	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
95	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
96	*Pinus radiata*	Monterey Pine	15 - 30	Low
97	*Pinus radiata*	Monterey Pine	5 - 15	Low
99	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
105	*Pinus radiata*	Monterey Pine	15 - 30	Low
106	*Pinus radiata*	Monterey Pine	0	Remove.
107	*Pinus radiata*	Monterey Pine	15 - 30	High
108	*Pinus radiata*	Monterey Pine	15 - 30	High
109	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
110	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
111	*Pinus radiata*	Monterey Pine	15 - 30	Moderate
112	*Pinus radiata*	Monterey Pine	1 - 5	Remove.
113	*Pinus radiata*	Monterey Pine	15 - 30	Moderate
114	*Pinus radiata*	Monterey Pine	5 - 15	Moderate
115	*Pinus radiata*	Monterey Pine	15 - 30	Low
116	*Pittosporum undulatum*	Sweet Pittosporum	15 - 30	Low
117	*Melaleuca armillaris*	Giant Honey Myrtle	5 - 15	Low
118	*Pinus radiata*	Monterey Pine	15 - 30	High
119	*Pinus radiata*	Monterey Pine	15 - 30	High
120	*Pinus radiata*	Monterey Pine	15 - 30	Moderate
122	*Pinus radiata*	Monterey Pine	30 - 60	Low
135	*Pinus radiata*	Monterey Pine	> 60	Moderate
137	*Pinus radiata*	Monterey Pine	30 - 60	Low
138	*Pinus radiata*	Monterey Pine	30 - 60	Low
Number of tree/s in this section (Total): 45				

19. Tree origin data

ID	Genus / species	ULE	Form	Ret value	Retained
The following 1 trees are of Unknown origin					
55	*Unknown sp.*	1 - 5	Poor	Remove.	Removed
The following 13 trees are of Melbourne origin					
40	*Eucalyptus camaldulensis*	30 - 60	Good	High	Retained
41	*Eucalyptus leucoxylon*	30 - 60	Fair	High	Retained
72	*Acacia melanoxylon*	15 - 30	Fair	Low	Retained
73	*Acacia melanoxylon*	15 - 30	Poor	Low	Retained
98	*Eucalyptus obliqua*	0	Very poor	Remove.	Retained
100	*Acacia melanoxylon*	30 - 60	Good	Moderate	Retained
101	*Acacia melanoxylon*	5 - 15	Fair	Low	Retained
102	*Acacia melanoxylon*	15 - 30	Fair	Low	Retained
103	*Acacia melanoxylon*	15 - 30	Fair	Low	Retained
104	*Acacia melanoxylon*	0	Very poor	Remove.	Retained
136	*Eucalyptus obliqua*	30 - 60	Fair	Moderate	Retained
139	*Eucalyptus globulus*	5 - 15	Fair	Low	Retained
140	*Eucalyptus leucoxylon*	30 - 60	Good	Moderate	Retained
The following 11 trees are of Victorian origin					
42	*Eucalyptus botryoides*	30 - 60	Good	High	Retained
46	*Eucalyptus botryoides*	5 - 15	Fair	Low	Retained
87	*Pittosporum undulatum*	15 - 30	Good	Low	Removed
89	*Pittosporum undulatum*	15 - 30	Good	Low	Retained
94	*Pittosporum undulatum*	15 - 30	Fair	Low	Retained
95	*Pittosporum undulatum*	15 - 30	Poor	Low	Retained
99	*Pittosporum undulatum*	15 - 30	Fair	Low	Retained
109	*Pittosporum undulatum*	15 - 30	Fair	Low	Retained
110	*Pittosporum undulatum*	15 - 30	Fair	Low	Retained
116	*Pittosporum undulatum*	15 - 30	Fair	Low	Retained
117	*Melaleuca armillaris*	5 - 15	Poor	Low	Retained
The following 7 trees are of Australian origin					
43	*Eucalyptus nicholii*	15 - 30	Fair	Moderate	Retained
44	*Eucalyptus scoparia*	30 - 60	Fair	High	Retained
45	*Eucalyptus scoparia*	15 - 30	Good	High	Retained
47	*Eucalyptus sp.*	30 - 60	Good	High	Retained
70	*Brachychiton acerifolius*	5 - 15	Poor	Low	Retained
121	*Eucalyptus sp.*	0	Very poor	Remove.	Retained
134	*Eucalyptus sp.*	15 - 30	Poor	Moderate	Retained
The following 109 trees are of Exotic origin					
1	*Platanus orientalis 'Digitata'*	15 - 30	Good	Moderate	Retained
2	*Platanus orientalis 'Digitata'*	5 - 15	Fair	Low	Retained
3	*Platanus orientalis 'Digitata'*	15 - 30	Good	Moderate	Retained
4	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
5	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
6	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
7	*Platanus orientalis 'Digitata'*	30 - 60	Good	High	Retained
8	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
9	*Platanus orientalis 'Digitata'*	30 - 60	Good	High	Retained
10	*Platanus orientalis 'Digitata'*	30 - 60	Good	Moderate	Retained
11	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
12	*Platanus orientalis 'Digitata'*	> 60	Good	Very high	Retained
13	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
14	*Platanus orientalis 'Digitata'*	30 - 60	Good	Moderate	Retained
15	*Platanus orientalis 'Digitata'*	15 - 30	Good	Moderate	Retained
16	*Platanus orientalis 'Digitata'*	15 - 30	Fair	High	Retained
17	*Platanus orientalis 'Digitata'*	5 - 15	Fair	Low	Retained
18	*Platanus orientalis 'Digitata'*	> 60	Good	Very high	Retained
19	*Platanus orientalis 'Digitata'*	30 - 60	Good	High	Retained
20	*Platanus orientalis 'Digitata'*	30 - 60	Fair	High	Retained
21	*Platanus orientalis 'Digitata'*	> 60	Good	High	Retained

ID	Genus / species	ULE	Form	Ret value	Retained
22	*Platanus orientalis 'Digitata'*	15 - 30	Fair	Moderate	Retained
23	*Platanus orientalis 'Digitata'*	30 - 60	Good	Moderate	Retained
24	*Platanus orientalis 'Digitata'*	30 - 60	Good	Moderate	Retained
25	*Platanus orientalis 'Digitata'*	15 - 30	Good	Moderate	Retained
26	*Platanus orientalis 'Digitata'*	30 - 60	Good	Moderate	Retained
27	*Platanus orientalis 'Digitata'*	30 - 60	Good	Moderate	Retained
28	*Schinus molle var areira*	1 - 5	Poor	Remove.	Retained
29	*Cedrus deodara*	> 60	Good	Very high	Retained
30	*Cedrus deodara*	> 60	Fair	Very high	Retained
31	*Alnus acuminata*	15 - 30	Fair	Moderate	Removed
32	*Alnus acuminata*	15 - 30	Good	Moderate	Removed
33	*Jacaranda mimosifolia*	1 - 5	Poor	Remove.	Removed
34	*Cotoneaster glaucophyllus*	15 - 30	Poor	Low	Removed
35	*Liquidambar styraciflua*	15 - 30	Good	High	Retained
36	*Citrus limon*	15 - 30	Good	Very low	Removed
37	*Ficus carica*	> 60	Good	Moderate	Removed
38	*Rhaphiolepis umbellata*	5 - 15	Fair	Very low	Removed
39	*Robinia pseudoacacia*	15 - 30	Good	Moderate	Retained
48	*Salix matsudana*	1 - 5	Poor	Remove.	Removed
49	*Quercus palustris*	> 60	Good	Very high	Retained
50	*Abelia grandiflora*	15 - 30	Good	Low	Retained
51	*Robinia pseudoacacia*	15 - 30	Good	Moderate	Retained
52	*Quercus palustris*	> 60	Good	Very high	Retained
53	*Ulmus parvifolia*	> 60	Good	Very high	Retained
54	*Prunus cerasifera 'Nigra'*	5 - 15	Fair	Low	Removed
56	*Morus alba*	> 60	Good	Moderate	Retained
57	*Ginkgo biloba*	> 60	Fair	Moderate	Retained
58	*Prunus serrulata*	5 - 15	Fair	Low	Retained
59	*Citrus limon*	15 - 30	Poor	Very low	Removed
60	*Arbutus unedo*	> 60	Good	Moderate	Retained
61	*Prunus serrulata*	30 - 60	Good	Very low	Retained
62	*Gleditsia triacanthos*	30 - 60	Good	Low	Retained
63	*Lagerstroemia indica*	> 60	Good	Moderate	Removed
64	*Lagerstroemia indica*	15 - 30	Good	Low	Retained
65	*Prunus serrulata*	15 - 30	Poor	Very low	Retained
66	*Prunus serrulata*	15 - 30	Poor	Low	Retained
67	*Malus domestica*	15 - 30	Poor	Low	Retained
68	*Prunus serrulata*	5 - 15	Poor	Low	Retained
69	*Acer japonica*	15 - 30	Good	Low	Retained
71	*Picea pungens*	15 - 30	Good	Low	Retained
74	*Pinus radiata*	15 - 30	Fair	High	Retained
75	*Pinus radiata*	15 - 30	Fair	High	Retained
76	*Pinus radiata*	0	Very poor	Remove.	Retained
77	*Pinus radiata*	0	Very poor	Remove.	Retained
78	*Pinus radiata*	0	Very poor	Remove.	Retained
79	*Pinus radiata*	30 - 60	Poor	Moderate	Retained
80	*Pinus radiata*	5 - 15	Poor	Moderate	Retained
81	*Pinus radiata*	5 - 15	Poor	Moderate	Retained
82	*Pinus radiata*	30 - 60	Poor	High	Retained
83	*Pinus radiata*	5 - 15	Poor	Low	Retained
84	*Pinus radiata*	5 - 15	Fair	Moderate	Retained
85	*Pinus radiata*	5 - 15	Poor	Moderate	Retained
86	*Pittosporum tenuifolium*	15 - 30	Fair	Low	Removed
88	*Pinus radiata*	30 - 60	Good	Low	Retained
90	*Pinus radiata*	30 - 60	Fair	Moderate	Retained
91	*Pinus radiata*	30 - 60	Fair	Moderate	Retained
92	*Cedrus atlantica*	15 - 30	Fair	High	Retained
93	*Abies nordmanniana*	> 60	Good	Very high	Retained
96	*Pinus radiata*	15 - 30	Poor	Low	Retained
97	*Pinus radiata*	5 - 15	Poor	Low	Retained
105	*Pinus radiata*	15 - 30	Good	Low	Retained
106	*Pinus radiata*	0	Very poor	Remove.	Retained

ID	Genus / species	ULE	Form	Ret value	Retained
107	*Pinus radiata*	15 - 30	Fair	High	Retained
108	*Pinus radiata*	15 - 30	Good	High	Retained
111	*Pinus radiata*	15 - 30	Poor	Moderate	Retained
112	*Pinus radiata*	1 - 5	Poor	Remove.	Retained
113	*Pinus radiata*	15 - 30	Poor	Moderate	Retained
114	*Pinus radiata*	5 - 15	Fair	Moderate	Retained
115	*Pinus radiata*	15 - 30	Poor	Low	Retained
118	*Pinus radiata*	15 - 30	Fair	High	Retained
119	*Pinus radiata*	15 - 30	Fair	High	Retained
120	*Pinus radiata*	15 - 30	Poor	Moderate	Retained
122	*Pinus radiata*	30 - 60	Good	Low	Retained
123	*Pinus radiata*	15 - 30	Fair	High	Retained
124	*Pinus radiata*	15 - 30	Fair	High	Retained
125	*Pinus radiata*	0	Very poor	Very low	Retained
126	*Pinus radiata*	15 - 30	Poor	High	Retained
127	*Pinus radiata*	15 - 30	Poor	High	Retained
128	*Pinus radiata*	15 - 30	Fair	High	Retained
129	*Pinus radiata*	15 - 30	Poor	High	Retained
130	*Pinus radiata*	15 - 30	Fair	High	Retained
131	*Pinus radiata*	15 - 30	Fair	High	Retained
132	*Pinus radiata*	5 - 15	Poor	Low	Retained
133	*Pinus radiata*	15 - 30	Poor	Moderate	Retained
135	*Pinus radiata*	> 60	Good	Moderate	Retained
137	*Pinus radiata*	30 - 60	Fair	Low	Retained
138	*Pinus radiata*	30 - 60	Good	Low	Retained
141	*Pyrus calleryana*	15 - 30	Good	Moderate	Retained
There are 141 trees in this section (total).					

20. Bushfire Management Overlay (CFA requirements)

The following section sets out how the trees within the defendable space at this site will be treated to achieve compliance with the canopy separation requirements of the BMO.

Only those trees that are located within the Defendable Space, as specified in the report provided by XWB Consulting P/L (Ref: Bushfire Management Plan – Replacement Dwelling – 80 Gordon Road Pakenham Upper) are addressed in this report.

21. BMO requirements

The following requirements are taken from the CFA Conditional Consent to the Grant of a Permit.

The following requirements are taken from Vegetation Management Requirement (Ref: Table 6 – 53.02 Victoria Planning Provisions. Bushfire Planning 31/07/2018).

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

22. BMO Notes

1. With agreement from the CFA it may be possible to group two or more trees together so as to be considered a single tree canopy within the Defendable Space.
    a. This may only be adopted with the express consent of the CFA and must be negotiated with the CFA.
    b. Within the Defendable Space for this site it is possible that the following trees may be considered as a single tree from a canopy separation perspective.
        i. Trees 1 – 27.
        ii. Trees 29 & 30.
    c. The following tree CFA BMO compliance illustration is based on a strict application of the canopy separation guidelines.

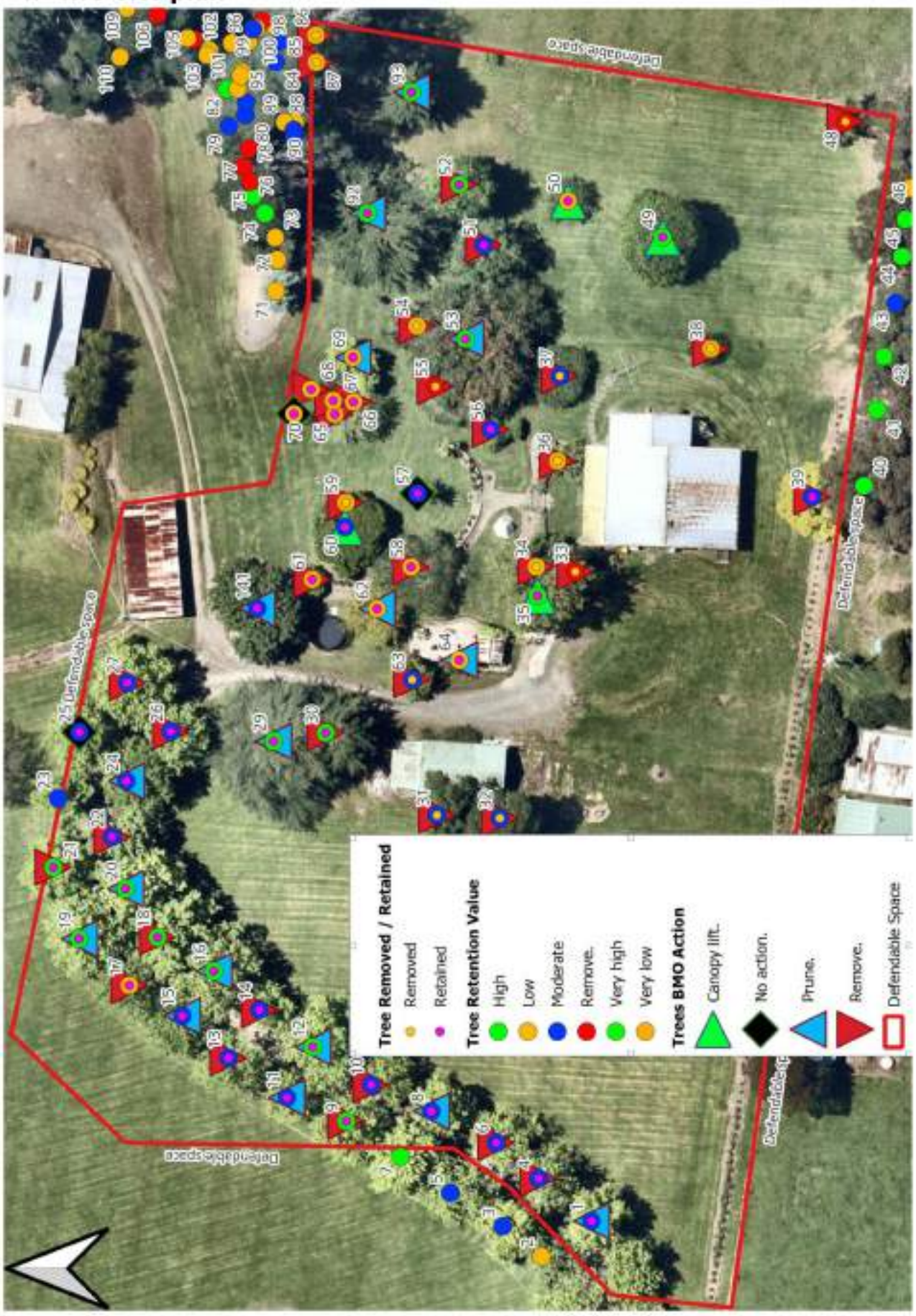
2. Where trees are required to be removed to achieve the requirements of the BMO an effort is made to retain those trees with the highest retention value and trees with lower retention values are generally preferentially removed.
3. It is understood that the owners of this property wish to retain a number of trees that are listed below as removed.
    a. This will not be in accordance with the CFA canopy separation guidelines and must be negotiated directly with the CFA.
    b. The following site plans show the tree removal and pruning that is likely to be required to be in accordance with the CFA canopy separation specification.
4. Tree Removal / Retention intention, Retention Value and BMO Action are illustrated as set out below (Figure 5).

Figure 5 Tree Removal / Retention intention, Retention Value and BMO Action legend

23. Canopy separation specification

Prune.	The required canopy separation can be achieved through the use of pruning more or less in accordance with AS 4373 2007 Pruning of Amenity Trees. Canopy lift pruning may be required as a part of this pruning.
Remove.	The required canopy separation cannot be achieved through pruning in accordance with AS 4373 2007 Pruning of Amenity Trees and the tree needs to be removed to achieve the required canopy separation.
No Action	No action is required to achieve the required canopy separation.

24. BMO Site plan



25. BMO summary tree data

The following table contains a summary of the data for all trees shown and numbered on the enclosed site plan

Underlined and italicised species name entries in this list have not been assessed. Generally, these trees are <5m tall, were not found at the site or are stumps.

1. **Retention value:** The relative value of the tree to the site and surrounding area.
    a. Tree number and species name are **Bold** for High and Very high retention value trees.
2. **Location:** Indicates whether the tree is location on the subject site or on adjoining properties (including road reserves).
3. **BMO action:** Indicates the action required to achieve the required canopy clearances under the BMO.
    a. **Remove:** The tree must be removed to achieve the required clearances.
    b. **Remove understorey:** Remove understorey trees and shrubs to achieve specified clearances.
    c. **Prune:** The tree must be pruned to achieve the specified clearances.
        i. These clearances are usually more or less horizontal between canopies.
    d. **Remove selected:** Selected shrubs must be removed to achieve the required clearances.
    e. **No action:** No action is required to achieve the required clearances.

ID:	Genus / Species:	Retention Value:	Location:	Retained:
1	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Prune.			
4	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
6	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
8	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Prune.			
9	**Platanus orientalis 'Digitata'**	High	Site	Retained
BMO Action:	Remove.			
10	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			

ID:	Genus / Species:	Retention Value:	Location:	Retained:
11	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Prune.			
12	**Platanus orientalis 'Digitata'**	Very high	Site	Retained
BMO Action:	Prune.			
13	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
14	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
15	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Prune.			
16	**Platanus orientalis 'Digitata'**	High	Site	Retained
BMO Action:	Prune.			
17	Platanus orientalis 'Digitata'	Low	Site	Retained
BMO Action:	Remove.			
18	**Platanus orientalis 'Digitata'**	Very high	Site	Retained
BMO Action:	Remove.			
19	**Platanus orientalis 'Digitata'**	High	Site	Retained
BMO Action:	Prune.			
20	**Platanus orientalis 'Digitata'**	High	Site	Retained
BMO Action:	Prune.			
21	**Platanus orientalis 'Digitata'**	High	Site	Retained
BMO Action:	Remove.			
22	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
24	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Prune.			
25	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	No action.			
26	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
27	Platanus orientalis 'Digitata'	Moderate	Site	Retained
BMO Action:	Remove.			
29	**Cedrus deodara**	Very high	Site	Retained
BMO Action:	Prune.			
30	**Cedrus deodara**	Very high	Site	Retained
BMO Action:	Remove.			
31	Alnus acuminata	Moderate	Site	Removed
BMO Action:	Remove.			
32	Alnus acuminata	Moderate	Site	Removed
BMO Action:	Remove.			

ID:	Genus / Species:	Retention Value:	Location:	Retained:
33	Jacaranda mimosifolia	Remove.	Site	Removed
BMO Action:	Remove.			
34	Cotoneaster glaucophyllus	Low	Site	Removed
BMO Action:	Remove.			
35	**Liquidambar styraciflua**	High	Site	Removed
BMO Action:	Canopy lift.			
36	Citrus limon	Very low	Site	Removed
BMO Action:	Remove.			
37	Ficus carica	Moderate	Site	Removed
BMO Action:	Remove.			
38	Rhaphiolepis umbellata	Very low	Site	Removed
BMO Action:	Remove.			
39	Robinia pseudoacacia	Moderate	Site	Retained
BMO Action:	Remove.			
40	**Eucalyptus camaldulensis**	High	Off site	Retained
BMO Action:	No action.			
41	**Eucalyptus leucoxylon**	High	Off site	Retained
BMO Action:	No action.			
42	**Eucalyptus botryoides**	High	Off site	Retained
BMO Action:	No action.			
43	Eucalyptus nicholii	Moderate	Off site	Retained
BMO Action:	No action.			
44	**Eucalyptus scoparia**	High	Off site	Retained
BMO Action:	No action.			
45	**Eucalyptus scoparia**	High	Off site	Retained
BMO Action:	No action.			
46	Eucalyptus botryoides	Low	Off site	Retained
BMO Action:	No action.			
47	**Eucalyptus sp.**	High	Off site	Retained
BMO Action:	No action.			
48	Salix matsudana	Remove.	Site	Removed
BMO Action:	Remove.			
49	**Quercus palustris**	Very high	Site	Retained
BMO Action:	Canopy lift.			
50	Abelia grandiflora	Low	Site	Retained
BMO Action:	Canopy lift.			
51	Robinia pseudoacacia	Moderate	Site	Retained
BMO Action:	Remove.			
52	**Quercus palustris**	Very high	Site	Retained
BMO Action:	Remove.			

ID:	Genus / Species:	Retention Value:	Location:	Retained:
53	**Ulmus parvifolia**	Very high	Site	Retained
BMO Action:	Prune.			
54	Prunus cerasifera 'Nigra'	Low	Site	Removed
BMO Action:	Remove.			
55	Unknown sp.	Remove.	Site	Removed
BMO Action:	Remove.			
56	Morus alba	Moderate	Site	Retained
BMO Action:	Remove.			
57	Ginkgo biloba	Moderate	Site	Retained
BMO Action:	No action.			
58	Prunus serrulata	Low	Site	Retained
BMO Action:	Remove.			
59	Citrus limon	Very low	Site	Removed
BMO Action:	Remove.			
60	Arbutus unedo	Moderate	Site	Retained
BMO Action:	Canopy lift.			
61	Prunus serrulata	Very low	Site	Retained
BMO Action:	Remove.			
62	Gleditsia triacanthos	Low	Site	Retained
BMO Action:	Prune.			
63	Lagerstroemia indica	Moderate	Site	Removed
BMO Action:	Remove.			
64	Lagerstroemia indica	Low	Site	Retained
BMO Action:	Prune.			
65	Prunus serrulata	Very low	Site	Retained
BMO Action:	Remove.			
66	Prunus serrulata	Low	Site	Retained
BMO Action:	Remove.			
67	Malus domestica	Low	Site	Retained
BMO Action:	Remove.			
68	Prunus serrulata	Low	Site	Retained
BMO Action:	Remove.			
69	Acer japonica	Low	Site	Retained
BMO Action:	Prune.			
70	Brachychiton acerifolius	Low	Site	Retained
BMO Action:	No action.			
86	Pittosporum tenuifolium	Low	Site	Removed
BMO Action:	Remove.			
87	Pittosporum undulatum	Low	Site	Removed
BMO Action:	Remove.			

ID:	Genus / Species:	Retention Value:	Location:	Retained:
92	**Cedrus atlantica**	High	Site	Retained
BMO Action:	Prune.			
93	**Abies nordmanniana**	Very high	Site	Retained
BMO Action:	Prune.			
141	Pyrus calleryana	Moderate	Site	Retained
BMO Action:	Prune.			

Total number of tree/s referred to in this report(Total): 69

26. References

Coder, K.D 1996, Construction Damage Assessments, University of Georgia. http://www.forestry.uga.edu/warnell/service/library/for96-039a/index.html

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27. Appendix 1 - Tree protection guidelines

The following tree protection guidelines should be observed as appropriate. Where it is not possible to comply with these recommendations alternative arrangements should be decided with a qualified arborist.

1. A site specific Tree Protection Report should be commissioned prior to the commencement of construction to guide construction activity around any retained trees on or adjacent to the site.
2. Clearly marked as being retained on the site to avoid confusion during the tree removal phase.
3. The stumps of removed trees should be ground out rather than pulled to avoid injury to adjacent trees.
4. Construction specifications should include the plan location of those trees that are to be retained.
5. Penalties should be included in the construction specifications for damage to trees that are to be retained.
6. The trees to be retained should be enclosed with a 1.8 meter high chain link fence supported on steel posts driven 0.6 meters into the ground.

    6.1. Tree protection fencing should be established as shown.

        6.1.1. If tree protection fencing is not detailed in the report it should enclose, at a minimum, the entire **Structural Root Zone** and as much of the **Tree Protection Zone** as possible.

    6.2. Access should be provided by a single gate that should be kept locked at all times except when required for tree inspection or maintenance.

    6.3. Tree protection fencing should be installed following the removal of trees and prior to any other works being commenced.

    6.4. The area inside the fence should be mulched to a depth of 0.15 meters with general arboricultural wood chip mulch or similar.

7. Where construction clearance is required and areas of the Tree Protection Zone cannot be fenced the ground in these areas should be protected from compaction with **Ground Protection.**

   7.1. **Ground Protection** can consist of any constructed platform that prevents point loads on the soil within the Tree Protection Zone. These could include:

      7.1.1. Industrial pallets joined together to form a platform.

      7.1.2. 12 mm plywood joined together to form a platform.

      7.1.3. Planks of timber joined together to form a platform.

   7.2. **Ground Protection** should be constructed with sufficient strength to allow it to survive the entire construction process.

   7.3. **Ground Protection** should be installed following the removal of trees and prior to any other works being commenced.

8. Excavation within the **Structural Root Zone** should be avoided unless absolutely necessary.

   8.1. Any excavation within the **Structural Root Zone** should be performed by hand.

   8.2. Any excavation within or tunnelling under the **Structural Root Zone** should be supervised by a qualified arborist.

   8.3. Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.

   8.4. Before any roots are pruned the effect of such pruning on the health and structural stability of the tree should be evaluated by a qualified arborist.

9. Excavation within the **Tree Protection Zone** should be avoided where possible.

   9.1. Any excavation within the **Tree Protection Zone** should be performed carefully to minimise root injury.

   9.2. Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.

   9.3. Before any excavation occurs the effect of such excavation on the health and structural stability of the tree should be evaluated by a qualified arborist.

10. Concrete and other washout or waste disposal areas should be kept well away from trees to be retained.

11. Where automatic irrigation systems are installed the amount of irrigation that is applied should be checked against the requirements of the existing trees on the site.

12. Any pruning works that are required to facilitate construction should be performed by a qualified arborist.

Adapted from Harris, Clark and Matheny (2004)

28. Appendix 2 - Tree data

Note: Where **Retention value** = **"Remove"** only the arboricultural attributes of the tree (i.e. health, structure and ULE) are considered. Other factors that may affect the decision to retain or remove the tree are not considered.

- Where the **'Construction Proximity'** is larger than the **'Tree Protection Zone (TPZ)'** it is probable that the development will have **no significant impact on the health and longevity** of the tree.
- Where the **'Construction Proximity'** is larger than the **'Structural Root Zone (SRZ)'** it is probable that the development will have **no significant impact on the stability** of the tree.
- The following information should be read in conjunction with the **'Explanation of Terms'** and the **'Glossary / Notes'** sections found later in this report.

SRZ (m):	AS 4970-2009 Protection of trees on development sites. (Radius)	Total Number of trees
TPZ (m):	AS 4970-2009 Protection of trees on development sites (Radius)	141
mTPZ (m):	Modification to TPZ as required to protect canopy	
Construction Proximity:	0.1 indicates construction over or immediately adjacent to the tree	

Tree ID: 1

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	11	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	35 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***2.2***	**Works priority:**	N/A
TPZ (m):	***4.2***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 2

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	11	**Structure:**	Good
Width (m):	7	**Health:**	Poor
DBH (cm):	23 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***2.8***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **3**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	13	**Structure:**	Good
Width (m):	9	**Health:**	Fair
DBH (cm):	31 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***2.1***	**Works priority:**	N/A
TPZ (m):	***3.7***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **4**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Fair
Width (m):	9	**Health:**	Fair
DBH (cm):	28 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***2***	**Works priority:**	N/A
TPZ (m):	***3.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **5**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Fair
Width (m):	9	**Health:**	Fair
DBH (cm):	30 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***2.1***	**Works priority:**	N/A
TPZ (m):	***3.6***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **6**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	10	**Structure:**	Fair
Width (m):	9	**Health:**	Fair
DBH (cm):	27 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2**	**Works priority:**	N/A
TPZ (m):	**3.2**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: **7**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	15	**Structure:**	Good
Width (m):	9	**Health:**	Fair
DBH (cm):	38 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	**2.3**	**Works priority:**	N/A
TPZ (m):	**4.6**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: **8**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	13	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	36 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2.3**	**Works priority:**	N/A
TPZ (m):	**4.3**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 9

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	16	**Structure:**	Good
Width (m):	9	**Health:**	Fair
DBH (cm):	35 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	***2.2***	**Works priority:**	N/A
TPZ (m):	***4.2***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 10

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	11	**Structure:**	Good
Width (m):	9	**Health:**	Fair
DBH (cm):	28 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***2***	**Works priority:**	N/A
TPZ (m):	***3.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 11

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	13	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	24 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***2.9***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 12

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	16	**Structure:**	Good
Width (m):	10	**Health:**	Good
DBH (cm):	34 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): **2.2** **Works priority:** N/A

TPZ (m): **4.1** **Construction Proximity:** **15**

mTPZ (m):

Tree ID: 13

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Good
Width (m):	8	**Health:**	Poor
DBH (cm):	37 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

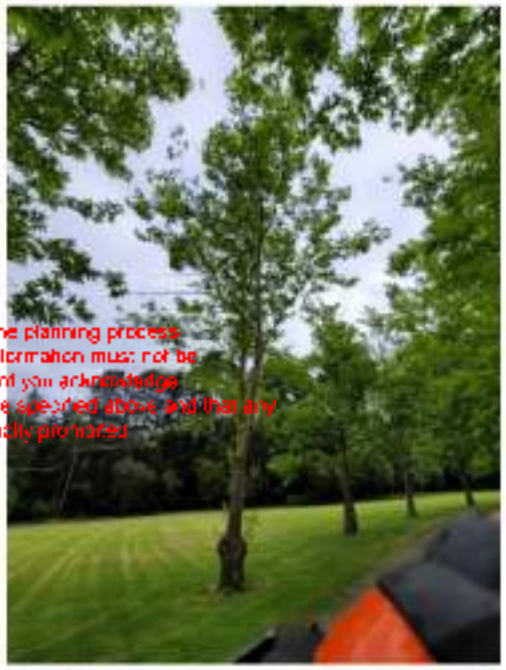
Amenity value: Moderate

Works Required: N/A.

SRZ (m): **2.3** **Works priority:** N/A

TPZ (m): **4.4** **Construction Proximity:** **15**

mTPZ (m):



Tree ID: 14

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	27 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): **2** **Works priority:** N/A

TPZ (m): **3.2** **Construction Proximity:** **15**

mTPZ (m):

Tree ID: **15**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	12	**Structure:**	Fair
Width (m):	9	**Health:**	Fair
DBH (cm):	36 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	***2.3***	**Works priority:**	N/A
TPZ (m):	***4.3***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **16**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	17	**Structure:**	Good
Width (m):	12	**Health:**	Fair
DBH (cm):	37 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair
Retention Value:		High	
Removal / retention reason:		N/A.	
Amenity value:		High	
Works Required:	N/A.		

SRZ (m):	***2.3***	**Works priority:**	N/A
TPZ (m):	***4.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **17**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	15	**Structure:**	Good
Width (m):	10	**Health:**	Poor
DBH (cm):	30 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair
Retention Value:		Low	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	***2.1***	**Works priority:**	N/A
TPZ (m):	***3.6***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **18**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	17	**Structure:**	Good
Width (m):	12	**Health:**	Good
DBH (cm):	41 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): ***2.4*** **Works priority:** N/A

TPZ (m): ***4.9*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **19**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	16	**Structure:**	Good
Width (m):	12	**Health:**	Fair
DBH (cm):	41 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: High

Removal / retention reason: N/A.

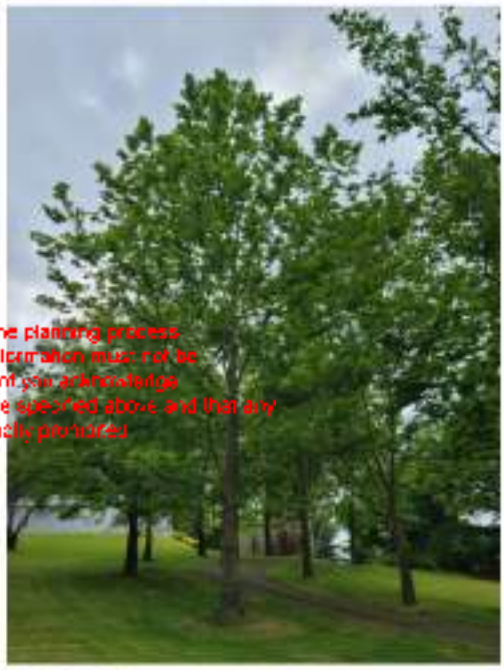
Amenity value: High

Works Required: N/A.

SRZ (m): ***2.4*** **Works priority:** N/A

TPZ (m): ***4.9*** ***Construction Proximity:*** ***15***

mTPZ (m):



Tree ID: **20**

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	15	**Structure:**	Good
Width (m):	11	**Health:**	Fair
DBH (cm):	30 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): ***2.1*** **Works priority:** N/A

TPZ (m): ***3.6*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 21

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	11	**Structure:**	Good
Width (m):	10	**Health:**	Good
DBH (cm):	34 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: High

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2.2**	**Works priority:**	N/A
TPZ (m):	**4.1**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 22

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	13	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	32 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2.2**	**Works priority:**	N/A
TPZ (m):	**3.8**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 23

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	12	**Structure:**	Good
Width (m):	9	**Health:**	Fair
DBH (cm):	27 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2**	**Works priority:**	N/A
TPZ (m):	**3.2**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 24

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Good
Width (m):	10	**Health:**	Fair
DBH (cm):	31 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): ***2.1*** ***Works priority:*** N/A

TPZ (m): ***3.7*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 25

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Fair
Width (m):	9	**Health:**	Fair
DBH (cm):	43 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): ***2.4*** ***Works priority:*** N/A

TPZ (m): ***5.2*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 26

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Good
Width (m):	9	**Health:**	Fair
DBH (cm):	32 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): ***2.2*** ***Works priority:*** N/A

TPZ (m): ***3.8*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 27

Genus / species: *Platanus orientalis 'Digitata'*

Deciduous Cut Leaf Plane

Height (m):	14	**Structure:**	Good
Width (m):	12	**Health:**	Fair
DBH (cm):	38 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2.3**	**Works priority:**	N/A
TPZ (m):	**4.6**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 28

Genus / species: *Schinus molle var areira*

Evergreen Pepper Tree

Height (m):	8	**Structure:**	Fair
Width (m):	10	**Health:**	Poor
DBH (cm):	35 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	1 - 5
Retained?:	Retained	**Form:**	Poor

Retention Value: Remove

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m):	**2.2**	**Works priority:**	N/A
TPZ (m):	**4.2**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 29

Genus / species: *Cedrus deodara*

Evergreen Deodar Cedar

Height (m):	14	**Structure:**	Good
Width (m):	18	**Health:**	Good
DBH (cm):	76 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	**3**	**Works priority:**	N/A
TPZ (m):	**9.1**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: **30**

Genus / species: *Cedrus deodara*

Evergreen Deodar Cedar

Height (m):	14	**Structure:**	Good
Width (m):	11	**Health:**	Good
DBH (cm):	56 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Fair

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): **2.7** ***Works priority:*** N/A

TPZ (m): **6.7** ***Construction Proximity:*** **4.5**

mTPZ (m):

Tree ID: **31**

Genus / species: *Alnus acuminata*

Deciduous Evergreen Alder

Height (m):	11	**Structure:**	Fair
Width (m):	9	**Health:**	Fair
DBH (cm):	39 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Fair

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): **2.3** ***Works priority:*** N/A

TPZ (m): **4.7** ***Construction Proximity:*** **0.1**

mTPZ (m):

Tree ID: **32**

Genus / species: *Alnus acuminata*

Deciduous Evergreen Alder

Height (m):	16	**Structure:**	Fair
Width (m):	9	**Health:**	Good
DBH (cm):	39 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): **3.4** ***Works priority:*** N/A

TPZ (m): **4.7** ***Construction Proximity:*** **0.1**

mTPZ (m):

Tree ID: **33**

Genus / species: *Jacaranda mimosifolia*

Deciduous Jacaranda

Height (m):	5	**Structure:**	Good
Width (m):	3	**Health:**	Poor
DBH (cm):	17 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	1 - 5
Retained?:	Removed	**Form:**	Poor

Retention Value: Remove.

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m): ***1.7*** ***Works priority:*** N/A

TPZ (m): ***2.0*** ***Construction Proximity:*** ***1.9***

mTPZ (m):

Tree ID: **34**

Genus / species: *Cotoneaster glaucophyllus*

Evergreen Cotoneaster

Height (m):	5	**Structure:**	Fair
Width (m):	5	**Health:**	Good
DBH (cm):	25 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m): ***1.9*** ***Works priority:*** N/A

TPZ (m): ***3.0*** ***Construction Proximity:*** ***3.7***

mTPZ (m):

Tree ID: **35**

Genus / species: *Liquidambar styraciflua*

Deciduous Liquidambar

Height (m):	16	**Structure:**	Fair
Width (m):	12	**Health:**	Fair
DBH (cm):	54 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Good

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): ***2.7*** ***Works priority:*** N/A

TPZ (m): ***6.5*** ***Construction Proximity:*** ***3***

mTPZ (m):

Tree ID: **36**

Genus / species: *Citrus limon*

Evergreen Lemon

Height (m):	4	**Structure:**	Fair
Width (m):	6	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Good

Retention Value: Very low

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***0.4***
mTPZ (m):			

Tree ID: **37**

Genus / species: *Ficus carica*

Deciduous Common Fig

Height (m):	5	**Structure:**	Good
Width (m):	11	**Health:**	Good
DBH (cm):	32 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Removed	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***2.2***	**Works priority:**	N/A
TPZ (m):	***3.8***	***Construction Proximity:***	***5.9***
mTPZ (m):			

Tree ID: **38**

Genus / species: *Rhaphiolepis umbellata*

Evergreen Yeddo Hawthorn

Height (m):	3	**Structure:**	Fair
Width (m):	3	**Health:**	Fair
DBH (cm):	15 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Removed	**Form:**	Fair

Retention Value: Very low

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***0.1***
mTPZ (m):			

Tree ID: **39**

Genus / species: *Robinia pseudoacacia*
Deciduous Black Locust

Height (m):	9	**Structure:**	Poor
Width (m):	10	**Health:**	Good
DBH (cm):	44 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: Moderate
Works Required: N/A.

SRZ (m): ***2.4*** **Works priority:** N/A
TPZ (m): ***5.3*** **Construction Proximity:** ***12.3***
mTPZ (m):

Tree ID: **40**

Genus / species: *Eucalyptus camaldulensis*
Evergreen River Red Gum

Height (m):	23	**Structure:**	Poor
Width (m):	19	**Health:**	Good
DBH (cm):	104 Measured	**Maturity:**	Mature
Origin:	Melbourne	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): ***3.6*** **Works priority:** N/A
TPZ (m): ***12.5*** **Construction Proximity:** ***15***
mTPZ (m):

Tree ID: **41**

Genus / species: *Eucalyptus leucoxylon*
Evergreen Yellow Gum

Height (m):	22	**Structure:**	Poor
Width (m):	9	**Health:**	Good
DBH (cm):	50 Measured	**Maturity:**	Mature
Origin:	Melbourne	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): ***2.6*** **Works priority:** N/A
TPZ (m): ***6.0*** **Construction Proximity:** ***15***
mTPZ (m):

Tree ID: 42

Genus / species: *Eucalyptus botryoides*
Evergreen Southern Mahogany

Height (m):	21	**Structure:**	Fair
Width (m):	16	**Health:**	Good
DBH (cm):	77 Measured	**Maturity:**	Mature
Origin:	Victorian	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m):	**3.2**	**Works priority:**	N/A
TPZ (m):	**9.2**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 43

Genus / species: *Eucalyptus nicholii*
Evergreen Willow Leaf Peppermint

Height (m):	14	**Structure:**	Poor
Width (m):	7	**Health:**	Fair
DBH (cm):	31 Measured	**Maturity:**	Mature
Origin:	Australian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate
Removal / retention reason: Adjoining property.
Amenity value: Moderate
Works Required: N/A.

SRZ (m):	**2.1**	**Works priority:**	N/A
TPZ (m):	**3.7**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 44

Genus / species: *Eucalyptus scoparia*
Evergreen Wallangarra Gum

Height (m):	22	**Structure:**	Fair
Width (m):	13	**Health:**	Good
DBH (cm):	59 Measured	**Maturity:**	Mature
Origin:	Australian	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m):	**2.8**	**Works priority:**	N/A
TPZ (m):	**7.1**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 45

Genus / species: *Eucalyptus scoparia*
Evergreen Wallangarra Gum
Height (m): 22 **Structure:** Poor
Width (m): 16 **Health:** Good
DBH (cm): 94 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 15 - 30
Retained?: Retained **Form:** Good
Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): ***3.4*** **Works priority:** N/A
TPZ (m): ***11.3*** **Construction Proximity:** ***15***
mTPZ (m):

Tree ID: 46

Genus / species: *Eucalyptus botryoides*
Evergreen Southern Mahogany
Height (m): 12 **Structure:** Poor
Width (m): 8 **Health:** Poor
DBH (cm): 35 Measured **Maturity:** Mature
Origin: Victorian **ULE (years):** 5 - 15
Retained?: Retained **Form:** Fair
Retention Value: Low
Removal / retention reason: Adjoining property.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***2.2*** **Works priority:** N/A
TPZ (m): ***4.2*** **Construction Proximity:** ***15***
mTPZ (m):

Tree ID: 47

Genus / species: *Eucalyptus sp.*
Evergreen Gum
Height (m): 21 **Structure:** Fair
Width (m): 18 **Health:** Good
DBH (cm): 84 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 30 - 60
Retained?: Retained **Form:** Good
Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): ***3.3*** **Works priority:** N/A
TPZ (m): ***10.1*** **Construction Proximity:** ***15***
mTPZ (m):

Tree ID: **48**

Genus / species: *Salix matsudana*

Deciduous Tortured Willow

Height (m):	7	**Structure:**	Poor
Width (m):	6	**Health:**	Poor
DBH (cm):	40 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	1 - 5
Retained?:	Removed	**Form:**	Poor

Retention Value: Remove.

Removal / retention reason: Health ULE.

Amenity value: Very low

Works Required: N/A.

SRZ (m): ***2.4*** ***Works priority:*** N/A

TPZ (m): ***4.8*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **49**

Genus / species: *Quercus palustris*

Deciduous Pin Oak

Height (m):	12	**Structure:**	Good
Width (m):	9	**Health:**	Good
DBH (cm):	45 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): ***2.5*** ***Works priority:*** N/A

TPZ (m): ***5.4*** ***Construction Proximity:*** ***5.3***

mTPZ (m):

Tree ID: **50**

Genus / species: *Abelia grandiflora*

Evergreen Glossy Abelia

Height (m):	5	**Structure:**	Good
Width (m):	5	**Health:**	Fair
DBH (cm):	20 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m): ***1.8*** ***Works priority:*** N/A

TPZ (m): ***2.4*** ***Construction Proximity:*** ***12.9***

mTPZ (m):

Tree ID: **51**

Genus / species: *Robinia pseudoacacia*

Deciduous Black Locust

Height (m):	12	**Structure:**	Poor
Width (m):	9	**Health:**	Good
DBH (cm):	37 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2.3**	**Works priority:**	N/A
TPZ (m):	**4.4**	**Construction Proximity:**	**0.1**
mTPZ (m):			

Tree ID: **52**

Genus / species: *Quercus palustris*

Deciduous Pin Oak

Height (m):	16	**Structure:**	Good
Width (m):	4	**Health:**	Good
DBH (cm):	27 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	**2**	**Works priority:**	N/A
TPZ (m):	**3.2**	**Construction Proximity:**	**0.1**
mTPZ (m):			

Tree ID: **53**

Genus / species: *Ulmus parvifolia*

Evergreen Chinese Elm

Height (m):	11	**Structure:**	Fair
Width (m):	18	**Health:**	Good
DBH (cm):	51 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	**2.6**	**Works priority:**	N/A
TPZ (m):	**6.1**	**Construction Proximity:**	**0.1**
mTPZ (m):			

Tree ID: 54

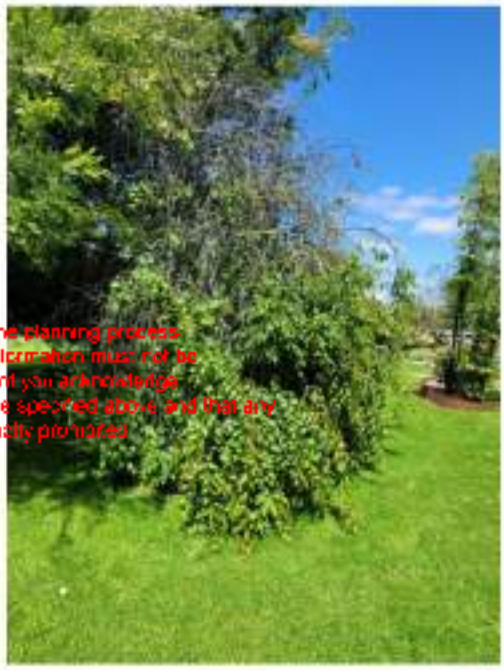
Genus / species: *Prunus cerasifera 'Nigra'*
Deciduous Purple Cherry Plum

Height (m):	7	**Structure:**	Fair
Width (m):	6	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Removed	**Form:**	Fair

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	**Construction Proximity:**	***0.1***
mTPZ (m):			

Tree ID: 55



Genus / species: *Unknown sp.*
Unknown Unknown

Height (m):	5	**Structure:**	Good
Width (m):	5	**Health:**	Fair
DBH (cm):	17 Measured	**Maturity:**	Mature
Origin:	Unknown	**ULE (years):**	1 - 5
Retained?:	Removed	**Form:**	Poor

Retention Value: Removal
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.7***	**Works priority:**	N/A
TPZ (m):	***2.0***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: 56

Genus / species: *Morus alba*
Deciduous Mulberry

Height (m):	5	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	**Construction Proximity:**	***11.6***
mTPZ (m):			

Tree ID: **57**

Genus / species: *Ginkgo biloba*

Deciduous Maiden Hair Tree

Height (m):	8	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Fair
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Low	
Works Required:	N/A.		

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **58**

Genus / species: *Prunus serrulata*

Deciduous Japanese Flowering Cherry

Height (m):	6	**Structure:**	Good
Width (m):	12	**Health:**	Fair
DBH (cm):	54 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair
Retention Value:		Low	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	***2.7***	**Works priority:**	N/A
TPZ (m):	***6.5***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **59**

Genus / species: *Citrus limon*

Evergreen Lemon

Height (m):	3	**Structure:**	Good
Width (m):	2	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Poor
Retention Value:		Very low	
Removal / retention reason:		N/A.	
Amenity value:		Very low	
Works Required:	N/A.		

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 60

Genus / species: *Arbutus unedo*

Evergreen Irish Strawberry Tree

Height (m):	7	**Structure:**	Fair
Width (m):	10	**Health:**	Good
DBH (cm):	47 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	**2.5**	**Works priority:**	N/A
TPZ (m):	**5.6**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 61

Genus / species: *Prunus serrulata*

Deciduous Japanese Flowering Cherry

Height (m):	3	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	24 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very low

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m):	**1.9**	**Works priority:**	N/A
TPZ (m):	**2.9**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 62

Genus / species: *Gleditsia triacanthos*

Deciduous Honey Locust

Height (m):	6	**Structure:**	Good
Width (m):	8	**Health:**	Good
DBH (cm):	23 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	**1.9**	**Works priority:**	N/A
TPZ (m):	**2.8**	**Construction Proximity:**	**14.9**
mTPZ (m):			

Tree ID: **63**

Genus / species: *Lagerstroemia indica*
Deciduous Crepe Myrtle

Height (m):	6	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Removed	**Form:**	Good

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.8*** ***Works priority:*** N/A
TPZ (m): ***2.4*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **64**

Genus / species: *Lagerstroemia indica*
Deciduous Crepe Myrtle

Height (m):	5	**Structure:**	Good
Width (m):	3	**Health:**	Fair
DBH (cm):	15 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***8.9***
mTPZ (m):

Tree ID: **65**

Genus / species: *Prunus serrulata*
Deciduous Japanese Flowering Cherry

Height (m):	4	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	10 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Very low
Removal / retention reason: N/A.
Amenity value: Very low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **66**

Genus / species: *Prunus serrulata*

Deciduous Japanese Flowering Cherry

Height (m):	5	**Structure:**	Fair
Width (m):	3	**Health:**	Good
DBH (cm):	9 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **67**

Genus / species: *Malus domestica*

Deciduous Apple

Height (m):	5	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **68**

Genus / species: *Prunus serrulata*

Deciduous Japanese Flowering Cherry

Height (m):	6	**Structure:**	Fair
Width (m):	5	**Health:**	Poor
DBH (cm):	25 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***3.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 69

Genus / species: *Acer japonica*

Deciduous Japanese Maple

Height (m):	6	**Structure:**	Fair
Width (m):	5	**Health:**	Good
DBH (cm):	25 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***3.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 70

Genus / species: *Brachychiton acerifolius*

Evergreen Flame Tree

Height (m):	8	**Structure:**	Good
Width (m):	2	**Health:**	Poor
DBH (cm):	24 Measured	**Maturity:**	Mature
Origin:	Australian	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***2.9***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 71

Genus / species: *Picea pungens*

Evergreen Blue Spruce

Height (m):	9	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	24 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***2.9***	***Construction Proximity:***	***0.1***
mTPZ (m):			

Tree ID: 72

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	5	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	10 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	**Construction Proximity:**	***0.1***
mTPZ (m):			

Tree ID: 73

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	6	**Structure:**	Fair
Width (m):	3	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	**Construction Proximity:**	***0.1***
mTPZ (m):			

Tree ID: 74

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	26	**Structure:**	Good
Width (m):	8	**Health:**	Good
DBH (cm):	57 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	***2.7***	**Works priority:**	N/A
TPZ (m):	***6.8***	**Construction Proximity:**	***0.1***
mTPZ (m):			

Tree ID: **75**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	26	**Structure:**	Good
Width (m):	8	**Health:**	Good
DBH (cm):	78 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: 50mm dead wood

SRZ (m): **3.2** ***Works priority:*** Very low

TPZ (m): **9.4** ***Construction Proximity:*** **0.1**

mTPZ (m):

Tree ID: **76**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	14	**Structure:**	Good
Width (m):	6	**Health:**	Dead
DBH (cm):	47 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove.

Removal / retention reason: Health ULE.

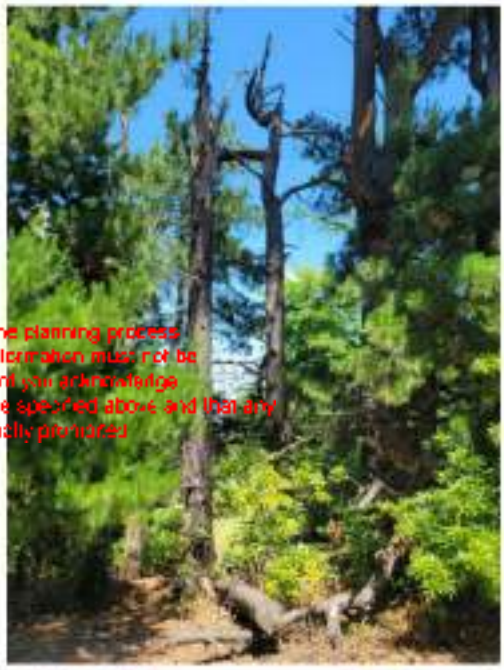
Amenity value: Very low

Works Required: N/A.

SRZ (m): **2.5** ***Works priority:*** N/A

TPZ (m): **5.6** ***Construction Proximity:*** **0.1**

mTPZ (m):



Tree ID: **77**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	18	**Structure:**	Poor
Width (m):	3	**Health:**	Very poor
DBH (cm):	65 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove.

Removal / retention reason: Health ULE.

Amenity value: Very low

Works Required: N/A.

SRZ (m): **2.9** ***Works priority:*** N/A

TPZ (m): **7.8** ***Construction Proximity:*** **0.1**

mTPZ (m):

Tree ID: **78**

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	11	**Structure:**	Poor
Width (m):	2	**Health:**	Dead
DBH (cm):	45 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove.
Removal / retention reason: Health ULE.
Amenity value: Very low
Works Required: N/A.

SRZ (m): ***2.5*** ***Works priority:*** N/A
TPZ (m): ***5.4*** ***Construction Proximity:*** ***0.1***
mTPZ (m):

Tree ID: **79**

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	15	**Structure:**	Good
Width (m):	7	**Health:**	Good
DBH (cm):	34 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Poor

Retention Value: Moderate
Removal / retention reason: Health ULE
Amenity value: Moderate
Works Required: N/A.

SRZ (m): ***2.2*** ***Works priority:*** N/A
TPZ (m): ***4.1*** ***Construction Proximity:*** ***0.1***
mTPZ (m):

Tree ID: **80**

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	26	**Structure:**	Poor
Width (m):	9	**Health:**	Poor
DBH (cm):	78 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m): ***3.2*** ***Works priority:*** N/A
TPZ (m): ***9.4*** ***Construction Proximity:*** ***0.1***
mTPZ (m):

Tree ID: 81

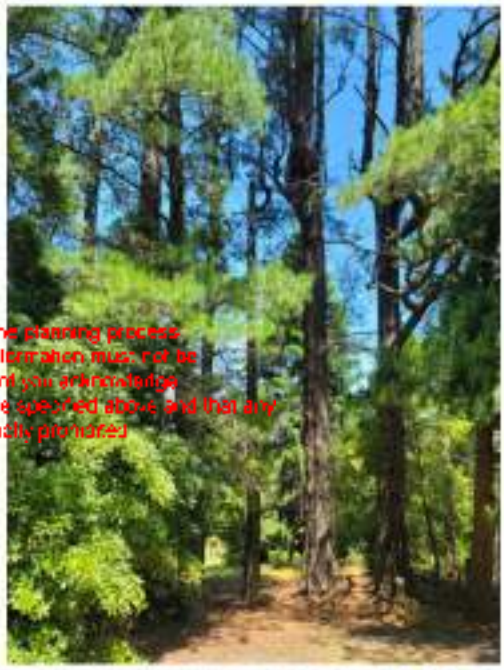
Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	27	**Structure:**	Poor
Width (m):	8	**Health:**	Fair
DBH (cm):	78 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m):	**3.2**	**Works priority:**	N/A
TPZ (m):	**9.4**	**Construction Proximity:**	**0.1**
mTPZ (m):			

Tree ID: 82



Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	16	**Structure:**	Good
Width (m):	7	**Health:**	Good
DBH (cm):	47 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Poor

Retention Value: High
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m):	**2.5**	**Works priority:**	N/A
TPZ (m):	**5.6**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 83

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	18	**Structure:**	Poor
Width (m):	4	**Health:**	Very poor
DBH (cm):	39 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Moderate
Works Required: N/A.

SRZ (m):	**2.3**	**Works priority:**	N/A
TPZ (m):	**4.7**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: **84**

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	28	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	100 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m):	***3.5***	**Works priority:**	N/A
TPZ (m):	***12.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **85**

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	25	**Structure:**	Good
Width (m):	9	**Health:**	Poor
DBH (cm):	67 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m):	***2.9***	**Works priority:**	N/A
TPZ (m):	***8.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **86**

Genus / species: *Pittosporum tenuifolium*
Evergreen Kohuhu

Height (m):	7	**Structure:**	Fair
Width (m):	6	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Fair

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: **87**

Genus / species: *Pittosporum undulatum*
Evergreen Sweet Pittosporum

Height (m):	6	**Structure:**	Good
Width (m):	4	**Health:**	Good
DBH (cm):	10 Measured	**Maturity:**	Immature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Removed	**Form:**	Good

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **88**

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	8	**Structure:**	Good
Width (m):	2	**Health:**	Good
DBH (cm):	10 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***0.1***
mTPZ (m):

Tree ID: **89**

Genus / species: *Pittosporum undulatum*
Evergreen Sweet Pittosporum

Height (m):	7	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	10 Measured	**Maturity:**	Immature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***0.1***
mTPZ (m):

Tree ID: 90

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	13	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	27 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: Moderate
Works Required: N/A.

SRZ (m):	**2**	**Works priority:**	N/A
TPZ (m):	**3.2**	***Construction Proximity:***	**0.1**
mTPZ (m):			

Tree ID: 91

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	12	**Structure:**	Good
Width (m):	6	**Health:**	Good
DBH (cm):	35 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: Moderate
Works Required: N/A.

SRZ (m):	**2.2**	**Works priority:**	N/A
TPZ (m):	**4.2**	***Construction Proximity:***	**0.1**
mTPZ (m):			

Tree ID: 92

Genus / species: *Cedrus atlantica*
Evergreen Atlantic Cedar

Height (m):	19	**Structure:**	Poor
Width (m):	20	**Health:**	Good
DBH (cm):	85 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m):	**3.3**	**Works priority:**	N/A
TPZ (m):	**10.2**	***Construction Proximity:***	**0.1**
mTPZ (m):			

Tree ID: **93**

Genus / species: *Abies nordmanniana*
Evergreen Caucasian Fir

Height (m):	23	**Structure:**	Good
Width (m):	11	**Health:**	Good
DBH (cm):	45 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good

Retention Value: Very high
Removal / retention reason: N/A.
Amenity value: High
Works Required: N/A.

SRZ (m): ***2.5*** ***Works priority:*** N/A
TPZ (m): ***5.4*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **94**

Genus / species: *Pittosporum undulatum*
Evergreen Sweet Pittosporum

Height (m):	8	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Mature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **95**

Genus / species: *Pittosporum undulatum*
Evergreen Sweet Pittosporum

Height (m):	7	**Structure:**	Good
Width (m):	5	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Mature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **96**

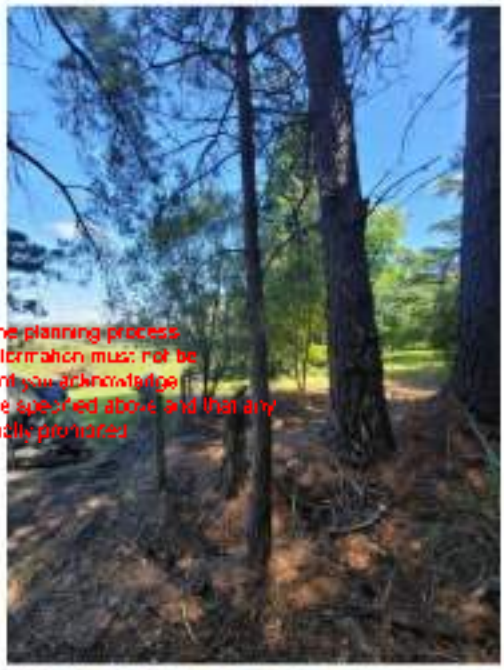
Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	13	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	30 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***2.1*** ***Works priority:*** N/A
TPZ (m): ***3.6*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **97**



Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	10	**Structure:**	Fair
Width (m):	3	**Health:**	Fair
DBH (cm):	15 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A
TPZ (m): ***2.0*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **98**

Genus / species: *Eucalyptus obliqua*
Evergreen Messmate

Height (m):	11	**Structure:**	Poor
Width (m):	3	**Health:**	Dead
DBH (cm):	30 Measured	**Maturity:**	Mature
Origin:	Melbourne	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove.
Removal / retention reason: N/A.
Amenity value: Very low
Works Required: N/A.

SRZ (m): ***2.1*** ***Works priority:*** N/A
TPZ (m): ***3.6*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: **99**

Genus / species: *Pittosporum undulatum*

Evergreen Sweet Pittosporum

Height (m):	6	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	10 Measured	**Maturity:**	Immature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: **100**

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	11	**Structure:**	Good
Width (m):	4	**Health:**	Good
DBH (cm):	18 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***1.7***	**Works priority:**	N/A
TPZ (m):	***2.2***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: **101**

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	8	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	14 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: 102

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	10	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 103

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	10	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	13 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 104

Genus / species: *Acacia melanoxylon*

Evergreen Blackwood

Height (m):	7	**Structure:**	Poor
Width (m):	4	**Health:**	Very poor
DBH (cm):	20 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove.

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 105

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	13	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m): ***1.8*** ***Works priority:*** N/A

TPZ (m): ***2.4*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 106

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	10	**Structure:**	Poor
Width (m):	4	**Health:**	Dead
DBH (cm):	35 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove

Removal / retention reason: N/A.

Amenity value: Very low

Works Required: N/A.

SRZ (m): ***2.2*** ***Works priority:*** N/A

TPZ (m): ***4.2*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 107

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	22	**Structure:**	Good
Width (m):	16	**Health:**	Good
DBH (cm):	75 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): ***3*** ***Works priority:*** N/A

TPZ (m): ***9.0*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **108**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	28	**Structure:**	Good
Width (m):	10	**Health:**	Good
DBH (cm):	75 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m): ***3*** ***Works priority:*** N/A

TPZ (m): ***9.0*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **109**

Genus / species: *Pittosporum undulatum*

Evergreen Sweet Pittosporum

Height (m):	9	**Structure:**	Good
Width (m):	4	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Immature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m): ***1.6*** ***Works priority:*** N/A

TPZ (m): ***2.0*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **110**

Genus / species: *Pittosporum undulatum*

Evergreen Sweet Pittosporum

Height (m):	9	**Structure:**	Good
Width (m):	8	**Health:**	Good
DBH (cm):	25 Measured	**Maturity:**	Immature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m): ***1.9*** ***Works priority:*** N/A

TPZ (m): ***3.0*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 111

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	15	**Structure:**	Fair
Width (m):	10	**Health:**	Fair
DBH (cm):	75 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:		50mm dead wood	

SRZ (m):	***3***	**Works priority:**	Very low
TPZ (m):	***9.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 112

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	25	**Structure:**	Poor
Width (m):	12	**Health:**	Poor
DBH (cm):	90 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	1 - 5
Retained?:	Retained	**Form:**	Poor
Retention Value:		Remove	
Removal / retention reason:		N/A.	
Amenity value:		Low	
Works Required:		N/A.	

SRZ (m):	***3.4***	**Works priority:**	N/A
TPZ (m):	***10.8***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 113

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	21	**Structure:**	Fair
Width (m):	5	**Health:**	Good
DBH (cm):	40 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:		N/A.	

SRZ (m):	***2.4***	**Works priority:**	N/A
TPZ (m):	***4.8***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 114

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	28	**Structure:**	Fair
Width (m):	14	**Health:**	Fair
DBH (cm):	90 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair

Retention Value: Moderate
Removal / retention reason: N/A.
Amenity value: High
Works Required: 50mm dead wood

SRZ (m):	***3.4***	**Works priority:**	Very low
TPZ (m):	***10.8***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 115

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	14	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 116

Genus / species: *Pittosporum undulatum*
Evergreen Sweet Pittosporum

Height (m):	7	**Structure:**	Good
Width (m):	6	**Health:**	Good
DBH (cm):	20 Measured	**Maturity:**	Mature
Origin:	Victorian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.8***	**Works priority:**	N/A
TPZ (m):	***2.4***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 117

Genus / species: *Melaleuca armillaris*

Evergreen Giant Honey Myrtle

Height (m):	23	**Structure:**	Good
Width (m):	5	**Health:**	Fair
DBH (cm):	48 Measured	**Maturity:**	Mature
Origin:	Victorian	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	***2.5***	**Works priority:**	N/A
TPZ (m):	***5.8***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 118

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	26	**Structure:**	Fair
Width (m):	8	**Health:**	Good
DBH (cm):	77 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	***3.2***	**Works priority:**	N/A
TPZ (m):	***9.2***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 119

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	24	**Structure:**	Fair
Width (m):	8	**Health:**	Good
DBH (cm):	74 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: N/A.

Amenity value: High

Works Required: N/A.

SRZ (m):	***3***	**Works priority:**	N/A
TPZ (m):	***8.9***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 120

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	18	**Structure:**	Fair
Width (m):	7	**Health:**	Good
DBH (cm):	42 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	***2.4***	**Works priority:**	N/A
TPZ (m):	***5.0***	**Construction Proximity:**	***15***
mTPZ (m):			

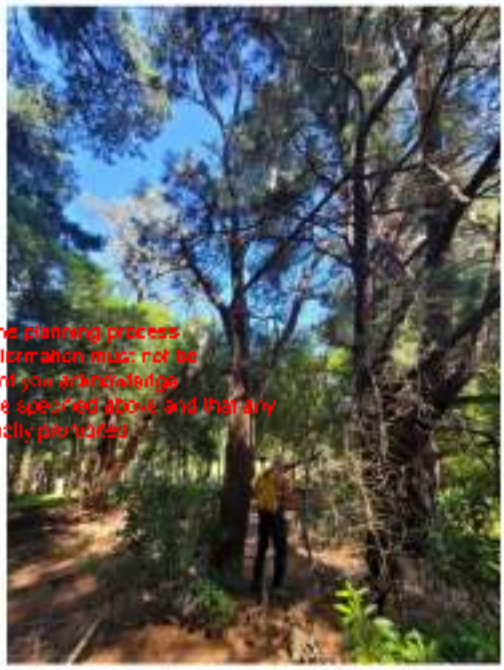
Tree ID: 121

Genus / species: *Eucalyptus sp.*

Evergreen Gum

Height (m):	13	**Structure:**	Poor
Width (m):	7	**Health:**	Dead
DBH (cm):	47 Measured	**Maturity:**	Mature
Origin:	Australian	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor
Retention Value:		Remove	
Removal / retention reason:		N/A.	
Amenity value:		Very low	
Works Required:	N/A.		

SRZ (m):	***2.5***	**Works priority:**	N/A
TPZ (m):	***5.6***	**Construction Proximity:**	***15***
mTPZ (m):			



Tree ID: 122

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	9	**Structure:**	Good
Width (m):	2	**Health:**	Good
DBH (cm):	14 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good
Retention Value:		Low	
Removal / retention reason:		N/A.	
Amenity value:		Low	
Works Required:	N/A.		

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: 123

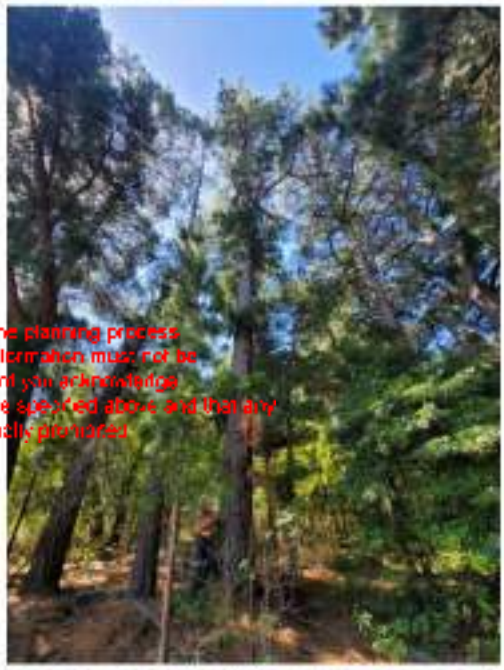
Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	34	**Structure:**	Good
Width (m):	12	**Health:**	Good
DBH (cm):	87 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): ***3.3*** **Works priority:** N/A
TPZ (m): ***10.4*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: 124



Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	34	**Structure:**	Good
Width (m):	11	**Health:**	Good
DBH (cm):	93 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): ***3.4*** **Works priority:** N/A
TPZ (m): ***11.2*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: 125

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	34	**Structure:**	Fair
Width (m):	5	**Health:**	Very poor
DBH (cm):	55 Measured	**Maturity:**	Over mature
Origin:	Exotic	**ULE (years):**	0
Retained?:	Retained	**Form:**	Very poor

Retention Value: Remove.
Removal / retention reason: Adjoining property.
Amenity value: Low
Works Required: N/A.

SRZ (m): ***2.7*** **Works priority:** N/A
TPZ (m): ***6.6*** ***Construction Proximity:*** ***15***
mTPZ (m):

Tree ID: 126

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	22	**Structure:**	Fair
Width (m):	8	**Health:**	Good
DBH (cm):	65 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m):	**2.9**	**Works priority:**	N/A
TPZ (m):	**7.8**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 127

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	22	**Structure:**	Fair
Width (m):	10	**Health:**	Good
DBH (cm):	62 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m):	**2.8**	**Works priority:**	N/A
TPZ (m):	**7.4**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: 128

Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	34	**Structure:**	Good
Width (m):	9	**Health:**	Good
DBH (cm):	76 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High
Removal / retention reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m):	**3**	**Works priority:**	N/A
TPZ (m):	**9.1**	**Construction Proximity:**	**15**
mTPZ (m):			

Tree ID: **129**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	27	**Structure:**	Good
Width (m):	8	**Health:**	Fair
DBH (cm):	59 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: High

Removal / retention reason: Adjoining property.

Amenity value: High

Works Required: N/A.

SRZ (m): ***2.8*** ***Works priority:*** N/A

TPZ (m): ***7.1*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **130**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	31	**Structure:**	Good
Width (m):	12	**Health:**	Fair
DBH (cm):	82 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: Adjoining property.

Amenity value: High

Works Required: N/A.

SRZ (m): ***3.2*** ***Works priority:*** N/A

TPZ (m): ***9.8*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **131**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	28	**Structure:**	Good
Width (m):	10	**Health:**	Fair
DBH (cm):	76 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Fair

Retention Value: High

Removal / retention reason: Adjoining property.

Amenity value: High

Works Required: N/A.

SRZ (m): ***3*** ***Works priority:*** N/A

TPZ (m): ***9.1*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **132**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	16	**Structure:**	Fair
Width (m):	10	**Health:**	Poor
DBH (cm):	39 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Poor

Retention Value: Low

Removal / retention reason: Adjoining property.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): ***2.3*** ***Works priority:*** N/A

TPZ (m): ***4.7*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: **133**

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	16	**Structure:**	Fair
Width (m):	8	**Health:**	Fair
DBH (cm):	42 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Moderate

Removal / retention reason: Adjoining property.

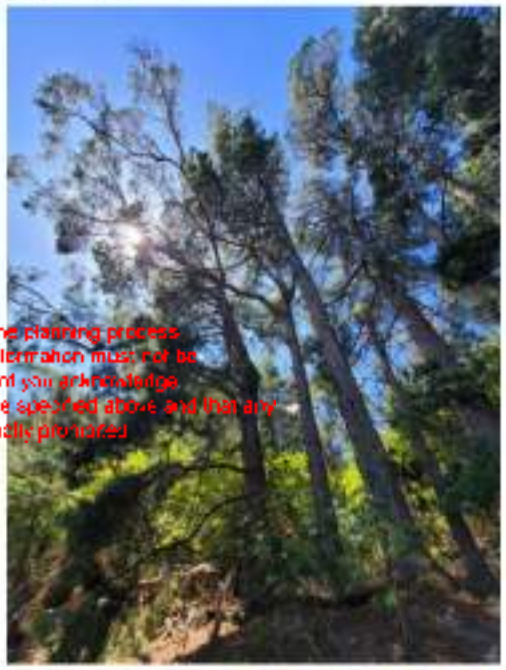
Amenity value: Moderate

Works Required: N/A.

SRZ (m): ***2.4*** ***Works priority:*** N/A

TPZ (m): ***5.0*** ***Construction Proximity:*** ***15***

mTPZ (m):



Tree ID: **134**

Genus / species: *Eucalyptus sp.*

Evergreen Gum

Height (m):	16	**Structure:**	Fair
Width (m):	9	**Health:**	Poor
DBH (cm):	57 Measured	**Maturity:**	Over mature
Origin:	Australian	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Poor

Retention Value: Moderate

Removal / retention reason: Adjoining property.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): ***2.7*** ***Works priority:*** N/A

TPZ (m): ***6.8*** ***Construction Proximity:*** ***15***

mTPZ (m):

Tree ID: 135

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	8	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	13 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	> 60
Retained?:	Retained	**Form:**	Good
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Low	
Works Required:	N/A.		

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 136

Genus / species: *Eucalyptus obliqua*

Evergreen Messmate

Height (m):	12	**Structure:**	Fair
Width (m):	5	**Health:**	Fair
DBH (cm):	25 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair
Retention Value:		Moderate	
Removal / retention reason:		N/A.	
Amenity value:		Moderate	
Works Required:	N/A.		

SRZ (m):	***1.9***	**Works priority:**	N/A
TPZ (m):	***3.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 137

Genus / species: *Pinus radiata*

Evergreen Monterey Pine

Height (m):	7	**Structure:**	Fair
Width (m):	2	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Fair
Retention Value:		Low	
Removal / retention reason:		N/A.	
Amenity value:		Low	
Works Required:	N/A.		

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	***Construction Proximity:***	***15***
mTPZ (m):			

Tree ID: 138

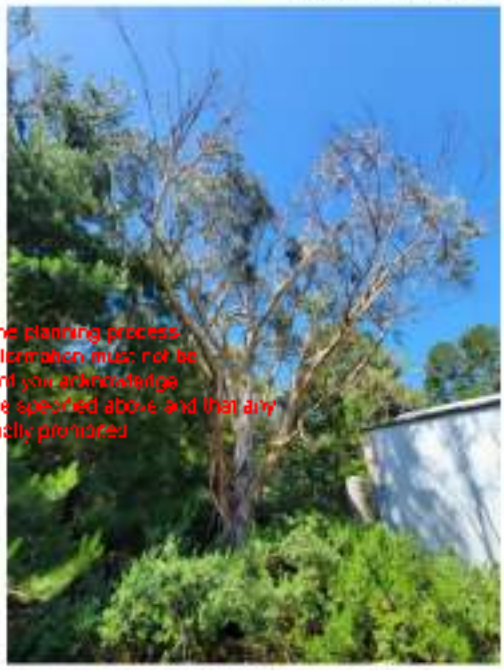
Genus / species: *Pinus radiata*
Evergreen Monterey Pine

Height (m):	10	**Structure:**	Good
Width (m):	3	**Health:**	Good
DBH (cm):	15 Measured	**Maturity:**	Immature
Origin:	Exotic	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Low
Works Required: N/A.

SRZ (m):	***1.6***	**Works priority:**	N/A
TPZ (m):	***2.0***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: 139



Genus / species: *Eucalyptus globulus*
Evergreen Blue Gum

Height (m):	17	**Structure:**	Fair
Width (m):	14	**Health:**	Poor
DBH (cm):	65 Measured	**Maturity:**	Immature
Origin:	Melbourne	**ULE (years):**	5 - 15
Retained?:	Retained	**Form:**	Fair

Retention Value: Low
Removal / retention reason: N/A.
Amenity value: Moderate
Works Required: 50mm dead wood

SRZ (m):	***2.9***	**Works priority:**	Very low
TPZ (m):	***7.8***	**Construction Proximity:**	***15***
mTPZ (m):			

Tree ID: 140

Genus / species: *Eucalyptus leucoxylon*
Evergreen Yellow Gum

Height (m):	14	**Structure:**	Fair
Width (m):	12	**Health:**	Good
DBH (cm):	45 Estimated	**Maturity:**	Mature
Origin:	Melbourne	**ULE (years):**	30 - 60
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate
Removal / retention reason: Adjoining Property.
Amenity value: Moderate
Works Required: N/A.

SRZ (m):	***2.5***	**Works priority:**	N/A
TPZ (m):	***5.4***	**Construction Proximity:**	***14.5***
mTPZ (m):	***= TPZ***		

Tree ID: **141**

Genus / species: *Pyrus calleryana*

Deciduous Callery Pear

Height (m):	9	**Structure:**	Good
Width (m):	12	**Health:**	Good
DBH (cm):	41 Measured	**Maturity:**	Mature
Origin:	Exotic	**ULE (years):**	15 - 30
Retained?:	Retained	**Form:**	Good

Retention Value: Moderate

Removal / retention reason: N/A.

Amenity value: Moderate

Works Required: N/A.

SRZ (m):	**2.4**	**Works priority:**	N/A
TPZ (m):	**4.9**	***Construction Proximity:***	***15***
mTPZ (m):	**= TPZ**		

29. Appendix 3 – Arboricultural information

The following sections are presented to provide an introduction to the process of tree root system protection. A trees root system is the critical element to be protected during the development process and if the trees roots are adequately protected then the rest of the tree will generally survive without significant injury.

29.1. Root plate estimation

One of the primary purposes of this report is to estimate the impact of the development on the trees on this site. This is mainly achieved by estimating the extent of the root plate area of the trees that are proposed to be retained and the proportion of this area that is likely to be excised or affected during the construction process.

In this report two elements of the tree root area are described. These are:

29.2. Structural Root Zone

This is an estimate of the radius that is likely to encompass the major scaffold roots of the tree. These roots are critical to anchoring the tree and damage to these roots will increase the risk of entire tree failure (i.e. uprooting). This radius is based on AS 4970-2009.

29.3. Tree Protection Zone

This is an estimate of the radius that is likely to encompass enough of the smaller absorbing roots to allow the tree to obtain sufficient nutrients and water to allow it to survive in the long term. This is radius is based on AS 4970-2009 and is based on the size of the tree.

Estimation of the likely root plate radius for both methods are based on the DBH (Diameter at Breast Height) of each tree. This is usually measured but where the tree is inaccessible or has numerous trunks a visual estimation may be used. Whether the DBH is estimated or measured is noted within the "Tree Data" section of the report.

The two elements of each trees' root zone is transposed over the site survey and building footprint and the degree of root injury is calculated from this.

29.4. Tree rooting patterns

Contrary to common belief, trees usually have a broad flat plate of roots that may extend 1.5 – 3 times the radius of the canopy (Harris, Matheny & Clark, 1999; Coder, 1996; Hitchmough, 1994). Relatively few trees have deep roots and Harris, Matheny and Clark (2004) note that most tree roots will be found in the top 1.0 metre of the soil profile.

While the models used to approximate the size of tree root plates assume a uniformly radial root system, in highly disturbed urban soils root systems often develop in a highly asymmetric manner (Matheny & Clarke, 2004). This may require the modification of the models used where it is likely that the root system is asymmetric.

29.5. Construction Impacts

Construction in the vicinity of trees can have several negative impacts on their health, longevity and structural stability. Harris, Matheny and Clark (2004) note that some level of tree root injury or root zone change is almost inevitable during construction around trees and maintain that the goal of tree preservation is to reduce the injury or change to a level that will enable the long term preservation of the retained trees.

Negative impacts can include:

- Root severance from trenching and grading activities. Damage to the transport and absorbing root system may deprive the tree of the ability to absorb nutrients and water and damage to the structural scaffold roots that support the tree may result in instability and uprooting. Depending on the percentage of the root plate affected and proximity to the tree, the affects can range from minor degradation of health through to total root plate failure (i.e. uprooting).
- Compaction and root injury. Most trees require a well aerated and friable soil to allow normal physiological processes to occur and to allow root growth. Soil compaction from pedestrian or vehicular traffic can result in direct injury to the roots, indirect injury through soil drainage changes, reduced soil aeration or decreased soil penetrability. If severe enough soil compaction can lead to a rapid decline in many tree species and may eventually result in instability and uprooting.
- Changes in drainage patterns. Changes in drainage patterns may result from hard surfacing, trenching, land shaping and other construction activities. These can result in either drought stress or waterlogging, both of which can cause a rapid decline in trees and may result in instability and uprooting.

29.6. Root plate estimation

One of the primary purposes of this report is to estimate the impact of the development on the trees on this site. This is mainly achieved by estimating the extent of the root plate area of the trees that are proposed to be retained and the proportion of this area that is likely to be excised or affected during the construction process.

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The two elements of each trees' root zone are transposed over the site survey and building footprint and the degree of root injury is calculated from this.

29.7. Tree rooting patterns

Contrary to common belief, trees usually have a broad flat plate of roots that may extend 1.5 – 3 times the radius of the canopy (Harris, Matheny & Clark, 1999; Coder, 1996; Hitchmough, 1994). Relatively few trees have deep roots and Harris, Matheny and Clark (2004) note that most tree roots will be found in the top 1.0 metre of the soil profile.

While the models used to approximate the size of tree root plates assume a uniformly radial root system, in highly disturbed urban soils root systems often develop in a highly asymmetric manner (Matheny & Clarke, 2004). This may require the modification of the models used where it is likely that the root system is asymmetric.

29.8. Construction impacts

Construction in the vicinity of trees can have several negative impacts on their health, longevity and structural stability. Harris, Matheny and Clark (2004) note that some level of tree root injury or root zone change is almost inevitable during construction around trees and maintain that the goal of tree preservation is to reduce the injury or change to a level that will enable the long term preservation of the retained trees.

Negative impacts can include:

- Root severance from trenching and grading activities. Damage to the transport and absorbing root system may deprive the tree of the ability to absorb nutrients and water and damage to the structural scaffold roots that support the tree may result in instability and uprooting. Depending on the percentage of the root plate affected and proximity to the tree, the affects can range from minor degradation of health through to total root plate failure (i.e. uprooting).
- Compaction and root injury. Most trees require a well aerated and friable soil to allow normal physiological processes to occur and to allow root growth. Soil compaction from pedestrian or vehicular traffic can result in direct injury to the roots, indirect injury through soil drainage changes, reduced soil aeration or decreased soil penetrability. If severe enough soil compaction can lead to a rapid decline in many tree species and may eventually result in instability and uprooting.
- Changes in drainage patterns. Changes in drainage patterns may result from hard surfacing, trenching, land shaping and other construction activities. These can result in either drought stress or waterlogging, both of which can cause a rapid decline in trees and may result in instability and uprooting.

30. Appendix 4 - AS 4970 -2009

This report generally conforms to *AS 4970—2009 Protection of Trees on Development Sites* except in the following areas.

1. AS 4970 notes that the project arborist should verify the accuracy of feature survey for the subject site.
    a. This is generally not feasible and the feature survey is taken as being an accurate representation of the features of the site.
    b. However, if trees are found on the site that are not represented in the feature survey then these trees will be added to the report plans based on a visual estimation of their location.
        i. Accordingly, the location of these trees may not be sufficiently accurate for the purposes of the report.
        ii. The location of these trees should verified by a qualified surveyor where appropriate.
2. *AS 4970-2009 Protection of Trees on Development Sites* makes no differentiation between the Tree Protection Zone (TPZ) derived from the trees DBH and the modified TPZ derived from the trees canopy where it extends past the DBH derived TPZ. As the two forms of TPZ are independent a differentiation between the two forms of TPZ needs to be made. In this report:
    a. "TPZ" refers to the DBH derived Tree Protection Zone (12 x DBH) and "mTPZ" pertains to the TPZ where it is modified to account for a canopy that extends beyond the DBH derived TPZ.
    b. The modified Tree Protection Zone (mTPZ) for all trees is taken as being identical to the Tree Protection Zone (TPZ) except where the canopy of the tree extends beyond the TPZ. Where this is the case the TPZ is shown on the site plans and any tree canopy impacts are addressed as required within the report. Otherwise, the mTPZ is recorded within this report as "= TPZ".

31. Appendix 2 - Explanation of terms

The assessment of Health, Structure, Condition, U.L.E. (Useful Life Expectancy), Origin, Maturity, Form and Retention value are based on the following definitions. In the case of health and structure these definitions encompass only the more common indicators for these assessments. Other indicators not included in these definitions may lead to the ascribing of a particular health or structure category.

31.1. Origin

The notation of "Origin" is based on the following categories.

	1. Category	Description
2.	Melbourne	Native to the greater Melbourne metropolitan area as defined by Flora of Melbourne (S. G. A. P. M., 1991).
3.	Victorian	Native to Victoria but not the greater Melbourne Metropolitan area.
4.	Australian	Native to Australia but not Victoria.
5.	Exotic	Not native to Australia.

31.2. Maturity

The notation of "Maturity" is based on the following categories.

	1. Category	Description
2.	Immature	Less than 20% of the life expectancy for the species within the geographical area.
3.	Mature	20 – 80% of the life expectancy for the species within the geographical area.
4.	Over mature	> 80% of the life expectancy for the species within the geographical area.

31.3. Works required

The works required listed in this report are of a general nature only and should be reviewed following the completion of any works on the site.

Where a tree is recommended for removal (Recommendation) it is not listed in the Works required section of the report.

31.4. Priority

The priority accorded particular works is based on a projected increased site usage following the completion of a development on the site. The priority is of a general nature only and should be reviewed following the completion of any works on the site.

"Priority" is based on the following categories.

Category	Description
1. N/A.	No tree works are required
2. Very low	Tree works are optional and could be performed at any time.
3. Low	Works should be performed within five years.
4. Moderate	Works should be performed within 3 years.
5. High	Works should be performed within 12 months.
6. Urgent	Works should be performed immediately.

31.5. Retention value (RV) explanation

The Retention value ascribed to each tree in this report is not definitive and should be used as a guide only. Many factors influence the comparative value of a tree, and a number of these factors are outside the scope of arboricultural assessment. These factors cannot therefore be addressed in a single rating system.

Retention value is comprised of two parts. These are the Amenity Value of the tree rated as Very Low to Very high and the Useful Life Expectancy (ULE) rating of the tree.

The Amenity Value of the tree relates to the contribution of the tree to the aesthetic amenity of the area. The primary determinants of amenity value are tree health, size and form. Amenity value does not consider tree structure. In the context of Retention Value structure is considered in the ULE.

The Amenity Value is then modified by the ULE of the tree with short ULE values reducing the RV of the tree and long ULE values increasing the RV of the tree.

Trees that are listed on a register of heritage or significant trees are not accommodated within this rating system as these values are often independent of the arboricultural attributes of the tree. Heritage and significant trees may be ascribed a very low retention value despite their listing on any register. Where known, any heritage or significant tree register listing it will be noted in the report.

RV is assessed on each tree as a single entity. The value of a group of trees is not considered in this context and each tree within the group is assessed as an individual specimen.

31.6. Amenity value

Amenity value is based on the following categories and is ascribed an Amenity Value Value (AVV) ranging from 2 - 10.

Category	Example	AVV
1. Very high	Generally, a very large tree that exhibits excellent health and/or form or a tree that is listed on a heritage or significant tree register and taller than 25 metres tall.	10
2. High	Generally, a large tree that exhibits good health and/or form and between 15 and 25 metres tall.	8
3. Medium	Generally, a medium tree that exhibits good health and/or form and between 10 - 15 metres tall. May be a large tree that exhibits fair health and/or form.	6
4. Low	Generally, a small tree that exhibits good health and/or form and between 5 - 10 metres tall. May be a large or medium tree that exhibits fair or poor health and/or form..	4
5. Very low	Generally, a small tree that exhibits poor health and/or form. May be a large or medium tree that exhibits poor, or worse, health and/or form.	2

31.7. ULE

U.L.E. is based on the following categories each of which have a modifier (**ULEM**) ranging from 0 – 12.

Category	Example	ULEM
1. 0	The tree is dead or almost dead or constitutes an immediate and unacceptable risk of harm.	**0**
2. 1 – 5	The tree is unlikely to provide useful amenity for longer than 5 years. The tree is in serious decline, poses an unacceptable risk of harm and/or requires a level of maintenance disproportionate with its value.	**4**
3. 5 – 15	The tree is likely to provide useful amenity for between 5 and 15 years. The tree may be in serious decline, be a very short lived species and/or require excessively high levels of maintenance.	7
4. 15 – 30	The tree is likely to provide useful amenity for between 15 and 30 years. The tree may be in moderate decline and/or a short lived species.	10
5. 30 – 60	The tree is likely to provide useful amenity for between 30 and 60 years. The tree may be in fair to good condition, have a moderate life-span, present a low to moderate level of hazard and/or require moderate levels of maintenance.	11
6. > 60	The tree is likely to provide useful amenity for greater than 60 years. The tree may be in good to excellent condition, a long lived species, present a low level of hazard and/or require low levels of maintenance.	12

31.8. Retention value

Retention value is then derived from the multiplication of AVV by ULEM and the resulting score is categorised as Very high to Very low.

Retention value is only intended to guide arboricultural actions within the proposed report tree population and is not definitive in any way.

Category	Example	RV value
1. Very high	Every effort should be made to preserve trees in this category	96 - 120
2. High	These trees should be retained if at all possible	72 - 95
3. Moderate	These trees should be retained if they do not overly constrain development on the site.	48 - 71
4. Low	These trees should not create a material constraint on development of the site. These trees should be removed where they conflict with development of the site.	24 - 47
5. Very low	Generally, a small tree that exhibits poor health and/or form. May be a large or medium tree that exhibits poor, or worse, health and/or form. These trees should generally be removed.	1 – 23
6. Remove	These trees are not suitable for retention within the site and are recommended to be removed.	0

31.9. Health

Pertains to the health and vigour of the tree.

The notation of "Health" is based on the following categories.

Category	Example
1. **Good**	Crown full, with good foliage density. Foliage is entire with average colour, minimal or no pathogen damage. Above average growth indicators such as extension growth, leaf size and canopy density. Little or no canopy die-back. Generally no dead wood on the perimeter of the canopy. Good wound wood development. **Tree exhibits above average health and no works are required.**
2. **Fair**	Tree may have more than 30% dead wood, or may have minor canopy dieback. Foliage density may be slightly below average for the species. Foliage colour may be slightly lower than average and some discolouration may be present. Typical growth indicators, e.g. extension growth, leaf size, canopy density for species in location. Average wound wood development. **The tree exhibits below average health and remedial works may be employed to improve health.**
3. **Poor**	Tree may have more than 30% dead wood and canopy die back may be present. Leaves may be discoloured and/or distorted, often small, and excessive epicormic growth may be present. Pathogens and/or stress agents may be present that could lead, or are leading to, the decline of tree. Poor wound wood development. **The tree exhibits low health and remedial works or removal may be required.**
4. **Very poor**	The tree has more than 30% dead wood. Extensive canopy die back is present. Canopy is very sparse. Pathogens and/or stress agents are present that are leading to the decline of the tree. Very poor wound wood development. **The tree exhibits very poor health and remedial works or removal are required.**
5. **Dead**	**Tree is dead and generally should be removed.**

31.10.Structure

Pertains to the physical structure of the tree including the main scaffold branches and roots. Structure includes those attributes that may influence the probability of major trunk, root or limb failure.

The notation of "Structure" is based on the following categories.

Category	Example
1. Good	The tree has a well-defined and balanced crown. The tree is exhibits generally defect free scaffold branches, trunk/s and root plate. The tree is very unlikely to suffer root plate, trunk/s or branch failure under normal conditions. **The tree is considered a good example of the species.**
2. Fair	The tree has some minor structural defects of the scaffold branches, trunk or root plate. **These defects are not likely to result in catastrophic root plate, trunk or branch failure although some branch failure may occur under normal conditions.**
3. Poor	The tree has significant defects within the scaffold branches, trunk or root plate. **These defects may predispose the tree to major trunk or branch failure.**
4. Very poor	The tree has very significant defects within the scaffold branches, trunk or root plate. **These defects are likely to predispose the tree to root plate, trunk or scaffold limb failure.**

31.11.Form

The notation of "Form" pertains to the aesthetic qualities of the trees live canopy. Generally good form is indicative of a symmetrical, well-balanced canopy although this is dependent on the particular species. Some species naturally develop an asymmetric canopy and in this case a highly irregular canopy might be described as good.

The form of a tree is considered assuming that the tree stands in isolation from any surrounding trees. This may mean that a group of trees that exhibit good form as a group, may be described as having poor form as individuals.

The notation of "Form" is based on the following categories.

Category	Example
1. Very good	An outstanding specimen of that species. Generally, a very evenly balanced and symmetrical canopy with no deformation. If the development of that species is naturally irregular then an outstanding specimen of that species.
2. Good	A good specimen of that species. Generally, a well balanced and symmetrical canopy with minor deformation. If the development of that species is naturally irregular then a good specimen of that species.
3. Fair	An average specimen of that species. Generally, a balanced canopy with some minor to moderate asymmetry. If the development of that species is naturally irregular then an average specimen of that species.
4. Poor	A below average specimen of that species. Generally, a moderate to high degree of asymmetry. If the development of that species is naturally irregular then a poor specimen of that species.
5. Very poor	A very poor specimen of that species. Generally, a high to extreme degree of asymmetry. If the development of that species is naturally irregular then a very poor specimen of that species.

32. Glossary / notes

Tree Protection Zone (TPZ)	Is based on AS 4970-2009 *Protection of trees on development sites* and defines the soil volume that is likely to be required to encompass enough of the trees absorbing root system to ensure the long term survival of the tree. The radius specified as the TPZ is an estimate of the minimum distance from the tree that excavation or other activities that might result in root damage should occur to avoid negative impacts on the health and longevity of the tree. AS 4970 states that intrusion of up to 10% of the surface area of the TPZ may occur without further assessment or analysis.
Structural Root Zone (SRZ)	Is based on AS 4970-2009 (Protection of trees on development sites) and defines the likely spread of the trees scaffold root system. These roots are the primary anchoring roots for the tree and damage to these roots may render the tree liable to uprooting. SRZ is based on measurement of the trunk above the root flair (AS 4970) However in this report SRZ is based on the measured or estimated DBH and there should be taken as an estimate only. Additional measurement may be required if construction near the SRZ is expected to occur.
Modified Tree Protection Zone (mTPZ)	Is based on the TPZ and includes any requirement to protect the above ground parts of the tree that project beyond the TPZ. However generally the mTPZ will be equal to the TPZ. TPZ extension beyond the TPZ to protect the tree canopy will be shown on the site plan but will not be reflected in the TPZ radius measurements quoted in this report.
Diameter at Breast Height (DBH)	Is the diameter of the tree at approximately 1.4 meters above ground level and is used to calculate TPZ. Where a trunk is divided at or near 1.4 meters above ground the DBH is generally measured at the narrowest point of the trunk between ground level and 1.4 meters. Alternatively, where a higher level of accuracy is required with multi stemmed trees, DBH is derived from the combined cross sectional area of all trunks. The DBH of all accessible trees is measured unless otherwise stated in the Tree Data section of this report. The DBH of trees on adjoining properties is measured where access can be readily gained to the property, otherwise it is estimated.
Diameter above Buttress (DaB)	Diameter of the trunk or trunks above root flare and is used to calculate the SRZ for significant trees. This is generally the diameter of the trunk immediately above the root flare at ground level. DaB is generally only measured for significant trees and for smaller or otherwise low retention value trees DBH + 5% is used to calculate SRZ.
Measured	Indicates whether the DBH has been measured or estimated. DBH may be estimated for small low value multi stem trees or trees that are inaccessible.

Retained?	Indicates whether the tree is shown as being removed or retained on the plans provided. This is generally derived from the site plans provided but the removal or retention of trees might be communicated to the author by other means.
Recommendation reason	Pertains to the reason that removal or retention or other works are recommended. Other than trees on adjoining properties or road reserves a reason for retention is usually not given. In this case N/A is used.
Tree height & width	Tree height is generally measured for moderate, high and very high value trees using an infrared range finder / clinometer. The height of low and very low value trees is usually estimated. Canopy width is estimated unless otherwise stated.
Genus / species	The identification of trees is based on accessible visual characteristics and given that key identifying features are often not available at the time of assessment the accuracy of identification is not guaranteed. Where the species of any tree is not known, **sp.** is used.

33. Practice Note VCAT 2 — Expert Evidence

33.1. Name & address of consultant

[redacted]

33.2. Qualifications & experience

[redacted] has the following qualifications and experience:

6. Graduate Certificate Arboriculture.
7. Bachelor of Applied Science (Horticulture).
8. Diploma of Applied Science (Horticulture).
9. Advanced Certificate of Arboriculture.
10. 38 years experience in arboriculture.
    a. 8 years as a partner in The Tree Works dealing with all aspects of commercial arboriculture. The Tree Works provided a range of arboricultural services to government, commercial and domestic clients.
    b. 6 years as a contract climber, crew manager and consulting arborist with a range of companies while completing higher education qualifications.
    c. 23 years as a consulting arborist.

33.3. Area of expertise

[redacted] provides specialist technical advice in the field of arboriculture. This includes the provision of technical expertise relating to problem diagnosis, management programs, tree appraisal and valuation and the relationship between trees and the built environment.

33.4. Expertise to report

[redacted] has, by training, education, experience and research, considerable knowledge relating to the care, maintenance and management of trees in a wide variety of contexts.

Significant areas of operation and expertise include the provision of tree and built structure conflict reports, hazard assessment, tree condition appraisal and broad scale tree inventories.

Considerable effort is expended in research to remain current with the latest advances in all areas relating to tree care.

33.5. Declaration

"I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Tribunal."

34. Assumptions & limiting conditions

1. R. Greenwood Consulting Pty Ltd (herein after referred to as Greenwood Consulting) contracts with you on the basis that you promise that all legal information which you provide, including land title and ownership of other property, are correct. Greenwood Consulting is not responsible for verifying or ascertaining any of these issues.
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7. The contents of this report represent the professional opinion of the consultant. Greenwood Consulting's consultancy fee for the preparation of this report is in no way contingent upon the consultant reporting a particular conclusion of fact, nor upon the occurrence of a subsequent event.
8. Sketches, diagrams, graphs and photographs in this report are intended as visual aids, are not to scale unless stated to be so, and must not be construed as engineering or architectural reports or as surveys.
9. Unless expressly stated otherwise:
   9.1. The information in this report covers only those items which were examined and reflects the condition of those items at the time of the inspection.
   9.2. Our inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee, express or implied, that even if they were not present during our inspection, problems or defects in plants or property examined may not arise in the future.
10. This agreement supersedes all prior discussions and representations between Greenwood Consulting and the client on the subject, and is the entire agreement and understanding between us.

Yours sincerely,

[redacted]

Grad. Cert. Arb.
B. App. Sci. (Hort)
Dip. App. Sci. (Hort)
Adv. Cert. Arb.

Land Capability Assessment

Report No: 10870.1

Location: 80 Gordon Road, PAKENHAM UPPER

Client: [redacted] C/o 3D Design Group

Date: 15/05/2023

PO Box 233, Koo Wee Rup, VIC 3981
Phone: (03) 5997 1192 **Email:** admin@soiltestexpress.com.au

1. **Owner/ Developer:** C/O 3D Design Group

2. **Zoning:** Rural Conservation Zone (RCZ)(RCZ2)

3. **Overlays:** The property is in a Designated Fire Prone area. Has overlays (BMO)(ESO)(ES01) and is in an area of aboriginal cultural heritage sensitivity.

4. **Allotment Size:** 25000m2.

5. **Anticipated Wastewater:** 1440 Litres per Day.

6. **Number of Rooms Usable for Bedrooms:** 6 Bedroom and Office. Study not included in the LCA as it has no door.

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Phone: (03) 5997 1192 **Email:** admin@soiltestexpress.com.au

7. Site Plan:

8. Published Soil Information:

Devonian Upper, Metamorphic Hornfels.

PO Box 233, Koo Wee Rup, VIC 3981
Phone: (03) 5997 1192 **Email:** admin@soiltestexpress.com.au

9. Site Key Features:

Table 1: Site Assessment

	Feature	Description	Level of Constraint	Mitigation Measures
A	**Buffer Distances**	Dam		Yes
B	**Climate**	Good Evaporation	Minor	Nil
C	**Drainage**	Dry	Minor	Nil
D	**Erosion & Landslip**	Minor	Minor	Nil
E	**Exposure & Aspect**	Good Exposure	Minor	Nil
F	**Flooding**	1-100	Minor	Nil
G	**Groundwater**	>5m Not encountered	Minor	Nil
H	**Imported Fill**	No	Minor	Nil
I	**Land Available for LAA**	Large lot	Minor	Nil
J	**Landform**	Slope	Minor	Yes
K	**Rock Outcrops**	Encountered	Minor	Yes
L	**Run-on & Runoff**		Minor	Yes
M	**Slope**	10-20%	Minor	Nil
N	**Surface Waters**	Dam	Minor	Yes
O	**Vegetation**	Grass	Minor	Nil

Notes:

A/N: Maintain 100m set back from Dam.

J/L: Divert all surface run off away from LAA

K: Extremely weathered rock encountered at 1400mm – Trench system not recommended.

10. Soil Survey and Analysis:

Table 2: Soil Assessment

Feature	Assessment	Level of Constraint	Mitigation Measures
Electrical Conductivity	.14 dSm^{-1}	Minor	Nil
Emerson Aggregate Class	7	Moderate	Yes
pH	5.4	Minor	Nil
Rock Fragments	<10%	Minor	Nil
Soil Depth	1.5m	Minor	Nil

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Soil Permeability & Design Loading Rates	Category 5	Moderate	Yes
Water table Depth	<5m Not encountered	Minor	Nil

Note:

B) Apply gypsum to receiving soils.
F) Full water Balance was completed for Subsurface Irrigation.

11. Water Balance:

Mean Monthly Rainfall: 1000.5

Monthly Pan Evaporation: 1440

Daily Water Usage: 8 People at 180 Litres per day =1440 Litres per day.

Irrigation area sizing using Nominated Area Water Balance for Zero Storage

Site Address:	80Gordon Rd Pakenham Upper			
Date:		**Assessor:**		

INPUT DATA

Design Wastewater Flow	Q	1,440	L/day	Based on maximum potential occupancy and derived from Table 4 in the EPA Code of Practice (2013)
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 (2013)
Nominated Land Application Area	L	[illegible]	m²	
Crop Factor	C	0.6-0.8	unitless	Estimates evapotranspiration as a fraction of pan evaporation; varies with season and crop type
Rainfall Runoff Factor	RF	0.8	unitless	Proportion of rainfall that remains onsite and infiltrates, allowing for any runoff
Mean Monthly Rainfall Data	Beaconsfield Upper [illegible]			Bold Station and number
Mean Monthly Pan Evaporation Data	Cranbourne Botanical 086375			Bold 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	66.8	60.8	73.2	80.7	89.3	88.5	88	97.1	97.5	90.2	91.8	79.1	1000.4
Evaporation	E		mm/month	152	150.3	136.4	87	60	51	55.8	71.3	84.2	124	141	176.5	[illegible]
Crop Factor	C		unitless	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
OUTPUTS																
Evapotranspiration	ET	ExC	mm/month	156	129	95	67	36	31	33	43	49	99	113	136	971.22
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	[illegible]
Outputs		ET+B	mm/month	249.0	209.04	188.5	150.8	129.0	120.6	125.5	135.8	134.6	192.2	202.8	229.4	[illegible]
INPUTS																
Retained Rainfall	RR	RxRF	mm/month	53.44	48.64	58.56	64.56	71.36	70.8	66	77.68	78	72.56	73.44	63.28	800.4
Applied Effluent	W	(QxD)/L	mm/month	167.2	151.0	167.2	161.8	167.2	161.8	167.2	167.2	161.8	167.2	161.8	167.2	[illegible]
Inputs		RR+W	mm/month	220.6	199.7	225.4	226.4	238.6	232.6	233.2	244.9	239.8	245.8	235.2	231.0	[illegible]
STORAGE CALCULATION																
Storage remaining from previous month			mm/month	0.0	0.0	0.0	34.9	110.3	218.9	331.9	436.6	545.7	650.5	704.1	736.5	
Storage for the month	S	(RR+W)-(ET+B)	mm/month	-28.0	-9.4	34.9	75.5	108.6	112.0	104.7	109.1	104.9	53.6	32.4	1.6	
Cumulative Storage	M		mm	0.0	0.0	34.9	110.3	218.9	331.9	436.8	545.7	650.5	704.1	736.5	738.1	
Maximum Storage for Nominated Area	N		mm	[illegible]												
	V	NxL	L	[illegible]												
LAND AREA REQUIRED FOR ZERO STORAGE			m²	221	221	327	500	719	887	774	768	758	383	324	270	

MINIMUM AREA REQUIRED FOR ZERO STORAGE: 868.0 m²

Design Irrigation Rate	Subsurface Irrigation Area	Design Wastewater Discharge
3mm	868m²	1440L/Day

PO Box 233, Koo Wee Rup, VIC 3981
Phone: (03) 5997 1192 **Email:** admin@soiltestexpress.com.au

12. Location and Configuration System:

Effluent Area:

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Phone: (03) 5997 1192 **Email:** admin@soiltestexpress.com.au

13. Monitoring Operation and Maintenance:

- Have suitably trained and qualified contractor to service systems at the frequency required by council.
- Recommend use of AAA fixtures and appliances.
- Use cleaning products and toiletries suitable for septic systems.
- Maintain vegetation over effluent area.
- Keep livestock and vehicles off the effluent area to avoid compaction.

14. Conclusion:

Soil Test Express can recommend the use of a secondary treated system that uses subsurface irrigation for treating and maintaining wastewater within the site. Subsurface irrigation should be installed in 150mm of good quality topsoil, imported if necessary.

Maintain all EPA setbacks.
Vegetation must be maintained over LAA at all times.
Pool filter not to be connected to septic system.
Filtration system that doesn't require back washing should be selected.

*As the entire property is in an Environmentally Significant area and can't be moved a conservative DIR Rate has been applied.

Note: Recommendations outlined in this report are subject to council approval.

[redacted]
SOIL TEST EXPRESS

[redacted]
SOIL TEST EXPRESS

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SOIL TEST EXPRESS

GEOTECHNICAL LAND CAPABILITY ASSESSMENT LOGS

Site Location:	80 Gordon Road, Pakenham Upper	**Proposal:**	Residential Septic System
Client:	3D Design Group	**Report No:**	10870.1
		Test Date:	15/05/2023

Topography of the land:

- Uneven Surface ☐
- Essentially Level ☐
- Undulating Surface ☐
- Multiple Hills ☐
- Slight Slope ☑
- Moderate Slope ☐
- Steep Slope ☐
- Extreme Condition ☐

Soil Drainage:

- Good: ☐ Sandy
- Fair: ☑ to
- Poor: ☐ Clay

Technicians Comments:

Slope Direction: Front & Right Hand Side

Trees ☐ type: Size:

Water ☐ type:

Existing Structures: ☑

Existing Structure Condition: Good ☐ Fair ☑ Poor ☐

Existing Structure Description: Single storey residence.

Borehole Layer Description	Depth
Clayey Sandy Silt Fill Grey Medium Dense Moist	200mm
Clayey Sandy Silt Grey Firm Moist	650mm
Silty Clay Orange/Grey/Brown Medium to High Plasticity Stiff to Very Stiff Moist Trace of Rock with Depth	1400mm
Refusal at 1.4m on Extremely Weathered Rock	

Soil Technician: [redacted] **Auger Type:** Hand