

Form 2

NOTICE OF AN APPLICATION FOR PLANNING PERMIT

The land affected by the application is located at:	35 Baades Road LAKES ENTRANCE 3909 Lot: 2 PS: 528627
The application is for a permit to:	Use and development of a dwelling and outbuilding
The applicant for the permit is:	Crowther & Sadler Pty Ltd
The application reference number is:	5.2024.63.1

You may look at the application and any documents that support the application free of charge at: <https://www.eastgippsland.vic.gov.au/building-and-development/advertised-planning-permit-applications>

You may also call 5153 9500 to arrange a time to look at the application and any documents that support the application at the office of the responsible authority, East Gippsland Shire. This can be done during office hours and is free of charge.

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

The Responsible Authority will not decide on the application before:	Subject to the applicant giving notice
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If you object, the Responsible Authority will tell you its decision.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958 Page 1 of 3

VOLUME 10929 FOLIO 071

Security no : 124112982089K
Produced 27/02/2024 02:08 PM

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 528627K.
PARENT TITLE Volume 10929 Folio 064
Created by instrument PS528627K 28/02/2006

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors
TREVOR ANTHONY MUCCHI
MAREE THERESE MUCCHI
AT811545W 27/11/2020

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.

AGREEMENT Section 173 Planning and Environment Act 1987
AE217869M 03/03/2006

DIAGRAM LOCATION

SEE PS528627K 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)

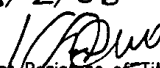
Street Address: 35 BAADES ROAD LAKES ENTRANCE VIC 3909

ADMINISTRATIVE NOTICES

NIL

DOCUMENT END

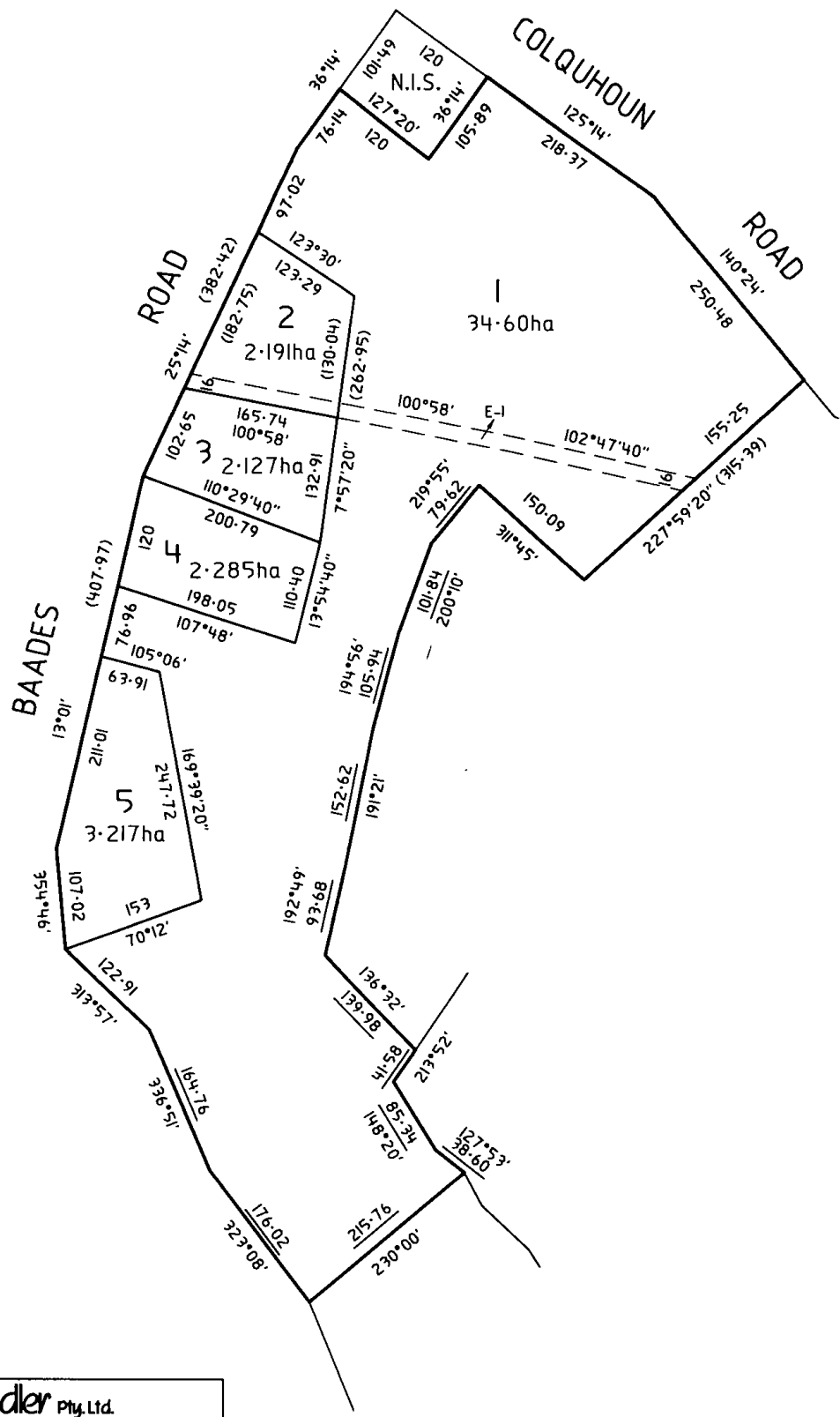
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PLAN OF SUBDIVISION		STAGE No. 1 TO USE ONLY	PLAN NUMBER PS 528627K
<p style="text-align: center;">LOCATION OF LAND</p> <p>PARISH: COLQUHOUN TOWNSHIP: — SECTION: — CROWN ALLOTMENT: 120 (PART) CROWN PORTION: —</p> <p>TITLE REFERENCES: VOL 10929 FOL 064</p> <p>LAST PLAN REFERENCE: LOT A ON PS528626M</p> <p>POSTAL ADDRESS: (At time of subdivision) 361 COLQUHOUN ROAD, LAKES ENTRANCE, 3909</p> <p>AMG CO-ORDINATES: (Of approx. centre of land in plan) E 586 200 N 5811 550 ZONE: 55</p>		<p style="text-align: center;">COUNCIL CERTIFICATION AND ENDORSEMENT</p> <p>COUNCIL NAME: EAST GIPPSLAND SHIRE COUNCIL REF: 31 2005 CRT</p> <p>1. This plan is certified under Section 6 of the Subdivision Act 1988.</p> <p>2. This plan is certified under Section 11(7) of the Subdivision Act 1988. Date of original certification under Section 6 — / — / —</p> <p>3. This is a statement of compliance issued under Section 21 of the Subdivision Act 1988.</p> <p>OPEN SPACE</p> <p>(i) A requirement for public open space under Section 18 Subdivision Act 1988 has / has not been made.</p> <p>(ii) The requirement has been satisfied.</p> <p>(iii) The requirement is to be satisfied in stage— Council Delegate Council seal Date 09/05/05 Re-certified under Section 11(7) of the Subdivision Act 1988— Council Delegate Council seal Date — / — / —</p>	
VESTING OF ROADS AND/OR RESERVES			
IDENTIFIER	COUNCIL/BODY/PERSON		
NIL	NIL		
NOTATIONS			
STAGING This is / is not a staged subdivision Planning Permit No JT/373/2004/P			
DEPTH LIMITATION 15.24 METRES BELOW THE SURFACE			
DIMENSIONS SHOWN UNDERLINED ARE NOT THE RESULT OF THIS SURVEY THE AREA OF LOT 1 IS BY DEDUCTION			
SURVEY: THIS PLAN IS / IS NOT BASED ON SURVEY THIS SURVEY IS CONNECTED TO PERMANENT MARK No(s)			
EASEMENT INFORMATION			LTO USE ONLY
LEGEND A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)			STATEMENT OF COMPLIANCE / EXEMPTION STATEMENT
			RECEIVED <input checked="" type="checkbox"/>
			DATE 14 / 2 / 06
			LTO USE ONLY
			PLAN REGISTERED
			TIME 11.02 AM
			DATE 28 / 2 / 06
			 Assistant Registrar of Titles
			SHEET 1 OF 2 SHEETS
<p>Crowthorpe & Sadler Pty. Ltd.</p> <p>LICENSED SURVEYORS & TOWN PLANNERS 152 MACLEOD STREET, BAIRNSDALE, VIC., 3875 TELEPHONE (03) 6162 6011</p>		<p>LICENSED SURVEYOR PAUL ANTHONY DWYER</p> <p>SIGNATURE DATE 10 / 2 / 05</p> <p>REF 11029 VERSION 1</p>	
		DATE 09 / 05 / 05	
		COUNCIL DELEGATE SIGNATURE	
		ORIGINAL SHEET SIZE A3	

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PLAN OF SUBDIVISION

STAGE No. PLAN NUMBER
PS 528627K



Crowther & Sadler Pty. Ltd.
 LICENSED SURVEYORS & TOWN PLANNERS
 162 MACLEOD STREET, BAIRNSDALE, VIC., 3875
 TELEPHONE (03) 6162 6011

SHEET 2 OF 2 SHEETS

ORIGINAL	SCALE
SHEET SIZE	50 0 50 100 150 200
A3	1:5000
LENGTHS ARE IN METRES	

LICENSED SURVEYOR	PAUL ANTHONY DWYER
SIGNATURE	DATE / /
REF 11029	VERSION 1

DATE / /
COUNCIL DELEGATE SIGNATURE



AE217869M

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Section 181



APPLICATION BY A RESPONSIBLE AUTHORITY FOR THE MAKING OF A RECORDING OF AN AGREEMENT

Planning & Environment Act 1987

Privacy Collection Statement
The information from this form is collected under statutory authority and is used for the purpose of maintaining publicly searchable registers and indexes in the Victorian Land Registry.

Lodged by:

Name: WARREN GRAHAM + MURPHY
Phone: (03) 51551286
Address: 383 ESPLANADE, LAKES ENTRANCE
Ref: GAW 435204
Customer Code: 1716W

The Authority having made an agreement referred to in Section 181(1) of the Planning and Environment Act 1987 requires a recording to be made in the Register for the land.

Land: LOT A ON PLAN OF SUBDIVISION P5528626M
~~Certificates of Title Volume 8755 Folio 181 and Volume 8849 Folio 283~~
now = (wh) 10929/064, (now = (wh) 10929/070 to 074 (31)) AB 3-3-06
Authority: East Gippsland Shire Council, Corporate Centre, 273 Main Street, Bairnsdale, 3875

Section and Act under which agreement made: Section 173 of the Planning & Environment Act 1987

A copy of the Agreement is attached to this Application.

Signature for the Authority:

Name of Officer:

RAY SMITH, MANAGER STRATEGIC PLANNING
(full name)

Date:

3/02/2006

260
14/2/06

AB 3-3-06

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THIS AGREEMENT is made the **3rd** day of **February** 2006
BETWEEN EAST GIPPSLAND SHIRE COUNCIL of Corporate Centre, 273 Main Street, Bairnsdale ("the Council") of the first part and RICHARD ALFRED HENRY ELLIS and KIM ELLIS of Colquhoun Road, Lakes Entrance ("the Owners") of the second part.

AE217869M

03/03/2006 \$97.30 173



WHEREAS:

- A. Subject land means the land situated at 361 Colquhoun Road, Lakes Entrance, Lot A PS 528626M and any reference to the Subject Land in this Agreement includes any lot created by the subdivision of the Subject Land or any part of it.
- B. The Owners are the registered proprietors of the subject land and have made application to the Council as the responsible authority under the East Gippsland Planning Scheme ("the scheme") for a Permit for Subdivision for the land into five lots and development of a single dwelling on each of the four new smaller lots.
- C. The Council has granted Planning Permit Number 373/2004/P dated the 7th March 2005, amended Permit issued 10th March 2005 and 26th January 2006 ("the Permit") for the subject land for Subdivision of the land into five lots and development of a single dwelling on each of the four new smaller lots.
- D. Condition eleven of the Permit requires the Owners to enter into an Agreement with the Council in accordance with Section 173 of the Planning & Environment Act 1987 before the issue of a Statement of Compliance.
- E. The Council and the Owners have agreed that without restricting or limiting their respective powers to enter into this Agreement and insofar as it can be so treated this Agreement shall be treated as being an Agreement under Section 173(1) of the Planning & Environment Act 1987.

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AE217869M



NOW THIS AGREEMENT WITNESSETH AS FOLLOWS.

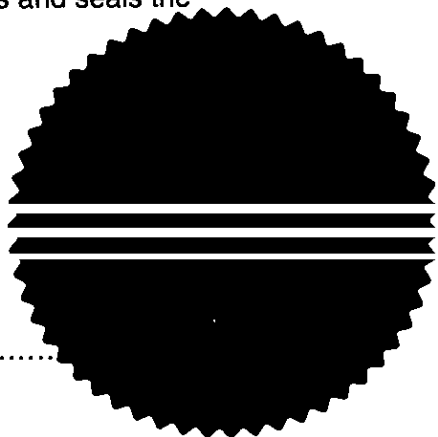
1. In this Agreement unless inconsistent with the context or subject matter "Owners" shall mean the person or persons entitled from time to time to be registered by the Registrar of Title as the proprietor or proprietors of an estate in fee simple of the subject land.
2. The Owners with the intent that their covenant hereunder shall run with the land hereby covenant and agree that:
 - (a) Lot 1 will not be further subdivided in a manner that could fragment ownership of the gully system and vegetation corridors.
 - (b) All plantings and revegetation of rehabilitation of the site must be in accordance with the approved Vegetation Management Plan.
 - (c) That the owners of the lots will contribute to a Special Rates and Charges Scheme under the provisions of the Local Government Act 1989 for the upgrade of Baades Road, should the upgrade be deemed necessary by the Council.
3. The Agreement will bind the Applicants as the Owners and shall run with the land so that all successors in Title are bound by the Agreement. This Agreement will be prepared by the Applicant, at the Applicants' cost and to the satisfaction of the responsible Authority, and shall be registered on the Title in accordance with Section 181 of the Planning and Environment Act 1987.

IN WITNESS whereof the parties hereto have hereunto set their hands and seals the day and year first hereinbefore written.

THE COMMON SEAL of EAST GIPPSLAND SHIRE COUNCIL)
was hereunto affixed on the 3rd)
day of February 2006.)

.....
Chief Executive

.....
P. Wiseman
Witness



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SIGNED SEALED and DELIVERED
by the said RICHARD ALFRED HENRY ELLIS
in the presence of:

.....
[Handwritten signature]

) *[Handwritten signature]*
)

(witness)

SIGNED SEALED and DELIVERED
by the said KIM ELLIS in the presence of:

.....
[Handwritten signature]

) *[Handwritten signature]*
)

(witness)

AE217869M

03/03/2006 \$97.30 173


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DATED 3rd February 2006

EAST GIPPSLAND SHIRE COUNCIL

-and-

**RICHARD ALFRED HENRY ELLIS &
KIM ELLIS**

SECTION 173 AGREEMENT

WARREN, GRAHAM & MURPHY
Solicitors
383 Esplanade
LAKES ENTRANCE VIC 3909

TEL: 5155 1286
REF: GRW:ab (ellis.173agreement)
DX: 90901

Planning Report

Use and Development of a Dwelling and Outbuilding 35 Baades Road, Lakes Entrance

Our reference – 20536

28 February 2024



FS 520900



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	Application Form	
	Proposed Site Plan, Floor Plans and Elevations (<i>Sands Building Design</i>)	
	Shed Design Plans (<i>Eureka</i>)	
	Land Capability Assessment (<i>Simon Anderson Consultants</i>)	
	Geotechnical Risk Assessment (<i>Simon Anderson Consultants</i>)	
	Bushfire Hazard Site Assessment (Version 1)	
	Bushfire Management Plan (Version 1)	
	Copy of Title (Lot 2 on PS 528627)	

Note: Applicable Planning Application fee is \$1,330.20

1. Introduction

This Planning Report is prepared in support of the use and development of a dwelling at 35 Baades Road, Lakes Entrance. The Report addresses the provisions of the Rural Living Zone 3, Environmental Significance Overlay 1 – 53, Erosion Management Overlay and Bushfire Management Overlay as contained within the East Gippsland Planning Scheme.



Aerial image of the subject land and immediate surrounds (Source: IntraMaps)

2. Subject Land & Surrounding Context

Formally known as Lot 2 on PS528627 or more commonly known as 35 Baades Road, Lakes Entrance, the subject land is largely undeveloped save for an existing internal track leading to two stables.



Subject land looking east

The subject land is provided with existing vehicle access in the southwestern corner of the subject land which leads to Baades Road a sealed road.



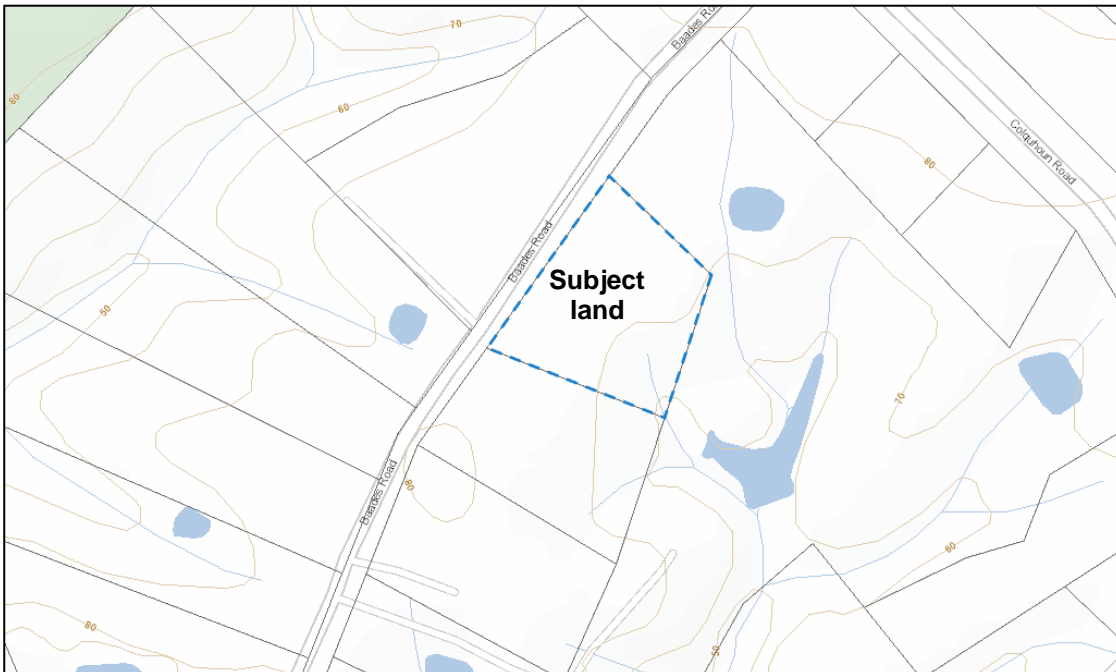
Existing access to Baades Road looking west



Baades Road looking north

A 16 metre wide electricity easement runs along the southern boundary and a stock dam is developed within the eastern part of the land.

The property has a moderate slope falling from the Baades Road reserve to the east. In the southeastern corner of the subject land is a designated waterway.



Ten metre interval contours of the subject land and surrounds (Source: VicPlan)

Located within a Rural Living precinct of northern Lakes Entrance the area is referred to as the Colquhoun area. The precinct has developed with a range of different sized free hold allotments generally developed with dwellings and associated outbuildings.

The Colquhoun area contains vegetated waterways generally containing temperate rainforest vegetation with cleared properties developed along ridgelines. Further to the west and north is the Colquhoun State Forest which contains extensive native vegetation and numerous waterways within undulating terrain.

The subject land does not possess any of the environmental qualities or large waterways typically seen within the Colquhoun area.

Lakes Entrance Activity Area is five kilometres to the south of the subject land.

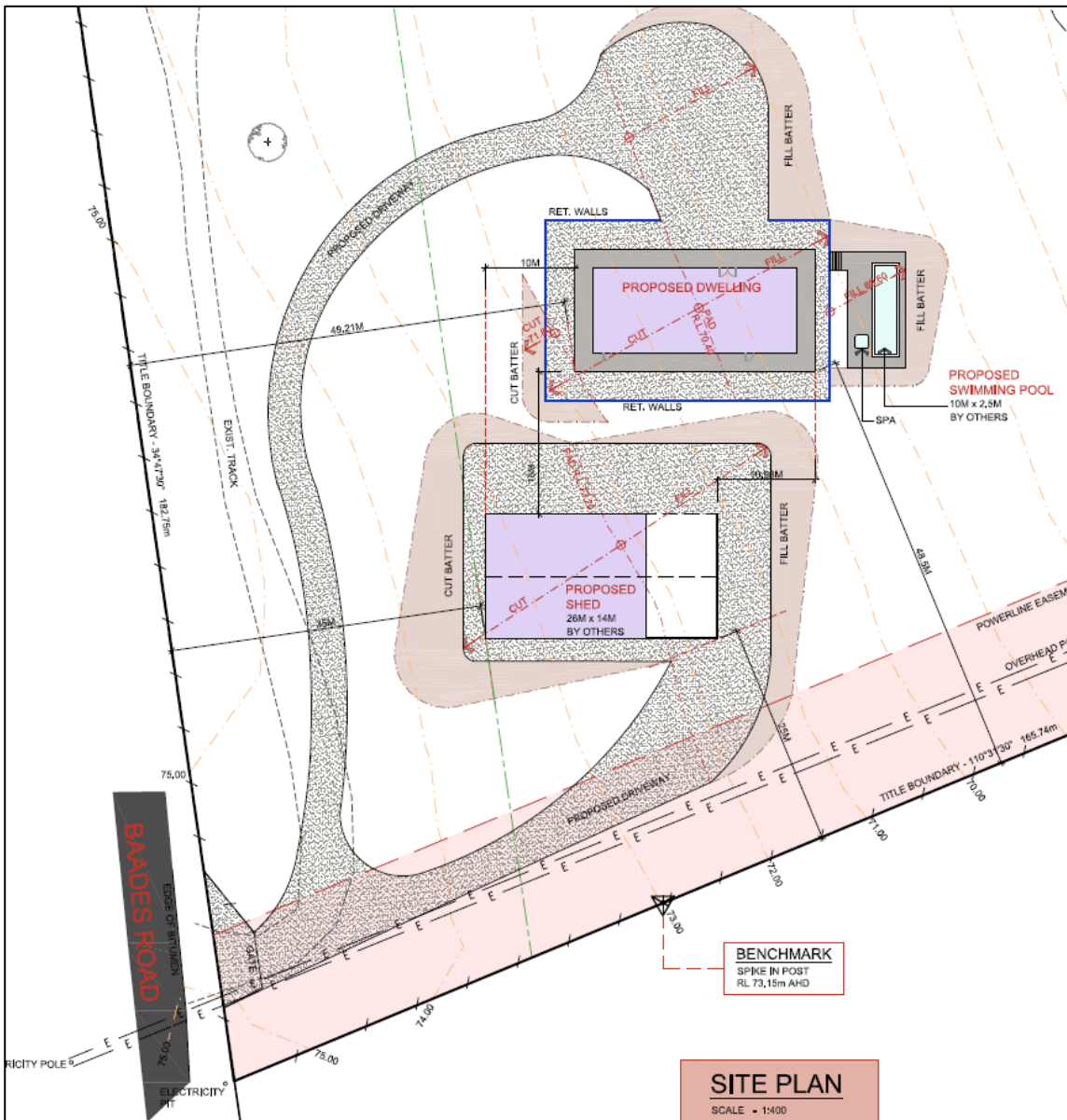


Locational plan showing the site location relative to the Lakes Entrance Activity Area

3. The Application & Proposal

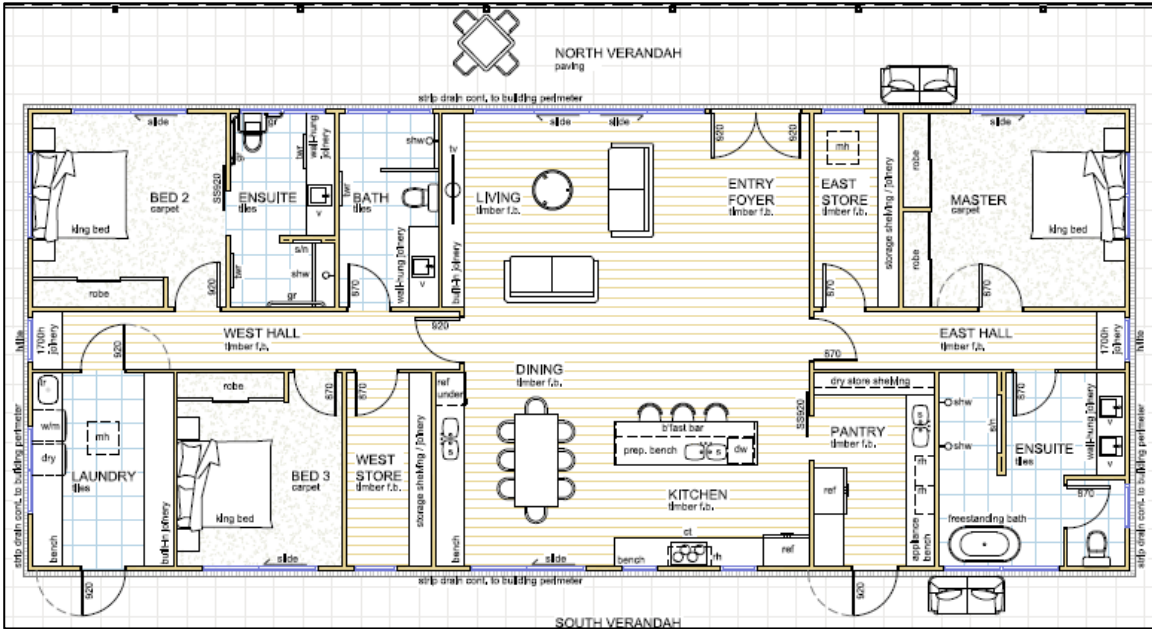
It is proposed to use and develop the subject land for the purposes of a dwelling and associated outbuildings.

The dwelling and shed are both proposed to be sited within the southern part of the property. The dwelling is to be setback 49.21 metres from Baades Road and 48.5 metres from the southern boundary. The outbuilding is proposed with a setback from Baades Road of 35 metres and a setback of 25 metres from the southern boundary. Both the outbuilding and the dwelling will be provided with vehicle access from Baades Road via the existing vehicle crossover.



Proposed dwelling and outbuilding siting (Source: Sands Building Design)

The proposed single storey dwelling is to consist of three bedrooms, laundry, two bathrooms, two storage rooms and open plan kitchen/dining/living with verandahs along each façade.



Proposed dwelling floor plan (Source: Sands Building Design)

Due to the slope of the subject land the proposed dwelling and outbuilding will require some significant cut and fill to facilitate level construction pads.



South-west elevation demonstrating proposed cut and fill (Source: Sands Building Design)

It is proposed to construct the dwelling walls in metal cladding – Zincalume and framed with metal cladding – Night Sky.

The proposed outbuilding is to have a width of 14 metres and a length of 26 metres equating to an overall area of 364 square metres. The proposed shed is to have a wall height of 5 metres with an overall height of 6.36 metres to the apex of the roof. Similar to the dwelling the shed is proposed to be constructed in zinc with coloured trimming.

The Site Plan also shows a small agricultural building in the northern part of the site comprising two stables and a tack room, with an overall footprint of 48m².

This modest addition will be setback 35m from Baades Road and 14m from the northern boundary.

Planning approval is required pursuant to the following Clauses of the East Gippsland Planning Scheme:

Planning Scheme Clause No.	Description of what is Proposed
Clause 35.03-1 Rural Living Zone	Use of a dwelling
Clause 35.03-4 Rural Living Zone	Buildings and works associated with a Section 2 use
Clause 42.01-2 Environmental Significance Overlay	Construct a building and carry out works
Clause 44.01 Erosion Management Overlay	Earthworks where excavations and fill exceed one metre
Clause 44.06-2 Bushfire Management Overlay	Construct a building and carry out works associated with accommodation

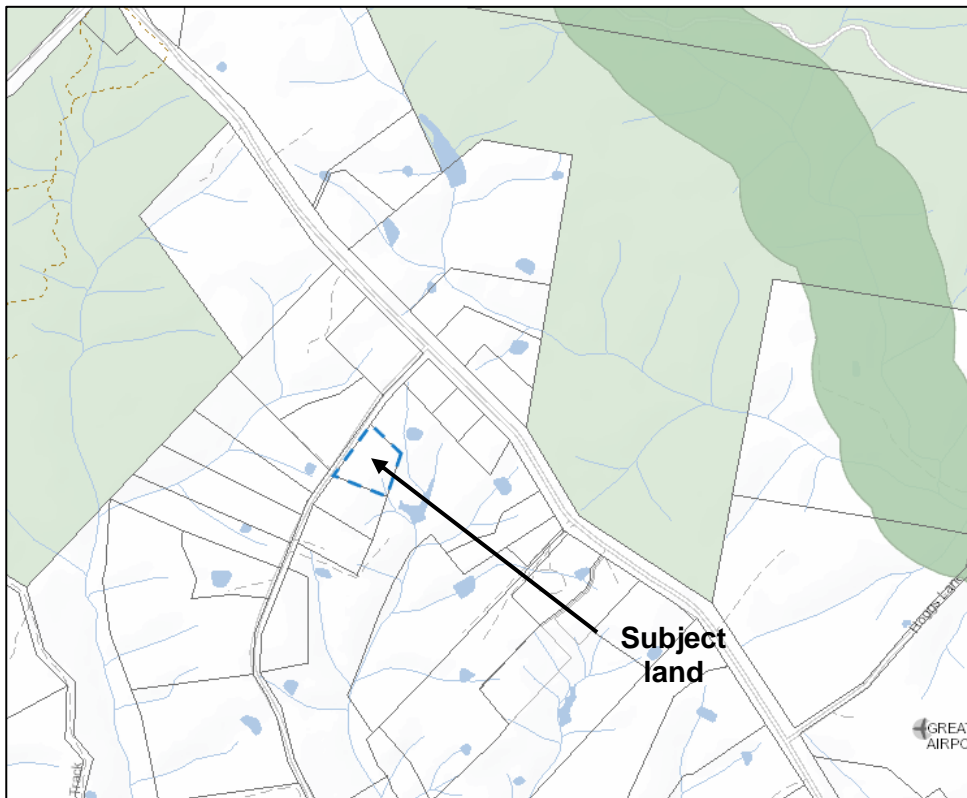
Referral of the application in accordance with Section 55 of the *Planning and Environment Act 1987* is required to be undertaken to the Country Fire Authority.

4. Cultural Heritage

The proposal does not trigger any mandatory requirements to provide a Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006*.

Pursuant to Regulation 7 of the *Aboriginal Heritage Regulations 2018*, a CHMP is required for an activity if:

- (a) *all or part of the activity area for the activity is in an area of cultural heritage sensitivity; and*
- (b) *all or part of the activity is a high impact activity*



Extract from Cultural Heritage Sensitivity mapping, with sensitive areas shown in green (Source: VicPlan)

The subject land is not mapped as an area of cultural heritage sensitivity and the construction of one dwelling on a lot is an exempt activity, therefore there is no mandatory requirement to provide a CHMP in support of the application.

5. Planning Policy

5.1 Planning Policy Framework

The proposal is entirely consistent with the provisions of Clause 12.01-2S relating to Native Vegetation Management there is no need to remove native vegetation to facilitate the dwelling development. Access to the property exists resulting in no requirement for vegetation removal within Baades Road.

Siting of the proposed dwelling has been carefully located to respect the waterway on the subject land. The Land Capability Assessment advises that the land is capable of managing and treating wastewater onsite utilising secondary treatment, respecting Clauses 12.03-1S River and riparian corridors, waterways, lakes, wetlands and billabongs and 12.05-1L Environmentally sensitive areas.

As the land is contained within a Bushfire Management Overlay, Clause 13.02-1S Bushfire planning is relevant. There is a risk of the area being subject to a bushfire event given the close proximity of the Colquhoun State Forest, however there is the ability to construct a dwelling to an appropriate Bushfire Attack Level and provide defendable space and will reduce the risk to occupants to an acceptable level.

Clauses 13.04-2S and 13.04-2L Erosion have been addressed within the application as the findings of the Geotechnical Risk Assessment advises that the land is not currently subject to erosion and the risk of erosion resulting from the proposed development is low providing an Erosion Management Plan is in place.

Clause 14.02-2S Water quality is positively addressed by the proposed dwelling development providing the wastewater system has secondary treatment and has separation from the waterway.

The rural character of the area is defined by single storey dwellings and associated outbuildings. Building styles in the area vary, however common elements are pitched and sloped roofs, larger opening sizes and verandahs. The proposed dwelling complements this rural character utilising the common building themes within the precinct consistent with Clause 15.01-6S Design for rural areas.

Clause 16.01-3L-01 Rural living applies to properties within the Rural Living Zone. Developing the subject land with a dwelling provides a residential use within a non-urban environment and the Land Capability Assessment advises that the land is suitable for on-site wastewater treatment systems.

As the land is located within the Colquhoun area Clause 16.01-3L-02 applies to the application. The proposed development is consistent with the objective and relevant strategies:

- No native vegetation is required to be removed to facilitate the proposed development.

- Residential intrusion on environmental areas has been avoided through the parent subdivision which ensured environmentally sensitive gully systems and vegetation were located within the adjoining eastern property.
- Respectful siting of the buildings well setback from Baades Road and the proposed building materials will maintain the visual amenity of the area.
- Sediment runoff from the property during building construction can be managed with the use of sediment fencing.
- Nutrient transfer to the local waterways can be avoided with the use of secondary treatment associated with the wastewater system.

Baades Road is a sealed rural road with the subject land having an established accessway. The development of a dwelling on the subject land is easily accommodated within the existing road network consistent with Clause 18.02-4S Roads.

5.2 Municipal Planning Strategy

Within Clause 02.03-2 Environmental and landscape values the Colquhoun area is identified as significant because of remnant vegetation and wildlife corridors. The proposal is consistent with the strategic directions of maintaining healthy waterways by setting back the buildings from the waterway on the land, ensuring the environmental values on the property are maintained by avoiding vegetation removal.

Clause 02.03-3 Environmental risks and amenity notes that extent and composition of forested areas within East Gippsland leads to the risk of bushfire. The proposed dwelling will be afforded with appropriate access, static water provision for firefighting, defendable space and will be constructed to an appropriate BAL reducing the risk to occupants from a fire event.

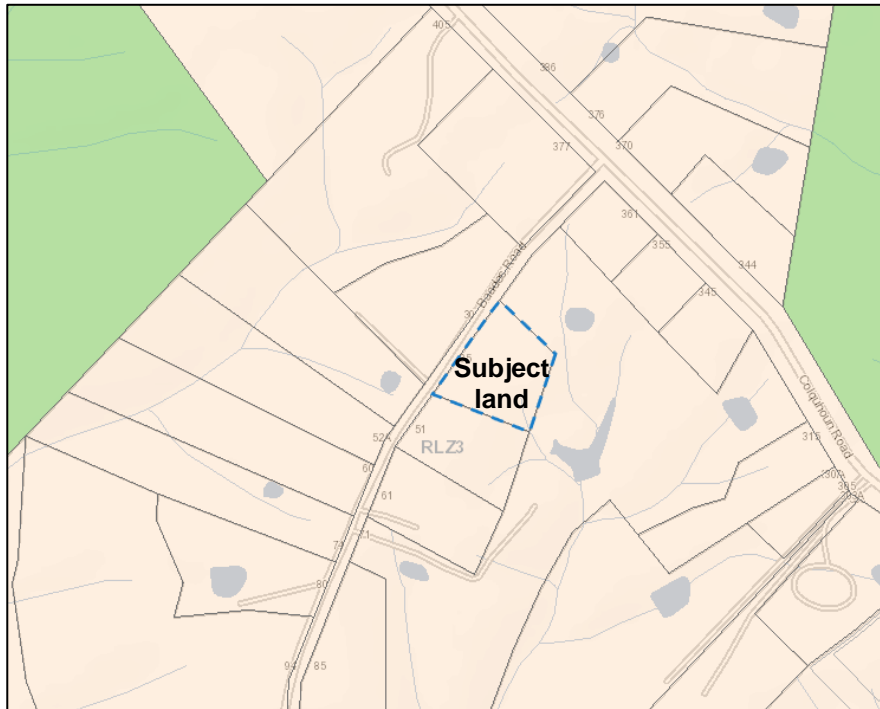
A geotechnical risk assessment is submitted with the application advising that there are no erosion processes occurring on the land and the proposed development of the site will not create an erosion hazard to people and property.

Water quality within the area will be maintained through the use of a wastewater system that will utilise secondary treatment minimising nutrient impacts within the area, meeting the relevant strategic direction of Clause 02.03-4 Natural resource management.

6. Planning Elements

6.1 Rural Living Zone 3

The subject land is zoned Rural Living Zone 3 in accordance with the East Gippsland Planning Scheme.



Planning scheme zone mapping (Source: VicPlan)

Development of the subject land for the purposes of a dwelling is entirely consistent with the relevant purposes of the zone as it will provide for a residential use in a rural environment and ensures the biodiversity of the area will not be diminished.

Pursuant to Clause 35.03-2 Use of the land for a dwelling, particular criteria are required to be met. The development meets all requirements having access provided via an all-weather road, the Land Capability Assessment advises that the land is capable of treating and retaining wastewater on the lot, an alternative potable water supply will be provided for domestic use and firefighting and the dwelling will be connected to reticulated electricity.

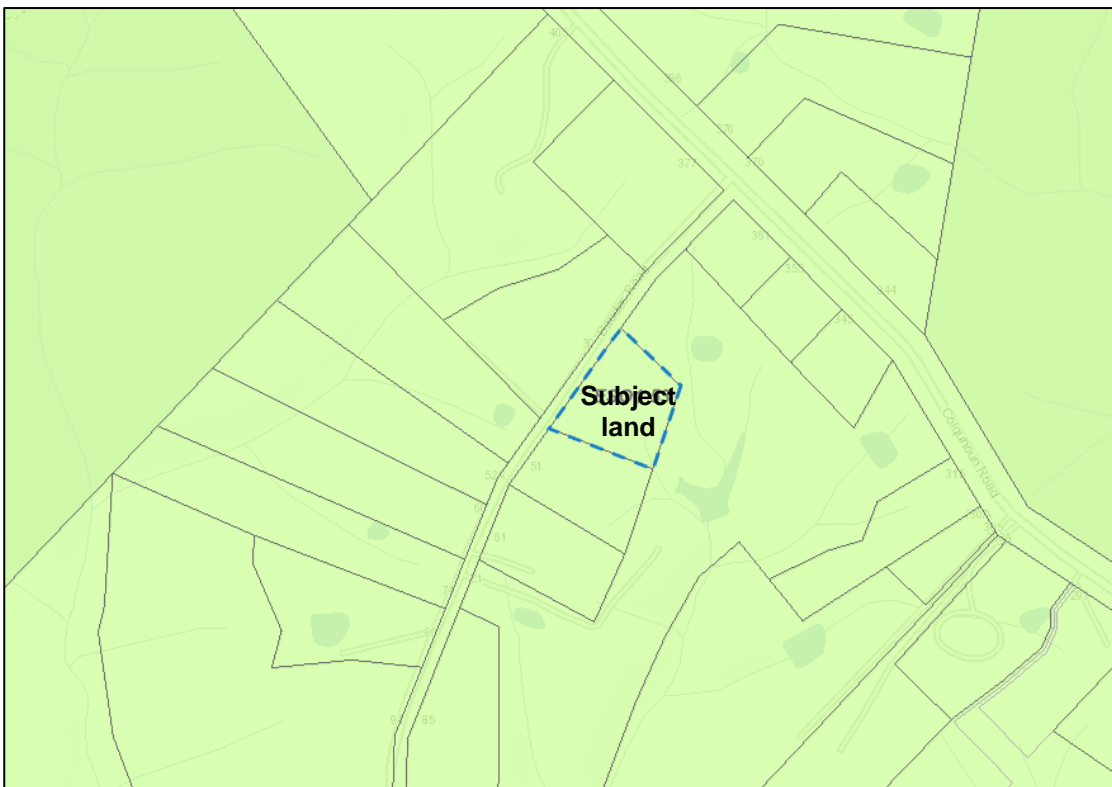
The proposed dwelling responds well to Clause 35.03-5 Decision guidelines:

- Solid support for the proposed use and development of a dwelling is found within the State Planning Framework and Municipal Planning Strategy.
- The Land Capability Assessment advises that the property is capable of accommodating the dwelling.
- Surrounding properties are generally developed with dwellings and associated outbuildings, the proposed development is consistent with the surrounding land uses.

- No native vegetation requires removal to facilitate the proposed dwelling and outbuilding.
- The Land Capability Assessment advises that the subject land has the ability to manage and treat wastewater on site.
- Siting of the dwelling and outbuilding have respectful setbacks from Baades Road reducing the visual appearance of the structures.
- The design and style of the proposed buildings will be complementary to the housing found within the area.

6.2 Environmental Significance Overlay 1 - 53

The whole of the land is contained within the Environmental Significance Overlay 1 – 53.



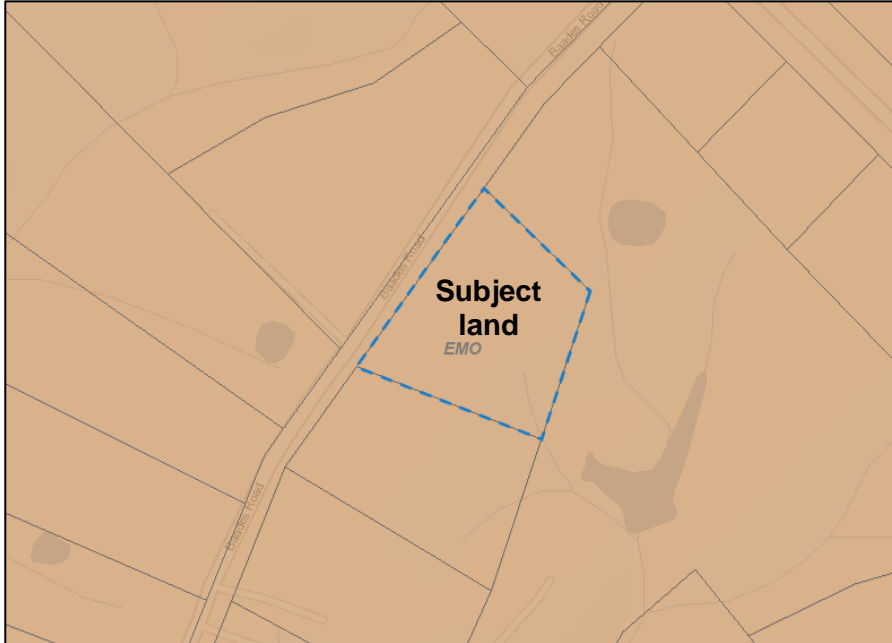
Planning scheme overlay mapping (Source: VicPlan)

Schedule 1 to the Overlay is East Gippsland Sites of Biological Significance and ESO 1 – 53 is known as Colquhoun and Kalimna. The Schedule advises of a range of fauna and flora of environmental significance within the area and management practises sought to protect the identified species.

The proposed development will assist to protect the identified species as boundary fencing can be more easily maintained, weed control can be more easily undertaken and no native vegetation removal will take place as a result of the development. The parent subdivision ensured that the environmentally sensitive areas within the gully were protected and had limited fragmentation.

6.3 Erosion Management Overlay

The subject land is within the Erosion Management Overlay.



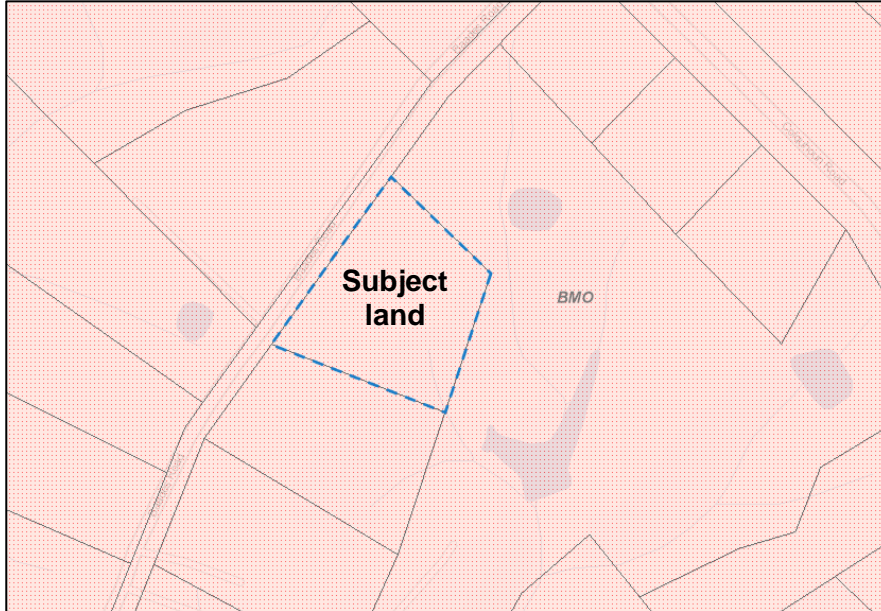
Planning scheme overlay mapping (Source: VicPlan)

The Schedule to the Overlay is Management of Geotechnical Hazard. As the proposed development will require earthworks where excavations and fill will exceed one metre a permit under the Overlay is required pursuant to sub-clause 3 of the Schedule.

In accordance with sub-clause 4 of the Schedule the application is accompanied by a geotechnical risk assessment. The assessment prepared by *Simon Anderson Consultants* advises that there are no erosion processes currently occurring on the land and the development will not result in an erosion hazard being created provided an Erosion Management Plan is developed and in place.

6.4 Bushfire Management Overlay

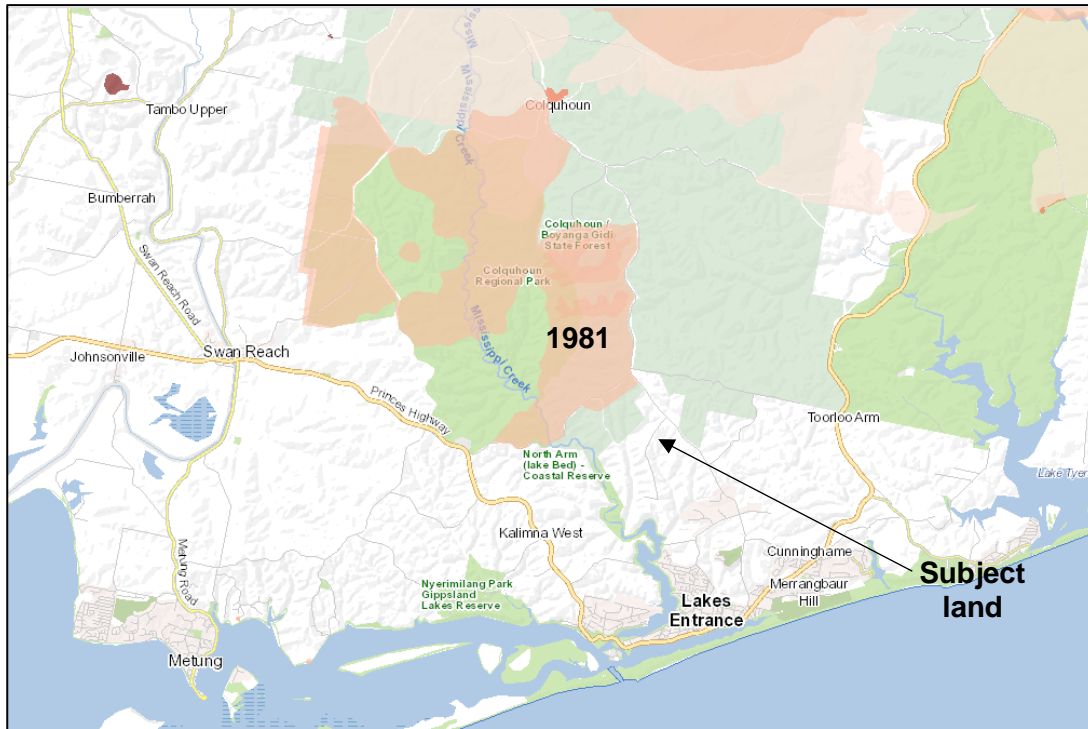
The property is contained within the Bushfire Management Overlay.



Planning scheme overlay mapping (Source: VicPlan)

Pursuant to Clause 44.06-3 Application requirements the application is accompanied by a bushfire hazard site assessment, bushfire hazard landscape assessment and a bushfire management statement.

The Bushfire Hazard Landscape Assessment reveals that the wider landscape is bounded by forest and grassland vegetation. The terrain of the landscape is undulating, and the bushfire history reveals few events over the past three decades.



Bushfire history of the subject land (Source: Mapshare)



Bushfire Hazard Landscape Assessment at 20 kilometres (Source: Google Earth)

An application within the Bushfire Management Overlay must meet the requirements of Clause 53.02 of the planning scheme. Specifically, Clause 53.02-3 applies to the proposal given the land is within the Rural Living Zone seeks approval for buildings and works associated with a single dwelling.

The Bushfire Management Plan nominates a Bushfire Attack Level for construction (BAL-29), associated defendable space and includes detail on the bushfire mitigation measures to be implemented.

Bushfire Management Statement

An assessment of the proposed dwelling against the requirements of Clause 53.02, Bushfire Planning, is provided below.

CLAUSE 53.02-3 DWELLINGS IN EXISTING SETTLEMENTS – BUSHFIRE PROTECTION OBJECTIVE
<p>Objective</p> <p>To specify bushfire design and construction measures for a single dwelling or alteration and extension to an existing dwelling that reduces the risk to life and property to an acceptable level.</p> <p>Approved Measures</p> <p>AM 1.1 A building is sited to ensure the site best achieves the following:</p> <ul style="list-style-type: none"> • The maximum separation distance between the building and the bushfire hazard. • The building is in close proximity to a public road. • Access can be provided to the building for emergency service vehicles. <p>Response:</p> <p>The subject land is a smaller Rural Living property with existing vehicle access to Baades Road.</p> <p>To the north-east, east and south of the subject land are Rural Living properties with comprising predominantly Grassland classification vegetation that are grazed and actively managed in a low fuel condition.</p> <p>The Rural Living properties to the immediate north and north-west across Baades Road contain Forest classification vegetation, with minimal active management taking place other than immediately surrounding existing dwellings.</p> <p>Crown Land beyond these properties, outside the 150m assessment area, poses a risk of fire, with the potential for fire runs through the Colquhoun Forest. The site is located within a Broader Landscape Type 3 with the possibility for fire to approach from more than one direction and vegetation to the north-west of Baades Road not managed to a low fuel condition.</p> <p>The dwelling site is located with separation of more than 50m from the neighbouring western properties containing Forest vegetation. The substantial separation distances from property boundaries in open grassland is considered to reduce the impact of the bushfire hazard on the dwelling site from the wider landscape conditions.</p>

The proposed dwelling has been positioned in the southern part of the land well setback from the highest risk vegetation. The siting has had to be respectful of the waterway on the property, which requires minimum setbacks for both the building footprint and for effluent disposal areas, while also ensuring separation from the bushfire hazard.

Proposed access from Baades Road will service the proposed dwelling via a driveway greater than 30m in length. The siting is appropriate as the driveway traverses through cleared land and can easily accommodate emergency vehicles. Access from Baades Road is of a good standard (sealed) and suitable for emergency vehicles.

The driveway access will meet the requirements of Table 5 to Clause 53.02-5 which will ensure emergency vehicles can gain access to the proposed dwelling.

It is noted that beyond Baades Road, multiple egress routes are available east, west and south offering safe places to shelter including the townships of Lakes Entrance and Bairnsdale.

AM 1.2

A building provides the defensible space in accordance with Table 1 Columns A, B, C, D or E and Table 6 to Clause 53.02-5. Adjoining land may be included as defensible space where there is a reasonable assurance that the land will remain or continue to be managed in that condition as part of the defensible space.

A building is constructed to the bushfire attack level:

- That corresponds to the defensible space provided in accordance with Table 1 to Clause 53.02-5, or
- The next lower bushfire attack level that corresponds to the defensible space provided in accordance with Table 1 to Clause 53.02-5 where all the following apply.
 - A private bushfire shelter (a Clause 10c building within the meaning of the Building Regulations 2006) is constructed on the same land as the dwelling.
 - A minimum bushfire attack level of BAL 12.5 is provided in all circumstances.

Response:

Vegetation within the 150 metre assessment area includes Grassland and Forest vegetation, with the proposed dwelling site more than 50m from other classifiable vegetation (Forest). Northern and western aspects are upslope from Forest vegetation within the assessment area. Grassland vegetation to the south is on a downslope of >0-5°, and to the east on a downslope of >5-10°.

Separation from the dwelling and the bushfire hazard can be maximised to the distance prescribed by Column A in Table 1 to Clause 53.02-5 and retained within the property boundaries. The Bushfire Management Plan proposes the provision of defensible space for a consistent distance of 48m in all directions. The maintenance of vegetation to a distance of 48m on all aspects of the dwelling will not impose an unreasonable burden on the owner.

Given the wider landscape context it is considered that threat of direct fire impacting the dwelling and shed is limited however, in a bushfire event the property is likely to be subject to ember attack. The enlarged defensible space is a reflection of this wider landscape threat.

The construction standard for the dwelling has been nominated at BAL-29, given the wider landscape threat associated with potential ember attack. The nominated external building materials will satisfy the requirements for BAL-29 construction.

The proposed dwelling will be constructed partly on an enclosed raised earthen platform with metal cladding walls and roof. The selection of external materials are all non-combustible and resilient to high levels of radiant heat and embers. The generous separation distance of the dwelling from the bushfire hazard minimises the exposure of the dwelling to radiant heat. Re-entrant corners are minimised and the design avoids the use of timber decks with the verandahs to have a pavement base. The simple roofline avoids accumulation of debris or embers, increasing resilience.

AM 1.3

A building is provided with:

- A static water supply for fire fighting and property protection purposes specified in Table 4 to Clause 53.02-5. The water supply may be in the same tank as other water supplies provided that a separate outlet is reserved for fire fighting water supplies.
- Vehicle access that is designed and constructed as specified in Table 5 to Clause 53.02-5.

Response:

Given the site exceeds 1,000m² in area the accompanying Bushfire Management Plan prescribes the need for a static water supply of 10,000 litres. The water tank will be located within close proximity of the proposed accessway and the dwelling.

In accordance with Table 5 to Clause 53.02-5, given the length of access is greater than 100m, the internal accessway will be constructed in accordance with Table 5 including a turning area for fire fighting vehicles provided close to the dwelling.

7. Conclusion

The proposed use and development of a dwelling at 35 Baades Road, Lakes Entrance is considered to accord with all relevant provisions of the East Gippsland Planning Scheme. The proposal is consistent with the Planning Policy Framework and Municipal Planning Strategy, has been designed to complement the adjoining properties and provide for risk from a bushfire event to be reduced to an acceptable standard.

For these reasons we respectfully request that Council consider the merits of the application favourably and resolve to issue a Planning Permit.

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BUSHFIRE HAZARD SITE ASSESSMENT

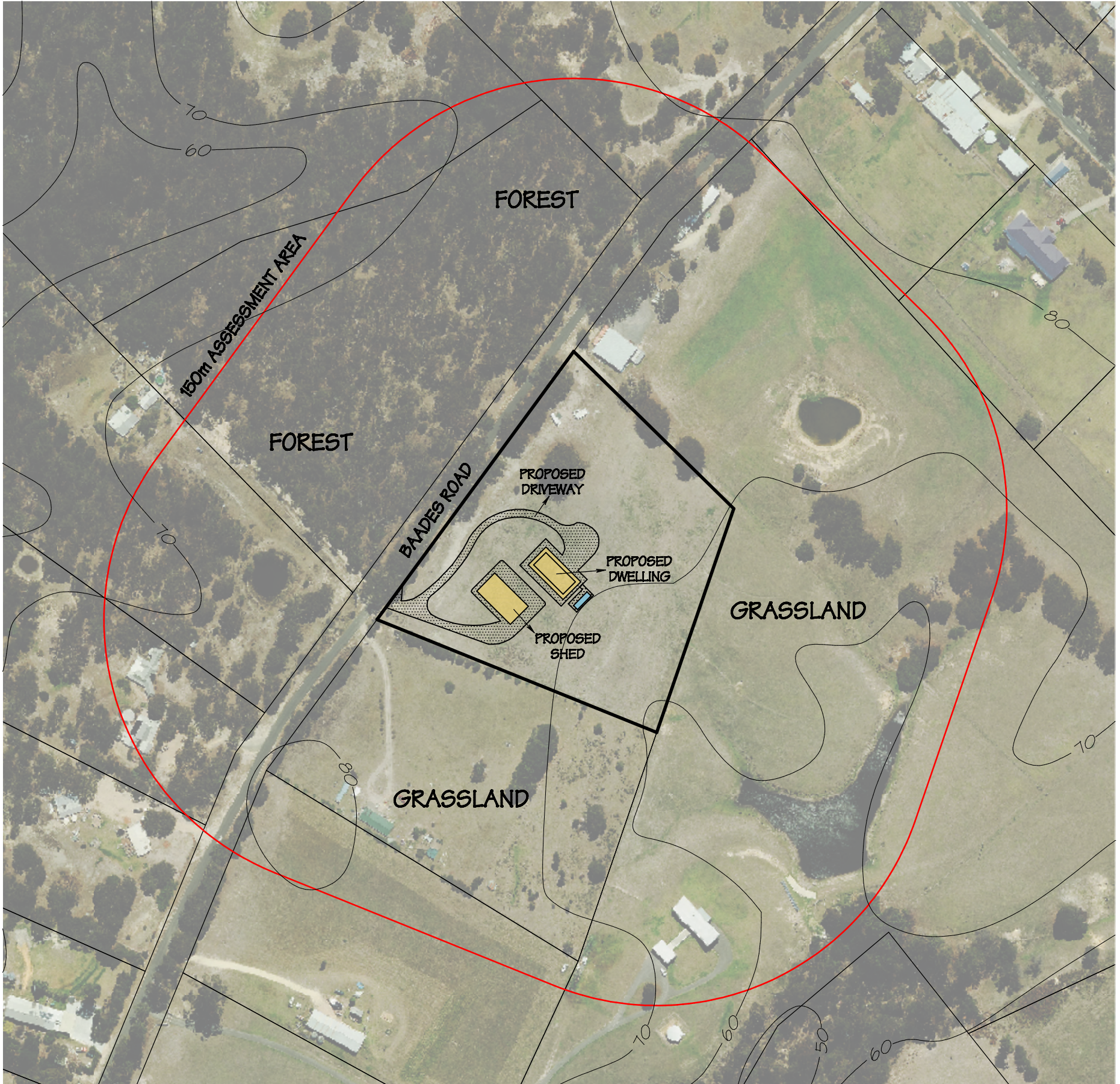
PARISH OF COLQUHOUN
CROWN ALLOTMENT 120 (PART)

LOT 2 ON PS528627K

	NORTH	EAST	SOUTH	WEST
SLOPE	UPSLOPE	DOWNSLOPE >5-10°	DOWNSLOPE >0-5°	UPSLOPE
VEG TYPE	FOREST	GRASSLAND	GRASSLAND	FOREST
SEPARATION DISTANCES*	48m	25m	22m	48m

*SEPARATION DISTANCES DERIVED FROM TABLE 1 COLUMN A CLAUSE 53.02-5

MGA2020 ZONE 55



Crowther & Sadler Pty. Ltd.

LICENSED SURVEYORS & TOWN PLANNERS
162 MACLEOD STREET, BAIRNSDALE, VIC., 3875
P. (03) 5162 5011 E. contact@crowthersadler.com.au

TREVOR & MAREE MUCCHI

35 BAADES ROAD, LAKES ENTRANCE


SCALE (SHEET SIZE A3)

SURVEYORS REF.

1 : 2500

20536

VERSION 1 - DRAWN 15/01/2024

 Simon Anderson Consultants CIVIL STRUCTURAL PROJECT ENGINEERS P.O. Box 1700 111 Main St Bairnsdale, Vic, 3875 ACN 073 392 266 P.O. Box 566 191-193 Raymond St Sale, Vic, 3850 ACN 145 437 065	Job: Proposed Dwelling 35 Baades Rd Lakes Entrance	Date: 20 Feb 2024
	Client: Trevor & Maree Mucchi	Designed: SJA
Checked:		Page No.: 1 of 5

GEOTECHNICAL RISK ASSESSMENT



35 Baades Rd, Lakes Entrance

INTRODUCTION

This report is designed to demonstrate the level of geotechnical risk involved in relation to the proposed dwelling at 35 Baades Rd, Lakes Entrance, during and after construction of associated works.

Note that in accordance with “Guidelines for Landslide Susceptibility” Section 5: Landslide Zoning; the subject site would not be considered in a landslide hazard zone.


SITE DESCRIPTION

This Rural Living Zoned allotment (2.19ha) is located on the southeast side of Baades Road. The subject site is situated mid slope on a low rolling hill landform, with yellow duplex sedimentary landscape. The site displays low to moderate grades and a well-established pasture/grass cover. A shallow Ephemeral Watercourse runs through the southeast corner of the property. A dam is situated in the northeast corner of the property.

PROJECT DETAILS

A residential dwelling is proposed for the site. The construction details are as follows;

- Three (3) bedroom dwelling, of light framed construction, with concrete slab-on-ground and a combination of cut/fill batters and Engineer designed retaining walls.
- A stabilised vehicle access point is to be provided during and after construction.
- Any cut/fill batters (no steeper than 1 in 2) to be re-sod and sown with local grasses.
- It is anticipated that all building and drainage works will be completed within 12 months from their commencement. A further 12 months may be required for completion of the landscaping works.

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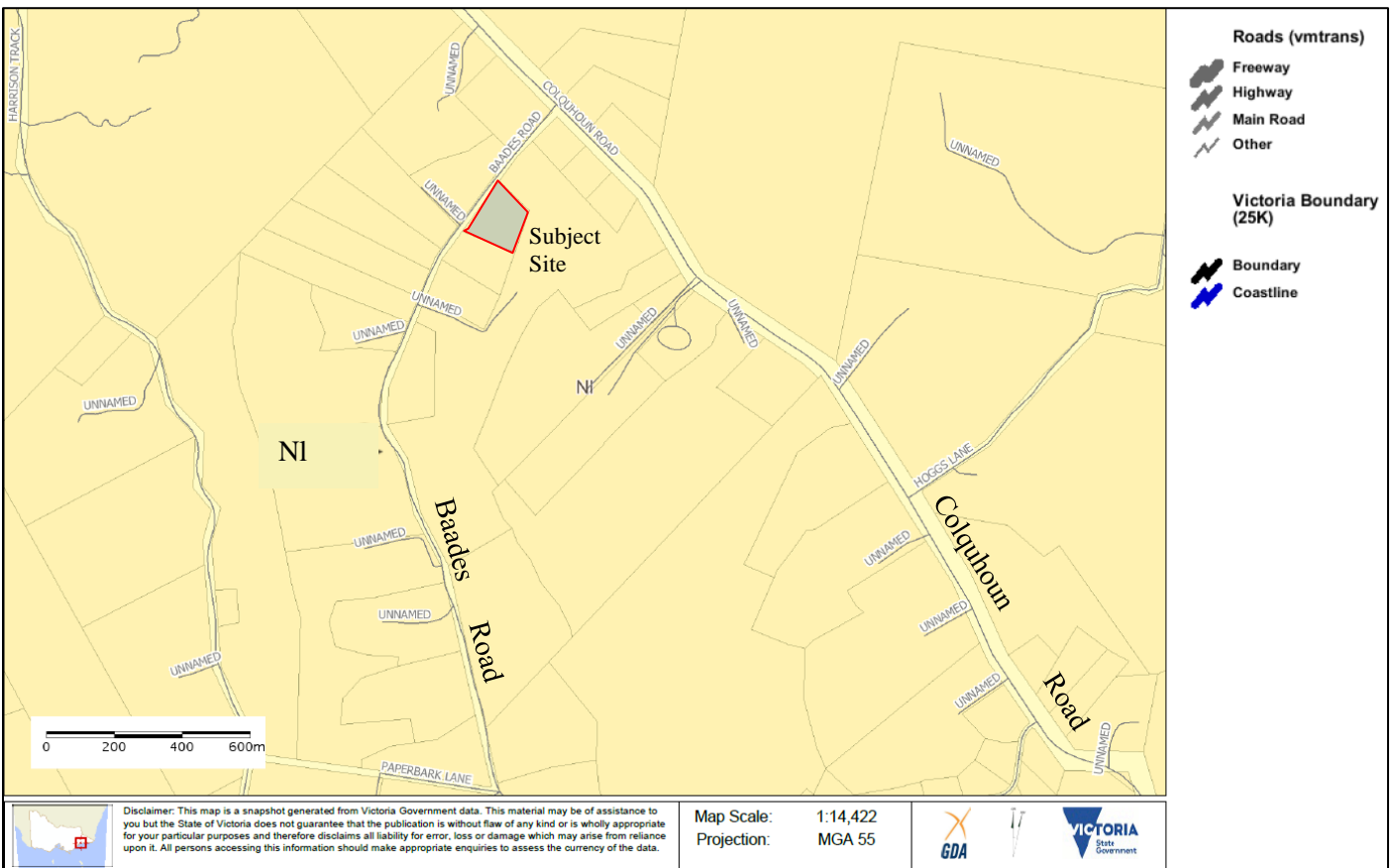
METHODOLOGY

1. DESKTOP INVESTIGATION

A desktop investigation of the subject site was carried out using DSE and GeoVIC mapping of published soil survey information and noted watercourse locations.


Soils of the site have been mapped and described in Sustainable Soil Management “A reference manual to the major agricultural soils of the Bairnsdale and Dargo regions” and are described as belonging to the Stockdale (Sd) map unit. This unit occurs on rolling low hills and is comprised of Tertiary sediments and sands. Most of the land is cleared and used for grazing. East of Swan Reach most of the land is covered by lowland forest.

The soils of the Stockdale map unit are texture contrast soils, with a variable depth of sand or sandy loam overlying a medium to heavy clay subsoil at about 30 to 50cm. Deep sands occur over about 30% of the area.



REF: VANDENBERG, A.H.M., 1997. BAIRNSDALE SJ 55-7 Edition 2, 1:250 000 Geological Map (Series 1:250,000 geological maps. Geological Survey of Victoria.)

Geological Unit	Geological Description	Mapping Unit
NI (Tm-p)	Tertiary Marine, non-marine deposits consisting of gravel, sand, silt.	Stockdale (Sd)

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1. DESKTOP INVESTIGATION cont'd

Soil Profile – Stockdale (Sd) Map unit

Surface soil

- A1** 0 – 300 Dark greyish brown (10YR4/2); *sandy loam*; weak medium (10 – 20 mm) polyhedral structure; firm moist; clear wavy change to:
- A2** 300 – 500 Pale brown (10YR6/3) conspicuously bleached (10YR/8/1d); *sandy loam or loamy sand*; apedal, single grain; firm consistence dry; sharp change to:

Subsoil

- B21** 500 – 800 Yellowish brown (10YR5/6); *heavy clay*; moderate coarse (20 – 50 mm) polyhedral structure; strong consistence, moist; diffuse change to:
- B22** 800 – 1m Yellowish brown (10YR5/6) with greyish brown (10YR5/2) and increasing yellowish red (5YR5/6) mottles; *heavy clay*; moderate coarse (20 – 50 mm) lenticular structure; strong consistence moist.

Key profile features


- Strong texture contrast between the surface (A) horizons and subsoil (B) horizons.
- Conspicuously bleached subsurface (A2) horizon.




2. FIELD INVESTIGATION

A site visit was carried out with an inspection of the area of the proposed Residence and of nearby landforms, features and dwellings.

Soil investigation bores were taken on the site (B1-B2) within close proximity to the proposed house site. The soil profiles of these bores are detailed below;

BORE LOG – B1	00	Dk Grey/Brown Moist Loamy	TOPSOIL	
	100	Grey/Brown Moist Dense Silty	SAND	
	200			
	300	Pale Brown Wet Medium Dense Silty	SAND	
	400			
	500	Yellow/Brown Dry Very Dense	SAND	
	600	Cemented Clayey Sands		
	700			
	800			
	900			
	1000	Grey/Brown Moist Stiff Sandy	CLAY	
1100				

Note: Soil Bore 2 similar profile as B1

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SUMMARY OF RISK

LANDSLIDE **LOW**
SHEET/RILL EROSION
MODERATE#
TUNNEL EROSION **LOW**



- Moderate grades over the proposed house site, approx. 1 in 12.
- The only evidence of soil erosion on the subject site is minor sheet erosion near the existing vehicle track. The remainder of the site displays excellent grass coverage, preventing topsoils from being washed away (even in the heaviest torrential downpours).
- The adjoining properties, on the east side of Baades Road are predominantly cleared of Forest and show no signs of erosion or landslip.
- Natural soils of the site (dense, silty sands, overlying stiff clays) will have adequate strength and stability for residential slabs, footings and retaining walls.
- An Erosion Management Plan would need to be implemented during and after construction of the single storey dwelling, due to the slab on ground design with cut/fill batters and retaining walls. For example;
 - i. The form, bulk, scale and location of cut and fill is to be controlled to ensure that there are no adverse impacts on the subject site or neighbouring properties. (i.e. diversion banks and spoon drains)
 - ii. Appropriate sub-soil drainage to be provided to effectively divert groundwater away from any foundation work.
 - iii. A stabilized vehicle access point to be provided during and after construction
 - iv. Identify a suitable storage area for stockpiles, with appropriate erosion control measures (i.e. diversion banks and sediment fences)
 - v. Where vegetation needs to be removed, leave it in place as long as possible.
 - vi. All erosion and sediment control measures to be inspected and maintained daily by site manager.
 - vii. Cut/Fill batters (1 in 2 max) and any cleared areas to be re-sod and stabilised with grass at end of construction works.
 - viii. The condition of any retaining walls should be inspected annually to ensure there continued structural and drainage/erosion management adequacy. Any defective components should be removed and replaced immediately
- All construction works associated with the dwelling will be protected by Building Code of Australia, Australian Standards, Building and Planning Permit requirements and normal construction practice.

Based on findings from both the Desktop and Site investigations the site is suitable for development as proposed and further intensive investigation would not be necessary to confirm the above findings.

VERIFICATION

I, the author of this document, declare that I am suitably qualified and experienced to carry out this site assessment.

Simon Anderson BE (Civil)CPEng MIEAust No 930355
BCC Registration No EC-1711
Date 20 Feb 2024

Sheet/Rill erosion risks can be alleviated with an appropriate Erosion Management Plan implemented (as noted above).

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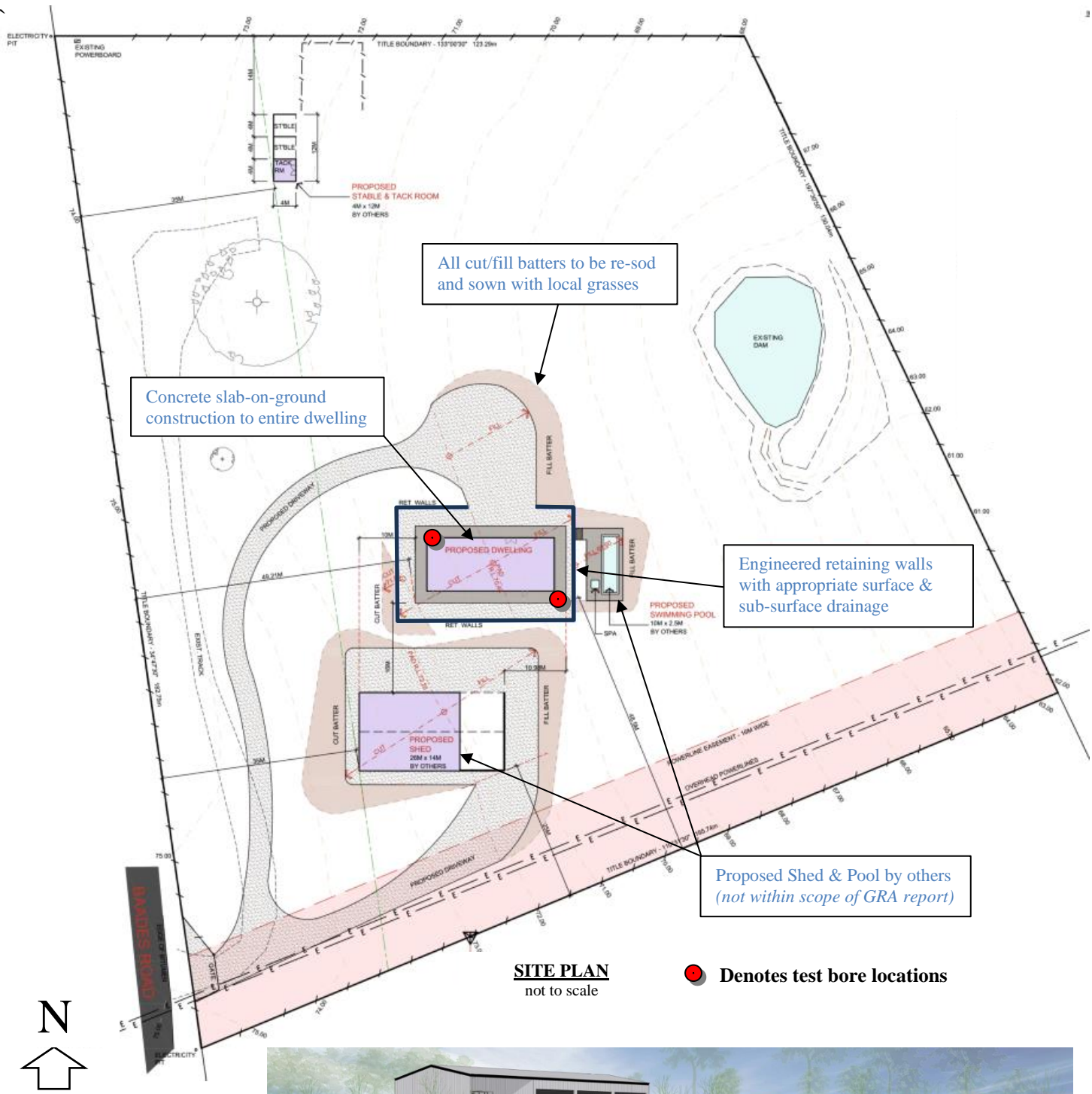
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Date: 20 Feb 2024
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Job No.: 438205

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APPENDIX A




SITE PLAN
not to scale

● Denotes test bore locations



ENE Perspective

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	Client: SandS Building Design	Checked:

LAND CAPABILITY ASSESSMENT ON-SITE DOMESTIC WASTEWATER



35 Baades Rd, Lakes Entrance

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 Mucchi Residence at 35 Baades Rd, Lakes Entrance. 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 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 438205-LC1.**


Subject Land	35 Baades Rd, Lakes Entrance
Client	SandS Building Design
Email Address	clinton@sandsbd.com.au
Contact	Clinton Smith, Mob: 0414 840 363
Map Reference	Vicroads 84 H7
Municipality	East Gippsland Shire Council
Proposed Development	3 Bedroom Residence (Potential Occupancy = No. of Bedrooms + 1) ¹
Design Flow	220 L/person/day ² (for households with extra wastewater producing facilities)
Anticipated Wastewater Load	880 L/day
Treatment System Required	Secondary treated effluent to minimum 20/30 standard (ie. AWTS ³ or sand filter)
Disposal System Required	Sub-surface irrigation – Area of 200m ²

¹ As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Section 3.4.1

² Extra water producing fixtures include, but are not limited to, spa baths.

³ AWTS – Aerated Wastewater Treatment System (EPA approved)

438205 LCA (Mucchi)

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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)	<input type="checkbox"/>
	Detailed investigation for lot-specific management requirements	<input checked="" type="checkbox"/>

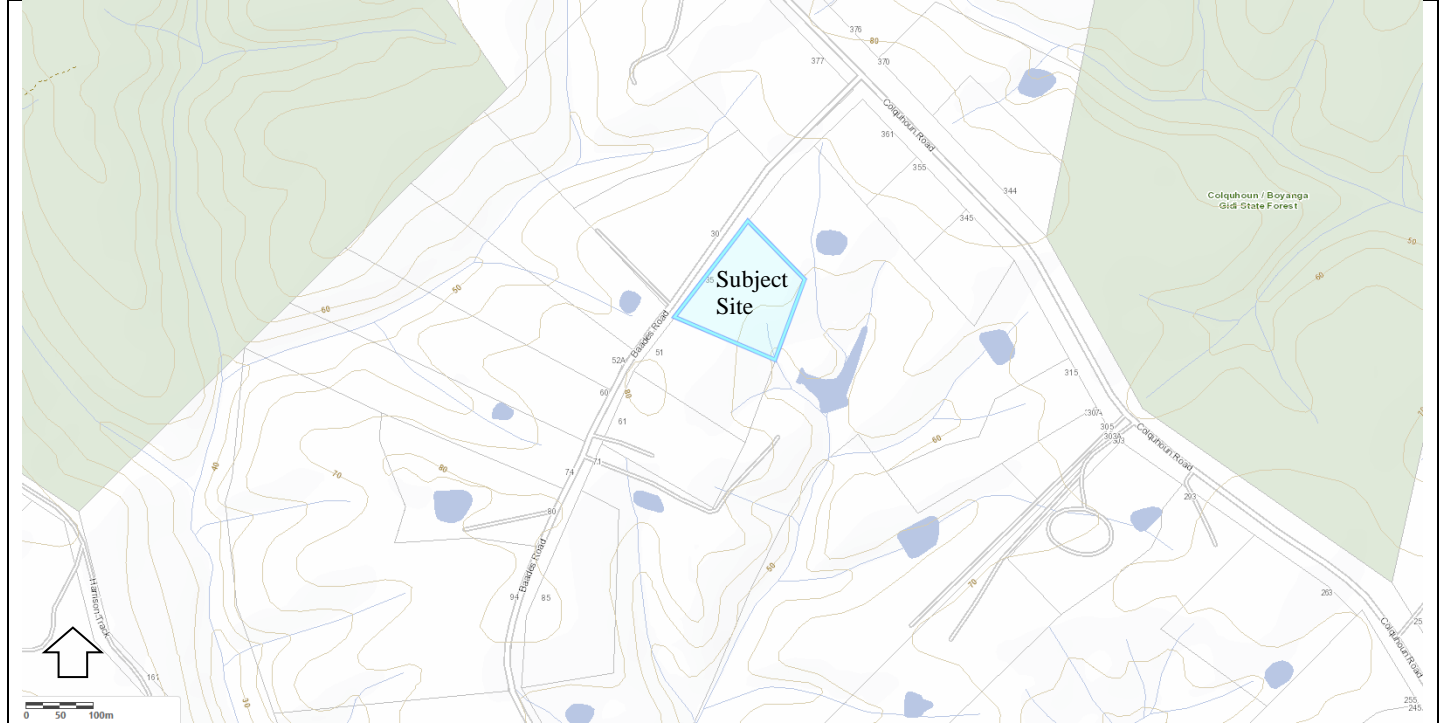



Figure 1: Locality Plan




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



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3.0 SITE KEY FEATURES

Criteria / Feature	Description	Implications for Wastewater Management
Allotment/s		
Title details	Lot 2, PS 528627, Council Property No: 90994	
No. of Lots Proposed	1	
Lot size (EPA recommended minimum lot size = 1.0 ha)	2.19 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	Lots 2.1 ha – 2.8 ha in size.	Overall volume of wastewater being disposed to land in the local district is low.
Current Land Use	Vacant	Current Wastewater generation is negligible
Infrastructure		
Zoning & Overlays	Rural Living Zone (RLZ) Bushfire Management Overlay (BMO) Erosion Management Overlay (EMO) Environ. Signif. Overlay-Schedule 1-53 (ESO1-53) Vegetation Protection Overlay-Schedule 1 (VPO1)	
Nearest Reticulated Sewer	Township of Lakes Entrance	Not feasible to connect to reticulated sewer. The area is unlikely to be sewerred in the 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	Available on existing allotment	Allows ready use of wastewater treatment plant
Land Features		
Geology	NI (Tmp) - Tertiary Marine deposits consisting of Marine, non-marine: gravel, sand (from 1:250,000 Geological Map Series BAIRNSDALE)	Observed Soils dominated by silty sands, overlying clayey sands
Elevation	Approx 70m AHD	
Landscape Elements	The site is situated mid slope (waxing convergent) on a rolling low hill system, with a yellow duplex sedimentary landscape.	Contoured landscape providing good drainage, but may concentrate runoff; run-off is accelerated. Use of bunds required.
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 slopes to the southeast	Slightly reduces sun exposure, and efficiency of effluent disposal field
River/Stream Catchment	Ephemeral Watercourse at southeast corner of property (<i>refer site plan for exact location</i>)	Necessary setbacks are easily achieved
Dams/Surface Water	Several small agricultural dam on subject site and adjacent allotment (<i>refer site plan for locations</i>)	Necessary setbacks are achievable
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	No vegetation clearing required for establishment of effluent disposal field or dwelling development
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) while achievable significantly limit siting of the LAA in relation to the Ephemeral Watercourse & Dam.	
Available Land Application Area (LAA)	Considering all site constraints and buffers mentioned above, the site has limited land that is suitable and available for land application of treated effluent. The preferred area is south and downslope of the proposed shed.	By using a system that provides secondary treatment and pressurized sub-surface irrigation, there will be ample protection for surface and groundwater

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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 Sustainable Soil Management “A reference manual to the major agricultural soils of the Bairnsdale and Dargo regions”, and are described as belonging to the Stockdale, Sandy Profile (Sd,sp) map unit. This unit occurs on rolling low hills and is comprised of Tertiary sediments. The surface soils are sandy loam to loamy sand with a clear transition to the B1 horizon soils at a depth of 400 – 800mm. The B-horizon soils are sandy clay and cemented clay sands with ferruginous nodules or ironstone concretions, often occurring in the lower A2 (or B horizons).

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 at three (3) locations in the vicinity of the proposed building, as shown on the Site Features Plan, using a hand auger (B1-3). This was sufficient to adequately characterise the soils, as only minor variation would be expected throughout the area of interest.

Samples of all discrete soil layers for test bore 3 were collected for subsequent laboratory analysis of pH⁴, electrical conductivity⁵ and Emerson Aggregate Class. The soil profiles of bores 1 & 2 are detailed below.


Depth (m)	Description	Horizon	 <p style="text-align: right; color: yellow; font-weight: bold;">BORE 1</p>
0.0	TOPSOIL: 10YR3/2 Very Dark Greyish Brown	A1	
0.1	Moist Fine Sandy Loam		
0.2	SAND: 10YR5/2 Greyish Brown	A2	
0.3	Moist Dense Silty		
0.4	Saturated soils at depth		
0.5	SAND: 10YR5/6 Yellowish Brown	B1	
0.6	Dry Very Dense Cemented Clayey		
0.7			
0.8			
0.9			
1.0+			

Depth (m)	Description	Horizon	 <p style="text-align: right; color: yellow; font-weight: bold;">BORE 2</p>
0.0	TOPSOIL: 10YR3/2 Very Dark Greyish Brown	A1	
0.1	Wett Fine Sandy Loam		
0.2		A2	
0.3	SAND: 10YR5/2 Greyish Brown		
0.4	Dry Dense		
0.5	SAND: 10YR5/6 Yellowish Brown	B1	
0.6	Dry Very Dense Cemented Clayey		
0.7			
0.8			
0.9			
1.0+			

⁴ The pH of 1:5 soil/water suspensions was measured using a Merck pH strip


⁵ EC (dS m⁻¹) was calculated by measuring the electrical conductivity of 1:5 soil water suspension.
438205 LCA (Mucchi)

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	<p>Soil Features: TEST BORE B3</p>	

Soil Features: TEST BORE B3			
Soil Horizon	A1	A2	B1
Depth (mm)	0 - 200	200 - 500	500 +
Boundary Type	NA	Gradual	Gradual
Field Texture Grade ⁶	FSL	LS	CS
Structure	Weak	Weak	Weak
pH	6.0	6.0	6.0
EC (dS m ⁻¹)	0.02	0.00	0.00
Dominant Colour	10YR3/2 Very Dk Greyish Brown	10YR5/2 Greyish Brown	10YR5/6 Yellowish Brown
Mottles	-	-	-
Dispersion	5	5	2
Coarse Fragments (% Volume)	-	-	15%
Soil Category⁷ (AS/NZ1547:2012)	3b	2a	2a
Design Irrigation Rate ⁸ (DIR mm/day)	4	5	5
Design Loading Rate ⁹ (DLR mm/day)	10	NR	NR

NA: Not Applicable NR: Not Recommended

Depth (m)	Description	Horizon	
0.0	TOPSOIL: Moist Sandy Loam	A1	
0.1			
0.2	SAND: Moist Dense Silty	A2	
0.3			
0.4			
0.5	SAND: Dry Very Dense Clayey	B1	
0.6			
0.7			
0.8			
0.9			
1.0			
1.2			
1.5+			

Soil Bore Log Profile


⁶ Refer Appendix D for description details(all soil samples have been sieved to minus 2mm and air-dried before being analyzed)

⁷ As identified in Victorian EPA Code of Practice – Onsite Wastewater Management (publication 891.4, July 2016) Appendix A, Table 9

⁸ For sub-surface irrigation (Refer Table M1 of AS/NZS 1547:2012)

⁹ For absorption trenches and bed

438205 LCA (Mucchi)

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	Client: SandS Building Design	Job No.: 438205
P.O. Box 566 191-193 Raymond St Sale, Vic, 3850 ACN 145 437 065	Checked:	Page No.: 6 of 11


5.0 LAND CAPABILITY 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 ¹⁰	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 Rating¹¹				Poor	4

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

¹⁰ Refer Table 5.1 (Determination of Soil Category) of AS/NZS 1547:2012

¹¹ A description of each Land Capability Class Rating is provided in Appendix A. 438205 LCA (Mucchi)

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6.0 CONCLUSION

This LCA has been prepared to accompany a development application to East Gippsland Shire Council for a Proposed Residence 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.

Note: The presence of highly permeable and weakly structured (Category 2a) soils results in the site being unsuitable for effluent disposal via septic tank and absorption trenches. This is due to the low nutrient retention capacities of these soils and the associated high risk of excessive levels of pathogens and nutrients moving rapidly through the soil profile and negatively impacting the groundwater.

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 Mucchi Residence on 35 Baades Rd, at the location indicated on the Site Features Plan 438205 - LC1:

- Install a system that provides secondary treatment with disinfection to meet EPA requirements for irrigation. Indicative target effluent quality is a minimum EPA standard 20mg/L BOD and 30mg/L SS. Several suitable options are available, including aerated wastewater treatment systems (AWTS) and single pass sand filters. Either of these options is capable of achieving the desired level of performance and final selection is the responsibility of the property owner, who will forward details to Council for approval.
- On-site disposal of domestic wastewater should occur within the proposed Land Application Area (refer Site Features Plan 438205 - LC1). The client is allowed flexibility in selecting the final location and configuration of the irrigation system, provided it remains within this envelope and in accordance with the relevant codes/standards.
- Swimming Pool water **must never** be discharged to the onsite wastewater treatment system or applied to the onsite wastewater LAA
- Calculation of Irrigation Area based on AS/NZ 1547 equation $A=Q/DIR$
 - Q – 880 L/day;
 - DIR – 5 mm/day;
 - Irrigation Area – 176 m²
- To determine if the irrigation area recommended above is adequate, a water balance¹² modelling has been undertaken to achieve a maximum wet weather storage depth of less than 20mm. The calculations are summarized below, with full details in Appendix B.
 - Average daily effluent load – 880 L
 - Design irrigation rate (DIR) – 5 mm/day;
 - Crop factor – 0.6 to 0.85; and
 - Retained Rainfall – 75%.
 - **Irrigation Area – 200m²**
 - Max Wet Weather Storage Depth – 19 mm (*therefore area shown in bold to be adopted*)
- 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)*.
- The owner shall consult an irrigation expert familiar with wastewater irrigation equipment, to help design and install the irrigation system. The irrigation plan must ensure good, even application of effluent.

¹² Water Balance undertaken in accordance with EPA Publication 168 (1991), Guidelines for Wastewater Irrigation. 438205 LCA (Mucchi)

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8.0 MANAGEMENT PROGRAM

8.1 Installation Issues

To ensure the satisfactory installation and operation of the AWTS & sub-surface irrigation, 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 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 sub-surface irrigation system to be undertaken when the soils are dry or moist, not when the ground is saturated;
- Sub-surface irrigation system to be designed to minimise root intrusion from trees;
- Sub-surface irrigation system to utilise pressure dosing to ensure effluent is applied uniformly throughout the effluent disposal area

8.2 Ongoing Management & Maintenance Issues

To ensure the satisfactory ongoing performance of the proposed AWTS & sub-surface irrigation, 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 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;
- 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 AWTS & sub-surface irrigation 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 AWTS & sub-surface irrigation 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 phosphorus 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.
- Fats, oils, milk, tea leaves, coffee grounds and other kitchen food liquids, particles and scraps should be composted in a compost bin. These organic wastes **SHOULD NOT** be disposed of into the onsite wastewater treatment system.

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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35 Baades Rd
Lakes Entrance

Client: SandS Building Design

Checked:

Date: 14 Oct 2023
Designed: SJA
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APPENDIX B

Lakes Entrance 084083

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	10	11
Month	Days	daily pan	Pan Eo	Et	Rainfall	Retained	LTAR*N	Disposal	Effluent	Size of
	per	per		+C*Eo	P	Rainfall		rate/month	applied	area
	month	(B.Met)				Re=(1-r)P	5	(Et-Re)+	per month	(8)/(7)
								LTAR*N	880	
		mm	mm	mm	mm	mm	mm	mm	L	m2
Jan	31	5.0	155.0	132	55.9	41.9	155	244.8	27280	111
Feb	28	4.6	128.8	109	41.5	31.1	140	218.4	24640	113
Mar	31	3.5	108.5	92	53.7	40.3	155	207.0	27280	132
Apr	30	2.4	72.0	43	62.8	47.1	150	146.1	26400	181
May	31	1.6	49.6	30	65.6	49.2	155	135.6	27280	201
Jun	30	1.2	36.0	22	61.9	46.4	150	125.2	26400	211
Jul	31	1.3	40.3	24	54.2	40.7	155	138.5	27280	197
Aug	31	2.0	62.0	37	50.3	37.7	155	154.5	27280	177
Sep	30	2.6	78.0	47	59.2	44.4	150	152.4	26400	173
Oct	31	3.4	105.4	90	63	47.3	155	197.3	27280	138
Nov	30	4.1	123.0	105	71	53.3	150	201.3	26400	131
Dec	31	4.6	142.6	121	70.8	53.1	155	223.1	27280	122
Totals			1101.2	852	709.9	532.4				

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	(above)	stored	effluent	effluent	effluent	<0	10 x area
		(mm)	(mm)	(mm)	(5)/porosity	month	+(6)	(mm)	(mm)	(L)
Dec								0.0	0	
Jan	200	136	245	-108	-271	0	-271	-271	0	0
Feb		123	218	-95	-238	0	-238	-238	0	0
Mar		136	207	-71	-176	0	-176	-176	0	0
Apr		132	146	-14	-35	0	-35	-35	0	0
May		136	136	1	2	0	2	2	2	126
Jun		132	125	7	17	2	17	19	19	1150
Jul		136	139	-2	-5	19	-5	14	14	830
Aug		136	154	-18	-45	14	-45	-31	0	0
Sep		132	152	-20	-51	0	-51	-51	0	0
Oct		136	197	-61	-152	0	-152	-152	0	0
Nov		132	201	-69	-173	0	-173	-173	0	0
Dec		136	223	-87	-217	0	-217	-217	0	0
Jan		136	245	-108	-271	0	-271	-271	0	0
Feb		123	218	-95	-238	0	-238	-238	0	0
Mar		136	207	-71	-176	0	-176	-176	0	0
Apr		132	146	-14	-35	0	-35	-35	0	0
May		136	136	1	2	0	2	2	2	126

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 = 5 L/m2/day

FLOWS = 880 L/day

Estimated area of effluent drainfield = 200 square metres

Maximum depth of stored effluent = 19 mm depth

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APPENDIX C

RECORD OF FIELD TEXTURE DETERMINATION						
Soil	Grittiness	Stickiness	Plasticity	Stain	Ribbon (mm)	Grade
A1	Slight	Slight	None	Slight	25	FSL
A2	Extreme	None	None	None	5	LS
B1	Extremely	Moderate	None	Extremely	15	CS


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%
	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%
2	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 "silkeness"; 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

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9.0 REFERENCES

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

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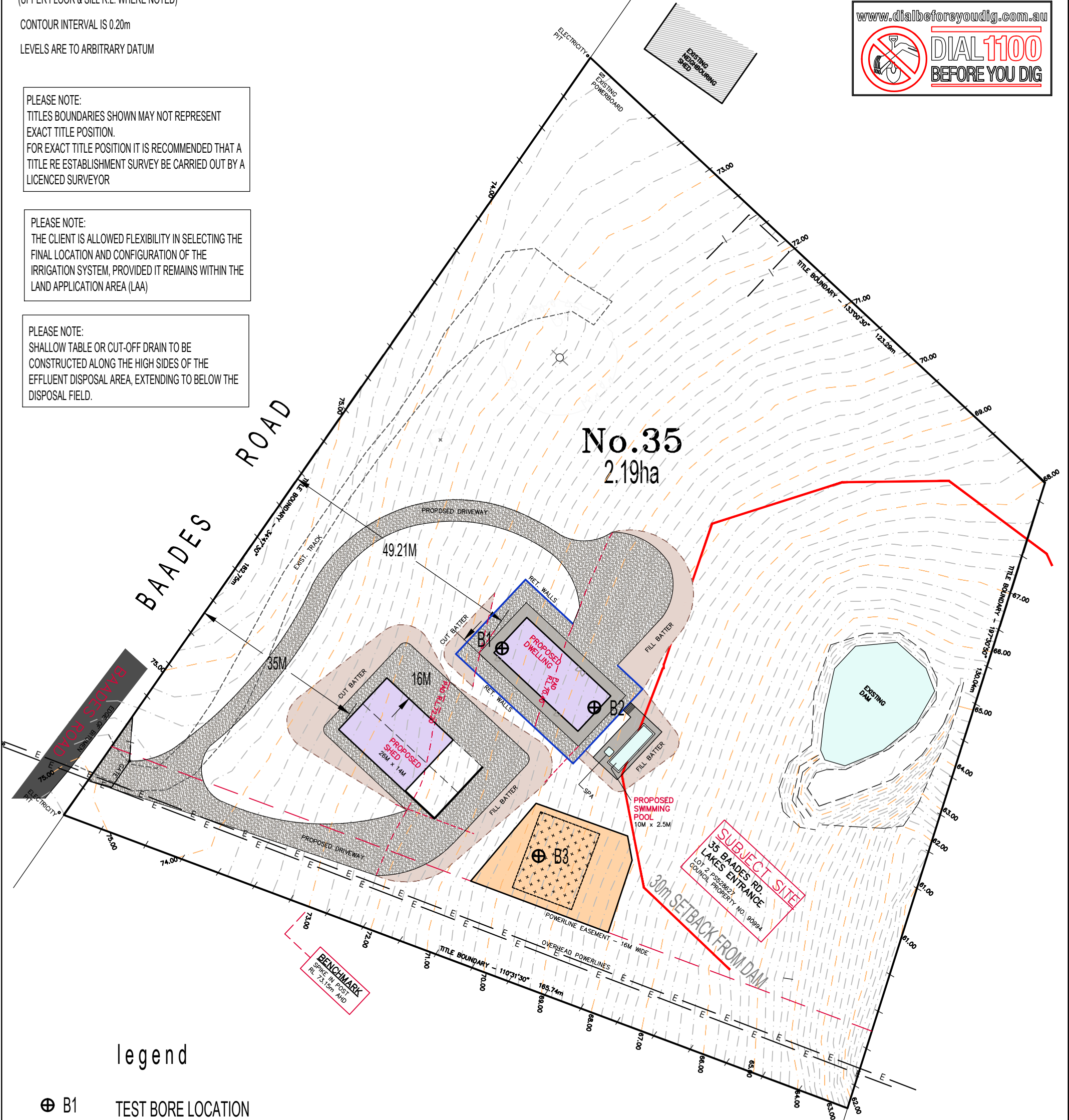


NOTES:
 DENOTES NATURAL SURFACE LEVEL 10.23
 DENOTES FLOOR LEVEL FL 12.00 APP.
 ALL LENGTHS ARE IN METRES
 DENOTES HABITABLE ROOM WINDOW HRW
 DENOTES NON HABITABLE ROOM WINDOW (UPPER FLOOR & SILL R.L. WHERE NOTED) NHRW
 CONTOUR INTERVAL IS 0.20m
 LEVELS ARE TO ARBITRARY DATUM

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 FOR EXACT TITLE POSITION IT IS RECOMMENDED THAT A TITLE RE ESTABLISHMENT SURVEY BE CARRIED OUT BY A LICENCED SURVEYOR

PLEASE NOTE:
 THE CLIENT IS ALLOWED FLEXIBILITY IN SELECTING THE FINAL LOCATION AND CONFIGURATION OF THE IRRIGATION SYSTEM, PROVIDED IT REMAINS WITHIN THE LAND APPLICATION AREA (LAA)

PLEASE NOTE:
 SHALLOW TABLE OR CUT-OFF DRAIN TO BE CONSTRUCTED ALONG THE HIGH SIDES OF THE EFFLUENT DISPOSAL AREA, EXTENDING TO BELOW THE DISPOSAL FIELD.



Legend

- ⊕ B1 TEST BORE LOCATION
- SUITABLE LAND APPLICATION AREA (LAA - 480 m² available)
- IRRIGATION AREA - 200 m² required (for a 3 bedroom dwelling)

SITE FEATURES PLAN
 SCALE 1:750

REV	DESCRIPTION	CHKD	DATE	Design: JDP	Project: SITE ANALYSIS	Job No: 438205
				Drawn: JDP	35 BAADES RD, LAKES ENTRANCE	Drawing No: LC1
				Checked: SJA	Client: SANDS BUILDING DESIGN	Revision No: -
				Date: 14 OCT 2023		

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DRAWING SCHEDULE

ARCHITECTURAL DRAWINGS

- SK1 SITE & FLOOR PLAN
- SK2 PERSPECTIVE VIEWS
- SK3 PERSPECTIVE VIEWS
- SK4 PERSPECTIVE VIEWS
- SK5 PERSPECTIVE VIEWS
- SK6 ORTHOGRAPHIC VIEWS
- SK7 ELEVATIONS



MUCCHI RESIDENCE

SUBJECT SITE : NO. 35 BAADES RD. LAKES ENTRANCE

CLIENT : TREVOR & MAREE MUCCHI

DESIGNER :



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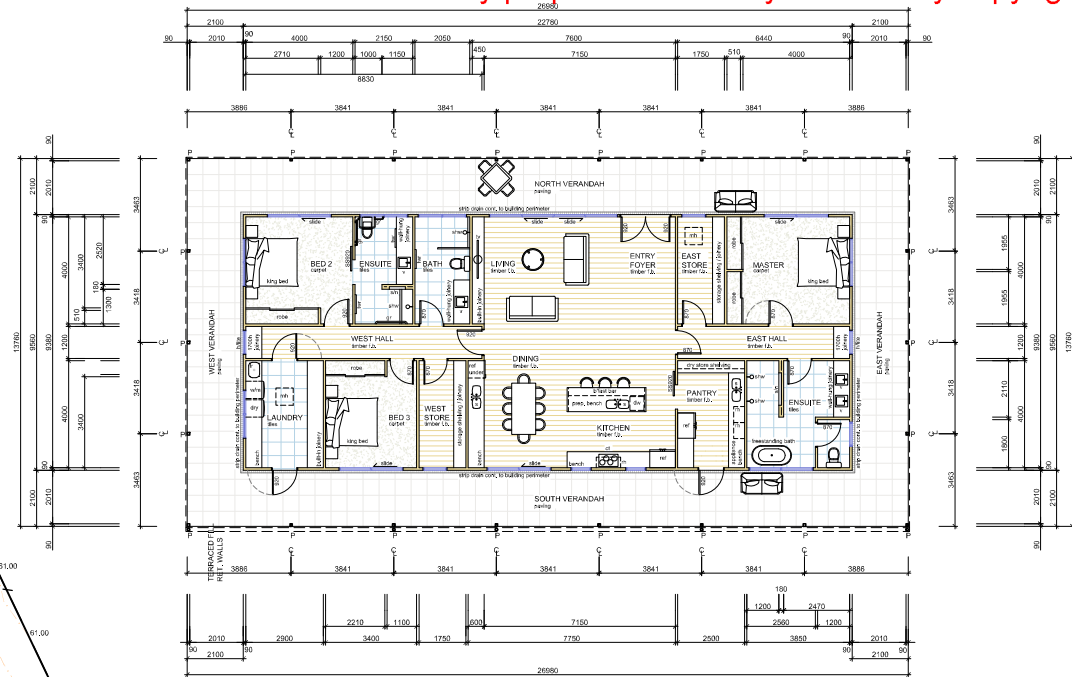
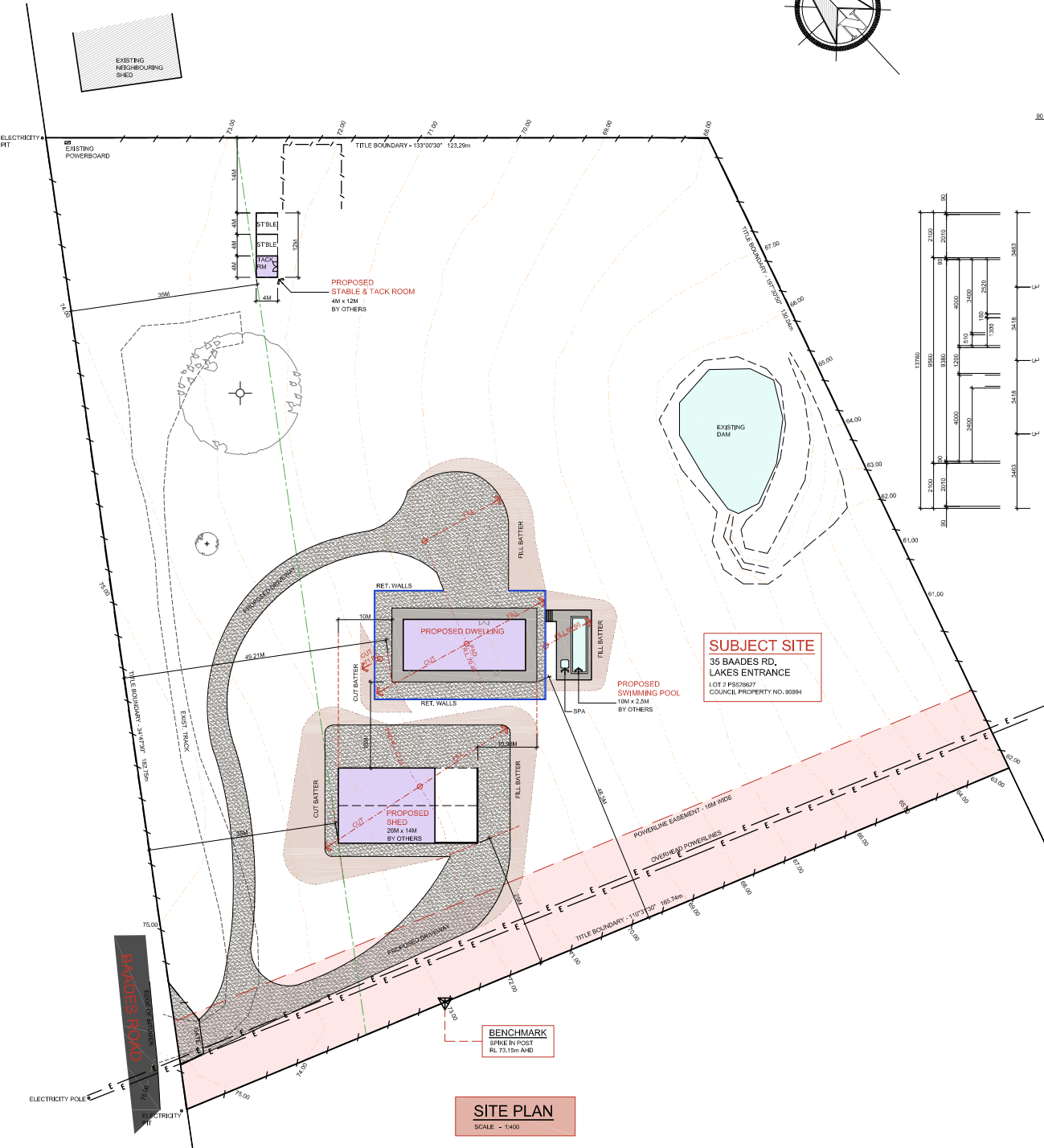
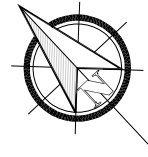
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PRELIMINARY ISSUE

Job No. 23866

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LEGEND

- sw SWIMMER
- cl INDUCTION COOKTOP WITH OVERLIDER
- clw CLOUTED SINK
- sp SPICE RACK
- mn MANGRO
- pr RAINWATER THAT VENTS TO OUTSIDE AIR
- ref REFRIGERATOR PROVIDE WATER COOLER/ICE MACHINE
- s SELECT STAINLESS STEEL SINK
- sw SWIMMING POOL COVER 50% TONNAGE IN COVERT SILE
- wh ROOF - RE-RENDERED WALL
- tv TROUSER
- tv TELEPHONE PROVIDE TELEPHONE POINT
- tw TOWER TALK
- v VENT - WALL MIRE
- wh WASHING MACHINE

AREA ANALYSIS

DWELLING	217.78 Sqm	25.43 SQUARES
VERANDAHS	153.49 Sqm	18.51 SQUARES
TOTAL ROOF	371.24 Sqm	33.94 SQUARES

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MUOCH RESIDENCE
35 BAADES RD,
LAKES ENTRANCE
CLIENT TREVOR & MARIE MUOCH
JOB NO 23066
DATE 19/10/23
DESIGNED BY COR-AD 58137
DRAWN BY GIS
CHECKED BY DEVELOPMENT PLAN
PROJECT REVISED CONCEPT
SCALE 1:100

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East Perspective



ENE Perspective



NE Perspective

MUCCHE RESIDENCE
35 BAADER RD,
LAKES ENTRANCE

CLIENT: TREVOR & MARIE MUCCHI
JOB NO: 23806
DATE: 08/08/23
DESIGNED BY: CJS COP-AD 58137
DRAWN BY: CJS COP-AD 58137
DESCRIPTION: PERSPECTIVE VIEWS
SCALE: CONCEPT
SCALE: N/A

SAND
BUILDING DESIGN

1/21 227 880 942
1/21 227 2700
1/21 227 2700
1/21 227 2700

Printed 22/03/2024
Page 50 of 58

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NNW Perspective



NNE Perspective



MUCCHI RESIDENCE
35 BAADER RD,
LAKES ENTRANCE

CLIENT: TREVOR & MARIE MUCCHI
JOB NO: 23806
DATE: 08/08/23
DESIGNED BY: GJS COP-AD 58137
DRAWN BY: GJS COP-AD 58137
DESCRIPTION: PERSPECTIVE VIEWS
SCALE: CONCEPT
SCALE: N/A

FOR 22/08/24
FOR 22/08/24
FOR 22/08/24

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Page 51 of 58

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SE Perspective



South Perspective



SSW Perspective



MUCCHI RESIDENCE
35 BAADES RD,
LAKES ENTRANCE

CLIENT	TREVOR & MAREE MUCCHI
JOB NO.	23865
DATE	08/09/23
DESIGNED BY	C.J.S. COP-AD 85137
DRAWN BY	C.J.S. COP-AD 85137
DESCRIPTION	PERSPECTIVE VIEWS
SCALE	CONCEPT
SCALE	N/A

ACN 127 880 942
10/136 STYRL, 30/3 Mable St, Melbourne 3175
P: (03) 5432 7200
E: info@sandbuildingdesign.com.au

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WNW Perspective



North Perspective



West Perspective



MUCCHI RESIDENCE
35 BAADES RD.
LAKES ENTRANCE

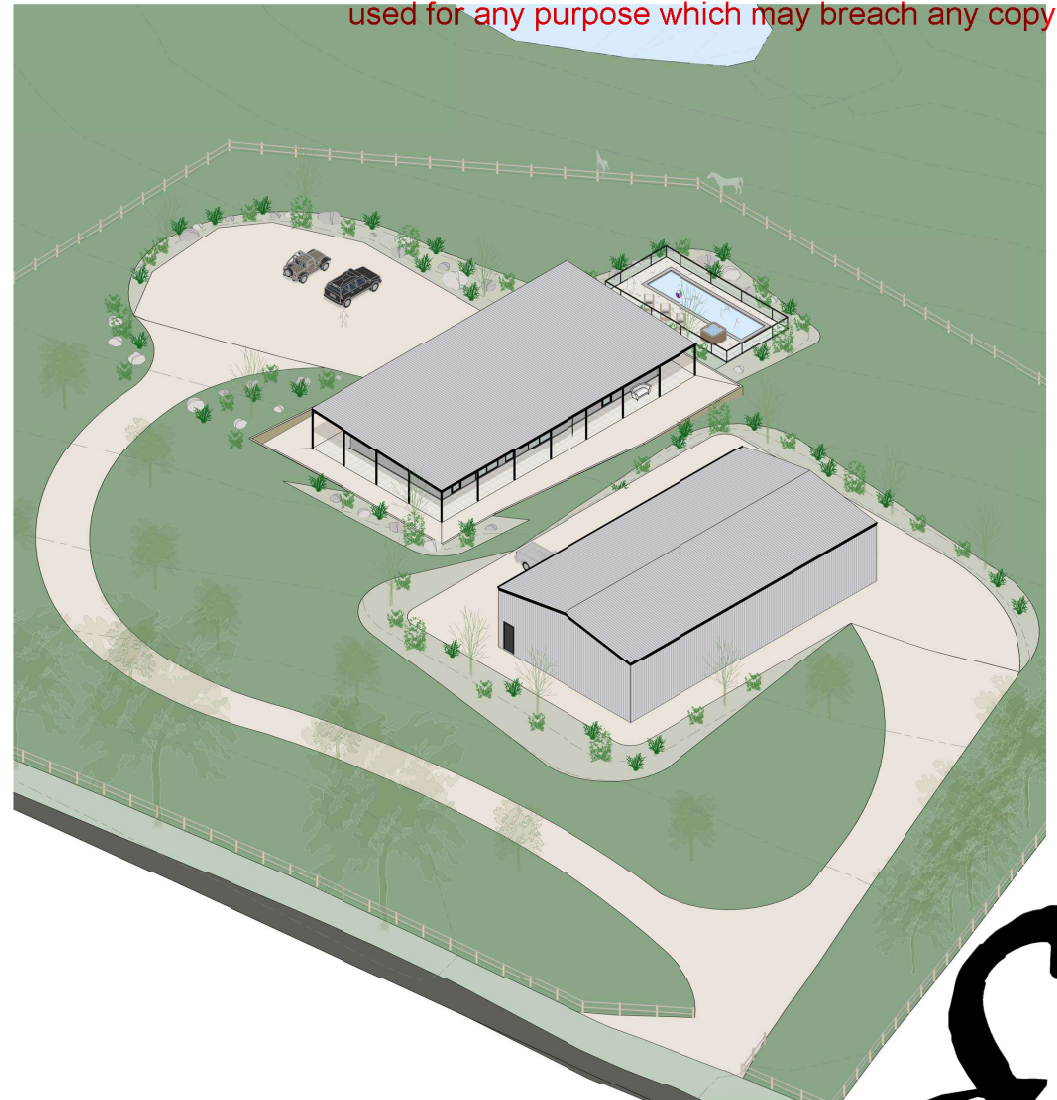
CLIENT: TREVOR & MARIE MUCCHI
JOB NO: 23865
DATE: 08/09/23
DESIGNED BY: CJS - COP-AD 88137
DRAWN BY: CJS - COP-AD 88137
DESCRIPTION: PERSPECTIVE VIEWS
SCALE: CONCEPT
SCALE: N/A

SAND BUILDING DESIGN
1/211/1000 5700, 1/211/1000 16, Melbourne, 3175
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Orthographic - East



Orthographic - West



MUCCHI RESIDENCE
35 BAADES RD.
LAKES ENTRANCE

CLIENT	TREVOR & MARIE MUCCHI
JOB NO.	23086
DATE	01/01/23
DESIGNED BY	CJS COP-AD 08137
DRAWN BY	CJS COP-AD 08137
DESCRIPTION	ORTHOGRAFIC VIEWS
SCALE	CONCEPT
SCALE	NA

JCM 22 08 02
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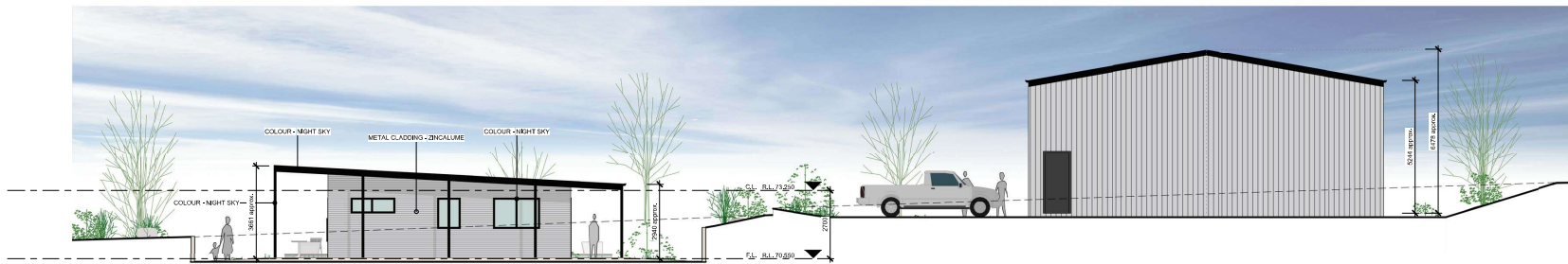
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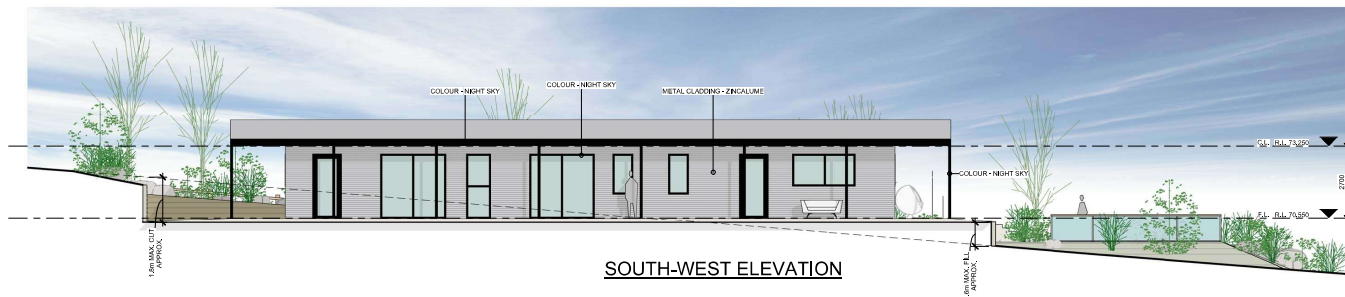
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NORTH-EAST ELEVATION



NORTH-WEST ELEVATION



SOUTH-WEST ELEVATION

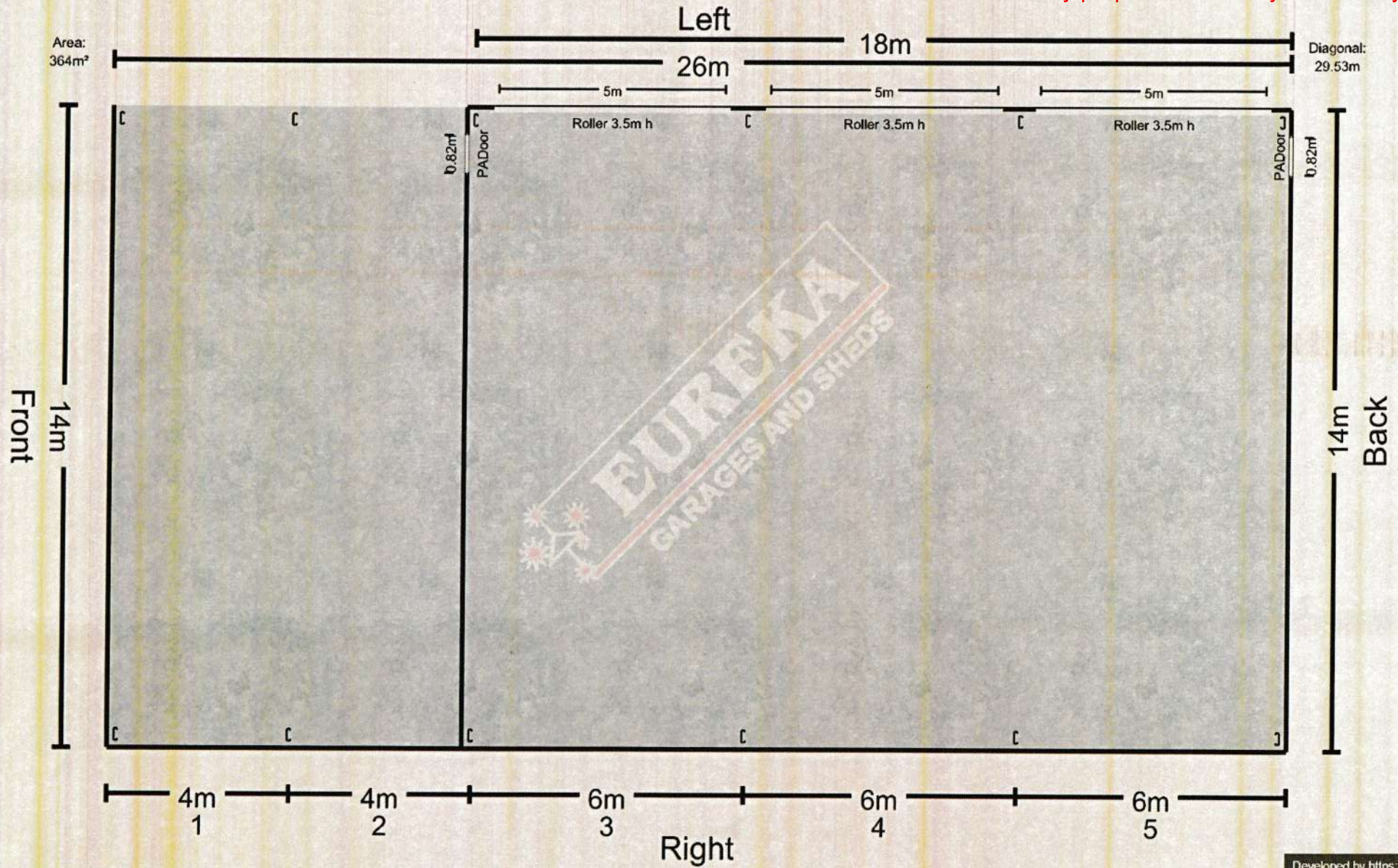
MUCCH RESIDENCE
35 BAADES RD.
LAKES ENTRANCE

CLIENT: TREVOR & MAREE MUCCHI
JOB NO.: 23956
DATE: 15/02/24
DESIGNED BY: CJS CDF-AD 58137
DRAWN BY: CJS CDF-AD 58137
DESCRIPTION: 85.8x16.10MS
SCALE: CONCEPT
SCALE: 1:100

ANZ 127 680 982
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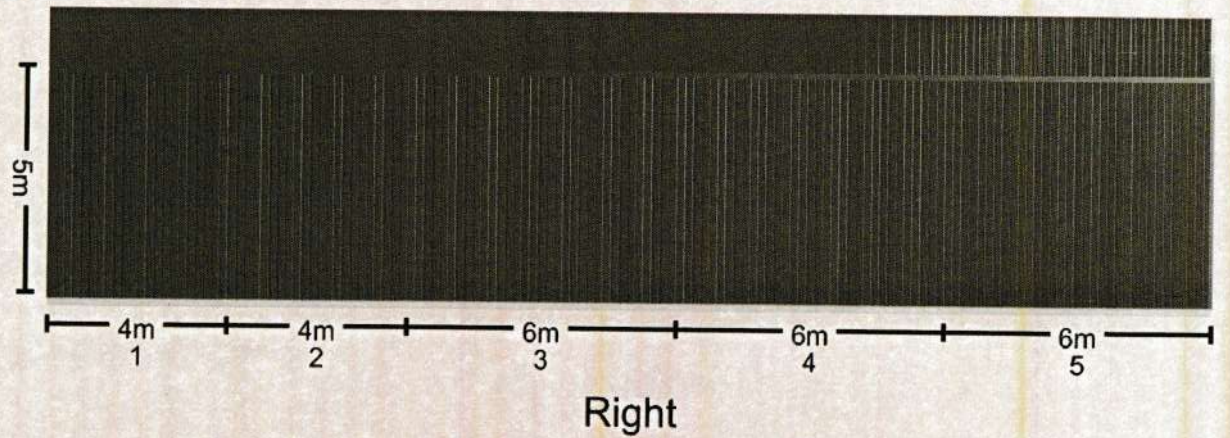
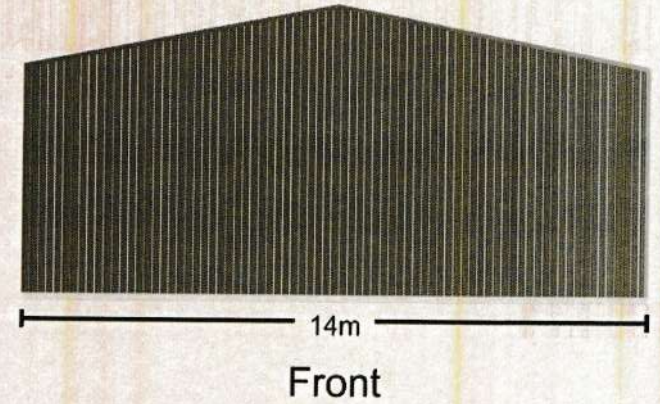
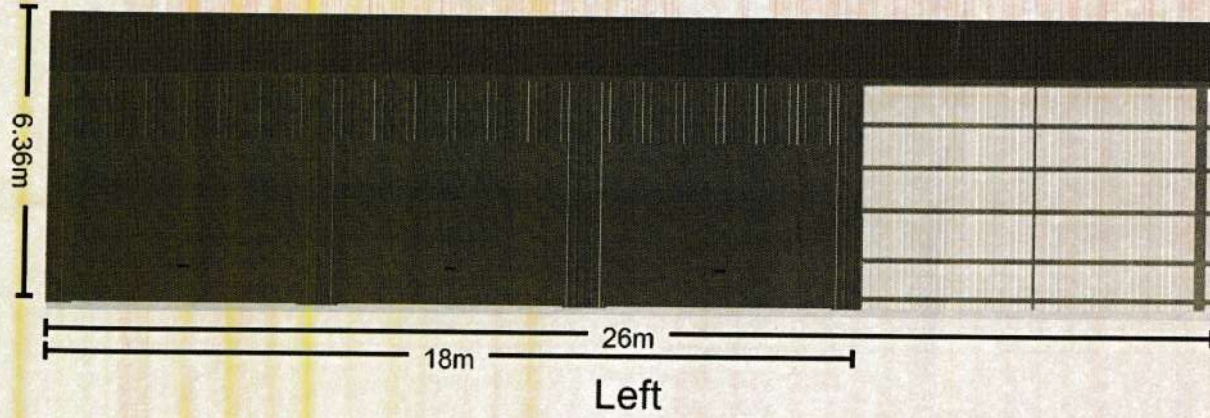
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