ADVERTISED

41 & 43 Hoddle Street,

Yarra Junction

Stormwater Management Strategy

Rev A

October 2024

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Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

1.0 Introduction

The 4.6 Ha parcel of land, comprising of two separate titles, is located approximately 55 km east of Melbourne, in Yarra Junction.

The site is bounded by Hoddle Street to the west, the existing standard density residential subdivision, Peppercorn Place to the north, the Adanac Camp and Accommodation Facility to the south, and Public Use zoned land to the east.

The site is zoned Neighbourhood Residential Zone (NRZ2). There is an existing dwelling on each lot located within the western part of the respective properties. These two dwellings enjoy existing access from Hoddle Street.

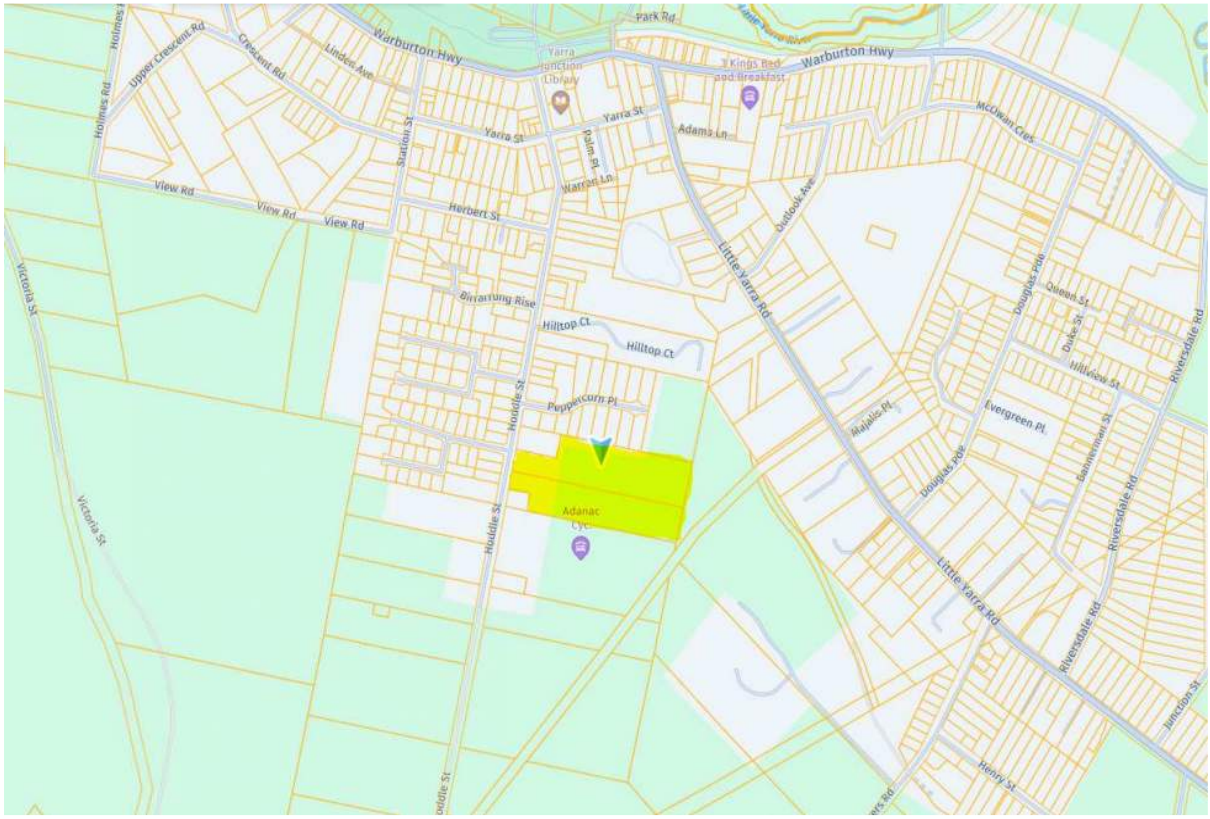

Figure 1.1 – 41 & 43 Hoddle Street, Yarra Junction – Site Context Plan

This Stormwater Strategy for the development of 41 & 43 Hoddle Street outlines a management plan for the stormwater that is generated from the subdivision of the land. It identifies the assets required to manage the urbanisation and resultant surface water runoff from subdivision and sets a framework to achieve the intent of the Yarra Ranges Council drainage requirements as outlined in its Development Engineering Guidelines, Version 1.2, and also in its request for further information dated 16 May 2024 *(Refer **Appendix A** – Item 10).*

The surface water management for the site has been optimised and designed to achieve multiple benefits for the broader area, the community and the environment.

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2.0 Site and Catchment Characteristics

The western part of the site naturally grades from Hoddle street towards the east where an existing watercourse traverses the site flowing in a northerly direction. This watercourse continues north, and traverses a number of private industrial and general residential zoned properties where it is piped underground at Yarra Street, beneath the village, and then continuing to its tributary with the Little Yarra River via the Yarra Junction Sporting Reserve.

The eastern part of the site naturally grades from its eastern boundary towards the west, to the same watercourse mentioned above. The eastern part of the site is not proposed to be developed.

Figure 2.1 – Existing Watercourses (subject properties highlighted yellow)

The site has natural grades of around 1 in 8 (12.5%), which is typical of the area. Its eastern portion is densely vegetated. A small dam exists in the north-west of the site.

An easement in favour of drainage and sewerage exists along the north boundary of 41 Hoddle Street. There are no authority assets contained within the easement. It is likely this easement was initially created to benefit No. 39 Hoddle Street. Available information suggests No. 39 Hoddle Street is serviced by the existing drainage (Yarra Ranges Council) and sewer (Yarra Valley Water) assets located immediately to the north, running along the southern (common) boundary of the Peppercorn Place development. It is proposed that the easement be removed as part of the development following verification of the 39 Hoddle Street drainage and sewerage connections.

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Should No. 39 Hoddle Street rely on private service connections within the easement, it is proposed that these connections be re-routed to the existing authority assets abutting the property immediately north, and at the developers expense, in order to facilitate removal of the easement within the subject property.

An easement in favour of drainage and sewerage exists along the north boundary of 43 Hoddle Street, cranking to the south within the west part of the land and terminating at the boundary of 45 Hoddle Street. There are no authority assets contained within the easement. It is likely this easement was created to benefit No. 39 Hoddle Street. Available information suggests No. 39 Hoddle Street is serviced by private connections within this easement. From available information, it appears 45 Hoddle Street enjoys a private drainage connection through this easement to the existing water course. It is likely 45 Hoddle Street has a septic system in place for waste water treatment. As part of the development it is proposed to reroute the existing drainage connection from 45 Hoddle Street to the new proposed drainage system, and consequently this catchment is included in the quantity and quality treatment train. A new sewer branch would be provided for 45 Hoddle Street as part of the development, providing an opportunity for 45 Hoddle Street to decommission its existing septic system. The existing easement through the subject property would be removed as part of the development.

*(Refer **Appendix B** - Plan of Levels and Features and Re-establishment)*

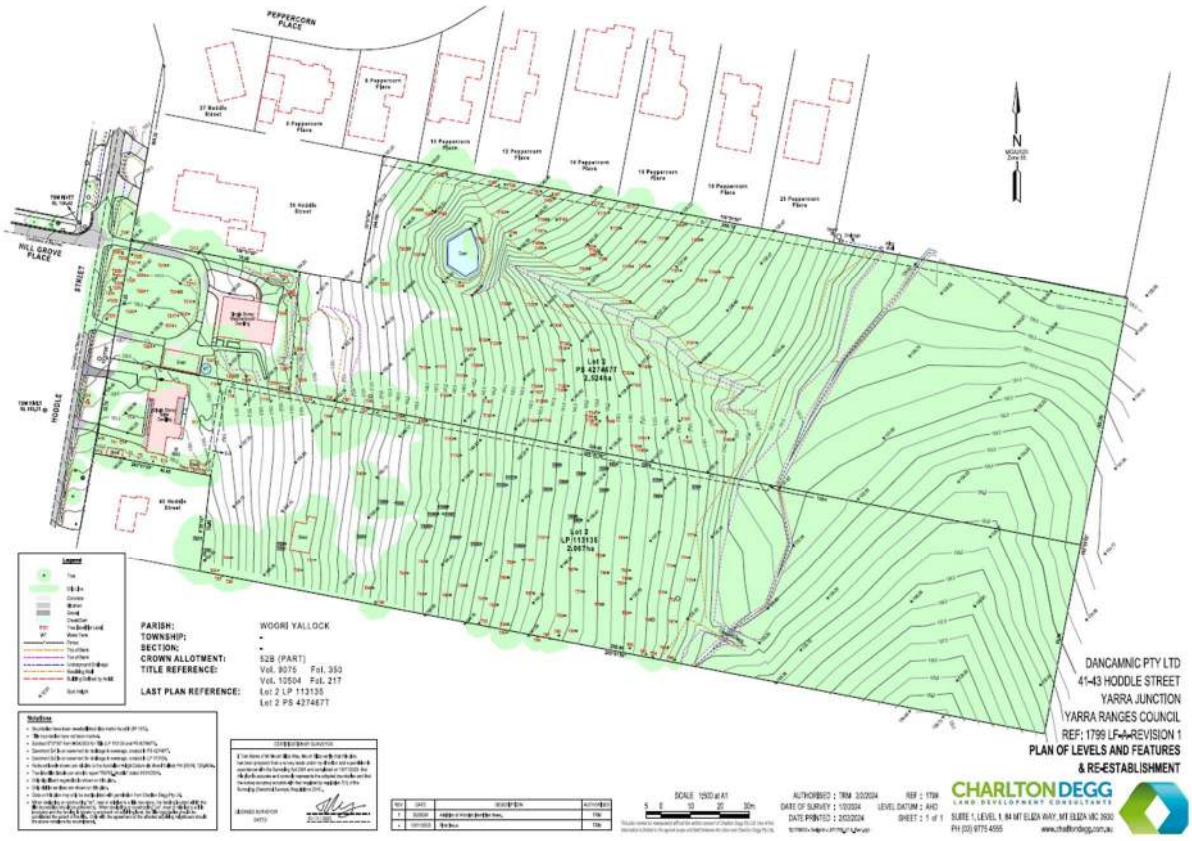

Figure 2.2 Site Characteristics – Levels and Features Survey Plan (0.5m contour intervals shown)

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3.0 Proposed Development

The proposed development includes subdivision of the site into 25 residential lots, consisting of 23 standard density lots (lots typically 500 sq.m up to 1,385 sq.m) and one large 2ha lot containing the balance of the land to the east.

The layout proposes a loop road with direct frontage to the creek area and one connection to Hoddle Street. The layout proposes to retain the existing dwelling on 41 Hoddle Street within new lot 3 as shown on the Subdivision Concept Plan

*(Refer **Appendix C** – Concept Subdivision Plan)*

Figure 3.1 Proposed Subdivision Layout Plan

The road layout generally proposes Council standard 16m and 14m wide road reserves with a widened road reserve abutting the creek line to establish a maintained nature strip for the purposes of satisfying RFV's defendable space requirements. The design features a loop road which fronts the creek and conservation area, sealed pavements with kerb and channel and an underground drainage system accommodating the 20% AEP storm event flows.

A new stormwater connection is proposed for existing 45 Hoddle Street. A high point is required in Road A soon after its connection with Hoddle Street to ensure overland flows in Hoddle street do not enter the subdivision road network. Stormwater quality treatment is proposed along the frontage road to the creek area via a bioretention-swale (refer Section 5 – Stormwater Quantity).

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*(Refer **Appendix D** – Functional Layout Plans, including proposed Drainage Configuration)*

Figure 3.2 Proposed Subdivision Functional Layout Plan

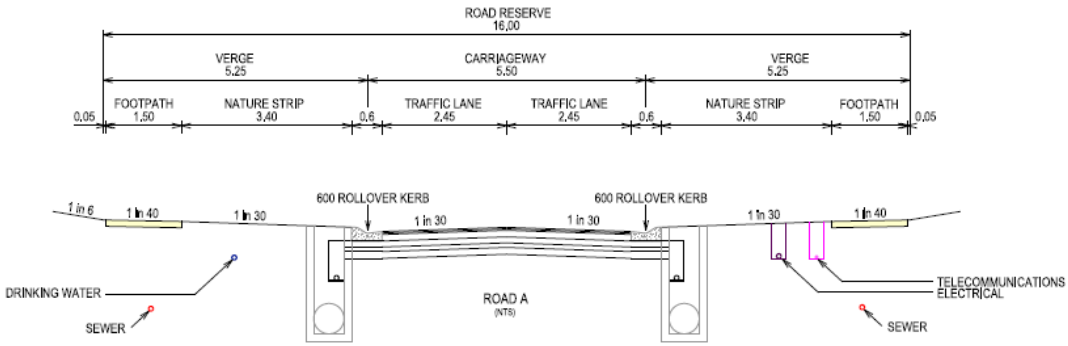

Figure 3.3 Proposed Subdivision Typical Road Cross Section

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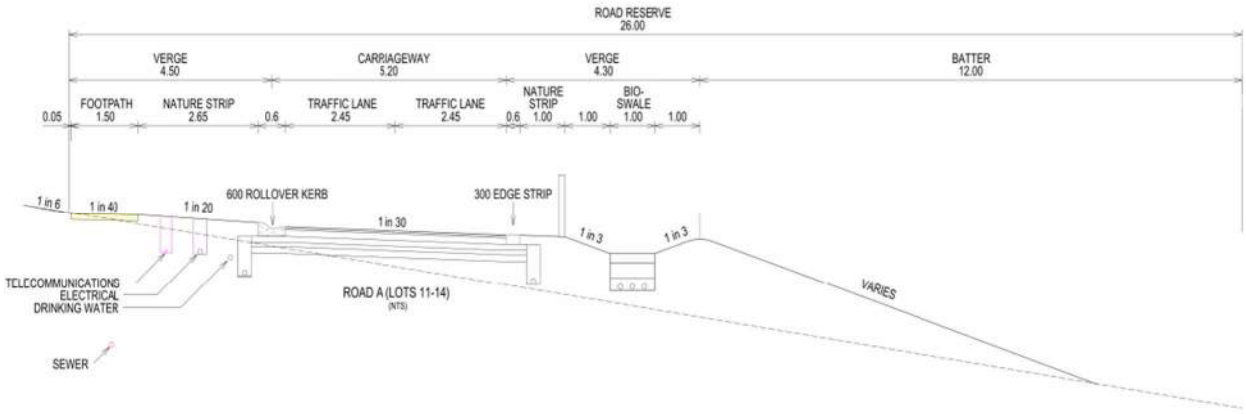

Figure 3.4 Proposed Subdivision Typical Road Cross Section (fronting creek area showing proposed water treatment)

4.0 Stormwater Management Objectives

In October 2018, the Victorian Government created the new Clause 53.18, Stormwater Management in Urban Development, in the Victorian Planning Provisions to ensure that stormwater generated from all forms of urban development is managed in an integrated way to mitigate the impacts of stormwater runoff on the environment, property and public safety, and to provide cooling, local habitat and amenity benefits.

One of the key elements to be met under Clause 53.18 of the VPPs is the stormwater management objectives and standards for subdivisions.

The objectives for stormwater management for subdivisions are:

- To minimise damage to properties and inconvenience to the public from stormwater
- To ensure that the street operates adequately during major storm events and provides for public safety
- To minimise increases in stormwater and protect the environmental values and physical characteristics of receiving waters from degradation by stormwater
- To encourage stormwater management that maximises the retention and reuse of stormwater
- To encourage stormwater management that contributes to cooling, local habitat improvements and provision of attractive and enjoyable spaces

The stormwater management system should be:

- Designed and managed in accordance with the requirements and to the satisfaction of the relevant drainage authority.
- Designed and managed in accordance with the requirements and to the satisfaction of the water authority where use of stormwater is proposed

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▪ Designed to meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater-Best Practice Environmental Management Guidelines (Victorian Stormwater Committee,1999).

▪ Designed to ensure that flows downstream of the subdivision site are restricted to pre-development levels unless increased flows are approved by the relevant drainage authority and there are no detrimental downstream impacts.

▪ Designed to contribute to cooling, improving local habitat and providing attractive and enjoyable spaces.

▪ The stormwater management system should be integrated with the overall development plan including the street and public open space networks and landscape design. For all storm events up to and including the 20% Average Exceedance Probability (AEP) standard:

▪ Storm water flows should be contained within the drainage system to the requirements of the relevant authority.

▪ Ponding on roads should not occur for longer than 1 hour after the cessation of rainfall.

▪ For storm events greater than 20% AEP and up to and including 1% AEP standard: Provision must be made for the safe and effective passage of stormwater flows. All new lots should be free from inundation or to a lesser standard of flood protection where agreed by the relevant flood plain management authority.

Ensure that streets, footpaths and cycle paths that are subject to flooding meet the safety criteria $d_aV_{ave} < 0.35$ m2 /s (where, d_a = average depth in metres and V_{ave} = average velocity in metres per second).

The design of the local drainage network should:

▪ Ensure stormwater is retarded to a standard required by the responsible drainage authority.

▪ Ensure every lot is provided with drainage to a standard acceptable to the relevant drainage authority.

▪ Wherever possible, stormwater should be directed to the front of the lot and discharged into the street drainage system or legal point of discharge.

▪ Ensure that inlet and outlet structures take into account the effects of obstructions and debris build up.

▪ Any surcharge drainage pit should discharge into an overland flow in a safe and predetermined manner.

▪ Include water sensitive urban design features to manage stormwater in streets and public open space. Where such features are provided, an application must describe maintenance responsibilities, requirements and costs.

▪ Any flood mitigation works must be designed and constructed in accordance with the requirements of the relevant floodplain management authority.

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5.0 Stormwater Quantity

Minor Drainage System

The minor drainage system will consist of a subsurface pipe network designed to capture and convey all stormwater runoff generated from the catchment for rainfall events up to and including the 20% Annual Exceedance Probability (AEP) design storm for residential catchments. The drainage system shall be designed in accordance with Yarra Ranges Council, Development Engineering Guidelines.

The subsurface drainage network will be provided to the boundary of all lots in the subdivision in accordance with the requirements and to the satisfaction of the Yarra Ranges Council. Where possible, the allotments will be graded to the front with the legal point of discharge located within the street frontage. Where this is not possible, easement drains will be provided to facilitate a legal point of discharge at the lowest point in each lot. These drains will be located within new drainage easements in favour of the Yarra Ranges Council.

The drainage system will be designed to ensure that the inlet structures account for the effects of obstructions and build-up of debris.

Low flows will be directed into a water quality treatment asset (bioretention-swale) prior to discharging to the creek.

The 20% AEP catchment plan is contained within ***Appendix E.***

Figure 5.1: 20% AEP Catchment Plan and Drainage Network

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Major Drainage System

The primary objective of the major drainage system is to provide flood protection for the allotments based on the 1% AEP storm event and to ensure the overland flow can be safely conveyed through the development.

The development of the land and creation of greater areas of impermeable surfaces causes increased flow rates during all storm events. Melbourne Water has responded to this application stating that it has no objection to the proposed subdivision. Melbourne Water requires that Council approves the drainage system including its outfall, and that evidence of this approval be provided to Melbourne Water prior to the issue of a statement of compliance. In our discussions with Melbourne Water, it clarified that it has no specific requirements relating to stormwater retention for this development. Council has subsequently confirmed that it does not require stormwater detention.

All flows are to be safely conveyed by combined underground and road network, which providing sufficient freeboard to the existing and proposed lots. All flows will be directed to the low point in the bioswale adjacent to the creek before overflowing and entering the existing creek, satisfying Melbourne Water conditions for this site.

Figure 5.2: 1% AEP Catchment Plan and Overland Flow Paths

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Overland Flow Safety

It is imperative that the development conveys the overland flows safely along road reserves. This requires ensuring the overland flow along major flow paths complies with floodway safety requirements. The recommended safety limits for residential developments are as follows (from the Guidelines for Development in Flood Affected Areas and adapted from Australian Rainfall and Runoff):

At the entrance to lots and access ways:

- V.dmax <= 0.3 m2 /sec
- Vmax <= 2.0 m/sec
- dmax <= 0.30 m

For small cars and children:

- V.dmax <= 0.3 m2 /sec
- Vmax <= 3.0 m/sec
- dmax <= 0.30 m

With an estimated 1%AEP overland gap flow of 0.855 m3/sec which is split between the two east-west road legs. Given the strategy to funnel flows directly toward the creek at considerable grade, complying with overland flow safety criteria will be achievable within the road reserves.

6.0 Drainage Outfall

The quality treatment of stormwater will be located within the road reserve and adjacent to the creek line in a vegetated bio-swale. Treated stormwater will discharge to the natural creek system at the same location where stormwater runoff from the site currently discharges to the creek.

The flow control and associated pipework and creek armouring outside of the road reserve is proposed to be protected by a drainage easement in favour of Council. Appropriate access for maintenance, fencing and landscaping will be required as part of detailed design development.

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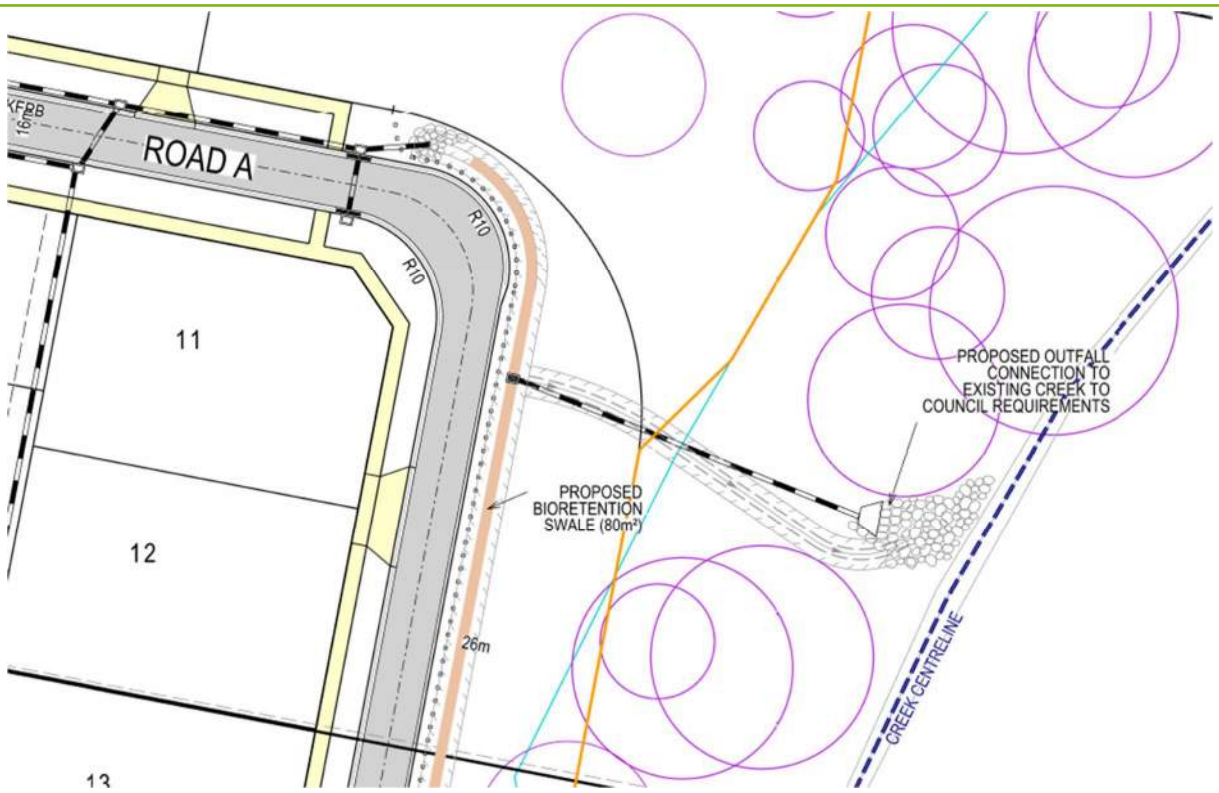

Figure 6.1: Proposed Outfall Arrangement to Existing Creek

7.0 Stormwater Quality

The State Environment Protection Policy defines the required water quality conditions for urban waterways. The aim of stormwater quality treatment is to reduce typical pollutant loads from urban areas to Best Management Practices as defined in the following targets:

Table 6.1: Best Practice Pollutant Reduction Targets.

Pollutant	Performance Objective
Total Suspended Solids (TSS)	80% reduction from typical urban load
Total Phosphorous (TP)	45% reduction from typical urban load
Total Nitrogen (TN)	45% reduction from typical urban load
Gross Pollutants (GP)	70% reduction from typical urban load

Source: Urban Stormwater: Best Practice Environmental Management Guidelines – Victorian Stormwater Committee, 1999.

As part of this study, Charlton Degg has engaged Incitus to undertake a MUSIC model to simulate the stormwater event at this project assuming a rain garden or similar bio-retention treatment system as depicted in the functional layout plans.

The Incitus memo was based on a previous bioretention concept, however the high level principles of the required treatment area, extended detention depth and the profile of the bioretention filter will remain the same, or very similar in a different arrangement.

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The revised arrangement adopts a bioretention swale in lieu of a rain garden. The treatment area, extended detention depth and filter profile recommended by Incitus for the previous layout has been adopted in the revised design, despite the development area marginally reducing. Notwithstanding the concept design informing this report, the wide road reserve adjacent to the existing water course provides opportunity for a variety of treatment options, which can be further, developed as part of the detailed design process.

The MUSIC model demonstrates compliance with best practice targets is achieved with a bio-retention system with the following properties:

- Extended Detention Depth 0.20m
- Filter Media Area 80m^2
- Filter Media Depth 0.50m
- Saturated Hydraulic Conductivity of Filter Media 200mm/hour
- Exfiltration Rate 0.36mm/hour

*(Refer **Appendix G** – Incitus Memo dated 8 February 2024 – Reference 2315)*

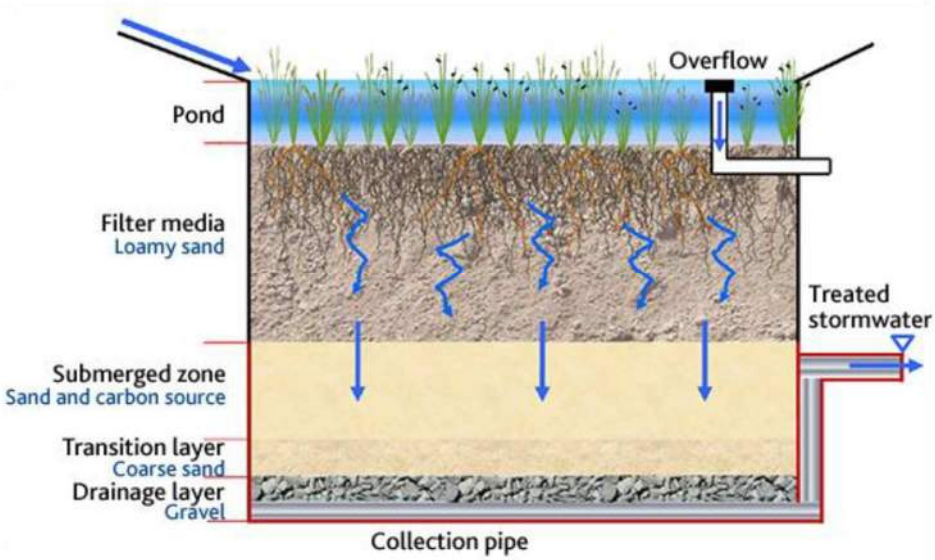

Figure 7.1 Typical Rain Garden (bioretnetion system) Profile (Source: Melbourne Water)

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8.0 Conclusion

The development of 41 & 43 Hoddle Street is located within the Yarra Ranges Council, and is required to meet the drainage standards specified by the Yarra Ranges Council's Development Engineering Guidelines Version 1.2, and the Victorian Planning Authority.

The development will provide a piped drainage infrastructure system to convey a minimum 20% AEP design flows for residential catchments. The gap flows, i.e. the difference between the 1% AEP design flows and the pipe flows, will be safely conveyed overland initially, and then to the bio-retention system. All flows in excess off the conductivity of the filter media will build and discharge into a grated pit, before overflowing through a spillway and overland to the creek.

Old untreated drainage and septic systems for existing dwellings (including neighbouring properties at No. 39 and 45 Hoddle Street) can be decommissioned and re-routed to the new development ensuring that current best practice treatment standards are implemented providing a significant improvement to existing conditions.

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Appendix A – Council RFI

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16 May 2024

Mr P Simic
C/- Urbis Valuations Pty Ltd
Level 10
477 Collins Street
MELBOURNE VIC 3000

Dear Mr Simic

Application **YR-2023/173**

Location **41 & 43 Hoddle Street, (Lot 2 PS427467 & Lot 2 LP113135) Yarra Junction**

Proposal **Staged twenty six (26)lot subdivision, vegetation removal, creation and removal of easements**

Please Note:

With the introduction of Council's Digital Transformation Project we are changing the way planning application related documentation is submitted. When responding to Further Information requests for applications please use the Protocol for Naming Conventions attached to this letter for your documents. ***Council will only accept digital copies of the written information and plans.***

The information must be provided via email directly to mail@yarraranges.vic.gov.au or can be submitted on a USB. The digital copy of the plans must be at the scale of 1:100 or 1:200, or as appropriate, to provide clarity.

Accordingly, please provide the following:

A. Section 50 Amendment

Please lodge an s50 amendment request as a result of the changes required to the plans and documentation as outlined under Section B and C of this letter.
https://www.yarraranges.vic.gov.au/Development/Planning/Request-changes-to-a-planning-application-in-progress-Section-50-57A

B. Information required as part of the application

1. Updated Arborist report

a. An updated arborist report is required to assess trees within the following:

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- Any trees within 15 metres of the eastern perimeter road;
- Any trees within 15 metres of the northern boundary to proposed Lot 8-10 (includes neighbouring vegetation);
- Any trees within 15 metres of the southern perimeter road (includes neighbouring vegetation)

b. Updated report to correct the following:

Referral to Council's arborist has identified the following errors that require amendments to the arborist report:

- Tree #236 has a DBH of 87cm;
- Tree #203 is two separate trees;
- Multiple Acacia sp. Surrounding the dam have not been assessed;
- Two eucalypts adjacent to tree #166 has not been assessed;
- Two eucalypts adjacent to tree #173 has not been assessed;

c. Assess all retained trees within the proposed subdivision that will be impacted by works required (ie; road, crossover etc) and viability for retention/ any TPZ encroachments (this assessment should have regard to the submitted functional layout plan – Appendix A to the Traffic Report). The arborist report indicates that road construction and extent of building envelopes have not been considered in the arborist report (eg: page 4).

d. Assess and demonstrate how 5m canopy separation can be achieved (Refer to preliminary issue 3 as modification to canopy separation can be sought through CFA).

e. Assess tree impacts resulting from proposed crossover widening (note: Council's traffic engineers require a minimum 7.5m width).

2. Updated biodiversity report/ NVR report

The submitted biodiversity report/ NVR report will need to amended to reflect updated information required under item 1 (arborist report) in addition to any further native vegetation that may be required for the implementation of defendable space (refer to preliminary issue 2).

C. Preliminary Issues

The following preliminary issues highlighted below are matters as discussed at the meeting on 14th May 2024.

1. Environmental considerations

Having regard to the site being heavily vegetated which includes high value vegetation including a waterway that runs through the site and application of Clause 42.01 Environmental Significance Overlay – Schedule 1 and Clause 42.03 Significant Landscape Overlay – Schedule 22 the current proposal is not considered to be responsive to the environmental characteristics of the site and surrounds.

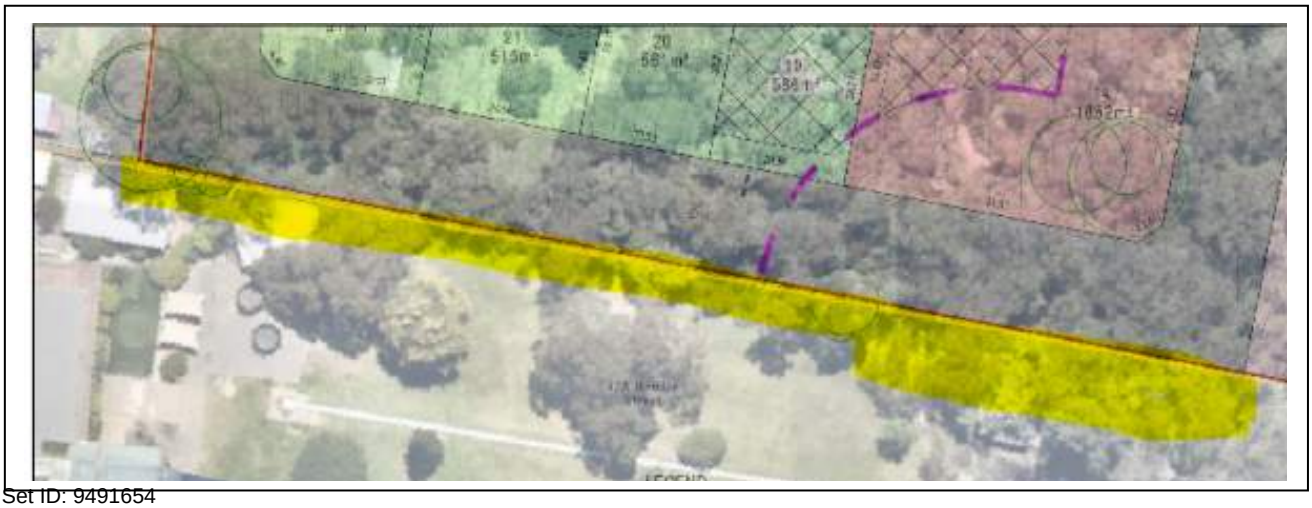
Council is unsupportive of the current arrangement as the proposal does not achieve a minimum 30m setback to the waterway in line with Clause 12.03-1S. As this waterway is a tributary to Yarra River, environmentally sensitive design must be regarded for given the key ecological values in the area (per application of ESO1). It is recommended that the proposed plan of subdivision be amended to provide a minimum 30m setback to the waterway (refer to figure below as a general reference).

Notes: Indicative revisions to provide a 30m buffer to the waterway and re-aligned defendable space and road layout. Figure is not to scale.

It is acknowledged that as the point of discharge is to the waterway to the rear, this component can encroach into the 30m setback/ conservation zone, however it is preferred that any onsite detention be outside of this 30m setback.

2. Vegetation impacts

The submitted arborist has not included all trees impacted by the development (onsite and neighbouring properties). With reference to Section B – Item 1 of this letter an updated arborist is required to assess all vegetation to be removed/ impacted by the proposed subdivision.



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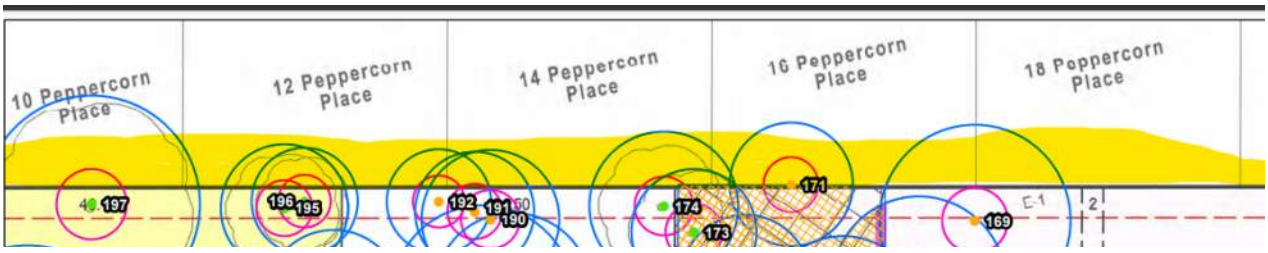

Unassessed *Acacia* sp. adjacent to the dam (yellow arrows) and unassessed *Kunzea* sp. that meet criteria of a tree rather than shrub (red arrow).

Unassessed *Acacia* sp. adjacent to the dam.

Two unassessed eucalypts (yellow arrows) adjacent to trees #167 and 166.

Tree #203. Two trees not one with two stems.

Two unassessed eucalypts (yellow arrows) adjacent to tree #173.

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3. Implementation of defendable space

Council refers to CFA's letter dated 17 April 2024 (CFA Ref: 13000-79113-135601) in respect to further comments provided about the implementation of vegetation management requirements (5m canopy separation). Whilst Council is supportive of high value trees within the subdivision being retained it is noted that the canopy of trees overlap in parts which would not comply with the defendable space requirements of a 5m canopy separation as proposed under the Bushfire Management Plan.

It is advisable that you engage in discussions with CFA in seeking a modification to the defendable space requirements to allow for 'tree clustering.' Any changes agreed to with CFA will require subsequent changes to the BMP.

4. Traffic impacts

Council's traffic engineers have reviewed the submitted traffic report and existing road network and conditions and the proposed subdivision will require subsequent improvements/ upgrades to Hoddle Street. It should be noted that sections of Hoddle Street is only 3.6m wide and currently does not facilitate two way traffic movements.
As noted in the online meeting with Council (14/05), should a permit be issued for the proposed subdivision conditions will be imposed that require:

- Localised widening of Hoddle Street by extending kerb and channel (west side of Hoddle St) between 1/36 Hoddle Street – 5/36 Hoddle Street (approximately 120m in length with a 7.6m width note: kerb Radii to be 8m).
- Footpath along east side of Hoddle Street is be provided between proposed crossover and Peppercorn Place.

Notes: indicative works required along Hoddle Street (blue line denotes extent of road widening required.

Discussions were also held in respect to road widths on the eastern perimeter road, which may be reduced to a 14m trafficable road width (currently 16m).

5. Stormwater requirements

Council's stormwater engineers have reviewed the submitted information and does not support a underground detention system as proposed. An on-ground detention system is a preferred approach for the proposed subdivision given the site context and would assist with more practical maintenance requirements.

Note: As the proposed point of discharge is to a tributary to Little Yarra River, the application has been referred to Melbourne Water for comment.

How to Submit Information

The information must be provided via email directly to mail@yarraranges.vic.gov.au. The digital copy of the plans must be at the scale of 1:100 or 1:200, or as appropriate, to provide clarity. Please also be advised that Council is unable to access digital links (e.g. Dropbox, Hightail, OneDrive, Google Drive)

When responding to Further Information requests for applications please use the Protocol for Naming Conventions attached to this letter for your documents. **Council will now only accept digital copies of the written information and plans.**

The introduction of the COVID-19 Omnibus (Emergency Measures) Act 2020 (COVID Act) requires Council must now seek the consent of any person (including third parties) before publishing any personal information (other than the address of the land to which any planning application, submission or objection relates). It would be greatly appreciated to ask for your co-operation on this matter and not submit any plans or documents which contain personal information.

Should the application be amended, either voluntarily or in response to the further information requested above, the requirements of Section 50/ Section 57A of the *Act* apply. This includes a requirement to submit a change to the application form which clearly highlights the proposed changes.

If amendments are made prior to public notice, then there is no additional fee to pay for those amendments. Where amendments are made after public notice, an additional fee is required at the time of request. This fee will depend on the scope of the amendments, please refer to Planning fees on our website.

Should you have any queries about this application, please contact Jason Chu on telephone 9294 6273 or via email address mail@yarraranges.vic.gov.au.

Yours sincerely,

Jason Chu
Principal Planner - Planning Services

Protocol for Naming Conventions

When submiting your Further Information documents, please follow the format exactly as it appears below, capturing the relevant application number (YR), note that it is FI, and add the document title.

Using the consistent naming convention helps us locate your files easily in our electronic document management system.

The introduction of the COVID-19 Omnibus (Emergency Measures) Act 2020 (COVID Act) requires Council must now seek the consent of any person (including third parties) before publishing any personal information (other than the address of the land to which any planning application, submission or objection relates). It would be greatly appreciated to ask for your co-operation on this matter and not submit any plans or documents which contain personal information.

Further Information

YR-XXXX/X FI Application Form (eg. – YR2017/1)

YR-XXXX/X FI Title

YR-XXXX/X FI Covenant details

YR-XXXX/X FI Cover letter

YR-XXXX/X FI Planning Application Report

YR-XXXX/X FI Arborist report

YR-XXXX/X FI Geotechnical Report

YR-XXXX/X FI Geotechnical Declaration Form

YR-XXXX/X FI Traffic Report

YR -XXXX/X FI Bio Diversity Report

YR-XXXX/X FI Native Vegetation Assessment

YR-XXXX/X FI Land Capability Assessment Report

YR-XXXX/X FI Clause 55 Assessment

YR-XXXX/X FI Clause 54 Assessment

YR-XXXX/X FI Clause 56 Assessment

YR-XXXX/X FI Bushfire Management Statement

YR-XXXX/X FI CHMP

YR-XXXX/X FI Waste Management Plan

YR-XXXX/X FI Property Management Plan

YR-XXXX/X FI Schedule of colours and materials

YR-XXXX/X FI Site Photos

YR-XXXX/X FI Heritage Study

YR-XXXX/X FI Environmental Sustainable Design Management Plan (ESD)

YR-XXXX/X FI Medical Certificate

YR-XXXX/X FI Legal Advice

YR-XXXX/X FI Other

Plans

YR-XXXX/X FI Plans -

YR-XXXX/X FI Site Plan

YR-XXXX/X FI Existing condition Plan

YR-XXXX/X FI Site Survey Plan

YR-XXXX/X FI Elevation Plan

YR-XXXX/X FI Floor Plan

YR-XXXX/X FI Shadow Plan

YR-XXXX/X FI Landscape Plan

YR-XXXX/X FI Plan of Subdivision existing

YR-XXXX/X FI Plan of Subdivision proposed

YR-XXXX/X FI Neighbourhood Site Description Plan

YR-XXXX/X FI Neighbourhood Context Plan

YR-XXXX/X FI Cross Section Plan

YR-XXXX/X FI Section 50 Amendment Request

YR-XXXX/X FI Section 57A Amendment Request

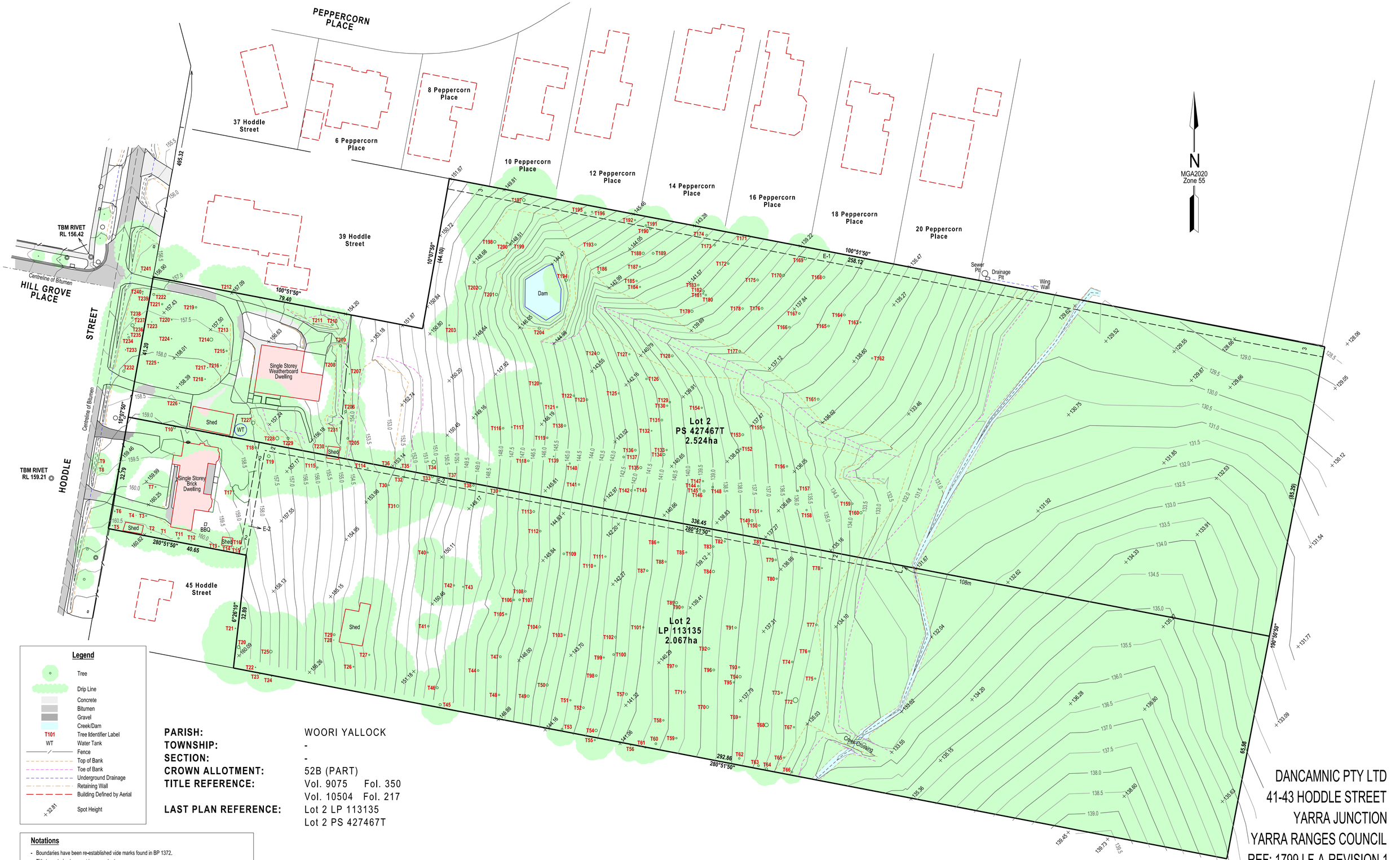
YR-XXXX/X FI Bushfire Management Plan

YR-XXXX/X FI Other

Appendix B – Survey Plan

Email info@charltondegg.com.au | Phone (03) 9775 4555 | Suite 1, Level 1, 84 Mt Eliza Way, Mt Eliza, Vic. 3930
www.charltondegg.com.au

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025



Legend

- Tree
- Drip Line
- Concrete
- Bitumen
- Gravel
- Creek/Dam
- T101 — Tree Identifier Label
- WT — Water Tank
- Fence
- Top of Bank
- Toe of Bank
- Underground Drainage
- Retaining Wall
- Building Defined by Aerial
- +32.81 — Spot Height

PARISH:	WOORI YALLOCK
TOWNSHIP:	-
SECTION:	-
CROWN ALLOTMENT:	52B (PART)
TITLE REFERENCE:	Vol. 9075 Fol. 350
	Vol. 10504 Fol. 217
LAST PLAN REFERENCE:	Lot 2 LP 113135
	Lot 2 PS 427467T

Notations

- Boundaries have been re-established vide marks found in BP 1372.
- Title boundaries have not been marked.
- Subtract 9°37'50" from MGA2020 for Title (LP 113135 and PS 427467T).
- Easement E-1 is an easement for drainage & sewerage, created in PS 427467T.
- Easement E-2 is an easement for drainage & sewerage, created in LP 113135.
- Reduced levels shown are relative to the Australian Height Datum via Woori Yallock PM 205 RL 126.680m.
- Tree identifier labels per arborist report "R6706_Hoddle" dated 31/01/2024.
- Only significant vegetation is shown on this plan.
- Only visible services are shown on this plan.
- Data on this plan may only be manipulated with permission from Charlton Degg Pty Ltd.
- When designing or constructing "on", near or relative to a title boundary, the fencing located within the title boundaries should be adhered to. When designing or constructing "on", near or relative to a title boundary and the fencing is shown to encroach on adjoining land, the title boundaries should be considered the extent of the title. Only with the agreement of the affected adjoining neighbours should the above notations be reconsidered.

CERTIFICATION BY SURVEYOR

I, Tom Marks of 84 Mount Eliza Way, Mount Eliza certify that this plan has been prepared from a survey made under my direction and supervision in accordance with the Surveying Act 2004 and completed on 10/11/2023, that this plan is accurate and correctly represents the adopted boundaries and that the survey accuracy accords with that required by regulation 7(1) of the Surveying (Cadastral Surveys) Regulations 2015 .

LICENSED SURVEYOR

DATED 10 / 11 / 2023

REV	DATE	DESCRIPTION	AUTHORISED
1	2/2/2024	Addition of Arborist identified trees.	TRM
-	10/11/2023	First Issue	TRM

SCALE 1:500 at A1

5 0 10 20 30m

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AUTHORISED : TRM 2/2/2024
DATE OF SURVEY : 1/2/2024
DATE PRINTED : 2/02/2024
REF : 1799
LEVEL DATUM : AHD
SHEET : 1 of 1

P:\1799\SI\3 - Design\4 - L&F\1799_LF A_Rev1.dgn

DANCAMNIC PTY LTD
41-43 HODDLE STREET
YARRA JUNCTION
YARRA RANGES COUNCIL
REF: 1799 LF-A-REVISION 1

PLAN OF LEVELS AND FEATURES & RE-ESTABLISHMENT

CHARLTON DEGG
LAND DEVELOPMENT CONSULTANTS
SUITE 1, LEVEL 1, 84 MT ELIZA WAY, MT ELIZA VIC 3930
PH (03) 9775 4555 www.charltondegg.com.au

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

Appendix C – Subdivision Concept Plan

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www.charltondegg.com.au

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

LEGEND

- DEFENDABLE SPACE & CONSERVATION AREA BOUNDARY
- DEFENDABLE SPACE SETBACK FOR BAL 29 (39m)
- DEFENDABLE SPACE SETBACK FOR BAL 19 (53m)
- DEFENDABLE SPACE SETBACK FOR BAL 12.5 (69m)
- BUILDING ENVELOPE WITH BAL 29 CONDITIONS
- BUILDING ENVELOPE WITH BAL 19 CONDITIONS
- BUILDING ENVELOPE WITH BAL12.5 CONDITIONS
- EXISTING CREEK CENTRELINE
- 30m CREEK SETBACK LINE
- EXTENT OF EARTHWORKS TO ENSURE <10% ENCROACHMENT TO TPZs
- SPACE LESS THAN 30m SETBACK FROM CREEK
- SPARE MORE THAN 30m SETBACK FROM CREEK

REV	DATE	DESCRIPTION	AUTHORISED
H	05/06/2024	Road alignment revised to include 30m setback to creek	ASC
I	31/07/2024	Bushfire setback and lot building envelopes revised	ASC
J	02/09/2024	10m Clear Zone proposed	ASC
K	09/10/2024	Revised eastern road network and bushfire setback	ASC

LAND BUDGET

	SITE AREA	4.591Ha
	RESIDENTIAL	3.676Ha
	PUBLIC OPEN SPACE	0Ha
	ROADS	0.915Ha
	TREE RESERVE	0Ha
	ELECTRICAL KIOSK RESERVE	0Ha
	NO. OF LOT	25
	* AVERAGE LOT SIZE	631m²
	NET DEVELOPABLE AREA	4.591Ha

* Excludes Superlot no.10

LOT MIX

Lot Area Range	No. Of Lots	% of Lots
500m²-599m²	16	64%
600m²-699m²	0	0%
700m²-799m²	5	20%
800m²-899m²	2	8%
900m²-1500m²	1	4%
Superlot	1	4%

SCALE 1:500 at A1

5 0 10 20 30m

This plan cannot be manipulated without the written consent of Charlton Degg Pty Ltd. Use of this information is limited to the agreed scope and brief between the client and Charlton Degg Pty Ltd.

AUTHORISED : ASC 09/10/2024 REF : 1799
DATE OF SURVEY : - LEVEL DATUM : AHD
DATE PRINTED : 10/10/2024 SHEET : 1 of 1
P:\1799\SI3 - Design\3 - DGN\Planning\CPA - Concept Plan\1799_CPA_Rev K.dgn

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DANCAMNIC PTY LTD
41-43 HODDLE STREET
YARRA JUNCTION
YARRA RANGES COUNCIL
REF: 1799_CPA_REVISION K

CONCEPT SUBDIVISION PLAN

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Version: 2, Version Date: 26/05/2025

Appendix D – Drainage Functional Layout Plans

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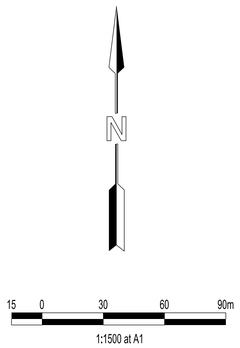
Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

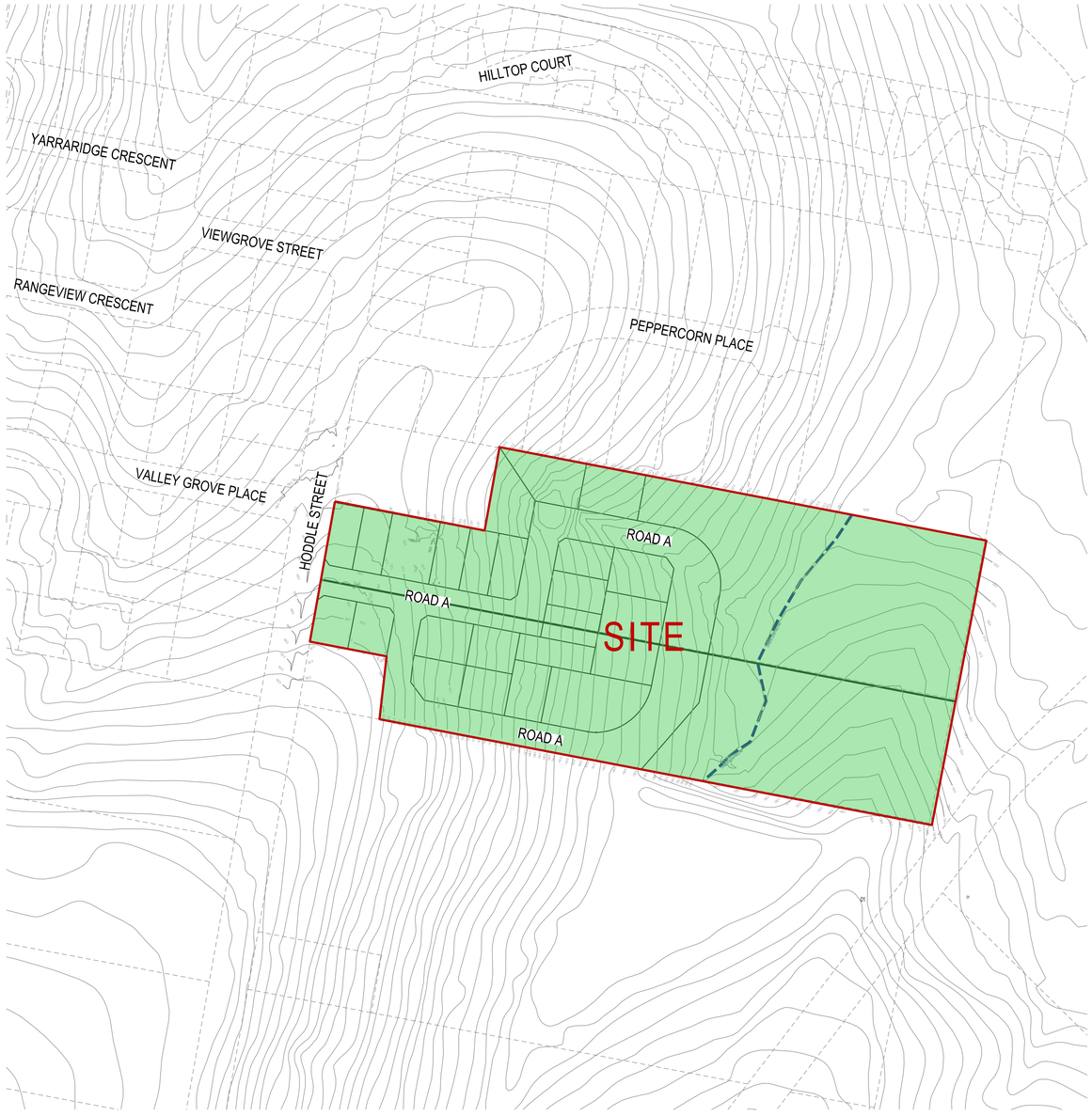


DANCAMNIC PTY LTD
41 - 43 HODDLE STREET
YARRA JUNCTION

YARRA RANGES COUNCIL

SHEET INDEX

1. LOCALITY PLAN AND SHEET INDEX
2. TYPICAL ROAD SECTIONS
3. FUNCTIONAL LAYOUT PLAN



VERSION DETAILS:

REV	DATE	DESCRIPTION	STATUS
A	18/01/24	PRELIMINARY	PRELIMINARY
B	08/02/24	MINOR AMENDMENTS	PRELIMINARY
C	11/06/24	CREEK SETBACK & ROAD WIDTH AMENDMENTS	PRELIMINARY
D	14/06/24	DEFENDABLE SPACE & EARTHWORKS EXTENT BATTER	PRELIMINARY
E	30/07/24	FURTHER AMENDMENTS FOLLOWING COMMENTS	PRELIMINARY
F	01/11/2024	UPDATED PLAN FOR RE-SUBMISSION	PRELIMINARY

FILENAME: P:\1799\E\2 - Design\6 - DGN\1799_FLP01.dgn

DRAWN:	L.STREET	DATE:	JAN 2024	SCALE: AS SHOWN
DESIGNED:	L.STREET	DATE:	JAN 2024	DATE PRINTED: 1/11/2024
AUTHORISED:	A.CHARLTON	DATE:	JAN 2024	

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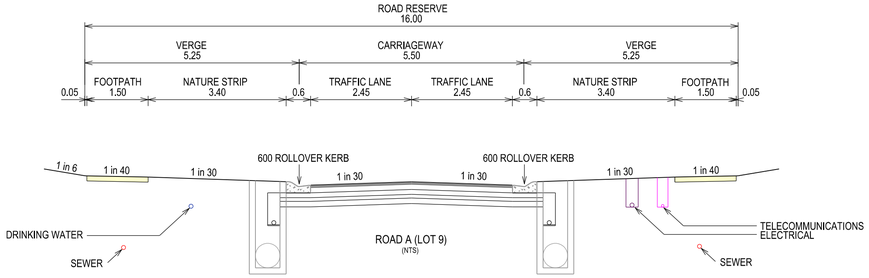
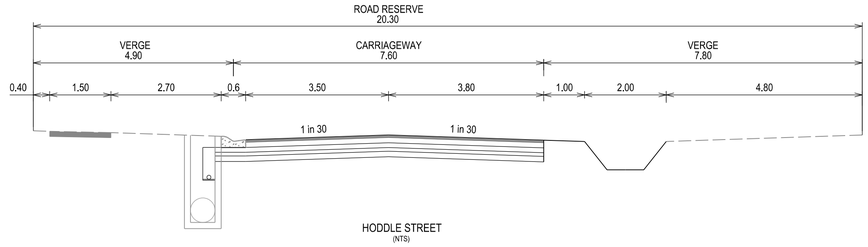
COUNCIL:
YARRA RANGES COUNCIL

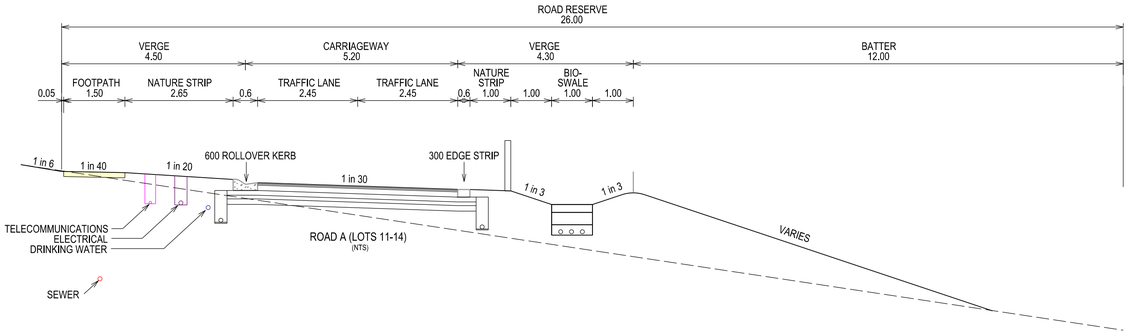
TITLE:
DANCAMNIC PTY LTD
41 - 43 HODDLE STREET
YARRA JUNCTION
FUNCTIONAL LAYOUT PLAN
LOCALITY PLAN AND SHEET INDEX

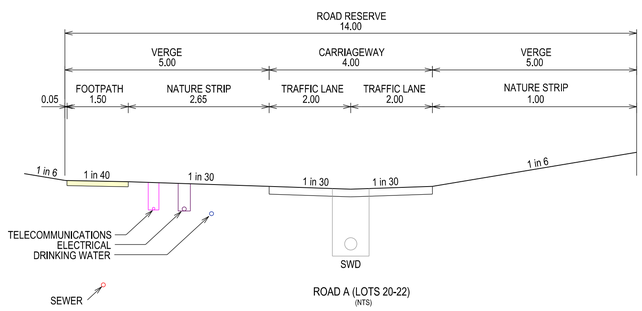
DRG NO.	REV.	
1799_1/FLP01	F	SHEET 01 OF 03

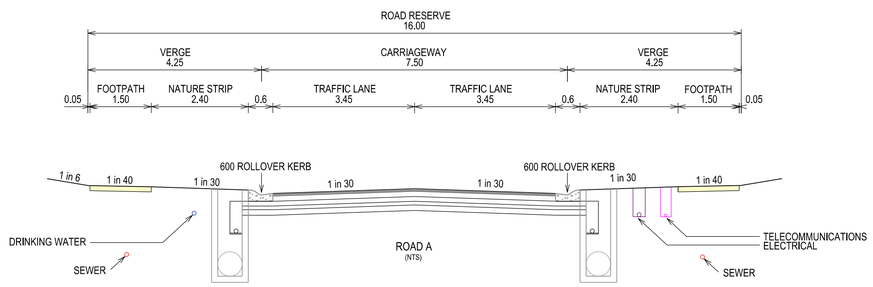
Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025











VERSION DETAILS:

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A	18/01/24	PRELIMINARY	PRELIMINARY
B	08/02/24	MINOR AMENDMENTS	PRELIMINARY
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D	14/06/24	DEFENDABLE SPACE & EARTHWORKS EXTENT BATTER	PRELIMINARY
E	30/07/24	FURTHER AMENDMENTS FOLLOWING COMMENTS	PRELIMINARY
F	01/11/2024	UPDATED PLAN FOR RE-SUBMISSION	PRELIMINARY

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DESIGNED:	L.STREET	DATE:	JAN 2024	DATE PRINTED: 1/11/2024
AUTHORISED:	A.CHARLTON	DATE:	JAN 2024	

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YARRA JUNCTION
FUNCTIONAL LAYOUT PLAN

TYPICAL ROAD SECTIONS

DRG NO.	REV.	
1799_1/FLP02	F	SHEET 02 OF 03

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

LEGEND

- FOOTPATH
- VEHICULAR CROSSOVER
- VEHICULAR CROSSOVER & FOOTPATH - HEAVY DUTY
- ROAD PAVEMENT, KERB AND CHANNEL
- ELECTRICITY / TELECOMMUNICATION } CONDUITS (REFER TO APPROVED ELECTRICAL AND COMMS PLAN)
- GAS / DRINKING WATER / NON DRINKING WATER } CONDUITS
- ELECTRICITY MAIN
- TELECOMMUNICATION MAIN
- GAS MAIN
- DRINKING WATER MAIN
- NON DRINKING WATER MAIN
- SEWER MAIN, MAINTENANCE STRUCTURES AND SEWER PROPERTY BRANCHES
- PROPOSED DRAINAGE, PIT, HOUSE DRAIN AND PROPERTY INLET
- EXISTING DRAINAGE AND PIT AND FUTURE DRAINAGE AND PIT
- MELBOURNE WATER SCHEME DRAINAGE AND PIT (COUNCIL ASSET)
- MELBOURNE WATER SCHEME DRAINAGE AND PIT (MELBOURNE WATER ASSET)
- 0.00 DRAINAGE PIT NUMBER
- PROPOSED CUT AREAS
- PROPOSED FILL AREAS
- E00.00 EXISTING SURFACE LEVEL
- D00.00 DESIGN SURFACE LEVEL
- B00.00 TOP OF BATTER LEVEL
- #1 STREET NAME SIGN
- LOT SLOPE DIRECTION
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- RETAINING WALLS
- KERB TRANSITION
- TREE PROTECTION ZONES FOR RETAINED TREES
- DEFENDABLE SPACE SETBACK (BAL 29)
- BUILDING ENVELOPE
- 30m CREEK SETBACK
- PROPOSED EXTENT OF EARTHWORKS

VERSION DETAILS:

REV	DATE	DESCRIPTION	STATUS
A	18/01/24	PRELIMINARY	PRELIMINARY
B	08/02/24	MINOR AMENDMENTS	PRELIMINARY
C	11/06/24	CREEK SETBACK & ROAD WIDTH AMENDMENTS	PRELIMINARY
D	14/06/24	DEFENDABLE SPACE & EARTHWORKS EXTENT BATTER	PRELIMINARY
E	30/07/24	FURTHER AMENDMENTS FOLLOWING COMMENTS	PRELIMINARY
F	01/11/2024	UPDATED PLAN FOR RE-SUBMISSION	PRELIMINARY

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DESIGNED:	L.STREET	DATE:	JAN 2024	DATE PRINTED: 1/11/2024
AUTHORISED:	A.CHARLTON	DATE:	JAN 2024	

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YARRA JUNCTION
FUNCTIONAL LAYOUT PLAN

FUNCTIONAL LAYOUT PLAN

DRG NO.	REV.	SHEET 03 OF 03
1799_1/FLP03	F	

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

Appendix E – Drainage Catchment Plans

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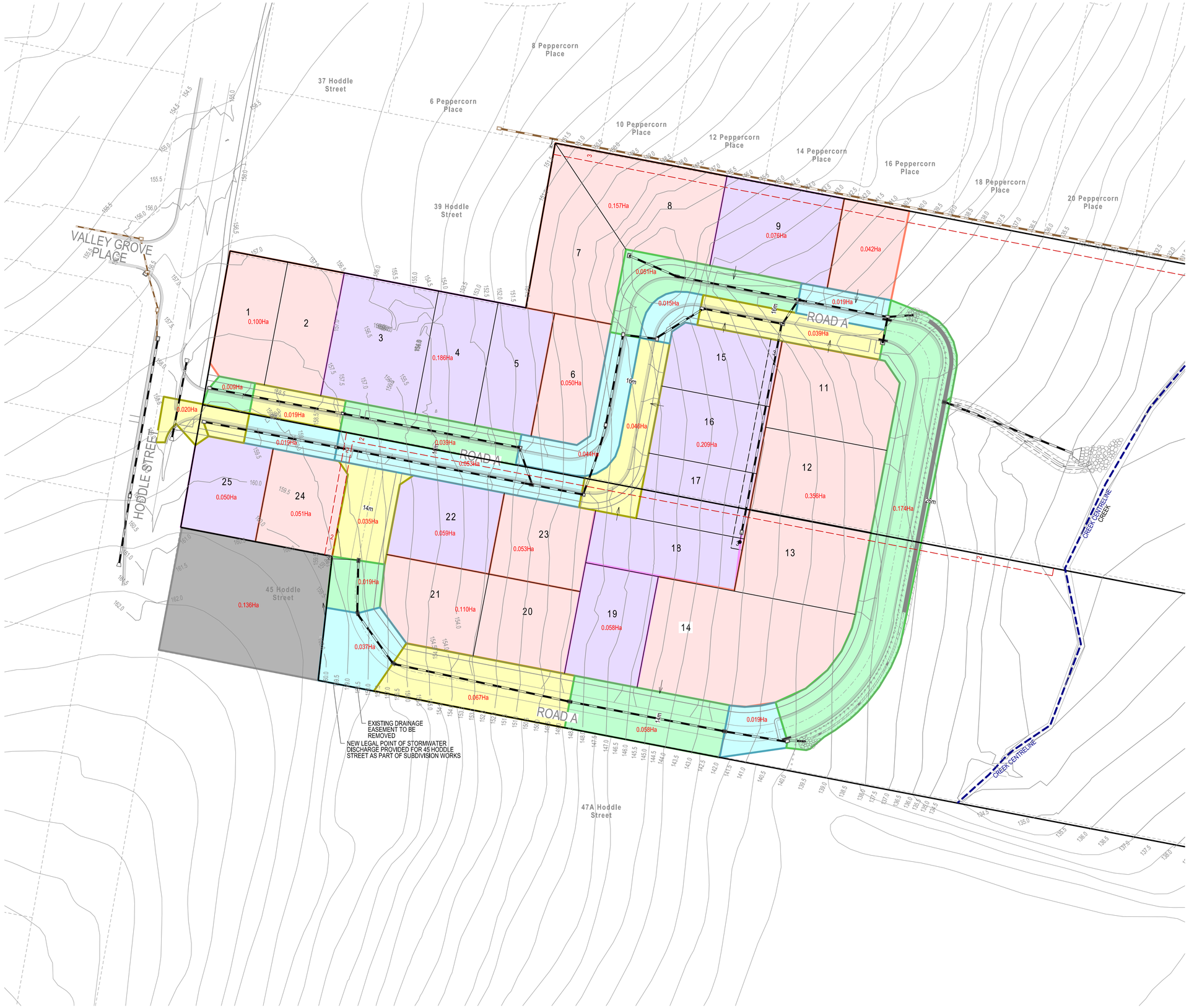

N

5 0 10 20 30m

1:500 at A1

CATCHMENT SUMMARY

CATCHMENT	AREA
ROADS	0.783Ha
LOTS	1.556Ha
EXTERNAL	0.136Ha

VERSION DETAILS:

REV	DATE	DESCRIPTION	STATUS
A	17/01/24	PRELIMINARY	PRELIMINARY
B	01/11/24	UPDATED FOLLOWING CONCEPT CHANGE	PRELIMINARY

FILENAME: P:\1799\E\2 - Design\6 - DGN\1799_C01.dgn

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DESIGNED:	L.STREET	DATE:	JAN 2024	DATE PRINTED: 1/11/2024
AUTHORISED:	A.CHARLTON	DATE:	JAN 2024	

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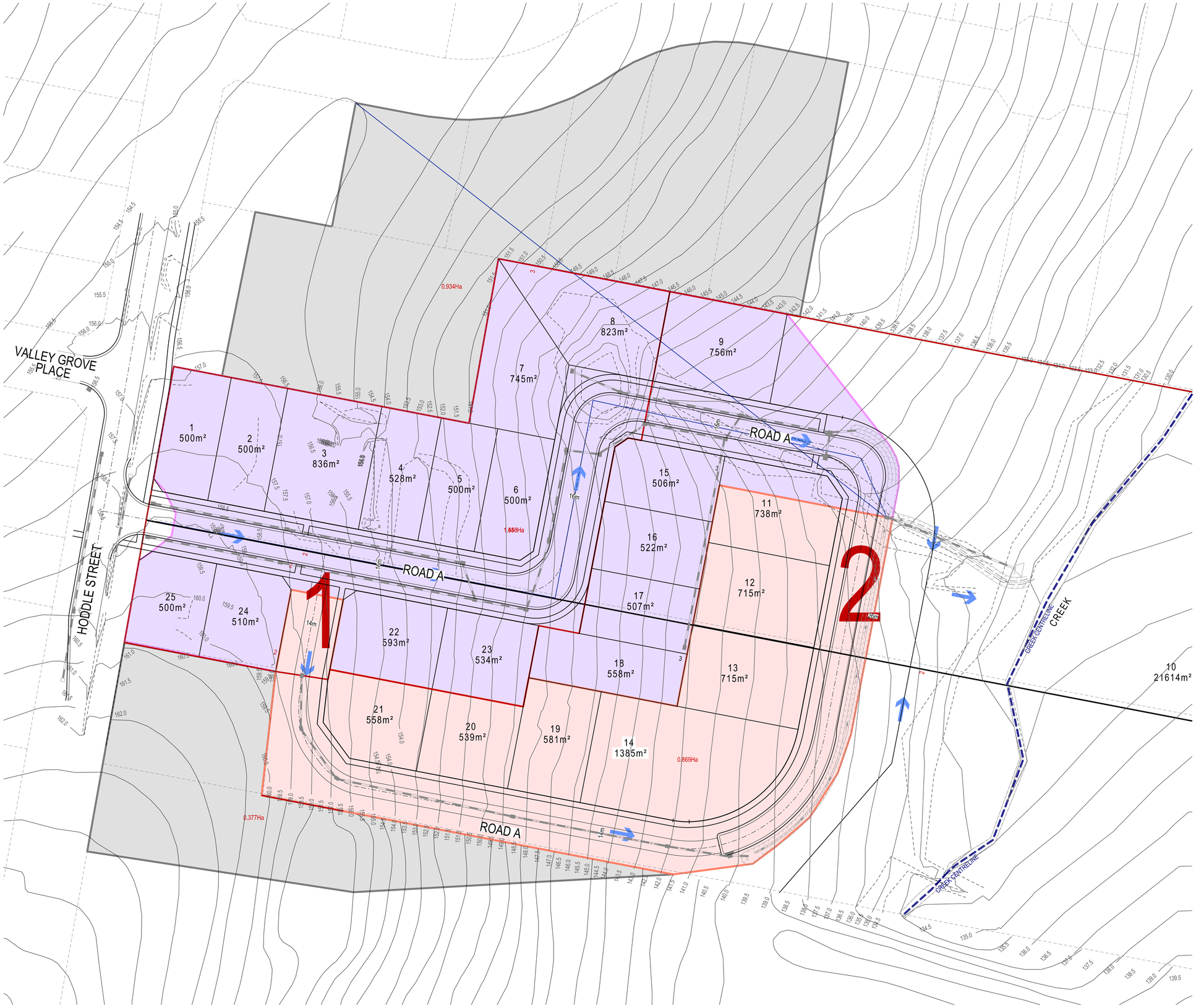
DANCAMNIC PTY LTD
41 - 43 HODDLE STREET
YARRA JUNCTION
CATCHMENT PLAN
5YR CATCHMENT PLAN

DRG NO.	REV.	
1799_1/C 01	B	SHEET 01 OF 02

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025



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5 0 10 20 30m

1:500 at A1

VERSION DETAILS:

REV	DATE	DESCRIPTION	STATUS
A	17/01/24	PRELIMINARY	PRELIMINARY
B	01/11/24	UPDATED FOLLOWING CONCEPT CHANGE	PRELIMINARY

FILENAME: P:\1799\E\2 - Design\6 - DGN\1799_C02.dgn

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DESIGNED:	L.STREET	DATE:	JAN 2024	DATE PRINTED: 1/11/2024
AUTHORISED:	A.CHARLTON	DATE:	JAN 2024	

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COUNCIL: YARRA RANGES COUNCIL

TITLE:
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41 - 43 HODDLE STREET
YARRA JUNCTION
CATCHMENT PLAN
100YR CATCHMENT PLAN

DRG NO.	REV.	
1799_1/C 02	B	SHEET 02 OF 02

Document Set ID: 9491654
Version: 2, Version Date: 26/05/2025

Appendix F – Drainage Computations

Description	Road Name, Chainages	MPA/Council			Catchment Length	Maximum t_c for flow to enter system	t_c in the system				Catchment Area		Σ(C12A) /360	Σ(C110A) /360		
Section No	Location	Zone	C_5	C_{100}	Length(m)	Initial t_c (min)	t_c (min)	I_5	t_c (min)	I_{100}	Area5(Ha)	$Area_{100}$(Ha)	$Q_5(m^3/s)$	$Q_{100}(m^3/s)$	Overflow (m^3/s)	Remarks
							0.0	#N/A	0.0	#N/A			#N/A	#N/A	#N/A	
	outlet		0.400	0.500	210	12.0	15.5	52.100			2.84		0.16		0.164	pre-developed 5 yr
									13.8	102.800		4.20		0.60	0.60	pre-developed 100yr
	outlet		0.700	0.850	280	8.0	12.7	57.920			2.84		0.32		0.320	post developed 5 yr
									10.3	118.500		4.20		1.18	1.175	post developed 100yr
	WSUD Treatment (3mth)		0.589		280	8.0	12.7	38.980			2.84		0.18		0.181	post developed 1yr
															0.091	post developed 3mth

Flow Calculations

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Appendix G – Incitus MUSIC Model Memo

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Version: 2, Version Date: 26/05/2025

Incitus Pty Ltd
ABN 55 285 448 851
PO Box 7142
Richmond
VIC 3121

T 0414 404 730
E nina.barich@incitus.com.au
W incitus.com.au

To	**Yarra Ranges Shire Council**	From	**Nina Barich**
Copy	**Charlton Degg**	Reference	**2315**
Date	**8 February 2024**	Pages (including this page)	**3**
Subject	**41 – 43 Hoddle Street Yarra Junction Water Sensitive Urban Design**		

The State Environment Protection Policy (Waters of Victoria) defines the required water quality conditions for urban waterways. The aim of stormwater quality treatment is to reduce typical pollutant loads from urban areas to Best Management Practices as defined in the following targets:

Table 1 Best Practice Pollutant Reduction Targets

Pollutant	Performance Objective
Total Suspended Solids (TSS)	80% reduction from typical urban load
Total Phosphorous (TP)	45% reduction from typical urban load
Total Nitrogen (TN)	45% reduction from typical urban load
Gross Pollutants (GP)	70% reduction from typical urban load
Flows	Maintain discharges for the 1.5 year ARI at pre-development levels

Source: Urban Stormwater: Best Practice Environmental Management Guidelines – Victorian Stormwater Committee, 1999.

The subdivision and development of the site at 41 – 43 Hoddle Street, Yarra Junction must provide water sensitive urban design to ensure that the stormwater runoff generated from the urbanisation of the site removes pollutants to the current best practice targets.

The development is planning to incorporate an end-of-pipe rain garden, where the subsurface pipes from the development discharge the regular stormwater runoff to, prior to the ultimate discharge to the creek at the east of the site.

Rain gardens provide treatment to the runoff generated from the impervious surfaces through the following process:

- Sedimentation and deposition of litter at the surface of the rain garden
- Filtration of the runoff through the filter media
- Biological uptake of nutrients from the plants within the rain gardens
- Bacterial decomposition within the filter media

Figure 1 illustrates a typical rain garden profile.

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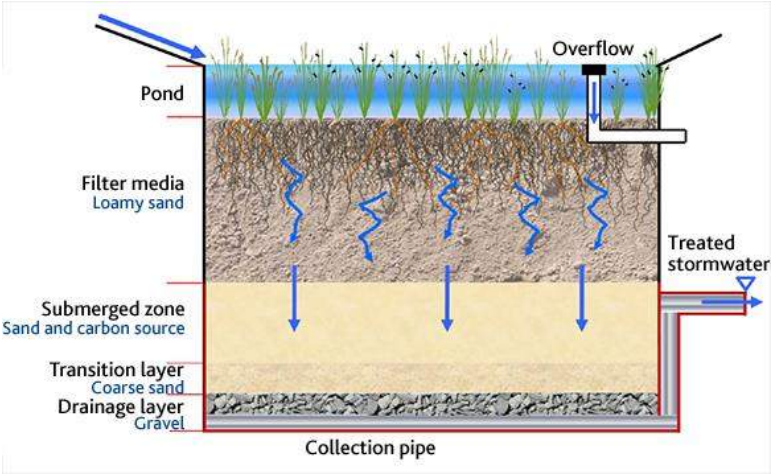

Figure 1 Typical Rain Garden Profile (Source: Melbourne Water)

MUSIC (Model for Urban Stormwater Improvement Conceptualisation) has been used to simulate the stormwater runoff and associated pollutant wash-off, together with the pollutant reduction performance of the nominated treatment system. MUSIC is an industry accepted software modelling tool for demonstrating compliance with stormwater quality targets.

Figure 2 illustrates the proposed location of the formalised rain garden.

Figure 2 41 – 43 Hoddle Street, Yarra Junction Proposed Rain Garden Location

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Table 2 outlines the proposed treatment rain garden properties.

Table 2 Proposed Rain Garden Properties

Property	Value
Extended Detention Depth	0.20 m
Filter Media Area	80 m^2
Filter Media Depth	0.50 m
Saturated Hydraulic Conductivity of Filter Media	200 mm / hour
Exfiltration Rate	0.36 mm / hour

Table 3 outlines the pollutant reduction performance achieved by the rainwater tanks and the rain garden treatment measures incorporated into the site.

Table 3 Treatment Performance for 41 – 43 Hoddle Street, Yarra Junction

Pollutant	Source (kg/yr)	Residual (kg/yr)	Overall % Reduction
Total Suspended Solids (TSS)	4,180	828	80.2%
Total Phosphorous (TP)	9.44	3.91	58.6%
Total Nitrogen (TN)	73.7	33.6	54.4%
Gross Pollutants (GP)	814	0	100%

Table 3 shows that the development exceeds the current best practice pollutant reduction targets as required by Clause 56.07-4 of the Victorian Planning Provisions and Clause 53.18 of the Victorian Planning Provisions.

The MUSIC model created to determine the treatment performance of the proposed system will be submitted with this memorandum for your review.

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