Notice of Application for a Planning Permit

Cardinia

The land affected by the application is located at:	L3 PS635280 V11280 F799 25 Bessie Creek Road, Nar Nar Goon North VIC 3812
The application is for a permit to:	Use and development of land for clean fill and Removal of Native Vegetation.

APPLICATION DETAILS	
The applicant for the permit is:	Taylors Development Strategists
Application number:	T240004

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

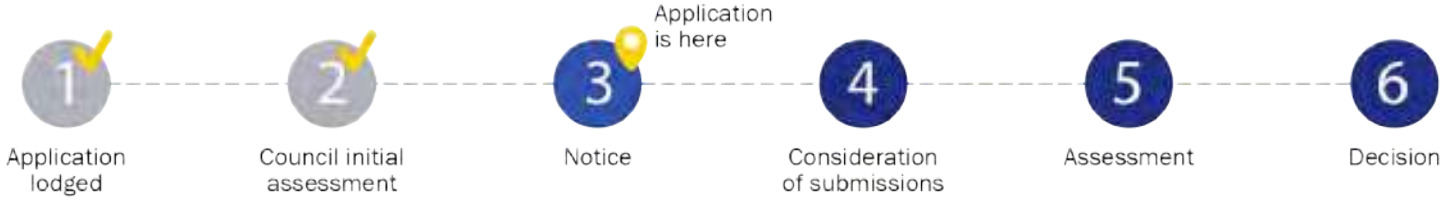
Cardinia Shire Council, 20 Siding Avenue, Officer 3809.

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

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

HOW CAN I MAKE A SUBMISSION?

This application has not been decided. You can still make a submission before a decision has been made. The Responsible Authority will not decide on the application before:		19 July 2024
WHAT ARE MY OPTIONS? Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.	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. If you object, the Responsible Authority will notify you of the decision when it is issued.	The Responsible Authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.



Cardinia

Planning Enquiries
Phone: 1300 787 624
Web: www.cardinia.vic.gov.au

Office Use Only

Application No.: Date Lodged: / /

Application for a **Planning Permit**

If you need help to complete this form, read MORE INFORMATION at the end of this form.

⚠ Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the *Planning and Environment Act 1987*. If you have any questions, please contact Council's planning department.

⚠ **Questions marked with an asterisk (*) must be completed.**

⚠ **If the space provided on the form is insufficient, attach a separate sheet.**

i Click for further information.

Clear Form

The Land i

Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

Unit No.: | St. No.: 25 | St. Name: Bessie Creek Road

Suburb/Locality: Nar Nar Goon North | Postcode: 3812

Formal Land Description *
Complete either A or B.

⚠ This information can be found on the certificate of title.

If this application relates to more than one address, attach a separate sheet setting out any additional property details.

A Lot No.: 3 ○ Lodged Plan ○ Title Plan ⊗ Plan of Subdivision No.: 635280A

OR

B Crown Allotment No.: | Section No.:

Parish/Township Name:

The Proposal

⚠ You must give full details of your proposal and attach the information required to assess the application. Insufficient or unclear information will delay your application.

i **For what use, development or other matter do you require a permit?** *

Earthworks

☑ Provide additional information about the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

i **Estimated cost of any development for which the permit is required** *

Cost $ 400,000 ⚠ You may be required to verify this estimate. Insert '0' if no development is proposed.

If the application is for land within **metropolitan Melbourne** (as defined in section 3 of the *Planning and Environment Act 1987*) and the estimated cost of the development exceeds $1 million (adjusted annually by CPI) the Metropolitan Planning Levy **must** be paid to the State Revenue Office and a current levy certificate **must** be submitted with the application.
Visit www.sro.vic.gov.au for information.

Existing Conditions

Describe how the land is used and developed now *

For example, vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

Vacant land

☑ Provide a plan of the existing conditions. Photos are also helpful.

Title Information

Encumbrances on title *

Does the proposal breach, in any way, an encumbrance on title such as a restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?

○ Yes (If 'yes' contact Council for advice on how to proceed before continuing with this application.)

⊗ No

○ Not applicable (no such encumbrance applies).

☑ Provide a full, current copy of the title for each individual parcel of land forming the subject site.
The title includes: the covering 'register search statement', the title diagram and the associated title documents, known as 'instruments', for example, restrictive covenants.

Applicant and Owner Details

Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Name:

Title: | First Name: | Surname:

Organisation (if applicable): Urban Resource Management Australia

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: | St. Name: PO Box 2023

Suburb/Locality: Mountain Gate | State: VIC | Postcode: 3156

Please provide at least one contact phone number *

Contact information for applicant OR contact person below

Business phone: 03 9501 2800 | Email: m.law@taylorsds.com.au

Mobile phone: | Fax:

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Contact person's details*

Same as applicant ☐

Name:

[redacted]

Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organisation.

Same as applicant ☐

Name:

[redacted]

Declaration

This form must be signed by the applicant *

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

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

Signature [redacted]

Date: 19/12/2023 day / month / year

Need help with the Application?

General information about the planning process is available at planning.vic.gov.au

Contact Council's planning department to discuss the specific requirements for this application and obtain a planning permit checklist. Insufficient or unclear information may delay your application.

Has there been a pre-application meeting with a council planning officer?

(X) No ( ) Yes If 'Yes', with whom?:

Date: day / month / year

Checklist

Have you:

- [ ] Filled in the form completely?
- [ ] Paid or included the application fee? ⚠ Most applications require a fee to be paid. Contact Council to determine the appropriate fee.
- [x] Provided all necessary supporting information and documents?
  - [ ] A full, current copy of title information for each individual parcel of land forming the subject site.
  - [ ] A plan of existing conditions.
  - [ ] Plans showing the layout and details of the proposal.
  - [ ] Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
  - [ ] If required, a description of the likely effect of the proposal (for example, traffic, noise, environmental impacts).
  - [ ] If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it is issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void.
- [ ] Completed the relevant council planning permit checklist?
- [ ] Signed the declaration?

Lodgement

Lodge the completed and signed form, the fee and all documents with:

Cardinia Shire Council
PO Box 7
Pakenham VIC 3810

In person: 20 Siding Avenue, Officer

Contact Information:
Telephone: 1300 787 624
Email: mail@cardinia.vic.gov.au
DX: 81006

Deliver application in person, by post or by electronic lodgement.

MORE INFORMATION

The Land

Planning permits relate to the use and development of the land. It is important that accurate, clear and concise details of the land are provided with the application.

How is land identified?

Land is commonly identified by a street address, but sometimes this alone does not provide an accurate identification of the relevant parcel of land relating to an application. Make sure you also provide the formal land description - the lot and plan number or the crown, section and parish/township details (as applicable) for the subject site. This information is shown on the title.

See **Example 1**.

The Proposal

Why is it important to describe the proposal correctly?

The application requires a description of what you want to do with the land. You must describe how the land will be used or developed as a result of the proposal. It is important that you understand the reasons why you need a permit in order to suitably describe the proposal. By providing an accurate description of the proposal, you will avoid unnecessary delays associated with amending the description at a later date.

⚠ Planning schemes use specific definitions for different types of use and development. Contact the Council planning office at an early stage in preparing your application to ensure that you use the appropriate terminology and provide the required details.

How do planning schemes affect proposals?

A planning scheme sets out policies and requirements for the use, development and protection of land. There is a planning scheme for every municipality in Victoria. Development of land includes the construction of a building, carrying out works, subdividing land or buildings and displaying signs.

Proposals must comply with the planning scheme provisions in accordance with Clause 61.05 of the planning scheme. Provisions may relate to the State Planning Policy Framework, the Local Planning Policy Framework, zones, overlays, particular and general provisions. You can access the planning scheme by either contacting Council's planning department or by visiting Planning Schemes Online at planning-schemes.delwp.vic.gov.au

⚠ You can obtain a planning certificate to establish planning scheme details about your property. A planning certificate identifies the zones and overlays that apply to the land, but it does not identify all of the provisions of the planning scheme that may be relevant to your application. Planning certificates for land in metropolitan areas and most rural areas can be obtained by visiting www.landata.vic.gov.au Contact your local Council to obtain a planning certificate in Central Goldfields, Corangamite, Macedon Ranges and Greater Geelong. You can also use the free Planning Property Report to obtain the same information.

See **Example 2**.

Estimated cost of development

In most instances an application fee will be required. This fee must be paid when you lodge the application. The fee is set down by government regulations.

To help Council calculate the application fee, you must provide an accurate cost estimate of the proposed development. This cost does not include the costs of development that you could undertake without a permit or that are separate from the permit process. Development costs should be calculated at a normal industry rate for the type of construction you propose.

Council may ask you to justify your cost estimates. Costs are required solely to allow Council to calculate the permit application fee. Fees are exempt from GST.

⚠ Costs for different types of development can be obtained from specialist publications such as Cordell Housing: Building Cost Guide or Rawlinsons: Australian Construction Handbook.

⚠ Contact the Council to determine the appropriate fee. Go to planning.vic.gov.au to view a summary of fees in the Planning and Environment (Fees) Regulations.

Metropolitan Planning Levy refer Division 5A of Part 4 of the *Planning and Environment Act 1987* (the Act). A planning permit application under section 47 or 96A of the Act for a development of land in metropolitan Melbourne as defined in section 3 of the Act may be a leviable application. If the cost of the development exceeds the threshold of $1 million (adjusted annually by consumer price index) a levy certificate must be obtained from the State Revenue Office after payment of the levy. A valid levy certificate must be submitted to the responsible planning authority (usually council) with a leviable planning permit application. Refer to the State Revenue Office website at www.sro.vic.gov.au for more information. A leviable application submitted without a levy certificate is void.

Existing Conditions

How should land be described?

You need to describe, in general terms, the way the land is used now, including the activities, buildings, structures and works that exist (e.g. single dwelling, 24 dwellings in a three-storey building, medical centre with three practitioners and 8 car parking spaces, vacant building, vacant land, grazing land, bush block).

Please attach to your application a plan of the existing conditions of the land. Check with the local Council for the quantity, scale and level of detail required. It is also helpful to include photographs of the existing conditions.

See **Example 3**.

Title Information

What is an encumbrance?

An 'encumbrance' is a formal obligation on the land, with the most common type being a 'mortgage'. Other common examples of encumbrances include:

- **Restrictive Covenants**: A 'restrictive covenant' is a written agreement between owners of land restricting the use or development of the land for the benefit of others, (eg. a limit of one dwelling or limits on types of building materials to be used).
- **Section 173 Agreements**: A 'section 173 agreement' is a contract between an owner of the land and the Council which sets out limitations on the use or development of the land.
- **Easements:** An 'easement' gives rights to other parties to use the land or provide for services or access on, under or above the surface of the land.
- **Building Envelopes:** A 'building envelope' defines the development boundaries for the land.

Aside from mortgages, the above encumbrances can potentially limit or even prevent certain types of proposals.

What documents should I check to find encumbrances?

Encumbrances are identified on the title (register search statement) under the header 'encumbrances, caveats and notices'. The actual details of an encumbrance are usually provided in a separate document (instrument) associated with the title. Sometimes encumbrances are also marked on the title diagram or plan, such as easements or building envelopes.

What about caveats and notices?

A 'caveat' is a record of a claim from a party to an interest in the land. Caveats are not normally relevant to planning applications as they typically relate to a purchaser, mortgagee or chargee claim, but can sometimes include claims to a covenant or easement on the land. These types of caveats may affect your proposal.

Other less common types of obligations may also be specified on title in the form of 'notices'. These may have an effect on your proposal, such as a notice that the building on the land is listed on the Heritage Register.

What happens if the proposal contravenes an encumbrance on title?

Encumbrances may affect or limit your proposal or prevent it from proceeding. Section 61(4) of the *Planning and Environment Act 1987* for example, prevents a Council from granting a permit if it would result in a breach of a registered restrictive covenant. If the proposal contravenes any encumbrance, contact the Council for advice on how to proceed.

You may be able to modify your proposal to respond to the issue. If not, separate procedures exist to change or remove the various types of encumbrances from the title. The procedures are generally quite involved and if the encumbrance relates to more than the subject property, the process will include notice to the affected party.

⚠ You should seek advice from an appropriately qualified person, such as a solicitor, if you need to interpret the effect of an encumbrance or if you seek to amend or remove an encumbrance.

Why is title information required?

Title information confirms the location and dimensions of the land specified in the planning application and any obligations affecting what can be done on or with the land.

As well as describing the land, a full copy of the title will include a diagram or plan of the land and will identify any encumbrances, caveats and notices.

What is a 'full' copy of the title?

The title information accompanying your application must include a 'register search statement' and the title diagram, which together make up the title.

In addition, any relevant associated title documents, known as 'instruments', must also be provided to make up a full copy of the title.

Check the title to see if any of the types of encumbrances, such as a restrictive covenant, section 173 agreement, easement or building envelope, are listed. If so, you must submit a copy of the document (instrument) describing that encumbrance. Mortgages do not need to be provided with planning applications.

⚠ Some titles have not yet been converted by Land Registry into an electronic register search statement format. In these earlier types of titles, the diagram and encumbrances are often detailed on the actual title, rather than in separate plans or instruments.

Why is 'current' title information required?

It is important that you attach a current copy of the title for each individual parcel of land forming the subject site. 'Current' title information accurately provides all relevant and up-to-date information.

Some councils require that title information must have been searched within a specified time frame. Contact the Council for advice on their requirements.

⚠ Copies of title documents can be obtained from Land Registry: Level 10, 570 Bourke Street, Melbourne; 03 8636 2010; www.landata.vic.gov.au – go direct to "titles & property certificates".

Applicant and Owner Details

This section provides information about the permit applicant, the owner of the land and the person who should be contacted about any matters concerning the permit application.

The applicant is the person or organisation that wants the permit. The applicant can, but need not, be the contact person.

In order to avoid any confusion, the Council will communicate only with the person who is also responsible for providing further details. The contact may be a professional adviser (e.g. architect or planner) engaged to prepare or manage the application. To ensure prompt communications, contact details should be given.

Check with Council how they prefer to communicate with you about the application. If an email address is provided this may be the preferred method of communication between council and the applicant/contact.

The owner of the land is the person or organisation who owns the land at the time the application is made. Where a parcel of land has been sold and an application made prior to settlement, the owner's details should be identified as those of the vendor. The owner can, but need not, be the contact or the applicant.

See **Example 4**.

Declaration

The declaration should be signed by the person who takes responsibility for the accuracy of all the information that is provided. This declaration is a signed statement that the information included with the application is true and correct at the time of lodgement.

The declaration can be signed by the applicant or owner. If the owner is not the applicant, the owner must either sign the application form or must be notified of the application which is acknowledged in the declaration.

⚠ Obtaining or attempting to obtain a permit by wilfully making or causing any false representation or declaration, either orally or in writing, is an offence under the *Planning and Environment Act 1987* and could result in a fine and/or cancellation of the permit.

Need help with the Application?

If you have attended a pre-application meeting with a Council planner, fill in the name of the planner and the date, so that the person can be consulted about the application once it has been lodged.

Checklist

What additional information should you provide to support the proposal?

You should provide sufficient supporting material with the application to describe the proposal in enough detail for the Council to make a decision. It is important that copies of all plans and information submitted with the application are legible.

There may be specific application requirements set out in the planning scheme for the use or development you propose. The application should demonstrate how these have been addressed or met.

The checklist is to help ensure that you have:

- provided all the required information on the form
- included payment of the application fee
- attached all necessary supporting information and documents
- completed the relevant Council planning permit checklist
- signed the declaration on the last page of the application form

⚠ The more complete the information you provide with your permit application, the sooner Council will be able to make a decision.

Lodgement

The application must be lodged with the Council responsible for the planning scheme in which the land affected by the application is located. In some cases the Minister for Planning or another body is the responsible authority instead of Council. Ask the Council if in doubt.

Check with Council how they prefer to have the application lodged. For example, they may have an online lodgement system, prefer email or want an electronic and hard copy. Check also how many copies of plans and the size of plans that may be required.

Contact details are listed in the lodgement section on the last page of the form.

⚠ Approval from other authorities: In addition to obtaining a planning permit, approvals or exemptions may be required from other authorities or Council departments. Depending on the nature of your proposal, these may include food or health registrations, building permits or approvals from water and other service authorities.

EXAMPLES

Example 1

The Land

Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

St. No.: 26 | St. Name: Planmore Avenue

Suburb/Locality: HAWTHORN

Formal Land Description *
Complete either A or B.

This information can be found on the certificate of title.

If this application relates to more than one address, attach a separate sheet setting out any additional property details.

A ○ Lodged Plan ○ Title Plan ☑ Plan of Subdivision

OR

B

Example 2

For what use, development or other matter do you require a permit? *

Construction of two, double-storey dwellings and construction of two new crossovers.

☒ Provide additional information about the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

Example 3

Existing Conditions

Describe how the land is used and developed now *

For example, vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

Single dwelling.

☒ rovide a plan of the existing conditions. Photos are also helpful.

Example 4

Applicant and Owner Details

Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Name:

Title: Mr | First Name: Len | Surname: Browning

Organisation (if applicable): Responsible Developers P/L

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: 4 | St. No.: 12 | St. Name: Ardour Lane

Suburb/Locality: Wycheproof | State: Vic | Postcode: 3527

Please provide at least one contact phone number *

Contact information for applicant OR contact person below

Business phone: 9123 4567 | Email: tcpl@bigpond.net.au

Mobile phone: 0412 345 678 | Fax: 9123 4567

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Contact person's details* Same as applicant ☐

Name:

Title: Mr | First Name: Andrew | Surname: Hodge

Organisation (if applicable): Town Planning Consultants

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: | St. Name: PO Box 111

Suburb/Locality: Parkdale | State: Vic | Postcode: 3194

Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organisation.

Name: Same as applicant ☑

Title: | First Name: | Surname:

Organisation (if applicable):

Postal Address: | If it is a P.O. Box, enter the details here:

Unit No.: | St. No.: | St. Name:

Suburb/Locality: | State: | Postcode:

Owner's Signature (Optional): | Date: day / month / year

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

VOLUME 11280 FOLIO 799

Security no : 124111185644S
Produced 11/12/2023 02:50 PM

LAND DESCRIPTION

Lot 3 on Plan of Subdivision 635280A.
PARENT TITLES :
Volume 02613 Folio 419 to Volume 02613 Folio 420
Volume 10450 Folio 035
Created by instrument PS635280A 27/06/2011

REGISTERED PROPRIETOR

[redacted]

ENCUMBRANCES, CAVEATS AND NOTICES

[redacted]

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

DIAGRAM LOCATION

SEE PS635280A 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: 25 BESSIE CREEK ROAD NAR NAR GOON NORTH VIC 3812

ADMINISTRATIVE NOTICES

NIL

[redacted]

DOCUMENT END

Signed by Council: Cardinia Shire Council, Original Certification: 08/06/2011, S.O.C.: 16/06/2011

PLAN OF SUBDIVISION

STAGE NO. /

LRS use only **EDITION 1**

Plan Number **PS635280A**

Location of Land

Parish: NAR-NAR-GOON
Township: .....
Section: B
Crown Allotment: 10 & 11
Section: Nil
Crown Allotment: 83 (Part)

Title Reference: Vol. 2613 Fol. 419
Vol. 2613 Fol. 420
Vol. 10450 Fol. 035

Last Plan Reference: TP522876G
TP523496M
Lot 1 on TP845159K

Postal Address: Bessie Creek Road
Nar Nar Goon 3812

MGA Co-ordinates (of approx centre of plan) E 374 540 N 5 786 320 Zone: 55

Council Certificate and Endorsement

Council Name: Cardinia Shire Council Ref. .....

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.

PUBLIC OPEN SPACE

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

(ii) The requirement has been satisfied.

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

Council delegate

Council seal

Date / /

Re-certified under section 11(7) of the Subdivision Act 1988

Council delegate

Council seal

Date / /

Notations

Depth Limitation Crown Allotments 10 & 11: 15.24 metres
Crown Allotment 83(Part): Nil

Staging This is not a staged subdivision.
Planning Permit No. T100246

Vesting of Roads and / or Reserve

Identifier	Council / Body / Person
NIL	NIL

Area of Site: 83.45ha
No. of Lots: Nil New Lots - Boundary Re-alignment Only

THIS IS A SPEAR PLAN

Survey This plan is based on survey.

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	Natural Gas Pipeline	See Diag.	C/E D878785	Victorian Pipelines Commission
E-2	Transmission of Electricity and Telephone Line or Lines	See Diagram	C/E 1104122	S.E.C.V.
E-3	Transmission of Electricity and Telephone Line or Lines	See Diagram	C/E 1118258	S.E.C.V.
E-4	Transmission of Electricity	See Diag.	C/E 2671591	S.E.C.V.
E-5	Power Line	See Diag.	This Plan (Section 88 Electricity Act 2000)	SPI Electricity Pty. Ltd.
E-6	Natural Gas Pipeline	See Diagram	C/E D878785	Victorian Pipelines Commission
	Power Line		This Plan (Section 88 Electricity Act 2000)	SPI Electricity Pty. Ltd.

LRS use only

Statement of Compliance/ Exemption Statement

Received ✓

DATE 23/06/11

LRS use only

PLAN REGISTERED

TIME 2:30pm

DATE 27/06/11

G Venn

Assistant Registrar of Titles

Sheet 1 of 2

TAYLORS DEVELOPMENT STRATEGISTS
Land Surveying Town Planning Development Strategy Project Coordination Urban Design G.I.S.
BUILDING B, 270 FERNTREE GULLY ROAD, NOTTING HILL 3168 Tel.8501 2800 Fax.9501 2844
Email: lds@taylords.com.au Web Site: www.taylords.com.au

LICENSED SURVEYOR : LEO ALEXANDER BATEMAN

Signature DIGITALLY SIGNED Date / /

REF. 8765-S-3L VERSION 4 25/02/2011 ASM

Date / /

Council Delegate Signature

Original sheet size A3

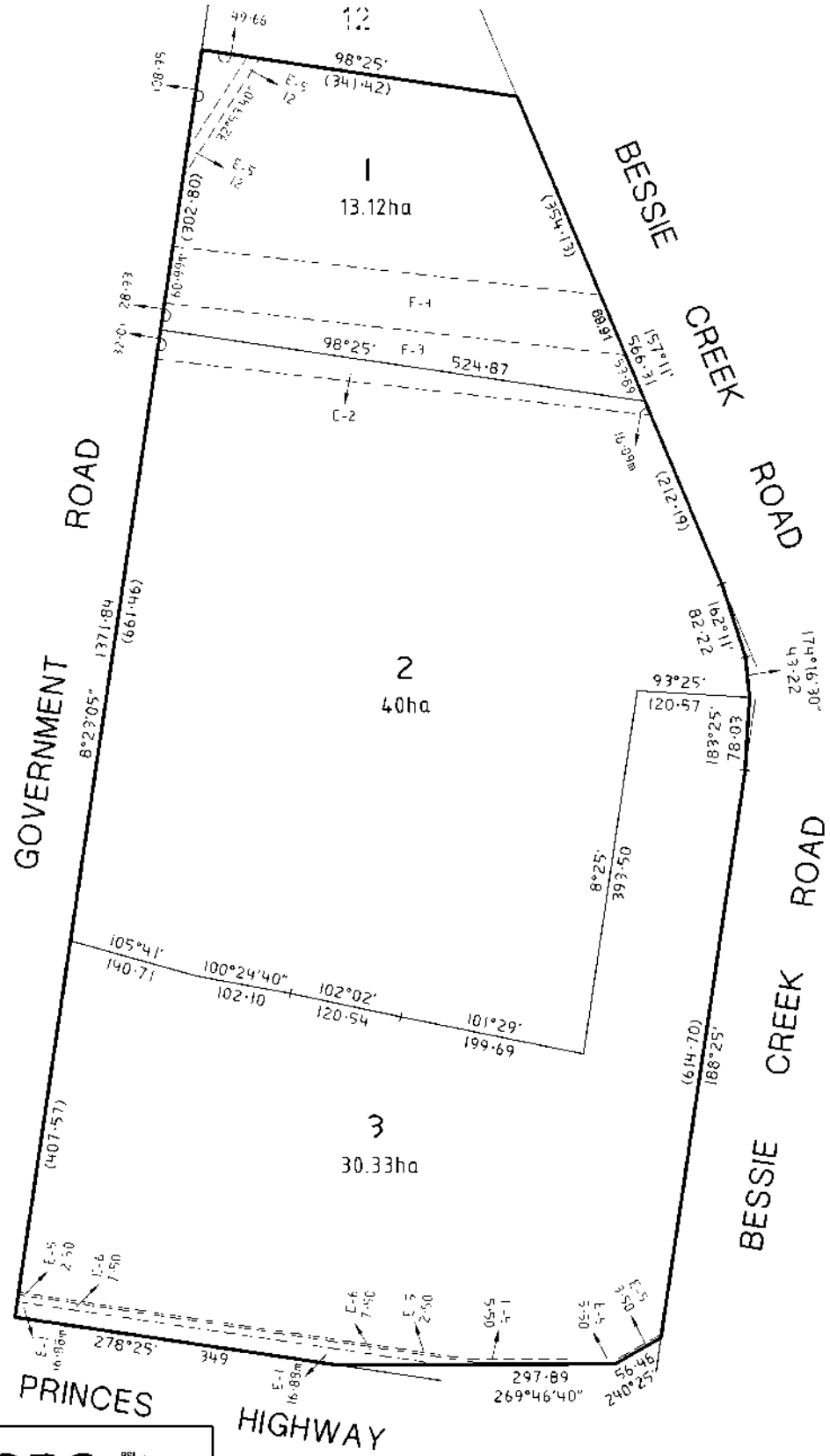
Signed by: Leo Alexander Bateman (Taylors Development Strategists Pty Ltd) Surveyor's Plan Version (4) 21/03/2011

Signed by Council: Cardinia Shire Council, Original Certification: 08/06/2011, S.O.C.: 16/06/2011

PLAN OF SUBDIVISION

STAGE NO.

Plan Number
PS635280A



TAYLORS
DEVELOPMENT STRATEGISTS
Land Surveying · Town Planning · Development Strategy · Project Coordination · Urban Design · G.I.S.
BUILDING 8, 270 FERNTREE GULLY ROAD, NOTTING HILL 3168 Tel.9501 2800 Fax 9501 2844
Email: tds@taylorsds.com.au Web Site: www.taylorsds.com.au

ORIGINAL		SCALE	LICENSED SURVEYOR :	Sheet 2
SCALE	SHEET SIZE	50 0 50 100 150 200	Signature ..... Date / /	.....
1:5000	A3	LENGTHS ARE IN METRES	REF. 8765-S-3L VERSION 4 25/02/2011 ASM	Date / / Council Delegate Signature

Signed by: Leo Alexander Bateman (Taylors Development Strategists Pty Ltd) Surveyor's Plan Version (4) 21/03/2011

Plan of Subdivision PS635280A
Certification by Council (Form 5)

SUBDIVISION (PROCEDURES) REGULATIONS 2000

SPEAR Reference Number: S006934J
Plan Number: PS635280A
Council Name: Cardinia Shire Council
Council Reference Number 1: S10/068
Surveyor's Plan Version: 4

Certification

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

Public Open Space

A requirement for public open space under section 18 of the Subdivision Act 1988

Has not been made

Digitally signed by Council Delegate [redacted]
Organisation: Cardinia Shire Council
Date: 08/06/2011

Signed by: Penny Carney (Cardinia Shire Council) 08/06/2011

Department of Environment, Land, Water & Planning

Electronic Instrument Statement

Produced 11/12/2023 02:53:01 PM

Status	Registered	Dealing Number	AV902162Q
Date and Time Lodged	28/07/2022 02:26:12 PM		

Lodger Details

Lodger Code	22187E
Name	MASON PROPERTY LAW
Address	
Lodger Box	
Phone	
Email	
Reference	

TRANSFER

Jurisdiction VICTORIA

Privacy Collection Statement
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Land Title Reference
11280/799

Transferor(s)

Name	CATALINA PARK (VIC) PTY LTD
ACN	119848494
Name	F & N PROPERTY DEVELOPMENTS PTY LTD
ACN	125162790

Estate and/or Interest being transferred
Fee Simple

Consideration
$AUD 2025000.00

Transferee(s)

Tenancy (inc. share)	Sole Proprietor
Name	CATALINA PARK (VIC) PTY LTD
ACN	119848494

Reference :
Secure Electronic Registries Victoria (SERV), Level 13, 697 Collins Street Docklands 3008
Locked bag 20005, Melbourne 3001, DX 210189
ABN 86 627 986 396

Department of Environment, Land, Water & Planning

Electronic Instrument Statement

Address

Floor Type	LEVEL
Floor Number	2
Street Number	7
Street Name	ENGLISH
Street Type	STREET
Locality	ESSENDON FIELDS
State	VIC
Postcode	3041

Duty Transaction ID
5495227

The transferor transfers to the transferee their estate and/or interest in the land specified for the consideration, subject to any restrictive covenant set out or referred to in this transfer.

Execution

1. The Certifier has taken reasonable steps to verify the identity of the transferor or his, her or its administrator or attorney.
2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant law and any Prescribed Requirement.

Executed on behalf of	CATALINA PARK (VIC) PTY LTD F & N PROPERTY DEVELOPMENTS PTY LTD
Signer Name	[redacted]
Signer Organisation	MASON PROPERTY LAW
Signer Role	AUSTRALIAN LEGAL PRACTITIONER
Execution Date	28 JULY 2022

Execution

1. The Certifier has taken reasonable steps to verify the identity of the transferee or his, her or its administrator or attorney.
2. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
3. The Certifier has retained the evidence supporting this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant law and any Prescribed Requirement.

Executed on behalf of	CATALINA PARK (VIC) PTY LTD
Signer Name	[redacted]
Signer Organisation	MASON PROPERTY LAW
Signer Role	AUSTRALIAN LEGAL PRACTITIONER
Execution Date	28 JULY 2022

File Notes:
NIL

This is a representation of the digitally signed Electronic Instrument or Document certified by Land Use Victoria.

Statement End.

Reference :
Secure Electronic Registries Victoria (SERV), Level 13, 697 Collins Street Docklands 3008
Locked bag 20005, Melbourne 3001, DX 210189
ABN 86 627 986 396

Cardinia Shire Council

Request to amend a current planning permit application

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

PERMIT APPLICATION DETAILS

Application No.:	TP240004 PA
Address of the Land:	25 Bessie Creek Road, Nar Nar Goon North

APPLICANT DETAILS

Name:	Urban Resource Management Australia
Organisation:	C/O Taylors Development Strategists
Address:	PO Box 938, Mount Waverly 3149
Phone:	03 9501 2800
Email:	m.law@taylorsds.com.au

AMENDMENT TYPE

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

AMENDMENT DETAILS

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

Describe the changes. If you need more space, please attach a separate page.
Updated changes and further assessment following Council's RFI - please refer to the application material which provides an updated proposal description, permit triggers and supporting information.
Of note, the proposal description has been updated to be "Use the land for an ~~innominate use (disposal of clean fill) and construct or carry out earthworks pursuant to~~ Clause GWZ".

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

DECLARATION

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

Name:	[redacted]
Signature:	
Date:	6/6/24

LODGEMENT

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

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

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

IMPORTANT INFORMATION

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

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

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

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

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

Any material submitted with this request, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the *Planning and Environment Act 1987*.

TAYLORS
Urban Development | Infrastructure
PO Box 938, Mount Waverley VIC 3149
Phone: (03) 9501 2800 | **www.taylorsds.com.au**

Our Ref: 24454P
25 Bessie Creek Road, Nar Nar Goon North
MLA/gbu

5 June 2024

[redacted]
Senior Statutory Planner
PO Box 7
Pakenham VIC 3810

Dear Tanvi,

25 Bessie Creek Road, Nar Nar Goon North
Planning Permit Application T240004 PA
Response to Council Request for Further Information

We continue to act on behalf of URM Australia Pty Ltd in relation to the land at 25 Bessie Creek Road, Nar Nar Goon North ('the site') and Planning Permit Application T240004 PA ('the Application').

We write in response to Cardinia Shire Council's ('Council's) correspondence dated 1 February 2024 requesting further information pursuant to Section 54 of the *Planning and Environment Act 1987* ('the Act').

This response addresses the matters raised in the request for further information and is accompanied by updated application material for the proposed development. To assist Council's consideration, please find herewith the following documentation in support of the application:

- Updated Town Planning Report prepared by Taylors Development Strategists.
- Updated Engineering Plans prepared by Taylors Development Strategists.
- Biodiversity Assessment (including Native Vegetation Removal Report) prepared by Ecolink Consulting.
- Farm Management Plan prepared by Taylors Development Strategists.
- Drainage Management Strategy prepared by Taylors Development Strategists.
- Updated Site Environmental Management Plan prepared by Taylors Development Strategists.
- Site Access Route Map prepared by Taylors Development Strategists.

We request that this information replace corresponding information lodged with the application pursuant to Section 50 of the Act and that this forms the basis of any decision on the application.

We consider that this response addresses Councils outstanding request. If not, we would appreciate detail pertaining to any outstanding matters. So as to avoid any potential of lapsing of the application, we would subsequently request an Extension of Time pursuant Section 54A of the Act to provide any further response.

Additionally, we provide the following responses to Council's request for additional information in numeric order:

Item	Request	Response
1	<u>Outstanding Fees</u> *Council's records show an outstanding amount for payment of application fees:* <table><tr><th>Class</th><th>Description</th><th>Fee</th></tr><tr><td>12</td><td>Earthworks</td><td>$ 1661.60</td></tr><tr><td>1</td><td>Use only (Use of land for disposal of clean fill)</td><td>$707.5 (Half fee of $1415)</td></tr><tr><td>Total fees required</td><td></td><td>$2369.10</td></tr><tr><td>Fees paid to date</td><td></td><td>$0</td></tr><tr><td>Fees outstanding</td><td></td><td>$2369.10</td></tr></table>** Note: As per regulation 10 of the Planning and Environment (Fees) Regulations 2016, the amount payable is the sum of the highest of the fees which would have applied if separate applications were made, plus 50% of each of the other fees which would have applied if separate applications were made.* *If this fee has already been paid, please provide a copy of the receipt to confirm payment*	It is our understanding that the Council fees have been settled by our client. Should any amount still be outstanding, please advise.
2	<u>Written response</u> *Update the written response to include:* *a) Include the removal of native vegetation trigger under the ESO1 and Clause 52.17 (Native vegetation).* *b) Include the use trigger as per the report, for use of land for disposal of clean fill.* *c) Details of the existing use of the land, including:* *i. Quantity and type of cattle or other livestock on the property.* *ii. Details of feeding arrangements, including amount of food imported from outside the property and amount of food sourced from within the property (grazing or hay produced on site);*	a) The ESO permit trigger has been updated within the Town Planning Report. b) Please refer to the updated permit triggers within the Town Planning report. c) The site contains no buildings or structures, nor are any proposed. As detailed further within this report, the proposed earthworks will seek to turn the currently underutilised land into a parcel that can accommodate livestock. Therefore, there are no details of the type of livestock and feeding details etc. as the land is not currently used by livestock.

Item	Request	Response
	iii. Details of any fixed feeding infrastructure. *iv. Details of containment enclosures (paddocks, pens or similar);* *v. Details of any other land uses occurring on the site (ie. dwelling(s)).* *d) Detailed description of proposal including any proposed agricultural use* *e) Source and type of fill.* *f) Any excavation, grading, digging or levelling of existing ground levels.* *g) Construction methodology.* *h) Works plan.* *i) Haulage plan including access routes, hours of operation, and traffic management requirements.* *j) Details of airborne emissions, noise, dust, and any other offsite amenity impacts and how they will be managed.* *k) Details of how the spread of weeds and pathogens such as phytophthora will be managed.* *l) Use of land once filled, including any proposed landscaping, revegetation, agriculture, or other proposed use.*	d) There is limited agricultural use of the site given the identified drainage issues, however upon completion of the earthworks, it is the intention of the owner to utilise the site for livestock grazing. Further details are provided below. e) URM removes clean fill from sites throughout Melbourne (typically new subdivision projects) and reuses it to create an improved site outcome, rather than taking this to landfill and wasting a perfectly good resource. URM undertake a stringent auditing, inspection and rating process to ensure that all fill is classified as clean fill f) As shown on the Engineering Plans prepared by Taylors, the proposal predominately comprises the importation of clean fill onsite with the exception of a minor portion of cut/excavation. Refer to Section E-E of the Engineering Plans. g) Clean fill will be important and placed within the proposed fill pad boundaries. The fill will be moulded into the landscape with the inclusion of gentle batters. Once moulded, the fill will be top seeded to allow for the fill pads to transform into a natural paddock. h) Please refer to the engineering plans prepared by Taylors which details the proposed earthworks. The EMP provided also details protection measures that will be implemented.

Item	Request	Response
		i) The proposed hours operation are as follows: • Monday-Friday: 7am-6pm • Saturday 7am-1pm. These hours of operation are consistent with similar projects being undertaken by URM. Please refer to the Site Access Route Map prepared by Taylors outlining the access route to and from the site. Please refer to the Site Environmental Management Plan for further detail. j) An Environmental Management Plan has been prepared by Taylors and submitted with the original application. This details potential impacts/risks and mitigation measures in terms of noise, dust, erosion and sediment, waste, chemicals, significant flora and fauna, archaeological/heritage and weed control. k) As above. l) Once the filling is completed, the use of the land with revert to agricultural which does not require a planning permit in accordance with Clause 35.04-1 of the Planning Scheme.
3	*<u>Hydrological assessment</u>* *Provide a Hydrological Assessment prepared by a suitably qualified professional that identifies:* *a) Existing site conditions* *b) Cause of drainage issues described in application.*	A Drainage Management Strategy ('DMS') has been prepared by Taylors Development Strategists. The DMS discusses and identifies the matters raised in this request. Please refer to the DMS and below for further discussion.

Item	Request	Response
	c) *Impacts of proposed fill on hydrological changes for adjoining properties.* d) *Specific recommendations to resolve current issues with drainage.* e) *Any other matters deemed necessary.*	
4	*<u>Arborist report</u>* *Provide an arboriculture impact assessment prepared by a suitably qualified Arborist.* a) *This report must include the following for all trees impacted and within 15 metres of any proposed earthworks, including adjoining properties:* b) *A scaled site plan showing the boundaries of the site, existing trees within 15 metres of development, tree protection zones, and demarcation between trees proposed to be retained or removed.* c) *A description of all trees impacted and within 15 metres of development or works, including species, identifying number, size (DBH), and presence of hollows.* d) *Construction impact assessment for all trees within 15 metres of any proposed earthworks including distance to development, encroachment into tree protection zones and structural root zones (including any existing encroachments), and whether the tree will remain viable in accordance with AS4970-2009 Protection of trees on development sites.*	By virtue of the detail provided within the Biodiversity Assessment prepared by Ecolink Consulting, and the revised layout of the proposed fill pads in response to the recommendations contained within the Biodiversity Assessment, it is submitted that an Arborist Report is not required or necessary in this instance. The Biodiversity Assessment has determined the ecological values of the site, likely impacts as a result of vegetation loss as well as relevant DBH and TPZ of trees. Furthermore, the recommendations provided within the Biodiversity Report to avoid impacts, by retaining T2 and Patch 6, have been implemented. As noted above, the fill pads have been revised to retain T2 and Patch 6. A 15m setback has been provided around these trees. Furthermore, a 15m setback is provided to trees on the northern neighbouring property by virtue of the 10m setback to the property boundary and the 5m firebreak provided from the boundary into the neighbouring property. As such, we submit that the information provided with this response is sufficient for the continuation of Council's assessment by

Item	Request	Response
	e) *Recommendations for tree removal or retention, including management recommendations to ensure the long-term viability of retained trees that have a TPZ encroachment.*	virtue of the contents of the Biodiversity Report, the revisions to the proposal in response to the Biodiversity Report and the setback's provided to existing vegetation that is being retained. Should it be required, we welcome a suitably worded condition of permit pertaining to the preparation of a Tree Management Plan.
5	<u>Native vegetation regulations</u> *Where the arborist report required in item 4 recommends the removal of native trees, pursuant to clause 52.17 Native Vegetation all applications to remove native vegetation must include the information set out in Table 4 of the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017). This includes:* a) *an avoid and minimise statement to demonstrate that impacts to all trees and native vegetation have been avoided and minimised as far as practicable.* b) *a Native Vegetation Removal report that indicates the native vegetation offset requirements for permitted vegetation removal.*	Ecolink Consulting has prepared a Biodiversity Assessment (including a Native Vegetation Removal Report) for the proposal. This Report includes an Avoidance and Minimisation Statement and also discusses offsets for the proposal. The Report states that "avoidance is generally demonstrated through appropriate development design" however provides additional recommendations. The proposed fill pads have been revised to enable the retention of Tree 2 and Patch 6, as recommended by Ecolink, by offsetting the fill pad 15m from both. Furthermore, it is submitted that the additional documentation provided within this response appropriately address and demonstrate the protection of trees to be retained. Should it be required, we welcome a suitably worded condition of permit pertaining to the preparation of a Tree Management Plan. Based on 1.035ha being removed, an offset comprising 0.184 General Habitat Units, 7 large trees, with a minimum Strategic Biodiversity Score of 0.375, located with the Melbourne Water Catchment Management Authority (CMA) or Cardinia Shire Council is to be provided.

Item	Request	Response
		We note this offset was calculated based on Tree 2 and Patch 6 also being removed which is now proposed to be retained. As such, we welcome a suitably worded condition of permit requiring the required offset to be updated accordingly.

Furthermore, we note the following responses to each of the preliminary concern/s issues raised by Council in their request for further information.

Preliminary Assessment 1

Hydrological assessment

Council suggests first undertaking the hydrological assessment to provide certainty that filling the land will resolve the drainage issues described as the purpose of this proposal and will not detrimentally impact any neighbouring properties.

A Drainage Management Strategy ('DMS') has been prepared by Taylors Development Strategists. The preparation of the DMS involved a site meeting held with Council to discuss the proposal and drainage concerns. The DMS identifies that existing drainage infrastructure is minimal and consists of a table drain along the north and west sides of Bessie Creek Road. Currently, runoff flows across the site and is collected in the table drains in Bessie Creek Road which ultimately discharge to Ararat Creek east of the site. A catchment of approximately 96.6 Ha contributes the stormwater flows across the land. A summary of the DMS is provided below.

The proposal will enable the management of existing flows from the external catchment by using table drains around perimeter of the proposed fill pads. The table drains will prevent flows from entering neighbouring properties by capturing and conveying the flows towards the Bessie Creek Road table drains.

Overland flows originating from and directed through the site will be directed along purpose built overland flow paths in the form of table drains. No flows from the site will enter neighbouring properties. The extent of each of the overland flows through the site has been determined and it has been verified that the proposed overland flow paths have capacity to cater for the nominated flow whilst meeting the relevant flood safety criteria.

Importantly, the proposal does not seek to change the hydrology across the site and aims only to redirect stormwater flow paths around the fill pads to create all-weather grazing paddocks. The legal point of discharge for stormwater flows has not changed as part of this proposal and will continue to discharge to the table drain in Bessie Creek Road

We submit that the DMS demonstrates that the proposal will resolve the drainage issues described in the original submission and will not detrimentally impact any neighbouring properties. Please refer to the DMS for more information.

Preliminary Assessment 2

Information Required in Relation to use and Aboriginal Cultural Heritage

As detailed in the report item 4.4 the use of land is Innominate for Disposal of clean fill and therefore not a high impact activity and= not requiring a Cultural Heritage Management Plan (CHMP). However, there is no use trigger included with in this application, this needs to be clarified further in the response, if the proposal is for use of land for disposal of clean fill or in association to Agricultural pursuit of land.

Please provide a CHMP if the proposal is in association to Agricultural use of the land as required or provide a suitable due diligence report such as a Preliminary Aboriginal Heritage Test demonstrating one is not required.

For clarity, the proposed use of the land, as identified in the VCAT hearing of *Calleja Properties Pty Ltd v Hume CC,* is an innominate use and best described as “disposal of clean fill”. This application does not relate to the agricultural use of the land. As such, we submit that a CHMP is not required for this application.

Please refer to the updated Town Planning Report which includes the updated permit triggers.

Preliminary Assessment 3

Native vegetation trigger

The Town planning report mentions removal of vegetation being minimised under Item 4.2, which is still required. The application missed the information on the trigger for removal of vegetation as per the ESO1 and Clause 52.17 (if any)

Please refer to the updated Town Planning report which now includes the removal of native vegetation and the relevant permit triggers.

Preliminary Assessment 4

Impacts to Adjoining Land, Floodplain & Water Quality

Council has concerns regarding the suitability of the proposal within proximity to Ararat creek and adjoining Bush land at 85 Bassie creek Road, and potential contamination or other negative impacts on adjacent waterways. Council has concerns as to how the proposal is likely to redirect or obstruct flow of water across the site, and impacts these may have on adjoining land, including adjoining agricultural land uses and native vegetation. The information requested within this letter will provide further clarity.

As previously discussed, overland flows originating from and directed through the site will be directed along purpose built overland flow paths in the form of table drains. No flows from the site will enter neighbouring properties. The extent of each of the overland flows through the site has been determined and it has been

verified that the proposed overland flow paths have capacity to cater for the nominated flow whilst meeting the relevant flood safety criteria.

Importantly, the proposal does not seek to change the hydrology across the site and aims only to redirect stormwater flow paths around the fill pads to create all-weather grazing paddocks. The legal point of discharge for stormwater flows has not changed as part of this proposal and will continue to discharge to the table drain in Bessie Creek Road

Please refer to the DMS for more information.

Preliminary Assessment 5

Referral of Application

Following receipt of the above information, there are the preliminary comments form our Engineering team: −

- *The fill pad sections show cutoff drains around the extent of the fill pads, it is not shown where these drain to.*
- *Looking at the topography and drains running through the properties either side of the site there does not appear to be any flow paths from the east or west that would be impeded by these works.*

Please refer to the Drainage Management Strategy for further information on these matters.

Council is also likely to notify the Environmental Protection Authority (EPA) an internal Council Departments of the application. Following this, additional comments and/or concerns may be identified, and additional information required.

At the time of writing this response, the below referral comments have been received. Please refer to the below responses, the responses above as well as the update information submitted with this response.

Council's Environmental Team Referral Comments

We provide the following response to Council's internal referral received via email on 20 February 2024.

Green Wedge Zone – Schedule 1

To aid in responding to Council's concerns, a Drainage Management Strategy has been prepared by Taylors, as well as a Farm Management Plan. Importantly, the DMS identifies that the proposal does not seek to change the hydrology across the site and aims only to redirect stormwater flow paths around the fill pads to create all-weather grazing paddocks. No flows from the site will enter neighbouring properties. We trust this information, along with the additional information provided and discussed within this response highlights the sustainable management of the land in which is proposed to enable the improved use of the land for agricultural purposes.

Farm Management Plan

The Farm Management Plan demonstrates how the improved site will be utilised for livestock farming (including access tracks) via the fill pads created. The works are being undertaken for the landowner who operates Nar Nar Goon Angus Family Trust with livestock farms at the following sites:

1. 1845 Princes Highway Nar Nar Goon
2. 260 Koo Wee Rup Road, Kooweerup
3. 4210 South Gippsland Highway, Caldermeade

The site at 25 Bessie Creek Road, Nar Nar Goon North is intended to be the fourth site owned by the trust for livestock grazing once the identified drainage issues have been resolved.

This information demonstrates that:

1. The landowner is experienced in livestock farming and has determined that the site is currently unsuitable for grazing due to the existing boggy conditions, however the land can be significantly improved through earthworks to improve the drainage conditions on site.
2. The site is identified for future cattle grazing by an established Trust that run other livestock farms, providing comfort to Council that this is not just a fill site, instead it has an identified purpose.

Clause 42.01 Environmental Significant Overlay – Schedule 1

A Biodiversity Assessment (including a Native vegetation Removal Report) has been prepared by Ecolink and accompanies this response. As previously discussed, the assessment states that “avoidance is generally demonstrated through appropriate development design” however provides additional recommendations. The proposed fill pads have been revised to enable the retention of Tree 2 and Patch 6, as recommended by Ecolink, by offsetting the fill pad 15m from both. Furthermore, it is submitted that the additional documentation provided within this response appropriately address and demonstrate the protection of trees to be retained. Should it be required, we welcome a suitably worded condition of permit pertaining to the preparation of a Tree Management Plan.

Based on 1.035ha being removed, an offset comprising 0.184 General Habitat Units, 7 large trees, with a minimum Strategic Biodiversity Score of 0.375, located with the Melbourne Water Catchment Management Authority (CMA) or Cardinia Shire Council is to be provided. We note this offset was calculated based on Tree 2 and Patch 6 also being removed which is now proposed to be retained. As such, we welcome a suitably worded condition of permit requiring the required offset to be updated accordingly. Furthermore, as recommend by Ecolink, a Zoologist or wildlife handler can be engaged to salvage any wildlife from planted trees prior to their removal given the sites zoological significance. We welcome a suitably worded condition of permit to this effect.

Clause 52.17 Native Vegetation

As discussed, throughout this response, we submit that the Biodiversity Assessment (including a Native vegetation Removal Report) prepared by Ecolink now satisfies this concern. Please refer to the above response for further information.

State and Local Planning Policy Framework

While Clause 21.02 was already addressed, please refer to the updated Town Planning Report prepared by Taylors which provides additional assessment pertaining to Clause 21.02 as well as Clause 22.05.

Summary

We trust that the plans, supporting material and accompanying submission addresses Council's request and concerns in full and we look forward to instructions for advertising of the application. If not, we would appreciate detail pertaining to any outstanding matters. To avoid any potential of lapsing of the application, we would subsequently request an Extension of Time pursuant Section 54A of the Act to provide any further response.

Should you have any further queries or require any clarification in relation to the above, please do not hesitate to contact me via email or on 9501 2800.

Yours faithfully

[redacted]

Team Lead - Planning

TAYLORS

Urban Development | Infrastructure

Town Planning Report

Earthworks

25 Bessie Creek Road
NAR NAR GOON NORTH

Prepared by Taylors for
Urban Resource Management Australia

December 2023
Updated June 2024

Taylors Development Strategists Pty Ltd | **ABN** 80 128 948 523 | **Certified to** ISO 14001, ISO 9001 & ISO 45001

F 512 Ver 7.0

Table of Contents

1.0 Introduction

Taylors Development Strategists have been engaged by Urban Resource Management Australia to prepare this report to support an application for Earthworks at 25 Bessie Creek Road, Nar Nar Goon North ('the site').

The site is located within the Green Wedge Zone – Schedule 1 ('GWZ1') and is subject to the Bushfire Management Overlay ('BMO') and Environmental Significant Overlay – Schedule 1 ('ESO1') pursuant to the Cardinia Planning Scheme ('the Planning Scheme'). It is noted that the site is also mapped as an area of Aboriginal cultural heritage sensitivity and is within a designated bushfire prone area.

This Report outlines the proposed development, provides an assessment against the provisions of the Planning Scheme and expresses our recommendation for a permit to be granted.

Also submitted as part of the application, and to be read concurrently to this report:

- Updated Engineering Plans prepared by Taylors Development Strategists.
- Biodiversity Assessment (including Native Vegetation Removal Report) prepared by Ecolink Consulting.
- Farm Management Plan prepared by Taylors Development Strategists.
- Drainage Management Strategy prepared by Taylors Development Strategists.
- Updated Site Environmental Management Plan prepared by Taylors Development Strategists.
- Site Access Route Map prepared by Taylors Development Strategists.

A permit is required for the following:

- Use the land for an innominate use (disposal of clean fill) and construct or carry out earthworks pursuant to Clause GWZ.
- Undertake earthworks and remove vegetation pursuant to the ESO.
- Remove native vegetation pursuant to Clause 52.17.

Figure 1: Site Aerial Photograph (Nearmap.com)

2.0 Subject Site and Surrounds

2.1 Subject Site

The site is located on the northern and western side of Bessie Creek Road in Nar Nar Goon North.

Figure 2: Subject Site (Nearmap.com)

The site is formally known as Lot 3 on Plan of Subdivision 635280A per the Certificate of Title Volume 11280 Folio 799 (a copy of which has been submitted with the Application). There are known easements encumbering the site; a powerline and gas pipeline easement (total 26.88m wide) runs along the southern boundary. The powerline easement continues further eastwards along the remainder of the southern boundary with an easement width ranging from 3.5 to 5.5m. The location of the proposed earthworks remains clear of any easements.

The site is irregular in shape with an approximate depth of 583 metres and an approximate width of 646 metres and has an area of approximately 30.31 hectares. Access to the site is gained via an unsealed crossover on the western side of Bessie Creek Road. The site is currently vacant and free of any structures however does contain various mature trees and vegetation mainly along the centre of the site, running from north to south. There is other vegetation scattered across the site that appears to be planted given its linear formation.

2.2 Surrounding Area

The site is located appropriately 1.86 kilometres from the township of Nar Nar Goon.

The site is surrounded primarily by large rural lots containing one (1) dwelling to the north. A Shell Service Station and caravan retail is located to the east. The Princess Highway runs along the southern boundary of the site, on the southern side of Bessie Creek Road, with different industrial and warehouse uses located further south. Additional residential dwellings on large lots are located west of the site, with a new residential subdivision underway further to the west. Please see below for a Location Map.

Figure 3: Location Map (melway.com.au)

3.0 Proposed Development

The proposal seeks to undertake earthworks at the site to assist in rectifying existing drainage issues to allow for improved farming of the land. During the winter the land has become quite boggy and unusable. The proposal seeks to create a more formalised drainage solution through the use of gentle slope and swales to direct water across the land.

The earthworks will comprising 184,500 cubic meters of fill split into two (2) fill pads; 92,400 cubic meters (west) and 92,100 cubic metres (east). The height of the fill pad is generally around 1 metre, with a maximum height of 1.42 metres and is therefore considered quite discreet within the landscape. The earthworks will be moulded into the landscape and include gentle batters, once complete the fill pad will be top seeded to return to a natural paddock state. As a result, the completed earthworks project will be largely indiscernible in the landscape. To demonstrate this point, please see the image below and video accessed via the following link for 550 Manks Road, Clyde - 150 & 550 Manks Road UAV Videos (hightail.com). This property contains up to around 8-10 metres of clean fill (a lot more than the proposed 1-1.4 metres at the subject site) that has been moulded into the site and top seeded so that it blends into the natural landscape. Once complete, it can be difficult to see any difference between the surrounding properties, noting this example is of a considerably larger scale than that proposed at the subject site. While other surrounding farmland is waterlogged (as seen in the image below), the example includes gentle batter and swales that direct water in a more formalised manner, ensuring the land is useable throughout the year. The property at 25 Bessie Creek Road, Nar Nar Goon North seeks to achieve the same outcome, albeit on a considerably smaller scale.

A very minor amount of excavation will be required in accordance with the engineering plans developed by Taylors to support the fill and drainage objective and outcome.

The existing vegetation located onsite has been a key consideration throughout this project with both fill pads being designed to allow the retention of majority of the vegetation onsite by utilising the predominately cleared areas of site.

URM removes fill from clean fill sites throughout Melbourne (typically new subdivision projects) and reuses it on other sites throughout Melbourne to prevent 'dumping'. URM undertake a stringent auditing, inspection and rating process to ensure that all fill that it removes from sites is clean.

Fill imported to the site will be clean and obtained from development occurring in the locality sourced from local green-field residential sites. Drainage swale's have been provided throughout to improve the drainage of the site. The Environmental Management Plan's submitted with the application (refer to Figure 4 below) includes a range of environmental protection measures including silt fencing and rumble grids to erosion and sediment runoff. Vehicular access is proposed to remain as is, with vehicles to enter off Bessie Creek Road. Internal access within the site is shown below, established to protect native trees, minimise disturbances of vegetation and support the fill and drainage management that is proposed to be established. Further internal access will be arranged onsite.

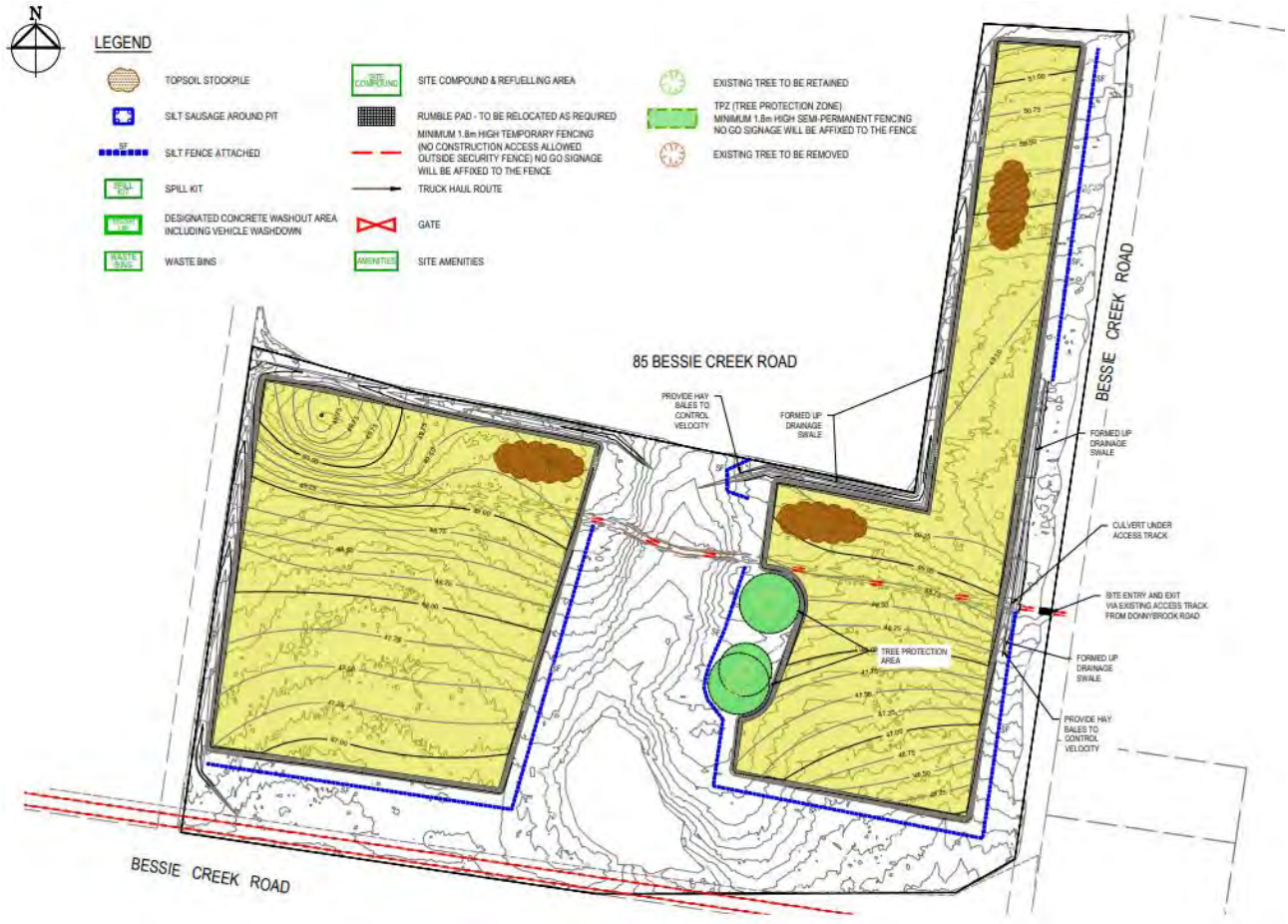


Figure 4: EMP (Taylors)

Figure 5: Farm Management Plan (Taylors)

Planning Controls

3.1 Zone Provisions

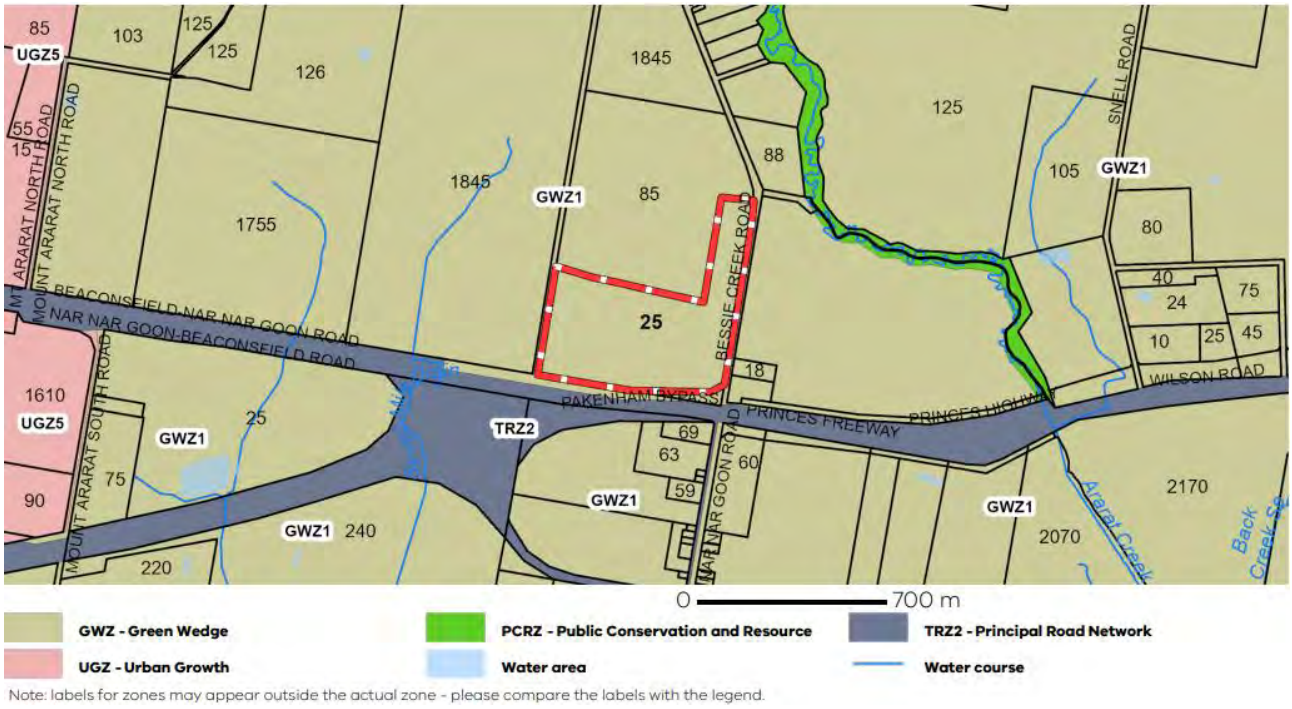


Figure 5: Zone Map (DPCD Planning Maps Online)

The site is located within the Green Wedge Zone – Schedule 1 ('GWZ1'). The purpose of the GWZ1 is:

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

A permit is required to construct or carry out earthworks pursuant to Clause 35.04-5 as Item 1 of GWZ1 specifies:

> *Earthworks which change the rate of flow or the discharge point of water across a property boundary*

Furthermore, the proposed use of the land, as identified in the VCAT hearing of *Calleja Properties Pty Ltd v Hume CC*, is an innominate use and best described as "disposal of clean fill". Please refer to Section 3.4 for more information. As such, a permit is required for the use of the land.

The proposed use and earthworks are considered to be generally consistent with the decision guidelines contained at Clause 35.04-6 as:

- The earthworks will improve the existing drainage at the site, ensuring the land does not remain boggy through the winter to improve the agricultural use of the land in the future.
- The proposal complies with the applicable requirements of the Municipal Planning Strategy and the Planning Policy Framework as discussed om Section 4.3 and 4.4.
- The site is capable of accommodating the proposed earthworks by virtue of its size, minimal environmental constraints and existing vacancy. Sufficient buffers are provided to any neighbouring land uses by virtue of the distance between these and the site.
- The fill proposed (at a maximum of 1.4 metres high) is of a scale that will not unduly impact the natural landscape. As demonstrated in Section 3 above, earthworks of this scale once complete are considered to be indiscernible in the landscape.
- It is not appropriate to locate fill of this volume within an urban area. The proposed fill responsibly allows for nearby construction and subdivision work to take place while still managing environmental impacts by appropriately storing the matter in a suitable location.
- The proposal has been purposely resolved to provide the fill pads in areas predominately clear of existing vegetation to minimise the need to remove any vegetation, protecting the biodiversity of the area.
- The proposed fill includes a range of environmental protection measures as identified in the Environmental Management Plan prepared by Taylors, including silt fencing, dedicated swales, rumble grids and hay bales to minimise any erosion and sediment runoff.

It is considered that the proposed fill is generally in accordance with the applicable decision guidelines of the GWZ.

3.2 Overlay Controls

Environmental Significance Overlay

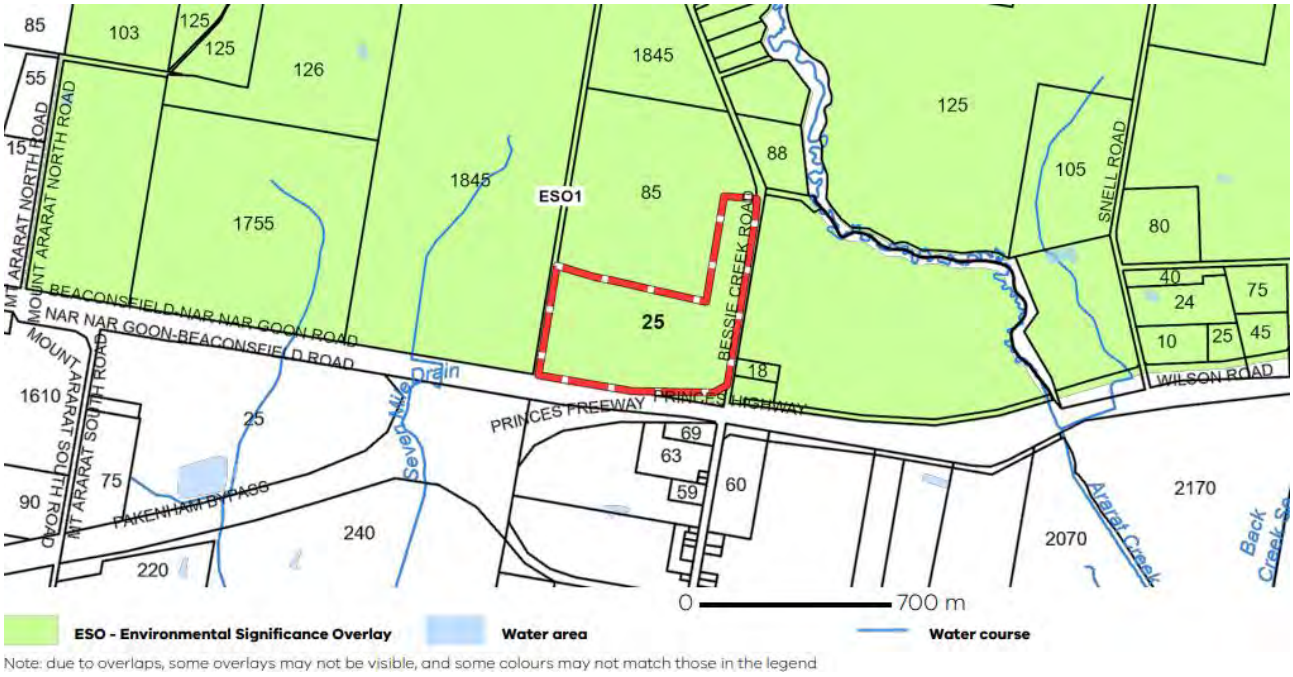


Figure 6: Overlay Map (DPCD Planning Maps Online)

The purpose of the Environmental Significance Overlay – Schedule 1 ('ESO1') is:

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

ESO1 pertains to "Northern Hills" and contains the following environmental objectives:

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

A permit is required for the proposed earthworks and vegetation removal pursuant to Item 3 of the ESO1. The proposed earthworks provide the following response to the applicable decision guidelines:

- Vegetation removal has been minimised through the considered placement of the fill pads to correspond with the existing areas of the site that are predominately clear.
- Ecolinks report states that "avoidance is generally demonstrated through appropriate development design" however provides additional recommendations. The proposed fill pads have been revised to enable the retention of Tree 2 and Patch 6, as recommended by Ecolink, by offsetting the fill pad 15m from both.
- Offsets have been calculated within Ecolinks assessment for vegetation proposed for removal.
- Earthworks are not considered within the *Land Capability Study for the Cardinia Shire* (February 1997).
- The natural environment character of the area will remain largely unchanged by virtue of the location and extent of the fill, as well as the location of existing vegetation along northern, eastern and southern boundaries to provide screening. As demonstrated in Section 3 above, earthworks of this scale once complete are considered to be indiscernible in the landscape.
- Appropriate erosion and sediment control measures are demonstrated in the Environmental Management Plan prepare by Taylors, including silt fencing, dedicated swales ad rumble grids.
- The proposed earthworks are not considered to increase the bushfire risk of the site.

In light of the above, it is considered that the proposed earthworks and native vegetation removal are generally in accordance with the applicable decision guidelines of the ESO1.

Bushfire Management Overlay

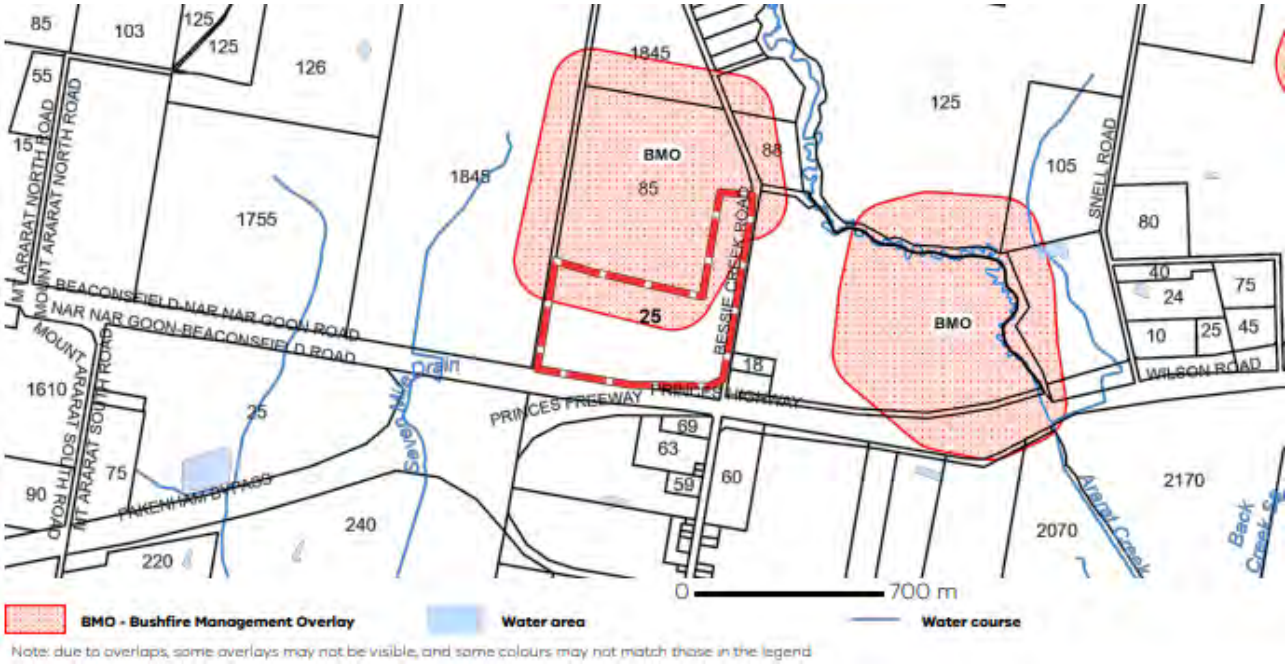


Figure 7: Overlay Map (DPCD Planning Maps Online)

The purpose of the Bushfire Management Overlay ('BMO') 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.*

Permit triggers are provided at Clause 44.06-2. A permit is not triggered for earthworks pursuant to this Clause. Despite this, it is worth noting that most of the earthworks will be located outside the BMO.

3.3 Particular Provisions

Clause 52.17 Native Vegetation

The purpose of this Clause is:

> *To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (Department of Environment, Land, Water and Planning, 2017) (the Guidelines):*
> *1. Avoid the removal, destruction or lopping of native vegetation.*
> *2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.*

3. Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.

To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.

Pursuant to Clause 52.17-1:

A permit is required to remove, destroy or lop native vegetation, including dead native vegetation. This does not apply:

- *If the table to Clause 52.17-7 specifically states that a permit is not required.*
- *If a native vegetation precinct plan corresponding to the land is incorporated into this scheme and listed in the schedule to Clause 52.16.*
- *To the removal, destruction or lopping of native vegetation specified in the schedule to this clause.*

Ecolink Consulting has prepared a Biodiversity Assessment (including a Native Vegetation Removal Report) for the proposal. This Report includes an Avoidance and Minimisation Statement and also discusses offsets for the proposal.

The Report states that "avoidance is generally demonstrated through appropriate development design" however provides additional recommendations. The proposed fill pads have been revised to enable the retention of Tree 2 and Patch 6, as recommended by Ecolink, by offsetting the fill pad 15m from both. Furthermore, it is submitted that the additional documentation provided within this response appropriately address and demonstrate the protection of trees to be retained. Should it be required, we welcome a suitably worded condition of permit pertaining to the preparation of a Tree Management Plan.

A permit is sought for the removal of native vegetation in accordance with this Clause. Based on 1.035ha being removed, an offset comprising 0.184 General Habitat Units, 7 large trees, with a minimum Strategic Biodiversity Score of 0.375, located with the Melbourne Water Catchment Management Authority (CMA) or Cardinia Shire Council is to be provided.

We note this offset was calculated based on Tree 2 and Patch 6 also being removed which is now proposed to be retained. As such, we welcome a suitably worded condition of permit requiring the required offset to be updated accordingly.

Clause 52.29 Land Adjacent to the Principal Road Network

For clarity, we seek to highlight the while it is acknowledged that the site is in proximity to a Principal Road Network ('TRZ2'), the site is not directly adjacent to it as shown in Figure 8 below as Bessie Creek Road is zoned GWZ1, and no access is proposed to be provided via the TRZ2.

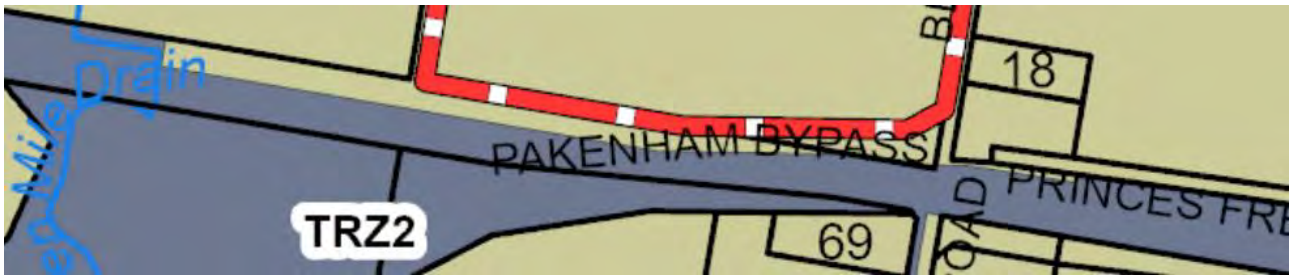


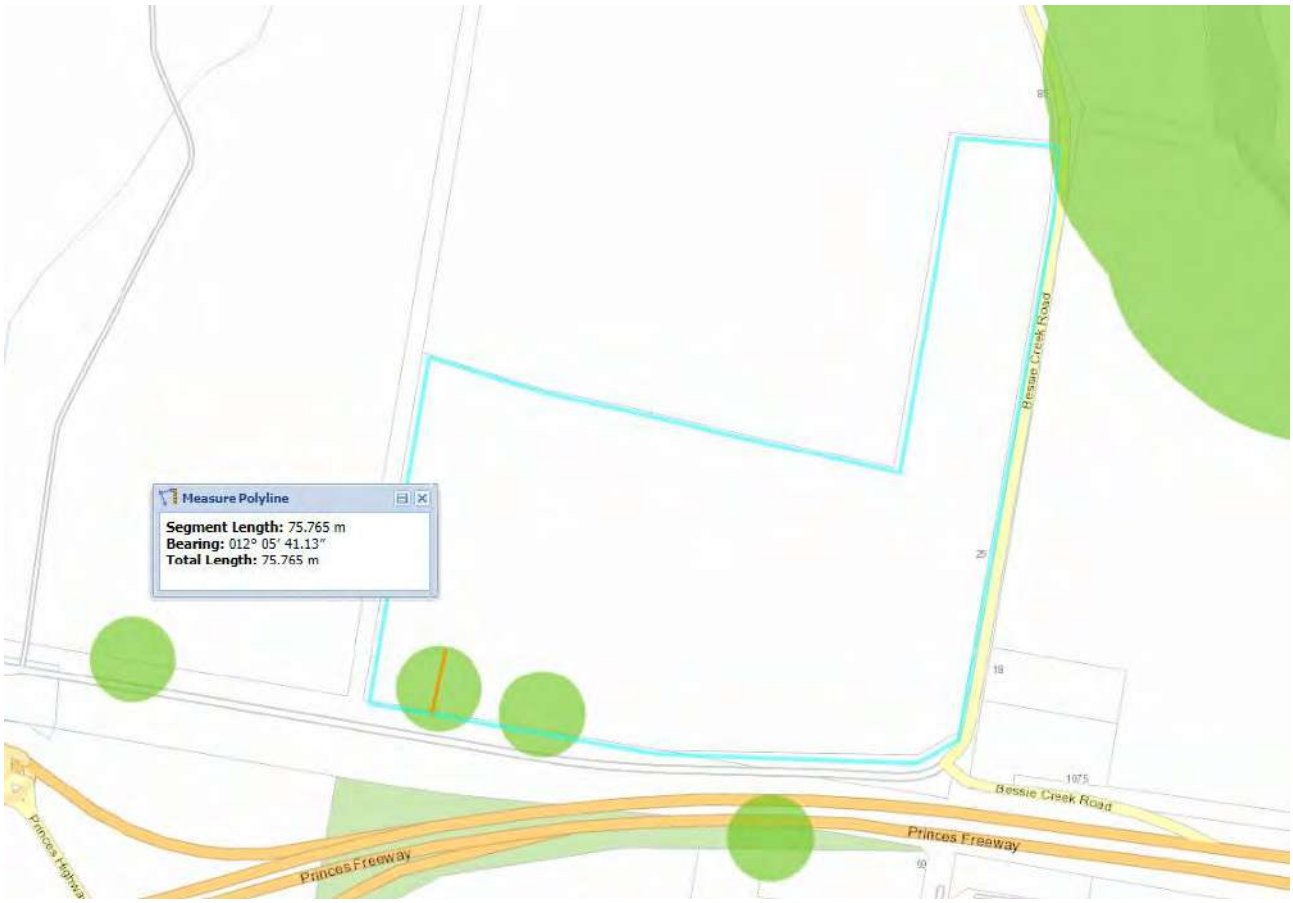
Figure 8: Zone Map (DPCD Planning Maps Online)

3.4 Aboriginal Cultural Heritage

Small areas of Aboriginal Cultural Heritage are identified on the subject site, however this is located beyond the extent of the identified works area. For this reason, a mandatory CHMP is not required for the proposed works at the subject site.

Furthermore, we note that we have obtained legal advice from Minter Ellison Lawyers which have identified that Earthworks is not a 'High Impact Activity' specified in Division 5 of Part 2 of the Regulations. The use of the land has been identified in the VCAT hearing of *Calleja Properties Pty Ltd v Hume CC* as an innominate use and best described as "disposal of clean fill". This use is not recognised as a High Impact Activity and therefore a mandatory CHMP is not required.

By virtue of no significant ground disturbance being proposed, nor are any of the uses listed in Regulation 46 associated with the proposal, a CHMP is submitted to not be required.



3.5 Planning Policy Framework (PPF)

The Planning Policy Framework sets out the relevant statewide and regional policies for development at Clause 11 (Settlement), Clause 13 (Environmental Risks and Amenity) and Clause 15 (Built Environment and Heritage). Clause 71 (Operation of this planning scheme) requires Council to integrate the range of policies relevant to the issues to be determined and to balance conflicting objectives in favour of net community benefit and sustainable development.

Clause 11 aims to facilitate the planning for and anticipation of the needs of existing and future communities, and to facilitate sustainable development that balances the need for growth alongside the protection of significant landscape. These strategies provide a balance between ensuring that a sufficient supply of land is available to support a growing population and managing the impacts of urban sprawl upon valued environmental areas.

The provisions of Clause 13 outline the need to prepare for and respond to the impacts of climate change. Clause 13 essentially highlights the importance of risk-based planning that prioritises the protection of human life.

Clause 15 relates to the Design and Built Form of developments and aims to ensure that developments achieve high quality designs that contribute positively to the landscape character of the area. Sustainability and respect for existing heritage are key themes within this clause.

Clause 11.01-1R - Green wedges - Metropolitan Melbourne

Key applicable strategies are as follows:

- *Promote and encourage the key features and related values of each green wedge area.*
- *Support development in the green wedge that provides for environmental, economic and social benefits.*

The proposal is considered to be in accordance with the applicable matters pertaining to the GWZ1 as discussed in Section 4.1. The proposal is considered to not have adverse environmental, economic or social impacts on the site or surround; instead improve the farming capacity of the site by resolving existing drainage issues through a more formalised drainage solution that includes gentle batters and open swales to appropriately direct runoff.

Clause 12 – Environmental and Landscape Values

This Clause includes aims to protect and conserve biodiversity and supporting ecological systems, as well as conserving areas with identified environmental and landscape values. Key objectives include protection of biodiversity, native vegetation management, protection of coastal areas, coastal tourism, sustainable uses and development of alpine areas, environment and landscape protection, conservation and character.

The site is not adjoining any national parks, conservation reserves or significant sites. The proposed earthworks will be undertaken on predominantly cleared land to minimise impacts on the environment and as demonstrated in Section 3 above, earthworks of this scale once complete are considered to be indiscernible in the landscape.

Clause 13 – Environmental Risk

This Clause requires the adoption of a best environmental management and risk management approach which aims to avoid or minimise environmental degradation and hazards. Specifically, concerns are noted for floodplains, soil degradation, including land contamination, erosion/landslip and salinity.

Environmental protection is a key consideration for this project; an Environmental Management Plan and Drainage Management Strategy has been prepared and submitted with this application. Environmental measures include gentle batters that will be top seeded to stabilise and minimise any erosion. Silt fencing will be established at the toe of the batters to trap any erosion that may occur with swale drains provided throughout to more appropriately direct water throughout the site to minimise the potential of erosion. Please refer to the Environmental Management Plan and Drainage Management Strategy for more information.

Clause 14.01 – Agriculture

This Clause seeks the protection and improvement of agricultural land to ensure new development does not jeopardise such future use of the land. The proposed earthworks are considered to improve the future productive agriculture on the land by removing the existing drainage issues that currently create wet and boggy conditions through the winter months. The proposal is therefore considered to promote the intent of Clause 14.01.

3.6 Local Planning Policy Framework and Municipal Strategy Statement

Cardinia's Local Planning Policy Framework includes the Municipal Strategic Statement (MSS) and Local Planning Policy (LPP). These policies are a local government extension of State, Regional and Federal Policies, and state how the broader policies will be achieved at the local level. The MSS sets out the key visions for the future of Cardinia, expressed through a strategic framework, objectives, strategies and actions. The LPP guides the Cardinia Planning Scheme, provides context to issues, sets out intentions for the area and guides decision making. The following Clauses are relevant in assessing the proposal before Council are:

Clause 21.01 - Cardinia Shire Key Issues and Strategic Vision

This Clause highlights the key influences and issues within Cardinia Shire and sets out the strategic vision and strategic framework plan. The proposal has been resolved to provide for minimal environmental impact.

Clause 21.02 - Environment

This Clause considers matters such as (inter-alia) catchment and coastal management, landscape, biodiversity, bushfire management and Aboriginal cultural heritage. As discussed throughout this report, the proposal has been resolved to provide for minimal environmental impact.

The proposal particularly responds to Clause 21.02-3 by appropriately offsetting the proposed native vegetation removal to achieve no net loss within the municipality and controlling weeds as outlined in the EMP prepare by Taylors.

Further, the proposed earthworks have been resolved to remain outside any areas of Aboriginal Cultural Heritage and therefore complies with Clause 21.02-7 by "identifying and protecting sites of significant Aboriginal heritage".

Clause 22.05 Western Port Green Wedge Policy

The site is located within Precinct 3: The Railway Precinct of the Western Port Green Wedge. The proposal enables the site to assist in maintaining a sensitive transition from urban townships to green wedge lands by not introducing any intensification in built form or the like, and continuing the agricultural use of the land, in accordance with the precinct vision. Furthermore, the site maintains the rural land use and rural character of the precinct in accordance with the future directions / preferred land uses of the precinct.

We submit that this report and accompanying documents demonstrate that the proposal achieves a high level of compliance with the objectives, vision and preferred future direction of the precinct and does not remove land from agricultural production within the precinct but instead improves existing land to allow the ongoing agricultural use in accordance with the application requirements and decision guidelines of this Clause.

4.0 Conclusion

It is considered that the proposal has a high level of compliance with the state and local planning policies and is consistent with the objectives of the GWZ, ESO1 and BMO, as well as Clause 52.17. In conclusion the proposal is considered to:

- Aid in resolving ongoing drainage management issues to aid in the long-term agricultural use of the land.
- Provide minimal environmental impact and minimise the extent of tree removal by virtue of the fill pads placement within predominantly already cleared areas;
- Be of a size and scale that will be generally indiscernible within the landscape once complete and seeded.

It is therefore submitted that a permit should be issued for the proposal.

Taylors Pty Ltd

December 2023

Updated June 2024

April 2024

Biodiversity Assessment,

25 Bessie Creek Road, Nar Nar Goon North, Victoria

Prepared for:

Urban Resource Management

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Document Control

Project name	Biodiversity Assessment, 25 Bessie Creek Road, Nar Nar Goon North, Victoria
Project number	2383
Project manager	[redacted]
Report title	Biodiversity Assessment, 25 Bessie Creek Road, Nar Nar Goon North, Victoria
Report authors	[redacted]
Site assessors	
Report reviewer	
Other staff	N/A
Mapping	[redacted]
File name	2383_BA_NarNarGoon_Report_15042024

Cover Photograph

A photograph of vegetation within the study area taken during the current assessment.

Copyright Information

Disclaimer

Ecolink Consulting Pty Ltd have taken the necessary steps to ensure that this document is accurate and complete, in accordance with relevant legislation and policies, as well as current industry best practice. We accept no responsibility for any damages or losses incurred as a result of actions that are undertaken as a result of either the report or its constituent parts.

Executive Summary

Ecolink Consulting Pty Ltd was engaged by Urban Resource Management to undertake a Biodiversity Assessment at a portion of 25 Bessie Creek Road, Nar Nar Goon North, Victoria (the study area). The study area included two paddocks: one in the eastern, and one in the western, portion of the property. The Biodiversity Assessment was undertaken to determine the ecological constraints of the study area, and to support a planning permit application for the importation of clean fill across the study area.

The study area is located in Nar Nar Goon North, approximately 1.6 kilometres north of the Nar Nar Goon train station. Bessie Creek Road extends along the southern and eastern boundaries of the property. The study area is zoned Green Wedge Zone – Schedule 1 within the Cardinia Planning Scheme. An Environmental Significance Overlay – Schedule 1 (ESO1) covers study area. The objectives of the ESO1 are to retain and enhance the biodiversity values of the study area, particularly through the retention of native vegetation.

Forty flora species were recorded during the assessment. This comprised 17 indigenous species and 23 exotic species. The vegetation within much of the study area was open pasture dominated by exotic species including Couch *Cynodon dactylon* var. *dactylon,* Brown-top Bent *Agrostis capillaris* and Sweet Vernal-grass *Anthoxanthum odoratum.* Other widespread species included grasses such as Paspalum *Paspalum dilatatum, Cocksfoot Dactylis glomerata* and Yorkshire Fog *Holcus lanatus,* as well as herbs including Ribwort *Plantago lanceolata* and Flatweed *Hypochaeris radicata*. Indigenous species generally had a low cover abundance, but included Rushes such as Finger Rush J*uncus subsecundus*, Green Rush *Juncus gregiflorus* and Pale Rush *Juncus pallidus,* as well as Bog Sedge *Schoenus apogon*. Indigenous Swamp Gum *Eucalyptus ovata* and River Red-gums *Eucalyptus camaldulensis* were the most abundant overstorey species. These trees were scattered throughout the study area or present as small stands. Ten patches of native vegetation and nine Scattared Trees were recorded. The patches of native vegetation and Scattared Trees were generally low to moderate quality representatives of Ecological Vegetation Class 937: Swampy Woodland.

Twenty-two fauna species were recorded within the study area during the current assessment. This comprised eighteen native birds, one introduced mammal, and three frog species. All of these species are common to the area. It is expected that a greater diversity of fauna species would be recorded with a greater amount of time on-site.

Most of the threatened fauna species modelled to occur by the Protected Matters Search Tool, and recorded within the three-kilometre buffer area, are dependent on habitats that are not provided within the study area. There are low quality habitats, and a low likelihood that White-throated Needletail *Hirundapus caudacutus* may overfly the study area, or that Grey Goshawk *Accipiter novaehollandiae,* Gang-gang Cockatoo *Callocephalon fimbriatum,* Latham's Snipe *Gallinago hardwickii,* Swift Parrot *Lathamus discolor* and Grey-headed Flying Foxes *Pteropus poliocephalus* may occasionally or opportunistically forage at the study area. However, the proposed importation of clean fill, and the proposed removal of native vegetation is unlikely to significantly impact any of these species.

In this context, and based on the relevant legislation and policies, the following recommendations are made:

- To obtain regulatory approval:
    - Ensure the development design, where feasible, avoids and minimises the impacts to native vegetation and biodiversity values in accordance with the *Guidelines for the Removal, Destruction or Lopping of Native Vegetation*;
    - Submit this report to Council to support the planning permit application;
- Post approval, subject to regulatory approvals:
    - Secure appropriate offsets for any approved impacts to native vegetation through an accredited Offset Broker. This offset should comprise:
        - 0.184 General Habitat Units:
            - With a minimum Strategic Biodiversity Score of 0.375;
            - Located with the Melbourne Water Catchment Management Authority (CMA) or Cardinia Shire Council; and
            - Seven Large Trees;
    - Engage a zoologist or wildlife handler salvage any wildlife from planted trees prior to their removal
    - Prepare a Construction Environment Management Plan (or equivalent) which includes:
        - Protection of retained scattered trees within the study (if any); and
        - Using clean fill (if required);
        - Avoiding downstream and off-site impacts; and
        - Measures to minimise impacts associated with weed introduction and spread targeting noxious weeds such as:
            - Blackberry *Rubus fruticosus* spp. agg.;
            - Hawthorn *Crataegus monogyna*;
            - Spear Thistle *Cirsium vulgare*; and
            - Seet Briar *Rosa rubiginosa.*

Table of Contents

Introduction

Ecolink Consulting Pty Ltd was engaged by Urban Resource Management to undertake a Biodiversity Assessment at a portion of 25 Bessie Creek Road, Nar Nar Goon North, Victoria.

The study area included the internal portion of two paddocks: one in the eastern and one in the western portion of the property. The two paddocks are joined by an internal track, which is proposed to be utilised by the applicant (hereafter the study area, Figure 1). The Biodiversity Assessment was undertaken to determine the ecological values the study area. It will also support a planning permit application to remove native vegetation and import clean fill across of the study area.

The assessment addresses the requirements of Clause 52.17 of the Cardinia Planning Scheme. Clause 52.17 requires mapping and assessing the location, extent and quality of native vegetation in accordance with the *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* (Department of Environment Land Water and Planning 2017). The Biodiversity Assessment also identifies any other likely ecological constraints of the study area and recommends mitigation measures and offset requirements based on relevant legislation and policies, where appropriate.

Therefore, the purpose of the Biodiversity Assessment is to:

- Determine the ecological values of the study area;
- Evaluate the extent and quality of native vegetation within the study area, required under the *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* (Department of Environment Land Water and Planning 2017);
- Evaluate any impacts that are likely to occur to any ecological values as a result of the potential loss of vegetation at the study area; and,
- Make recommendations to avoid or mitigate impacts identified ecological values, as appropriate.

Methods

Desktop Assessment

In order to determine the ecological values that have previously been recorded within the study area, and its vicinity, the following databases and literature were consulted:

- The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool to determine Matters of National Environmental Significance (MNES), under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act), that are modelled to occur in the vicinity of the study area (Department of Climate Change Energy the Environment and Water 2023a);
- Planning Maps to identify the planning zones and overlays relating to environmental matters e.g. Vegetation Protection Overlays or Environmental Significance Overlays (Department of Transport and Planning 2023);
- The NatureKit webpage (Department of Environment Land Water and Planning 2023d) from the Department of Energy, Environment, and Climate Action (DEECA) to identify the historic and current Ecological Vegetation Classes (EVCs);
- The Victorian Biodiversity Atlas (Department of Environment Land Water and Planning 2023h) for records of threatened[1] flora and fauna within three-kilometres of the study area;
- Nearmap aerial photography to understand previous land use (Nearmap 2023);
- The Native Vegetation Information Management System (NVIM) to determine biodiversity offset requirements (Department of Environment Land Water and Planning 2023c);
- The 'Weeds of National Significance' database (Department of Climate Change Energy the Environment and Water 2023b); and,
- Other relevant legislation and policies (as required).

Site Assessment

A site assessment was undertaken on 5 April 2024 by Principal Ecologist, Simon Scott. Simon is suitably qualified and experienced to undertake such assessments, and holds a current Vegetation Quality Assessments (Habitat Hectares) Accreditation with DEECA (Department of Environment Land Water and Planning 2023g).

All flora species observed within the study area were recorded, with the exception of planted vegetation that was not considered a 'weed' (i.e. planted vegetation that was not spreading or reproducing). Where a species was not able to be confidently identified in the field, a sample was collected and later identified. Plants were identified to species level wherever possible, however, some plants that were planted, cultivars, hybrids, or plants that did not contain suitable fertile material used for identification were recorded to genus level.

[1] Threatened flora and fauna includes species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, and the *Flora and Fauna Guarantee Act 1988 (Vic*).

Vegetation communities such as EVCs and nationally significant vegetation communities were recorded (if observed) and compared with their corresponding benchmarks or thresholds to ensure that they were accurately assigned.

A list of all fauna species observed within, and immediately surrounding, the study area was produced. This list consists of species seen, heard, or identified by other evidence of their presence (e.g. feathers, scats). Binoculars (12 X 50mm) and call mimicry/playback were used to assist in the identification species.

The species, size (Diameter and Breast Height and Tree Protection Zone) and location of all 'scattered' indigenous trees was recorded using an iPad mini tablet that has an internal Global Positioning System (GPS) and the GIS Pro application (accuracy +/- 5 metres). The presence of hollows and birds' nests was also noted.

The presence of fauna habitat was noted, particularly in relation to potential habitats for threatened species. The greatest amount of time was spent surveying the highest quality fauna habitats (e.g. trees, water bodies, crevices or under ground debris) during the assessment.

Guidelines for the Removal, Destruction or Lopping of Native Vegetation

The *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* (the Guidelines) (Department of Environment Land Water and Planning 2017) are required to be addressed under Clause 52.17 of the Planning Scheme. The Guidelines require that information regarding the biodiversity values of the site were obtained through:

- Site-based information that was measured or observed at a site, including:
    - Extent of native vegetation patches;
    - Large trees;
    - Native vegetation condition assessed in accordance with the *Vegetation Quality Assessment Manual – Guidelines for Applying the Habitat Hectares Scoring Method* (Department of Sustainability and Environment 2004);
    - Ecological Vegetation Classes (EVC); and
    - Sensitive wetlands and coastal areas.
- Landscape scale information that cannot be measured or observed at the site and includes maps and models procured from DEECA.

The Guidelines require a Habitat Hectare assessment in instances where the impact is to be assessed under the Detailed Assessment Pathway. It was not possible to determine the risk-based pathway for the loss of native vegetation prior to the site assessment, and we therefore opted to complete the Habitat Hectare assessment in accordance with the methodology prescribed within the *Vegetation Quality Assessment Manual – Guidelines for Applying the Habitat Hectares Scoring Method* (Department of Sustainability and Environment 2004) where patches[2] of vegetation were observed.

[2] A 'patch' is defined as an area with at least 25% cover abundance of perennial native vegetation, or a group (i.e. three or more) trees forming a continuous canopy.

All indigenous vegetation was assessed, and then assigned a quality rating based on the Habitat Hectare score (Department of Sustainability and Environment 2004). In addition, the location and species of indigenous 'scattered trees'[3], and any 'large trees'[4] within patches were mapped.

Limitations and Qualifications

The following limitations and qualifications apply to this report:

- The results of the desktop assessment are reliant on data obtained from various databases and other reports. These databases all have internal vetting procedures, however the accuracy of these historical data and some of the results provided within these reports cannot be verified. The desktop assessment does, however, rely on the most accurate data available.
- As with all ecological assessments, a greater survey effort is likely to yield additional flora and fauna records. Where these additional flora and fauna records may alter the recommendations made within this report (e.g. where additional threatened species may utilise habitats within the study area, or where threatened species may be impacted by the proposed development), further assessment has been recommended within this report, depending on the implications of relevant policies and legislation.
- Some flora and fauna species may only be recorded during certain times or seasons (e.g. plants that only contain above-ground biomass and are only visible annually, nocturnal mammals and birds, migratory birds, or fauna identified through seasonal breeding calls such as some frog species).

On the basis of the above, the author has made an informed decision about the likely presence of threatened species that may be present, or that may utilise habitats within the study area, based on a desktop assessment, a review of the species' biology, and an understanding of the ecological values of the local area.

Despite the limitations to the assessment listed above, the results gained by both a desktop and a field-assessment are adequate to address the purposes of this report.

[3] Scattered trees are defined as a native canopy tree that does not form a patch

[4] Large trees are defined as meeting the size threshold specified in the bioregional EVC Benchmark

Results

The Study Area

Study Area Description and Land Use History

The study area is located in Nar Nar Goon North, approximately 1.6 kilometres north of the Nar Nar Goon train station. Bessie Creek Road extends along the southern and eastern boundaries of the property. Private property occurs to the north and west of the property. The property to the north was densely covered with native vegetation, and native vegetation also persisted in the road reserves.

The study area includes the central portion of paddocks, generally located at least 15 metres inside the boundaries of the property. These areas were grazed by cattle. Some evidence of ground disturbance was apparent within the study area. This included the apparent spreading of new soil near the central portions of the study area (Plate 1), and an upgraded track joining the two paddocks. Nearmap aerial photography suggests that these works occurred between October 2023 and February 2024 (Nearmap 2023). The track height is relatively higher than the surrounding land, and two culverts have been installed under the track (Plate 2).

Water was pooling in some low-lying depressions and collecting in a dam during the current assessment following recent heavy rainfalls. It is likely that these dams and depressions are ephemeral. An ephemeral creekline also bisects to the two portions of the study area, running in a north-south direction. This is an unnamed tributary to Bessie Creek or Ararat Creek, which occur to the north of the study area. Native vegetation was noted to occur within this creekline, although it was generally located outside the study area (Plate 2). Native vegetation also occurred as Rushes *Juncus* spp. in other low-lying portions of the study area or as Scattered Trees, or small stands of trees (Plate 3).

Local Planning Controls

The study area is zoned Green Wedge Zone – Schedule 1 within the Cardinia Planning Scheme. An Environmental Significance Overlay – Schedule 1 (ESO1) covers study area. No other planning overlays, relevant to the current assessment, such as Vegetation Protection Overlays or Significant Landscape Overlays cover the study area (Department of Transport and Planning 2023).

The ESO1 recognises the landscape character, and the environmental values of the study area for water quality, and habitat of botanical and zoological significance. Development within and around these sites need to be appropriately managed to ensure the long term protection, enhancement and sustainability of these ecological processes and the maintenance of biodiversity (Department of Environment Land Water and Planning 2023f).

The environmental objectives of the ESO1 are to:

- *'Protect and enhance the significant environmental and landscape values in the northern hills area including the retention and enhancement of indigenous vegetation.*
- *Ensure that the siting and design of buildings and works does not adversely impact on environmental values including the diverse and interesting landscape, areas of remnant*

vegetation, hollow bearing trees, habitat of botanical and zoological significance and water quality and quantity.

- *Ensure that the siting and design of buildings and works addresses environmental hazards including slope, erosion and fire risk, the protection of view lines and maintenance of vegetation as the predominant feature of the landscape.*
- *Protect and enhance biolinks across the landscape and ensure that vegetation is suitable for maintaining the health of species, communities and ecological processes, including the prevention of the incremental loss of vegetation'* (Department of Environment Land Water and Planning 2023f).

The objectives of the ESO1 have been considered within this report.

Flora

Flora Communities

The study area is located within the Gippsland Plain bioregion of Victoria. DEECA modelling of the vegetation within the study area suggests that it was historically covered by Ecological Vegetation Classes (EVC) 937: Swampy Woodland, and a small amount of EVC 83: Swampy Riparian Woodland in the north-eastern portion of the study area (Department of Environment Land Water and Planning 2023e).

EVC 83: Swampy Riparian Woodland is a '*woodland to 15 metres tall generally occupying low energy streams of the foothills and plains. The lower strata are variously locally dominated by a range of large and medium shrub species on the stream levees in combination with large tussock grasses and sedges in the ground layer'*. EVC 937: Swampy Woodland is an '*open eucalypt woodland to 15 m tall with ground-layer dominated by tussock grasses and/or sedges and often rich in herbs.* [It] *occurs on poorly drained, seasonally waterlogged heavy soils, primarily on swamp deposits but extending to suitable substrates within some landscapes of sedimentary origin'* (Department of Environment Land Water and Planning 2023a). Both of these EVCs are classified as 'Endangered' within the bioregion (Department of Environment Land Water and Planning 2023a).

Current vegetation modelling by DEECA suggests that small remnants EVC 937: Swampy Woodland persist within the study area (Department of Environment Land Water and Planning 2023d). The current assessment confirmed the presence of this EVC within the study area.

Flora Species

Forty flora species were recorded during the assessment. This comprised 17 indigenous species and 23 exotic species.

The vegetation within much of the study area was open pasture dominated by exotic species including Couch *Cynodon dactylon* var. *dactylon,* Brown-top Bent *Agrostis capillaris* and Sweet Vernal-grass *Anthoxanthum odoratum.* Other widespread species included grasses such as Paspalum *Paspalum dilatatum,* Cocksfoot *Dactylis glomerata* and Yorkshire Fog *Holcus lanatus,* as well as herbs including Ribwort *Plantago lanceolata and* Flatweed *Hypochaeris radicata* (front cover).

Indigenous species generally had a low cover abundance, but included Rushes, such as Finger Rush *Juncus subsecundus*, Green Rush *Juncus gregiflorus* and Pale Rush *Juncus pallidus,* as well as Bog Sedge *Schoenus apogon* (Plate 4). The Rushes are likely to be less desirable forage for cattle than the grasses, and therefore preferentially favoured by livestock grazing. These species would also be favoured by the moist soil conditions. Isolated occurrences of Prickly Tea-tree *Leptospermum continentale* in the northern portion of the study area were the only midstorey species recorded. Indigenous Swamp Gum *Eucalyptus ovata* and River Red-gums *Eucalyptus camaldulensis* were the most abundant overstorey species (Plate 5). These trees were scattered throughout the study area or present as small stands.

Vegetation Quality Assessment

Ten patches of native vegetation were recorded within the study area during the current assessment (Table 1).

Patches 1, 2, 3 and 6 were groups of indigenous trees, mostly Swamp Gum and River Red-gums. Patches 1 and 2 contained Large Trees. They had low to moderate Habitat Hectare Scores ranging from 17 to 29 (out of 100).

Patches 4, 5, 7, 8, 9 and 10 were patches containing a low to moderate cover abundance of Rushes, but lacked mid and overstorey vegetation. They had low Habitat Hectare Scores ranging from 9 to 11 (out of 100).

Table 1. Habitat Hectare assessment results

Patch			1	2	3	4 and 5	6	7, 8, 9 and 10
Bioregion			Gippsland Plain	Gippsland Plain	Gippsland Plain	Gippsland Plain	Gippsland Plain	Gippsland Plain
EVC name			Swampy Woodland	Swampy Woodland	Swampy Woodland	Swampy Woodland	Swampy Woodland	Swampy Woodland
EVC number			937	937	937	937	937	136
Conservation rating within bioregion			Endangered	Endangered	Endangered	Endangered	Endangered	Endangered
Assessment Criteria		**Max. Score**	**Patch Score**	**Patch Score**	**Patch Score**	**Patch Score**	**Patch Score**	**Patch Score**
Site Condition	a. Large old trees	10	9	9	0	0	0	0
	b. Canopy cover	5	4	4	0	0	4	0
	c. Understorey	25	5	5	5	5	5	5
	d. Lack of weeds	15	0	0	0	0	0	0
	e. Recruitment	10	0	0	0	0	0	0
	f. Organic litter	5	3	5	5	0	3	2
	g. Logs	5	2	2	3	0	2	0
	h. Total (sum of a-g)	**75**	**23**	**25**	**13**	**5**	**14**	**7**
Landscape Value	j. Patch size	10	1	1	1	1	1	1
	k. Neighbourhood	10	2	2	2	2	2	2
	l. Distance to core	5	1	1	1	1	1	1
m. Habitat Score (sum of h-l)		**100**	**27**	**29**	**17**	**9**	**18**	**11**
n. Habitat score out of 1 (m÷100)		1	0.27	0.29	0.17	0.09	0.18	0.11
Large Trees*			**2**	**3**	**0**	**0**	**0**	**0**

Table Notes:
*Large Tree DBH is ≥70cm DBH based on the EVC 937: Swampy Woodland Benchmark

Scattered Tree Assessment

Nine Scattered Trees were recorded within the study area (Table 2). Scattered Trees are isolated from the remnant patches. For example, Scattered Tree 4 which does not have canopy connectivity in the overstorey and does not contain >25% cover abundance of perennial vegetation cover in the understorey (Plate 6).

Scattered Trees 2, 3, 4, 5 and 9 are Large and all others are Small. Trees 7 and 8 are already dead (Plate 7). Based on the current development footprint, Tree 3 will be retained, and all others are proposed to be removed (Plate 6).

Table 2. Scattered Tree Table

Tree No.	Species	Diameter at Breast Height (cm)	Size Class	Tree Protection Zone Radius (m)	Latitude	Longitude
1	Swamp Gum	59	Small	7.08	145.5710	-38.06747
2	Long-leaved Box	83	Large	9.96	145.5706	-38.06633
3	River Red-gum	116	Large	13.92	145.5704	-38.06590
4	Swamp Gum	99	Large	11.88	145.5696	-38.06597
5	Swamp Gum	72	Large	8.64	145.5672	-38.06722
6	Swamp Gum	48	Small	5.76	145.5665	-38.06640
7	Dead	46	Small	Nil (dead)	145.5727	-38.06469
8	Dead	69	Small	Nil (dead)	145.5728	-38.06465
9	Swamp Gum	76	Large	9.12	145.5729	-38.06439

Table Notes:
*Large Tree DBH is ≥70cm DBH based on the EVC 937: Swampy Woodland Benchmark

Threatened Flora Species and Ecological Communities

Five threatened flora species have previously been recorded within three kilometres of the study area (Department of Environment Land Water and Planning 2023h). A further 15 threatened flora species are predicted to occur within the study area based on the Protected Matters Search Tool (Department of Climate Change Energy the Environment and Water 2023a). A consolidated list of these threatened flora species, as well as their conservation status under the EPBC Act, the *Flora and Fauna Guarantee Act 1988* (Vic) (FFG Act) Threatened List (Department of Environment Land Water and Planning 2023b), their preferred habitats and the likelihood of occurrence for each species is provided in Table A3.

There is one historic record of a threatened flora species within the study area: Billygoat Daisy-bush *Olearia curticoma*. This record dates back to 1917, and has a site accuracy of around 2.5 kilometres in the Victorian Biodiversity Atlas (Department of Environment Land Water and Planning 2023h). It is unlikely that this species occurs within the study area.

There is only a low likelihood that threatened flora such as Green Scentbark *Eucalyptus fulgens,* Studley Park Gum *Eucalyptus X studleyensis,* Strzelecki Gum *Eucalyptus strzeleckii* and River Swamp Wallaby-grass *Amphibromus fluitans* occur within the study area as they were not observed, and the habitats are highly modified through agricultural land uses (Table A3).

The modelling used by the Protected Matters Search Tool suggests that two nationally significant vegetation communities are likely to occur within the study area:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as Critically Endangered; and,
- Natural Damp Grassland of the Victorian Coastal Plains which is listed as Critically Endangered.

The vegetation within the study area is not representative of either of these communities.

Fauna

Fauna Species and Habitats

Twelve fauna species were recorded within the study area during the current assessment. This comprised eighteen native birds and one introduce mammal as well as three frog species. All of these species are common to the area. No reptiles were recorded during the assessment, although it is likely that skinks and snakes would occur within the study area, amongst areas containing dense understorey vegetation and organic litter or debris. It is expected that a greater diversity of fauna species would be recorded with a greater amount of time on-site.

The open areas that comprise much of the study area are likely to provide habitat to generalist species, such as Australian Magpie *Gymnorhina tibicen* and Little Raven *Corvus mellori*, which are widespread and common species throughout open areas, suburban areas and farmlands throughout Victoria.

The treed patches of native vegetation provided foraging habitats also provided habitat to honeyeaters including Galah *Eolophus roseicapilla* and Red Wattlebird *Anthochaera carunculata.* The presence of smaller birds such as Grey Fantail *Rhipidura albiscapa* and the Bell Miner *Manorina melanophrys* was likely due to the larger remnants of native vegetation to the south and particularly to the north of the study area. These birds were infrequently observed within the study area, and preferred habitats is likely confined to remnant native vegetation the road reserve and in the adjoining property.

Three frog species were record within the study area; Banjo Frog *Limnodynastes dumerilii,* Common Froglet *Crinia signifera* and Striped Marsh Frog *Limnodynastes peronii.* These frogs were heard in the areas of pooling water and the dam near the centre of the study area.

Threatened Fauna Species and Communities

Thirteen threatened fauna species have previously been recorded within three-kilometres of the study area (Department of Environment Land Water and Planning 2023h) (Figure 2). A further 25 threatened fauna species are predicted to occur within the study area, based on the Protected Matters Search Tool (Department of Climate Change Energy the Environment and Water 2023a). A consolidated list

of these threatened fauna species, as well as their conservation status under the EPBC Act and the FFG Act Threatened List (Department of Environment Land Water and Planning 2023b), their preferred habitats and the likelihood of occurrence for each species is provided in Table A4.

Many of the species modelled to occur by the Protected Matters Search Tool, and recorded within the three-kilometre buffer area, are entirely dependent on habitats that are not provided by the study area, none of these species are likely to be impacted by the proposed development of the study area. The remnant vegetation to the north of the study area, and within the road reserves provide moderate quality habitats for threatened fauna species, however, these habitats do not extend into the study area, and the study area has only a low likelihood of providing habitats to threatened fauna species.

There are low quality habitats, and a low likelihood of occurrence that:

- White-throated Needletail *Hirundapus caudacutus* may overfly the study area;
- Grey Goshawk *Accipiter novaehollandiae,* Gang-gang Cockatoo *Callocephalon fimbriatum,* and Grey-headed Flying Foxes *Pteropus poliocephalus* may have a home ranges which include the study area, and they may occasionally forage at the study area;
- Latham's Snipe *Gallinago hardwickii* and Swift Parrot *Lathamus discolor* may opportunistically forage at the study area, although permanent home ranges are unlikely to include the study area.

Therefore study area itself does not provide important resources to any of these species, and the development of the study area is unlikely to impact any threatened fauna species.

Discussion

A detailed summary of the legislation that was considered when preparing this report is provided in Appendix 2. The discussion presented in this section of the report does not reiterate information provided in Appendix 2, but summarises the results and recommendations arising from the interpretation of this legislation.

Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The desktop assessment identified 14 threatened flora and 30 threatened fauna species which may occur within the study area.

Almost all of the EPBC Act-listed flora and fauna species that were identified during the desktop assessment are unlikely to occur due to the absence of suitable habitats or the nature of habitats within the study area. EPBC Act-listed flora species are unlikely to occur due to the modified habitats within the study area.

There is a chance that that White-throated Needletails may fly over the study area, or that Gang-gang Cockatoo, Swift Parrot or Latham's Snipe and Grey-headed Flying-foxes may opportunistically forage at the study area, however the proposed development is unlikely to significantly impact any of these species, because none of these species are likely to rely on the habitat within the study area for important phases of their lifecycle.

On this basis, a referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water is not recommended for the project.

Flora and Fauna Guarantee Act 1988 (Vic)

The desktop assessment identified 31 flora species and 55 fauna species listed under the FFG Act that may occur within the study area (Tables A3 and A4).

As stated above, there is a low likelihood that some mobile animals, with large home ranges, may fly over the study area on occasion (White-throated Needletails, Grey Goshawk, Gang-gang Cockatoo, Swift Parrot and Grey-headed Flying Foxes), however the proposed development is unlikely to significantly impact any of these species. As for the EPBC Act listed species discussed above, the majority of the other FFG Act listed flora and fauna species modelled to occur, or historically observed near the study area, do not have habitat within the study area, are highly unlikely to occur and are therefore unlikely to be impacted by the proposed works.

The FFG Act, which was amended in 2021, contains an obligation or duty on public authorities and ministers to consider potential biodiversity impacts when exercising their functions. The FFG Act requires ministers and public authorities (including Councils) reasonably consider the objectives of the Act where projects may impact upon biodiversity, so far as is consistent with the proper exercising of their functions. It is therefore anticipated that regulators (DEECA and Cardinia Shire Council) will give due consideration to the FFG Act when considering the approval for the project.

The FFG Act also lists species as 'protected flora' on public land. Protected flora includes whole families or genera, (as well as species), such as daisies, heaths, orchids, and most Acacias. These species and genera are not necessarily regarded as threatened, but require an approved *Permit to Take Protected Flora* from DEECA prior to their removal when located on public land (including road reserves along Bessie Creek Road). The current assessment did not record any protected flora species at the access point to the property and a *Permit to Take Protected Flora* will not be required.

Planning and Environment Act 1987 (Vic)

Due to the presence of native vegetation within the study area, the proposed development would require a planning permit from the Cardinia Shire Council under Clause 52.17 prior to the removal, destruction or lopping of native vegetation (Department of Environment Land Water and Planning 2023f). The applicant is required to demonstrate how it applied the three-step approach to avoid, minimise, and offset impacts to native vegetation. The avoidance and minimisation principles are consistent with the objectives of the ESO1, and are discussed in further detail below.

Catchment and Land Protection Act 1994 (Vic)

Primary considerations of the *Catchment and Land Protection Act 1994* (Vic) relate to soil and water conservation, as well as the management of pest plants and animals. Four weed species that are listed as 'noxious' within the Port Phillip and Westernport Catchment Management Area were present within the study area (Table A1, Appendix 1). These weeds include Blackberry *Rubus fruticosus* spp. agg., Hawthorn *Crataegus monogyna*, Spear Thistle *Cirsium vulgare* and Sweet Briar *Rosa rubiginosa* which are all listed as 'Regionally Controlled' within the catchment. The proponent is required to 'control the spread' of all 'regionally controlled' species from their property.

Blackberry is also listed as 'Weeds of National Significance, although there are no additional legislative obligations to manage weeds under this listing.

The project should aim to remove these plants when construction commences, and ensure they are removed during the future the landscaping and maintenance of the study area. It is expected that weed management would form a section of a Construction Environmental Management Plan (or equivalent). As a minimum, this should include:

- Controlling weeds prior to the commencement of works, during works and after works are complete;
- Implementing vehicle, plant and equipment hygiene procedures to mitigate the importation and spread of noxious and environmental weeds;
- Using clean fill (if required);
- Avoiding downstream and off-site impacts; and
- Sowing the ground with suitable pasture grasses to minimise the amount of exposed soils. Suitable grasses should not be highly invasive or noxious.

Wildlife Act 1975 (Vic)

It is likely that some locally common species of fauna will be displaced by the proposed development. Furthermore, there remains a low likelihood that animals may be accidentally injured when disturbing soil and removing vegetation. All native vertebrate wildlife is protected under the *Wildlife Act 1975* (Vic), and it is recommended that a zoologist or wildlife handler salvage any wildlife from trees prior to their removal. It is also recommended that fauna management protocols be included in the Construction Environment Management Plan recommended above.

Guidelines for the Removal, Destruction or Lopping of Native Vegetation

The Three-step Approach

Applicants who wish to remove native vegetation must generally demonstrate how the application meets the three-step approach to:

1. Avoid the removal, destruction or lopping of native vegetation;
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided; and
3. Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation (Department of Environment Land Water and Planning 2017).

Avoidance and Minimisation Statement

Avoidance is generally demonstrated through appropriate development design. It is recommended that:

- Development design is considerate of the native vegetation and that infrastructure be sited away from native vegetation where possible. For example, a relatively small alteration to the proposed fill area may be able to retain Tree 2 and the trees within Patch 6;
- When considering the removal of native vegetation, priority is given to retention of patches of native vegetation which is of the highest quality;
- Retained trees include protection of the Tree Protection Zone and the *Australian Standards for the Protection of Trees on Development Sites* (Standards Australia 2009);
- Vegetation which is to be retained is protected from construction activities, in accordance with a Construction Environment Management Plan;
- Direct stormwater away from native vegetation and wetlands to avoid alterations to hydrology;
- Sediment, erosion and pollution control measures, in accordance with the EPA Guidelines (EPA Victoria 1991; EPA Victoria 1996), are incorporated in the Construction Environment Management Plan to avoid indirect impacts to downstream/downhill areas of greater ecological significance.

Offsets

We have determined the offsets for the removal of native vegetation based on the current development plan. This includes the removal of Patches 1, 2, 3, 4, 6, 8, 9, 10 and the partial removal

of Patches 5 and 7. It also includes the loss of Scattered Trees 1, 2, 4, 5, 6, 7, 8 and 9, which is required for the implementation of the defendable space area. The area of impact was sent to DEECA to provide a Native Vegetation Removal report (Appendix 3).

The Native Vegetation Removal report use the data collected during the current assessment and modelled vegetation quality scores to determine offset requirements. The Native Vegetation Removal report also includes the species specific offset test, which determines if the proposed vegetation removal will have a proportional impact on any Victorian rare or threatened species habitat above a specific offset threshold, which is set at 0.005 per cent of total habitat for each species. The species specific offset test for the proposed vegetation removal confirmed that species specific offsets would not be required. The results of the Native Vegetation Removal report is summarised below (Table 3).

Table 3. Offset requirements for removal of all native vegetation within the study area.

Offset Parameter	Result
Location Category	Location 1
Assessment Pathway	Detailed Assessment Pathway
Total Extent Removed	1.035 hectares
General Offset Requirements	0.184 General Habitat Units
Minimum Strategic Biodiversity Score	0.375
Offset Location	Melbourne Water Catchment Management Authority (CMA) or Cardinia Shire Council
Tree Offset	7 Large Trees

It is expected that offsets will be achieved through a third-party offset, through a vegetation broker, as securing the offsets on site is not practicable. Based on recent trades with brokers within the Melbourne Water Catchment Management Authority (CMA) area, the cost to offset this vegetation will be in the order of approximately $32,975.00[5] (excluding GST), although offset trades are based on a market based system the price is subject to approval and a quotation from a vegetation broker. We have confirmed that these offsets are readily available at multiple sites, with multiple brokers of the Native Vegetation Credit Register (Appendix 4). Ecolink Consulting can further assist with securing these offsets if required.

[5] At the time of writing, an allowance of approximately $135,000.00 per General Habitat Unit, plus $1,000.00 per large tree, should be made to achieve these offsets, plus approximately $1,000.00 in brokerage fees (plus GST for all values provided).

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Plates

Plate 1. New soil deposited in the central portion of the study area (5 April 2024).

Plate 2. In the north and north-west of the study area some remnant canopy and understorey trees remain (5 April 2024)

Plate 3. Patch 4 included an area dominated by indigenous Rushes (5 April 2024).

Plate 4. Patch 10, another example of a Rush dominated patch (5 April 2024).

Plate 5. Patch 1 including mature Swamp Gums (5 April 2024).

Plate 6. Scattered Tree 3 is not proposed to be impacted (5 April 2024)

Plate 7. Scattered Trees 7 and 8 are already dead (5 April 2024)

Figures

Figure 1: Results of the current assessment.

85 Bessie Creek Road, Nar Nar Goon North, Victoria

Legend

- Study Area
- Patches of Native Vegetation
- Impacted Trees
- River Red-gum
- Swamp Gum

Scattered Trees

- Dead
- Long-leaved Box

ecolink consulting

Note: some threatened species points have been shifted for display purposes

Figure 2: Threatened flora and fauna within 3 kms of the study area

85 Bessie Creek Road, Nar Nar Goon North, Victoria

Legend

- Study Area
- 3km Study Area Buffer

Common Name

- Blue-winged Parrot
- Freckled Duck
- Gang-gang Cockatoo
- Grey Goshawk
- Hooded Robin
- Little Eagle
- Musk Duck
- Pilotbird
- White-throated Needletail
- Platypus
- Southern Brown Bandicoot
- Growling Grass Frog
- Two-spotted Grass-skipper Butterfly
- Giant Honey-myrtle
- Green Scentbark
- Scented Daisy-bush
- Strzelecki Gum
- Studley Park Gum
- Public Land

Appendices

Appendix 1. Flora and Fauna Tables

Table A1. Flora species recorded within the study area

Origin	Common Name	Scientific Name	Weeds of National Significance	Noxious Weeds Classification
*	Blackberry	*Rubus fruticosus* spp. agg.	Yes	Controlled
*	Brown-top Bent	*Agrostis capillaris*	-	-
*	Cape Weed	*Arctotheca calendula*	-	-
*	Cocksfoot	*Dactylis glomerata*	-	-
	Common Bog-sedge	*Schoenus apogon*	-	-
*	Common Centaury	*Centaurium erythraea*	-	-
*	Couch	*Cynodon dactylon* var. *dactylon*	-	-
*	Drain Flat-sedge	*Cyperus eragrostis*	-	-
	Finger Rush	*Juncus subsecundus*	-	-
*	Flatweed	*Hypochaeris radicata*	-	-
*	Garden Dandelion	*Taraxacum officinale* spp. agg.	-	-
	Green Rush	*Juncus gregiflorus*	-	-
*	Hawthorn	*Crataegus monogyna*	-	Controlled
	Long-leaved Box	*Eucalyptus goniocalyx*	-	-
	Narrow-leaf Peppermint	*Eucalyptus radiata*	-	-
*	Onion Grass	*Romulea rosea*	-	-
	Pale Rush	*Juncus pallidus*	-	-
*	Panic Veldt-grass	*Ehrharta erecta*	-	-
*	Paspalum	*Paspalum dilatatum*	-	-
*	Perennial Rye-grass	*Lolium perenne*	-	-
*	Pimpernel	*Lysimachia arvensis*	-	-
	Prickly Tea-tree	*Leptospermum continentale*	-	-
*	Ribwort	*Plantago lanceolata*	-	-
	River Red-gum	*Eucalyptus camaldulensis*	-	-
	Slender Knotweed	*Persicaria decipiens*	-	-
	Small Loosestrife	*Lythrum hyssopifolia*	-	-
*	Spear Thistle	*Cirsium vulgare*	-	Controlled
	Spreading Crassula	*Crassula decumbens* var. *decumbens*	-	-
	Swamp Gum	*Eucalyptus ovata*	-	-
	Swamp Paperbark	*Melaleuca ericifolia*	-	-
*	Sweet Briar	*Rosa rubiginosa*	-	Controlled
*	Sweet Vernal-grass	*Anthoxanthum odoratum*	-	-
	Tall Rush	*Juncus procerus*	-	-

Origin	Common Name	Scientific Name	Weeds of National Significance	Noxious Weeds Classification
	Tall Sedge	*Carex appressa*	-	-
	Toad Rush	*Juncus bufonius*	-	-
*	Toowoomba Canary-grass	*Phalaris aquatica*	-	-
*	Water Couch	*Paspalum distichum*	-	-
	Weeping Grass	*Microlaena stipoides* var. *stipoides*	-	-
*	White Clover	*Trifolium repens* var. *repens*	-	-
*	Yorkshire Fog	*Holcus lanatus*	-	-

Table Notes:

* – Exotic # – naturalised

This table does not include ornamental plants, trees or shrubs that were not spreading or reproducing beyond where they were planted.

Table A2. Fauna species recorded within the study area

Origin	Common Name	Species Name
Birds		
	Australian Magpie	*Gymnorhina tibicen*
	Bell Miner	*Manorina melanophrys*
*	Common Blackbird	*Turdus merula*
	Galah	*Eolophus roseicapilla*
	Grey Fantail	*Rhipidura albiscapa*
	Little Raven	*Corvus mellori*
	Magpie-lark	*Grallina cyanoleuca*
	Masked Lapwing	*Vanellus miles*
	Noisy Miner	*Manorina melanocephala*
	Red Wattlebird	*Anthochaera carunculata*
	Willie Wagtail	*Rhipidura leucophrys*
Mammals		
*	European Rabbit	*Oryctolagus cuniculus*
Frogs		
	Banjo Frog	*Limnodynastes dumerilii*
	Common Froglet	*Crinia signifera*
	Striped Marsh Frog	*Limnodynastes peronii*

Definitions

* - Introduced species

Table A3. Threatened flora species that have previously been recorded within, or within 3 kilometres of the study area (Department of Environment Land Water and Planning 2023h), or that has habitat that may occur within the vicinity of the study area (Department of Climate Change Energy the Environment and Water 2023a).

Common Name	Species Name	National Status	FFG Act Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
Austral Toad-flax	*Thesium australe*	Vulnerable	Endangered	A semi-parasitic on roots of a range of grass species, notably Kangaroo Grass.	NPR	No	Unlikely
Billygoat Daisy-bush	*Olearia curticoma*	-	Critically Endangered	Endemic in Victoria where confined to dry forest on rocky ground above the Mitchell River near Glenaladale	1917 (1)	No	Unlikely
Clover Glycine	*Glycine latrobeana*	Vulnerable	Vulnerable	Grassy woodland; plains grassland; box woodland; dry sclerophyll forest.	NPR	No	Unlikely
Dense Leek-orchid	*Prasophyllum spicatum*	Vulnerable	Critically Endangered	Coastal and hinterland heath and heathy woodland	NPR	No	Unlikely
Eastern Spider-orchid	*Caladenia orientalis*	Endangered	Endangered	Coastal heathland and heathy woodland on deep siliceous sands	NPR	No	Unlikely
Giant Honey-myrtle	*Melaleuca armillaris* subsp. *armillaris*	-	Endangered	Mainly confined to near-coastal sandy heaths, scrubs slightly raised above saltmarsh, riparian scrubs, rocky coastlines and foothill outcrops eastwards from about Marlo. Occurrences to the west are naturalised.	2018 (1)	No	Unlikely
Green Scentbark	*Eucalyptus fulgens*	-	Endangered	Damp sclerophyll forests	2009 (2)	Yes	Low
Green-striped Greenhood	*Pterostylis chlorogramma*	Vulnerable	Endangered	Open forest and woodland	NPR	No	Unlikely
Leafy Greenhood	*Pterostylis cucullata*	Vulnerable	-	Tea-tree heath	NPR	No	Unlikely
Matted Flax-lily	*Dianella amoena*	Endangered	Critically Endangered	Grassy Wetland; Red Gum woodland; plains grassland; grassy woodlands.	NPR	No	Unlikely

Common Name	Species Name	National Status	FFG Act Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
River Swamp Wallaby-grass	*Amphibromus fluitans*	Vulnerable	-	Beside swamps in grassy low open forest, riparian scrub. Required moist soils, tolerates inundation.	NPR	Yes	Low
Round-leaf Pomaderris	*Pomaderris vacciniifolia*	Critically Endangered	Critically Endangered	Valley sclerophyll forest	NPR	No	Unlikely
Shelford Leek-orchid	*Prasophyllum fosteri*	-	Critically Endangered	Basalt plains grassland near Mt Mercer.	NPR	No	Unlikely
Spiny Peppercress	*Lepidium aschersonii*	Vulnerable	Endangered	Heavy clay soil near salt lakes on volcanic plain, but with outlying records from near Lake Omeo and the Grampians	NPR	No	Unlikely
Strzelecki Gum	*Eucalyptus strzeleckii*	Vulnerable	Critically Endangered	Fragmented populations in the Strzelecki Ranges, on a range of sites including ridges, slopes and along the banks of streams, but particularly foothills and flats	2017 (2)	Yes	Low
Studley Park Gum	*Eucalyptus* X *studleyensis*	-	Critically Endangered	Very rare species resembling River Red-gum. Occurs throughout greater Melbourne	2010 (3)	Yes	Low
Swamp Everlasting	*Xerochrysum palustre*	Vulnerable	Critically Endangered	Seasonal or permanent wetlands	NPR	No	Unlikely
Swamp Fireweed	*Senecio psilocarpus*	Vulnerable	-	High-quality herb-rich wetlands on plains	NPR	No	Unlikely
Thick-lip Spider-orchid	*Caladenia tessellata*	Vulnerable	-	Grassy sclerophyll woodland on clay loam or sandy soils	NPR	No	Unlikely
White Star-bush	*Asterolasia asteriscophora* subsp. *albiflora*	-	Critically Endangered	Moist well drained clay soils in open forests in the foothills	NPR	No	Unlikely

Table Notes:

NPR – Not previously recorded

*** Likelihood of Presence Definitions**:

Unlikely – Site does not contain habitat and/or it is outside the species' known, current distribution.

Low –Site contains some marginal habitat, but the species was not observed and has not been recently recorded in previous surveys in the area.

Moderate – Site contains preferred habitat that may support a population of the species. However, other factors, such as fragmentation, disturbance or predators may be impacting any local population.

High - Site contains the preferred habitat which is likely to support the species.

Present – Preferred habitat is present on the site, and the species was observed on the site, or recently recorded at the site.

NPR – No previous record, modelled presence only under the EPBC Protected Matters Search results.

Table A4. Threatened fauna species that have previously been recorded within, or within 3 kilometres of the study site (Department of Environment Land Water and Planning 2023h), or that has habitat that may occur within the vicinity of the site (Department of Climate Change Energy the Environment and Water 2023a).

Common Name	Species Name	National Status	Victorian Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
Birds							
Freckled Duck	*Stictonetta naevosa*	-	Endangered	Large seasonal wetlands and well-vegetated dams, wet, grasslands	1980 (2)	No	Unlikely
Musk Duck	*Biziura lobata*	-	Vulnerable	Permanent swamps with dense vegetation, more open waters in non-breeding season.	1978 (1)	No	Unlikely
White-throated Needletail	*Hirundapus caudacutus*	Vulnerable	Vulnerable	Aerial insectivore that rarely lands to perch, often sleeping on the wing	1979 (7)	Yes	Low
Greater Sand Plover	*Charadrius leschenaultii*	Vulnerable	Vulnerable	Tidal mudflats and sandflats, beaches, saltmarsh, estuaries	NPR	No	Unlikely
Australian Painted-snipe	*Rostratula australis*	Endangered	Critically Endangered	Uncommon summer migrant to Victoria. Lowlands on shallow freshwater swamps with emergent vegetation, and flooded salt marshes.	NPR	No	Unlikely
Curlew Sandpiper	*Calidris ferruginea*	Critically Endangered	Critically Endangered	Estuaries, tidal mudflats, mangroves, shallow river margins, coastal or inland	NPR	No	Unlikely
Sharp-tailed Sandpiper	*Calidris acuminata*	Vulnerable	-	Not threatened	NPR	No	Unlikely
Latham's Snipe	*Gallinago hardwickii*	Vulnerable	-	Wet grasslands, open and wooded swamps.	NPR	Yes	Low
Australasian Bittern	*Botaurus poiciloptilus*	Endangered	Critically Endangered	Reed beds, dense vegetation of freshwater swamps and creeks.	NPR	No	Unlikely
Little Eagle	*Hieraaetus morphnoides*	-	Vulnerable	Woodlands, forests	1981 (2)	No	Unlikely

Common Name	Species Name	National Status	Victorian Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
Grey Goshawk	*Accipiter novaehollandiae*	-	Endangered	Wet Eucalypt / mixed forest with closed canopy and generally low stem density	2018 (3)	No	Low
Grey Falcon	*Falco hypoleucos*	-	Vulnerable	Shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast	NPR	No	Unlikely
Gang-gang Cockatoo	*Callocephalon fimbriatum*	Endangered	Endangered	They inhabit cool, wet forests, particularly alpine bushland, but may visit urban parks and gardens to feed	1981 (19)	Yes	Moderate
Swift Parrot	*Lathamus discolor*	Critically Endangered	Critically Endangered	Winter migrant from Tasmania. Generally prefers Box-Ironbark forests and woodlands inland of the Great Dividing Range during winter.	NPR	Yes	Low
Blue-winged Parrot	*Neophema chrysostoma*	Vulnerable	-	A range of habitats from coastal, sub-coastal and inland areas, right through to semi-arid zones	1981 (1)	No	Unlikely
Brown Treecreeper	*Climacteris picumnus*	Vulnerable	-	Dry woodland; forest clearings, eucalypts along streams.	NPR	No	Unlikely
Painted Honeyeater	*Grantiella picta*	Vulnerable	Vulnerable	Open box-ironbark forests and woodlands, particularly where trees are infested with mistletoe.	NPR	No	Unlikely
Regent Honeyeater	*Anthochaera phrygia*	Critically Endangered	Critically Endangered	Depends on nectar and insects from Box-Ironbark Eucalypt forests. Only breeding habitat lies in Northeast Victoria and central coast of NSW	NPR	No	Unlikely

Common Name	Species Name	National Status	Victorian Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
Pilotbird	*Pycnoptilus floccosus*	Vulnerable	Vulnerable	Temperate wet sclerophyll forests and occasionally temperate rainforest, where there is dense undergrowth with abundant debris	1981 (2)	No	Unlikely
Hooded Robin	*Melanodryas cucullata*	Endangered	Vulnerable	Lightly timbered woodland, mainly dominated by acacia and/or eucalypts.	1980 (2)	No	Unlikely
Diamond Firetail	*Stagonopleura guttata*	Vulnerable	Vulnerable	Open grassy woodland, heath and farmland or grassland with scattered trees.	NPR	No	Unlikely
Mammals							
Platypus	*Ornithorhynchus anatinus*	-	Vulnerable	Freshwater rivers and streams.	2021 (0)	No	Unlikely
Spot-tailed Quoll	*Dasyurus maculatus maculatus*	Endangered	Endangered	Forests including large intact areas of vegetation for foraging.	NPR	No	Unlikely
Swamp Antechinus	*Antechinus minimus maritimus*	Vulnerable	Vulnerable	Heathy forest, wetlands, heathland and coastal scrub.	NPR	No	Unlikely
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	Endangered	Endangered	Heathy forest, heathland and coastal scrub.	1963 (1)	No	Unlikely
Southern Greater Glider	*Petauroides volans*	Vulnerable	Endangered	Wet sclerophyll forests, requires large tree hollows for nesting	NPR	No	Unlikely
Yellow-bellied Glider	*Petaurus australis*	Vulnerable	Vulnerable	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils	NPR	No	Unlikely
Long-nosed Potoroo	*Potorous tridactylus trisulcatus*	Vulnerable	Critically Endangered	Heathy woodland	NPR	No	Unlikely

Common Name	Species Name	National Status	Victorian Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
New Holland Mouse	*Pseudomys novaehollandiae*	Vulnerable	Endangered	Heathlands, woodlands with a heathy understorey, open forest and vegetated sand dunes - in areas with soft, deep sandy soil in which to make burrows.	NPR	No	Unlikely
Smoky Mouse	*Pseudomys fumeus*	Endangered	Endangered	Dry sclerophyll forests with tussocky understorey	NPR	No	Unlikely
Grey-headed Flying-fox	*Pteropus poliocephalus*	Vulnerable	Vulnerable	Roost sites commonly occur in gullies, in vegetation with dense canopy cover and close to water. Forges more widely.	NPR	Yes	Low
Frogs							
Growling Grass Frog	*Litoria raniformis*	Vulnerable	Vulnerable	Permanent and semi-permanent lakes, swamps, dams and lagoons.	2006 (39)	No	Unlikely
Reptiles							
Swamp Skink	*Lissolepis coventryi*	-	Endangered	Low lying wetlands including swamp margins, tea tree thickets.	NPR	No	Unlikely
Fish							
Australian Grayling	*Prototroctes maraena*	Vulnerable	Endangered	Clear gravelly streams; deep slow flowing pools.	NPR	No	Unlikely
Dwarf Galaxias	*Galaxiella pusilla*	Vulnerable	Endangered	Slow moving waters, including ephemeral drains.	NPR	No	Unlikely
Yarra Pygmy Perch	*Nannoperca obscura*	Endangered	Vulnerable	Slow flowing creeks or still lakes with abundant aquatic vegetation and log snags	NPR	No	Unlikely
Invertebrates							
Two-spotted Grass-skipper Butterfly	*Pasma tasmanica*	-	Endangered	Poa and Microlaena grasslands and woodlands	1900 (1)	No	Unlikely

Common Name	Species Name	National Status	Victorian Status	Habitat Preferences	Most Recent Record	Habitat Present on Site	Likelihood of Presence*
Golden Sun Moth	*Synemon plana*	Vulnerable	Vulnerable	Tussock grasslands preferably dominated by Wallaby Grasses and Spear Grasses.	NPR	No	Unlikely

Table Notes:

This table excludes species listed exclusively as 'migratory' or 'marine' under the EPBC Protected Matters Search results.

NPR – Not previously recorded

*** Likelihood of Presence Definitions:**

Unlikely – Site does not contain habitat and/or it is outside the species' known, current distribution. Birds and bats may fly over.

Low –Site contains some marginal habitat, but the species was not observed and has not been recorded in previous recent surveys in the area. Birds and bats may fly over.

Moderate – Site contains preferred habitat that may support a population of the species. Birds and bats may opportunistically or seasonally forage at the site.

High – Site contains preferred habitat which is likely to support the species. Birds and bats are likely to regularly (at least seasonally) forage or roost at the site.

Present – Preferred habitat is present on the site, and the species was observed on the site, or recently recorded on the site.

NPR– No previous record, modelled presence only under the EPBC Protected Matters Search results.

Appendix 2. Legislation

Commonwealth Legislation

***Environment Protection and Biodiversity Conservation Act 1999* (Cth)**

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) is to provide for the conservation of 'Matters of National Environmental Significance'. The Act defines eight Matters of National Environmental Significance:

- World Heritage properties;
- National Heritage Places;
- Ramsar wetlands of international significance;
- Nationally listed threatened species and ecological communities;
- Listed migratory species;
- Commonwealth marine areas;
- The Great Barrier Reef Marine Park; and,
- Nuclear actions.

Under the Act, actions that are likely to have a significant impact upon Matters of National Environmental Significance require approval from the Federal Environment Minister. This approval is sought through a referral process for a particular action. An action includes any project, development, undertaking, activity or series of activities. Consideration of the requirement for an 'EPBC Referral' to the Minister has been made within this report.

State Legislation

Environmental Effects Act

The *Environment Effects Act 1978* (Vic) provides for assessment of proposed projects (works) that are capable of having a significant effect on the environment. The Act does this by enabling the Minister administering the Environment Effects Act to decide that an Environment Effects Statement (EES) should be prepared.

The Minister might typically require a proponent to prepare an EES when:

- There is a likelihood of regionally or State significant adverse effects on the environment;
- There is a need for integrated assessment of potential environmental effects (including economic and social effects) of a project and relevant alternatives; and,
- Normal statutory processes would not provide a sufficiently comprehensive, integrated and transparent assessment (Department of Sustainability and Environment 2007).

Referral criteria: individual potential environmental effects

- Individual types of potential effects on the environment that might be of regional or State significance, and therefore warrant referral of a project, are:
- Potential clearing of 10 ha or more of native vegetation from an area that:
    - is of an Ecological Vegetation Class identified endangered by the Department of Sustainability and Environment (in accordance with Appendix 2 of Victoria's Native Vegetation Management Framework); or

    - is, or is likely to be, of very high conservation significance (as defined in accordance with Appendix 3 of Victoria's Native Vegetation Management Framework); and
    - is not authorised under an approved Forest Management Plan or Fire Protection Plan
- Potential long-term loss of a significant proportion (e.g. 1 to 5 percent depending on the conservation status of the species) of known remaining habitat or population of a threatened species within Victoria;
- Potential long-term change to the ecological character of a wetland listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia';
- Potential extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems, over the long term;
- Potential extensive or major effects on the health, safety or well-being of a human community, due to emissions to air or water or chemical hazards or displacement of residences; and,
- Potential greenhouse gas emissions exceeding 200,000 tonnes of carbon dioxide equivalent per annum, directly attributable to the operation of the facility (Department of Sustainability and Environment 2007).

***Flora and Fauna Guarantee Act 1988* (Vic)**

The *Flora and Fauna Guarantee Act 1998* (Vic) (FFG Act) provides a legal framework for enabling and promoting the conservation of all Victoria's native flora and fauna, and to enable management of potentially threatening processes on public land. The Act lists native species, communities, and processes that threaten native flora and fauna, under Schedules of the Act. This enables the assessor and regulators to establish management measures to mitigate impacts on listed values within Victoria.

The FFG Act was amended in 2021 and now contains an obligation or duty on public authorities and ministers to consider potential biodiversity impacts when exercising their functions. The FFG Act requires ministers and public authorities (including Councils) reasonably consider the objectives of the Act where projects may impact upon biodiversity, so far as is consistent with the proper exercising of their functions.

The types of potential impacts on biodiversity that should be considered include:

- Long and short term impacts;
- Detrimental and beneficial impacts;
- Direct and indirect impacts;
- Cumulative impacts; and,
- Potentially threatening processes (Department of Environment Land Water and Planning 2021).

It is therefore anticipated that regulators will give due consideration to the FFG Act when considering the approval for the project.

In additional, a 'Permit to Take Protected Flora' is required to 'take' listed flora species that are members of listed communities or protected flora from public land. 'Taking' flora is defined as any action which results in the removal or death of a native plant. A permit is not required under the FFG

Act for private land, unless listed species are present and the land is declared 'critical habitat' for the species. On public land the permit is issued by DELWP.

An evaluation of the likelihood of the presence of significant flora and fauna species on the subject site, including those listed under the FFG Act that have previously been recorded in the vicinity of the site, has been undertaken.

***Planning and Environment Act 1987* (Vic)**

The *Planning and Environment Act 1987* (Vic) (P&E Act), later amended by the *Planning and Environment (Planning Schemes) Act 1996* (Vic) provides the foundation of planning schemes in Victoria. Planning schemes set out policies and provisions for the development and protection of land within each municipality in Victoria.

The *Planning and Environment (Planning Schemes) Act 1996* provides for the Minister for Planning to prepare a set of standard provisions for planning schemes called the Victoria Planning Provisions (VPP). The VPP is a state-wide reference document or template from which planning schemes are sourced and constructed. Incorporation of references such as the *Guidelines for the Removal Destruction or Lopping of Native Vegetation* into Section 12 of the VPP ensures that all municipalities must consider this policy. Local zones and overlays, such as Environmental Significance Overlays, may be incorporated into Section 30 and 40 of the planning provisions by each Council, but only remain relevant within that municipality.

The objectives of the P&E Act are to integrate local land use, development planning and development policy with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels through a set of planning schemes. The Act also establishes a clear procedure for public participation in decision making in amending planning schemes.

Some important sections of the planning scheme, in relation to the ecological values of a site, include:

- Section 12 of the State Planning Policy Framework, which identifies, and aims to protect, key biodiversity assets from inappropriate development;
- Clause 52.17 which identifies where native vegetation removal is exempt from requiring a planning permit; and
- Clause 66 which identifies all of the mandatory referral authorities. In particular, the Victorian Department of Energy, Environment and Climate Action is identified as the recommending referral authority if a proponent proposes:
    - *'To remove, destroy or lop native vegetation in the Detailed Assessment Pathway as defined in the Guidelines for the removal, destruction or lopping of native vegetation;*
    - *To remove, destroy or lop native vegetation if a property vegetation plan applies to the site; and*
    - *To remove, destroy or lop native vegetation on Crown land which is occupied or managed by the responsible authority' (Department of Transport and Planning 2023).*

***Catchment and Land Protection Act 1994* (Vic)**

The *Catchment and Land Protection Act 1994* (Vic) (CALP Act) is the principle legislation relating to the management of pest plants and animals in Victoria. Under this Act, landowners have a responsibility to avoid causing or contributing to land degradation. Where possible, landowners are required to conserve soil, protect water resources, eradicate 'regionally prohibited' weeds, prevent the growth and spread of 'regionally controlled' weeds and control pest animals. The CALP Act lists the species that are considered weeds and pest animals.

***Wildlife Act 1975* (Vic)**

Victoria's *Wildlife Act 1975* (Vic) and the *Wildlife Regulations 2002* (Vic) protect all indigenous vertebrate fauna, some non-indigenous vertebrate fauna, and some invertebrate fauna listed as 'threatened' under the FFG Act. The *Wildlife Act 1975* (Vic) prevents intentional injury to wildlife and stipulates that a licence should be granted where there is a possibility that wildlife are injured, or where wildlife is to be kept, relocated or traded.

In most cases, where the proponent is planning to develop a site, a planning permit approval provides this licencing approval, however, this report advises if an additional permit is required. Circumstances where this legislation may not be relevant is where fish are involved, on public land where additional regulatory approval is required, or where other permits are required (such as where fauna are required to undergo invasive procedures or installation of telemetry systems).

***Fisheries Act 1995 (*Vic)**

The *Fisheries Act 1995* (Vic) provides the legislative framework for the regulation, management conservation of Victorian fish species and their habitats. As with the Victorian *Wildlife Act 1975* described above, the key method to ensure compliance is through licencing. Where fish, or their habitats, are likely to be impacted, this report will identify additional requirements.

Other relevant policy

***Guidelines for the Removal, Destruction or Lopping of Native Vegetation* (Department of Environment Land Water and Planning 2017c)**

The *Guidelines for the Removal, Destruction or Lopping of Native Vegetation* (Department of Environment Land Water and Planning 2017) were released by DELWP in December 2017. A permit to remove native vegetation under clause 52.16 and 52.17 of the Victoria Planning Provisions is required unless:

- The table of exemptions to this clause specifically states that a permit is not required;
- It is native vegetation or an area specified in the schedule to the clause;
- A Native Vegetation Precinct Plan corresponding to the land is incorporated into the relevant planning scheme; or
- Bushfire exemptions apply in bushfire prone areas (Department of Environment Land Water and Planning 2017).

The Guidelines describe the permitting process for applications to remove native vegetation on private and public property within Victoria. A key strategy of the State Planning Policy Framework,

relating to biodiversity, is to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved through iteratively applying the three-step approach:

1. Avoiding the removal, destruction or lopping of native vegetation.
2. Minimising impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Providing an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation (Department of Environment Land Water and Planning 2017; p. 4).

Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses' (Department of Environment Land Water and Planning 2017).

Native vegetation is further classified into two categories (Department of Environment Land Water and Planning 2017):

- A remnant patch of native vegetation (measured in hectares) is either:
    - An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native, or
    - Any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or
    - Any mapped wetland included in the *Current Wetlands Map*, available in DELWP systems and tools.

OR

- A scattered tree (measured in number of trees), is a native canopy tree that does not form a patch (Department of Environment Land Water and Planning 2017).

In addition, a canopy tree with a Diameter at Breast Height (DBH) greater than or equal to the large tree benchmark for the relevant bioregional EVC is defined as a large tree. Large trees can be either a large scattered tree or a large tree within a patch.

The contribution that is made by native vegetation to the biodiversity values of Victoria is determined through an assessment of both site-based information and landscape scale information.

At a site-based level, the contribution is determined through an assessment of:

- The extent of native vegetation;
- The number of large trees (either within a patch or scattered trees), relative to the appropriate EVC benchmark;
- The native vegetation condition, which is determined through a Habitat Hectare assessment
- The conservation status of the Ecological Vegetation Class (EVC) to which the vegetation can be classified; and,
- The presence of sensitive wetlands and coastal areas.

At a landscape scale, the value of the vegetation is determined with reference to its strategic context in the Victorian landscape. This is determined by the vegetation's 'Strategic Biodiversity Score' (SBS) and its 'Habitat Importance Score' (HIS) for its value to rare and threatened species (Department of Environment Land Water and Planning 2017).

All native vegetation within Victoria has a SBS that has been determined through spatial modelling, based on its rarity, level of depletion, species habitats, and condition and connectivity (Department of Environment Land Water and Planning 2017). SBS scores are between 0 and 1 and are used to determine the offset required for the loss of that vegetation. Native vegetation only has a HIS score if it is habitat for a particular rare or threatened species (Department of Environment Land Water and Planning 2017). There are two types of rare or threatened species habitats that may be provided by native vegetation:

- **Highly localised habitats for rare or threatened species** – where impact to this particular patch of native vegetation could result in a significant biodiversity impact, such as a breeding colony or species with a limited geographic extent.

- **Dispersed rare or threatened species habitats** – where habitat for the threatened species has become depleted or fragmented over time (Department of Environment Land Water and Planning 2017).

The HIS is used to apply the decision guidelines in relation to the removal of a patch of native vegetation and to determine offset requirements (Department of Environment Land Water and Planning 2017).

Applications to remove native vegetation are categorised against one of three assessment pathways. These pathways are categorised as:

- Basic – limited impacts on biodiversity.
- Intermediate – could impact on large trees, endangered EVCs, and sensitive wetlands and coastal areas.
- Detailed – could impact on large trees, endangered EVCs, sensitive wetlands and coastal areas, and could significantly impact on habitat for rare or threatened species (Department of Environment Land Water and Planning 2017).

This is initially determined in two ways, based on the 'location map' and the extent risk of the vegetation proposed to be removed. The location risk is determined with reference to the *Native Vegetation Location Risk* map available on DEECA's website. This map shows whether native vegetation is classified as Location 1, 2 or 3.

The extent risk is determined based on the amount of native vegetation that is proposed for removal and includes the area (in hectares) of impact to native vegetation, the number of scattered trees, and the number of large trees (Table A5).

Table A5. Assessment pathways for removal of remnant patches of native vegetation (Department of Environment Land Water and Planning 2017).

Extent	Location		
	Location 1	Location 2	Location 3
Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
0.5 hectares or more	Detailed	Detailed	Detailed

All applications to remove native vegetation must include the following information:

1. Information about the native vegetation to be removed, including:
    a. The assessment pathway and reason for the assessment pathway;
    b. A description of the native vegetation to be removed;
    c. Maps showing the native vegetation and property in context;
    d. The offset requirement, determined in accordance with section 5 of the Guidelines that will apply if the native vegetation is approved to be removed.
2. Topographic and land information relating to the native vegetation to be removed;
3. Recent, dated photographs of the native vegetation to be removed;
4. Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged;
5. An 'Avoid and Minimise' statement;
6. A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* (Vic) that applies to the native vegetation to be removed;
7. Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary;
8. If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8, and
9. An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified, and can be secured in accordance with the Guidelines (Department of Environment Land Water and Planning 2017; p. 20-21).

If the application will be assessed under the Detailed Assessment Methodology, the following additional requirements apply:

10. A site assessment report of the native vegetation to be removed, including:
    a. A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status.
    b. The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches.

    c. The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large.

11. Information about impacts on rare or threatened species habitat, including:
    a. The relevant section of the Habitat importance map for each rare or threatened species requiring a species offset.
    b. For each rare or threatened species that the native vegetation to be removed is habitat for, according to the Habitat importance maps: - the species' conservation status - the proportional impact of the removal of native vegetation on the total habitat for that species - whether their habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat (Department of Environment Land Water and Planning 2017; p. 22).

Ten decisions guidelines are identified within the Guidelines that the responsible or referral authority must consider when deciding on an application to remove native vegetation. These are summarised as follows:

1. The degree to which the application avoids and minimises impacts to native vegetation, and where vegetation is proposed to be removed, the highest quality vegetation is avoided;
2. The role that the vegetation to be removed has in relation to landscape services such as erosion control, ground-water quality, waterway quality;
3. The role of the vegetation in the preservation of landscape features;
4. Whether any part of the native vegetation to be removed, destroyed or lopped is protected under the *Aboriginal Heritage Act 2006* (Vic);
5. The need to remove, destroy or lop native vegetation to create defendable space to reduce the risk of bushfire to life and property, having regard to other available bushfire risk mitigation measures;
6. Whether the native vegetation to be removed is in accordance with any Property Vegetation Plan that applies to the site;
7. Whether an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines;
8. Whether the application is consistent with a Native Vegetation Precinct Plan (where relevant);
9. For applications in both the Intermediate and Detailed Assessment Pathway only, the impacts on biodiversity values that would occur as a result of vegetation removal; and,
10. For applications in the Detailed Assessment Pathway only, the impacts on habitat for rare or threatened species (Department of Environment Land Water and Planning 2017).

Offset requirements

In all cases where native vegetation is approved for removal, the proponent is liable for the security of an offset site that meets the requirements under the Guidelines. An offset can be either a:

- First party offset – on the same property as the proposed removal of native vegetation, or on another property owned or managed (in the case of Crown land) by the party requiring the offset, or
- Third party offset – on another party's property. Third party offsets are traded as native vegetation credits.

In most cases a third party offset is the simplest and most cost effective means of securing the required offset.

There are three components to offset requirements:

1. Offset type (general or species).
2. Offset amount (measured in general or species habitat units).
3. Offset attributes.

Two types of offset are identified: General Offsets and Specifies Offsets. Specific Offsets may only be required if the native vegetation to be removed is habitat for rare or threatened species that are identified in an Intermediate or Detailed Assessment Pathway application (Department of Environment Land Water and Planning 2017). To determine this, a 'Specific Biodiversity Equivalence Score' is calculated by multiplying the habitat hectares with the HIS for each species that may be impacted. For each of the species, this figure is divided by the sum of all the Specific Biodiversity Value Scores calculated for the remaining vegetation under investigation to give a specific offset threshold for each species. If the amount of vegetation removed exceeds this threshold, then a Specific Offset is required. If it does not exceed the threshold, then only a General Habitat Offset is required (Table A6)(Department of Environment Land Water and Planning 2017).

Table A6 summarises the offset requirements for each of the Assessment Pathways and offset types.

Table A6. Offset requirements for the removal of native vegetation

Assessment Pathway	Offset Type	Offset amount		Offset attributes	
		Risk Adjusted Biodiversity Equivalence	Species Habitat Requirement	Vicinity	Strategic Biodiversity Score
Basic Assessment Pathway	General offset	1.5 times the general biodiversity equivalence score[1] of the native vegetation to be removed.	No restrictions.	In the same Catchment Management Authority boundary as the native vegetation to be removed.	At least 80 per cent of the SBS of the native vegetation to be removed.
Intermediate or Detailed Assessment Pathway	General offset	1.5 times the general biodiversity equivalence score of the native vegetation to be removed.	No restrictions.	In the same Catchment Management Authority boundary as the native vegetation to be removed.	At least 80 per cent of the SBS of the native vegetation to be removed.
	Specific offset	For each species impacted, 2 times the specific biodiversity equivalence score of the native vegetation to be removed.	Likely habitat for each rare or threatened species that a specific offset is required for, according to the specific-general offset test.	No restrictions.	No restrictions.

[1] The general biodiversity equivalence score is determined by multiplying the vegetation's habitat hectare score by its SBS.

Appendix 3. Native Vegetation Removal Report

PDF locked by DEECA. See separate file provided via email.

Appendix 4. Native Vegetation Credit Register Search Results

Report of available native vegetation credits

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

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

Date and time: 26/04/2024 10:47 **Report ID: 23909**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
0.184	0.375	7	CMA	Melbourne Water
			or LGA	Cardinia Shire

Details of available native vegetation credits on 26 April 2024 10:47

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	2.315	443	Melbourne Water	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	16.212	106	Melbourne Water	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	7.949	1414	Melbourne Water	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	42.986	2599	Melbourne Water	Nillumbik Shire	No	Yes	No	VegLink
BBA-0678_02	0.562	58	Melbourne Water	Nillumbik Shire	Yes	Yes	No	Abezco, VegLink
BBA-2789	1.317	14	Melbourne Water	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2790	2.911	116	Melbourne Water	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2870	2.544	431	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2871	14.819	1663	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
TFN-C1664	1.051	53	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
VC_CFL-0838_01	0.184	648	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3687_01	0.278	61	Melbourne Water	Baw Baw Shire	Yes	Yes	No	Baw Baw SC
VC_CFL-3708_01	0.197	504	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink

VC_CFL-3710_01	6.300	322	Melbourne Water	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3744_01	1.258	361	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink

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

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

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

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

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3746_01	4.962	563	Melbourne Water	Macedon Ranges Shire	Yes	Yes	No	VegLink

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

Next steps

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

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

Broker contact details

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

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

Native vegetation removal report

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

Date of issue: **22/04/2024**
Time of issue: **4:56 pm**

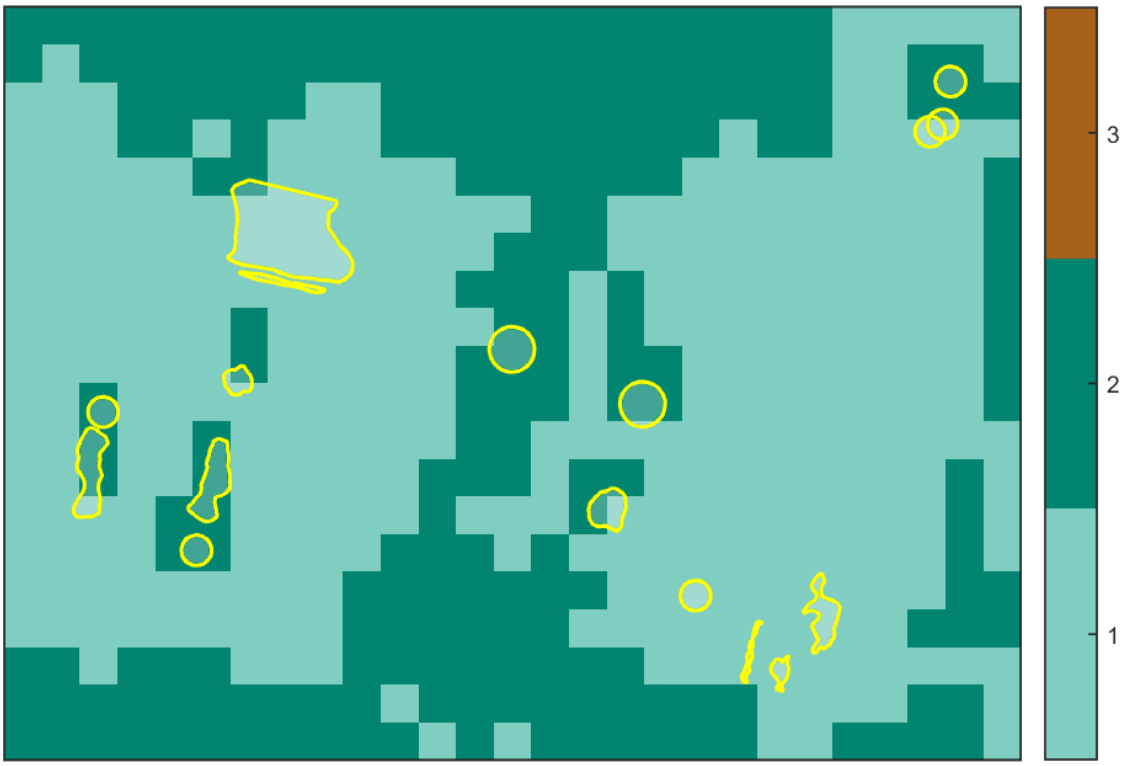
Report ID: ECL_2024_023

Project ID	2383_Bessie_EnSym_11042024

Assessment pathway

Assessment pathway	**Detailed Assessment Pathway**
Extent including past and proposed	1.035 ha
Extent of past removal	0.000 ha
Extent of proposed removal	1.035 ha
No. Large trees proposed to be removed	7
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.

1. Location map



Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

General offset amount[1]	0.184 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Cardinia Shire Council
Minimum strategic biodiversity value score[2]	0.375
Large trees	7 large trees

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

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

1 The general offset amount required is the sum of all general habitat units in Appendix 1.

2 Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

Next steps

Any proposal to remove native vegetation must meet the application requirements of the Detailed Assessment Pathway and it will be assessed under the Detailed Assessment Pathway.

If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. Council will refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

This *Native vegetation removal report* must be submitted with your application for a permit to remove, destroy or lop native vegetation.

Refer to the *Guidelines for the removal, destruction or lopping of native* vegetation (the Guidelines) for a full list of application requirements This report provides information that meets the following application requirements:

- The assessment pathway and reason for the assessment pathway
- A description of the native vegetation to be removed (partly met)
- Maps showing the native vegetation and property (partly met)
- Information about the impacts on rare or threatened species.
- The offset requirements determined in accordance with section 5 of the Guidelines that apply if approval is granted to remove native vegetation.

Additional application requirements must be met including:

- Topographical and land information
- Recent dated photographs
- Details of past native vegetation removal
- An avoid and minimise statement
- A copy of any Property Vegetation Plan that applies
- A defendable space statement as applicable
- A statement about the Native Vegetation Precinct Plan as applicable
- A site assessment report including a habitat hectare assessment of any patches of native vegetation and details of trees
- An offset statement that explains that an offset has been identified and how it will be secured.

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

For more information contact the DELWP Customer Service Centre 136 186

www.delwp.vic.gov.au

Appendix 1: Description of native vegetation to be removed

The species-general offset test was applied to your proposal. This test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the species offset threshold. The threshold is set at 0.005 per cent of the mapped habitat value for a species. When the proportional impact is above the species offset threshold a species offset is required. This test is done for all species mapped at the site. Multiple species offsets will be required if the species offset threshold is exceeded for multiple species.

Where a zone requires species offset(s), the species habitat units for each species in that zone is calculated by the following equation in accordance with the Guidelines:

Species habitat units = extent x condition x species landscape factor x 2, where the species landscape factor = 0.5 + (habitat importance score/2)

The species offset amount(s) required is the sum of all species habitat units per zone

Where a zone does not require a species offset, the general habitat units in that zone is calculated by the following equation in accordance with the Guidelines:

General habitat units = extent x condition x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)

The general offset amount required is the sum of all general habitat units per zone.

Native vegetation to be removed

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	**Type**	**BioEVC**	**BioEVC conservation status**	**Large tree(s)**	**Partial removal**	**Condition score**	**Polygon Extent**	**Extent without overlap**	**SBV score**	**HI score**	**Habitat units**	**Offset type**
0-J	Patch	gipp0937	Endangered	0	no	0.110	0.055	0.055	0.440		0.007	General
0-I	Patch	gipp0937	Endangered	0	no	0.110	0.015	0.015	0.440		0.002	General
0-H	Patch	gipp0937	Endangered	0	no	0.110	0.002	0.002	0.440		0.000	General
0-G	Patch	gipp0937	Endangered	0	no	0.110	0.007	0.007	0.440		0.001	General
0-F	Patch	gipp0937	Endangered	0	no	0.180	0.052	0.052	0.440		0.010	General
0-E	Patch	gipp0937	Endangered	0	no	0.090	0.387	0.387	0.450		0.038	General
0-D	Patch	gipp0937	Endangered	0	no	0.090	0.016	0.016	0.450		0.002	General
0-C	Patch	gipp0937	Endangered	0	no	0.130	0.026	0.026	0.450		0.004	General
0-B	Patch	gipp0937	Endangered	3	no	0.290	0.079	0.079	0.577		0.027	General
0-A	Patch	gipp0937	Endangered	2	no	0.270	0.081	0.081	0.465		0.024	General

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
0-K	Scattered Tree	gipp0937	Endangered	0	no	0.200	0.031	0.031	0.440		0.007	General
0-L	Scattered Tree	gipp0937	Endangered	1	no	0.200	0.070	0.070	0.440		0.015	General
0-M	Scattered Tree	gipp0937	Endangered	1	no	0.200	0.070	0.070	0.450		0.015	General
0-N	Scattered Tree	gipp0937	Endangered	0	no	0.200	0.031	0.031	0.823		0.009	General
0-O	Scattered Tree	gipp0937	Endangered	0	no	0.200	0.031	0.031	0.380		0.006	General
0-P	Scattered Tree	gipp0937	Endangered	0	no	0.200	0.031	0.025	0.460		0.005	General
0-Q	Scattered Tree	gipp0937	Endangered	0	no	0.200	0.031	0.025	0.460		0.005	General
0-R	Scattered Tree	gipp0937	Endangered	0	no	0.200	0.031	0.031	0.460		0.007	General

Appendix 2: Information about impacts to rare or threatened species' habitats on site

This table lists all rare or threatened species' habitats mapped at the site.

Species common name	Species scientific name	Species number	Conservation status	Group	Habitat impacted	% habitat value affected
Strzelecki Gum	*Eucalyptus strzeleckii*	504558	Vulnerable	Dispersed	Habitat importance map	0.0001
Grey Billy-buttons	*Craspedia canens*	504643	Endangered	Dispersed	Habitat importance map	0.0000
Green Scentbark	*Eucalyptus fulgens*	505175	Rare	Dispersed	Habitat importance map	0.0000
Swamp Everlasting	*Xerochrysum palustre*	503763	Vulnerable	Dispersed	Habitat importance map	0.0000
Maroon Leek-orchid	*Prasophyllum frenchii*	502709	Endangered	Dispersed	Habitat importance map	0.0000
Plains Yam-daisy	*Microseris scapigera s.s.*	504657	Vulnerable	Dispersed	Habitat importance map	0.0000
Matted Flax-lily	*Dianella amoena*	505084	Endangered	Dispersed	Habitat importance map	0.0000
Purple Blown-grass	*Lachnagrostis punicea subsp. punicea*	504206	Rare	Dispersed	Habitat importance map	0.0000
Floodplain Fireweed	*Senecio campylocarpus*	507136	Rare	Dispersed	Habitat importance map	0.0000
Swamp Fireweed	*Senecio psilocarpus*	504659	Vulnerable	Dispersed	Habitat importance map	0.0000
Pale Swamp Everlasting	*Coronidium gunnianum*	504655	Vulnerable	Dispersed	Habitat importance map	0.0000
Purple Blown-grass	*Lachnagrostis punicea subsp. filifolia*	504222	Rare	Dispersed	Habitat importance map	0.0000
Purple Diuris	*Diuris punctata*	501084	Vulnerable	Dispersed	Habitat importance map	0.0000
Growling Grass Frog	*Litoria raniformis*	13207	Endangered	Dispersed	Habitat importance map	0.0000
Glossy Grass Skink	*Pseudemoia rawlinsoni*	12683	Vulnerable	Dispersed	Habitat importance map	0.0000
Lewin's Rail	*Lewinia pectoralis pectoralis*	10045	Vulnerable	Dispersed	Habitat importance map	0.0000
Black Falcon	*Falco subniger*	10238	Vulnerable	Dispersed	Habitat importance map	0.0000

Habitat group

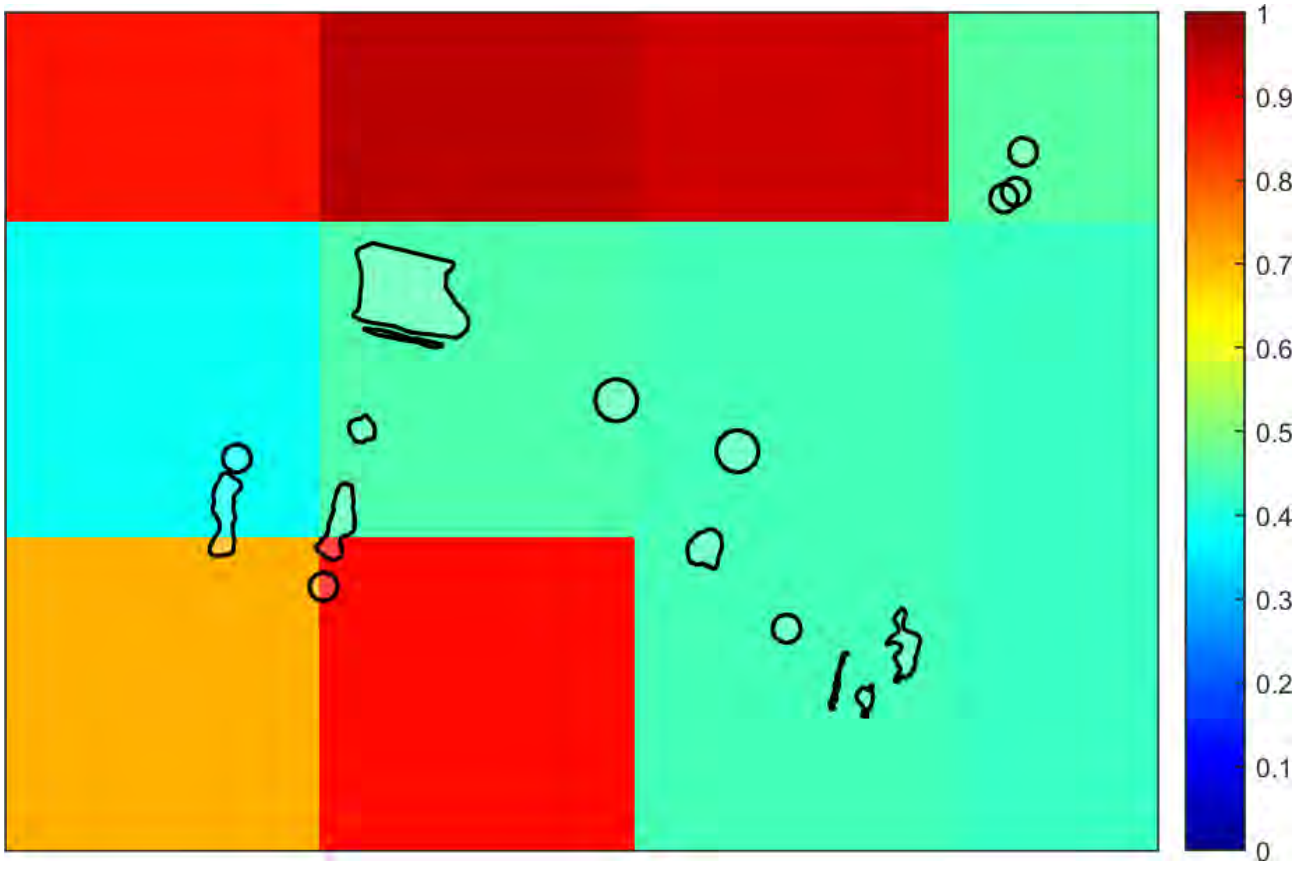
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

Habitat impacted

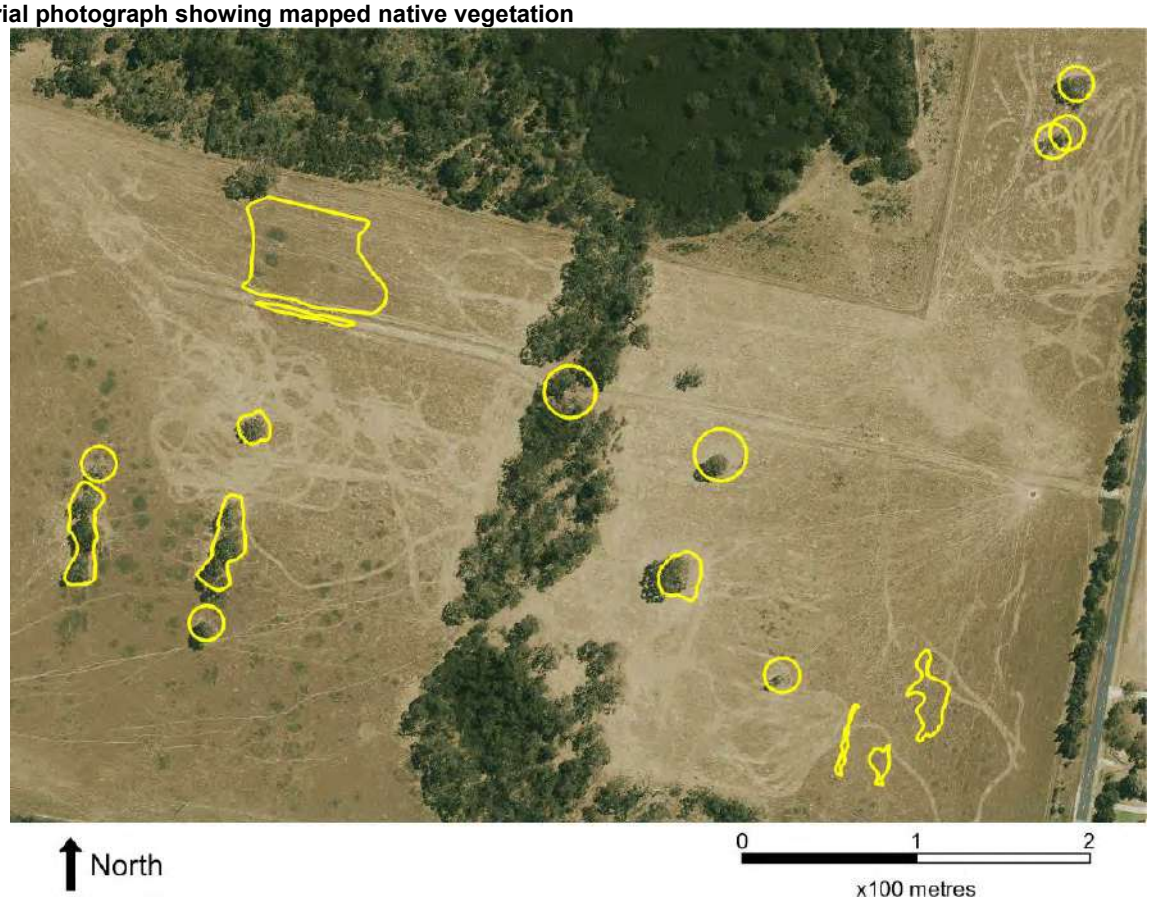
- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species
- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance scores in dispersed species habitat maps and selected VBA records
- Selected VBA record is an area in Victoria that represents a large population, roosting or breeding site etc.

Appendix 3 – Images of mapped native vegetation

2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation



4. Map of the property in context

Yellow boundaries denote areas of proposed native vegetation removal.

VER	DATE	REVISION	APPD.

0 10 20 40 60 80

SCALE 1:1000 AT A1 SIZE
SCALE 1:2000 AT A3 SIZE

Coords: MGA Levels: AHD

TAYLORS
Urban Development | Infrastructure
8 / 270 Ferntree Gully Road, Notting Hill, Victoria, 3168
Tel: 61 3 9501 2800 | Web: taylorsds.com.au

DESIGNED:	AHM	AUTHORISED:	-
CHECKED:	JOY	AUTH. DATE:	-
DRAFTED:	AHM		
CAD REF:	24454-C010-011		

CARDINIA SHIRE COUNCIL

25 BESSIE CREEK ROAD
PAKENHAM

FARM MANAGEMENT PLAN
GENERAL ARRANGEMENT

SCALE	SCALE
VERSION	A
SHEET	1 OF 2
DRAWING No.	24454-C010

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. A MOCS ENQUIRY ON 1100 MUST BE MADE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

0 10 20 40 60 80
SCALE 1:1000 AT A1 SIZE
SCALE 1:2000 AT A3 SIZE

Coords: MGA Levels: AHD

TAYLORS
Urban Development | Infrastructure
8 / 270 Ferntree Gully Road, Notting Hill, Victoria, 3168
Tel: 61 3 9501 2800 | Web: taylorsds.com.au

DESIGNED:	AHM	AUTHORISED:	-	DRAFTED:	AHM
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C010-011

CARDINIA SHIRE COUNCIL

25 BESSIE CREEK ROAD
PAKENHAM

FARM MANAGEMENT PLAN
GENERAL ARRANGEMENT

SCALE	SCALE
VERSION	A
SHEET	2 OF 2
DRAWING No.	24454-C011

Site Access Routes: 25 Bessie Creek Road, Nar Nar Goon

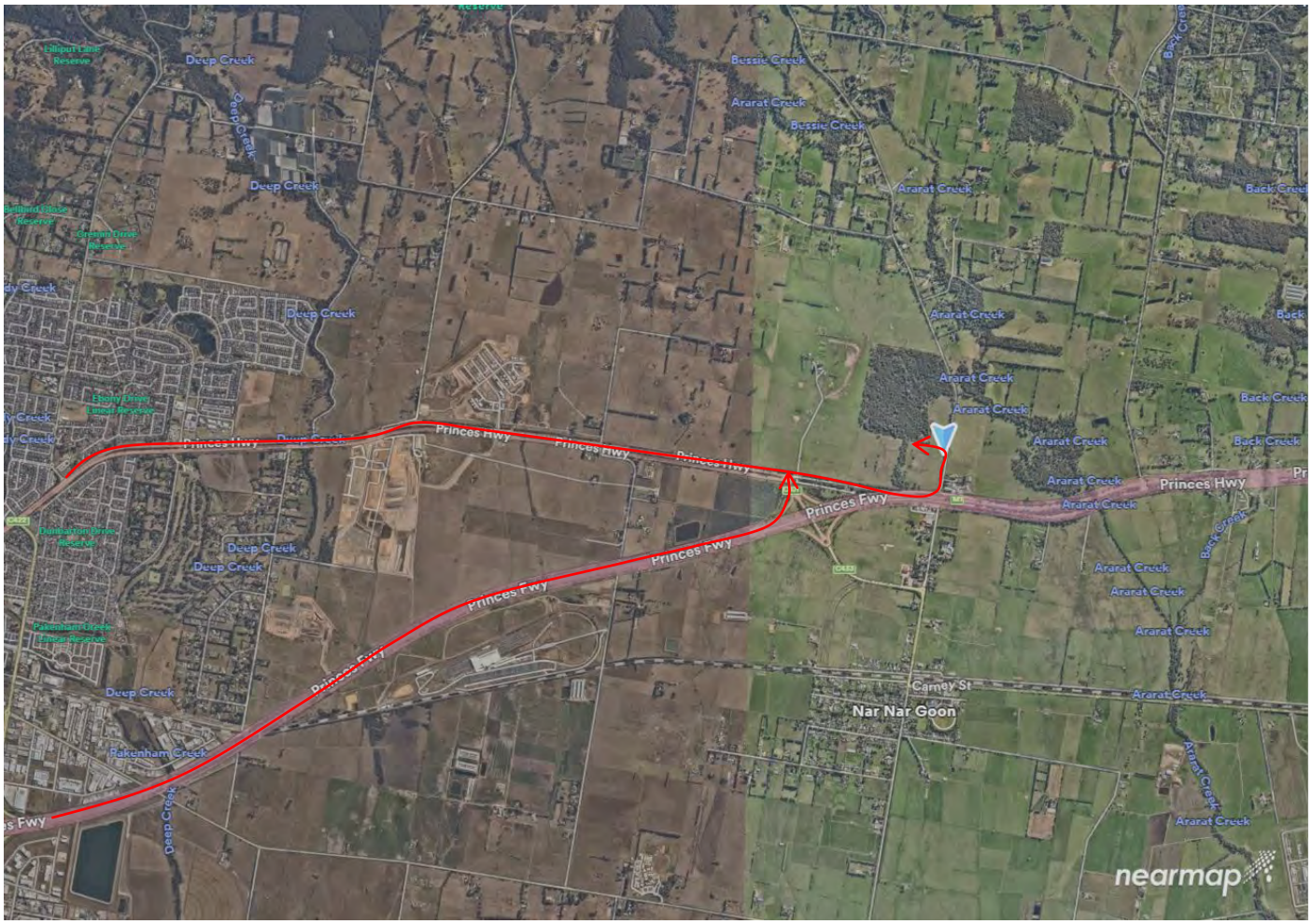


Figure 1: Large scale (Nearmap)

Figure 2: Medium scale (Nearmap)

Figure 3: Small scale (Nearmap)

SITE EMP A1 PLAN (1) - TYPES AND LOCATIONS OF ENVIRONMENTAL PROTECTION MEASURES

Project Name: 25 BESSIE CREEK ROAD, PAKENHAM

Date and Revision: 20th May 2024, REV B | Locality and Melways Ref.: Cardinia Shire Council 178 J7 | TS Ref.: 24454-E

The following have been identified as significant environmental aspects for the site:
-
-
-
-
These aspects shall be managed with environmental protection measures outlined on this plan.

Management

1. Responsibilities:
Company Details: ---
Responsible Person: ---
Office Telephone: ---
Mobile Telephone: ---
Emergency Contact 1:
--- - ---

Consulting Engineer: Taylors
Responsible Person: Daniel Lammers
Office Telephone: (03) 9501 2800
Mobile Telephone: 0428 872 802
Emergency Contact: John Yalden
(0409 002 001)

2. Communication of Site EMP Requirements:
- Inform all personnel on site in regard to areas likely to be affected by the developing works.
- Induction of all personnel on site.
- EMP shall be located in site office.
- EMP to be reviewed at regular toolbox meetings.
- All personnel on site to be inducted into the SEMP.

3. Inspections and Maintenance:
- All environmental control measures shall be inspected and maintained on a regular basis.
- Inspect control measures every 24 hours to ensure all are operational, including before, during and after rain events.
- Maintain as required with all rectification to be addressed within 24 hours of incident/report.
- Sediment controls to be repaired immediately.

4. Staging of Works:
- Install Environmental Protection Devices before Works Commence
- Strip Topsoil/Earthworks
- Pavement Construction
- Concrete Works and Topsoil

5. Informing Residents:
- Affected residents shall be notified two (2) days prior to construction activities.

6. Associated Documents:
- Traffic Management Plan
- Truck Haul Route
- CHMP

Noise

Risk: Significant / Med / (Low)

Requirement: EPA Victoria and Council requirements must be adhered to in relation to the level of noise and working hours, to ensure that residents and other applicable neighbours to the site are not disturbed unreasonably. The generation of noise must be minimised.

7. Working Hours:
7:00 am to 6:00 pm Mon-Fri
7:00 am to 1:00 pm Sat

Where activity is likely to cause a noise nuisance to nearby residents, restrict operating hours on Saturdays to 9am-1pm.

Saturday: 7am (9am <200m of residential dwellings) to 1pm
Saturday: no work before 9am <35m of residential dwellings

8. Noise Minimisation Methods:
- Ensure all construction plant are well maintained and serviced regularly.
- Ensure noise generating activities are for less sensitive times of the day or between times specified by the Municipal Council.

9. Other:
- Noise pollution in areas where occupied land is in close proximity shall be kept to a minimum compatible with the operations involved, and noise likely to be offensive shall only be generated between those hours specified by the Municipal Council as times when construction machinery may operate.

Dust

Risk: Significant / (Med) / Low

Requirement: Dust generation must be minimised to ensure there is no health risk or loss of amenity.

10. Minimising Dust Generation:
- Minimise areas of stripping or clearing of vegetation areas where possible.
- Restrict vehicle movement to defined haul roads where possible.
- Enforce speed restrictions of vehicles within work site to 20km/hr during extremely dry conditions.
- Minimise activities involving moving or handling of soil on dry, windy days.
- Stop work if dust generated from construction reaches on site neighbouring areas or properties, if visibility is affected on adjoining roads or if dust on the work site is a risk to occupational health.

11. Dust Suppression:
- Use water to suppress dust whenever required.
- Maintain water cart on site for use on haul roads, stockpiles, areas of earthworks, etc. when dust generation is likely to be considerable, or as required.
- All loads of soil taken off site to be covered.

12. Contingencies:
- Postpone dust generating activities during high winds to avoid dust problems.
- If a hose is used for water spraying, the hose is to be fitted with a trigger nozzle.
- If areas are to be left open with no works being undertaken, then exposed areas are to be treated with dust suppressant or hydroseeded.
- In the event there is any delay in continuation of works, stripped areas are to be sprayed with dust surfactant/suppressant or hydroseeded to minimise dust.

13. Other:
- If the Superintendent requests wind/dust fence to be installed, additional costs are to be negotiated.
- No stripping on high wind days.

Erosion and Sediment

Risk: Significant / (Med) / Low

Requirement: Erosion and sediment must be managed in accordance with current best practice environmental management practices to prevent sediment laden water from entering any drainage system or natural waterway.

14. Drainage Management:
- Construct temporary cut-off drains to direct flows away from exposed areas, batters and stockpiles.
- Any contaminated flow generated on site must be diverted to a sediment trap or settlement treatment prior to release from site or into receiving waters.
- Drainage control measures located in the Environmental Protection Measures are to be implemented at the discretion of the Contractor on site or as required by Council and relevant authorities.

15. Soil Stabilisation:

During Construction
- Where possible, growth of vegetation will be encouraged as a soil stabilisation measure.
- Where vegetation is not suitable, a permanent geo-textile fabric will be used.
- Construction works not to proceed during heavy rain.
- Exposed slopes and catch drains must be stabilised within 14 days of installation with geo-textile fabric, hydroseeding or stabilisation matting.

Post-Construction
- Where required, environmental control measures shall be inspected and maintained during the maintenance period.

16. Stockpile Management:
- Minimise the number and size of stockpiles on site. Maximum 2:1 height to width ratio.
- Stripped topsoil mounds to be covered subsoil.
- Position stockpiles away from drainage lines where possible.
- Divert run-off away from stockpile areas where possible.
- Stockpile to be placed minimum 10m away from drainage inlets, open drains, water courses and paved sediment run-off.
- Stockpiles in place for more than 28 days must be temporarily grassed.
- Stockpiles are to be 35m from buildings and residential properties. 3m height limit.
- Sediment retention structures to be placed downslope of any stockpile.
- Long term stockpiles should be allowed to revegetate.

17. Sediment Traps (Sediment Retention Devices):
- Use gravel sausages at pit entries and silt fences upstream of drainage outlets.
- All sediment control measures must be maintained and intact for the duration of the works (including reinstatement period) and inspected regularly including prior to (and after) rain events to ensure they are functioning properly. Any damage to be repaired immediately.
- Spare sediment control materials to be stockpiled on site for emergency repairs.
- Sediment controls must not block drains.
- Stormwater pits along established roadway, which are subject to sediment, must be protected.
- Sediment fencing (or other acceptable sediment control measures) to be installed downslope of disturbed areas.
- Sediment fencing (or other acceptable sediment control measures) along waterways to be located as far inland as possible.

18. Dewatering:
- Where possible, water is to be discharged over existing vegetated areas or to appropriate sediment controls.
- If there are no suitable vegetated areas, treatment of sediment laden water is required before discharging run-off to a natural waterway or stormwater system, where turbidity exceeds 30 NTU and is higher than upstream measurements. Hourly measurements of discharged water quality should be taken.
- Reuse water as preference to discharging.
- No dewatering of polluted water into no-go zones.
- All water leaving or discharged from the works area must meet EPA water quality requirements including salinity, DO, pH, temperature, other pollutants and turbidity of <30 NTU or lower than the turbidity of the receiving waterway (whichever is lower).

19. Vehicle and Road Management:

Site Access
- Primary access to the site shall be via the existing access from Bessie Creek Road. Stabilise the site access entry point with crushed rock and rumble pad.

Cleaning Vehicles
- Vehicles shall be manually cleaned of excessive material prior to leaving site.

Street Cleaning
- In the event that soil is deposited on the street, the materials will be physically removed by scraping (with a shovel) or by sweeping the material off the road. A street sweeper may also be used if required.
- Rumble grids are to be installed and ballast rocks at least 2 vehicle lengths prior to rumble grid, with crushed rock for internal haul roads and stabilised access area/site compound.
- Rumble grid and ballast rock to be maintained regularly to maintain effectiveness.
- Wash all equipment in designated vehicle wash down area.
- Sediment fencing (or other acceptable sediment control measure to be erected around vehicle wash down area.
- Mud removal devices to be located at all site entry/exit points and access from stripped earth to sealed roads.
- Enforce 20km/h speed limits at all times.

20. Other:
- Existing roads must be cleaned prior to rain/storm events.
- Existing roads are to be inspected regularly and sediment fully removed.
- Roads are to be maintained until EDLP.

Waste

Risk: Significant / (Med) / Low

Requirement: Litter and waste must be contained on site before disposal in a responsible manner. Waste generation must be minimised.

21. Movement of Soil: On Site
Contaminant Status: Clean

22. Waste Minimisation Methods:
- Solid waste concrete, etc. to be disposed at recycling plants where possible.
- Washout to be carried out well clear of drainage lines and waterways.

23. Waste Storage and Disposal:
- All left over construction supplies shall be gathered and stacked neatly within the site compound for proper disposal or reuse.
- Litter bins shall be located next to site compound for general rubbish and are to be emptied regularly. Ensure waste materials are not left where they can be blown away or washed away. Waste storage areas must be designed so that wind cannot blow away. Work site must be free of litter - any litter visible on site must be collected daily.
- Adhere to regulatory requirements for waste disposal.
- Bins must be of sufficient capacity and lidded. Bins to be emptied prior to overflowing.
- Waste bins must be of sufficient capacity to cope with demand, must be lidded and must be emptied before overflowing.

24. Other:
- Separate recyclable waste and materials from general waste for recycling. Recycling bins must be clearly marked to avoid contamination for recycled materials.
- Lidded rubbish and recyclable bins must be provided close to site office and/or lunch eating area for non-construction waste generated on site and emptied before they become full.

Chemicals

Risk: Significant / (Med) / Low

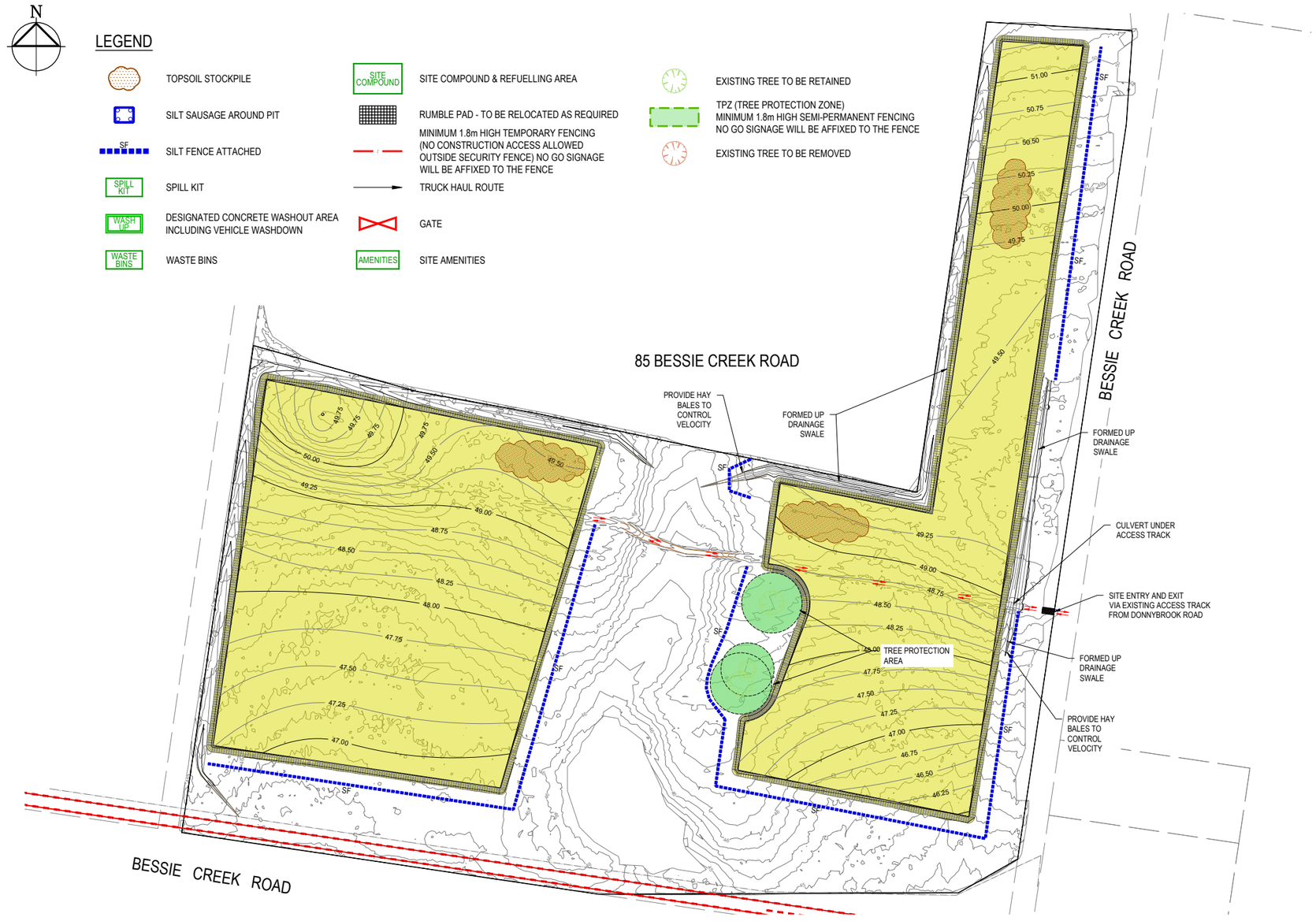
Requirement: Storage and spill management practices must be implemented to ensure that no environmental damage can result from the escape or spillage of chemicals or fuels.

25. Storage:
- Storage of chemicals on site shall be minimised.
- All chemicals shall be either stored within the site compound or individual sub-contractors shall store them in their vehicles.
- Chemicals must be stored under cover, on an impervious surface and within a suitable bund.
- MSDS required on site.

26. Spill Management:
- Spill kits are to be kept on site (near the site compound) and are used when required. On-site personnel trained in correct spill kit use.
- The fuel truck driver also carries a spill kit and is trained in its use.
- All spills must be cleaned up immediately to avoid contamination of the soil or watercourse.
- All spills must be reported to the Superintendent and relevant Authorities.
- Any soil contaminated from a spill must be removed and disposed of at an appropriate EPA landfill licensed to receive the waste type. The extent of soil contamination must be assessed, classified and removed in accordance with relevant Authority guidelines.
- Spill kits are to be correctly deployed when required.

27. Refuelling Procedure:
- No refuelling to occur within 10m of any drainage inlet, open drain, wetland, waterway or area of protection (e.g. conservation areas, tree protection zones and recreational infrastructure).
- Drain seals must be in place prior to refuelling.
- Mobile refuelling truck to visit site for major plant.
- Minimal fuel to be left on site for minor equipment.
- All refuelling and chemical storage to only occur within the appropriately bunded or portable sealed bunded area. Stormwater/rain protection measures must be installed for bunded areas.

28. Other:
- N/A



LAYOUT PLAN

0 20 40 80 120 160

SCALE 1:2000 AT A1 SIZE
SCALE 1:4000 AT A3 SIZE

SILT FENCES TO BE REVIEWED AND ALTERNATIVE MEASURES TO BE IMPLEMENTED IF FENCING IS NOT ADEQUATE/SUITABLE.

SEALED ROADS ARE TO BE KEPT FREE OF CLAY. BITUMEN ROADS ARE TO BE CLEANED/WASHED AS REQUIRED. NO CLAY/SEDIMENTS ARE TO BE WASHED/DRAINED INTO PITS.

Other Site Specific Issues

Significant Flora/Fauna

Risk: Significant / (Med) / Low

Requirement: All significant flora and fauna on and adjacent to the site must be protected.

29. Yes / No

Details
- Vehicles, machines and works to be confined to current stage. Nearby vegetation to be isolated.
- Any vegetation removal must be in accordance with permit/PSP.
- Suitably qualified wildlife rescue/animal handlers must be present during the removal of trees, native vegetation and other potential animal habitat.
- Boundary fencing will be installed prior to commencing on site.
- All tree protection zones to have 1m added after calculating appropriate size.
- Refer to Tree Protection Procedures for Hume City Council (17 January 2013).

Archaeological/Heritage

Risk: Significant / (Med) / Low

Requirement: Places, sites and objects of archaeological or heritage significance must be protected.

30. Yes / No

Details
- Artifacts uncovered during the process of works, the Superintendent must be contacted immediately and relevant procedures followed.

Weed Control

Risk: Significant / (Med) / Low

Requirement: Site must be kept free from all target weeds for the duration of works and the reinstatement and the maintenance period.

31. Weed Management Procedure:
- Catchment and Land Protection Act (1994), Agricultural and Veterinary Chemicals (Control of Use) Act (1992) and Agricultural and Veterinary Chemicals (Control of Use) Regulations (2007) must be complied with for weed and pest control along with the manufacturer's instructions with any herbicide use.
- At all times the land owner/manager must actively control weeds on site using a suitably qualified contractor in accordance with the Catchment and Land Protection Act (1994) S20.
- Weed control must not adversely impact native vegetation or waterways.
- Target weed control must occur at least once per month during Spring and once per quarter in other seasons for the duration of works and the reinstatement and maintenance period. Target weeds include all noxious weed species and highly invasive weeds including Serrated Tussock, Chilean Needle Grass, Cane Needle Grass, Galenia, Brassica species and Thistle species.

Other

Risk: Significant / Med / Low

32. NIL

I have read this Site Environmental Management Plan and agree to undertake works and ensure that subcontractors undertake works in accordance with this plan.

Developer: ---

Consultant: Taylors

Contractor: ---

Site EMP A1 Plan (2) - Risk Assessment and Designs of Environmental Protection Measures

Project Name: 25 BESSIE CREEK ROAD, PAKENHAM

Date and Revision: 20th May 2024, REV B

TS Ref.: 24454-E-501

Environmental protection measures shall be constructed in accordance with the following designs, and are to be used as required where identified for the specific project.

RISK ASSESSMENT CHECKLIST

Noise

ISSUES:		
* Nature of Noise Generating Works:	Construction Plant	Likelihood: LIKELY
* Potential Noise Receptors:	Adjoining Neighbours	Consequences: MINOR
* Proximity of Works to Noise Receptors:	Within 50 Metres	Overall Risk: LOW

Dust

ISSUES:		
* Dust Sources:	Construction, Traffic, Wind	Likelihood: VERY LIKELY
* Potential Dust Receptors:	Adjoining Neighbours	Consequences: MINOR
* Proximity of Works to Dust Receptors:	Within 50 Metres	
* Extent of Exposed Earth and Duration of Time Exposed:	Approx. 20 Weeks	Overall Risk: MEDIUM
* Wind Conditions:	Variable	

Erosion and Sediment

ISSUES:		
* Erosion and Sediment Sources:	Run-Off	Likelihood: LIKELY
* Potential Erosion and Sediment Receptors:	Drainage System	
* Proximity of Works to Erosion and Sediment Receptors:	On-Site	Consequences: MINOR
* Extent of Exposed Earth and Duration of Time Exposed:	Approx. 20 Weeks	
* Soil Type and Erosivity:	Subsoil/Topsoil	Overall Risk: MEDIUM
* Slope:	Medium	
* Site Drainage Regime:	Refer to Plan (1)	
* Rainfall:		
* Vehicle Movements On and Off Site:	Ongoing During Construction	

Waste

ISSUES:		
* Nature of Waste to be Generated:	Excess Spoil, General Rubbish	Likelihood: LIKELY
* Presence of Waste on Site Prior to Work Commencement:	Nil	Consequences: MINOR
* Quantity of Waste Anticipated:	Minimal	
* Potential Waste Receptors:	Drainage System, Adjoining Properties	Overall Risk: MEDIUM
* Proximity to Potential Waste Receptors:	Within 50 Metres	

Chemicals

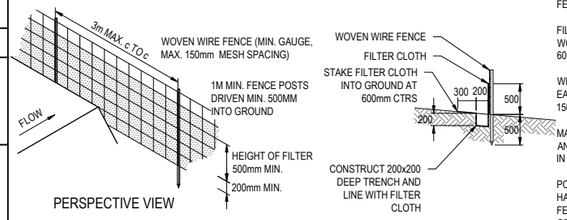
ISSUES:		
* Types of Chemicals and Fuels Used and/or Stored On Site:	Engine Oil, Diesel	Likelihood: UNLIKELY
* Quantities of Chemicals and Fuels Used and/or Stored On Site:	Minimal	Consequences: MAJOR
* Potential Chemical Receptors:	Drainage System, Soil	
* Proximity to Potential Chemical Receptors:	Adjacent to Source	Overall Risk: MEDIUM

Significant Flora/Fauna

ISSUES:		
* Types of Flora/Fauna:		Likelihood: VERY UNLIKELY
* Vulnerability of Flora/Fauna:	Medium	Consequences: MAJOR
* Proximity of Flora/Fauna to Works:	10m	
* Work Activities Which May Threaten Flora/Fauna:	Flora	Overall Risk: LOW
* Potential Impacts on Flora/Fauna:		

Archaeological/Heritage

ISSUES:		
* Traditional Land Owners Consulted?	No	Likelihood: VERY UNLIKELY
* Survey or Assessment Conducted?	Not Required	
* Probability of Encountering Archaeological/Heritage Items During Works:	Very Low	Consequences: MAJOR
* Types of Archaeological/Heritage Items On Site:	None	
* Proximity of Possible Archaeological/Heritage Items to Works On Site:	50m	Overall Risk: LOW
* Work Activities Which May Threaten Archaeological/Heritage Items:	None	
* Potential Impacts on Archaeological/Heritage Items:	None	



PERSPECTIVE VIEW

SILT FENCE DETAIL

NTS

SILT FENCE NOTES:

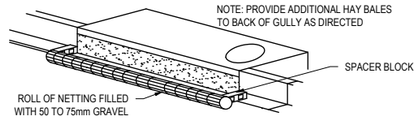
WOVEN WIRE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.

FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 600mm AT TOP OF MID SECTION.

WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.

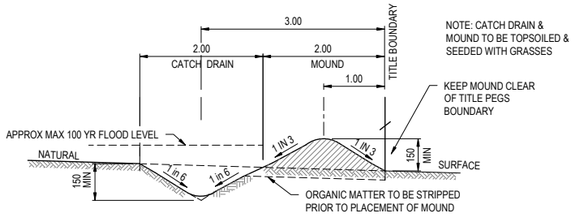
MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS STEEL EITHER T OR U TYPE OF 50mm HARDWOOD.
FENCE WOVEN WIRE 14 GA 150mm MAX. MESH OPENING.
FILTER CLOTH FILTER AS SPECIFIED (TERRAM 1000, POLYFELT TS 500. BIDIM U24 OR EQUIVALENT). PREFABRICATED UNIT GEOFAB, ENVIROFENCE OR APPROVED EQUIVALENT.



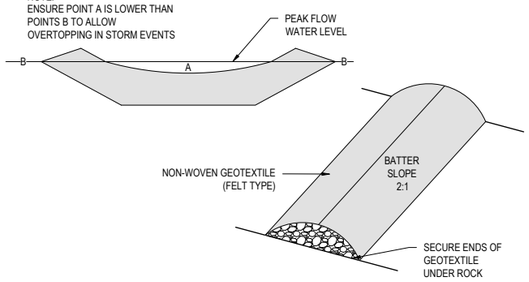
KERB INLET PROTECTION

NTS



TYPICAL SECTION THROUGH CATCH DRAIN

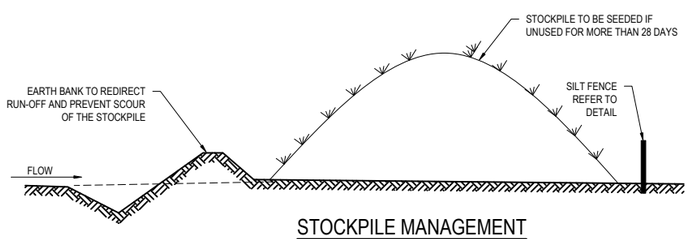
NTS



ROCK BUND

NTS

ROCK BUNDS CONSIST OF NON-WOVEN GEOTEXTILE (FELT TYPE), ENCASING ROCK. THE ROCK SIZE VARIES BETWEEN APPLICATIONS HOWEVER 100mm ROCK IS EFFECTIVE IN MANY CIRCUMSTANCES.



STOCKPILE MANAGEMENT

NTS

GENERAL NOTES:

Refer to the EPA's "Environmental Guidelines for Major Construction Sites" and "Construction Techniques for Sediment Pollution Control". The following are suggested measures to be includes in the Environmental Management Plan. The scale and cost of measures needs to be commensurate with the risks to the surrounding environment and objectives of protecting receiving waters and its beneficiaries.

EROSION

1. Keep land clearing to a minimum and the period of time that an area if kept cleared to a minimum.
2. Do not remove vegetation (including grass) within the watercourse and within 5 metres from the edge of banks.
3. Avoid disturbing environmentally sensitive areas and create wide buffer strips of vegetation around it. Avoid works which increase landslips.
4. Coordinate and stagger works to minimise erosion. Revegetate and mulch as each section of works is completed.
5. Provide cut-off drains to redirect run-off away from cleared areas and slopes, reducing contaminated water leaving the site.
6. Reduce water velocities on site by minimising long continuous flow paths.
7. Effective treatment installations are to be provided to ensure water leaving the site meets specified standards. Temporary structures are to be designed for a 1-in-2 year (greater if there is a high environmental risk) storm event or 1-in-50 year storm event for permanent structures.
8. Installation of sediment and erosion control measures to be in place prior to construction if possible.
9. All sediment traps, detention ponds, silt fences, etc. to be checked daily during periods of wet weather and immediately after heavy and intense rainfall. Monitor water entering waterway or drainage system.

DUST SUPPRESSION

10. Install wind fences around exposed soil in areas susceptible to dust generation.
11. Water exposed soil when dust is visible. Ensure that this water does not contaminate surface water. Water from sediment dams may be used for dust suppression.
12. Limit access to and from the site to specified haul roads to be situated preferably away from sloping terrain. Stabilise or pave these haul roads. Additives are to have on adverse impacts on water quality.

STOCKPILES

13. Stockpiles or batters that are to be maintained greater than 28 days must be mulched, roughened and seeded with sterile grasses.
14. Stockpiles are to be placed at a nominated position by the supervising engineer prior to commencement of works. Stockpile batters to have slopes no greater than 2:1. Locate stockpiles more than ten metres from waterways. Minimise the number and size of stockpiles.

DEWATERING

15. All low points to be noted and appropriate measures be put in place. Sediment laden water is to be pumped onto existing vegetation if possible or sediment control structures.

WORKING IN WATERWAYS AND FLOODPLAINS

16. Where it is not possible to avoid working in streams, plan to minimise contact time and stage works during periods of low flows. Avoid times of year when potential environmental damage is at its highest.
17. Stream crossings should be positioned perpendicular to flows and at the narrowest part of the stream. Crossings must be engineered to be stable under the expected vehicles loads.
18. Prepare a Contingency Plan for more intense storm events. This contingency plan should include methods to limit stormwater entering excavation areas, siting of construction facilities, procedure for preventing soil, fuel and chemicals entering the environment.
19. Prepare a Reinstatement Plan that includes proposed changes to waterways, flood protection, erosion and sediment run-off controls. A revegetation plan is also included, addressing revegetation and ongoing maintenance for 12 months.

FLORA AND FAUNA

20. Avoid undue disturbance to sensitive or endangered native flora and fauna. Reduce impacts on aquatic plants and animals.

WASTES

21. Minimise wastes on site.
22. Contaminated wastes must be disposed of in a safe and appropriate manner. Dispose contaminated material to a licensed disposal facility.
23. Provide bins for litter. Ensure materials are not left where they can be blown or washed away.
24. Remove debris and sediment from pits and adjoining pipes at regular intervals and prior to completion of works.
25. Straw bales to be removed and disposed off site once vegetation in drains and exposed areas are established.

MONITORING

26. Refer to Ch 9 of "Environmental Guidelines for Major Construction Sites". Ensure regular inspections, monitoring and audits.

NOTES:

1. THE CONTRACTOR IS TO TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION SEDIMENT AT ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.

2. ALL SEDIMENT CONTROL DEVICES SHALL BE MONITORED, CLEANED AND/OR REPAIRED WHENEVER THE ACCUMULATED SEDIMENT REDUCES THE CAPACITY BY 50%.

3. ALL SWALES/CATCH DRAINS SHALL HAVE AN UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.

4. THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND DRAINAGE INLETS.

5. ALL TEMPORARY STRUCTURES SHALL BE REMOVED AND THE AREA REPAIRED WHEN THE DRAINAGE HAS BEEN PROPERLY STABILISED.

Weed Control

ISSUES:	
* Target Weeds: Noxious weed species and highly invasive weeds including Chilean Needle Grass, Cane Needle Grass, Galenia, Brasica species and Thistle species	Likelihood: LIKELY Consequences: MEDIUM Overall Risk: MEDIUM

Other

ISSUES:	
*	Likelihood
*	Consequences
*	Overall Risk
*	
*	

TAYLORS

Urban Development | Infrastructure

Drainage Management Strategy

25 Bessie Creek Road, Nar Nar Goon North

May 2024

Prepared for

Urban Resource Management Australia

TABLE OF CONTENTS

INTRODUCTION

It is proposed to undertake earthworks at 25 Bessie Creek Road, Nar Nar Goon North (Lot 3 on plan PS635280) to improve agricultural activity on the land. A stormwater management strategy is required to be submitted to Cardinia Shire Council in support of the proposed earthworks demonstrating compliance with the relevant requirements of the planning scheme.

COMMISSION

Taylors has been engaged by Urban Resource Management Australia to prepare a Stormwater Management Strategy which addresses the requirements of Cardinia Shire Council. The scope of the investigation is to include:

- Desktop investigation of existing drainage services in the vicinity of the Subject Land
- Site visit to the Subject Land to identify opportunities and constraints not readily identifiable from plans
- Identification of the external catchment and estimation of overland flow paths from the upstream catchment
- Consultation with Cardinia Shire Council in relation to their requirements for drainage for the proposal
- Prepare a conceptual plan detailing how the requirements of the various authorities can be adequately addressed

Figure 1 – Site Aerial Photograph, Nearmap

PROPOSAL

The proposal seeks to undertake earthworks at the Subject Land to assist in rectifying existing drainage issues and to improve conditions for long-term agricultural use of the land. During the winter months the land becomes saturated and unusable, particularly for grazing purposes. It is proposed to manage stormwater runoff within the land by filling areas of the land by approximately 1 metre in height and constructing swales to direct runoff around the fill pads. An indicative fill plan is shown in Figure 2 below.

Figure 2 – Proposed Earthworks Concept Plan

INVESTIGATION

The investigation into the likely requirements of the drainage authorities in relation to the above-mentioned proposal included a desktop and field survey. The desktop survey included obtaining existing service information from the following sources:

- Cardinia Shire Council
- Land Victoria
- Survey prepared by Taylors
- NearMap.com

LIMITATIONS AND ASSUMPTIONS

This investigation has been scoped and undertaken as a desktop study to provide preliminary advice on the anticipated servicing works at the proposed development site. There are limitations on the level of detail which is able to be given due to the nature of this review. Desktop studies such as this are reliant on information, which is made available from service authorities, with an assumption it provides an accurate representation of existing site conditions.

FINDINGS

Existing Topography and Land Use

The Subject Land comprises an area of approximately 30.3 hectares. The western half of the Subject Land falls from a high point near the north-west corner of the property, at approximately 50.0 metres Australian Height Datum (AHD), towards the south at a height of approximately 45.0 metres AHD. This is 5.0 metres of elevation change over 500 metres and equates to an average grade of approximately 1% or gradient of 1 in 100. The eastern half of the Subject Land falls from a high point at the north-east, at approximately 50.4 metres AHD, towards the south-east at a height of approximately 44.6 metres AHD. This is 5.8 metres of elevation change over 720 metres, which equates to an average grade of approximately 0.8% or gradient of 1 in 125.

An unnamed waterway runs through the centre of the Subject Land and directs runoff from the Subject Land an external catchment toward a swale on the north side of Bessie Creek Road.

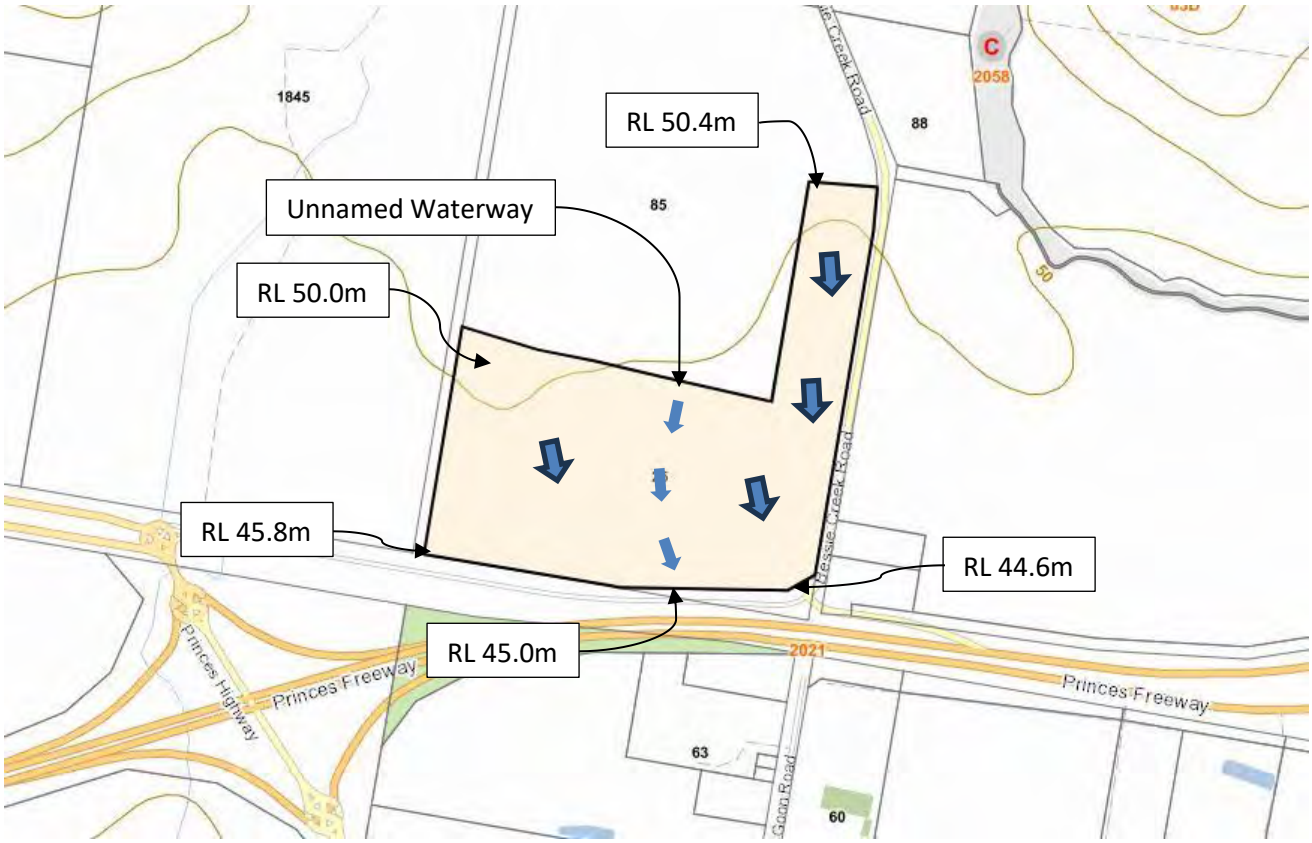


Figure 3 – Topography of the Subject Land

The groundcover on the Subject Land comprises primarily of pasture grasses for cattle grazing. There is a dense scattering of trees and shrubs through the centre of the land along the unnamed waterway. Some native trees and vegetation also exist to the west of the waterway which are to be removed as part of the proposed earthworks. A native tree referred to as “Tree 2” and a patch of native vegetation referred to as “Patch 6” in the Ecologist report prepared by EcoLink Consulting are located east of the waterway and are to be retained and protected during the proposed works. A minimum 15m offset from the proposed earthworks will be provided to Tree 2 and Patch 2.

An electricity and gas easement, approximately 26.88m wide, containing overhead powerlines and two high pressure gas transmission mains, runs within the southern boundary of the Subject Land. The southern limit of the earthworks is proposed to maintain a minimum 50 metre offset to the overhead powerlines.

Existing Drainage Infrastructure

The existing drainage infrastructure in the vicinity of the Subject Land is minimal and consists of a table drain along the north and west sides of Bessie Creek Road. Currently stormwater runoff sheet flows across the Subject Land and is collected in the table drains in Bessie Creek Road which ultimately discharge to Ararat Creek east of the Subject Land. Flows from an external catchment north of the Subject Land are partially conveyed along the unnamed waterway to Bessie Creek Road, with the balance of flows sheeting across the Subject Land paddocks.

Catchments

A fundamental component in developing a stormwater strategy is understanding the catchments contributing to a particular flow of stormwater across the Subject Land.

Existing Upstream Catchments

An analysis of the upstream drainage catchment revealed:

- A catchment of some 96.6 Ha contributes the stormwater flows across the land;
- The use of land in the upstream catchment is rural and zoned Green Wedge Zone (GWZ1);
- Surface runoff sheet flows from the upstream catchment onto the Subject Land, and a portion is conveyed via the unnamed waterway which extends through the Subject Land.

A plan detailing the extent of the upstream drainage catchment is shown in Figure 5 below.

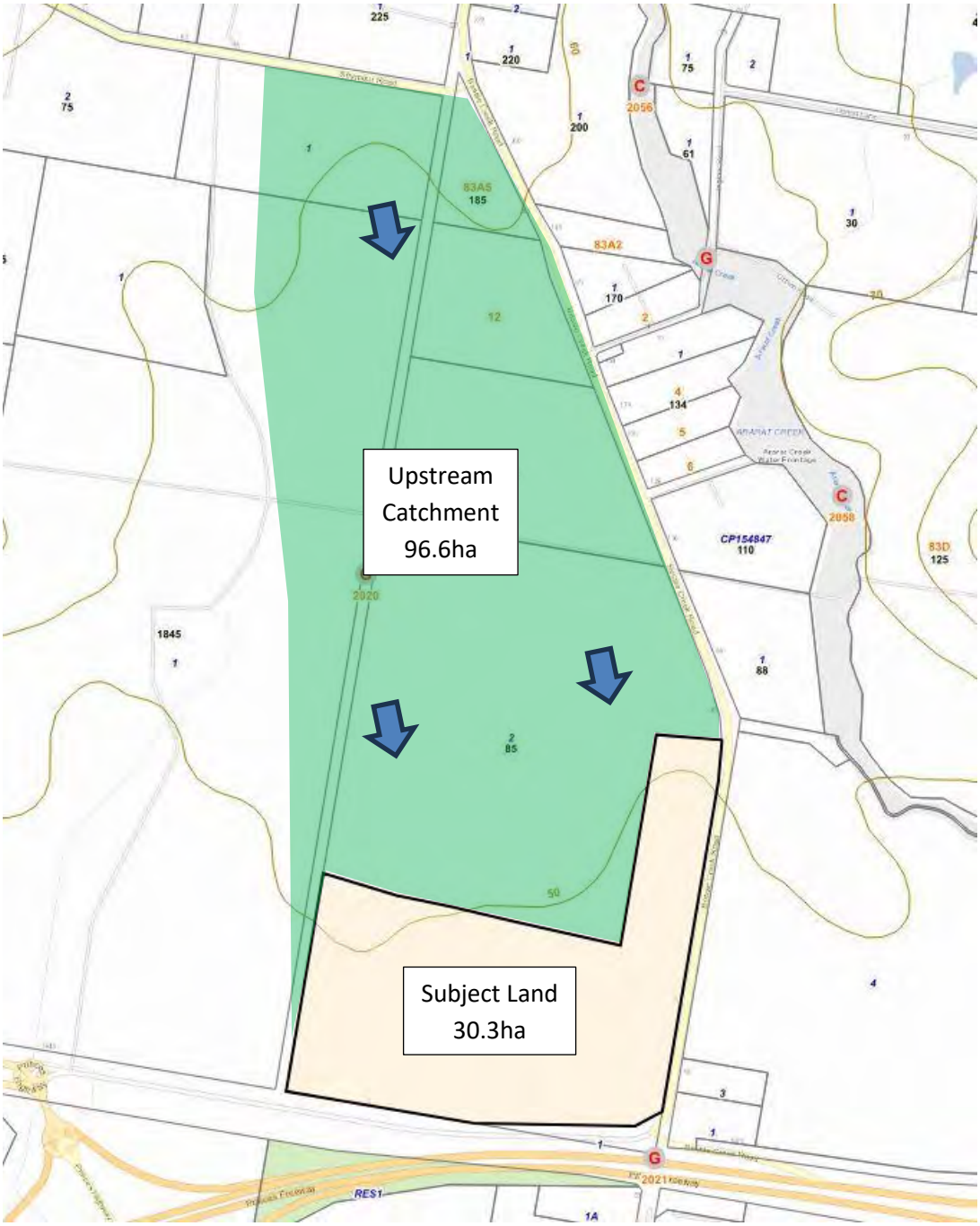


Figure 5 – Upstream Catchment

Drainage Outfall for the Development

Drainage flows from the Subject Land discharge to the table drains on the north and west side of Bessie Creek Road and ultimately discharge to Ararat Creek approximately 1.2km east of the Subject Land.

Planning Controls

The Subject Land is currently zoned Green Wedge Zone – Schedule 1 (GWZ1) under the provisions of the Cardinia Shire Council Planning Scheme. The Subject Land is also affected by Bushfire Management Overlay (BMO) and Environmental Significance Overlay – Schedule 1 (ESO1) which do not relate to drainage of the land.

Consultation with Council

A site meeting was held with Cardinia Shire Council Officers Tanvi Rawat and Ryan Harris on the 13th of March 2024 to discuss the proposed earthworks and drainage concerns.

The following points were discussed:

- The land currently becomes saturated during wet weather due to the flat topography of the site and poorly defined drainage paths leading to sheet flow across the paddocks.
- The addition of cattle to the land is causing erosion of the topsoil layers.
- The purpose of this proposal is to create new fill pads for agricultural use and dry grazing areas by diverting stormwater around the fill pads to the legal point of discharge.
- There will be no change to the hydrology of the site as the proposal will only change the internal flows through the site (i.e to direct flows around the fill pads and no change to impervious area).
- There will be no impact on neighbouring properties as flow paths will be contained within the Subject Land and discharge to Bessie Creek Road tables drains as per existing conditions.

DISCUSSION

Outfall

Drainage from the Subject Land outfalls into the existing table drains on the west and north side of Bessie Creek Road which ultimately discharges to Ararat Creek approximately 1.2km east of the Subject Land.

Management of external flows

Existing flows from the external catchments which enter the Subject Land will be managed using cut off (table) drains around perimeter of the proposed fill pads. The table drains will prevent flows from entering neighbouring properties by capturing and conveying the flows towards the Bessie Creek Road table drains.

Management of overland flows within the subject land

Overland flows originating from and directed through the Subject Land will be directed along purpose built overland flow paths in the form of table drains as shown in Figure 6 below. The existing unnamed waterway will be retained and continue to convey external stormwater flows through the Subject Land to Bessie Creek Road. The table drains along the north of the Subject Land will direct flows towards this unnamed waterway. The table drain along the western boundary of the site will direct flows around the western fill pad and discharge to Bessie Creek Road.

The extent of each of the overland flows through the Subject Land has been determined and it has been verified that the proposed overland flow paths have capacity to cater for the nominated flow whilst meeting the relevant flood safety criteria. All flows will be captured in the table drains and existing unnamed waterway and no flows from the Subject Land will enter neighbouring properties. Details of the critical overland flow paths are included below.

Critical Overland Flows:

Cross Section	Catchment Area (ha)	1% AEP Flow (m^3/s)	Slope (m/m)	Flow Velocity (m/s)	Flow Depth (m)	V x D (m^2/s)
A-A	29.29	0.44	1 in 200	0.59	0.39	0.23
B-B	10.37	0.27	1 in 300	0.45	0.35	0.16
C-C	18.59	0.37	1 in 300	0.48	0.395	0.19
D-D	76.67	1.39	1 in 138	0.39	0.09	0.04

Figure 6 – Proposed Overland Flow Paths

Site Opportunities and Constraints

Based on the existing features of the site and the proposed earthworks, stormwater management opportunities and constraints have been identified. Appropriate design responses to the opportunities and constraints have been devised to ensure an integrated and sustainable stormwater management solution is identified.

Opportunity(O)/Constraint (C)	Design Response
C: Unnamed waterway conveys stormwater flows through the Subject Land.	Although it is noted that the waterway which crosses the Subject Land is unnamed (unregistered), the proposed earthworks will be located with a minimum 20m setback from the banks of the waterway as prescribed in Melbourne Water's guidelines for waterway corridors.
C: Mature trees and native vegetation located on the subject land.	The extent of the proposed earthworks considers the impact on native vegetation and will be sited away from native vegetation where possible. Per EcoLink's advice the earthworks will be offset 15m from Tree 2 and Patch 6 in order to retain this native vegetation and reduce the overall vegetation removed from the land as part of these works.
C: Existing powerline and gas easement withing the southern title boundary.	Ensure all earthworks and fill pads are setback located a minimum 50m setback from the edge of the powerline and gas easement.
C: Stormwater runoff during the construction of the development will carry high loads of sediment.	Prepare construction environmental management plan in accordance with current industry practice.

Compliance with Council Planning Scheme

The subject land is located within the Green Wedge Zone – Schedule 1 (GWZ1). Clause 35.04-5 of the Cardinia Planning Scheme requires a planning permit to carry out the following works:

Planning Scheme Requirement	Design Response
Permit requirement for earthworks. Earthworks which change the rate of flow or the discharge point of water across a property boundary.	The proposal to carry out earthworks on the Subject Land does not seek to change the hydrology across the site and aims only to redirect stormwater flow paths around the fill pads to create all-weather grazing paddocks. The legal point of discharge for stormwater flows has not changed as part of this proposal and will continue to discharge to the table drain in Bessie Creek Road.

Construction Site Management

The construction of the development will require careful environmental management to ensure sensitive features of the proposed stormwater network and environmental values of the site are not compromised in any way. An Environmental Management Plan (EMP) can assist in identifying environmental values, risks, monitoring activities, responsibilities and construction approaches. The plan should incorporate the following measures:

- Stormwater management during construction to meet the objectives of “Best Practice” as specified in CSIROs BPEM 1999.
- Erosion prevention and control techniques generally in accordance with EPA Publication 480 (1996) – Environmental Guidelines for Major Construction Sites and EPA Publication 275 (1991) – Construction Techniques for Sediment Pollution Control
- Protection of vegetation by fencing
- Stabilisation of earthworks batters
- Cleaning of construction plant leaving the site
- Early establishment of vegetation where practical
- Control of dust and noise
- Formation of specific facilities for storage of chemicals, fuels, etc.
- Recycling of stormwater where possible
- Removal of waste

CONCLUSION

A stormwater management strategy for the Subject Land has been prepared which has:

- Identified the characteristics of the Subject Land relevant to drainage
- Identified local and external drainage catchments
- Included details of consultation with Council
- Undertaken appropriate modelling for water stormwater flow

The report has identified the configuration of proposed earthworks fill pads will create all-weather grazing paddocks while conveying stormwater to the existing legal point of discharge without adverse impact on the neighbouring properties, or without increasing stormwater flows at the Bessie Creek Road.

It is considered the proposed development can meet the requirements of Cardinia Shire Council and Melbourne Water.

This report comprises 23 pages and should not be reproduced except in full.

Report prepared by:	Report reviewed by:
TAYLORS	**TAYLORS**
[redacted]	[redacted]
Senior Design Engineer	Engineering Manager (Feasibility)

Appendix A – Planning Scheme Ordinance

CARDINIA PLANNING SCHEME

35.04
31/07/2018
VC148

GREEN WEDGE ZONE

Shown on the planning scheme map as **GWZ** with a number (if shown).

Purpose

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

To provide for the use of land for agriculture.

To recognise, protect and conserve green wedge land for its agricultural, environmental, historic, landscape, recreational and tourism opportunities, and mineral and stone resources.

To encourage use and development that is consistent with sustainable land management practices.

To encourage sustainable farming activities and provide opportunity for a variety of productive agricultural uses.

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

To protect and enhance the biodiversity of the area.

35.04-1
01/01/2024
VC250

Table of uses

Section 1 - Permit not required

Use	Condition
Agriculture (other than Animal production, Apiculture, Domestic animal husbandry, Racing dog husbandry, Rice growing and Timber production)	
Automated collection point	Must meet the requirements of Clause 52.13-3 and 52.13-5. The gross floor area of all buildings must not exceed 50 square metres.
Bed and breakfast	No more than 10 persons may be accommodated away from their normal place of residence. At least 1 car parking space must be provided for each 2 persons able to be accommodated away from their normal place of residence. Must be located more than 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the *Mineral Resources (Sustainable Development) Act 1990* .
Domestic animal husbandry (other than Domestic animal boarding)	Must be no more than 5 animals.
Grazing animal production **Home based business** **Informal outdoor recreation**	
Poultry farm	Must be no more than 100 poultry (not including emus or ostriches). Must be no more than 10 emus and ostriches.

CARDINIA PLANNING SCHEME

35.04-4 05/09/2013 VC103

Long term lease or licence for accommodation

A permit is required to lease or license a portion of a lot for a period of more than 10 years if the portion is to be leased or licensed for the purpose of Accommodation.

Each portion of a lot leased or licensed for the purpose of Accommodation must be at least the minimum subdivision area specified for the land in a schedule to this zone. If no area is specified, each portion of a lot leased or licensed for the purpose of Accommodation must be at least 40 hectares.

35.04-5 14/12/2023 VC253

Buildings and works

A permit is required to construct or carry out any of the following:

- A building or works associated with a use in Section 2 of Clause 35.04-1. This does not apply to:
  - An alteration or extension to an existing dwelling with a floor area of no more than the area specified in a schedule to this zone or, if no area is specified, 50 square metres.
  - An alteration or extension to a small second dwelling.
  - An alteration or extension to an existing building used for agriculture with a floor area of no more than the area specified in a schedule to this zone or, if no area is specified, 100 square metres. The building must not be used to keep, board, breed or train animals.
  - A rainwater tank.
- Earthworks specified in a schedule to this zone, if on land specified in a schedule.
- A building which is within any of the following setbacks:
  - 100 metres from a Transport Zone 2 or land in a Public Acquisition Overlay if the Head, Transport for Victoria is the acquiring authority and the purpose of the acquisition is for a road.
  - 40 metres from a Transport Zone 3 or land in a Public Acquisition Overlay for a road if the Head, Transport for Victoria is not the acquiring authority.
  - 20 metres from any other road.
  - 5 metres from any other boundary.
  - 100 metres from a dwelling or small second dwelling not in the same ownership.
  - 100 metres from a waterway, wetlands or designated flood plain.
- Permanent or fixed feeding infrastructure for season or supplementary feeding for grazing animal production constructed within 100 metres of:
  - A waterway, wetland or designated flood plain.
  - A dwelling not in the same ownership.
  - A residential or urban growth zone.
- A building or works associated with accommodation located within 500 metres from the nearest title boundary of land on which a work authority has been applied for or granted under the *Mineral Resources (Sustainable Development) Act 1990* .

CARDINIA PLANNING SCHEME

10/06/2021
C254card

SCHEDULE 1 TO CLAUSE 35.04 GREEN WEDGE ZONE

Shown on the planning scheme map as **GWZ1.**

1.0
10/06/2021
C254card

Subdivision and other requirements

	Land	Area/Dimensions/Number
Minimum subdivision area (hectares)	All land	40 ha
Function centre (number of patrons)	None specified	None specified
Group accommodation (number of dwellings)	None specified	None specified
Residential hotel (number of bedrooms)	None specified	None specified
Restaurant (number of patrons)	None specified	None specified
Minimum area for which no permit is required to alter or extend an existing dwelling (square metres)	None specified	None specified
Minimum area for which no permit is required to alter or extend an existing building used for agriculture (square metres)	None specified	None specified

Permit requirement for earthworks	Land
Earthworks which change the rate of flow or the discharge point of water across a property boundary	All land
Earthworks which increase the discharge of saline groundwater	All land

Appendix B – Computations

25 Bessie Creek Road, Nar Nar Goon					
	Developed Catchment				Notes
Catchment Name	Catchment A	Catchment B	Catchment C	Catchment D	Catchment Name
Area (ha)	29.285	10.368	18.589	76.67	Sub-Catchment Areas
T_i (min)	7	7	7	7	Initial Time of Concentration
Flow Length (m)	1825	810	1195	2071	Longest Flow Path Length
Est. Pipe Velocity (m/s)	0.2	0.2	0.2	0.3	Estimated Velocity in Pipe
Est. Overland Velocity (m/s)	0.2	0.2	0.2	0.3	Estimated Velocity Overland
T_p (min)	152.1	67.5	99.6	115.1	Flow Length / Pipe Velocity / 60 sec.
T_o (min)	152.1	67.5	99.6	115.1	Flow Length / Overland Velocity / 60 sec.
$Q_{20\%}$ T_c (min)	159.1	74.5	106.6	122.1	$T_c = T_i + T_p$
$Q_{1\%}$ T_c (min)	159.1	74.5	106.6	122.1	$T_c = T_i + T_o$
Fraction Impervious	0.10	0.10	0.10	0.10	Fraction Imprevious = f
$^{10\%}I_1$ (mm/hr)	27.694	27.694	27.694	27.694	Taken from BOM Rainfall Data
C'_{10}	0.135833699	0.135833699	0.135833699	0.135833699	$C'_{10} = 0.1 + 0.0133(^{10}I_1 - 25)$
C_{10}%	0.213	0.213	0.213	0.213	$C_{10\%} = 0.9f + C'_{10}(1 - f)$
$C_{20\%}$	0.203	0.203	0.203	0.203	$C_{20\%} = C_{10\%} \times 0.95$
$C_{5\%}$	0.224	0.224	0.224	0.224	$C_{5\%} = C_{10\%} \times 1.05$
$C_{2\%}$	0.245	0.245	0.245	0.245	$C_{2\%} = C_{10\%} \times 1.15$
$C_{1\%}$	0.256	0.256	0.256	0.256	$C_{1\%} = C_{10\%} \times 1.20$
$I_{20\%}$ (mm/hr)	12.338	20.247	16.027	14.668	Taken from BOM Rainfall Data
$I_{10\%}$ (mm/hr)	14.470	23.994	18.894	17.259	Taken from BOM Rainfall Data
$I_{5\%}$ (mm/hr)	16.544	27.650	21.674	19.771	Taken from BOM Rainfall Data
$I_{2\%}$ (mm/hr)	19.260	32.423	25.285	23.038	Taken from BOM Rainfall Data
$I_{1\%}$ (mm/hr)	21.336	36.085	28.038	25.528	Taken from BOM Rainfall Data
$Q_{20\%}$ (m^3/s)	0.204	0.118	0.168	0.634	$Q_{20\%} = C_{20\%}I_{20\%}A / 360$
$Q_{10\%}$ (m^3/s)	0.251	0.147	0.208	0.783	$Q_{10\%} = C_{10\%}I_{10\%}A / 360$
$Q_{5\%}$ (m^3/s)	0.301	0.178	0.251	0.943	$Q_{5\%} = C_{5\%}I_{5\%}A / 360$
$Q_{2\%}$ (m^3/s)	0.384	0.229	0.320	1.202	$Q_{2\%} = C_{2\%}I_{2\%}A / 360$
$Q_{1\%}$ (m^3/s)	0.444	0.266	0.371	1.392	$Q_{1\%} = C_{1\%}I_{1\%}A / 360$

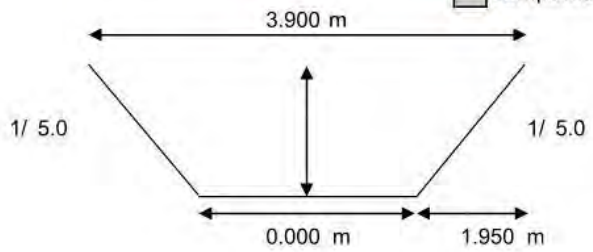
Form | TRAPEZOIDAL CHANNEL CAPACITY | F 1091 Ver 1.0

MANNINGS FORMULA FOR BATTERED CHANNELS

Project Name: Bessie Creek Road, Nar Nar Goon
Project No: 24454E
Description: Channel flow and capacity
Prepared By: EST Date: 22/04/2024

Section A-A

Data to be entered
Computed Cells



Side Slope on bank 1, z_1 (H:V)	=	5.0
Side Slope on bank 2, z_2 (H:V)	=	5.0
Discharge, Q:	=	0.446 m^3/s
Velocity, V:	=	0.587 *m/s*
Water depth, y:	=	0.390 *m*
Top width, T:	=	3.900 *m*
Bottom width, b:	=	0.000 *m*
Mannings roughness, n:	=	0.04
Channel, S:	=	200 *grade*
Channel area, A:	=	0.761 m^2
Channel wetted perimeter, P:	=	3.977 *m*
Hydraulis radius, R:	=	0.191 *m*

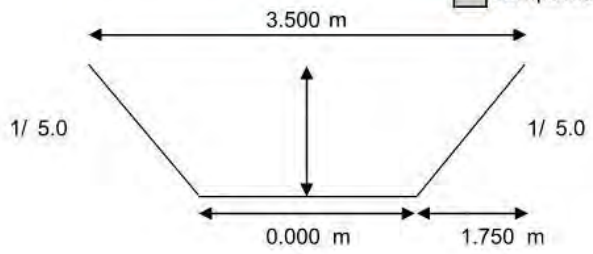
Form | TRAPEZOIDAL CHANNEL CAPACITY | F 1091 Ver 1.0

MANNINGS FORMULA FOR BATTERED CHANNELS

Project Name: Bessie Creek Road, Nar Nar Goon
Project No: 24454E
Description: Channel flow and capacity
Prepared By: EST Date: 22/04/2024

Section B-B

Data to be entered
Computed Cells



Side Slope on bank 1, z_1 (H:V)	=	5.0
Side Slope on bank 2, z_2 (H:V)	=	5.0
Discharge, Q:	=	0.273 m^3/s
Velocity, V:	=	0.446 *m/s*
Water depth, y:	=	0.350 *m*
Top width, T:	=	3.500 *m*
Bottom width, b:	=	0.000 *m*
Mannings roughness, n:	=	0.04
Channel, S:	=	300 *grade*
Channel area, A:	=	0.613 m^2
Channel wetted perimeter, P:	=	3.569 *m*
Hydraulis radius, R:	=	0.172 *m*

Form | TRAPEZOIDAL CHANNEL CAPACITY | F 1091 Ver 1.0

MANNINGS FORMULA FOR BATTERED CHANNELS

Project Name: Bessie Creek Road, Nar Nar Goon
Project No: 24454E
Description: Channel flow and capacity
Prepared By: EST
Date: 22/04/2024

Section C-C

Data to be entered
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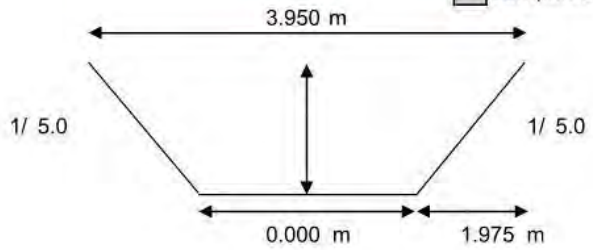


Side Slope on bank 1, z_1 (H:V)	=	5.0
Side Slope on bank 2, z_2 (H:V)	=	5.0
Discharge, Q:	=	0.377 m^3/s
Velocity, V:	=	0.483 m/s
Water depth, y:	=	0.395 m
Top width, T:	=	3.950 m
Bottom width, b:	=	0.000 m
Mannings roughness, n:	=	0.04
Channel, S:	=	300 *grade*
Channel area, A:	=	0.780 m^2
Channel wetted perimeter, P:	=	4.028 m
Hydraulis radius, R:	=	0.194 m

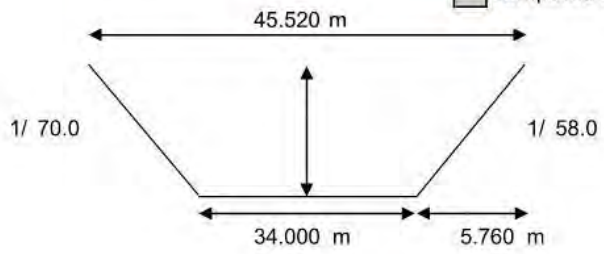
Form | TRAPEZOIDAL CHANNEL CAPACITY | F 1091 Ver 1.0

MANNINGS FORMULA FOR BATTERED CHANNELS

Project Name: Bessie Creek Road, Nar Nar Goon
Project No: 24454E
Description: Channel flow and capacity
Prepared By: EST
Date: 22/04/2024

Section D-D

Data to be entered
Computed Cells



Side Slope on bank 1, z_1 (H:V)	=	70.0	
Side Slope on bank 2, z_2 (H:V)	=	58.0	
Discharge, Q:	=	1.397	m^3/s
Velocity, V:	=	0.391	*m/s*
Water depth, y:	=	0.090	*m*
Top width, T:	=	45.520	*m*
Bottom width, b:	=	34.000	*m*
Mannings roughness, n:	=	0.04	
Channel, S:	=	138	*grade*
Channel area, A:	=	3.578	m^2
Channel wetted perimeter, P:	=	45.521	*m*
Hydraulis radius, R:	=	0.079	*m*

Appendix C – Site Environmental Management Plan

RISK ASSESSMENT CHECKLIST

Noise

ISSUES:

Nature of Noise Generating Works:	Construction Plant
Potential Noise Receptors:	Adjoining Neighbours
Proximity of Works to Noise Receptors:	Within 50 Metres

Likelihood: LIKELY
Consequences: MINOR
Overall Risk: LOW

Dust

ISSUES:

Dust Sources:	Construction, Traffic, Wind
Potential Dust Receptors:	Adjoining Neighbours
Proximity of Works to Dust Receptors:	Within 50 Metres
Extent of Exposed Earth and Duration of Time Exposed:	Approx. 20 Weeks
Wind Conditions:	Variable

Likelihood: VERY LIKELY
Consequences: MINOR
Overall Risk: MEDIUM

Erosion and Sediment

ISSUES:

Erosion and Sediment Sources:	Run-Off
Potential Erosion and Sediment Receptors:	Drainage System
Proximity of Works to Erosion and Sediment Receptors:	On Site
Extent of Exposed Earth and Duration of Time Exposed:	Approx. 20 Weeks
Soil Type and Erodibility:	Subsoil/Topsoil
Slope:	Medium
Site Drainage Regime:	Refer to Plan (1)
Rainfall:	
Vehicle Movements On and Off Site:	Ongoing During Construction

Likelihood: LIKELY
Consequences: MINOR
Overall Risk: MEDIUM

Waste

ISSUES:

Nature of Waste to be Generated:	Excess Spoil, General Rubbish
Presence of Waste on Site Prior to Work Commencement:	Nil
Quantity of Waste Anticipated:	Minimal
Potential Waste Receptors:	Drainage System, Adjoining Properties
Proximity to Potential Waste Receptors:	Within 50 Metres

Likelihood: LIKELY
Consequences: MINOR
Overall Risk: MEDIUM

Chemicals

ISSUES:

Types of Chemicals and Fuels Used and/or Stored On Site:	Engine Oil, Diesel
Quantities of Chemicals and Fuels Used and/or Stored On Site:	Minimal
Potential Chemical Receptors:	Drainage System, Soil
Proximity to Potential Chemical Receptors:	Adjacent to Source

Likelihood: UNLIKELY
Consequences: MAJOR
Overall Risk: MEDIUM

Significant Flora/Fauna

ISSUES:

Types of Flora/Fauna:	
Vulnerability of Flora/Fauna:	Medium
Proximity of Flora/Fauna to Works:	10m
Work Activities Which May Threaten Flora/Fauna:	Fires
Potential Impacts on Flora/Fauna:	

Likelihood: VERY UNLIKELY
Consequences: MAJOR
Overall Risk: LOW

Archaeological/Heritage

ISSUES:

Traditional Land Owners Consulted?	No
Survey or Assessment Conducted?	Not Required
Probability of Encountering Archaeological/Heritage Items During Works:	Very Low
Types of Archaeological/Heritage Items On Site:	None
Proximity of Possible Archaeological/Heritage Items to Works On Site:	50m
Work Activities Which May Threaten Archaeological/Heritage Items:	None
Potential Impacts on Archaeological/Heritage Items:	None

Likelihood: VERY UNLIKELY
Consequences: MAJOR
Overall Risk: LOW

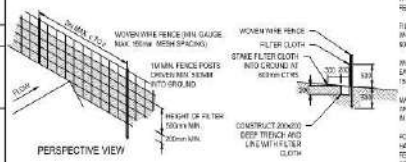
Site EMP A1 Plan (2) - Risk Assessment and Designs of Environmental Protection Measures

Project Name: 25 BESSIE CREEK ROAD, PAKENHAM

Date and Revision: 20th May 2024, REV B

TS Ref.: 24454-E-501

Environmental protection measures shall be constructed in accordance with the following designs, and are to be used as required where identified for the specific project.



PERSPECTIVE VIEW

SILT FENCE NOTES:

WOVEN WIRE TO BE FIXED END SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.

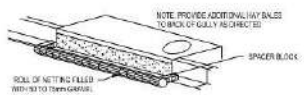
FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 600mm AT TOP OF MID SECTION.

WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.

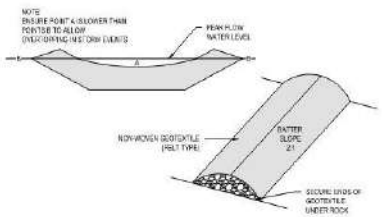
MAINTENANCE SHALL BE PERFORMED AS NEEDED ON MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS STEEL EITHER T OR U TYPE OF 16mm HARDWOOD
FENCE WOVEN WIRE 14 GA 150mm MAX. MESH OPENING
FILTER CLOTH FILTER AS SPECIFIED (TERRAM 1000, POLYFELT TS 500, BIDIM U24 OR EQUIVALENT). PROTECTED AT UNIT DEGREE, ENVIROFENCE OR APPROVED EQUIVALENT.

SILT FENCE DETAIL
NTS

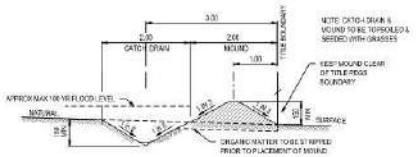


KERB INLET PROTECTION
NTS

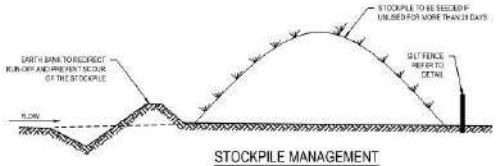


ROCK BUND
NTS

ROCK BUNDS CONSIST OF NON-WOVEN GEOTEXTILE (FELT TYPE), ENCASING ROCK. THE ROCK SIZE VARIES BETWEEN APPLICATIONS HOWEVER 100mm ROCK IS EFFECTIVE IN MANY CIRCUMSTANCES



TYPICAL SECTION THROUGH CATCH DRAIN
NTS



STOCKPILE MANAGEMENT
NTS

GENERAL NOTES:

Refer to the EPA's "Environmental Guidelines for Major Construction Sites" and "Construction Techniques for Sediment Pollution Control". The following are suggested measures to be included in the Environmental Management Plan. The scale and kind of measures needs to be commensurate with the risks to the surrounding environment and significance of potential receiving waters and its beneficial uses.

EROSION

1. Keep land disturbing to a minimum and the period of time that an area if kept cleared to a minimum.
2. Do not remove vegetation (including grass) within the watercourse and within 5 metres from the edge of banks.
3. Avoid disturbing environmentally sensitive areas and create wide buffer strips of vegetation around it. Avoid works which increase landslip.
4. Cover areas and stagger works to maximise erosion. Revegetate and mulch as soon as each section of works is completed.
5. Provide cut-off drains to redirect run-off away from cleared areas and slopes, reduce concentrated water running the site.
6. Reduce water velocities on site by minimising long continuous falls / grad.
7. Effective treatment trains/devices are to be provided to ensure water leaving the site meets specified standards. Temporary structures are to be designed for a 1 in 2 year (smaller if there is a high environmental risk) storm event or 1 in 85 year storm event for permanent structures.
8. Installation of sediment and erosion control measures is to be in place prior to construction if possible.
9. All sediment traps, diversion ponds, silt fences, etc. to be cleaned on a regular periods of well and then and immediately after heavy and intense rainfall. Monitor water entering waterway or drainage system.

DUST SUPPRESSION

10. Install wind fences around exposed soil in areas susceptible to dust generation.
11. Water exposed soil when dust is visible. Ensure that this water does not contain mud or loose water. Water from sediment dams may be used for dust suppression.
12. Limit access in and from the site to specified haul roads to be retained preferably away from sloping terrain. Stabilise or pave these haul roads. Additives are to have no adverse impacts on water quality.

STOCKPILES

13. Stockpiles or soil/sand that are to be maintained greater than 28 days must be protected, progressively and seeded with sterile grasses.
14. Stockpiles are to be placed at a protected position by the supervising engineer prior to commencement of works. Stockpile batters to have slopes no greater than 2:1. Locate stockpiles more than ten metres from waterways. Minimise the number and size of stockpiles.

DEWATERING

15. All the potential to be initiated and appropriate measures be put in place. Sediment laden water is to be pumped onto existing vegetation if possible or sediment control structures.

WORKING IN WATERWAYS AND FLOODPLAINS

16. Where it is not possible to avoid working in streams, plan to maximise contact time and stage works during periods of low flows. Avoid times of year when potential environmental damage is at its highest.
17. Stream crossings should be positioned perpendicular to flows and at the narrowest part of the stream. Crossing should be long enough to be stable under the expected worst case loads.
18. Prepare a Contingency Plan for more intense storm events. This contingency plan should include methods to limit stormwater entering excavation areas, siting of construction facilities, procedure for preventing soil, fuel and chemicals entering the environment.
19. Prepare a Revegetation Plan that includes proposed changes to waterways, flood protection, erosion and sediment run-off controls. A revegetation plan is also included, addressing revegetation and ongoing maintenance for 12 months.

FLORA AND FAUNA

20. Avoid undue disturbance to sensitive or endangered native flora and fauna. Reduce impacts on aquatic plants and animals.

WASTES

21. Minimise wastes on site.
22. Contaminated wastes must be disposed of in a safe and appropriate manner. Dispose contaminated material to a licensed disposal facility.
23. Provide bins for litter. Ensure materials are not left where they can be blown or washed away.
24. Remove debris and sediment from pits and adjoining pipes at regular intervals and prior to completion of works.
25. Litter below to be removed and exposed after area once vegetation in drains and exposed areas are established.

MONITORING

26. Refer to Ch 9 of "Environmental Guidelines for Major Construction Sites". Ensure regular inspections, monitoring and audits.

NOTES:

1. THE CONTRACTOR IS TO TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION, SEDIMENT AT ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.
2. ALL SEDIMENT CONTROL DEVICES SHALL BE MONITORED, CLEANED AND/OR REPAIRED WHENEVER THE ACCUMULATED SEDIMENT REDUCE THE CAPACITY BY 50%.
3. ALL SWALES/CATCH DRAINS SHALL HAVE AN UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
4. THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND DRAINAGE INLETS.
5. ALL TEMPORARY STRUCTURES SHALL BE REMOVED AND THE AREA REPAIRED WHEN THE DRAINAGE HAS BEEN PROPERLY STABILISED.

Weed Control

ISSUES:

- Targa Weeds: Noxious weed species and highly invasive weeds including Chilean Needle Grass, Cane Needle Grass, Gazania, Brisaca species and Thistle species

Likelihood: LIKELY
Consequences: MEDIUM
Overall Risk: MEDIUM

Other

ISSUES:

Likelihood:
Consequences:
Overall Risk:

VER	DATE	REVISION	APPD.

0 10 20 40 60 80

SCALE 1:1000 AT A1 SIZE
SCALE 1:2000 AT A3 SIZE

Coords: MGA Levels: AHD

TAYLORS
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8 / 270 Ferntree Gully Road, Notting Hill, Victoria, 3168
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DESIGNED:	AHM	AUTHORISED:	-	DRAFTED:	AHM
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C001-002

CARDINIA SHIRE COUNCIL

25 BESSIE CREEK ROAD
PAKENHAM

PROPOSED FILL PADS
GENERAL ARRANGEMENT PLAN

SCALE	SCALE
VERSION	B
SHEET	1 OF 9
DRAWING No.	24454-C001

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. A MOCS ENQUIRY ON 1100 MUST BE MADE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

0 10 20 40 60 80
SCALE 1:1000 AT A1 SIZE
SCALE 1:2000 AT A3 SIZE

Coords: MGA Levels: AHD

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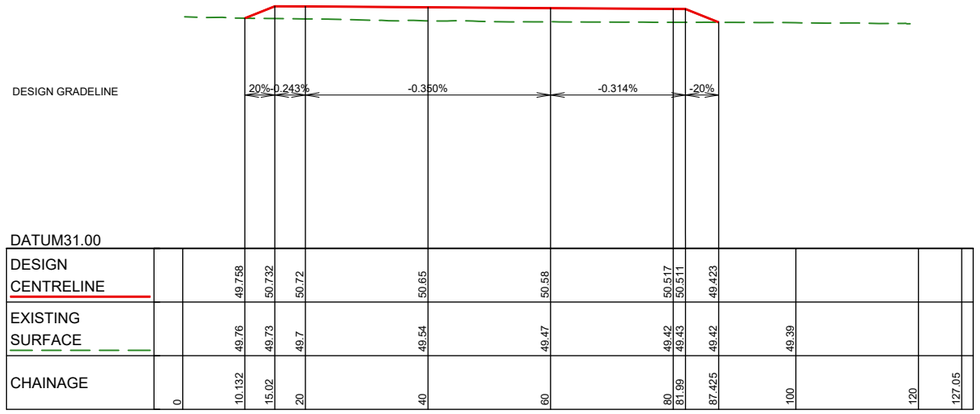
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C001-002

CARDINIA SHIRE COUNCIL

25 BESSIE CREEK ROAD
PAKENHAM

PROPOSED FILL PADS
GENERAL ARRANGEMENT PLAN

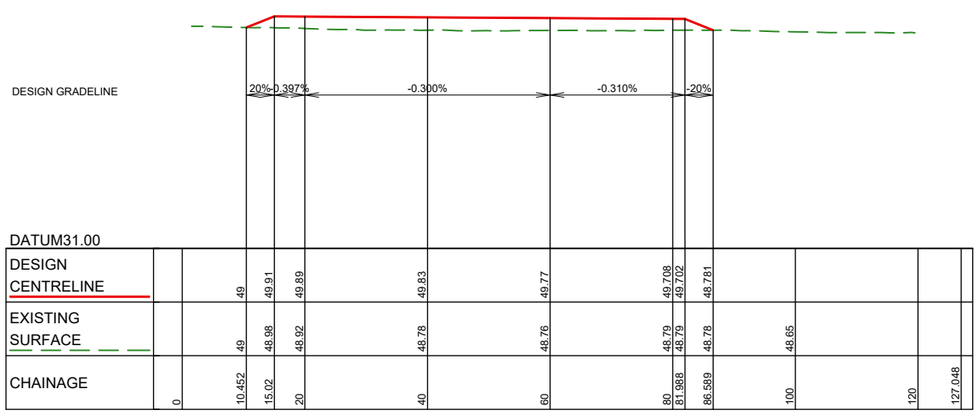
SCALE	SCALE
VERSION	B
SHEET	2 OF 9
DRAWING No.	24454-C002



DATUM31.00

DESIGN CENTRELINE		49.758	50.732	50.72	50.65	50.58	50.517	50.511	49.423					
EXISTING SURFACE		49.76	49.73	49.7	49.54	49.47	49.42	49.43	49.42	49.39				
CHAINAGE	0	10.132	15.02	20	40	60	80	81.99	87.425	100	120	127.05		

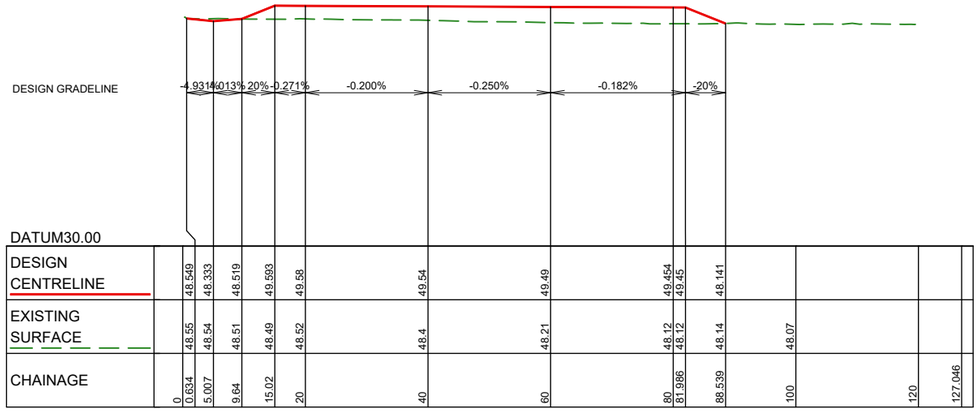
SECTION A-A



DATUM31.00

DESIGN CENTRELINE		49	49.91	49.89	49.83	49.77	49.708	49.702	48.781					
EXISTING SURFACE		49	48.98	48.92	48.78	48.76	48.79	48.79	48.78	48.65				
CHAINAGE	0	10.452	15.02	20	40	60	80	81.988	86.589	100	120	127.048		

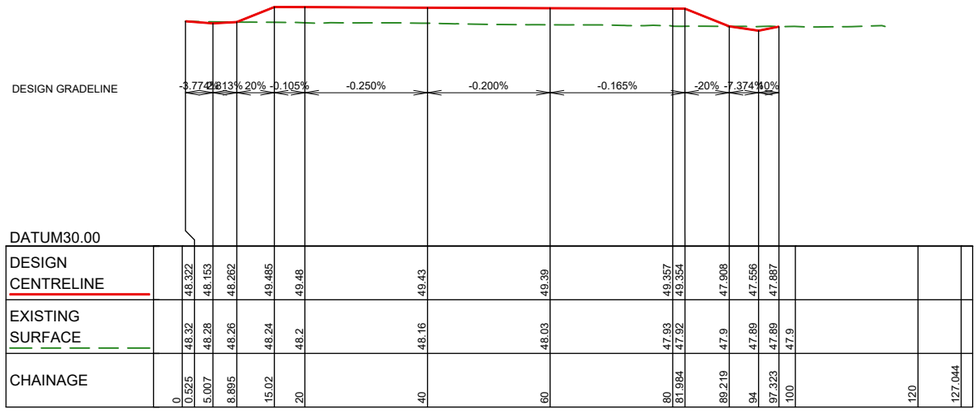
SECTION B-B



DATUM30.00

DESIGN CENTRELINE		48.549	48.333	48.519	49.593	49.58	49.54	49.49	49.454	49.45	48.141			
EXISTING SURFACE		48.55	48.54	48.51	48.49	48.52	48.4	48.21	48.12	48.12	48.14	48.07		
CHAINAGE	0	0.634	5.007	9.64	15.02	20	40	60	80	81.986	88.539	100	120	127.046

SECTION C-C



DATUM30.00

DESIGN CENTRELINE		48.322	48.153	48.262	49.485	49.48	49.43	49.39	49.357	49.354	47.908	47.556	47.887	
EXISTING SURFACE		48.32	48.28	48.26	48.24	48.2	48.16	48.03	47.93	47.92	47.9	47.89	47.89	47.9
CHAINAGE	0	0.525	5.007	8.895	15.02	20	40	60	80	81.984	89.219	94	97.323	100	120	127.044

SECTION D-D

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

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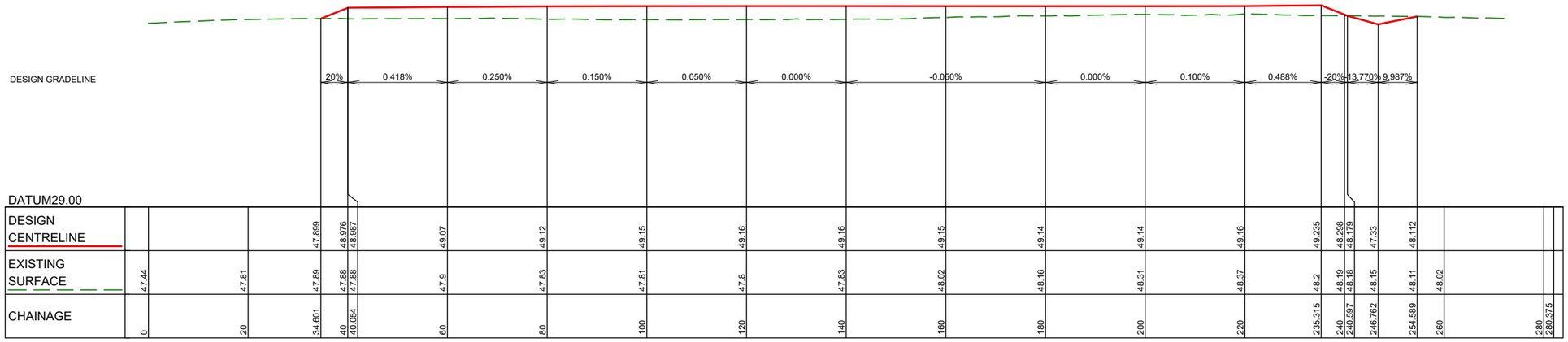
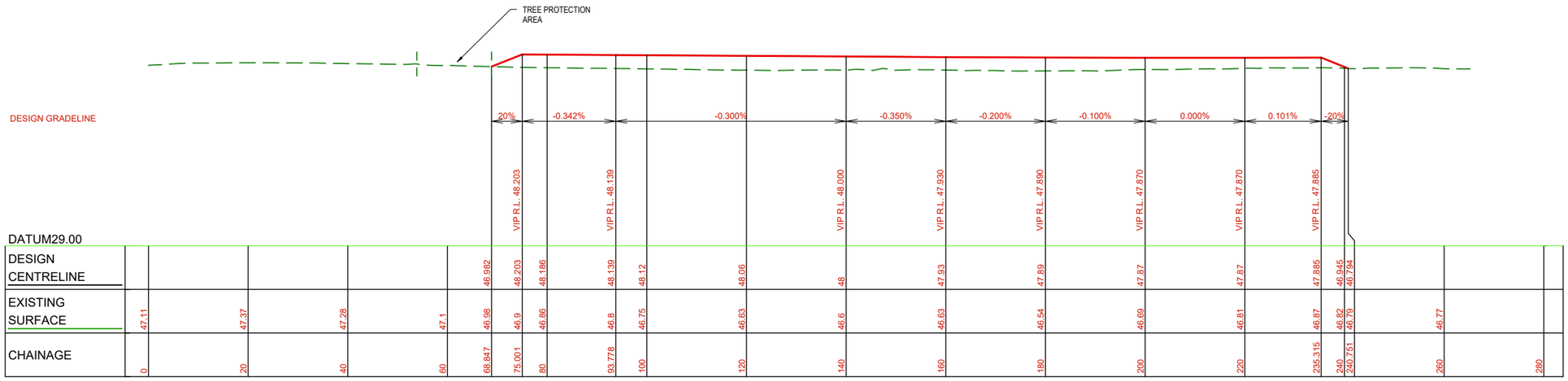
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C003-009

CARDINIA SHIRE COUNCIL
25 BESSIE CREEK ROAD
PAKENHAM
CROSS SECTIONS
SHEET 1 OF 7

SCALE REFER SCALE BAR
VERSION B
SHEET 3 OF 9
DRAWING No.
24454-C003



SECTION E-E



SECTION F-F

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

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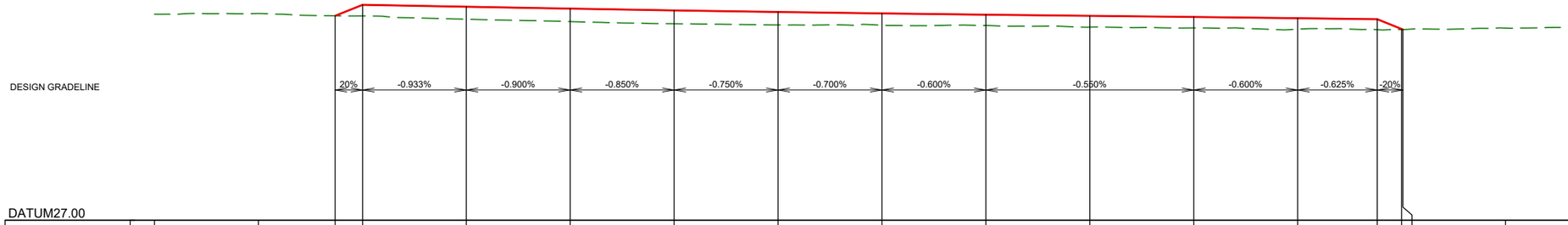
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C003-009

CARDINIA SHIRE COUNCIL
25 BESSIE CREEK ROAD
PAKENHAM
CROSS SECTIONS
SHEET 2 OF 7

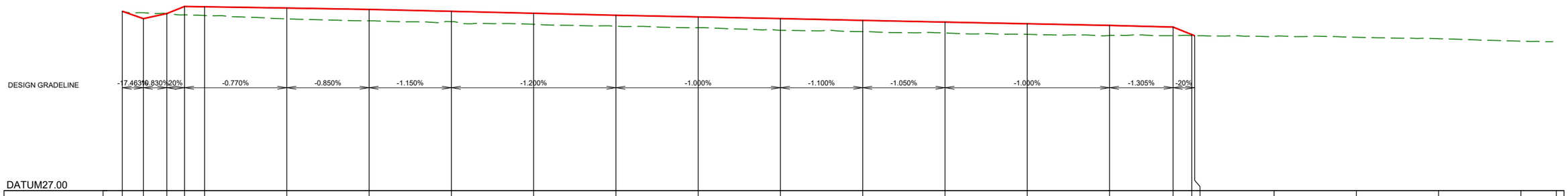
SCALE	REFER SCALE BAR
VERSION	B
SHEET	4 OF 9
DRAWING No.	24454-C004



DATUM27.00

DESIGN SURFACE			46.622	47.676	47.49	47.31	47.14	46.99	46.85	46.73	46.62	46.51	46.39	46.294	45.356	45.302								
EXISTING SURFACE	46.78	46.84	46.62	46.61	46.3	46.07	45.86	45.75	45.71	45.7	45.53	45.46	45.34	45.29	45.31	45.3	45.44							
CHAINAGE	0	20	34.766	40.054	60	80	100	120	140	160	180	200	220	235.315	240	240.266	260	280						

SECTION G-G



DATUM27.00

DESIGN CENTRELINE	48.786	47.892	48.51	49.371	49.334	49.18	49.01	48.78	48.54	48.3	48.1	47.9	47.68	47.47	47.27	47.07	46.868	45.957	45.816					
EXISTING SURFACE	48.79	48.61	48.51	48.35	48.27	47.86	47.63	47.53	47.21	46.98	46.79	46.48	46.31	46.15	45.98	45.85	45.83	45.83	45.82	45.75	45.63	45.45	45.15	
CHAINAGE	0	5.12	10.823	15.133	20	40	60	80	100	120	140	160	180	200	220	240	255.454	260	260.702	280	300	320	340	348.614

SECTION H-H

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

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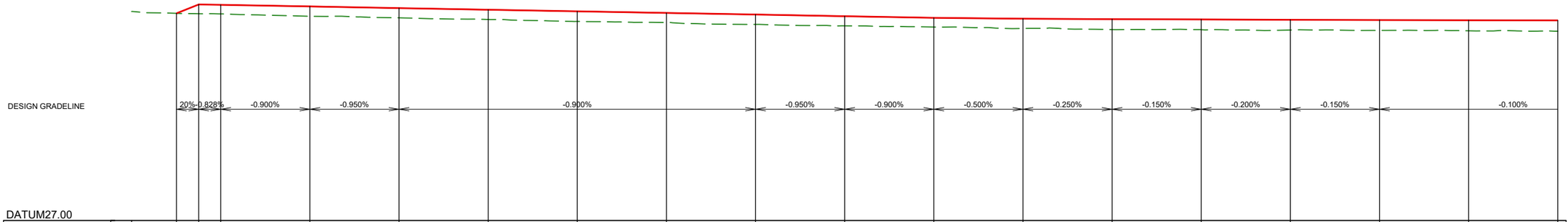
CARDINIA SHIRE COUNCIL
25 BESSIE CREEK ROAD
PAKENHAM
CROSS SECTIONS
SHEET 3 OF 7

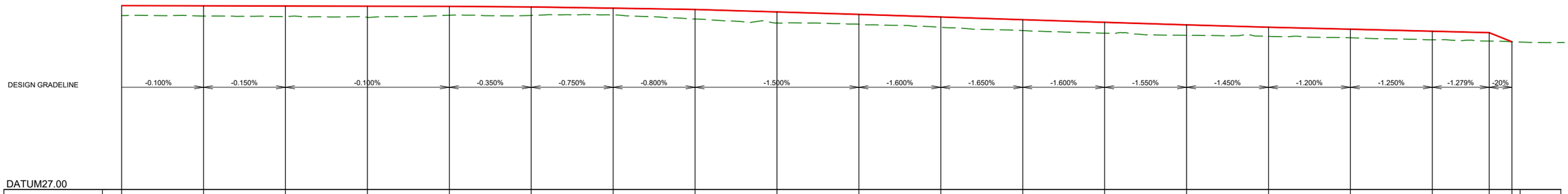
SCALE	REFER SCALE BAR
VERSION	B
SHEET	5 OF 9
DRAWING No.	24454-C005



DATUM27.00

DESIGN CENTRELINE		50.274	51.271	51.23	51.05	50.86	50.68	50.5	50.32	50.14	49.95	49.77	49.67	49.62	49.59	49.55	49.52	49.5	49.48
EXISTING SURFACE	50.48	50.27	50.23	50.21	49.95	49.77	49.59	49.37	49.25	49.03	48.87	48.74	48.57	48.45	48.44	48.4	48.36	48.31	48.27
CHAINAGE	0	10.059	15.057	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320

SECTION I-I



DATUM27.00

DESIGN CENTRELINE	49.48	49.46	49.43	49.41	49.39	49.32	49.17	49.01	48.71	48.41	48.09	47.76	47.44	47.13	46.84	46.6	46.35	46.172	45.065	
EXISTING SURFACE	48.27	48.2	48.16	48.05	48.3	48.27	48.34	47.84	47.35	47.21	46.82	46.44	46.11	45.85	45.73	45.55	45.3	45.14	45.07	45.06
CHAINAGE	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	653.894	659.428	660

SECTION I-I (CONTINUED)

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

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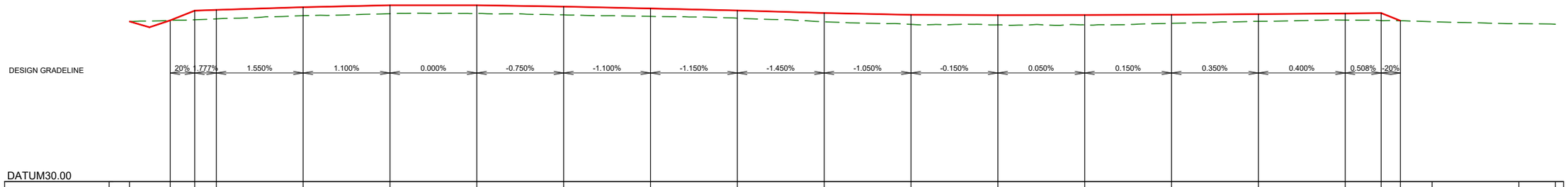
CARDINIA SHIRE COUNCIL

25 BESSIE CREEK ROAD
PAKENHAM

CROSS SECTIONS
SHEET 4 OF 7

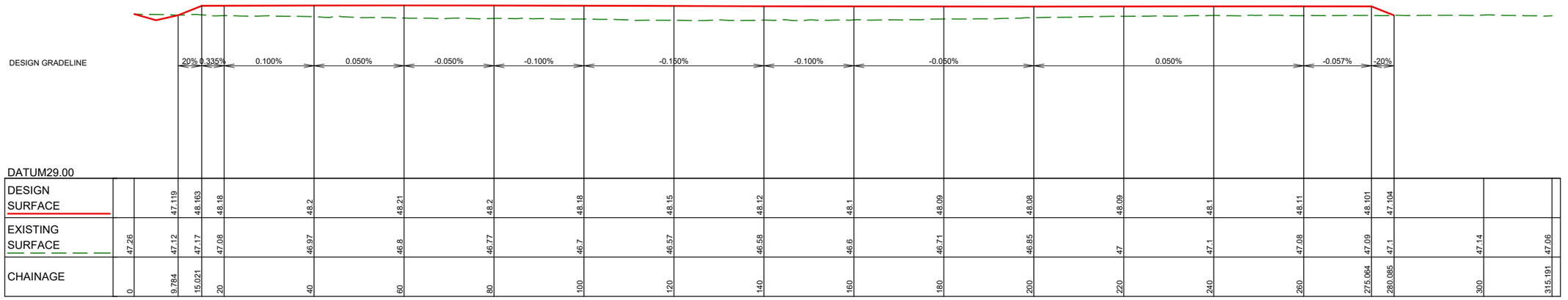
SCALE	REFER SCALE BAR
VERSION	B
SHEET	6 OF 9
DRAWING No.	24454-C006



DATUM30.00

DESIGN SURFACE		48.553	49.672	49.76	50.07	50.29	50.29	50.14	49.92	49.69	49.4	49.19	49.16	49.17	49.2	49.27	49.35	49.392	48.509							
EXISTING SURFACE	48.43	48.55	48.62	48.73	49.09	49.32	49.35	49.2	49.01	48.8	48.39	48.09	48.03	48.03	48.21	48.44	48.59	48.53	48.51	48.4		48.17		48.11		
CHAINAGE	0	9.388	15.021	20	40	60	80	100	120	140	160	180	200	220	240	260	280	288.282	292.716	300		320		328.409		

SECTION J-J



DATUM29.00

DESIGN SURFACE		47.119	48.163	48.18	48.2	48.21	48.2	48.18	48.15	48.12	48.1	48.09	48.08	48.09	48.1	48.11	48.101	47.104								
EXISTING SURFACE	47.26	47.12	47.17	47.08	46.97	46.8	46.77	46.7	46.57	46.58	46.6	46.71	46.85	47	47.1	47.08	47.09	47.1		47.14		47.06				
CHAINAGE	0	9.784	15.021	20	40	60	80	100	120	140	160	180	200	220	240	260	275.064	280.085	300		315.191					

SECTION K-K

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

TAYLORS
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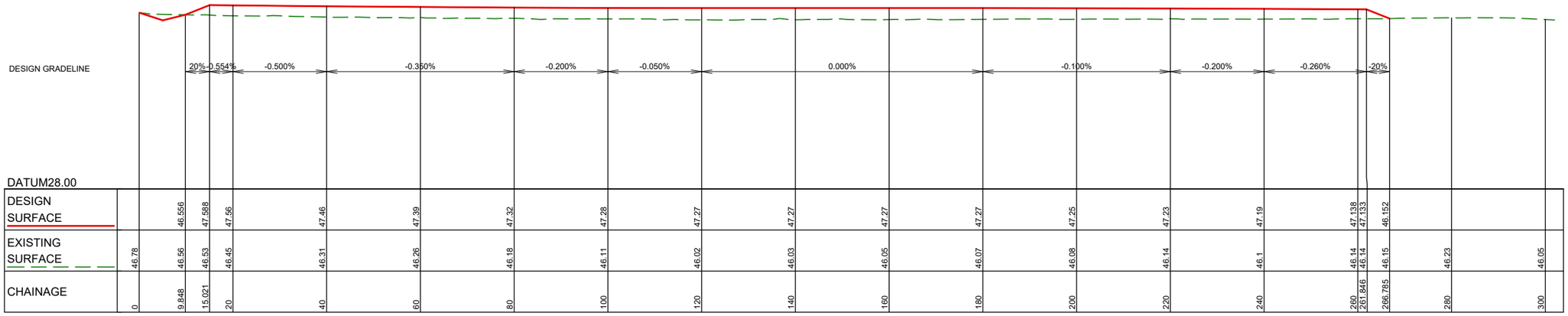
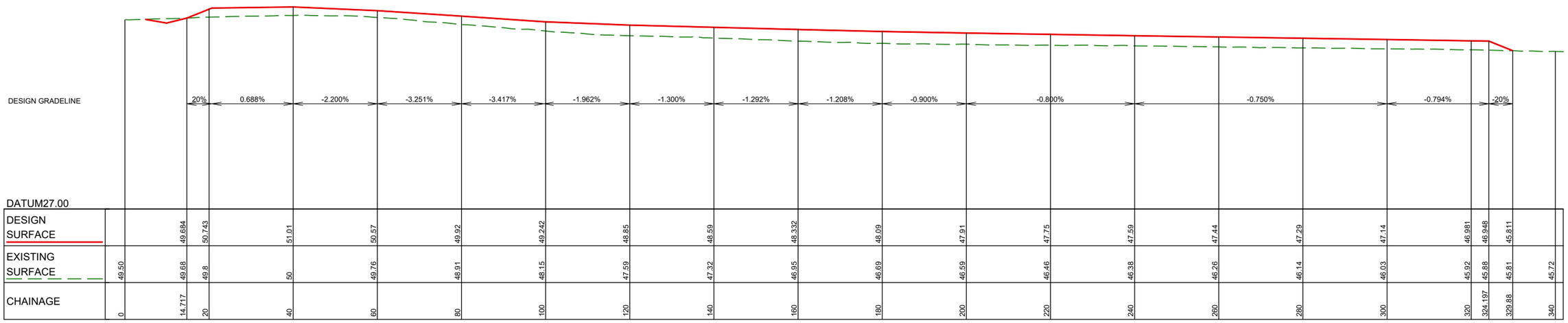
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C003-009

CARDINIA SHIRE COUNCIL
25 BESSIE CREEK ROAD
PAKENHAM
CROSS SECTIONS
SHEET 5 OF 7

SCALE REFER SCALE BAR
VERSION B
SHEET 7 OF 9
DRAWING No.
24454-C007



SECTION L-L



SECTION M-M

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

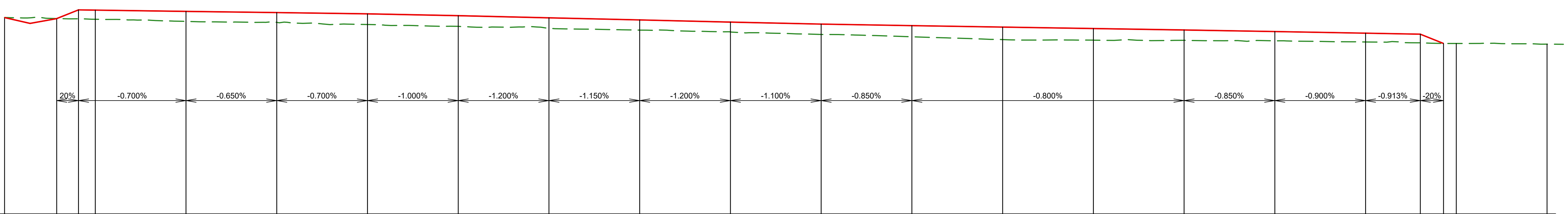
TAYLORS
Urban Development | Infrastructure
8 / 270 Ferntree Gully Road, Notting Hill, Victoria, 3168
Tel: 61 3 9501 2800 | Web: taylorsds.com.au

DESIGNED:	AHM	AUTHORISED:	-	DRAFTED:	AHM
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C003-009

CARDINIA SHIRE COUNCIL
25 BESSIE CREEK ROAD
PAKENHAM
CROSS SECTIONS
SHEET 6 OF 7

SCALE REFER SCALE BAR
VERSION B
SHEET 8 OF 9
DRAWING No.
24454-C008

DESIGN GRADELINE



DATUM27.00

DESIGN SURFACE		48.535	49.496	49.47	49.33	49.2	49.06	48.86	48.62	48.39	48.15	47.93	47.76	47.6	47.44	47.28	47.11	46.93	46.82	45.797		
EXISTING SURFACE	48.65	48.54	48.52	48.46	48.23	48.12	47.88	47.68	47.46	47.26	47.07	46.79	46.53	46.23	46.16	46.14	46.09	45.96	45.87	45.8	45.79	45.72
CHAINAGE	0	11.489	16.301	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	312.065	317.18	320	340

SECTION N-N

PRELIMINARY
NOT FOR CONSTRUCTION

VER	DATE	REVISION	APPD.

HORIZONTAL SCALE
0 5 10 20 30 40
SCALE 1:500 AT A1 SIZE
SCALE 1:1000 AT A3 SIZE

VERTICAL SCALE
0 2.5 5 10 15 20
SCALE 1:250 AT A1 SIZE
SCALE 1:500 AT A3 SIZE

Coords: MGA Levels: AHD

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DESIGNED:	AHM	AUTHORISED:	-	DRAFTED:	AHM
CHECKED:	JOY	AUTH. DATE:	-	CAD REF:	24454-C003-009

CARDINIA SHIRE COUNCIL
25 BESSIE CREEK ROAD
PAKENHAM
CROSS SECTIONS
SHEET 7 OF 7

SCALE REFER SCALE BAR
VERSION B
SHEET 9 OF 9
DRAWING No.
24454-C009