Form 2

NOTICE OF AN APPLICATION FOR PLANNING PERMIT

The land affected by the application is located at:	**700 Marlo-Cabbage Tree Road MARLO 3888 Lot: 3 PS: 640201**
The application is for a permit to:	**Buildings and Works for a Dwelling**
The applicant for the permit is:	**Development Solutions Victoria Pty Ltd**
The application reference number is:	**5.2023.407.1**
You may look at the application and any documents that support the application on the website of the responsible authority.	**COVID-19 Omnibus (Emergency Measures) Bill 2020 now modifies the requirement of Form 2 so that *Planning documents previously required to be physically available to view at local government offices are now only required to be available for online inspection.***

This can be done anytime by visiting the following website:
https://www.eastgippsland.vic.gov.au/building-and-development/advertised-planning-permit-applications

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

An objection must

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

The Responsible Authority will not decide on the application before:	**Subject to applicant giving notice**

If you object, the Responsible Authority will tell you its decision.

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

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

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

VOLUME 11605 FOLIO 576

Security no : 124109217449K
Produced 20/09/2023 11:34 AM

LAND DESCRIPTION

Lot 3 on Plan of Subdivision 640201U.
PARENT TITLE Volume 09634 Folio 166
Created by instrument PS640201U 16/10/2015

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors

ENCUMBRANCES, CAVEATS AND NOTICES

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

DIAGRAM LOCATION

SEE PS640201U 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: 700 MARLO-CABBAGE TREE ROAD MARLO VIC 3888

ADMINISTRATIVE NOTICES

NIL

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	**PS640201U**
Number of Pages (excluding this cover sheet)	**3**
Document Assembled	**20/09/2023 11:35**

PLAN OF SUBDIVISION

STAGE No. | LR USE ONLY | EDITION 1 | PS640201U

30/09/2015 $1,368.90 PS U

LOCATION OF LAND

PARISH: TABBARA
TOWNSHIP: —
SECTION: A
CROWN ALLOTMENT: 6
CROWN PORTION: —

TITLE REFERENCES: VOL 9634 FOL 166

LAST PLAN REFERENCE: TP300782F

POSTAL ADDRESS: (At time of subdivision) MARLO - CABBAGE TREE ROAD, MARLO, 3888

MGA 94 CO-ORDINATES: (Of approx. centre of land in plan) E 644 330 N 5818 080 ZONE: 55

COUNCIL CERTIFICATION AND ENDORSEMENT

COUNCIL NAME: EAST GIPPSLAND SHIRE COUNCIL REF: 128/2010/CRT

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 the Subdivision Act 1988.

OPEN SPACE

(i) A requirement for public open space under Section 18 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 20 / 10 / 2010

~~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 580/2007/P

DEPTH LIMITATION 15 METRES BELOW THE SURFACE

SURVEY: THIS PLAN IS / ~~IS NOT~~ BASED ON SURVEY

THIS SURVEY IS CONNECTED TO PERMANENT MARK No(s) 7 & 34

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	POWERLINE	SEE DIAG.	THIS PLAN - SECTION 88 OF THE ELECTRICITY INDUSTRY ACT 2000	SPI ELECTRICITY PTY LTD

LR USE ONLY
STATEMENT OF COMPLIANCE / EXEMPTION STATEMENT
RECEIVED [x]
DATE 30 / 9 / 15

LR USE ONLY
PLAN REGISTERED
TIME 3.17pm
DATE 16 / 10 / 15
KRB
Assistant Registrar of Titles

SHEET 1 OF 3 SHEETS

Crowther & Sadler Pty. Ltd.
LICENSED SURVEYORS & TOWN PLANNERS
152 MACLEOD STREET, BAIRNSDALE, VIC., 3875
TELEPHONE (03) 5152 5011

LICENSED SURVEYOR GERARD MICHAEL WARD
SIGNATURE G.M.Ward DATE 16 / 9 / 2010
REF 12586 VERSION 1

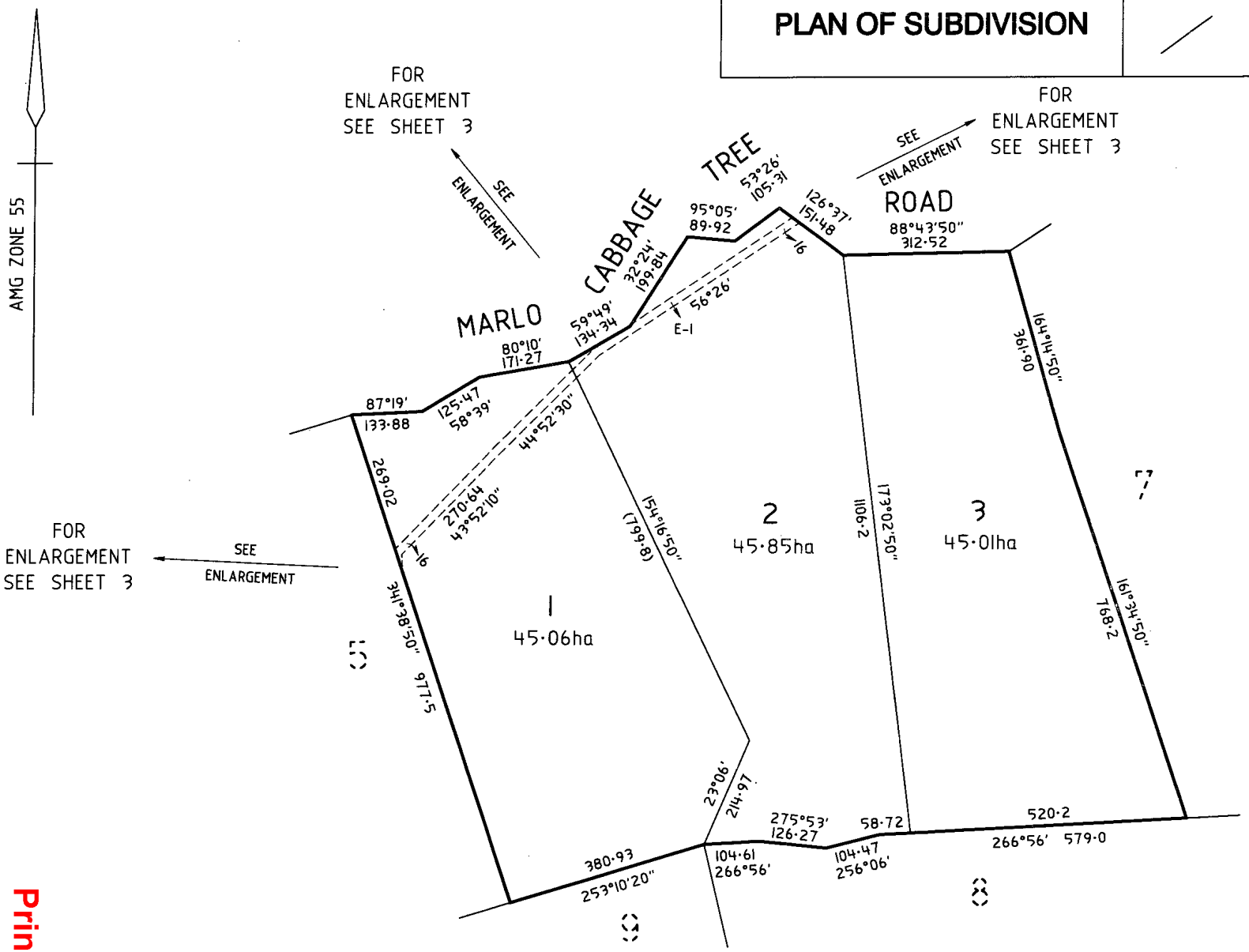
DATE 20 / 10 / 2010
COUNCIL DELEGATE SIGNATURE

ORIGINAL SHEET SIZE A3

PLAN OF SUBDIVISION

STAGE No. /

PLAN NUMBER PS 640201U



Crowther & Sadler Pty. Ltd.
LICENSED SURVEYORS & TOWN PLANNERS
152 MACLEOD STREET, BAIRNSDALE, VIC., 3875
TELEPHONE (03) 5152 5011

SCALE
80 0 80 160 240 320 400
LENGTHS ARE IN METRES

ORIGINAL SCALE 1:8000 | SHEET SIZE A3

LICENSED SURVEYOR GERARD MICHAEL WARD
SIGNATURE G M Ward DATE 16 / 9 / 2010
REF 12586 VERSION 1

SHEET 2 OF 3 SHEETS
DATE 20 / 10 / 2010
COUNCIL DELEGATE SIGNATURE

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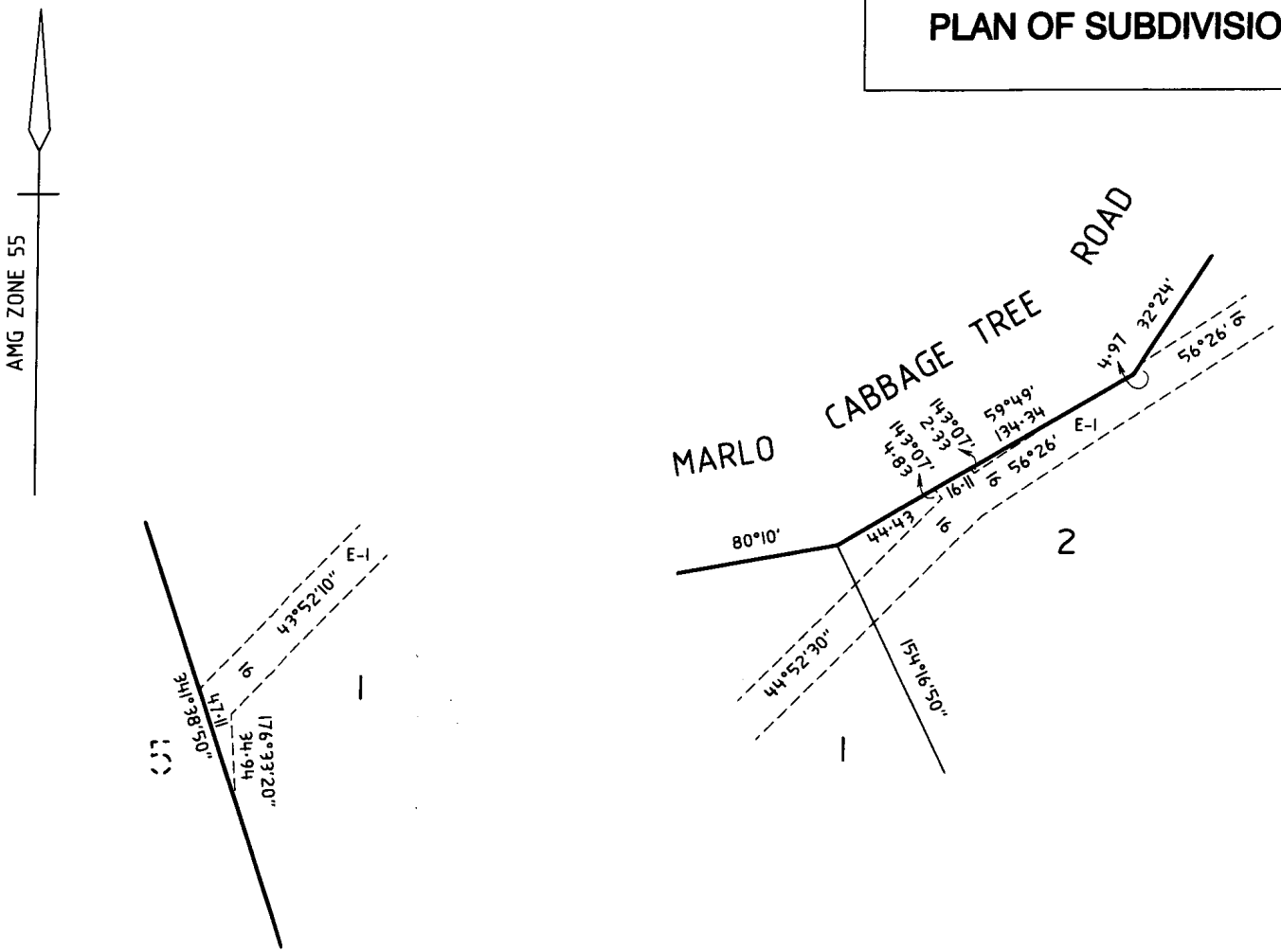
PLAN OF SUBDIVISION

STAGE No. /

PLAN NUMBER PS 640201U



Crowther & Sadler Pty. Ltd.
LICENSED SURVEYORS & TOWN PLANNERS
152 MACLEOD STREET, BAIRNSDALE, VIC., 3875
TELEPHONE (03) 5152 5011

SCALE
20 0 20 40 60 80 100
LENGTHS ARE IN METRES

ORIGINAL SCALE 1:2000 | SHEET SIZE A3

LICENSED SURVEYOR GERARD MICHAEL WARD
SIGNATURE ..... DATE 16 / 9 / 2010
REF 12586 VERSION 1

SHEET 3 OF 3 SHEETS
DATE 20 / 10 / 2010
COUNCIL DELEGATE SIGNATURE

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 mm

OCT
20
23

DEVELOPMENT SOLUTIONS VICTORIA

APPLICATION FOR PLANNING PERMIT

DEVELOPMENT OF A DWELLING

700 MARLO-CABBAGE TREE ROAD, MARLO
ANTHONY & KYLIE KEY
REF: 23083

CONTENTS

APPENDIX

DOCUMENT REVISION

1	Draft Report	DAC	28/09/2023
2	Final Report	CMC	11/10/2023

1. INTRODUCTION

Development Solutions Victoria Pty Ltd act on behalf of Anthony & Kylie Key, the applicant for the planning permit application for the development of a dwelling at 700 Marlo-Cabbage Tree Road, Marlo.

This submission and supporting documentation provide details of the subject site, relevant planning controls and policies and delivers an assessment against the provisions of the East Gippsland Planning Scheme.

The proposal is consistent with the objectives of the East Gippsland Planning Scheme, is an appropriate development in this location and will result in a positive planning outcome.

Address	**700 Marlo Cabbage-Tree Road, Marlo**
Site Description	Lot 3 on Plan of Subdivision 640201U
Title Particulars	Vol 11605 Fol 576
Site Area	45.01ha
Proposal	Development of a Dwelling
Planning Scheme	East Gippsland Planning Scheme
Zone	Farming Zone – Schedule 1
Overlays	Bushfire Management Overlay
Aboriginal Cultural Heritage	Identified as an area of Cultural Heritage Sensitivity
Permit Triggers	Clause 44.06-2 Bushfire Management Overlay - buildings and works
Notice	Clause 44.06-7 – Notice and review
Referrals	Country Fire Authority (CFA)
Work Authority Licence	Not Applicable
Planning Scheme requirements	Municipal Planning Strategy – Clause 02 Environmental and landscape values – Clause 02.03-2 Environmental risks and amenity – Clause 02.03-3 Built environment and heritage – Clause 02.03-5 Planning Policy Framework – Clause 10 Settlement – Clause 11 Environmental and landscape values – Clause 12 Environmental risks and amenity – Clause 13 Bushfire Planning – Clause 13.02-1S Natural Resource Management – Clause 14 Built environment and heritage – Clause 15 Housing – Clause 16 Bushfire Management Overlay – Clause 44.06 Bushfire Planning – Clause 53.02 Decision guidelines – Clause 65

2. SITE CONTEXT

Site

The subject site is located at 700 Marlo-Cabbage Tree Road, Marlo. A copy of the Title and Plan of Subdivision is contained in ***Appendix A.*** The title is not affected by any restrictive covenants or agreements.

The site is irregular in shape, undulating in nature and has a total area of approximately 45.01 hectares. The site contains an existing machinery shed centrally located, areas of dense and scattered vegetation throughout, two dams in the northern portion and three watercourses. One watercourse is located in the northern portion of site, a second watercourse is located in the middle of the site and the third watercourse is located in the southern portion of the site also known as Cayley Creek. All watercourses traverse in an east to west direction.

The subject site is currently used to graze livestock being cattle. Details of the site are depicted in the photographs provided below.

Access to the site is existing via a dirt driveway directly from Marlo - Cabbage Tree Road. Marlo - Cabbage Tree Road is a formed gravel road with grassed shoulders traversing in an east to west direction.

The subject site in relation to Marlo as well as the surrounding land, is shown in the locality plans in ***Figure 1*** and ***Figure 2***.

Figure 1 – *Locality Plan – 700 Marlo-Cabbage Tree Road, Marlo (source: mapshare.vic.gov.au)*

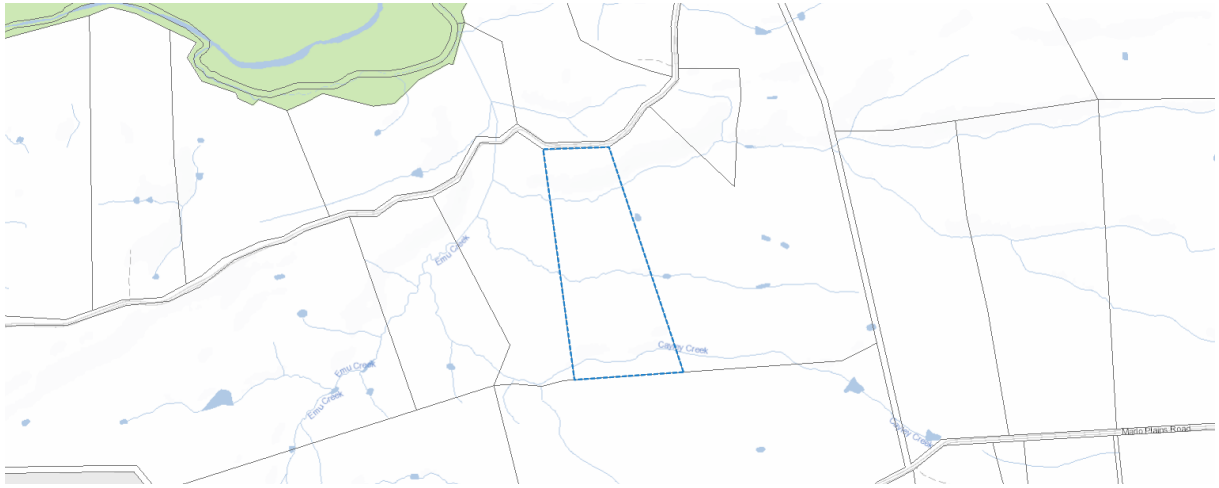


Figure 2 – *Locality Plan – 700 Marlo-Cabbage Tree Road, Marlo (source: mapshare.vic.gov.au)*

Surrounds

The land surrounding the site comprises predominantly of farming land.

Adjoining the subject site to the north is Marlo-Cabbage Tree Road and further farming land, adjoining the site to the east and west is vacant farming land and adjoining the southern boundary of the subject site is farming land containing an existing dwelling and associated facilities.

The site is located to the east of Marlo within an existing farming area. Marlo is a small seaside holiday village located south of Orbost in the eastern area of the East Gippsland Shire. Marlo has limited community and commercial facilities and services; however, a larger suite of services is available in Orbost and further afield to Lakes Entrance and Bairnsdale.

The subject site in relation to Marlo is shown in the aerial photograph below.

Photograph 1 *– Aerial Photograph of the subject site and surrounding land – 700 Marlo-Cabbage Tree Road, Marlo (source: dpi.vic.gov.au)*

Photograph 2 – *Subject site at 700 Marlo- Cabbage Tree Road, Marlo.*

Photograph 4 – *Existing machinery shed on subject site.*

Photograph 6 – *Subject site facing east showing proposed location of dwelling.*

Photograph 3 – *Existing driveway to subject site.*

Photograph 5 – *Subject site facing north.*

Photograph 7 – *Subject site facing southeast.*

Photograph 8 – *Subject site facing west.*

Photograph 10 – *Neighbouring property adjoining the subject site along the eastern boundary at 714 Marlo-Cabbage Tree Road, Marlo.*

Photograph 12 – *Marlo-Cabbage Tree Road facing east.*

Photograph 9 – *Neighbouring property directly opposite subject site at 695 Marlo-Cabbage Tree Road, Marlo.*

Photograph 11 – *Neighbouring property adjoining the subject site along the western boundary at 640 Marlo-Cabbage Tree Road, Marlo.*

Photograph 13 – *Marlo-Cabbage Tree Road facing west.*

3. THE PROPOSAL

This application seeks approval for the development of a dwelling. The proposed development plans are contained in ***Appendix B.***

The proposed dwelling will be located centrally on the subject site and will be attached to the eastern end of the existing machinery shed as indicated on the proposed development plans approximately 100 metres from the eastern boundary and 400 metres from the northern boundary being Marlo-Cabbage Tree Road.

The proposed dwelling will be single storey and will be finished with Colorbond cladding and roofing. The proposed external colours have not yet been selected.

The total area of the proposed dwelling and verandah will be 200m^2 being 10 metres wide and 18.02 metres long. The proposed height of the dwelling will 2.73 metres high. An extract from the plans showing the floor plan and north elevation is provided to the right.

Vehicle access to the site is existing directly from Marlo-Cabbage Tree Road along the northern boundary, however will be upgraded to meet the BAL 29 requirements.

No vegetation removal is required and no earthworks beyond minimal site scraping will be required.

The proposed dwelling will connect to all available services including electricity and the existing road network. Water will be provided via water tanks. Wastewater disposal will be via subsoil absorption trenches using a standard septic system as recommended in the Land Capability Assessment contained in ***Appendix D***.

The subject site can achieve a BAL 29 rating as provided in the Bushfire Management Report contained in ***Appendix C***. The proposal includes a 10,000 litre water tank dedicated for CFA purposes, will have a defendable space area of 48 metres in all directions of the dwelling and will provide access suitable for emergency service vehicles including a y turning head and passing bays.

Figure 3 *– Proposed North Elevation – Key Homes*

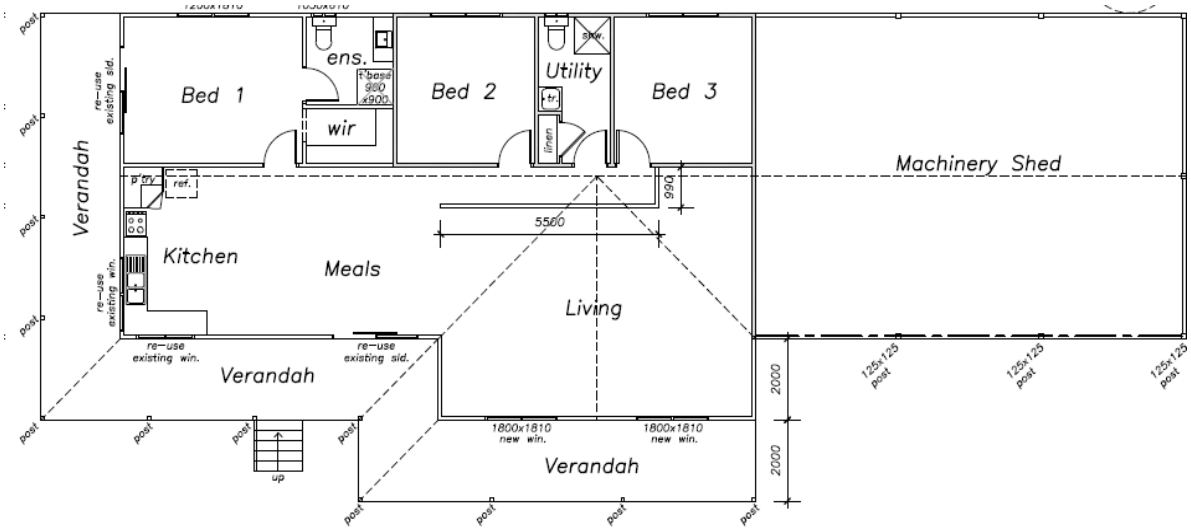


Figure 4 *– Proposed Floor Plan – Key Homes*

4. ZONES AND OVERLAYS

Farming Zone – Schedule 1

The purpose of the Farming Zone is:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To provide for the use of land for agriculture.*
- *To encourage the retention of productive agricultural land.*
- *To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.*
- *To encourage the retention of employment and population to support rural communities.*
- *To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.*
- *To provide for the use and development of land for the specific purposes identified in a schedule to this zone.*

An extract of the Farming Zone Map is provided to the right in ***Figure 5***.

The proposal is a Section 1 permit not required use as set out in the table of uses at Clause 35.07-7 and meets the requirements of Clause 35.07-2 being the use of land for a dwelling.

As such a permit is not required for the development of a dwelling under the provisions of the Farming Zone. This is not addressed further.

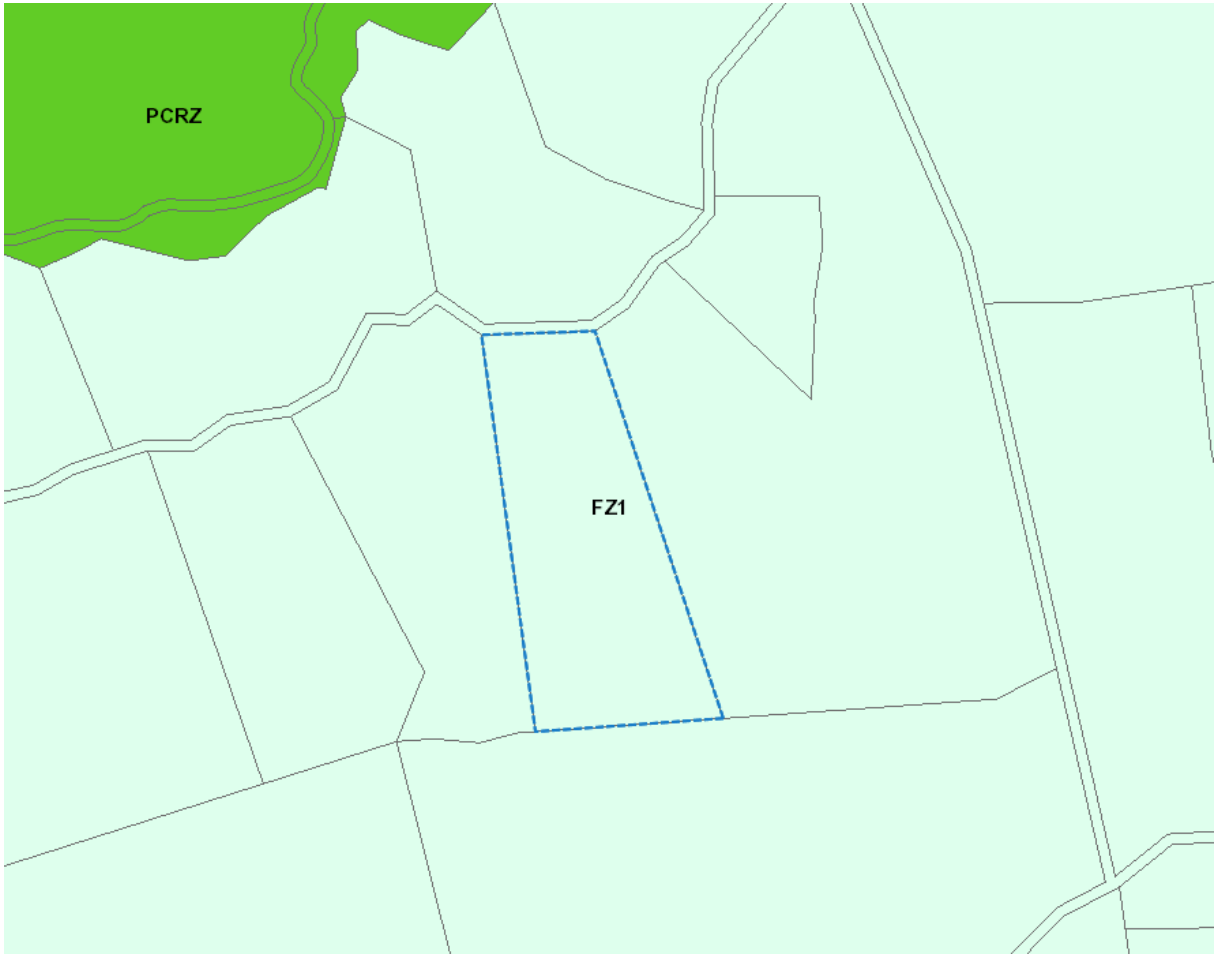


Figure 5 – *Zoning Map – (source - mapshare.vic.gov.au)*

Bushfire Management Overlay

The purpose of the Bushfire Management 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.*

An extract of the Bushfire Management Overlay Map is provided to the right in ***Figure 6.***

Clause 44.06-2 provides a permit is required to construct a building or construct or carry out works associated with accommodation.

Clause 44.06-4 provides an application must meet the requirements of Clause 53.02 unless the application meets all of the requirements specified in a schedule to this overlay.

A schedule to this overlay must specify substitute approved measures, additional alternative measures and additional or substitute decision guidelines for the purposes of Clause 53.02. There is no schedule applicable to the subject site.

The proposed dwelling requires planning approval under the provisions of the Bushfire Management Overlay and Clause 53.02-3.1 and as such the relevant decision guidelines are addressed below in Section 5.

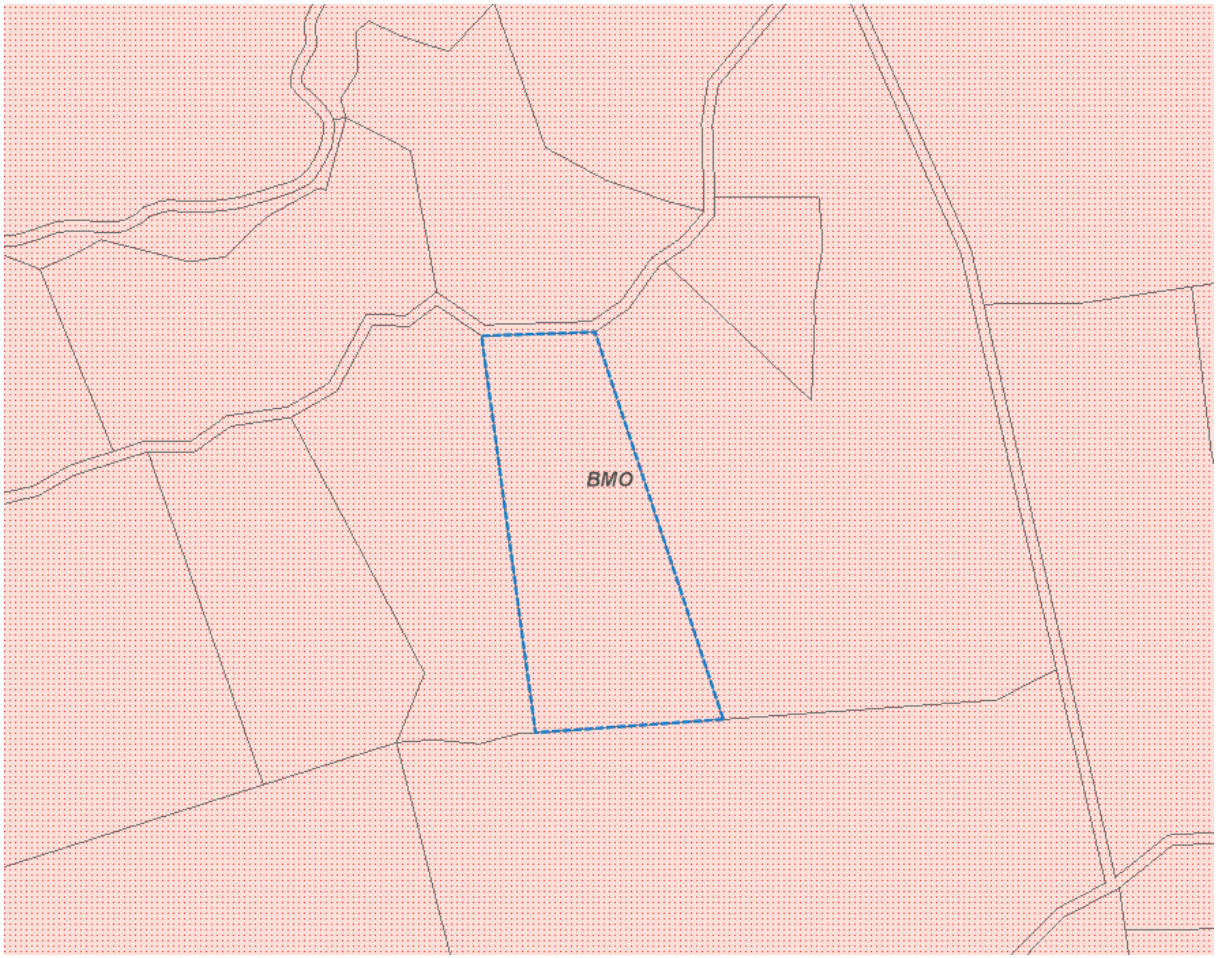


Figure 6 *– Bushfire Management Overlay – (source - mapshare.vic.gov.au)*

Aboriginal Cultural Heritage

Under the provisions of the *Aboriginal Heritage Act 2006* the subject site is partly recognised as being partially within an area of Aboriginal Cultural Heritage Sensitivity.

The development of a dwelling and associated facilities is an exempt activity under the provisions of the *Aboriginal Heritage Act 2006* and as such a Cultural Heritage Management Plan is not required.

An extract of the Aboriginal Cultural Heritage Map is provided to the right in ***Figure 7.***

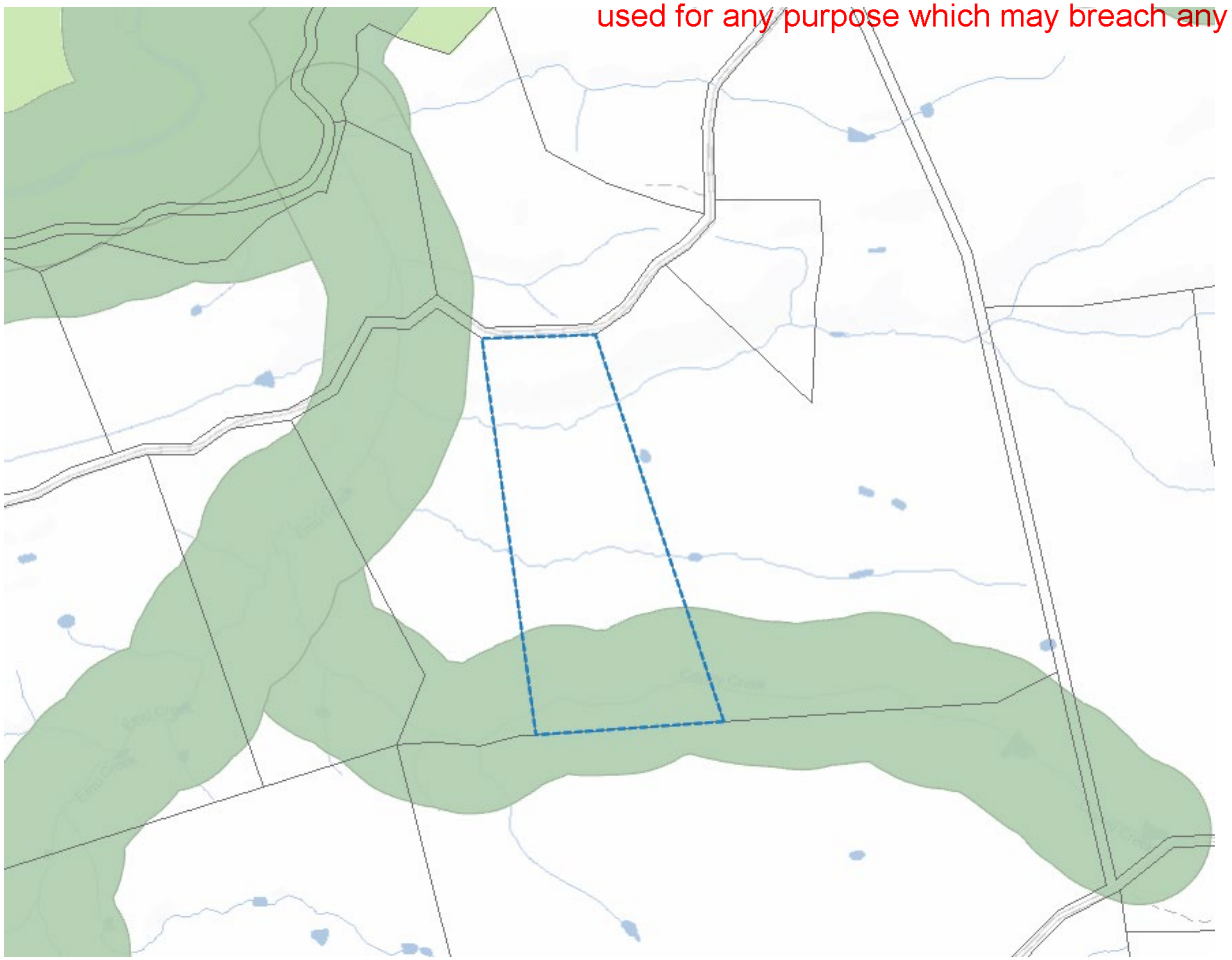


Figure 7 – *Aboriginal Cultural Heritage Map – (source - mapshare.vic.gov.au)*

5. PLANNING ASSESSMENT

This proposal has been assessed against the objectives and standards of applicable clauses of the East Gippsland Planning Scheme and it is considered that the proposal is appropriate for the following reasons:

- The proposal meets the objectives of the Municipal Planning Strategy at **Clause 02** and the Planning Policy Framework at **Clause 10** providing a dwelling that will be suitable for residential use as well as supporting the existing agricultural activities undertaken on the land.
- The proposal will contribute to a high standard of environmental sustainability and amenity by locating the proposed dwelling within an area that does not require vegetation removal, reducing any potential negative environmental implications as sought to achieve by the relevant clauses including **Clause 02.03** and **Clause 11**.
- The location of the proposed dwelling has been selected to ensure earthworks are kept to a minimum. The risks associated with bushfire have been considered and it is concluded the proposal is deemed to have appropriately reduced the risks to an acceptable level as sought to be achieved by **Clause 02.03-3** and **Clause 13.**
- The importance of protecting agricultural land is recognised in **Clause 14**, which also seeks to ensure agricultural land is managed sustainably. The proposed dwelling will be used for residential purposes associated with the existing agricultural use of the land and will not permanently remove any high quality productive agricultural land.
- The proposed dwelling will be in keeping with the rural character of the area and will not be dissimilar to surrounding development. The proposed dwelling will attach to the existing machinery shed as indicated on the proposed development plans.
- **Clauses 02.03-3, 13.01-1S** and **44.06** require consideration of bushfire hazards and implications as a result of any proposed development. A Bushfire Management Report is provided in ***Appendix C*** which concludes the subject site can achieve a BAL29 rating. The proposed dwelling will be constructed to the requirements of the BAL29 rating. All approved bushfire protection measures have been incorporated into the proposal including appropriate access with a Y turning head and passing bays appropriate for emergency service vehicles, defendable space to a distance of 48 metres around the dwelling and a 10,000 litre water tank dedicated for CFA purposes. **Clause 44.06-4** provides the application must meet the requirements of **Clause 53.02**. All of the approved measures set out in Clause 53.02-3 have been incorporated into the proposal and it is concluded the risks can be reduced to an acceptable level.
- This submission has addressed the decision guidelines of **Clause 65** and the proposal supports orderly planning of the area.
- The proposal has taken into consideration the potential effect on the environment, human health and the amenity of the area and it is deemed to have no negative impacts. No vegetation removal is required to facilitate the proposed dwelling. There will not be any negative impact on the existing road network or surrounding watercourses.
- The natural hazards associated with the site have been addressed and measures implemented to ensure the risks can be reduced to an acceptable level.
- There are no factors of this proposal that are likely to cause or contribute to land degradation, salinity or reduce water quality.

6. CONCLUSION

This submission is in support of a planning permit application for the development of a dwelling at 700 Marlo - Cabbage Tree Road, Marlo.

The relevant provisions of the East Gippsland Planning Scheme have been addressed and it has been ascertained that the proposed development is appropriate in this location, and it is requested that the proposal be supported for the following reasons:

- The proposal is consistent with the objectives and strategies outlined in the Municipal Planning Strategy and the Planning Policy Framework.
- The proposal is consistent with the objectives of the Farming Zone.
- The bushfire risks can be appropriately managed.
- The proposal will provide for a functional and attractive new dwelling that will support and enhance the existing agricultural use of the site.

It is requested that a planning permit be granted for this development.

Development Solutions Victoria

Euca Planning
Bushfire Specialists

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 3

Bushfire Planning Report V 1.0

(Including Bushfire Management Statement)

Lot 3 PS640201

700 Marlo-Cabbage Tree Road, Marlo 3888

Traditionally the land of Kulin Nation People

August 21st, 2023.

Euca Planning Pty Ltd
PO Box 570, Warragul 3820.

Phone: 0418 597 662 Email: info@eucaplanning.com.au

Director & Principal Consultant: Deanne Smith

Qualifications/Accreditations:

- Masters of Planning (Professional) – Deakin University
- Postgraduate Diploma in Bushfire Planning and Management – The University of Melbourne (2017)
- Graduate Diploma of Applied Science (Agricultural Studies) – Charles Sturt University
- Graduate Certificate in Public Sector Management – Flinders University
- Bachelor of Science – University of Melbourne (1996)

Memberships

- Member of Planning Institute of Australia (MPIA)
- Corporate Bronze Member of Fire Protection Association of Australia

Acknowledgement of Country

Euca Planning would like to acknowledge the Kulin Nation people as the Traditional owners of the unceded land that we conduct our business on. We pay our Respects to their Elders past, present, and future.

Disclaimer

This report has been made with careful consideration and with the best information available to Euca Planning Pty Ltd at the time of writing. Before relying on information in this report, users should evaluate the accuracy, completeness and relevance of the information provided for their purposes. Euca Planning Pty Ltd do not guarantee that it is without flaw or omission of any kind and therefore disclaim all liability for any error, loss or other consequence that may arise from you relying on any information in this report.

Requirements detailed in this document do not guarantee survival of the buildings or the occupants. The client is strongly encouraged to develop and practice a bushfire survival plan.

Information and assistance including a template for a Bushfire Survival Plan is provided as part of the 'Fire Ready Kit' available through the CFA website at www.cfa.vic.gov.au or through your local CFA Regional office.

Conditions of Use

Version Control

	Name	Date Completed	Comments
Field Assessment	Courtney Campbell	8 August 2023	
Mapping	Jeff Marriott	11 August 2023	
Draft Report	Frances Granada	8 August 2023	
Final Report	Jeff Marriott	17 August 2023	
Report Approved	Deanne Smith	21 August 2023	

Contents

Executive Summary

This report has been prepared to support a planning permit to develop a dwelling and outbuilding at 700 Marlo-Cabbage Tree Road, Marlo. The site is within the Bushfire Management Overlay (BMO) and is required to demonstrate that the development has regard for the surrounding bushfire hazards.

This report presents a comprehensive assessment of the hazards and suggests mitigation measures to improve the protection of life and property for the development of a dwelling at 700 Marlo-Cabbage Tree Road, Marlo. The site is within the Farming Zone (FZ1) and requires a Pathway 2 application to meet the objectives and approval measures of Clause 53.02 of the East Gippsland Planning Scheme. As such a Pathway 2 style response has been adopted for this report.

This report includes the following components:

- A Bushfire Hazard Landscape Assessment that considers the landscape risk and whether the Clause 53.02 modelled fire assumptions are adequate.
- A Bushfire Hazard Site Assessment considering localised hazards, defendable space and the bushfire attack level.
- The design response (Bushfire Management Statement) to the relevant approval measures in Clause 53.02 from the East Gippsland Planning Scheme.
- The Bushfire Management Plan that responds to the site and the proposed development, including the standard CFA permit conditions.

The development site is in the greater area of Marlo, approximately 12 kilometres east of the Marlo township, and 17 kilometres southwest of Cabbage Tree Creek township. Forest, woodland and grassland exist close to the site, in addition to being the same vegetation class in the broader landscape. Marlo-Cabbage Tree Road is the egress route from this area connecting to the west. The site is a 14-minute travel time by car to the Marlo Township.

The Bushfire Management Statement demonstrates that the defendable space objectives can be met for Column A of Table 2 to Clause 53.02-5. The defendable space objectives for Column A can be met with an enhanced construction level of BAL29, and access and water supply provided.

Due to the forest, woodland and grassland close to the site and forest beyond the site, the proposed development is expected to be affected by a high level of ember attack in the event of a bushfire and radiant heat from localised ignitions. A BAL of 29 (non-combustible choices) is deemed appropriate for the construction to address the expected bushfire and considering the constraints and opportunities of the site. The proposal responds to Clause 13.02-1S of the East Gippsland Planning Scheme.

The site is able to meet the approval measures within Clause 53.02 for Column A of Table 2 to Clause 53.02-5, with a BAL of 29 based on an FFDI of 100 and a flame temperature of 1090K.

1.0 Introduction

This Bushfire Management Statement (BMS) has been prepared to enable the applicants to respond to the requirements of Clause 44.06 Bushfire Management Overlay (BMO) (known from this point on as Clause 44.06), and in accordance with the application requirements of Clause 53.02 – Bushfire Protection: Planning Requirements (known from this point on as Clause 53.02).

The statement contains these components:

1. A **Clause 13.02-1S assessment** that considers the strategic intent of the East Gippsland Planning Scheme
2. A **bushfire hazard landscape assessment** including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site.
3. 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 has been prepared in accordance with Section 2.2.3 to 2.2.5 of AS3959:2018 Construction of buildings in bushfire prone areas (Standards Australia) and is supported by photographs to assist in describing the bushfire hazard.
4. A **bushfire management statement** describing how the proposed development responds to the requirements of Clause 44.06 and 53.02.
5. A **bushfire management plan** that spatially records the bushfire mitigation measures for endorsement with the planning permit.

1.1 Application Details

Municipality	East Gippsland Shire Council
Title Description	Lot 3 PS640201
Overlays	Bushfire Management Overlay (BMO)
Zoning	Farming Zone – Schedule 1 (FZ1)

1.2 Site Description

Site shape	Polygon
Site area	Approximately 45.01Ha
Site Dimensions	The property has road frontage to Marlo-Cabbage Tree Road of approximately 312 metres, and a property depth of approximately 1106 metres.
Existing use and siting of buildings and works on and near the land	Existing outbuilding, dams, fencing and access tracks
Existing vehicle arrangements	Access from Marlo-Cabbage Tree Road
Nearest fire hydrant	Not applicable
Private bushfire shelter	Not proposed
Any other site features relevant to bushfire risk	Farming land adjacent other farmland and extensive forest in the broader landscape particularly to the northern quadrants.

1.3 Site Location

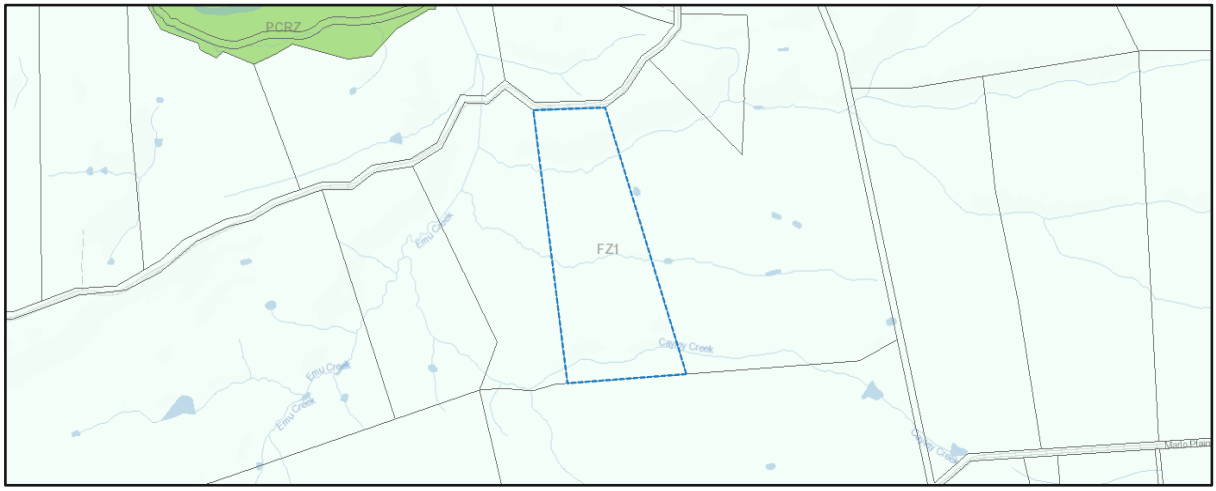


Figure One: Property Location – identified with the blue dashes central to the map (VicPlan, 2023)

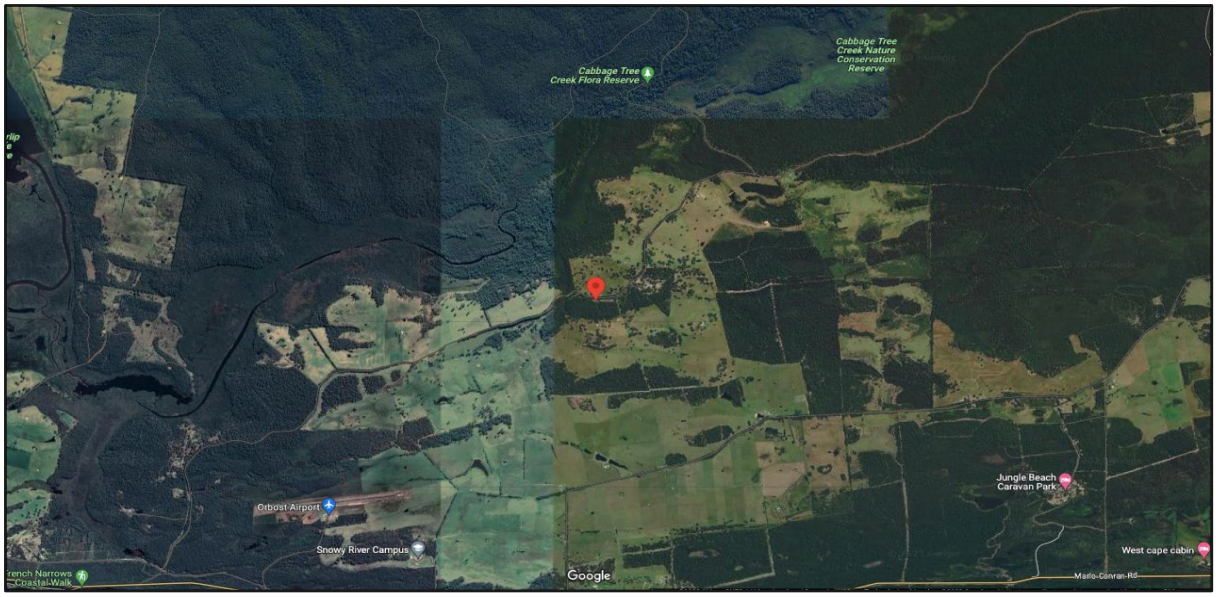


Figure Two: Property Location – 700 Marlo-Cabbage Tree Road, Marlo (Google Maps, 2023)

2.0 Planning Policy Framework

2.1 Planning Policy Framework

Clause 71.02-3 (integrated decision making) of the Planning Scheme has been recently amended and provides that:

Planning authorities and responsible authorities should endeavour to integrate the range of

policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations. However, in bushfire affected areas, planning authorities and responsible authorities must prioritise the protection of human life over all other policy considerations.

Clause 13.02-1S (Bushfire) of the Planning Scheme applies to all decision making and seeks to:

> *To strengthen the resilience of settlements and communities to bushfire through **risk-based planning** that prioritises the protection of human life.*
> [Emphasis added]

Clause 13.02-1S includes a number of strategies to achieve that objective. Broadly these strategies include:

- prioritising the protection of human life;
- requiring a robust assessment of the bushfire hazard and risk assessment before any strategic or statutory decision is made; and
- directing population growth and new settlements to low-risk locations.

Importantly in relation to the protection of human life, clause 13.02-1S includes the following requirements:

> *<u>Give priority to the protection of human life by:</u>*

- *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.*

In relation to Bushfire hazard identification and assessment, clause 13.02-1S includes the following relevant requirements:

> *<u>Identify bushfire hazard and undertake appropriate risk assessment by:</u>*

- *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.*
- *Considering and assessing the bushfire hazard on the basis of:*
    - *Landscape conditions - meaning conditions in the landscape within 20 kilometres (and potentially up to 75 kilometres) of a site;*
    - *Local conditions - meaning conditions in the area within approximately 1 kilometre of a site;*
    - *Neighbourhood conditions – meaning conditions in the area within 400 metres of a site; and*

    - *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.*

Importantly in relation to settlement planning, clause 13.02-1S includes the following requirements:

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 metres 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, neighborhood and site scale, including the potential for neighborhood-scale destruction.*
- *Assessing alternative low-risk locations for settlement growth on a regional, municipal, settlement, local and neighborhood 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.*

In relation to use and development control in a Bushfire Prone Area, clause 13.02-1S includes the following relevant requirements:

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:

… Accommodation

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.*

When these strategies are read together it is clear that any future development would be required to provide a considered assessment of the bushfire risk. As such, the development must ensure it responds to bushfire risk. The purpose of this report is to undertake such an assessment for the site including an assessment of the likely fire behaviour and the risk to future residents. It is acknowledged that this site is subject to the Bushfire Management Overlay and Parts 3 to 5 of this report specifically address the application requirements of Clause 44.06 and 53.02 of the East Gippsland Planning Scheme.

In the context of strategic planning decisions, these strategies need to be read as on balance and consider the '*net increase in risk to existing and future residents*'. As it relates to the objectives at Clause 13.02-1S of the Planning Scheme, it is necessary to ensure that the protection of human life is prioritised when decisions are made. However, the strategies listed at Clause 13.02-1S in the Planning Scheme are not 'mandatory requirements' and it is not necessary to 'tick every box'. It is more important to ensure that decisions are consistent with the State policy objectives and build resilient communities.

2.2 Planning Policy Framework Assessment

2.2.1 Objective

Clause 13.02-1S seeks to '*strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life*'.

2.2.2 Application

The policy must be applied to all planning and decision making under the Planning and Environment Act 1987 relating to land which is within a designated bushfire prone area; or subject to a Bushfire Management Overlay.

Bushfire Prone Area and Bushfire Management Overlay

The planning proposal area is included in the Bushfire Prone Area (BPA). As described in Planning Advisory Note 46 (2013), the BPA is a building regulation tool that identifies where moderate bushfire hazard can be expected. It applies to areas subject to the BMO, and to areas that experience a lower head fire intensity modelled to be between 4,000kW/m and 30,000kW/m. This level of hazard informs areas declared as bushfire prone in the building system. Areas at the upper end of the bushfire intensity range (that is 28,000kW/m and above and referred to as BHL1b) are considered, where appropriate, for applying the BMO based on the advice of the relevant fire authority. The land is contained in the BMO. The entire planning proposal site is subject to the BPA and the BMO. The greater area in Marlo is also in the BPA and BMO reflecting the moderate to high bushfire hazard that can be expected from the vegetation connecting to and distributed within the broader area.

In December 2017, Clause 13.02-1S of the East Gippsland Planning Scheme was amended to specifically refer to Bushfire Prone Areas and to strengthen the consideration of bushfire risk in all planning decisions. As the site is fully contained within the Bushfire Prone Area, the minimum level of construction for all dwellings is BAL 12.5, and this bushfire risk must be considered.

2.2.3 Strategies

Protection of human life

Give priority to the protection of human life by:	*Response*
Prioritising the protection of human life over all other policy considerations	- This proposal provides for a dwelling and outbuilding that responds to the risk of bushfire through siting and construction. - The proposal can be undertaken in a manner that will improve the safety of the existing residents with the establishment of an increased area of management between proposed development and the vegetation. - The existing clearing is used in addition to additional vegetation management to increase the separation of the dwelling from the hazard.
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.	- The lot has existed for many years and is part of a farming zone. - The dwelling is sited in an area of the site that is substantially cleared. - The overall design can respond to the hazard by setback from the vegetation and establishment of managed defendable space between the dwelling and the hazard. - The existing road network facilitates egress towards the established either the Marlo township or the Cabbage Tree

	Creek settlement. Access and egress is facilitated from Marlo-Cabbage Tree Road with options to the west and northeast.
Reducing the vulnerability of communities to bushfire through the consideration of bushfire risk in decision-making at all stages of the planning process.	- An application to develop land needs to articulate how the design responds to the identified bushfire risk. - The dwelling and outbuilding has been designed and sited to respond to bushfire with the assessment of the bushfire risk being undertaken to ensure the dwelling and outbuilding maximises the separation from the hazard and achieves a radiant heat exposure no greater than 12.5kW/m^2.

Bushfire hazard identification and assessment

Identify bushfire hazard and undertake appropriate risk assessment by:	*Response*
Applying the best available science to identify vegetation, topographic and climatic conditions that create a bushfire hazard.	- The East Gippsland Planning Scheme relies on the planning proposal to respond to bushfire based on current assessment methods. - Clauses 13.02-1S, 44.06 and 53.02 are to be considered for proposal. - Clause 71.02-3 *Integrated Decision Making* strengthens the importance of bushfire planning as an appropriate tool to reconcile potential conflicts in design and vision. - The assessment method aligns with AS3959-2018 and is provided in this report (see Section 4).
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.	- Consistent with the revised Clause 13.02-1S, the planning proposal responds to the Bushfire Prone Area and the Bushfire Management Overlay. - This report demonstrates that sufficient setbacks from the vegetation can be achieved to meet Column A of Table 2 of Clause 53.02, which is an appropriate benchmark for this development. - Detailed design and consideration of the development application is reinforced by the preliminary planning drawings.
Applying the Bushfire Management Overlay in planning schemes to areas where the extent of	- The BMO does apply to this land recognising that the land is in an area of high bushfire hazard. The BMO is

vegetation can create an extreme bushfire hazard	addressed in Sections 3 to 5 of this report.
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 a site; and, • The site for the development	- In light of the recent changes to Clause 13.02 and the addition of this assessment requirement, an assessment is provided in Section 3.0 of this report. - As it is a dwelling in the BMO located on a rural area, several scales of consideration are applied- Landscape conditions, local and neighbourhood conditions. - The site conditions are considered through the Bushfire Hazard Site Assessment.
Consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire protection measures.	- It is expected that this development would be referred to CFA for consideration as it is in the Bushfire Management Overlay.
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	- The content of this report provides a solid foundation for the design and subsequent approval of the planning proposal, with regard to bushfire risk. - Assessing the site-based bushfire risk and including appropriate bushfire protection measures (e.g. managed land, BALs, separation from the hazard) enables the achievement of the direction of the Planning Scheme.
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.	- This element of the revised Clause 13.02-1S is the most important element and empowers the Responsible Authority to not approve a permit application until it is satisfied with the bushfire protection measures being implemented. - This report demonstrates that the risk of bushfire should not be a reason for refusal.

<u>Settlement Planning</u>

Plan to strengthen the resilience of settlements and communities and prioritise protection of human life by:	*Response*
Directing population growth and development	- Recognising the land is an established

to low-risk locations, being those locations assessed as having a radiant heat flux of less than 12.5 kilowatts/square metres under AS3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2018).	grazing lot in a heavily forested area with a high risk from bushfire, development of land with a dwelling should only proceed where all elements of the BMO are achieved. - This report demonstrates that this goal is achieved including the provision of the greatest separation from the vegetation hazard, implantation of a 48 metre managed defendable space area and an increased level of construction. - The proposed dwelling has a siting that has been assessed as having a radiant heat flux of less than 12.5kW/m2 under AS3959-2018.
Ensuring the availability of, and safe access to, areas assessed as a BAL-LOW rating under AS3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2018) where human life can be better protected from the effects of bushfire	- The nature of the settlement of Marlo, provides ready access with a 14-minute drive to areas of the Marlo township that offer places to shelter. The nearest NSP/PLR location is the Orbost Recreation Reserve, in Gladstone Street. (27km NE)
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.	- The establishment and maintenance of defendable space will accompany the approval of a dwelling. The increased level of vegetation management will reduce the risk of bushfire to the future residents of this 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.	- The new dwelling and outbuilding will implement the current regulations pertaining to bushfire construction. This measure has been implemented in the design of the building and will be carried out through to the completion of the building.
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	- In light of the recent changes to Clause 13.02 and the addition of this assessment requirement, an assessment is provided in Section 3.0 and 4.0 of this report. - As it is a dwelling in the BMO within a rural area with forest in the greater area several scales of consideration are applied: Landscape conditions, Local Conditions, Neighbourhood conditions. - The site conditions are best considered through the Bushfire Hazard Site Assessment methodology.
Assessing alternative low-risk locations for settlement growth on a regional, municipal, settlement, local and neighbourhood basis.	- The proposal is an existing lot in an established farming 'type' area. It is acknowledged that such a development would not be expected to be established under the current Planning Policy

	Framework. However, the scheme does provide for the use of legacy lots in this environment when bushfire risk is appropriately responded to.
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 AS3959-2018.	- The proposal is a statutory planning application only.

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.

Assessment of the development

- The clearing has been used to minimise the removal of vegetation.
- The assessment of the vegetation has been undertaken, and responded to, by the broader planning application with consideration of the requirement for bushfire and communication between the practitioners preparing the reports.
- Some vegetation will be removed from the southwest direction to assist with manageable defendable space.

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 accommodation.

Assessment of the proposal's response: As the proposal is to develop a dwelling and outbuilding, and 'dwelling' is a nested term in the 'accommodation' group this section of Clause 13.02-1S is relevant.

When assessing a planning permit application for the above uses and development:	Response
Consider the risk of bushfire to people, property and community infrastructure.	Consistent with Clause 13.02-1S, Clause 53.02 of the Scheme has been used as a guide and is supported by a landscape analysis that demonstrates that the risk to people, property and the asset can be appropriately mitigated by its inherent design features in this specific location – specifically siting, separation from the hazard, building construction, and defendable space.

Require the implementation of appropriate bushfire protection measures to address the identified bushfire risk.	The development provides a siting that achieves Column A separation from the hazard and an increase in the design and construction of the dwelling is in accordance with BAL29 of AS3959.
Ensure new development can implement bushfire protection measures without unacceptable biodiversity impacts.	Specific reports are provided that address bushfire risk (this report) and native vegetation. Both reports provide an integrated outcome.

2.2.4 Policy Guidelines

Planning must consider as relevant:	Response
Any relevant approved State, regional and municipal fire prevention plan.	Fire prevention measures of the East Gippsland Shire Municipal Fire Prevention Plan ensure the roadside of the Marlo-Cabbage Tree Road is managed. Management of the public land occurs, with current fire breaks primarily located neighbouring public land and several on the subject land.
AS3959-2018 Construction of Buildings in Bushfire-prone Areas (Standards Australia, 2018).	This is relevant through the derivation of Bushfire Attack Levels, and is considered when referring to BAL29
Building in bushfire-prone areas - CSIRO & Standards Australia (SAA HB36-1993, May 1993).	This is the handbook to AS3959-2018 and does not need to be considered directly by the planning proposal.
Any Bushfire Prone Area map prepared under the Building Act 1993 or regulations made under that Act.	The updated Bushfire Prone Area map has been considered in this report.

3.0 Bushfire Hazard Landscape Assessment

The Bushfire Hazard Landscape Assessment includes a plan that describes the bushfire hazard of the general locality surrounding the site (Figure Three, additionally a copy is provided in Appendix One).

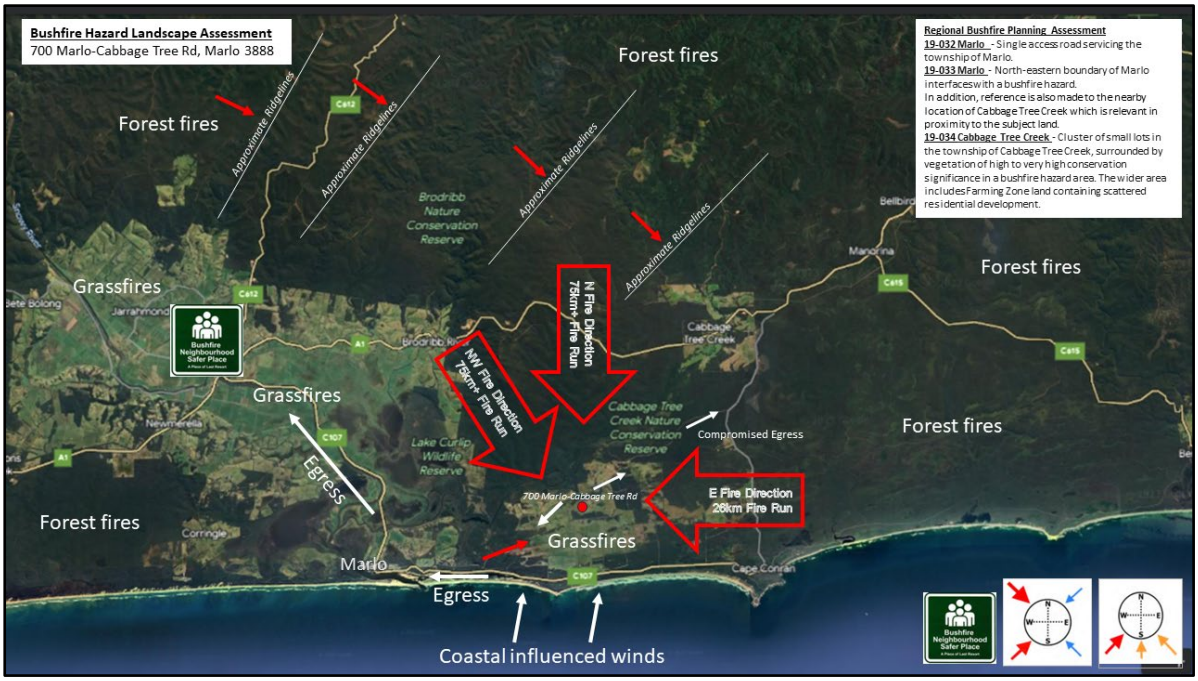


Figure Three (a) – Bushfire Hazard Landscape Assessment

The landscape risk of a site is an important consideration when mitigating bushfire hazards. The landscape risk is the combination of several elements in the surrounding landscape. These relate to the vegetation extent, the area available to a landscape bushfire, the orientation of the ridgelines and the steepness of the terrain, the accessibility to low threat areas and the quality of the road networks surrounding the site.

This site is positioned in grazing land with extensive forest in the broader landscape. The site is considered 'Landscape Type 4' as defined by DELWP guidance:

- *The broader landscape presents an extreme risk.*
- *Fires have hours or days to grow and develop before impacting.*
- *Evacuation options are limited or not available.*

The site will experience landscape fire scenarios that are not within the assumptions of the Bushfire Management Overlay. There are potential landscape fires with extensive fire runs over steep and heavily forested public lands. These fires would produce convective fire behaviour with convection column collapse creating rapid multiple ignitions. The design of the dwellings, the defendable space and consideration of egress is necessary to develop an appropriate site-responsive design. The site will experience ember attack, radiant heat and localised ignitions associated with the landscape fire scenarios.

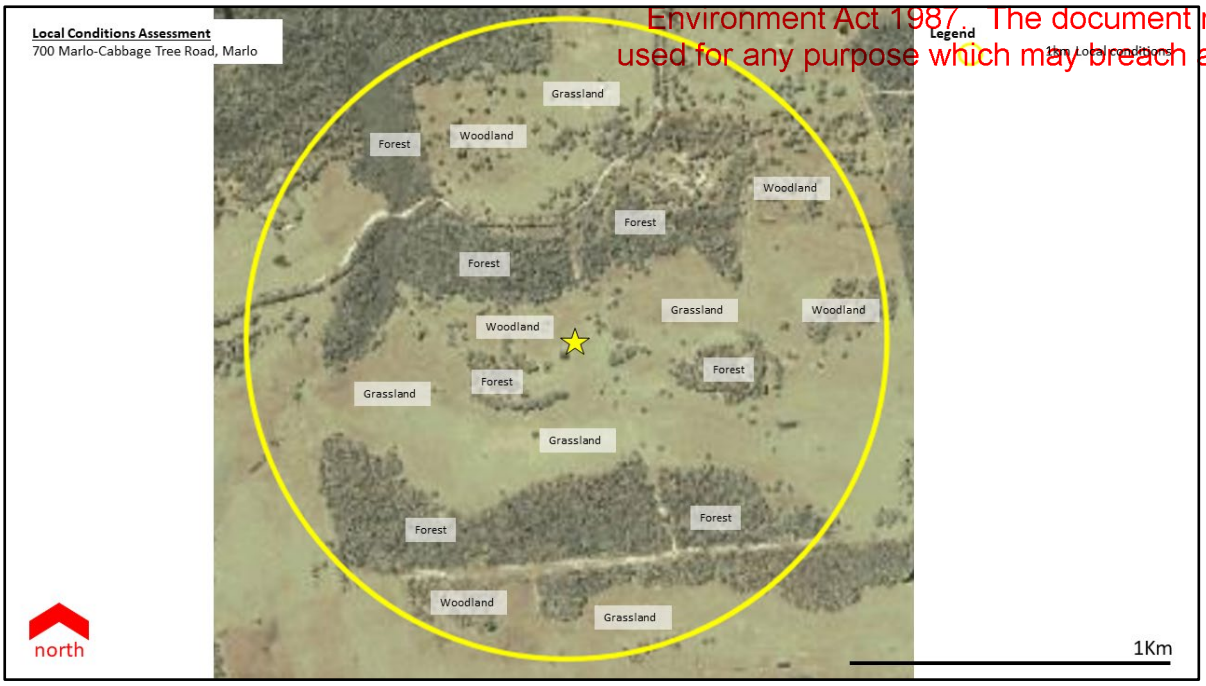


Figure Three (b) – Local Conditions

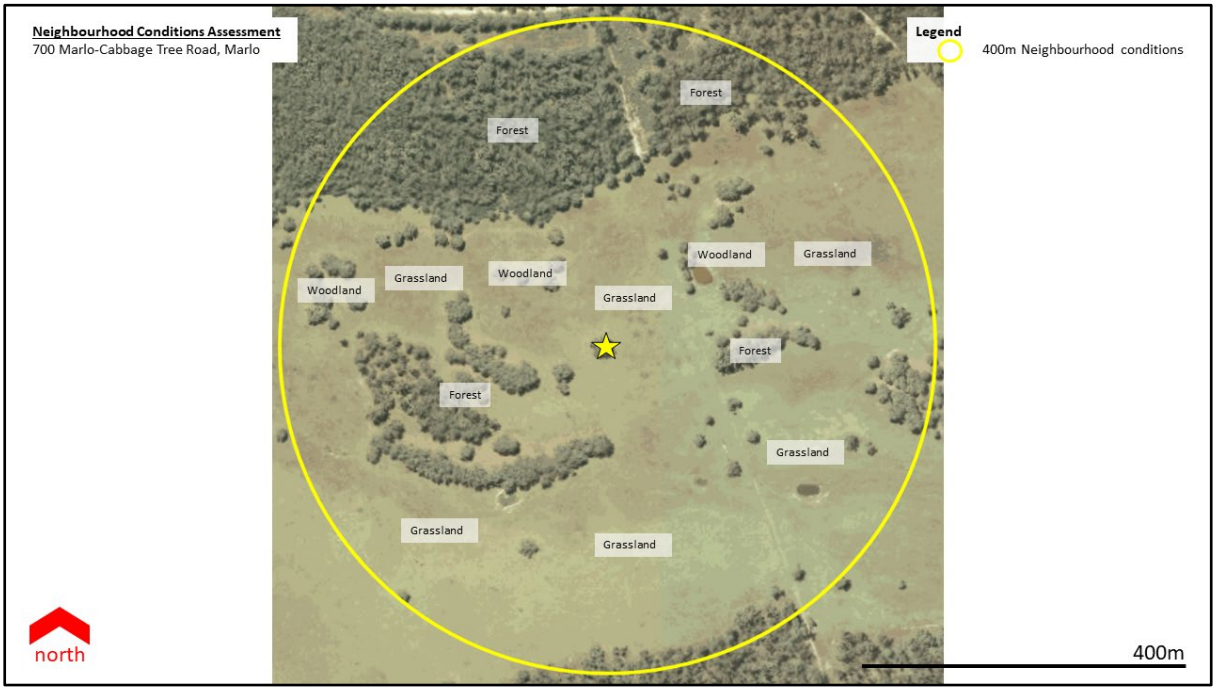


Figure Three (C) – Neighbourhood Conditions

3.1 Regional Bushfire Planning Assessment

The Regional Bushfire Planning Assessment (RBPA) for the Gippsland Region (2012) provides a high-level analysis of locations where the bushfire hazard may impact on planning objectives. The RBPA provides information where a range of land use planning matters intersect with a bushfire hazard to

influence the level of risk to life and property from bushfire. This information is required to be used as part of strategic land use and settlement planning at the regional, municipal and local levels:

> *"The RBPA is not a statutory planning provision and does not directly translate into planning schemes. However, it complements planning scheme provisions such as the Bushfire Management Overlay (BMO) by providing spatial and qualitative information from a variety of sources which together can inform considerations about where bushfire should be assessed early in the strategic planning process."* RBPA – Gippsland Region (2012)

After review of the RBPA, it is noted that there is reference to this area in addition to Marlo and the nearby similar area of Cabbage Tree Creek:

> ***19-032- Marlo*** *- Single access road servicing the township of Marlo.*
>
> ***19-033 Marlo*** *- Northeastern boundary of Marlo interfaces with a bushfire hazard.*
>
> ***19-034 Cabbage Tree Creek*** *- Cluster of small lots in the township of Cabbage Tree Creek, surrounded by vegetation of high to very high conservation significance in a bushfire hazard area. The wider area includes Farming Zone land containing scattered residential development.*

3.2 Vegetation extent in the broader landscape

The vegetation in the broader landscape is forest, woodland, scrubs and grassland. The vegetation is associated with large tracts in public ownership throughout the greater area with several heavily forested State parks and Reserves ranging from the west through to the east either side of the northern quadrant and along the coastal areas to the south from the site. The grassland occurs as grazing land. An indication of the Ecological Vegetation Classes in the landscape is provided below (site central to image).

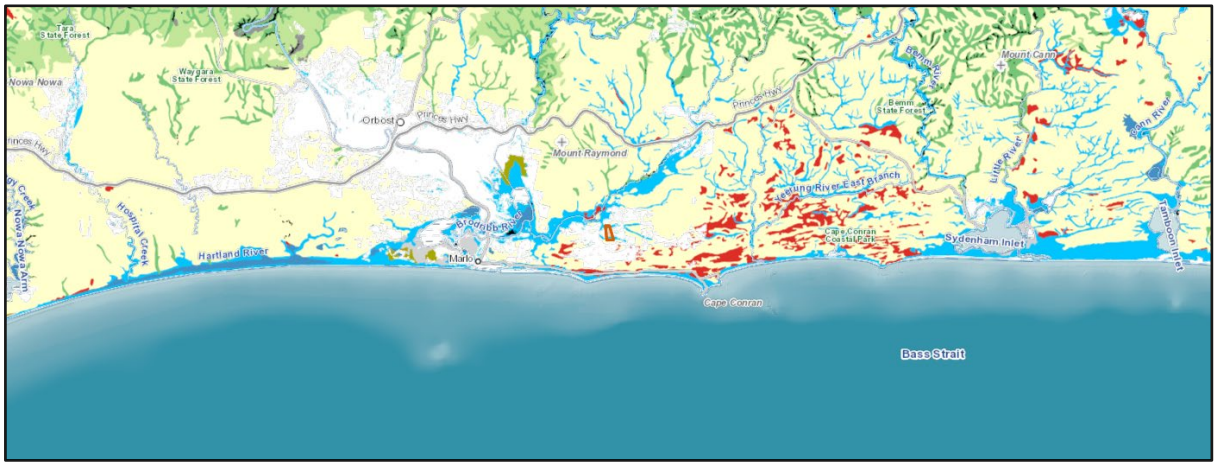


Figure Four – Ecological vegetation class group map (NatureKit, 2023) showing Damp forest (green), Warm Temperate Rainforest (black), Wet Heathlands (rust), Lowland Forest/Banksia Woodland (cream), Riparian Forest/Scrub (blue) and Damp Sands Herb Rich Woodland (olive).

3.3 Topography

The topography of the surrounding landscape is typical of this area of Marlo. The near terrain ranges from flat to gentle undulations located within the surrounding farmland and patched forested areas. Ranging from the west, north and east of the development site, the topography changes to has more distinct hill country with several distinctly rugged mountain ridgelines set amongst public State Forests to the north. Coastal flats with heavy vegetation present s fires that will be driven by coastal winds. The main Princes Highway and Marlo-Cabbage Tree road both traverse west to east through the area north of the site.

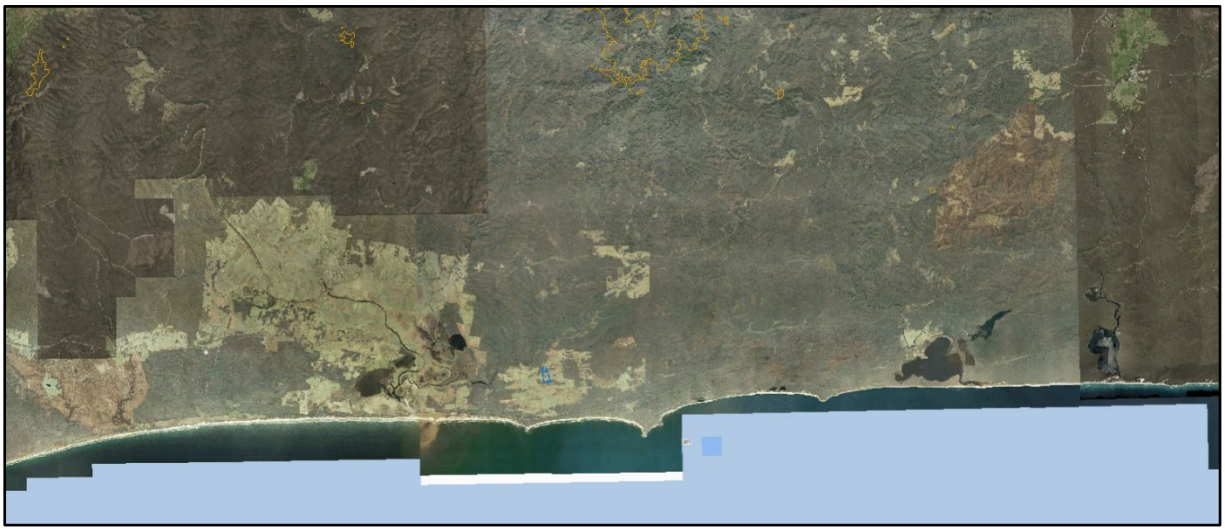


Figure Five – Topography of surrounding landscape (VicPlan, 2023)

3.4 Surrounding Road Network

The planning proposal site has its frontage to Marlo-Cabbage Tree Road. This access is a local road providing egress to the properties and farms. Egress along Marlo-Cabbage Tree Road is to the west and east. The egress to Marlo is 14 minutes to the southwest. The eastern egress is likely to be compromised owing to the significant vegetation required to be traversed.

3.5 Bushfire History of the Area

Fire history in the immediate and broader landscape is indicated by Figure Six. The region has a highly significant fire history that comprises major campaign fires comprising the majority of the surrounding area. Large scale fires primarily engage within the forested areas in the greater area before impacting the more developed areas to the south. Planned burning is undertaken in the region to prevent entry of fire to the parks and reserves or exit of fire from the park and reserves.

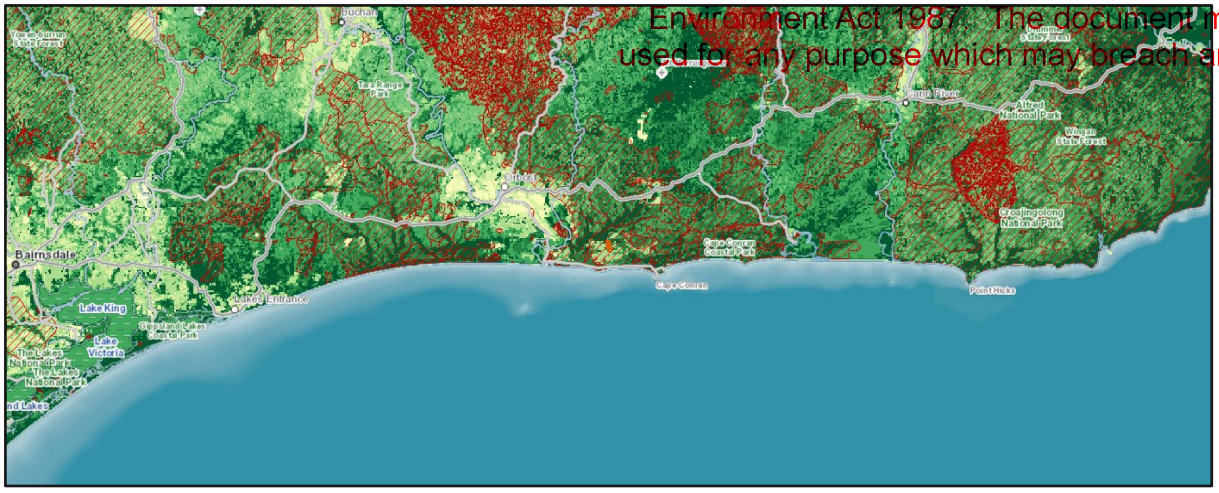


Figure Six: Fire History Map (NatureKit, 2023)

3.6 Bushfire Scenarios

The site is at a high risk of bushfire due to its location set amongst grazing land with extensive forest in the greater area. The forest exists in the greater area to the north has potential for extreme fire behaviour due to the vegetation, numerous ridgelines added with the potential of 75+ kilometre fire runs over often steep landform. The nature of the topography combined with hot conditions will produce convective behaviour. Convection column collapse with giving rapid rise to multiple ignitions is likely. The managed defendable space and the grazing land provides some moderation to the effects of bushfire. Consideration of the potential bushfire behaviour local to the site has been undertaken in refining the options and to inform the building design, siting, extent of vegetation management and building construction levels.

Scenario No.1 – Bushfire from the northwest

The worst scenario for this site is a fire approaching from the northwest which has the potential for an extended fire run of 75+ kilometres propagated by strong and hot north-westerly winds over heavily forested and often steep landform through public lands. The hot temperature of these winds and long fire run available will provide for a landscape fire which has fire breaks and access roads available areas available for moderation. Within the nearer location of the development site this fire will present as ember attack, and localised ignitions. This fire is likely to block any western egress from the site, and early evacuation is advisable.

Scenario No.2 – Bushfire from the north

A most serious scenario for this site is a fire approaching from the north which has the potential for a extended fire run of 75+ kilometres propagated by strong and hot northwesterly winds over heavily forested and often steep landform through public lands. The hot temperature of these winds and long fire run available will provide for a landscape fire which has fire breaks, access tracks and a significant area of grazing land on adjacent land to the north which will assist with moderation. Within the nearer location of the development site this fire will present as ember attack, and localised ignition. This fire is likely to block egress from the site, and early evacuation is advisable.

Scenario No.3 – Bushfire from the east

A fire approaching from the east which has the potential for a fire run of 26 kilometres propagated by strong easterly winds over heavily forested public lands. The temperature of these winds would be cooler owing to the coastal area in the greater area. The long fire run has several areas available to be moderated that include roadways, inland waterways and areas of grazing land before nearing the site. Within the nearer location of the development site this fire will present as ember attack, and localised ignition. This fire is likely to block egress from the site particularly to the east, and early evacuation is advisable.

Scenario No.4 – Short run coastal for from the southwest

A short fire run approaching from the southwest has the potential for a fire run of 3 kilometres propagated by southwesterly coastal winds. This scenario would be either a localised fire or be ignited from a larger fire from the north and be initiated by a change if wind direction. The temperature of these winds would be cooler owing to the coastal area in the greater area. The shorter fire run has several areas available to be moderated that include roadways and areas of grazing land before nearing the site. Within the nearer location of the development site this fire will present as ember attack, and localised ignition. This fire is likely to block egress from the site, however early evacuation is advisable.

3.7 Neighbourhood Safer Place – Place of Last Resort

There are numerous informal places to shelter in Marlo but the nearest NSP/PLR is located 27 kilometres away at Orbost Recreation Reserve, Gladstone Street, Orbost.

4.0 Bushfire Hazard Site Assessment

The Bushfire Hazard Site Assessment includes a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard is prepared in accordance with AS 3959 Construction of buildings in bushfire prone areas (Standards Australia) excluding any exclusions i.e. paragraph (a) of section 2.2.3.2 (Vegetation exclusions). Refer to Figure Seven, and a larger copy is provided in Appendix Two.

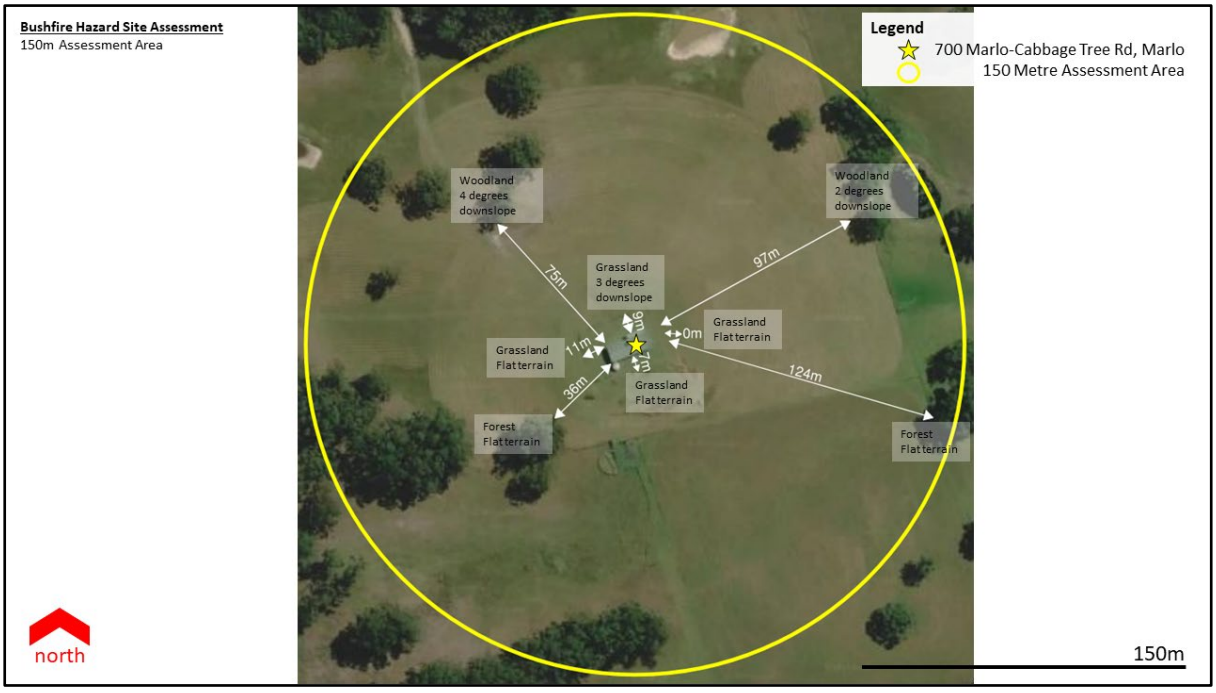


Figure Seven – Bushfire Hazard Site Assessment

4.1 Vegetation

The vegetation within the 150-metre assessment area was classified according to AS 3959, Practice Note 65 (DTPLI 2014) and the Overall Fuel Hazard Assessment Guide (DSE, 2010).

The Bushfire Hazard Site Assessment has been conducted to deliver the 'Bushfire hazard identification and assessment' strategy outlined in Clause 13.02-1S of the Scheme. This report demonstrates that the application meets the objective of Clause 13.02-1S '*To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life*' by avoiding the bushfire hazard using maximum separation, and implementing bushfire mitigation measures that respond to the planning zone, the neighbourhood and site context, and the outcome of the assessment.

The Standard AS 3959 approach uses a generalised description of vegetation based on the AUSLIG Australian Natural Resources Atlas" No.7 Native Vegetation classification system. According to this method, vegetation can be classified into seven categories. Each category indicates a particular type of fire behaviour and these categories or classifications are then used to determine bushfire intensity. Information gained from the Ecological Vegetation Classes (Figure Four) reinforces the

vegetation classification chosen and provides an indication of connectivity within the greater landscape.

The forms of classifiable vegetation identified on this site are described below.

Vegetation Classification: Forest

AS3959:2018 Definition:

Low open forest – Trees 10-30 m high; 30-70% foliage cover (may include understorey of sclerophyllous low trees and tall scrubs or grass). Typically dominated by eucalypts.

Site Description:

The proposed dwelling site has forest in the 36 metres to the southwest and 124 metres to the southeast aspect both expanding into larger portions outside of the assessment area. Both areas of forest are on flat terrain and primarily include the canopy layer of trees.

Images – Typical forest, photo taken looking southwest and southeast from the proposed dwelling.

Vegetation Classification: Woodland

AS3959:2018 Definition:

Woodland – Trees 10-30 m high; foliage cover less than 10%. Dominated by eucalypts and Acacias. Often have a grassy understorey or low shrubs. Acacias and Casuarina woodlands grade to Atriplex shrublands in the arid and semi-arid zones.

Site Description:

The proposed dwelling site has two areas of woodland with the assessment area. The woodland to the 75 metres to the northwest and on a 4 degree downslope. The second area of woodland is 97 metres to the northeast and on a 2 degree downslope. The woodland is open with grazing land as the understorey.

Images Four – Typical woodland. Photo taken looking at Woodland within the assessment area

Vegetation Classification: Grassland

AS3959:2018 Definition:

Open herbfield. All forms, including situations with shrubs and trees, if the over storey foliage cover is less than 10%.

Site Description:

The proposed dwelling site has grassland in all immediate surrounding directions associated with grazing paddocks. The grassland is essentially flat but does have a mild 3 degrees downslope to the north and all other directions being flat or upslope.

Image – Typical grassland, photo taken within the 150m assessment area

4.2 Topography

The topography of the site comprises cleared grazing set amongst what was previously forested terrain. Aspects of the forest remains with patches of forest and woodland within the assessment area. The site sits near a contour whereby the land to the north of the horizontal midpoint ranges from 4 degrees downslope (SW) and 2 degrees downslope (NE). Land to the south of the horizontal midpoint is either flat or mild level upslope. The grazing land is located in all directions and is inly

interrupted by several fence lines, vegetation and the existing outbuilding. Egress to the Cabbage Tree Road is to the north of the dwelling site.

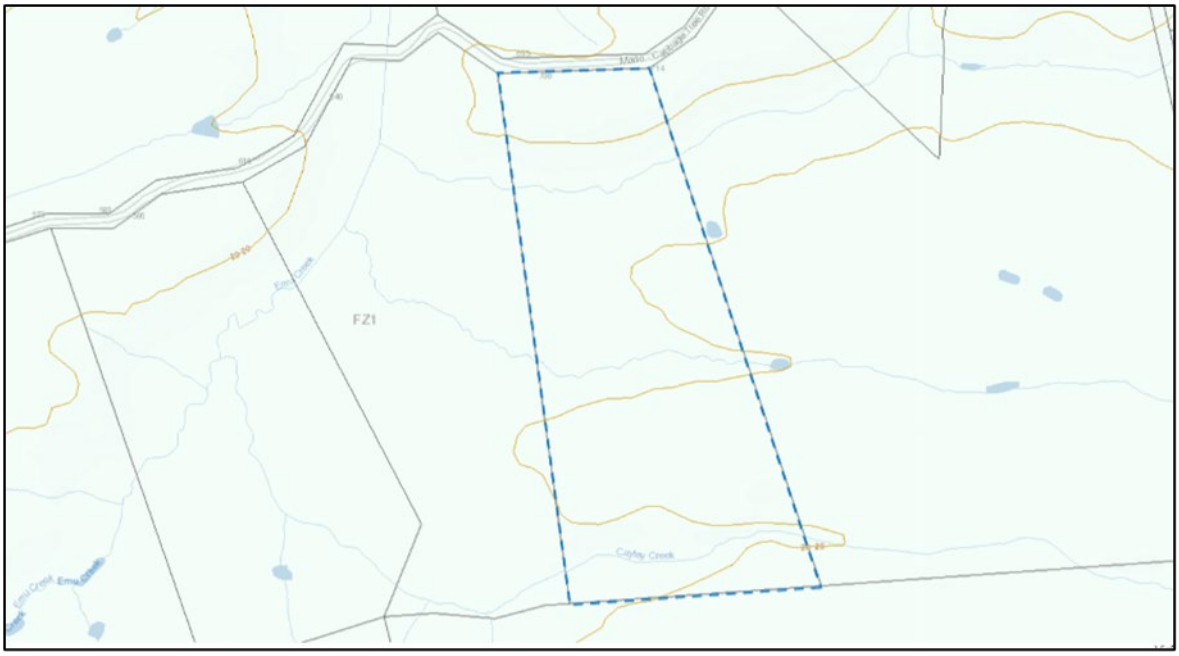


Figure Eight – Topography local to the site (VicPlan, 2023)

4.3 Separation from the Hazard and Bushfire Attack Level for the Proposed Development

The bushfire attack level (BAL) is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per meter squared. The BAL is also the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire.

The highest BAL determines the construction requirements for the dwelling. A reduction of one BAL level may be applied if facades of the house are shielded from the bushfire hazard. The BAL for this site has been calculated using a Forest Fire Danger Index (FFDI) of 100 and a Flame Temperature of 1090K. These parameters are in accordance with the risk parameters set in Clause 53.02.

An assessment of the site conditions without modification was made and informs the BAL assessment (Table 1).

Table 1 – Separation from the Hazard Assessment (without modification)

Orientation	Classified vegetation	Average slope under classifiable vegetation	Separation distance	Separation achieved
Northwest	Grassland	Flat	9 metres	Column C
	Woodland	4 degrees downslope	75 metres	Column A
Northeast	Grassland	Flat	0 metres	< Column D
	Woodland	3 degrees downslope	97 metres	Column A
Southeast	Grassland	Flat	7 metres	Column D
	Forest	Flat	124 metres	Column A
Southwest	Grassland	Flat	11 metres	Column C
	Forest	Flat	36 metres	Column C

Table 2 – Separation determination – Column A

Orientation	Highest threat vegetation	Average slope under classifiable vegetation	Separation distance currently	Separation to be achieved
Northwest	Woodland	4 degrees downslope	75 metres	Column A 41 metres
Northeast	Woodland	3 degrees downslope	97 metres	Column A 41 metres
Southeast	Forest	Flat	124 metres	Column A 48 metres
Southwest	Forest	Flat	36 metres	Column A 48 metres

In determining the defendable space to be established the following principles have been applied:

- The highest threat vegetation will be used to determine the defendable space in each direction.
- The defendable space is all within boundaries.
- 'Column A, Forest, Flat' has been applied in all directions.
- It is recommended that an additional grassland zone be considered by CFA and recommended for the BMP.

5.0 Bushfire Management Plan

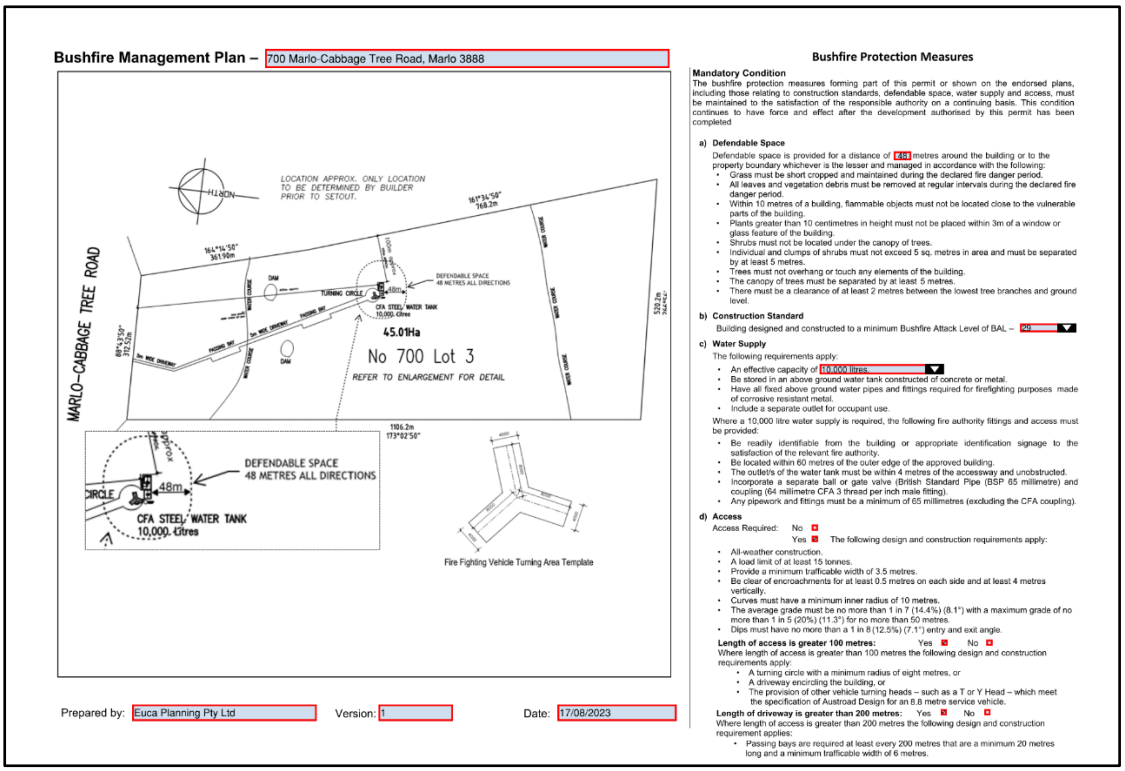


Figure Nine: Bushfire Management Plan; Refer to Appendix Three for the large version of the Bushfire Management Plan.

5.1 Proposed Planning Permit Conditions

The following are the expected planning permit conditions.

The bushfire management plan prepared by Euca Planning (Version No.1, dated 17/08/2023) be endorsed by the Responsible Authority and form part of this permit.

5.2 Design Response Against Clause 53.02

In accordance with Clause 44.06 Bushfire Management Overlay a response is provided against Clause 53.02. A selection of the sub clauses and associated objectives, approved measures (AM), alternative measures (AltM) and decision guidelines applies to this application. Table 4 details which clauses are relevant to this application and the following pages demonstrate how the requirements have been met for each relevant standard.

Table 4 - Specification of Relevant Clauses

Clause	Approved Measure	Achieved	Justification
Clause 53.02-3 Dwelling in existing settlements – Bushfire protection objective	AM 1.1	Not applicable	
	AM 1.2	Not applicable	
	AM 1.3	Not applicable	
Clause 53.02-4.1 Landscape, siting and design objectives	AM 2.1	Applicable	The proposed dwelling and outbuilding can mitigate bushfire risk by siting and design as described in Clause 53.02
	AM 2.2	Applicable	The proposed dwelling and outbuilding will be provided the maximum separation from the bushfire hazard and will have access from a public road for emergency vehicles as described in Clause 53.02
	AM 2.3	Applicable	The dwelling and outbuilding will be provided with the maximum separation and have managed defendable space in all directions as described in Clause 53.02
Clause 53.02-4.2 Defendable space and construction objectives	AM 3.1	Applicable	The development is a dwelling and outbuilding with all defendable space located on site that will meet Table 2 Column A as described in Clause 53.02
	AM 3.2	Not applicable	
	AltM 3.3	Not applicable	
	AltM 3.4	Not applicable	
	AltM 3.5	Not applicable	
	AltM 3.6	Not applicable	
Clause 53.02-4.3 Water supply and access objectives	AM 4.1	Applicable	The proposed development will be provided with a 10,000 litre non-combustible water supply with CFA connections and access provisions as described in Clause 53.02
	AM 4.2	Not applicable	
Clause 53.02-4.4 Subdivision objectives	AM 5.1	Not applicable	
	AM 5.2	Not applicable	
	AM 5.3	Not applicable	
	AM 5.4	Not applicable	
	AM 5.5	Not applicable	

The following part of the application outlines each of the relevant clauses and provides justification as to how this design responds to the requirements.

Clause 53.02-2.1 Bushfire Protection Objective

Landscape, siting and design objective

Development is appropriate having regard to the nature of the bushfire risk arising from the surrounding landscape.

Development is sited to minimise the risk from bushfire.

Development is sited to provide safe access for vehicles, including emergency vehicles.

Building design minimises vulnerability to bushfire attack.

Approved Measure	Requirement
AM 2.1	**The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level.** **Response:** The site is in an area that has forest in the greater area in all directions. Two areas of significant forest located are located within the site to the north and south but the siting of the dwelling has ample separation from both of these. More significant terrain with longer fire runs exist ranging from the northwest though to the east. Significant ridgelines exist to the north which will increase the bushfire behaviour via terrain, hot winds and heavy forest vegetation. The fires in the greater area are considered to be landscape fires that would require optimum siting, setback, defendable space and an adequate construction level. As the fires would be approaching the site, moderation would have opportunity to be utilised by the lower fuel loading of the grazing land and managed defendable space closer to the dwelling. Adjacent land to the site also comprises grazing land with significant areas of forest that would contribute to localised fire runs. is already developed with an outbuilding. The proposal upgrades this existing outbuilding. Marlo is located to the west and Cabbage Tree Creek is located to the northeast. The terrain is essentially undulating with flat contours to the southeast and southwest whilst the landform to the northwest and northeast is low level downslope. It is expected that large landscape fires could occur near the site due to the orientation of the winds, geography and significantly heavy vegetation and extended fire runs. Scenarios are detailed earlier in this report. it is noted that site has reasonable access from the west and poorly from the east; and is located in the only area that could be supported, being a lower area of risk being proximal to clear farming land. All bushfire scenarios are outside the scope of the Bushfire Management Overlay assumptions. The bushfire risk to the development from the landscape beyond the site can be mitigated to an acceptable level by adopting a Column A of Table 2 to Clause 53.02-5 separation, integrated to create a site-responsive managed defendable space and the use of non-combustible materials.
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 services vehicles** **Response:** The dwelling is sited in a cleared area approximately 400 metres from the road, achieving Column A Table 2 separation from the forest vegetation. All defendable space being onsite. The dwellings will be accessed by an all-weather driveway of approximately 400 metres directly from the public road. The driveway will be enhanced providing emergency vehicles ability to access the dwelling and water supply with turning near the water supply. The long driveway is necessary to place the dwelling in the middle of the grassland.
AM 2.3	**A building designed to be responsive to the landscape risk and reduce the impact of bushfire on the building.** **Response:** The proposed dwelling is a simple modest design comprising of a light weight construction, non-combustible Colourbond to all elevations, and pitched roof of 10 degrees to the dwelling and pitched roof of 6 degrees to the verandah and will meet the requirements of BAL29 with non-combustible materials used.

Clause 53.02-2.2 Defendable space and construction objective

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

Approved Measure	Requirement
AM 3.1	**A building used for a dwelling (including an extension or alteration to a dwelling), a dependent 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 53.05 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.** **Response:** The proposed dwelling and outbuilding is sited within 150 metres of forest vegetation to the southwest and southeast; Woodland to the northwest and northeast; and grassland in all directions. The forest is flat and with will meet Column A separation. The woodland varies between being downslope 4 degrees to the northwest and 3 degrees to the northeast. The siting is limited by the existing building but achieves the best separation from the hazards given the proximity of boundaries. The buildings achieves a separation from the hazard in accordance with Column A of Table 2 of Clause 53.02-5. The defendable space is located entirely on the lot. The buildings will be designed to meet the requirements of BAL29 as

	detailed in AS3959-2018, to better respond to ember attack and possible isolation.

Clause 53.02-2.3 Water supply and access objectives

A static water supply is provided to assist in protecting property.

Vehicle access is designed and constructed to enhance safety in the event of a bushfire.

Approved Measure	Requirement
AM 4.1	**A building used for a dwelling (including an extension or alteration to a dwelling), a dependent person's unit, industry, office or retail premises is provided with:** • **A static water supply for firefighting 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 firefighting water supplies.** **Response:** The proposed dwelling and outbuilding will be served by a new static water supply for firefighting by a tank constructed of non-combustible material located within 4 metres of access from the driveway. Driveway upgrades will ensure two passing bays and that turning is available near the dwelling and water supply.

6.0 References

Standards Australia (2018) Construction of Buildings in Bushfire Prone Areas. Standards Australia, North Sydney, NSW.

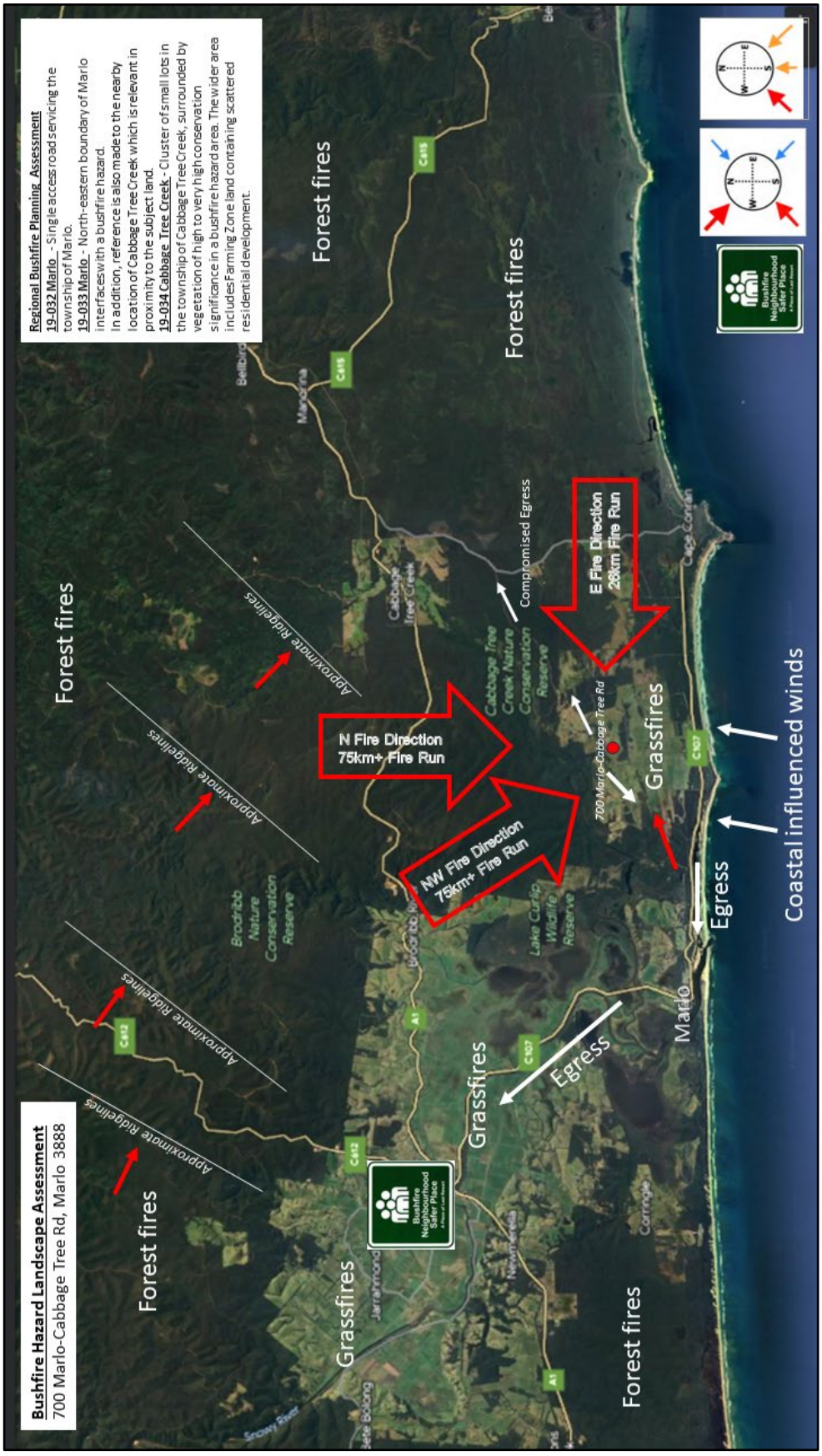
The State of Victoria - Department of Environment, Land, Water and Planning (2023) NatureKit.

The State of Victoria Department of Environment, Land, Water and Planning (2015) Fire Operations Plan 2015/16-2017/18 Gippsland Region.

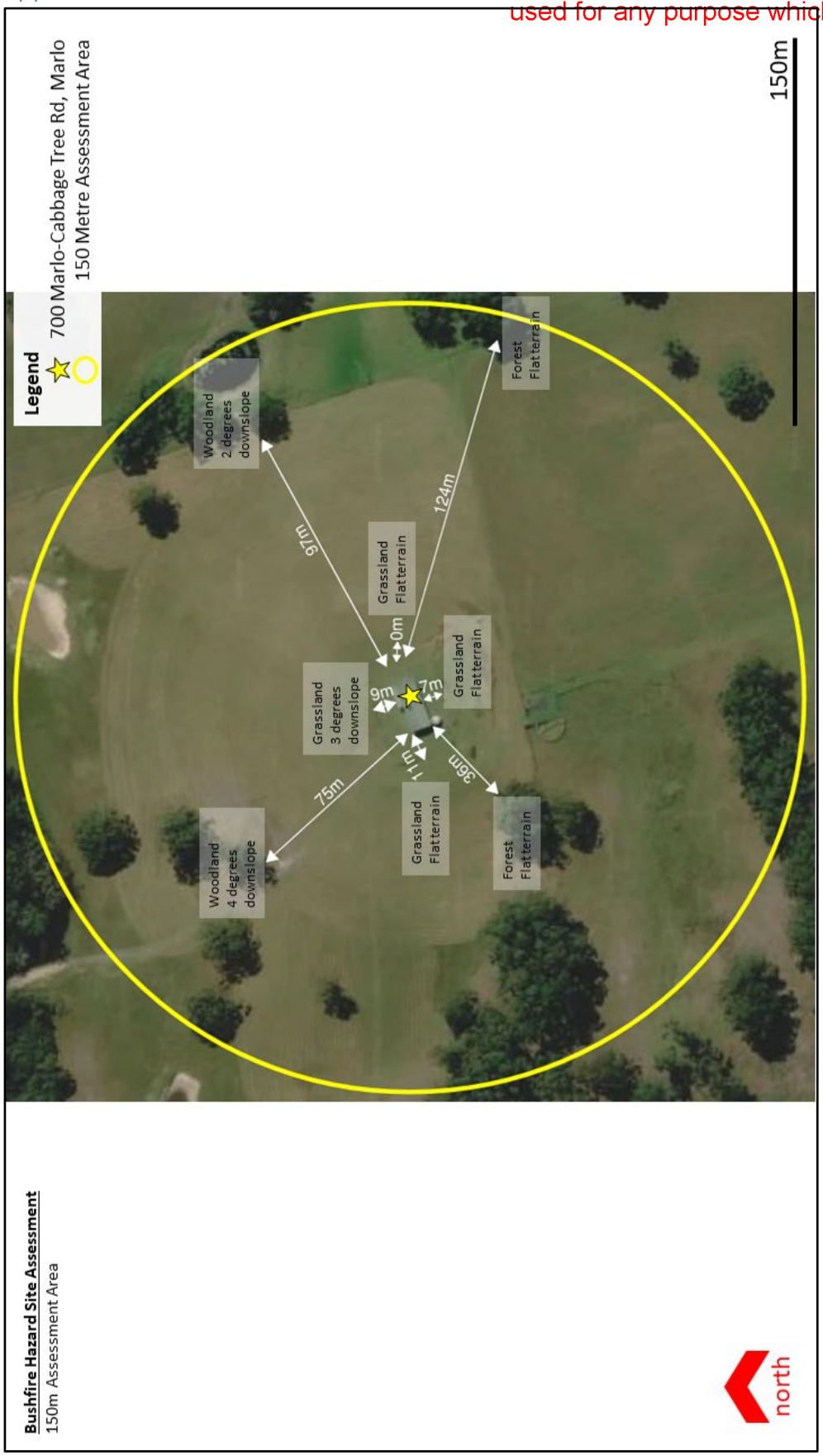
The State of Victoria Department of Planning and Community Development (2012) Regional Bushfire Planning Assessment – Gippsland Region.

7.0 Appendices

Appendix One: Bushfire Hazard Landscape Assessment



Appendix Two: Bushfire Hazard Site Assessment



Bushfire Management Plan – 700 Marlo-Cabbage Tree Road, Marlo 3888

Bushfire Protection Measures

Mandatory Condition

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

a) Defendable Space

Defendable space is provided for a distance of 48 metres around the building or to the property boundary whichever is the lesser and managed in accordance with the following:

- 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.

b) Construction Standard

Building designed and constructed to a minimum Bushfire Attack Level of BAL – 29

c) Water Supply

The following requirements apply:

- An effective capacity of 10,000 litres.
- Be stored in an above ground water tank constructed of concrete or metal.
- Have all fixed above ground water pipes and fittings required for firefighting purposes made of corrosive resistant metal.
- Include a separate outlet for occupant use.

Where a 10,000 litre water supply is required, the following fire authority fittings and access must be provided:

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

d) Access

Access Required: No ☐ Yes ☒ The following design and construction requirements apply:

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

Length of access is greater 100 metres: Yes ☒ No ☐
Where length of access is greater than 100 metres the following design and construction requirements apply:

- A turning circle with a minimum radius of eight metres, or
- A driveway encircling the building, or
- The provision of other vehicle turning heads – such as a T or Y Head – which meet the specification of Austroad Design for an 8.8 metre service vehicle.

Length of driveway is greater than 200 metres: Yes ☒ No ☐
Where length of access is greater than 200 metres the following design and construction requirement applies:

- Passing bays are required at least every 200 metres that are a minimum 20 metres long and a minimum trafficable width of 6 metres.

Prepared by: Euca Planning Pty Ltd Version: 1 Date: 17/08/2023

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ACN 145 437 065

Job: Proposed Dwelling
700 Marlo-Cabbage Tree Rd
Marlo

Client: Key Homes

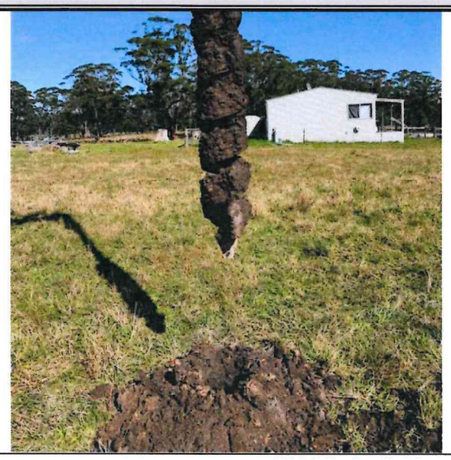
Checked:

Date: 15 Sept 2023

Designed: SJA

Job No.: 438188

LAND CAPABILITY ASSESSMENT
ON-SITE DOMESTIC WASTEWATER



700 Marlo-Cabbage Tree Rd, Marlo

1.0 INTRODUCTION

Simon Anderson Consultants were engaged to undertake a land capability assessment for the purpose of on-site domestic wastewater management of the Proposed Dwelling at 700 Marlo-Cabbage Tree Rd, Marlo. The field investigation and report have been undertaken by suitable experienced staff.

The assessment was completed in accordance with the Environment Protection Authority's *Code of Practice – Onsite Wastewater Management* (EPA Publication No. 891.4, July 2016), guidelines for *Land Capability Assessment For On-Site Wastewater Management* (EPA Publication No. 746.1, March 2003), *On-Site Domestic Wastewater Management* (AS/NZS 1547:2012) and East Gippsland and Wellington Shires *Domestic Wastewater Management Plan.*

Information and results are presented in table form for clear data presentation and ease of identification of key points. **Detailed recommendations presented on page 7 of the report. LCA is to be read in conjunction with Site Features Plan 438188-LC1.**

Subject Land	700 Marlo-Cabbage Tree Rd, Marlo
Client	Key Homes
Email Address	a.keybuild@bigpond.com
Contact	Anthony Key Mob: 0418 516 856
Map Reference	Vicroads 86 C6
Municipality	East Gippsland Shire Council
Proposed Development	4 Bedroom Residence (Potential Occupancy = No. of Bedrooms + 1)[1]
Design Flow	120 L/person/day [2] (for On-site roof water tank supply)
Anticipated Wastewater Load	600 L/day
Treatment System Required	Primary treated effluent (ie. Septic Tank – 3000L capacity)
Disposal System Required	Absorption trenches – 0.7m wide x 42m long (i.e. 2 x 21m runs)

[1] *As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Section 3.4.1*
[2] *As identified in AS/NZS 1547:2012 – Onsite Domestic Wastewater Management (Appendix H, Table H1)*

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2.0 PURPOSE/SCOPE OF ASSESSMENT

Purpose and Scope of Assessment	Broad-scale assessment for subdivisional purposes (often requires further lot-specific assessment at later date)	☐
	Detailed investigation for lot-specific management requirements	☒

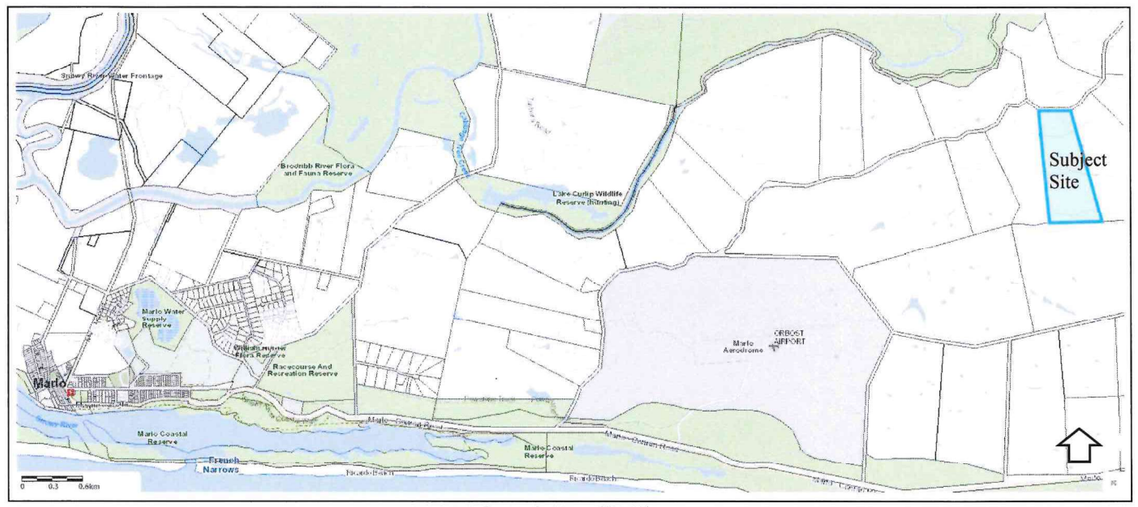

Figure 1: Locality Plan

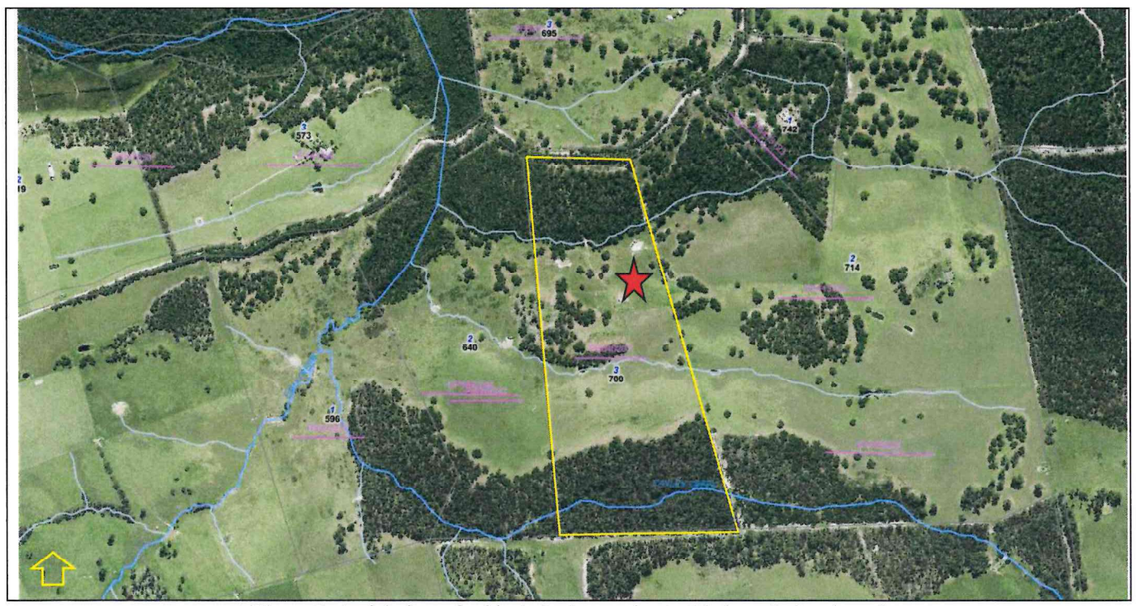

Figure 2: Aerial view of subject site (approximate title boundaries shown)

Approx. House Location

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Client: Key Homes

Checked:

Date: 15 Sept 2023

Designed: SJA

Job No.: 438188

3.0 SITE KEY FEATURES

Criteria / Feature	Description	Implications for Wastewater Management
Allotment/s		
Title details	Lot 3, PS 640201, Council Property No: 97945	
No. of Lots Proposed	1	
Lot size (EPA recommended minimum lot size = 1.0 ha)	45.01 ha	Large allotment, with ample capacity to locate dwelling and effluent field in a number of sites within allotment boundaries and hence for effluent to be contained on-site
Dwelling Usage	Likely to be permanent	
Adjoining Lot sizes	Farm Lots 45+ ha in size.	Overall volume of wastewater being disposed to land in the local district is low.
Current Land Use	Existing Farm Building to be converted into a dwelling.	
Infrastructure		
Zoning & Overlays	Farming Zone (FZ) Bushfire Management Overlay (BMO)	
Nearest Reticulated Sewer	Township of Marlo	Not feasible to connect to reticulated sewer. The area is unlikely to be sewered in the short to medium term future.
Reticulated Water	None available on existing allotment	On-site roof water collection – Occupants will rely solely on tank water for potable and non-potable supply
Power	None available on existing allotment	Impedes the use of an AWTS
Land Features		
Geology	***Qd2 (Qpd)*** - Quaternary Non-marine (Aeolian) deposits consisting of Aeolian: dune deposits: sand, calcareous sand. (from 1:250,000 Geological Map Series BAIRNSDALE)	Observed Soils dominated by sandy loams overlying loamy sands.
Elevation	Approx 20m AHD	
Landscape Elements	Low dunes, swales (shallow broad depressions) and plains	Run-off upslope negligible
Fill	Natural soil profiles were observed throughout the site. No fill was observed.	No filling is proposed in the effluent management area.
Aspect	Area of investigation is relatively flat	Increases sun exposure for improved efficiency of effluent disposal field
River/Stream Catchment	Cayley Creek runs through the south end of the property. Two Ephemeral Watercourses also run east/west through the subject site. *(refer figure 2, p2 for locations)*	Necessary setbacks are easily achieved
Dams/Surface Water	Several small agricultural dams are located on subject site and adjoining lots.	Necessary setbacks are easily achieved
Rock Outcrop	None	Reduces limitations and maximises efficiency of effluent disposal fields
Erosion	No evidence of sheet or rill erosion.	The erosion hazard is low.
Vegetation	Pasture/Grass EVC 17: Swampy Scrubs & Woodland	No vegetation clearing required for establishment of effluent disposal field
Climate	Temperate	Reduces variation in efficiency of effluent field
Solar Exposure	High.	Maximises efficiency of effluent disposal field
Recommended Buffer Distances	All buffer distances recommended in Table 5 of EPA Publication 891.4 (July 2016) are achievable and do not significantly limit siting of the LAA in this case	
Available Land Application Area (LAA)	Considering all site constraints and the buffers mentioned above, the site has ample land that is suitable and available for land application of treated effluent.	

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4.0 SOIL ASSESSMENT & CONSTRAINTS

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

4.1 Published Soils Information

Soils of the site have been mapped and described in Victorian Resources Online *"Soils and Landforms of Far East Gippsland"* and are described as belonging to the Croajingalong (Cj) map unit. This map unit is associated with coastal areas behind the foredunes. The map unit may be subdivided into *low dunes*, *plains* and *broad depressions*.

The soils are typically deep acidic sands generally with a layer of variably cemented sands (or 'coffee rock') at depth. On the plains the surface soils are very dark grey to black acidic sands with high amounts of organic matter. Below are paler sands which in turn overlay dark coloured cemented sands or coffee rock. Coffee rock is an accumulation of organic-aluminium cemented sands and generally occurs before 1m.
The dune soils are similar but the surface soils are generally not as black and the coffee rock tends to be softer.

4.2 Soil Survey and Analysis

A Soil survey was carried out at the site to determine suitability for application of treated effluent. Subsoil investigations were conducted in the vicinity of the building, as shown on the Site Features Plan, using a mechanical auger (B1). This was sufficient to adequately characterise the soils, as no variation would be expected throughout the area of interest.

Samples of all discrete soil layers for test bore 1 were collected for subsequent laboratory analysis of pH[3], electrical conductivity[4] and Emerson Aggregate Class.

[3] *The pH of 1:5 soil/water suspensions was measured using a Merck pH strip*
[4] *EC (dS m^{-1}) was calculated by measuring the electrical conductivity of 1:5 soil water suspension.*

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Soil Features: TEST BORE B1			
Soil Horizon	**A1**	**A2**	**B1**
Depth (mm)	0 - 500	500 - 1200	1200 - 1900
Boundary Type	NA	Gradual	Clear
Field Texture Grade[5]	SL	LS	LS
Structure	Weak	Weak	Weak
pH	5	5	5
EC (dS m^{-1})	0.05	0.03	0.08
Dominant Colour	10YR2/1 Black	10YR5/2 Greyish Brown	10YR3/3 Dark Brown
Mottles	-	-	-
Dispersion	5	5	5
Coarse Fragments (% Volume)	-	-	-
Soil Category[6] (AS/NZ1547:2012)	**2a**	**2a**	**2a**
Design Irrigation Rate[7] (DIR mm/day)	5	5	5
Design Loading Rate[8] (DLR mm/day)	20	20	20

NA: Not Applicable NR: Not Recommended

Depth (m)	Description	Horizon
0.0	**TOPSOIL:** Moist Sandy Laom	**A1**
0.1		
0.2		
0.3		
0.4		
0.5	**SAND:** Moist Dense Silty	**A2**
0.6		
0.7		
0.8		
0.9		
1.0	Cemented Sands/Coffee Rock at depth	
1.2	**SAND:** Dry Dense Silty	**B1**
1.9+		

Soil Bore Log Profile

[5] *Refer Appendix D for description details(all soil samples have been sieved to minus 2mm and air-dried before being analized)*
[6] *As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Appendix A, Table 9*
[7] *For sub-surface irrigation (Refer Table M1 of AS/NZS 1547:2012)*
[8] *For absorption trenches and bed (Where soils do not have a high perched or seasonal (winter) watertable)*

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Sale, Vic, 3850
ACN 145 437 065

Job: Proposed Dwelling
700 Marlo-Cabbage Tree Rd
Marlo

Client: Key Homes

Checked:

Date: 15 Sept 2023

Designed: SJA

Job No.: 438188

5.0 LAND CAPABILTY ASSESSMENT MATRIX

Land features	Land capability class rating				
	Very good (1)	Good (2)	Fair (3)	Poor (4)	Very Poor (5)
General characteristics					
Site drainage	No visible signs of dampness	Moist soil, but no water in pit		Visible signs of dampness	Water ponding on surface
Runoff	None	Low	Moderate	High - diversionary structures req'd	Very High - diversion not practical
Flood/inundation potential (yearly return exceedence)	Never		< 1 in 100	< 1 in 30	> 1 in 20
Proximity to watercourses	> 60m				< 60m
Slope (%)	0 - 2	2 - 8	8 - 12	12 - 20	> 20
Landslip	None Evident		Low potential for failure	High potential for failure	Present or past failure
Seasonal water table depth (m) (incl. perched water tables)	>5	5 - 2.5	2.5 - 2.0	2.0 - 1.5	< 1.5
Rock Outcrop (% of land surface containing rocks > 200mm)	0	< 10%	10-20%	20-50%	>50%
Vegetation Type	Turf or pasture				Dense forest with little understorey
Average Rainfall (mm/yr)	< 450	450 - 650	650 - 750	750 - 1000	> 1000
Pan Evaporation (mm/yr)	> 1500	1250 - 1500	1000 - 1250	-	< 1000
Fill	No Fill		Fill present		
Soil profile characteristics*					
Structure	High	Moderate	Weak	Massive	Single Grained
Profile depth (of limiting Horizon B1)	> 2.0m	1.5m - 2.0m	1.5m - 1.0m	1.0m - 0.5m	< 0.5m
Soil permeability category[9]	2 and 3	4		5	1 and 6
Presence of mottling	None				Extensive
Coarse Fragments (% volume)	<10	10-20	20-40		>40
pH	6 - 8		4.5 - 6		<4.5, >8
Emerson Aggregate Test (dispersion/slaking)	4, 6, 8	5	7	2, 3	1
Salinity (dS/m) (Electrical Conductivity)	<0.3	0.3 - 0.8	0.8 - 2	2 - 4	>4
Overall Site Rating[10]			**Good**		**2**

* relevant to the sites most restrictive soil layer(s)

[9] *Refer Table 5.1 (Determination of Soil Category) of AS/NZS 1547:2012*
[10] *A description of each Land Capability Class Rating is provided in Appendix A.*

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Job: Proposed Dwelling **700 Marlo-Cabbage Tree Rd** **Marlo**	**Date: 15 Sept 2023**
Client: Key Homes	**Designed: SJA**
Checked:	**Job No.: 438188**
	Page No.: 7 of 11

6.0 CONCLUSION

This LCA has been prepared to accompany a development application to East Gippsland Shire Council for a Proposed Dwelling and associated necessary wastewater management system. As such, this report provides recommendations for treatment and land application systems that are appropriate to the land capability.

The following section provides an overview of a suitable system, with sizing and design considerations. **Detailed design for the system is beyond the scope of this study, but should be undertaken at the time of building application and submitted to Council.**

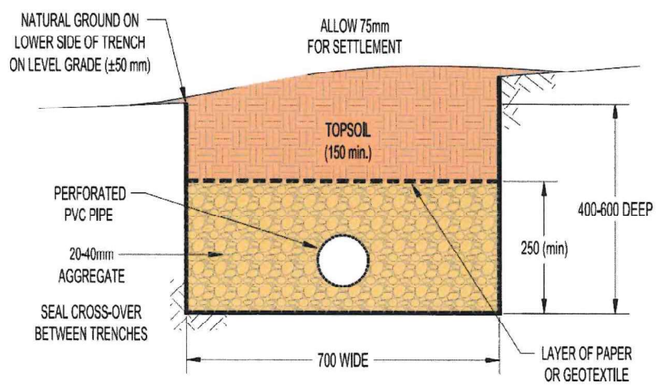
7.0 RECOMMENDATIONS

It is recommended based on this LCA, that if the development of a Proposed Dwelling on 700 Marlo-Cabbage Tree Rd, at the location indicated on the Site Features Plan 438188 - LC1:

- On-site disposal of domestic wastewater should occur within the proposed Land Application Area (refer Site Features Plan 483188-LC1). The client is allowed flexibility in selecting the final location and configuration of the trenches, provided they remain within this envelope and in accordance with the relevant codes/standards.
- The Septic Tank to be installed must be manufactured in accordance with the Australian Standard AS 1546-Small Septic Tanks, and must have a minimum capacity of **3000 litres**.
- Construction of Absorption Trenches must be carried out in accordance with EPA Certificate of Approval CA 1.2/03.
- Calculation of Trench length required based on AS/NZ 1547:2012 equation *L=Q/(DLR x W)*

Trench Width (W)	2 Bedrooms (Q = 360 L/day)	3 Bedrooms (Q = 480 L/day)	4 Bedrooms (Q = 600 L/day)
500 mm	36 m	48 m	60 m
700 mm	26 m	34 m	42 m
1000 mm	18m	24 m	30 m
Note: Trench lengths are based on a water balance of zero wet weather storage depth			

- To determine if the size and length of trench recommended above is adequate, a water balance modelling has been undertaken to achieve zero wet weather storage. The calculations are summarized below, with full details in Appendix B.
  - Average daily effluent load – 600 L
  - Design loading rate (DLR) – 20 mm/day;
  - Crop factor – 0.6 to 0.85; and
  - Retained Rainfall – 75%.
  - Trench Width – 700mm; and Trench Length – 42 m.
  - Maximum depth of stored effluent – 0 mm (therefore trench design is adequate for the site)
- Minimum setbacks and buffer distances must be obtained when establishing effluent disposal envelopes, as per *EPA Code of Practice – Onsite Wastewater Management, publication 891.4, (July 2016).*



ABSORPTION TRENCH
NOT TO SCALE

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700 Marlo-Cabbage Tree Rd
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Checked:

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Designed: SJA

Job No.: 438188

8.0 MANAGEMENT PROGRAM

8.1 Installation Issues

To ensure the satisfactory installation and operation of the Septic Tank & Absorption Trenches, the following measures are to be implemented:

- Construction of a shallow table or cut-off drain along the high sides of the effluent disposal area, extending to below the effluent disposal field;
- Overflow from all water storage tanks to be directed into a table drain, or equivalent, to discharge below the effluent disposal field in a manner to avoid scouring or washing away downstream of the discharge point;
- Stormwater flows from the roof must be discharged at a point well clear of the effluent disposal field and runoff from paved surfaces and driveways must be directed away from the disposal site.
- Installation of the trenches to be undertaken when the soils are dry or moist, not when the ground is saturated;

8.2 Ongoing Management & Maintenance Issues

To ensure the satisfactory ongoing performance of the proposed Septic Tank & Absorption Trenches, the owners/occupiers will need to ensure that:

- No buildings or impermeable surfaces are constructed on or over the effluent disposal areas;
- Heavy equipment is kept away from effluent disposal areas whilst the soil is saturated;
- The primary effluent disposal field is maintained as a grassed area, or planted out with shrubs that tolerate wet conditions, have high evapo-transpiration capacity and can tolerate phosphorus levels typically found in treated effluent;
- Reserve effluent disposal fields are to be left free of buildings and impervious surfaces to ensure a reserve effluent disposal field remains available, should it be required in the future;
- Trees and/or thick shrubs **are not** to be planted out along the northern or western edges of the effluent disposal areas to prevent exposure to both wind and sun .

The installer of the Septic Tank & Absorption Trenches is to ensure that the owners/occupants are aware of and fully understand their responsibilities in relation to operating the treatment system, maintenance requirements and what should be done in the event of any problems. The satisfactory ongoing performance and longevity of the Septic Tank & Absorption Trenches can be enhanced by:

- Ensuring that maintenance requirements are undertaken regularly in accordance with the systems' requirements and that both they and future owners/occupiers are aware of the systems capabilities, limitations and ongoing requirements;
- Using biodegradable soaps, low phosphorous detergents and detergents that have low salt, sodium and chlorine levels;
- Limiting the use of germicides (such as strong detergents, disinfectants, toilet cleaners, whiteners and bleaches);
- Not flushing disposable nappies, sanitary napkins or other hygiene products into the systems;
- Not flushing chemicals, paint or similar substances into the systems.

NOTE: *This report and associated plan(s) does not constitute a Septic Tank Permit. Such a permit should be obtained separately from the Environmental Health Department of East Gippsland Shire Council after development approval is obtained and prior to plumbing works commencing.*

APPENDIX A

Capability Class	Degree of Limitation	General Description
Rating 1	None to Very Slight	The proposed subdivision is suitable for on-site disposal of septic tank discharge. The limitations or environmental hazard from long-term use are considered very slight. Standard performance measures for design, installation and management should prove satisfactory.
Rating 2	Slight	The site has been identified as generally suitable for on-site effluent disposal but there is a slight associated environmental hazard expected. One or more land limitations are present, which may not be compatible with 'straight forward' conventional on-site disposal. The wastewater management program will require careful planning, adherence to specifications and adequate supervision.
Rating 3	Moderate	The site has only a fair capability for on-site effluent disposal with a moderate associated environmental risk always present. Very careful site selection, preparation and specialized design will be required to address the identified land constraints. A management program should be delivered to the responsible authority with the development application and prior to earthworks commencing. It is recommended that, in order to achieve BPEM, wastewater-processing systems which can attain a higher level of treatment with basic monitoring should be considered as an alternative to standard conventional trench disposal.
Rating 4	High	Areas have a poor capability rating with a high associated environmental risk. Considerable difficulties are expected during siting and installation of the wastewater treatment system and during routine operation. A very high Engineering input and close supervision would be needed to minimize the environmental impact. Alternative wastewater processing systems capable of consistently producing a high quality secondary effluent (such as aerated wastewater treatment plants) together with a close monitoring program should be seriously investigated and adopted.
Rating 5	Severe	Areas have a very poor capability and there is severe associated environmental risk. The areas are not generally considered suitable for disposal of septic tank effluent by trench systems. The high levels of Engineering input and management needed at all stages are unlikely to adequately address the identified land constraints and achieve a sustainable outcome. Reticulated sewerage is usually the only acceptable option.

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APPENDIX B

Orbost 084145 Evap.data **Orbost 084030**

Mean average Pan evaporation

Source: AS1547-1994 - Table G1 (Prepared by R.A. Patterson, Lanfax Labs. Armidale updated April 2006)

1			2	3	4	5	6	7	8	9
Month	Days	daily pan	Pan Eo	Et	Rainfall	Retained	LTAR*N	Disposal	Effluent	Size of
	per	Eo		+Cf*Eo	P	Rainfall		rate/month	applied	area
	month	(B.Met)				Re=(1-r)P	20	(Et-Re)+	per month	(8)/(7)
								LTAR*N	600	
		mm	mm	mm	mm	mm	mm	mm	L	m2
Jan	31	5.0	155.0	132	47.8	35.9	620	715.9	18600	26
Feb	28	4.6	128.8	109	49.4	37.1	560	632.4	16800	27
Mar	31	3.5	108.5	92	61.2	45.9	620	666.3	18600	28
Apr	30	2.4	72.0	43	78	58.5	600	584.7	18000	31
May	31	1.6	49.6	30	58.2	43.7	620	606.1	18600	31
Jun	30	1.3	39.0	23	91	68.3	600	555.2	18000	32
Jul	31	1.4	43.4	26	55.5	41.6	620	604.4	18600	31
Aug	31	2.0	62.0	37	63.9	47.9	620	609.3	18600	31
Sep	30	2.7	81.0	49	61.7	46.3	600	602.3	18000	30
Oct	31	3.4	105.4	90	63.6	47.7	620	661.9	18600	28
Nov	30	4.1	123.0	105	74.6	56.0	600	648.6	18000	28
Dec	31	4.6	142.6	121	68.8	51.6	620	689.6	18600	27
		Totals	1110.3	857	773.7	580.3				

TABLE G2 - Depth of stored effluent First trial - choose from col.9 table above

1	2	3	4	5	6	7	8	9	10	11
month	first trial	application	Disposal	(3)-(4)	Increase	Starting	increase	computed	**reset if**	equivalent
	area	rate	rate		depth of	depth	depth	depth	**Et deficit**	storage
	(m2)	(8)*/(2)	per month		stored	effluent	effluent	effluent	**<0**	10 x area
			(above)'		effluent	for		(X)		
		(mm)	(mm)	(mm)	(5)/porosity	month	+(6)	(mm)	(mm)	(L)
Dec								0.0	0	
Jan	56	315	716	-401	-1002	0	-1002	-1002	0	0
Feb		285	632	-348	-869	0	-869	-869	0	0
Mar		315	666	-351	-878	0	-878	-878	0	0
Apr		305	585	-280	-699	0	-699	-699	0	0
May		315	606	-291	-727	0	-727	-727	0	0
Jun		305	555	-250	-625	0	-625	-625	0	0
Jul		315	604	-289	-723	0	-723	-723	0	0
Aug		315	609	-294	-735	0	-735	-735	0	0
Sep		305	602	-297	-743	0	-743	-743	0	0
Oct		315	662	-347	-867	0	-867	-867	0	0
Nov		305	649	-344	-859	0	-859	-859	0	0
Dec		315	690	-374	-936	0	-936	-936	0	0
Jan		315	716	-401	-1002	0	-1002	-1002	0	0
Feb		285	632	-348	-869	0	-869	-869	0	0
Mar		315	666	-351	-878	0	-878	-878	0	0
Apr		305	585	-280	-699	0	-699	-699	0	0
May		315	606	-291	-727	0	-727	-727	0	0

From calculations in tables above for optimised drainfield area, using Appendix G AS1547-1994

	Porosity in disposal area	**40%**	
Variables Table	**Runoff Coeff =**	**0.25**	**percentage runoff**
	Summer Crop Factor =	**0.85**	**crop transpiration rate Oct-Mar**
	Winter Crop Factor	**0.6**	**crop transpiration rate -Apr-Sep**
Change as required	**LTAR =**	**20**	**L/m2/day**
	FLOWS=	**600**	**L/day**

Maximum depth of stored effluent = **0** **mm depth**

Trench dimensions (mm) **width =** **700** mm **depth =** **450** mm

Length of trench required = **42** **metres**

Water Balance Model for 4 bedroom dwelling
(prepared by R.A. Patterson, Lanfax Labs. Armidale April 2007)

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Checked:

Date: 15 Sept 2023

Designed: SJA

Job No.: 438188

APPENDIX C

RECORD OF FIELD TEXTURE DETERMINATION						
Soil	**Grittiness**	**Stickiness**	**Plasticity**	**Stain**	**Ribbon (mm)**	**Grade**
A1	Very	None	Slight	Very	20	SL
A2	Very	None	None	None	5	LS
B1	Very	None	None	Slight	5	LS

NONE SLIGHT MODERATE VERY EXTREMELY

APPENDIX D

Soil Category	Field Texture Grade		Behaviour of moist blobs	Ribbon length (mm)	Approx clay content %
1	S	Sand	coherence nil to very slight, cannot be moulded; sand grains of medium size; single sand grains stick to fingers	nil	< 5%
2	LS	Loamy sand	slight coherence; sand grains of medium size; can be sheared between thumb and forefinger to give minimal ribbon of about 5mm	about 5	about 5%
	CS	Clayey sand	slight coherence; sand grains of medium size; sticky when wet; many sand grains stick to fingers; discolours fingers with clay stain	5 - 15	5% to 10%
	SL	Sandy loam	bolus coherent but very sandy to touch; will form ribbon; dominant sand grains of medium size and readily visible	15 - 25	10% to 20%
3	FSL	Fine sandy loam	as for sandy loams, except that individual sand grains are not visible, although they can be heard and felt	15 - 25	10% to 20%
	L	Loam	bolus coherent and rather spongy; smooth feel when manipulated but with no obvious sandiness or "silkiness"; may be somewhat greasy to touch if much organic material present	25	about 25%
	ZL	Silty loam	coherent bolus, very smooth to silky when manipulated, will form a very thin ribbon and dries out rapidly	25	10% to 25%
4	SCL	Sandy clay loam	strongly coherent bolus, sandy to touch; medium size sand grains visible in finer matrix	25 - 40	20% to 30%
	FSCL	Fine sandy clay loam	as for sandy clay loam, except that individual sand grains are not visible although they can be heard and felt.	40 - 50	20% to 30%
	CL	Clay loam	coherent plastic bolus, smooth to manipulate	40 - 50	30% to 35%
	ZCL	Silty clay loam	as for clay loams but not spongy; very smooth and silky; dries out rapidly	40 - 50	30% to 35%
	SC	Sandy clay	plastic bolus; fine to medium sand can be seen, felt or heard in clayey matrix	50 - 75	35% to 40%
5	SiC	Silty clay	plastic bolus; smooth and silky to manipulate; long but very fragmentary ribbon; dries out rapidly	50 - 75	30% to 40%
	LC	Light clay	plastic bolus; smooth to touch; slight resistance to shearing between thumb and forefinger	50 - 75	35% to 40%
	LMC	Light medium clay	plastic bolus; smooth to touch; slight to moderate resistance to ribboning shear	75	40% to 45%
6	MC	Medium clay	smooth plastic bolus; handles like plasticine and can be moulded into rods without fracture; has moderate resistance to ribboning shear	> 75	45% to 55%
	HC	Heavy clay	smooth plastic bolus; handles like stiff plasticine; can be moulded into rods without fracture; has firm resistance to ribboning shear	> 75	50% +

Soil Texture Grade Table (International System, soil sieved < 2mm) & Table E1 (Assessment of Soil Textures) pg 106 of AS/NZS 1547:2012

9.0 REFERENCES

Environment Protection Authority (July 2016). Publication No. 891.4, *Code of Practice – Onsite Wastewater Management.*

Environment Protection Authority (Mar 2013). Publication No. 746.1, *Land Capability Assessment For On-Site Wastewater Management.*

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McDonald, R.C., Isbell, R.F., Spreight, J.G., Walker, J and Hopkins, M.S. (1990). *Australian Soil and Land Survey: Field Handbook. Second Addition.* Inkata Press, Melbourne.

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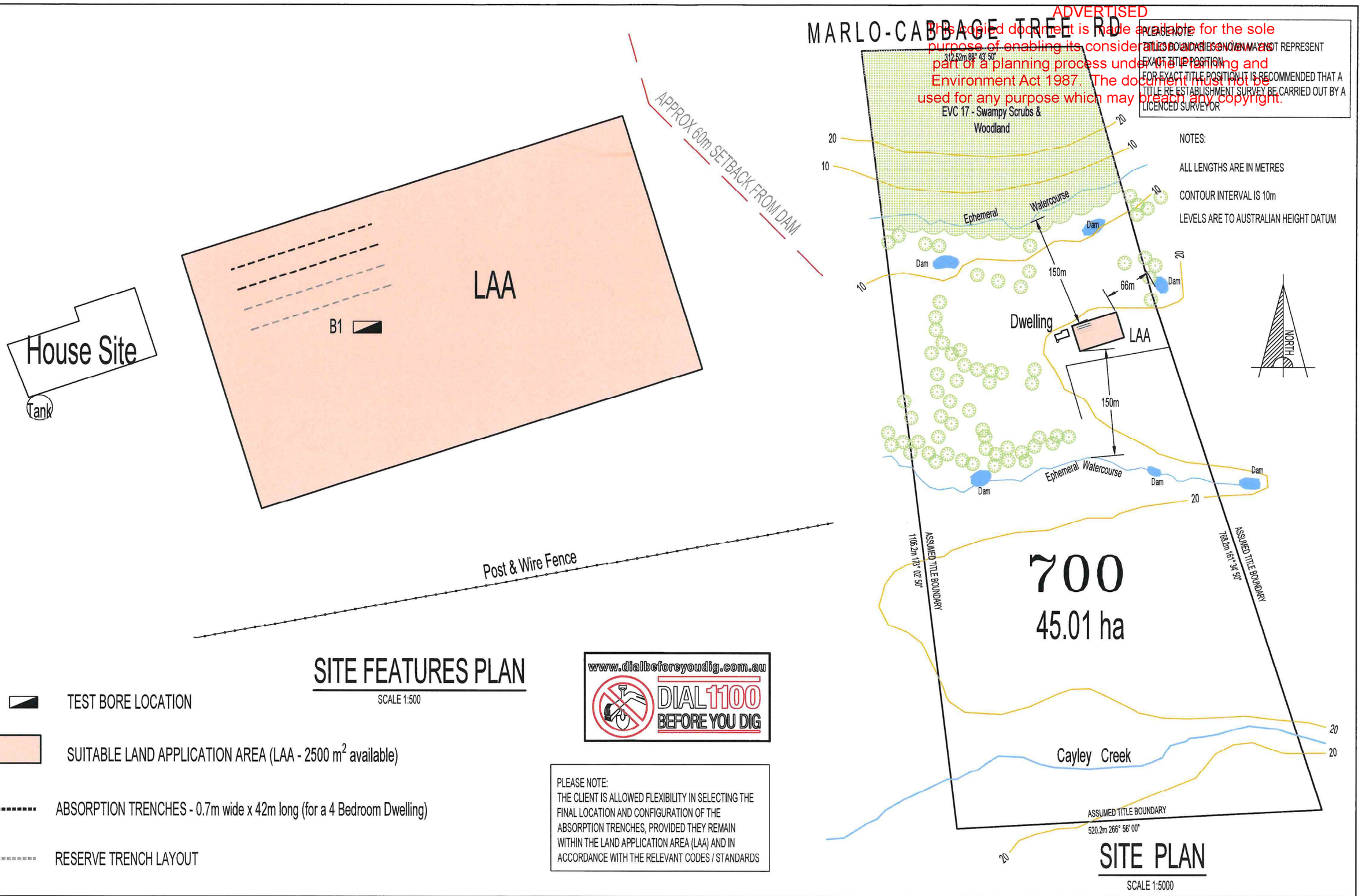
Victorian Resources Online; http://vro.depi.vic.gov.au/dpi/vro/vrosite.nsf/pages/vrohome

Munsell Soil-Color Charts (2009 Year Revised / 2012 Production)



SITE FEATURES PLAN

SCALE 1:500

SITE PLAN

SCALE 1:5000

B1 TEST BORE LOCATION

SUITABLE LAND APPLICATION AREA (LAA - 2500 m^2 available)

ABSORPTION TRENCHES - 0.7m wide x 42m long (for a 4 Bedroom Dwelling)

RESERVE TRENCH LAYOUT

www.dialbeforeyoudig.com.au
DIAL 1100 BEFORE YOU DIG

PLEASE NOTE:
THE CLIENT IS ALLOWED FLEXIBILITY IN SELECTING THE FINAL LOCATION AND CONFIGURATION OF THE ABSORPTION TRENCHES, PROVIDED THEY REMAIN WITHIN THE LAND APPLICATION AREA (LAA) AND IN ACCORDANCE WITH THE RELEVANT CODES / STANDARDS

REV	DESCRIPTION	CHKD	DATE
-	-	-	-

Design: JDP
Drawn: JDP
Checked: SJA
Date: 15 SEPT 2023

Project:
SITE ANALYSIS
700 MARLO-CABBAGE TREE RD, MARLO

Client:
KEY HOMES

Job No: 438188
Drawing No: LC1
Revision No. -

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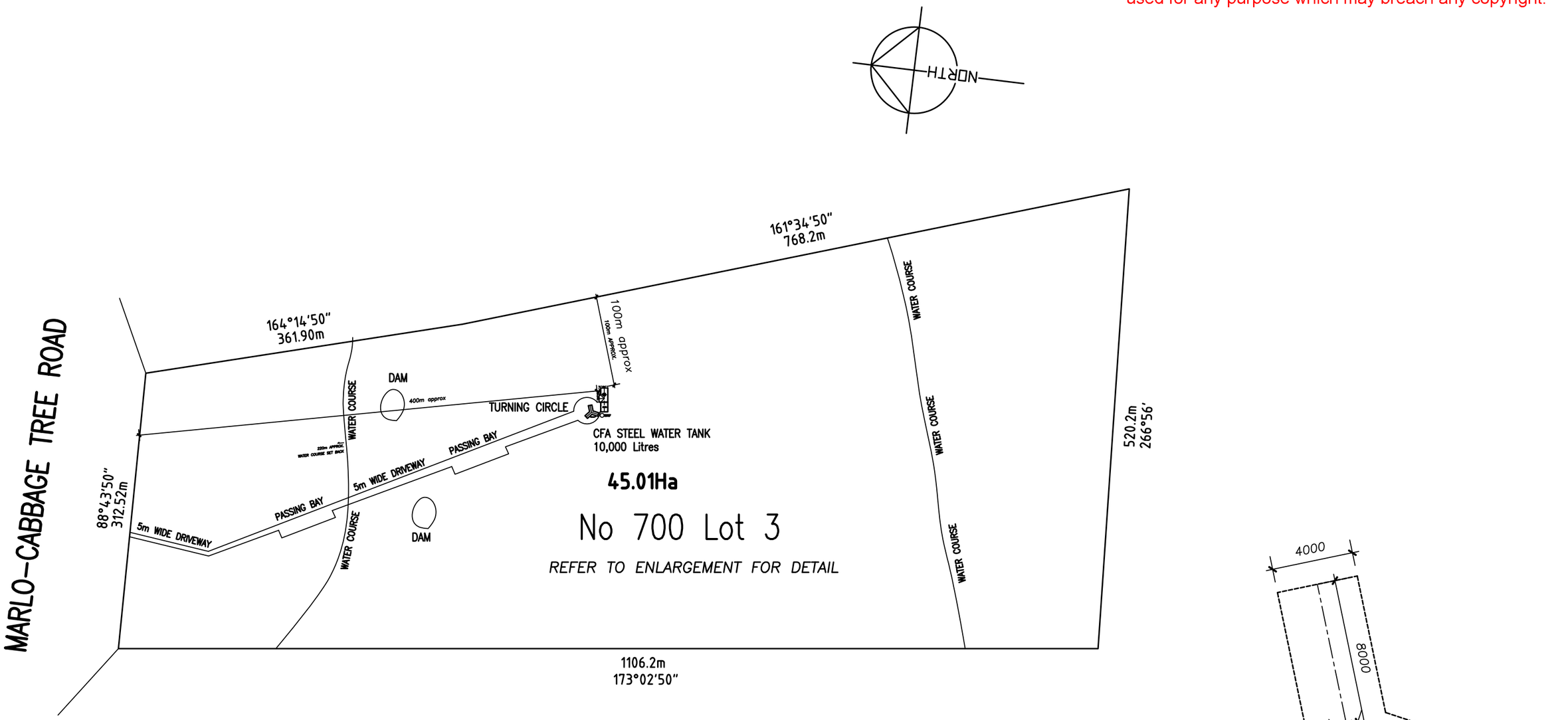
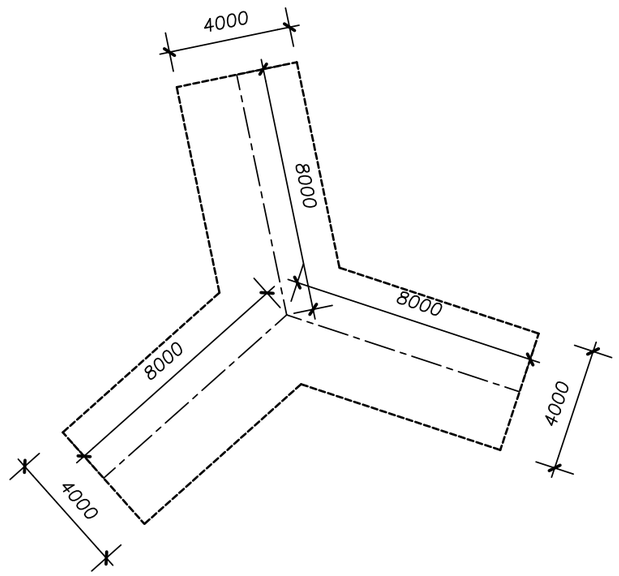
BAIRNSDALE | SALE | GEELONG

LOCATION APPROX. ONLY LOCATION TO BE DETERMINED BY BUILDER PRIOR TO SETOUT.





Fire Fighting Vehicle Turning Area Template

KEY HOMES
Quality is Key

SITE PLAN

EXISTING FARM BUILDING
CONVERSION TO DWELLING

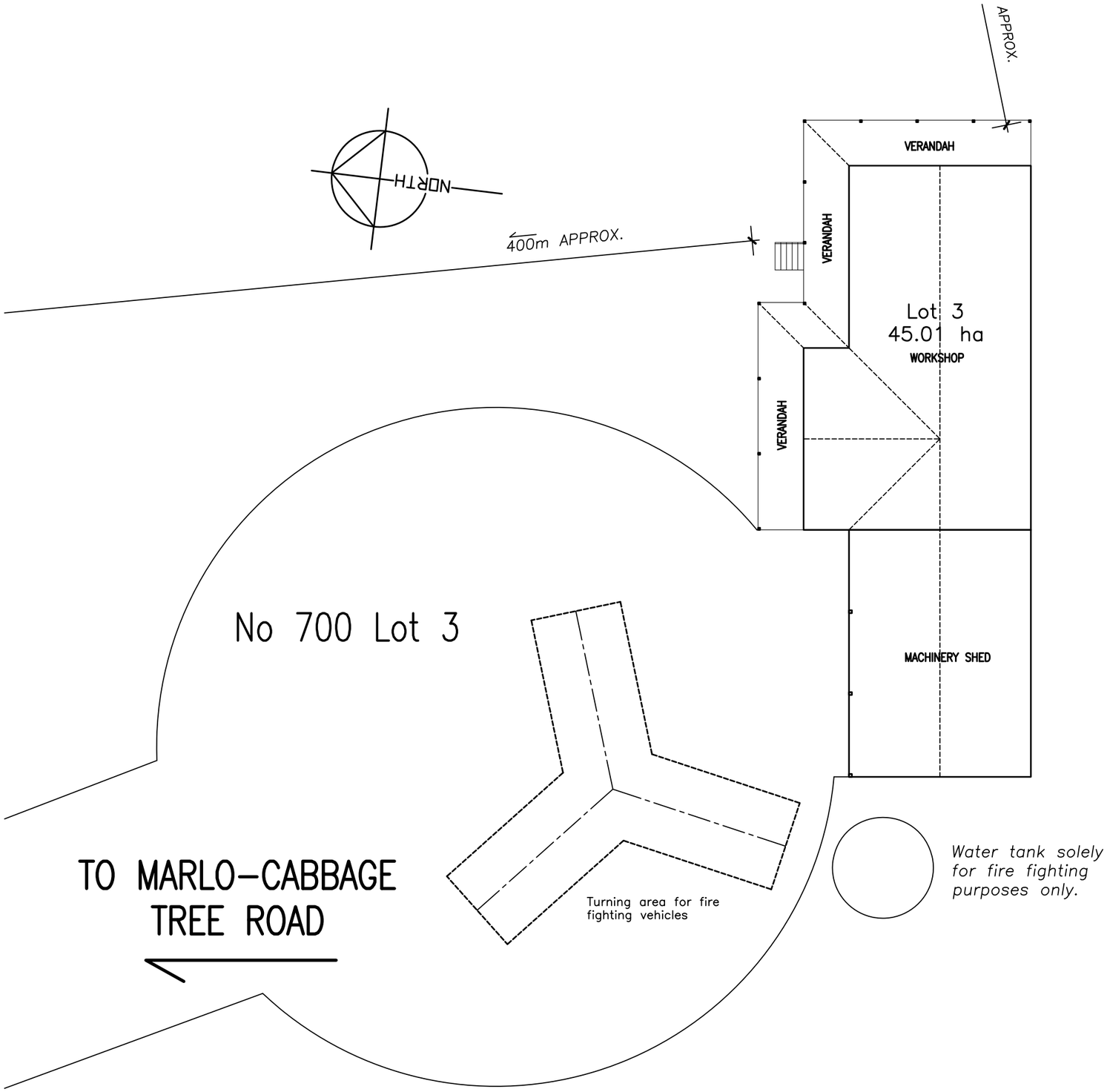
BUILDER: **A.J KEY PTY LTD**
Po Box 81
Swan Reach VIC 3903
Ph: 0418–516–856
Registered Draftsperson - Robert - **DP-AD 2010**
JOB No:

CLIENT:
AT
No 700 Lot 3 Marlo–Cabbage Tree Rd
MARLO
FOR
Anthony & Kylie Key

SCALE: 1:4600
DATE: 14–08–23
DRAWN BY: DVC–HY

SHEET No.
A1

REVISION:



KEY HOMES
Quality is Key

SITE PLAN

EXISTING FARM BUILDING
CONVERSION TO DWELLING

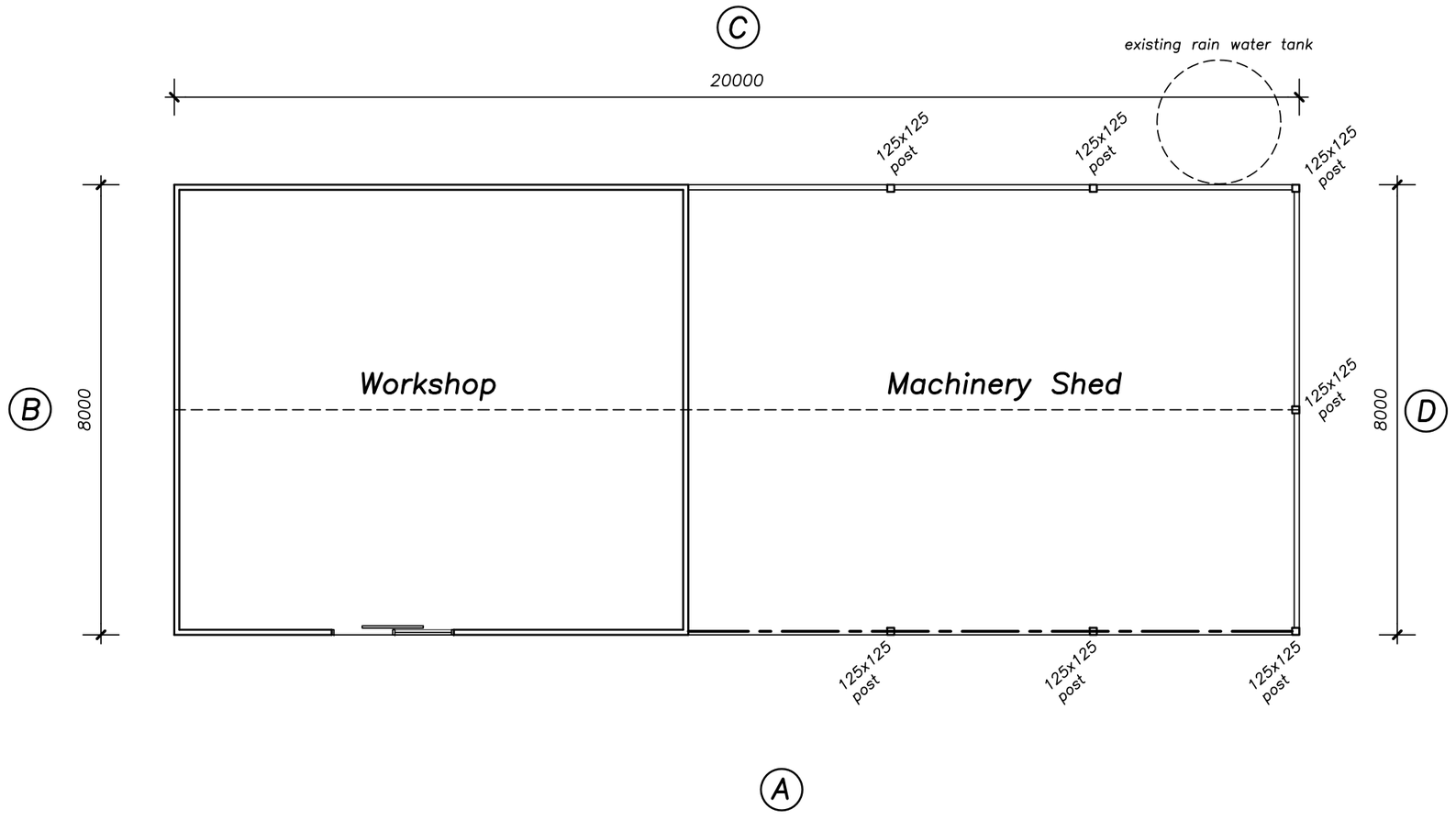
BUILDER: **A.J KEY PTY LTD**
Po Box 81
Swan Reach VIC 3903
Ph: 0418–516–856
Registered Draftsperson - Robert - **DP-AD 2010**
JOB No:

CLIENT:
AT
No 700 Lot 3 Marlo–Cabbage Tree Rd
MARLO
FOR
Anthony & Kylie Key

SCALE: 1:100
DATE: 14–08–23
DRAWN BY: DVC–HY

SHEET No. A1a

REVISION:



KEY HOMES
Quality is Key

(EXISTING CONDITION)
GROUND FLOOR PLAN

EXISTING FARM BUILDING
CONVERSION TO DWELLING

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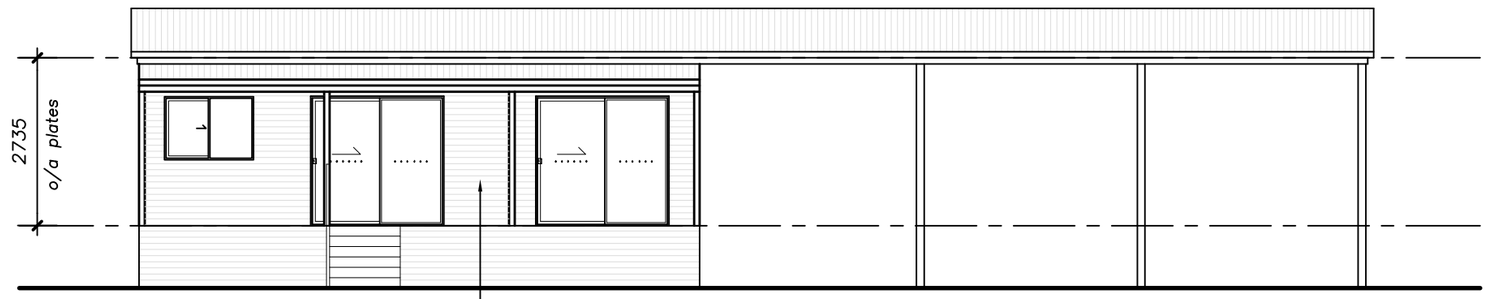
JOB No:

CLIENT:
No 700 Lot 3 Marlo-Cabbage Tree Rd
MARLO
FOR
Anthony & Kylie Key

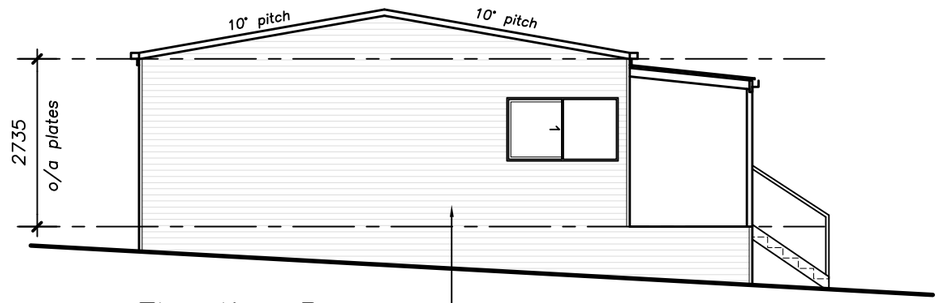
SCALE: 1:100
DATE: 31-07-23
DRAWN BY: DVC-HY

SHEET No.
A2

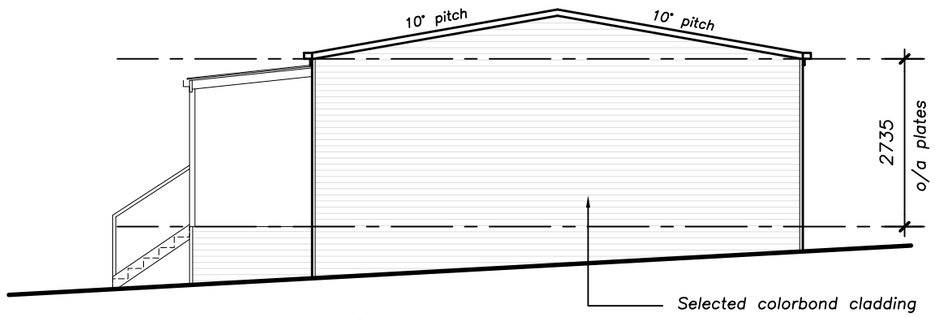
REVISION:



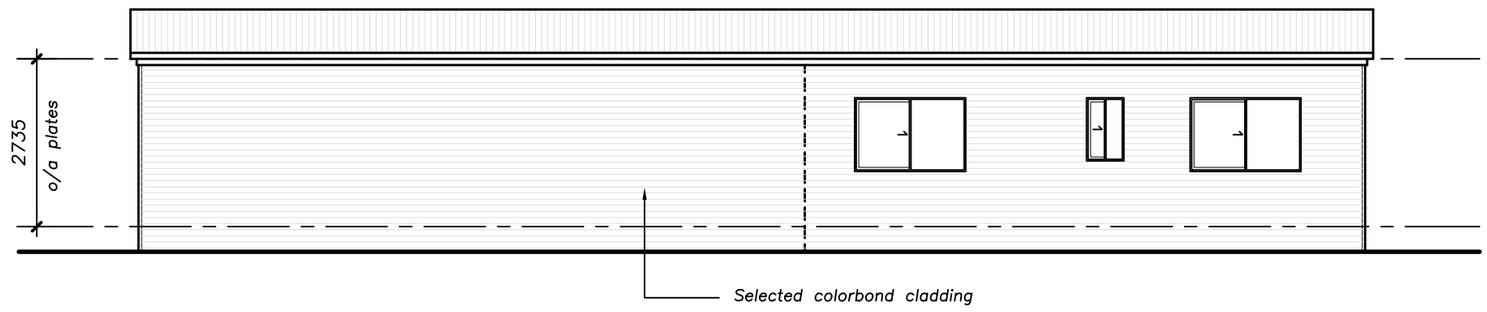
Elevation A



Elevation B



Elevation D



Elevation C

Preliminary Drawings

Should these drawings require a Planning permit or Developer approval, please ensure that approved plans are resubmitted for final working drawings.

KEY HOMES
Quality is Key

(EXISTING CONDITION)
ELEVATIONS

BUILDER: A.J KEY PTY LTD
Po Box 81
Swan Reach VIC 3903
Ph: 0418–516–856

JOB No:

CLIENT: Proposed Dwelling
AT
No 700 Lot 3 Marlo–Cabbage Tree Rd
MARLO
FOR
Anthony & Kylie Key

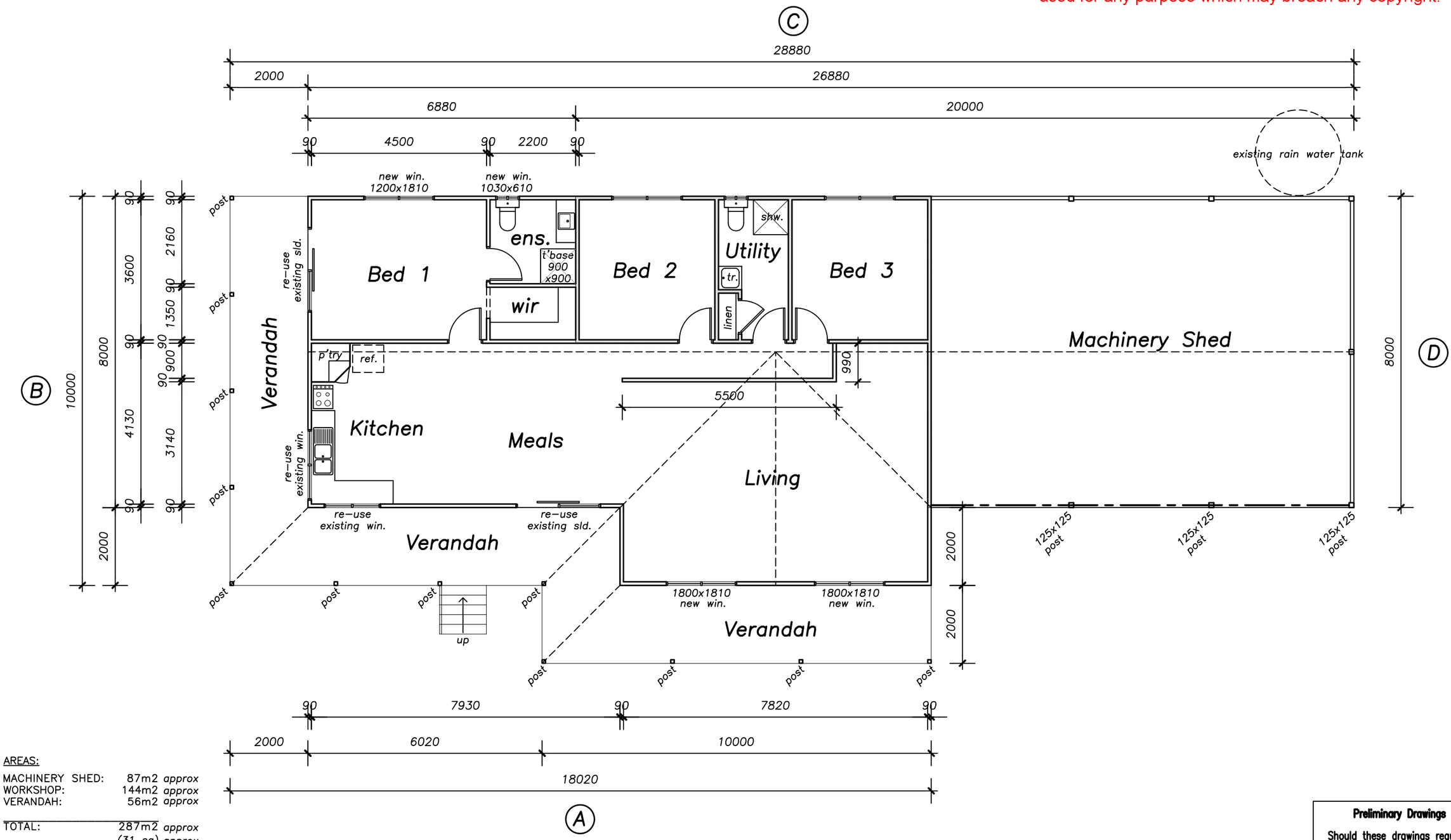
SCALE: 1:100

DATE: 15–06–23

DRAWN BY: DVC–HY

SHEET No.
A3

REVISION:



AREAS:

MACHINERY SHED:	87m2	*approx*
WORKSHOP:	144m2	*approx*
VERANDAH:	56m2	*approx*
TOTAL:	287m2	*approx*
	(31 sq)	*approx*

Preliminary Drawings

Should these drawings require a Planning permit or Developer approval, please ensure that approved plans are resubmitted for final working drawings.

KEY HOMES
Quality is Key

(PROPOSED EXTENSION)
GROUND FLOOR PLAN

BUILDER: **A.J KEY PTY LTD**
Po Box 81
Swan Reach VIC 3903
Ph: 0418-516-856

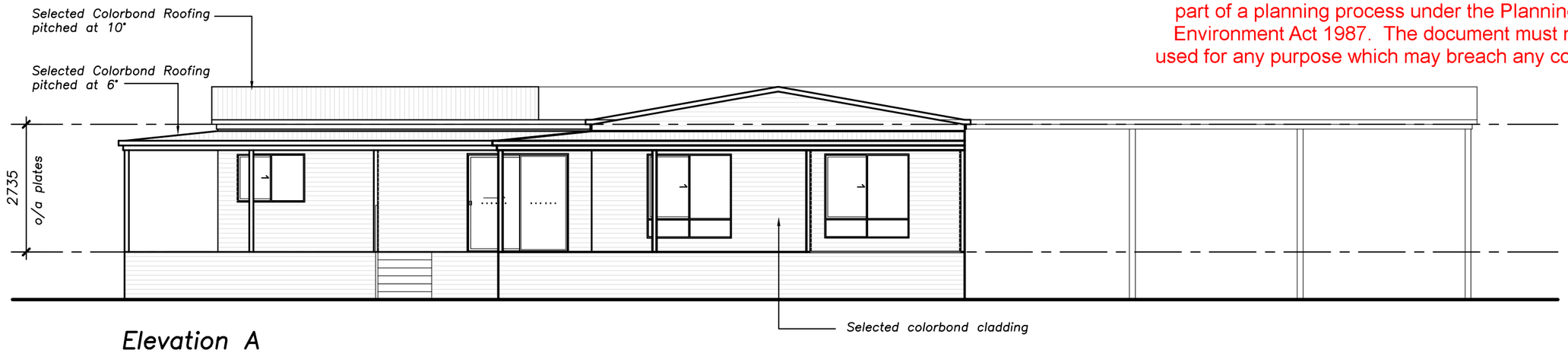
JOB No:

CLIENT: **Proposed Dwelling AT No 700 Lot 3 Marlo-Cabbage Tree Rd MARLO FOR Anthony & Kylie Key**

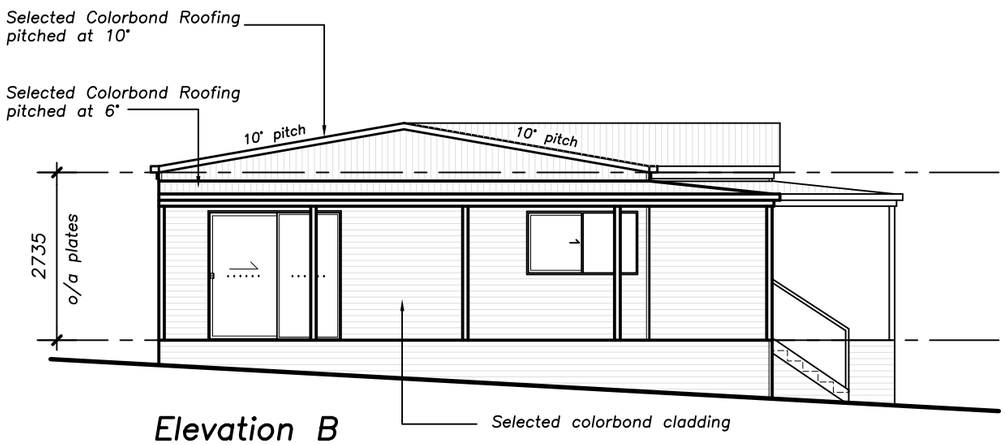
SCALE: 1:100
DATE: 15-06-23
DRAWN BY: DVC-HY

SHEET No. A2a

REVISION:



Elevation A



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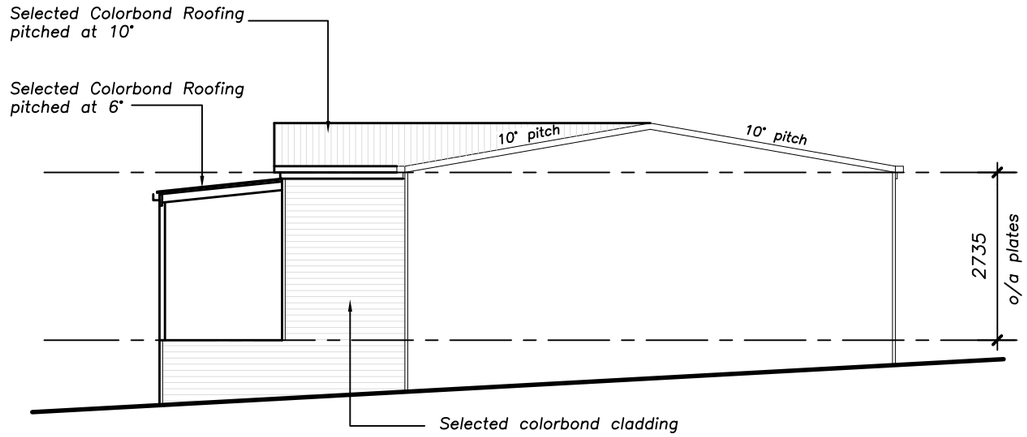
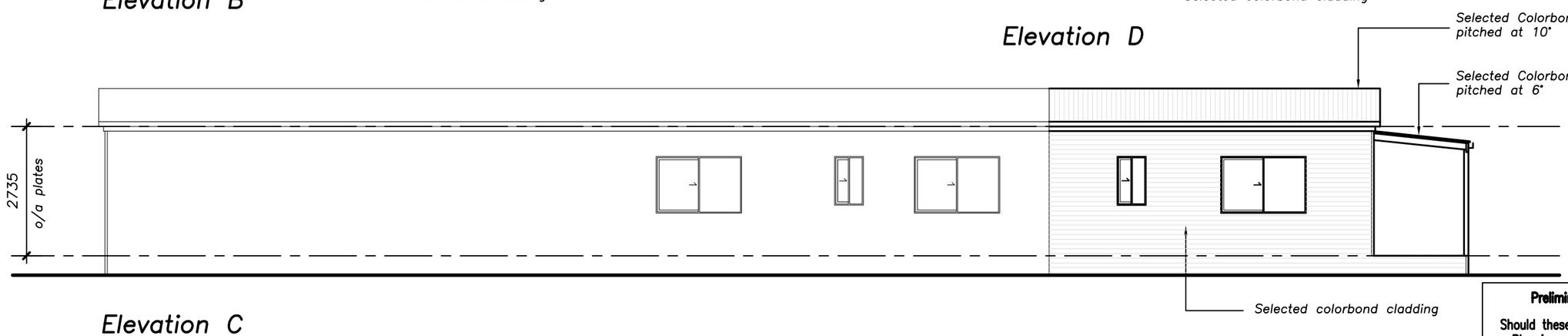


Elevation D



Elevation C

Preliminary Drawings

Should these drawings require a Planning permit or Developer approval, please ensure that approved plans are resubmitted for final working drawings.

KEY HOMES
Quality is Key

(PROPOSED EXTENSION)
ELEVATIONS

BUILDER: A.J KEY PTY LTD
Po Box 81
Swan Reach VIC 3903
Ph: 0418–516–856

JOB No:

CLIENT: Proposed Dwelling
AT
No 700 Lot 3 Marlo–Cabbage Tree Rd
MARLO
FOR
Anthony & Kylie Key

SCALE: 1:100

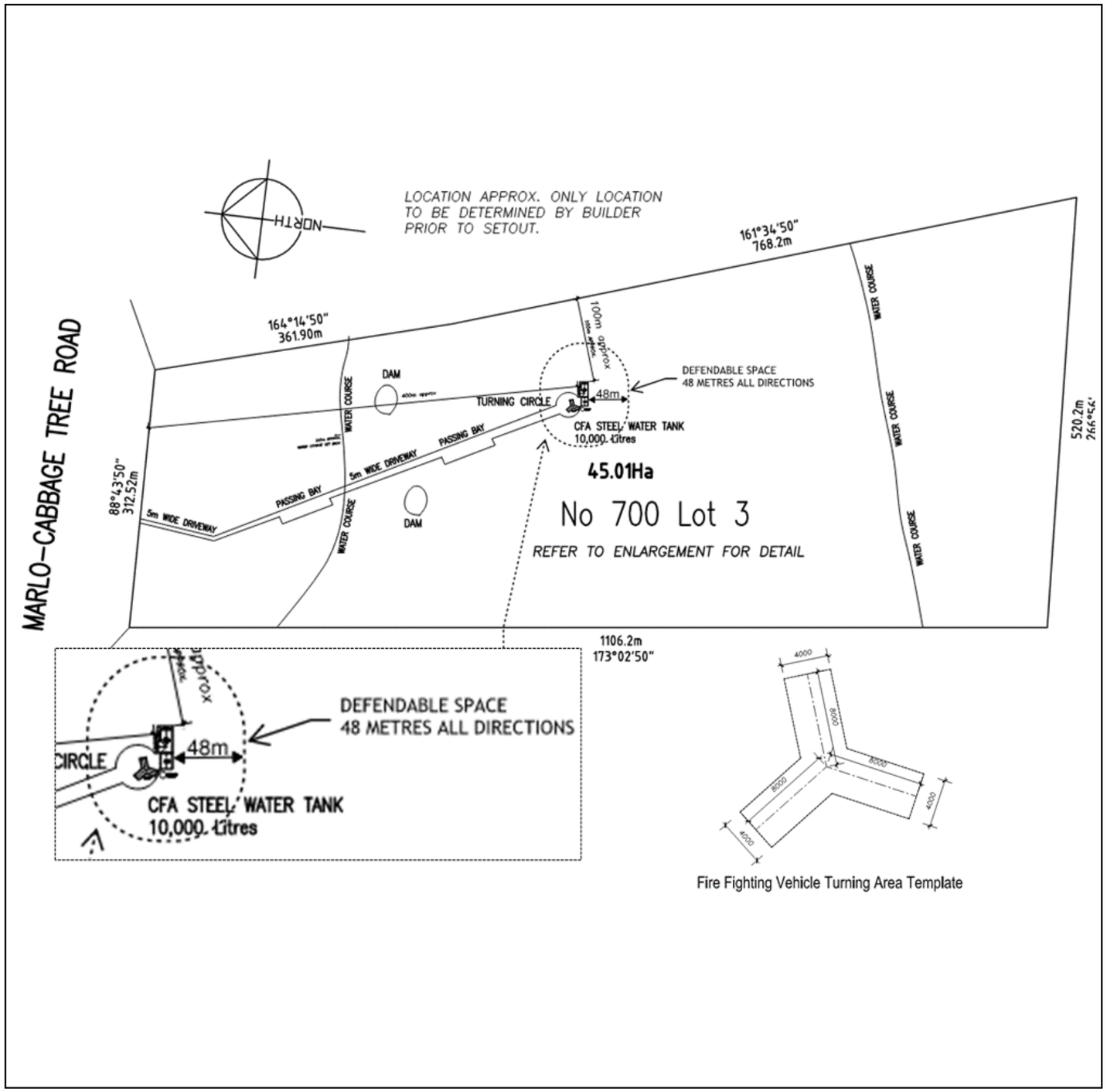
DATE: 15–06–23

DRAWN BY: DVC–HY

SHEET No. A3a

REVISION:

Bushfire Management Plan – 700 Marlo-Cabbage Tree Road, Marlo 3888



Fire Fighting Vehicle Turning Area Template

Prepared by: Euca Planning Pty Ltd Version: 1 Date: 17/08/2023

Bushfire Protection Measures

Mandatory Condition

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

a) Defendable Space

Defendable space is provided for a distance of 48 metres around the building or to the property boundary whichever is the lesser and managed in accordance with the following:

- 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.

b) Construction Standard

Building designed and constructed to a minimum Bushfire Attack Level of BAL – 29

c) Water Supply

The following requirements apply:

- An effective capacity of 10,000 litres.
- Be stored in an above ground water tank constructed of concrete or metal.
- Have all fixed above ground water pipes and fittings required for firefighting purposes made of corrosive resistant metal.
- Include a separate outlet for occupant use.

Where a 10,000 litre water supply is required, the following fire authority fittings and access must be provided:

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

d) Access

Access Required: No ☐
Yes ☑ The following design and construction requirements apply:

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

Length of access is greater 100 metres: Yes ☑ No ☐
Where length of access is greater than 100 metres the following design and construction requirements apply:

- A turning circle with a minimum radius of eight metres, or
- A driveway encircling the building, or
- The provision of other vehicle turning heads – such as a T or Y Head – which meet the specification of Austroad Design for an 8.8 metre service vehicle.

Length of driveway is greater than 200 metres: Yes ☑ No ☐
Where length of access is greater than 200 metres the following design and construction requirement applies:

- Passing bays are required at least every 200 metres that are a minimum 20 metres long and a minimum trafficable width of 6 metres.