2-4 Eden Street
Riverside, Tasmania 7250
Telephone: (03) 6323 9300
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PLANNING APPLICATION FORM

Section 57 & 58

OFFICE USE ONLY		
	Application Number	
	Assess No:	
	PID No:	

Applicant Name:	Mark O'Brien, Era Advisory					
Postal Address:	L1, 125a Elizabeth Street, Hobart TAS 7000					
Contact Phone:	**Home**	NA	**Work**	6165 0443	**Mobile**	0415 407 294
Email Address:	enquiries@era-advisory.com.au					

Planning Application Lodgement Checklist

The following documents have been submitted to support the consideration of this application:

1. A current copy of the property title text, folio plan and schedule of easements ☐
2. A completed application form including a detailed description of the proposal ☐
3. A complete plan set: ☐
   - a) **Floor plans** ☐
   - b) **Elevations** (from all orientations/sides and showing natural ground level and finished surface level) ☐
   - c) **Site Plan** showing: ☐
     - Orientation
     - All title boundaries
     - Location of buildings and structure (both existing and proposed)
     - Setbacks from all boundaries
     - Native vegetation to be removed
     - Onsite services, connections and drainage details (including sewer, water and stormwater)
     - Cut and/or Fill
     - Car parking and access details (including construction material of all trafficable areas)
     - Fence details
     - Contours
4. Other:

If submitting plans in over the counter please ensure they are A3.
All plans must be to scale.

WEST TAMAR COUNCIL

Application Number: «Application_Number»

APPLICANT DETAILS

Applicant Name:	Mark O'Brien, Era Advisory

Note: *Full name(s) of person(s) or company making the application and postal address for correspondence.*

LAND DETAILS

Owner/Authority Name: *(as per certificate of title)*	Dourias MGH Pty Ltd

Location / Address:	Lot 102 West Arm Road, 22 West Arm Road, and 33 Mainwaring Street, Beauty Point
Title Reference:	156126/102, 64199/1, 150847/1, 22499/1, 186737/0, 186737/1, 186737/2, 186737/3
Zone(s):	General Residential Zone and Rural Zone

Existing Development/Use:	Vacant

Existing Developed Area:	NA

DEVELOPMENT APPLICATION DETAILS

Proposed Use:	Residential: ☒	Visitor Accommodation: ☐	Commercial: ☐	Other: ☐
	Description of Use: Residential subdivision			

Development Type:	Building work: ☐	Demolition: ☐	Subdivision: ☐	Other: ☐
	Description of development: 133 residential lots plus open space, roads, and balance of title			

New or Additional Area:	Area	
Estimated construction cost of the proposed development:	$8.5 million	
Building Materials:	Wall Type:	Colour:
	Roof Type:	Colour:

WEST TAMAR COUNCIL

Application Number: «Application_Number»

SUBDIVISION ❑N/A

Subdivision creating additional lots ☑

Boundary adjustment with no additional lots created ☐

Number of Lots (existing) :	2	**Number of Lots (proposed) :**	133
Description:	133 residential lots plus open space lot, roads, and balance of title.		
If applying for a subdivision which creates a new road(s), please supply three proposed names for the road(s), in order of preference:			
1.	Lauren Street		
2.			
3.			

COMMERCIAL, INDUSTRIAL OR OTHER NON-RESIDENTIAL DEVELOPMENT/USE ❑N/A

Hours of Operation:	Monday / Friday:		To	
	Saturday:		To	
	Sunday:		To	

Existing Car Parking:	
Proposed Car Parking:	

Number of Employees: ***(Existing)***	
Number of Employees: **(*Proposed*)**	

Type of Machinery installed:	
Details of trade waste and method of disposal:	

WEST TAMAR COUNCIL

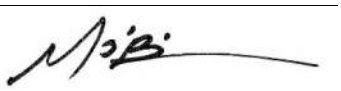
Application Number: «Application_Number»

APPLICANT DECLARATION

Owner: *As the owner of the land, I declare that the information contained in this application is a true and accurate representation of the proposal and I consent to this application being submitted and for Council Officers to conduct inspections as required for the proposal,*

Name (print)	*Signed*	*Date*

Applicant: *(if not the owner)* *As the applicant, I declare that I have notified the owner of my intention to make this application* and that *the information contained in this application is a true and accurate representation of the proposal,*

Mark O'Brien, Era Advisory		22/10/2025
Name (print)	*Signed*	*Date*

Please Note: If the application involves Crown Land you will need to provide a letter of consent and this form signed by the Minister, or a delegated officer of the Crown with a copy of the delegation.

Crown Consent *(if required)*

Name (print)	*Signed*	*Date*

Chief Executive Officer *(if required)*

Name (print)	*Signed*	*Date*

If the subject site is accessed via a right of way, the owner of the ROW must also be notified of the application.

Right of Way Owner:

As the applicant, I declare that I have notified the owner of the land encumbered by the Right Of Way, of my intent to lodge this application that will affect their land.

Name (print)	*Signed*	*Date*

125A Elizabeth St
Nipaluna (Hobart) TAS 7000
(03) 6165 0443

enquiries@era-advisory.com.au
era-advisory.com.au
ABN: 21 681 443 103

22 October 2025
Reference: 1819-118

James Stewart, Consulting Town Planner
West Tamar Council
PO Box 16
RIVERSIDE TAS 7250

By email: planning@wtc.tas.gov.au

Dear James,

Beauty Point Subdivision (PA2023403)
Response to Information Request

Thank you for your letter dated 2 February 2024, and TasWater letters dated 10 January 2024, 1 February 2024 and 15 February 2024 requesting additional information. Era has considered the questions and comments raised and provide the following responses.

Validity information

With respect to the validity of the application, please refer to the updated application form attached. Additional title numbers have been included on the form. Please also refer to the attached additional title documents for 33 Mainwaring Street (Appendix A – Title documents_V2). The owners have been notified of the intention to lodge this planning application pursuant to s52 of the *Land Use Planning and Approvals Act 1993*.

1 Public open space

The proposed public open space land contribution has been revised following in principle agreement reached with West Tamar Council (WTC) regarding the size and location of the public open space. Refer to the updated subdivision plans, landscaping plans, and supporting reports in the attached *Supporting planning report_V2, Appendix B – Proposal plans_V2, and Appendix F – Natural values_V2*.

2 Traffic impact assessment

Refer to the updated traffic assessment in the attached *Appendix E – Traffic impact assessment_V2*. An additional assessment scenario has been provided to evaluate the traffic impacts assuming all traffic from the previously approved cabin park (PA2021430) utilises the proposed access to Road 1.

3 Engineering design and layout

3a West Arm Road upgrade

Refer to the updated engineering drawings in the attached *Appendix B – Proposal plans_V2*. West Arm Road will be upgraded with kerb and channel between the new urban standard vehicle crossovers.

3b Lot 200 access

Refer to the updated plan of subdivision in the attached *Appendix B – Proposal plans_V2*. The balance lot 200 for the cabin park is provided with direct frontage to Road 1.

3c Open drain

Refer to the updated stormwater report, serviceability report and engineering drawings in the attached *Appendix B – Proposal plans_V2, Appendix C – Stormwater Report_V2, and Appendix D – Serviceability Report_V2*. The central open drain has been converted to piped infrastructure. The piped network will convey flows up to 5% AEP events and the road reservations will safely accommodate overland flows for 1% AEP events ensuring acceptable flood hazard categories are achieved.

3d Typical road section

Refer to the updated engineering drawings in the attached *Appendix B – Proposal plans_V2*. The typical section for Road 1 has been revised to include a kerb, pipe and footpath on the western verge.

3e Lot 119 removal

Refer to the updated subdivision and engineering drawings in the attached *Appendix B – Proposal plans_V2*. Lot 119 has been removed from the proposal and replaced by a road reservation that enables drainage, overland flow, and a future road connection to the south.

4 Environmental health

4a Modelling results

Modelling results from the attenuation assessment are based on the current maximum loading/capacity for the Sewer Treatment Plant (STP), being 540kL/day. The results indicate that the existing STP throughput could increase significantly (approximately double) prior to odour becoming an issue at the cabin park and residential subdivision.

Irrespective of the above, Era in collaboration with GHD liaised with TasWater regarding the projected infrastructure capacity issues at the STP during preparation of the attenuation assessment. TasWater has calculated that loads from planned development in Beauty Point will likely exceed capacity of the STP at peak times. Therefore, while the outcomes of the attenuation assessment remain valid, it is acknowledged that this development should contribute towards an infrastructure solution that minimises the likelihood of upset conditions. To resolve this matter, it is recommended that the following condition be placed on the planning permit requiring a suitable developer contribution. Based on liaison with TasWater, it is currently understood that the contribution would facilitate a new electrical switchboard and aerator at the STP.

Recommended condition: Prior to the commencement of use, the developer is to pay an infrastructure contribution to TasWater to undertake the design and construction of a new electrical switchboard and aerator at the Beauty Point Sewer Treatment Plant.

4b Capacity

Refer to response to 4a above regarding conditioning for infrastructure contributions for STP upgrades. The STP will continue to operate under the existing Environmental Protection Notice (EPN) 497/2, which includes parameters that must be met before any discharge into waterways.

5 Vegetation buffer

The vegetation buffer has been removed from the application as it is no longer required to achieve an acceptable attenuation assessment outcome. Refer to the updated subdivision plans and attenuation assessment (addendum) in the attached *Appendix B – Proposal Plans_V2*, *Appendix G – Attenuation assessment_V2*.

6 Bushfire report

The location and size of the public open space Lot 201 have changed. There are no longer any bushfire hazard management requirements impacting this lot. Refer to the updated bushfire assessment in the attached *Appendix H – Bushfire assessment_V2*.

7 General residential zone

7a Easements

Refer to the updated subdivision plans in the attached *Appendix B – Proposal plans_V2*. The existing easements have been removed from sheets 1, 2 and 3. Sheet 4 shows the existing easements over the site and includes a notation that all will be removed and/or replaced with new easements where required.

7b Frontage widths

Refer to the updated subdivision plans in the attached *Appendix B – Proposal plans_V2*. Frontage widths for lots 6 and 7 are now shown on sheet 2.

8 Rural zone

Refer to the attached *Supporting Planning Report_V2*. The proposal will consolidate all Rural zoned land into a single title, meeting clause 20.5.1 A1(c) and include a public open space lot, meeting clause 20.5.1 A1(a).

9 Natural values

9a Staging

The frog management works must be completed prior to sealing of titles for stage 8. The developer is accepting of a condition to this effect.

9b Cat management

North Barker Ecosystem Services (NBES) has indicated a preference for the cat management approach to be controlled through a covenant or Part 5 Agreement. However, it is acknowledged that Council and the developer will have difficulty with enforcement. Irrespective of the controls, NBES has noted that conclusions regarding compliance with clause C7.6.2 remain valid.

Note that cat ownership and controls in Tasmania are outlined in the *Cat Management Act 2009* and *Cat Management Regulations 2022*. This legislation requires desexing, microchipping, and allows the trapping

of roaming and nuisance cats. These are considered important legislative safeguards to ensure that the impacts of cats on the frog wetlands are minimised.

9c Stormwater discharge

Refer to the updated natural values assessment in the attached Appendix G – Natural Values_V2. Assessment has been undertaken against the relevant requirements of the natural assets code to address changes to the proposal plans.

10 TasWater

Dourias MGH Pty Ltd, under advice from Billet Legal, has been liaising with TasWater. The relevant TasWater items have been addressed in the attached document package and TasWater will be issuing a SPAN including all necessary conditions.

11 Permit PA2021430

The boundary adjustment approved under permit PA2021430 would be superseded by the granting of a permit for this subdivision proposal. The main reason is because this subdivision proposal will remove the TasWater sewer pump station (SPS) on the site in favour of gravity feeding. Whereas the approved boundary adjustment required a separate lot for the SPS, which is redundant once the residential subdivision is developed.

Yours sincerely,

Mark O'Brien
Principal Planner

Attachments

Application form_V2
Supporting Planning Report_V2
Appendix A – Title documents_V2
Appendix B – Proposal plans_V2
Appendix C – Stormwater report_V2
Appendix D – Serviceability report_V2
Appendix E – Traffic impact assessment_V2
Appendix F – Natural values assessment_V2
Appendix G – Attenuation assessment_V2
Appendix H – Bushfire assessment_V2

Beauty Point subdivision

Supporting Planning Report

era

Final V3 | December 2025

Era Advisory acknowledge palawa as the Traditional Owners of lutruwita (Tasmania).

They are the original custodians of our land, sky and waters.

We respect their unique ability to care for country and deep spiritual connection to it.

We honour and pay our respect to Elders past and present, whose knowledge and wisdom has and will ensure the continuation of culture and traditional practices.

We acknowledge that their sovereignty has never been ceded.

Always was, always will be.

Era Advisory Pty Ltd

ABN 21 681 443 103

Level 1, 125A Elizabeth St Hobart 7000
(03) 6165 0443

enquiries@era-advisory.com.au
era-advisory.com.au

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Client	Dourias MGH Pty Ltd
Document version	Final V3
Date	2 December 2025
Author	Mark O'Brien
Reviewer	Clare Hester & Emma Riley
Job number	1819-118

Permit overview

Permit application details

Applicant	Era Advisory
Owner	Dourias MGH Pty Ltd
Address	Lot 102 West Arm Road, Beauty Point
Lot description	Folio of the Register 156126, Lot 102 Folio of the Register 64199, Lot 1 Folio of the Register 150847, Lot Folio of the Register 22499, Lot 1 Folio of the Register 186737, Lots 0, 1, 2, and 3
Description of proposal	Subdivision for 133 residential lots plus public open space, roads, and balance of title.

Relevant Planning Provisions

Applicable planning scheme	Tasmanian Planning Scheme – West Tamar
Zone(s)	General Residential Zone, and Rural Zone
Codes	· Parking and Sustainable Transport Code · Road and Railway Assets Code · Natural Assets Code · Attenuation Code · Bushfire Prone Areas Code
Discretions	· Clause 8.6.1 lot design (P2, P4) · Clause 8.6.2 roads (P1) · Clause C3.5.1 traffic generation (P1) · Clause C7.6.1 works in waterway protection area (P1) · Clause C7.7.1 subdivision in waterway protection area (P1) · Clause C9.5.2 sensitive use in attenuation area (P1) · Clause C9.6.1 lot design in attenuation area (P1) · Clause C13.6.1 bushfire hazard management areas (P1) · Clause C13.6.2 public and fire fighting access (P1)

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B.2 Engineering plans
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Appendix D Serviceability report

Appendix E Traffic impact assessment

Appendix F Natural values assessment

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F.2 Frog management plan
F.3 Significant impact assessment

Appendix G Attenuation assessment

G.1 Attenuation assessment
G.2 Addendum

Appendix H Bushfire assessment

1 Introduction

1.1 Purpose of the report

Era Advisory (Era) has been engaged to assist with submission of a subdivision application for 133 residential lots plus one public open space lot, roads, and balance of title at Lot 102 West Arm Road in Beauty Point. This report provides the background material, proposal details, and an appraisal of the development against the relevant planning provisions.

1.2 Statutory controls

This planning permit application is to be assessed in accordance with the *Land Use Planning and Approvals Act 1999* (LUPAA) and is subject to the provisions of the *Tasmanian Planning Scheme – West Tamar* (the planning scheme). Specifically, the proposal requires assessment against the applicable zone purpose, use standards, development standards, and code requirements of the planning scheme.

Separate approvals and/or exemptions will be sought under other relevant legislation if required. For example, environmental matters under the Commonwealth *Environment Protection and Biodiversity Conservation act 1999* (EPBCA) and Tasmanian *Threatened Species Protection Act 1995* (TSPA) or dam works approval under the *Water Management Act 1999*.

1.3 Title details

This planning permit application relates to the titles detailed in Table 1. The relevant landowners have been notified of the intention to make this application pursuant to Section 52 of the LUPAA. Title documents can be found in Appendix A.

The proposal includes upgrades to public stormwater infrastructure on land at 22 West Arm Road under the management of the local government authority. Therefore, this application has been submitted along with request for landowner consent from the General Manager of West Tamar Council pursuant to Section 52 of the LUPAA. In addition, the proposal requires upgrades to part of the public sewer main traversing land at 33 Mainwaring Street.

With respect to the section of West Arm Road under title CT150847/1, the Crown has confirmed via email dated 6 November 2023 that the Department of State Growth has no interest in this land, acknowledging that West Tamar Council is the relevant management authority.

Table 1 - Title details

Street address	Title reference	Land ownership	Proposal element
Lot 102 West Arm Road	CT 156126/102	Dourias MGH Pty Ltd	133 residential lots plus open space and balance
Lot 102 West Arm Road	CT 64199/1	Dourias MGH Pty Ltd	Landscaping and frog management

Street address	Title reference	Land ownership	Proposal element
West Arm Road reservation	CT 150847/1	Crown (Acquired Road); Local Government Authority	Access and services
22 West Arm Road	CT 22499/1	Private ownership (Council easement)	Services
Mainwaring Street reservation	No title	Local Government Authority	Services
33 Mainwaring Street	CTs 186737/0; 186737/1; 186737/2; 186737/3	Private ownership (TasWater easement)	Services

1.4 Enquiries

Enquiries relating to this planning report should be directed to:

Mark O'Brien
Principal Planner
Era Advisory
Email: enquiries@era-advisory.com.au
Mobile: (03) 6165 0443

2 Proposal

The proposal seeks to subdivide two existing lots into 133 new residential lots, one open space lot, roads, and balance of title. The residential lots are on the eastern half of the site, the balance of title is on the western half of the site, and the open space lot is between the two. The development will deliver new homes for Tasmanians in a time of notable demand.

The proposed subdivision is to be developed over 11 stages and seeks to deliver a timely and sequential provision of both infrastructure and lots. The intention is to develop lots to the north of the property in the initial stages, to provide a direct connection with existing residential development and services in the area. The staging strategy will also deliver around 10 residential lots per stage, ensuring that the scale of works occurring at any given time on the site minimises impacts on the surrounding community.

A key element of the proposal is the public open space and frog management areas. The proposal will deliver close to 3,000 m^2 of public open space. The existing community, and proposed residential lots, are in close walking distance to the open space, ensuring that the broader township benefit from the new facilities.

A more detailed description of the project elements is outlined in Table 2, proposal plans are available at Appendix B, and an extract of the subdivision landscaping plan showing the open space and frog wetlands is in Figure 1.

Figure 1 Landscaping plan (source: extract from PlayStreet landscaping plans available at Appendix B)

Table 2 - Proposed subdivision and associated works

Proposal element	Description
Subdivision lots	Subdivision seeks to create 133 residential lots, one public open space lot, roads, and balance of title. Residential lots sizes range from 453 m^2 to 939 m^2. Subdivision is to be delivered over eleven stages, with approximately 10 residential lots in each stage. Subdivision and staging plans are available at Appendix B.
Public open space	The proposal involves a land contribution of Public Open Space (POS) in the western half of the property on land in the rural zone. This location has been selected as the POS area will be collocated next to the proposed frog management wetlands. Approximately 0.3 ha of POS is to be provided, which is equivalent in size to 2.5% of the residential zoned land. The remaining 2.5% will be a finiacial contribution, which will fund park infrastructure to be delivered by Council. The POS will serve the broader community. When combined with the public street network, the open space provides for a linkage between the site, village centre, and foreshore and recreation facilities. The POS lot will be created in stage 2 or 3. Preference is for stage 3 delivery at the same time when the road frontage is created.. Plans of the POS are available at Appendix B.
Natural values management (including frog wetlands)	Part of the project site is a known habitat for the green and gold frog, *Litoria raniformis*, which is listed as a threatened fauna species in the Commonwealth EPBCA. The site also contains pockets of Melaleuca ericifolia swamp forest, which is listed as a threatened vegetation community in the Tasmanian Nature Conservation Act 2002 (NCA). The threatened fauna and vegetation community are located on the balance of title, in land zoned rural, which will not be subject to residential development. Rather, most of these natural values are proposed to be protected by way of a Frog Management Strategy, which covers approximately 3.5 ha of the site. The frog management area will remain in private ownership, with all management responsibilities resting with the landholder. The physical works delivering the frog wetlands will occur prior to the sealing of stage 8. For details regarding natural values on the site, refer to the Natural Values Assessment, Frog Management Plan and Significant Impact Assessment prepared by North Barker Ecosystem Services (NBES) and available at Appendix F. Dam works approval has previously granted under the Water Management Act 1999 to reconfigure the existing dam into the frog wetland.
Services	The proposal involves the provision of underground services, ensuring each lot is individually connected to reticulated water, sewer, stormwater, telecommunications, and power. To achieve this, additional works are required to the existing public sewer and stormwater networks. Regarding stormwater, works external to the project site include an upgrade to the existing culvert that extends under West Arm Road and through 22 West Arm Road to the River Tamar. Regarding sewerage infrastructure, the proposal involves the removal of an existing sewer pump station on the project site, which currently serves a relatively small number of properties on Mainwaring Street. Discussions have occurred with TasWater to confirm that this sewer pump station will be redundant following subdivision, given that the proposal includes works to ensure all sewage will be gravity fed. Regarding sewerage works to service the subdivision, two key elements are proposed. Firstly, works external to the project site include an upgrade to the exisitng main under Mainwaring Street and through 33 Mainwaring Street. Secondly, the developer is accepting of TasWater placing a condition of approval on the planning permit requiring a developer/infrastructure contribution. It is expected that the condition will be similar to that placed on the cabin park permit PA2021430, which reads as follows:

Proposal element	Description
	Prior to the commencement of use, the developer is to pay an infrastructure contribution to TasWater to undertake the design and construction of a new electrical switchboard and aerator at the Beauty Point Sewer Treatment Plant to the satisfaction of TasWater. *Advice: developments located in serviced land, where insufficient capacity is available in an existing system, the developer pays the costs of expansion of the system to the level of capacity required to service the development.* For servicing details refer to the Stormwater Management Plan (Appendix C) Serviceability Report (Appendix D) and engineering plans (Appendix B) prepared by AD Design & Consulting (ADDC).
Access	The proposal involves a new internal road network with connections to the external network at West Arm Road and Mainwaring Street. The subdivision road network provides for a legible and permeable street hierarchy, alleviating impacts on any one intersection through the provision of multiple access points. Active transport links also connect the subdivision lots with the external network and proposed public open space. A key feature of the street network is a new north-south spine road along the zone boundary between the general residential and rural zoned land (Road 1). Road 1 facilitates pedestrian and maintenance vehicle access opportunities to the public open space, parking opportunities for access to the public open space, and enables the upgrading of the central swale drain to a piped system. A formalised parking area is to be provided on proposed Road 4 where adjacent to the bowls and community club. This will enable the continued use of this land for parking by the club. For detail, refer to the Traffic Impact Assessment prepared by Hubble Traffic, available at Appendix E, and engineering plans by ADDC, available at Appendix B.
Attenuation buffer	The proposed residential lots along the southern property boundary are inside the default attenuation buffer of the irrigation land associated with the Beauty Point Wastewater Treatment Plant. TasWater has confirmed that there are existing management measures in place to ensure no impacts on the project site. For detail, refer to discussion in Section 5.5 of this report.

3 Site and surrounds

Lot 102 West Arm Road, Beauty Point (the site), comprises two titles. The larger title, CT156126/102, contains expanses of grassland with an outbuilding, a sewer pump station, and pockets of native vegetation. The smaller title, CT64199/1, contains a dam. Open drainage channels permeate the property. The land is relatively flat and is approximately 20 ha in area.

The site is bordered by residential development in the north and east, agricultural land in the south, and rural residential land in the west. The immediately surrounding area is characterised by a mix of land uses, with residential land skirting the River Tamar and rural land further inland. The site is also in proximity to a nearby village centre to the east, wastewater treatment plant to the west, and associated irrigation land to the south. An aerial image of the site and surrounds is provided in Figure 2.

The site is zoned both general residential (eastern half) and rural (western half) under the Tasmanian Planning Scheme - West Tamar (the planning scheme), with land in the general residential zone covering approximately 12 ha. Zoning for the site is depicted in Figure 3.

The site is in a bushfire prone area, with pockets of vegetation in a priority vegetation overlay, and several drainage channels mapped as waterways. The planning scheme overlays are depicted in Figure 4.

Figure 2 Aerial image of site and surrounds (source: LISTmap, accessed 2 Nov 2023)

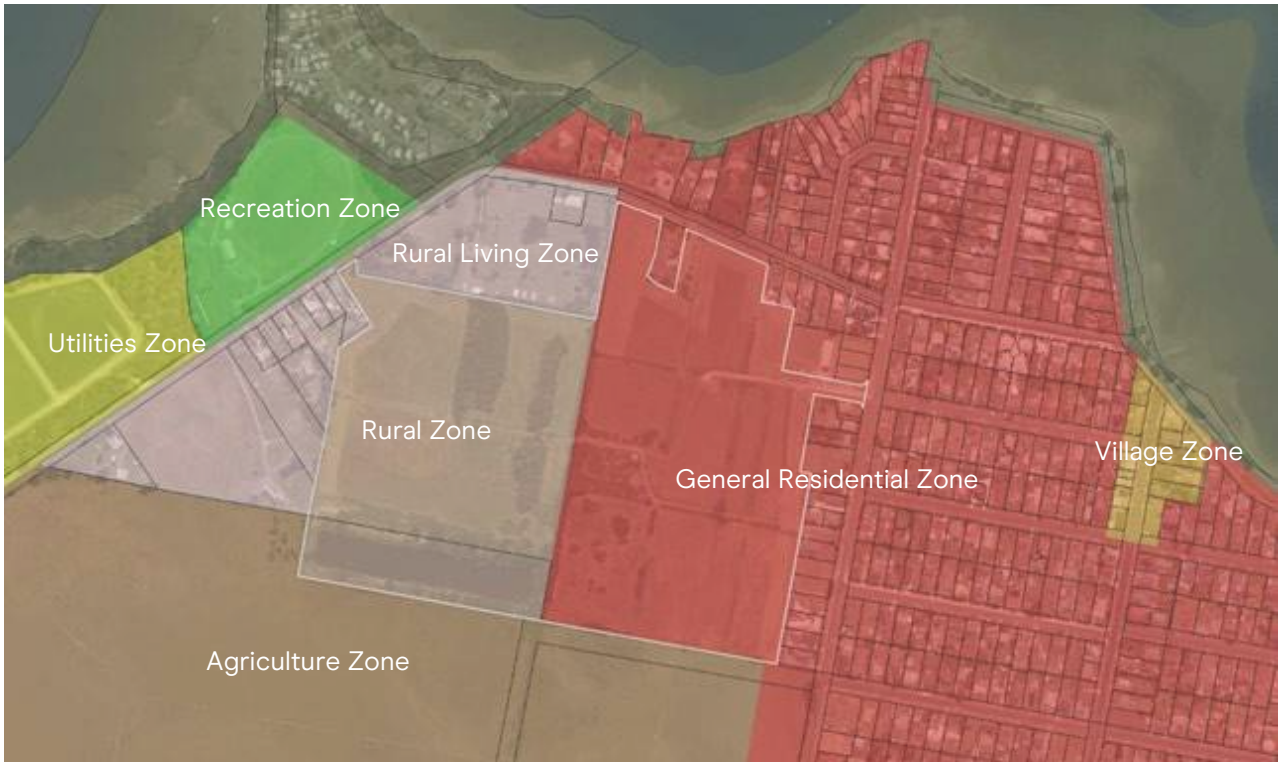


Figure 3 Zoning for site and surrounds (source: LISTmap, accessed 10 Oct 2023)

Figure 4 Bushfire (orange), priority vegetation (green) and waterway (blue) overlays on the site (source: LISTmap, accessed 10 Oct 2023)

3.1 Site photos

Figure 5 View from site looking southeast to nearby houses (source: Era, 2023)

Figure 6 Partial view of site looking south from West Arm Rd (source: Era, 2023)

Figure 7 View of existing site access from Mainwaring St (source: Google Street View, accessed 2 Nov 2023)

Figure 8 View looking west along West Arm Rd (site on left) (source: Era, 2023)

4 Zone assessment

The site is subject to the provisions of the *Tasmania Planning Scheme – West Tamar* (the planning scheme). Specifically, the site is zoned general residential and rural (split zoning). The general residential zoned land is the site of the proposed new residential lots. The rural zoned land is the site of the proposed public open space, frog management wetland, and balance of title.

The proposal requires assessment against any applicable zone purpose, use, development and subdivision standards in the general residential zone and rural zone. Zoning for the site is shown in Figure 3.

4.1 Use status

Subdivision does not need to be assigned with a particular use class pursuant to clause 6.2.6 of the planning scheme. Nevertheless, the proposed subdivision is for residential development, which has a permitted use status in the general residential zone.

4.2 General residential zone

The zone purpose statements for the general residential zone are as follows:

8.1.1 *To provide for residential use or development that accommodates a range of dwelling types where full infrastructure services are available or can be provided.*

8.1.2 *To provide for the efficient utilisation of available social, transport and other service infrastructure.*

8.1.3 *To provide for non-residential use that: (a) primarily serves the local community; and (b) does not cause an unreasonable loss of amenity through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off site impacts.*

8.1.4 *To provide for Visitor Accommodation that is compatible with residential character.*

Subdivision does not need to be assigned with a particular use class pursuant to clause 6.2.6 of the planning scheme. Nevertheless, the proposed subdivision is for residential development and accords with the zone purpose.

4.2.1 Applicable standards

No general residential zone use or development standards apply to the proposal. Table 3 provides a summary of the applicable subdivision standards. An assessment against the applicable standards is provided in the sections following.

Table 3 - Applicable standards in the General Residential Zone

Clause	Applicability
Zone use standards	Not applicable pursuant to clause 6.2.6.
Zone development standards	Not applicable as no buildings proposed.
8.6.1 Lot Design	Applicable
8.6.2 Roads	Applicable
8.6.3 Services	Applicable

4.2.2 Clause 8.6.1 Lot Design

Acceptable Solutions	Performance Criteria
A1 Each lot, or a lot proposed in a plan of subdivision, must: (a) have an area of not less than 450m2 and: (i) be able to contain a minimum area of 10m x 15m with a gradient not steeper than 1 in 5, clear of: a. all setbacks required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; and b. easements or other title restrictions that limit or restrict development; and (i) existing buildings are consistent with the setback required by clause 8.4.2 A1, A2 and A3, and 8.5.1 A1 and A2; (b) be required for public use by the Crown, a council or a State authority; (c) be required for the provision of Utilities; or (d) be for the consolidation of a lot with another lot provided each lot is within the same zone.	**P1** Each lot, or a lot proposed in a plan of subdivision, must have sufficient useable area and dimensions suitable for its intended use, having regard to: (a) the relevant requirements for development of buildings on the lots; (b) the intended location of buildings on the lots; (c) the topography of the site; (d) the presence of any natural hazards; (e) adequate provision of private open space; and (f) the pattern of development existing on established properties in the area.
Planner Response The proposed residential lots are all greater than 450 m^2, are on flat land, and can accommodate a 10 m x 15 m building area clear of all setback requirements. The acceptable solution (A1) is met.	
A2 Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a frontage not less than 12 m.	**P2** Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be provided with a frontage or legal connection to a road by a right of carriageway, that is sufficient for the intended use, having regard to: (a) the width of frontage proposed, if any; (b) the number of other lots which have the land subject to the right of carriageway as their sole or principal means of access; (c) the topography of the site; (d) the functionality and useability of the frontage; (e) the ability to manoeuvre vehicles on the site; and

	(f) the pattern of development existing on established properties in the area, and is not less than 3.6m wide.

Planner Response

Several residential lots are provided with frontages less than 12 m wide. Therefore, assessment is required against the performance criteria.

Proposed lots 6-8 and 10-16 are internal lots or lots at the head of a cul-de-sac, with frontages ranging between 4 m and 8 m wide. These lots are unable to be provided with a wider frontage without decreasing the efficiency of the overall subdivision. Overall, 75% of the proposed residential lots have frontages greater than 12 m wide, and only 7% of lots are accessed via cul-de-sac.

The performance criteria (P2) are satisfied.

A3	P3
Each lot, or a lot proposed in a plan of subdivision, must be provided with a vehicular access from the boundary of the lot to a road in accordance with the requirements of the road authority.	Each lot, or a lot proposed in a plan of subdivision, must be provided with reasonable vehicular access to a boundary of a lot or building area on the lot, if any, having regard to: (a) the topography of the site; (b) the distance between the lot or building area and the carriageway; (c) the nature of the road and the traffic; (d) the anticipated nature of vehicles likely to access the site; and (e) the ability for emergency services to access the site.

Planner Response

Each proposed residential lot will be provided with a vehicle access from an existing or new road in accordance with the requirements of the road authority. Detailed design and construction of accesses will be resolved post planning permit and it is recommended that a condition of approval be enforced on the planning permit to this effect.

The acceptable solution (A3) is met.

A4	P4
Any lot in a subdivision with a new road, must have the long axis of the lot between 30 degrees west of true north and 30 degrees east of true north.	Subdivision must provide for solar orientation of lots adequate to provide solar access for future dwellings, having regard to: (a) the size, shape and orientation of the lots; (b) the topography of the site; (c) the extent of overshadowing from adjoining properties; (d) any development on the site; (e) the location of roads and access to lots; and (f) the existing pattern of subdivision in the area.

Planner Response

The proposal includes new lots facing new roads with a long axis, oriented east-west. Therefore, assessment is required against the performance criteria.

The subdivision pattern is based on a legible and permeable street grid. Approximately 30% of lots are oriented with a long axis facing north. The remaining lots with an east-west long axis are provided with a sufficient lot width to allow a building area on the lot that has a long axis facing north. This allows for development on all proposed lots to achieve a high degree of solar access. The existing subdivision pattern in the areas features similar orientation of lots, with most long axis facing east-west.

The performance criteria (P4) are satisfied.

4.2.3 Clause 8.6.2 Roads

Acceptable Solutions	Performance Criteria
A1 The subdivision includes no new roads.	**P1** The arrangement and construction of roads within a subdivision must provide an appropriate level of access, connectivity, safety and convenience for vehicles, pedestrians and cyclists, having regard to: (a) any road network plan adopted by the council; (b) the existing and proposed road hierarchy; (c) the need for connecting roads and pedestrian and cycling paths, to common boundaries with adjoining land, to facilitate future subdivision potential; (d) maximising connectivity with the surrounding road, pedestrian, cycling and public transport networks; (e) minimising the travel distance between key destinations such as shops and services and public transport routes; (f) access to public transport; (g) the efficient and safe movement of pedestrians, cyclists and public transport; (h) the need to provide bicycle infrastructure on new arterial and collector roads in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling 2016; (i) the topography of the site; and (j) the future subdivision potential of any balance lots on adjoining or adjacent land.

Planner Response

The subdivision includes new roads. Therefore, assessment is required against the performance criteria.

The proposed subdivision pattern is based on a legible and permeable street grid that follows the existing pattern of subdivision in the area. Proposed subdivision Road 1 (north-south spine road next to proposed open space) and Road 4 (east-west road forming an extension to Beatty Street) are the higher order roads in the new street network. These streets provide the primary access points into the subdivision, and together with the landscaping strategy, connect the foreshore and village centre in the east, through the subdivision, and to the proposed public open space and frog wetland. 1500 mm wide footpaths are provided on both sides of all roads.

The proposed street network accommodates the movement needs of all travel modes, with detailed design to be in accordance with the needs of the road authority.

Additional traffic assessment detail is provided in the Traffic Impact Assessment, available at Appendix E.

The performance criteria (P1) are satisfied.

4.2.4 Clause 8.6.3 Services

Acceptable Solutions	Performance Criteria
A1 Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a connection to a full water supply service.	**P1** A lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a connection to a limited water supply service, having regard to: (a) flow rates; (b) the quality of potable water; (c) any existing or proposed infrastructure to provide the water service and its location;

	(d) the topography of the site; and (e) any advice from a regulated entity.

Planner Response

Each new residential lot will be provided with a connection to a full water supply service. Details regarding the proposed site servicing concept is provided in the proposal plans at Appendix B and serviceability report at Appendix D.

The acceptable solution (A1) is met.

A2	**P2**
Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must have a connection to a reticulated sewerage system.	No Performance Criterion.

Planner Response

Each new residential lot will be provided with a connection to a reticulated sewerage system. Details regarding the proposed site servicing concept is provided in the proposal plans at Appendix B and serviceability report at Appendix D.

The acceptable solution (A2) is met.

A3	**P3**
Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be capable of connecting to a public stormwater system.	Each lot, or a lot proposed in a plan of subdivision, excluding for public open space, a riparian or littoral reserve or Utilities, must be capable of accommodating an on-site stormwater management system adequate for the future use and development of the land, having regard to: (a) the size of the lot; (b) topography of the site; (c) soil conditions; (d) any existing buildings on the site; (e) any area of the site covered by impervious surfaces; and (f) any watercourse on the land.

Planner Response

Each lot will be connected to the public stormwater system. Details regarding the proposed stormwater management concept is provided in the proposal plans at Appendix B and stormwater management plan at Appendix C.

The acceptable solution (A3) is met.

4.3 Rural zone

The zone purpose statements for the rural zone are as follows:

20.1.1 To provide for a range of use or development in a rural location:

(a) where agricultural use is limited or marginal due to topographical, environmental or other site or regional characteristics;

(b) that requires a rural location for operational reasons;

(c) is compatible with agricultural use if occurring on agricultural land;

(d) minimises adverse impacts on surrounding uses.

20.1.2 To minimise conversion of agricultural land for non-agricultural use.

20.1.3 To ensure that use or development is of a scale and intensity that is appropriate for a rural location and does not compromise the function of surrounding settlements.

Subdivision does not need to be assigned with a particular use class pursuant to clause 6.2.6 of the planning scheme. Nevertheless, the proposed subdivision will create a public open space lot in the rural zone for passive recreation and natural and cultural values management; both no permit required uses in the rural zone. The open space lot will serve as a significant benefit to the broader community and is compatible and complementary to uses on adjoining land parcels. The rural zoned land on the site has no commercial scale agricultural potential and has previously been granted planning approval for a cabin park (permit number PA2021430).

4.3.1 Applicable standards

No rural zone use or development standards apply to the proposal. Table 4 provides a summary of the applicable subdivision standards. An assessment against the applicable standards is provided in the sections following.

Table 4 - Applicable standards in the Rural Zone

Clause	Applicability
Zone use standards	Not applicable pursuant to clause 6.2.6.
Zone development standards	Not applicable as no buildings proposed.
20.5.1 Lot design	Applicable

4.3.2 Clause 20.5.1 Lot design

Acceptable Solutions	Performance Criteria
A1 Each lot, or a lot proposed in a plan of subdivision, must: (a) be required for public use by the Crown, a council or a State authority; (b) be required for the provision of Utilities or irrigation infrastructure; (c) be for the consolidation of a lot with another lot provided each lot is within the same zone; or (d) be not less than 40ha with a frontage of no less than 25m and existing buildings are consistent with the setback and separation distance required by clause 20.4.2 A1 and A2.	**P1** Each lot, or a lot proposed in a plan of subdivision, must: (a) have sufficient useable area and dimensions suitable for the intended purpose, excluding Residential or Visitor Accommodation, that: (i) requires the rural location for operational reasons; (ii) minimises the conversion of agricultural land for a non-agricultural use; (iii) minimises adverse impacts on nonsensitive uses on adjoining properties; and (iv) is appropriate for a rural location; or (b) be for the excision of an existing dwelling or Visitor Accommodation that satisfies all of the following: (i) the balance lot provides for the sustainable operation of a Resource Development use, having regard to: a. not materially diminishing the agricultural productivity of the land; b. the capacity of the balance lot for productive agricultural use; and c. any topographical constraints to agricultural use;

(i) an agreement under section 71 of the Act is entered into and registered on the title preventing future Residential use if there is no dwelling on the balance lot;

(ii) the existing dwelling or Visitor Accommodation must meet the setbacks required by subclause 20.4.2 A2 or P2 in relation to setbacks to new boundaries;

(iii) it is demonstrated that the new lot will not unreasonably confine or restrain the operation of any adjoining site used for agricultural use; and

(c) be provided with a frontage or legal connection to a road by a right of carriageway, that is sufficient for the intended use, having regard to:

(i) the number of other lots which have the land subject to the right of carriageway as their sole or principal means of access;

(ii) the topography of the site;

(iii) the functionality and useability of the frontage;

(iv) the anticipated nature of vehicles likely to access the site;

(v) the ability to manoeuvre vehicles on the site;

(vi) the ability for emergency services to access the site; and

(vii) the pattern of development existing on established properties in the area.

Planner Response

The proposed open space lot (lot 201 on subdivision plans) is to be handed over to Council for public use. This meets the acceptable solution at A1(a). The remaining land in the rural zone is in two tiles, being CT156126/102 and CT64199/1. The proposal seeks to consolidate this into a single lot (labelled as balance lot 200 on subdivision plans). This meets the acceptable solution at A1(c).

The acceptable solution (A1) is met.

A2

Each lot, or a lot proposed in a plan of subdivision, must be provided with a vehicular access from the boundary of the lot to a road in accordance with the requirements of the road authority.

P2

Each lot, or a lot proposed in a plan of subdivision, is provided with reasonable vehicular access to a boundary of a lot or building area on the lot, if any, having regard to:

(a) the topography of the site;

(b) the distance between the lot or building area and the carriageway;

(c) the nature of the road and the traffic, including pedestrians; and

(d) the pattern of development existing on established properties in the area.

Planner Response

Vehicle access to the proposed open space lot will be gained via the proposed subdivision road network, which is to be designed and constructed in accordance with Council requirements. A condition of approval is recommended to this effect.

The acceptable solution (A2) is met.

5 Code assessment

5.1 Applicable codes

The proposal requires consideration against the following codes:

- Parking and sustainable transport code
- Road and railway assets code
- Natural assets code
- Attenuation code
- Coastal erosion hazard code
- Flood prone areas code
- Bushfire prone areas code

5.2 Parking and Sustainable Transport Code

The Parking and Sustainable Transport Code applies to all use and development. A Traffic Impact Assessment (TIA) by Hubble Traffic has been undertaken to provide an appraisal of the proposal against the relevant code requirements. The TIA confirms that the proposal meets all relevant acceptable solution requirements and new residential lots will have capacity for on-site parking. For details, refer to the TIA at Appendix E.

5.3 Road and Railway Assets Code

The Road and Railway Assets Code applies to the proposal, which involves the use of existing and new access points to West Arm Road and Mainwaring Street, some of which exceed the threshold of 40 vehicle movements per day. A Traffic Impact Assessment (TIA) by Hubble Traffic has been undertaken to provide an appraisal of the proposal against the relevant code requirements. The TIA concludes that the safety and efficiency of the existing and proposed street network is not compromised by the proposal. While there will be traffic increases resulting from the development, the level of increase is not unreasonable and falls below environmental performance standards relevant to amenity impacts from traffic. For details, refer to the TIA at Appendix E.

5.4 Natural Assets Code

The Natural Assets Code applies to the proposal, which includes development in a waterway protection area. The waterway protection areas on the site comprises several modified and weed infested drainage channels. The drainage channels provide a potential ephemeral habitat for a threatened fauna species, the green gold frog. A Natural Values Assessment (NVA) prepared by North Barker Ecosystem Services has been completed to provide an appraisal of the proposal against the code requirements. The NVA notes that the proposal seeks to mitigate the loss of the drainage channels through the creation of a new frog wetland and ephemeral habitat. The NVA also notes that no natural streambank or streambed conditions

exist for the drainage channels proposed for removal. The NVA concludes that the proposal complies with the relevant code requirements. For a detailed appraisal, refer to the NVA at Appendix F.

Note that separate assessment and approval processes are also required for other environmental matters outside the scope of the planning scheme, including the Tasmanian *Threatened Species Protection Act 1995* and Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Though separate to the planning assessment process, this work will be undertaken in a timely and coordinated manner. For details of the work to be progressed under these separate processes, refer to the Frog Management Plan and Significant Impact Assessment in Appendix F.

5.5 Attenuation Code

The Attenuation Code applies to the proposal, which includes residential subdivision inside the default attenuation distances of nearby irrigation land, and a wastewater treatment plant. An Attenuation Assessment and Addendum by GHD has been undertaken to provide an appraisal of the proposal against the code requirements.

Results from odour contour modelling and noise monitoring conclude that the wastewater treatment plant will not impact residential lots and requires no further avoidance or mitigation measures to be employed by the proposal.

Results from the assessment of operations associated with the irrigation land concludes that potential attenuation impacts are mitigated through management measures applied on the irrigation land by the irrigation operator and enforced by TasWater. These measures are outlined in the Beauty Point Recycled Water Irrigation and Environmental Management Plan (IEMP) prepared by Pinion Advisory and dated November 2021.[1]

For a detailed appraisal of the proposal against the code requirements, refer to the Attenuation Assessment in G.1 (relates specifically to the wastewater treatment plant), and Addendum in G.2 (relates specifically to the irrigation land).

5.6 Coastal Erosion Hazard Code

The proposal includes works to upgrade an existing underground Council stormwater pipeline at 22 West Arm Road. Although 22 West Arm Road is impacted by the low coastal erosion hazard band, the proposed works are for minor utilities, which are exempt from assessment against the Coastal Erosion Hazard Code pursuant to clause C10.4.1(d)(v).

5.7 Flood Prone Areas Hazard Code

The site is not mapped as flood prone land in the planning scheme. However, the southern edge of the site is at risk of minor inundation from localised ponding during major storm events. A stormwater report, servicing report, and engineering plans have been undertaken by ADDC to ensure that stormwater is appropriately managed through subdivision design. This involves a combination of earthworks, an appropriately sized piped stormwater network and a centralised drainage pipe leading directly to the existing legal point of discharge for the broader catchment.

[1] The IEMP is not a publicly available document and was provided by TasWater via an assessed disclose pursuant to the *Right to Information Act 2009*.

For detail, refer to the Stormwater Report in Appendix C, Servicing Report in Appendix D, and engineering plans in Appendix B.

5.8 Bushfire Prone Areas Code

The Bushfire Prone Areas Code applies to the proposal, which involves residential subdivision in a bushfire prone area. A Bushfire Report and accompanying Bushfire Hazard Management Plans by Rebecca Green & Associates has been undertaken to provide an appraisal of the proposal against the relevant code requirements. For details, refer to the report and plans at Appendix H.

6 Conclusion

The proposal seeks planning approval for 133 residential lots plus roads, open space, and balance of title. The open space area provides recreation opportunities for the community, and the balance of title will also serve as a frog management wetland that provides improved habitat for the green and gold frog in the area.

This report identifies that the proposal is subject to the provisions of the Tasmanian Planning Scheme – West Tamar. In particular, the subdivision standards of the general residential zone and rural zone. The proposal also requires assessment against the Parking and Sustainable Transport Code, Road and Railway Assets Code, Natural Assets Code, Attenuation Code, and Bushfire-Prone Areas Code.

An assessment against all applicable standards has been outlined in this report and the appendices, and is summarised in Table 5. The assessment demonstrates that even where the acceptable solution is not met, the performance criteria is achieved. In total, the proposal relies on Council exercising its discretion in relation to 8 out of 16 applicable standards. The application is recommended for approval and will deliver more housing in a time of high demand and decreasing affordability.

Table 5 - Summary of applicable standards and whether proposal meets the acceptable solution or performance criteria

Clause		Assessment outcome
General Residential Zone		
8.6.1	Lot design	Performance criteria
8.6.2	Roads	Performance criteria
8.6.3	Services	Acceptable solution
Rural Zone		
20.5.1	Lot design	Acceptable solution
Parking and Sustainable Transport Code		
C2.5.1 – C2.5.2	Parking numbers	Acceptable solution
C2.6.1 – C2.6.2	Design and construction of parking areas	Acceptable solution
C2.6.3	Number of accesses for vehicles	Acceptable solution
Road and Railway Assets Code		
C3.5.1	Traffic generation at vehicle crossing	Performance criteria

Clause		Assessment outcome
Natural Assets Code		
C7.6.1	Works in a waterway protection area	Performance criteria
C7.7.1	Subdivision in a waterway protection area	Performance criteria
C7.7.2	Subdivision in a priority vegetation area	Acceptable solution
Attenuation Code		
C9.5.2	Sensitive use in an attenuation area	Performance criteria
C9.6.1	Lot design	Performance criteria
Bushfire Prone Areas Code		
C13.6.1	Provision of hazard management areas	Acceptable solution
C13.6.2	Public and fire fighting access	Performance criteria
C13.6.3	Provision of water supply for fire fighting	Acceptable solution

Appendix A Title documents

OWNER ARI PROPERTY PTY. LTD.

FOLIO REFERENCE C.T. 147226-2

GRANTEE PART OF 200 ACRES GRANTED TO WILLIAM MONTGOMERIE DAVIDSON. PART OF LOT 32427 20 ACRES, GTD TO L. PRICE & ANOR. PART OF LOT 28486, 11A 1R 6P WILLIAM JOSEPH TOOMLEY PUR.

PLAN OF SURVEY

BY SURVEYOR R.M. PECK
G. J. WALKEM & CO.

LOCATION

LAND DISTRICT OF DEVON
PARISH OF PHILIPS NORTON

SCALE 1:3000 LENGTHS IN METRES

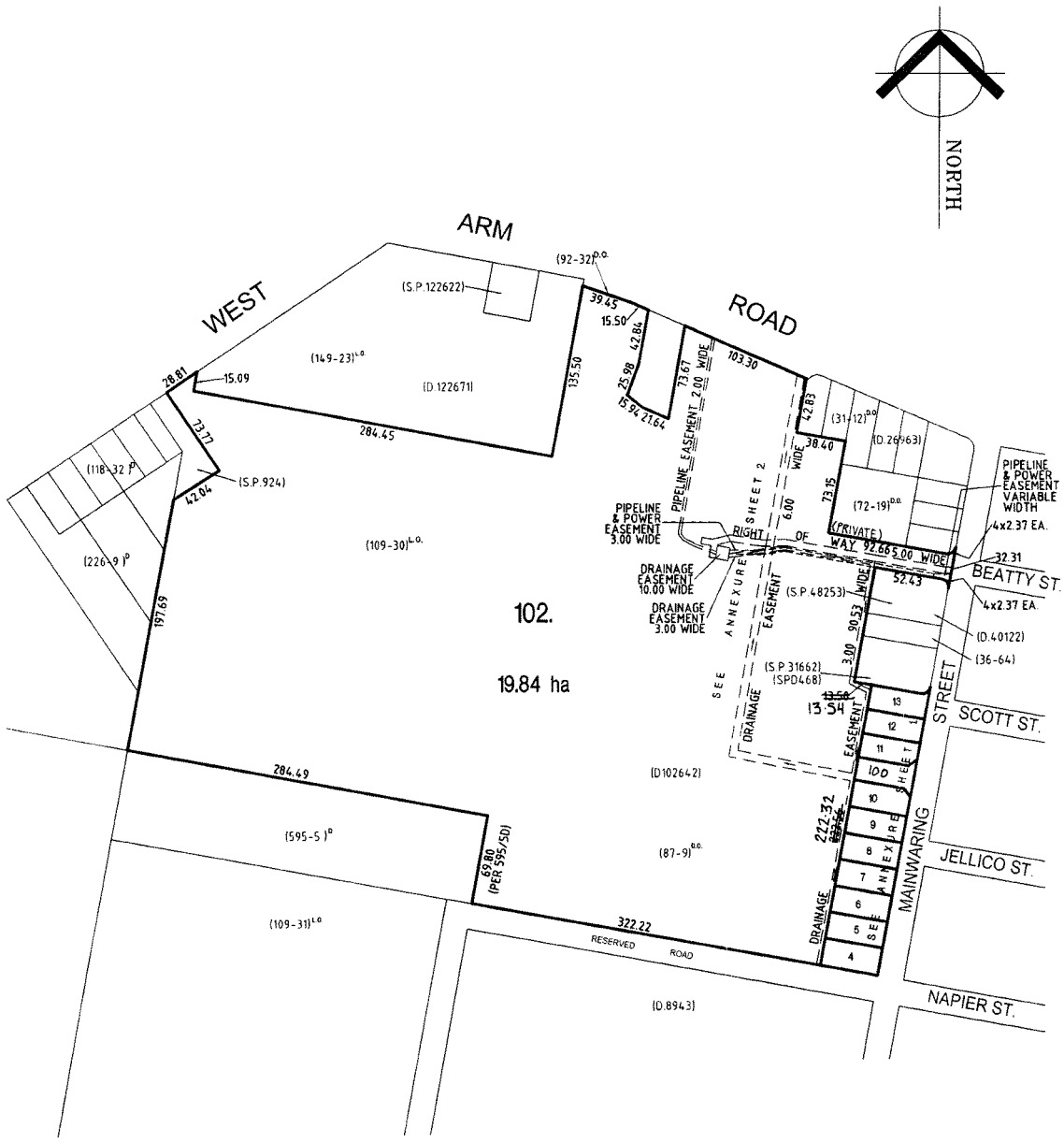
G. J. WALKEM & CO.

REGISTERED NUMBER
SP156126

APPROVED
EFFECTIVE FROM 22 DEC 2008
Alice Kawa
Recorder of Titles

MAPSHEET MUNICIPAL CODE No 129 (4844-31,32)	LAST UPI No 4103189	LAST PLAN No. SP 147226	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 2 COMPILED FROM CT147226-2 AND THIS SURVEY.

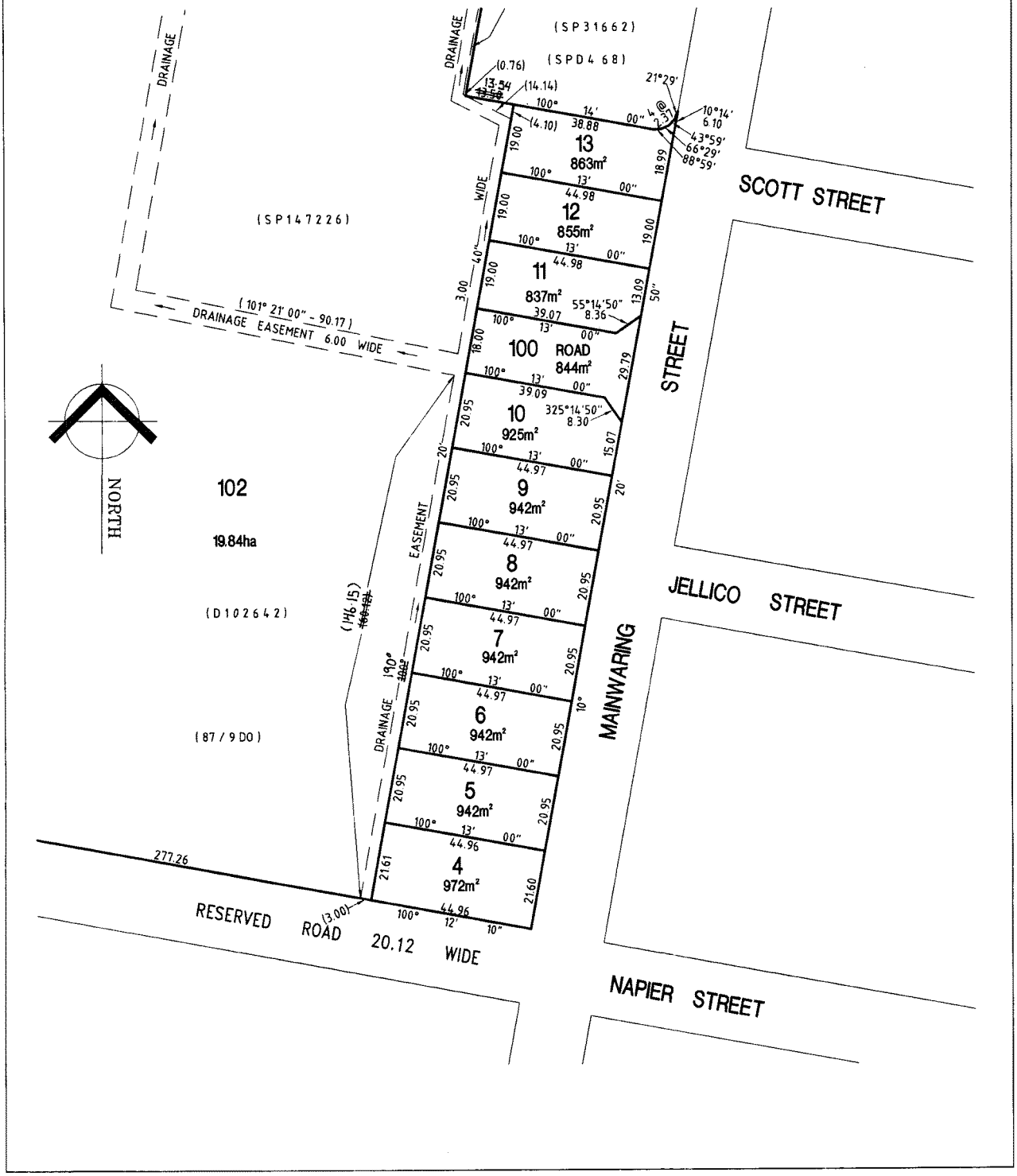


COUNCIL DELEGATE

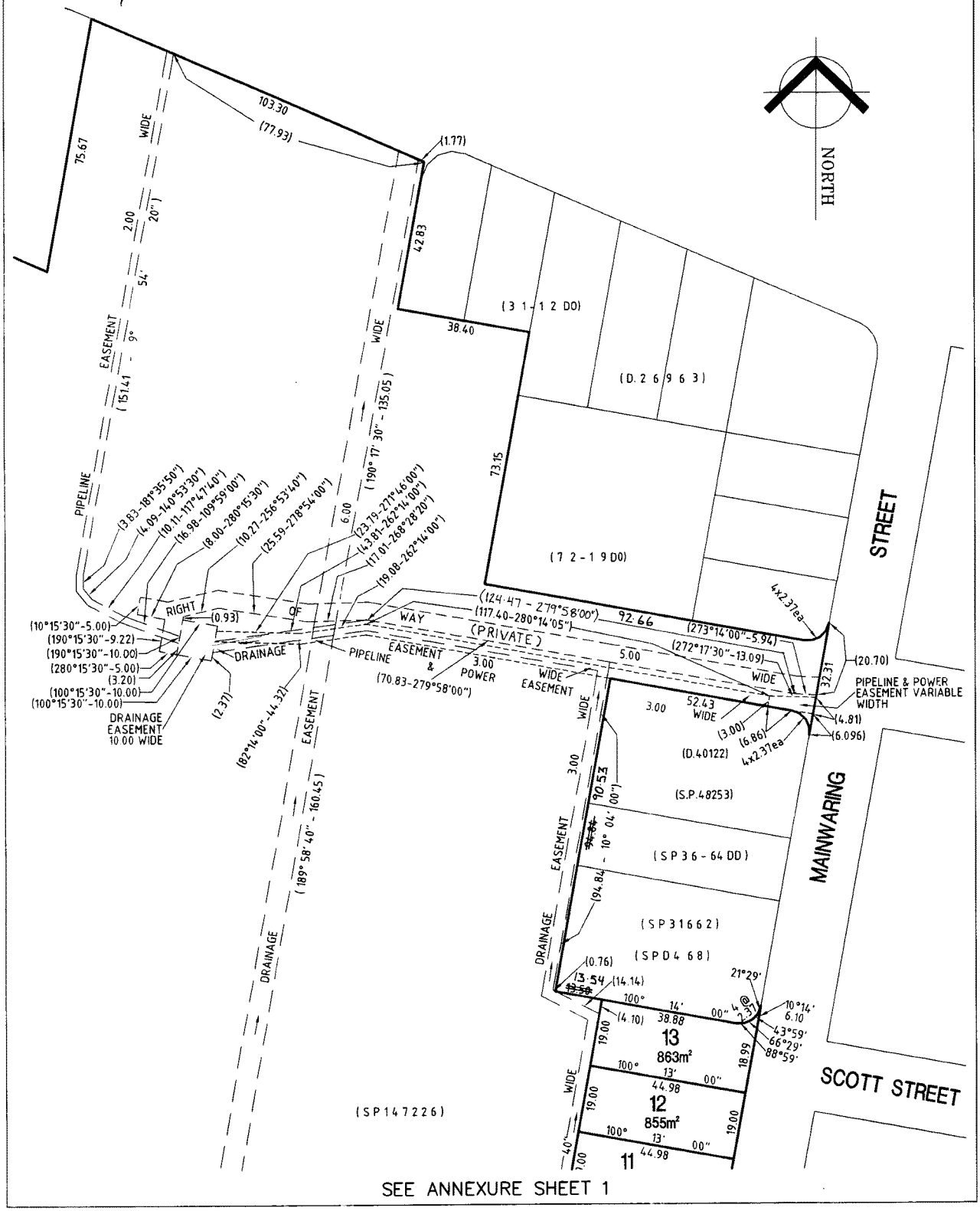
24-11-08
DATE

PLAN OF SURVEY ANNEXURE SHEET SHEET 1 OF 2 SHEETS	OWNER ARI PROPERTY PTY. LTD. FOLIO REFERENCE CT 147226 – 2 SCALE 1: 1:1000 LENGTH IN METRES	Registered Number SP 156126
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 24·11·08 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. THE SURVEYORS CERTIFICATE EXTENDS TO THE DETAILS ON THIS SHEET Registered Land Surveyor 12·11·08 Date	APPROVED EFFECTIVE FROM 22 DEC 2008 Alice Kawa Recorder of Titles

SEE ANNEXURE SHEET 2



PLAN OF SURVEY ANNEXURE SHEET SHEET 2 OF 2 SHEETS	OWNER ARI PROPERTY PTY. LTD. FOLIO REFERENCE CT 147226 – 2 SCALE 1: 1:1000 LENGTH IN METRES	Registered Number SP 156126
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 24.11.08 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. THE SURVEYORS CERTIFICATE EXTENDS TO THE DETAILS ON THIS SHEET Registered Land Surveyor 12.11.08 Date	APPROVED EFFECTIVE FROM 22 DEC 2008 Alice Kawa Recorder of Titles



D

Owner Harry Lawrence Beams
Title Reference C.T. 2775-76.

Areas of Parcels

Lot Number	Area	Lot Number	Area
1	4A. - 3R. - 30 6/10P.		
Total	4A. - 3R. - 30 6/10P.	Total	

PLAN OF SURVEY

by Surveyor John Walter Cohen.

of land situated in the

LAND DISTRICT OF DEVON.
PARISH OF PHILIPS NORTON.

Grantee: Lot 25030 Part of 26A-2R-16P, W. M. Garrett Pur. William Morris

Scale 150 Feet. to an inch.

For Office Use

Registered Number
595/5

Filed by: A.P.A. 2 Grant
on 4634 at 0006.00
Receipt No.
Receiving Clerk
Effective from
Recorder of Titles / Registrar of Deeds

NO INFORMATION TO BE WRITTEN WITHIN THIS SPACE

(S.P. 924) (S.P.122622)

REGISTERED NUMBER
64199

118 D 32

2
(226 9D)
3

20A. - 0R. - 0P.
~~B. & E.V. Manion Pur.~~
(2529 - 47 c.t.)

(D.102642)

(NOT R. P. ACT)

90° 07' 55"
935' 10½"

180° 06' 20"
230' 11"

1
4A. - 3R. - 30 6/10P.
W. G. HODGE (A376627)

229' 0½"
0° 01' 00"

936' 3"
270° 01' 00"

66 Feet wide

(D. 8943)

NOT TO SCALE

~~Road~~

~~Reserved~~

Plan of Survey

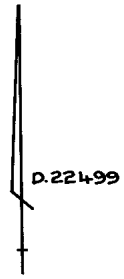
APPROVED FROM 19 MAR 1984 ACTING. DEPUTY. RECORDER OF TITLES	CONVERSION PLAN	REGISTERED NUMBER D. 22499
FILE NUMBER Y.2009.	GRANTEE: PART OF 200·0·0 WILLIAM MONTGOMERIE DAVIDSON.	B. HILL. 13·3·84

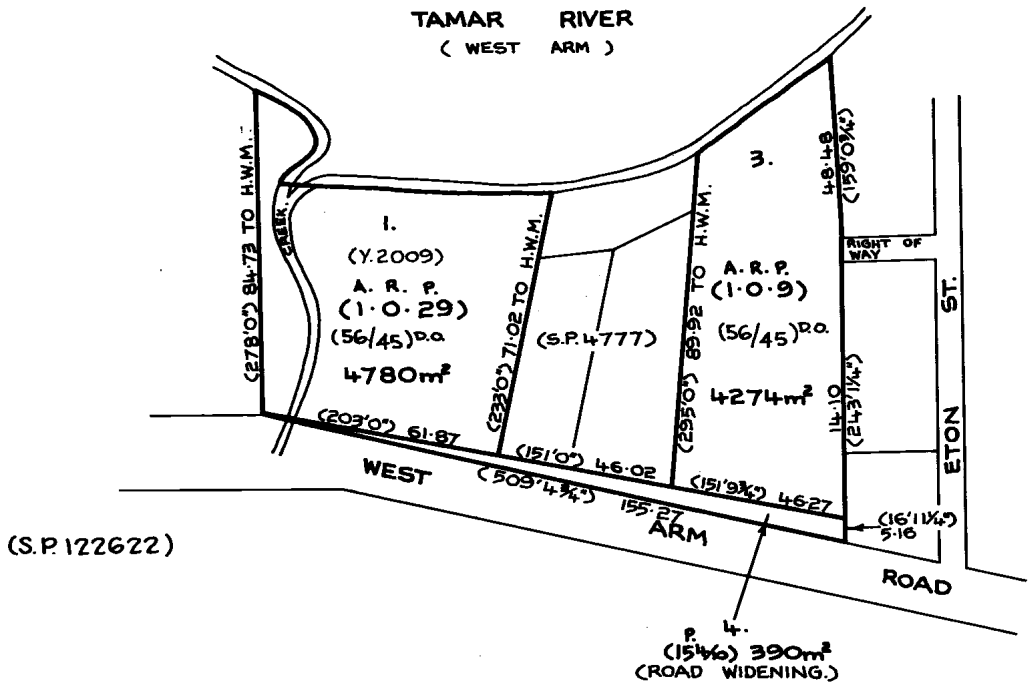
OS-K 2062

SKETCH BY WAY OF ILLUSTRATION ONLY

~~CITY~~/TOWN OF BEAUTY POINT
~~LAND DISTRICT OF~~
~~PARISH OF~~

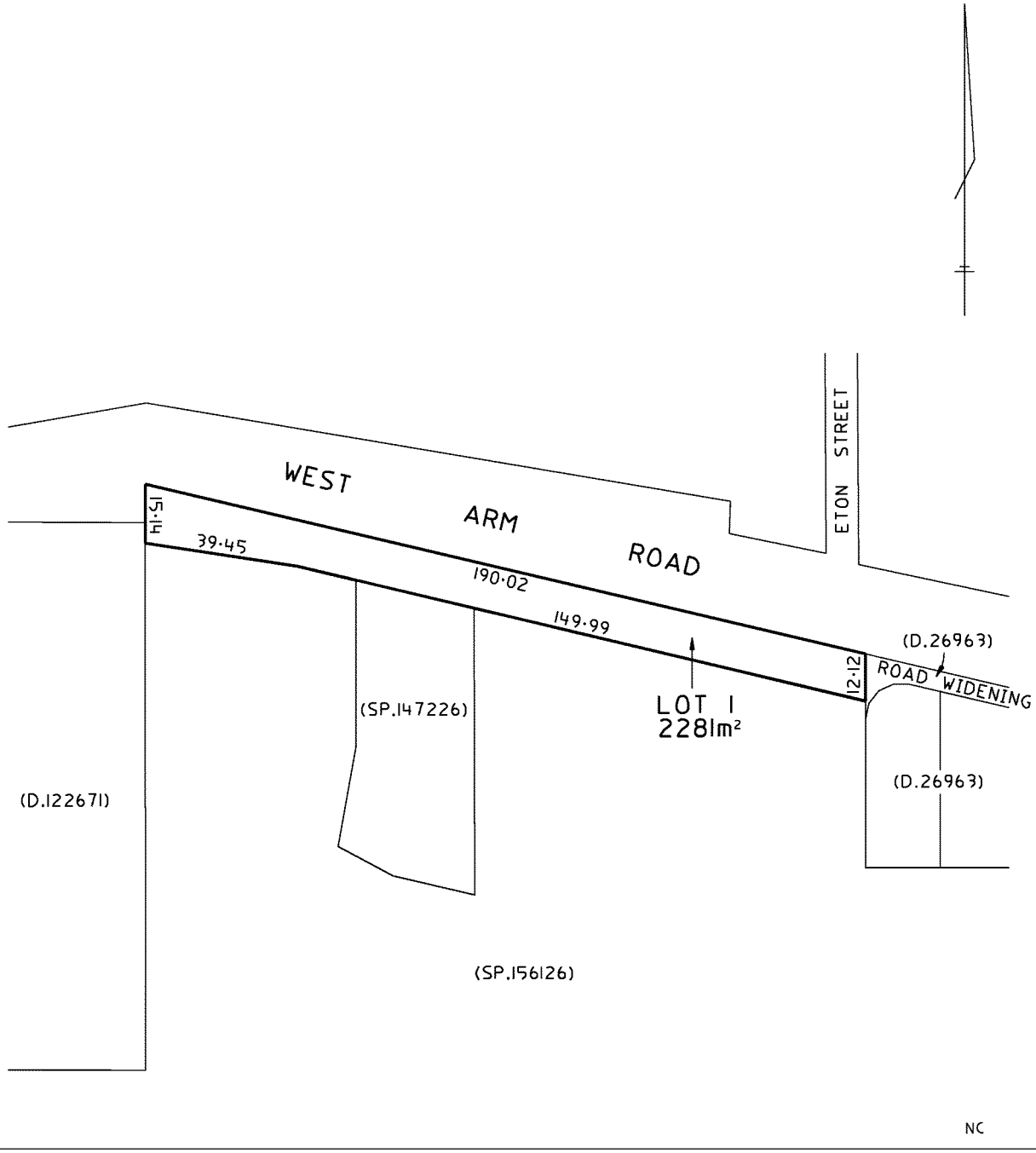
LENGTHS ARE IN METRES. NOT TO SCALE.
LENGTHS IN BRACKETS IN ~~LINKS~~/FEET & INCHES.





OWNER LAND TITLES ACT 1980 FOLIO REFERENCE A.19861 GRANTEE PART OF 200A-0R-0P GTO TO WILLIAM MONTGOMERIE DAVIDSON	PLAN OF TITLE LOCATION DEVON - PHILIPS NORTON FIRST SURVEY PLAN No. P.2267 L.O. COMPILED BY LDR8 SCALE 1: 1000 LENGTHS IN METRES	Registered Number P.150847 APPROVED 14 OCT 2009 Alice Kawa Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 129 (4844-32)	LAST UPI No	LAST PLAN No.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
64199	1
EDITION	DATE OF ISSUE
6	17-Mar-2023

SEARCH DATE : 03-Nov-2023
SEARCH TIME : 10.59 AM

DESCRIPTION OF LAND

Parish of PHILIPS NORTON, Land District of DEVON
Lot 1 on Diagram 64199 (formerly being 595-5D)
Derivation : part of Lot 25030 gtd.to W.M.Garrett.
Prior CT 3249/34

SCHEDULE 1

M745050 TRANSFER to DOURIAS MGH PTY LTD Registered 14-May-2020 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
N122657 MORTGAGE to CADENCE (90) INVESTMENTS NO 1 PTY LTD Registered 17-Mar-2023 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Department of Natural Resources and Environment Tasmania
www.thelist.tas.gov.au

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
156126	102
EDITION	DATE OF ISSUE
4	17-Mar-2023

SEARCH DATE : 03-Nov-2023
SEARCH TIME : 10.58 AM

DESCRIPTION OF LAND

Parish of PHILIPS NORTON Land District of DEVON
Lot 102 on Sealed Plan 156126
Derivation : Part of 200 Acres Granted to William Montgomerie Davidson, Part of Lot 32427, 20 Acres Gtd to L & NP Price and Part of Lot 28486, 11A-1R-6P Gtd to W J Toomey
Prior CT 147226/2

SCHEDULE 1

M745050 TRANSFER to DOURIAS MGH PTY LTD Registered 14-May-2020 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP156126 EASEMENTS in Schedule of Easements
N122657 MORTGAGE to CADENCE (90) INVESTMENTS NO 1 PTY LTD Registered 17-Mar-2023 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Department of Natural Resources and Environment Tasmania
www.thelist.tas.gov.au

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
22499	1
EDITION	DATE OF ISSUE
5	18-Oct-2013

SEARCH DATE : 03-Nov-2023
SEARCH TIME : 11.45 AM

DESCRIPTION OF LAND

Town of BEAUTY POINT
Lot 1 on Diagram 22499
Being the land described in Conveyance No. 59/2877
Derivation : Part of 200 Acres Gtd. to W.M. Davidson
Prior CT 4076/15

SCHEDULE 1

M434947 TRANSFER to COLIN GEORGE MORROW and TONI EDNA MORROW Registered 18-Oct-2013 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
BENEFITING EASEMENT: A Right of Way at all times and for all purposes with or without vehicles and animals to and from the said land within described or any part thereof and all or any buildings thereon over and along the piece of land marked road widening on Diagram No. 22499
D104824 MORTGAGE to Australia and New Zealand Banking Group Limited Registered 18-Oct-2013 at 12.02 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
150847	1
EDITION	DATE OF ISSUE
1	21-Oct-2009

SEARCH DATE : 03-Nov-2023
SEARCH TIME : 11.03 AM

DESCRIPTION OF LAND

Parish of PHILIPS NORTON Land District of DEVON
Lot 1 on Diagram 150847
Derivation : part of 200A-0R-0P GTD to William Montgomerie Davidson
Derived from A19861

SCHEDULE 1

THE CROWN

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

SCHEDULE OF EASEMENTS	Registered Number
NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.	SP 156126

EASEMENTS AND PROFITS

Each lot on the plan is together with:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
(2) any easements or profits a prendre described hereunder.
Each lot on the plan is subject to:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
(2) any easements or profits a prendre described hereunder.
The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

Lot 102 on the Plan is subject to:

(a) a right of drainage in favour of the West Tamar Council over the strip of land shown as "Drainage Easement 6.00 wide" on the Plan;

(b) a right of drainage in favour of the West Tamar Council over the strip of land shown as "Drainage ~~and Pipeline Easement~~ Easement 3.00 wide" on the Plan;

(c) a right of drainage in favour of the West Tamar Council over the strip of land shown as "Drainage Easement 10.00 wide" on the Plan;

(d) a right of carriage way in favour of the West Tamar Council over the strip of land shown as "Right of Way 5.00 wide (private)" on the Plan;

(e) a Pipeline Easement in favour of the West Tamar Council over the strip of land shown as "Pipeline Easement 2.00 wide" on the Plan;

(f) a Pipeline Easement in favour of the West Tamar Council over the strip of land shown as "Pipeline and Power Easement 3.00 wide" on the Plan;

(g) a Power Supply Easement in favour of the West Tamar Council over the strip of land shown as "Pipeline and Power Easement 3.00 wide" on the Plan;

(h) a Pipeline Easement in favour of the West Tamar Council over the strip of land shown as "Pipeline and Power Easement variable width" on the Plan;

(i) a Power Supply Easement in favour of the West Tamar Council over the strip of land shown as "Pipeline and Power Easement variable width" on the Plan;

(j) a Pump Station Easement in favour of the West Tamar Council over the strip of land shown as "Drainage Easement 10.00 wide" on the Plan;

(USE ANNEXURE PAGES FOR CONTINUATION)

SUBDIVIDER: Ari Property Pty Ltd FOLIO REF: Volume 147226 Folio 2 SOLICITOR & REFERENCE: Shields Heritage CKC 60974	PLAN SEALED BY: West Tamar Council DATE: 24th November 2008 159/05 REF NO. Council Delegate

NOTE: The Council Delegate must sign the Certificate for the purposes of identification.

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 2 OF 3 PAGE/S	Registered Number SP156126
SUBDIVIDER: Ari Property Pty Ltd FOLIO REFERENCE: Volume 147226 Folio 2	

(k) a Pipeline Easement in favour of the West Tamar Council over the strip of land shown as "Drainage Easement 10.00 wide" on the Plan; and

(l) a Power Supply Easement in favour of the West Tamar Council over the strip of land shown as "Drainage Easement 10.00 wide" on the Plan.

Interpretation

In this Schedule of Easements:

1. "the Dominant Owner" in respect of an easement created under this schedule of easements means the entity entitled to the benefit of the easement;

2. "Pipeline Easement" means the rights:

   (a) to install, renew and maintain a pipeline at a depth not less than 0.3 metres through the land over which the right is created;

   (b) to carry effluent through such pipeline;

   (c) for the Dominant Owner and its workmen and agents to enter the land over which the right is created to inspect, repair and maintain such pipeline,

   without doing unnecessary damage to the said land and the Dominant Owner must make good all damage so caused.

3. "Power Supply Easement" means the rights:

   (a) to install, renew and maintain an underground power line at a depth not less than 0.3 metres through the land over which the right is created;

   (b) to carry electricity through such power line;

   (c) for the Dominant Owner and its workmen and agents to enter the land over which the right is created to inspect, repair and maintain such power line,

   without doing unnecessary damage to the said land and the Dominant Owner must make good all damage so caused.

4. "Pump Station Easement" means the rights:

   (a) to install, renew and maintain an underground sewerage pumping station and above ground electrical control cabinet, vent pipe and lifting gantry on the land over which the right is created;

   (b) to use such pumping station to pump sewage;

DIRECTOR DIRECTOR

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing

Rabobank Australia Limited Rabobank ABN 50 001 621 129

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 3 OF 3 PAGE/S	Registered Number SP 156126
SUBDIVIDER: Ari Property Pty Ltd FOLIO REFERENCE: Volume 147226 Folio 2	

(c) for the Dominant Owner and its workmen and agents to enter the land over which the right is created to inspect, repair and maintain any infrastructure installed under clause (a) of this definition,

without doing unnecessary damage to the said land and the Dominant Owner must make good all damage so caused.

Executed by Ari Property Pty Ltd
the registered proprietor of the land
comprised in Folio of the Register
Volume 147226 Folio 2 under section
127(1) of the Corporations Act

DIRECTOR DIRECTOR

Rabobank Australia Limited
Rabobank
ABN 50 001 621 129

UNDER POWER OF ATTORNEY

DIRECTOR DIRECTOR

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing

Rabobank Australia Limited
Rabobank
ABN 50 001 621 129

RESULT OF SEARCH

ASSISTANT RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
186737	3
EDITION	DATE OF ISSUE
2	12-Sep-2025

SEARCH DATE : 16-Oct-2025
SEARCH TIME : 11.18 AM

DESCRIPTION OF LAND

Town of BEAUTY POINT
Lot 3 on Strata Plan 186737 and a general unit entitlement operating for all purposes of the Strata Scheme being a 10 undivided 1/30 interest
Derived from Strata Plan 186737
Derivation : Part of 200 Acres Gtd. to W.M. Davidson

SCHEDULE 1

N276540 TRANSFER to SIMON GEOSITS Registered 12-Sep-2025 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement subject to any interest noted on common property Folio of the Register volume 186737 folio 0
BENEFITING EASEMENT a right to go pass and repass more fully set forth in Conveyance No. 20/1476 (appurtenant to that part of the land formerly comprised in Lot 4 on Diagram 29574) in through over along and upon the Right of Way shown on Diagram No. 29574
E424113 MORTGAGE to Westpac Banking Corporation Registered 12-Sep-2025 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

TOWN OF BEAUTY POINT

FOLIO REFERENCE: F.R.29574/4
F.R.29574/5

SITE COMPRISES THE WHOLE OF
LOTS 4 & 5 ON PLAN No (P186736)

STRATA PLAN

NEW SHEET 1 OF 3 SHEETS
PURSUANT TO (E3898)

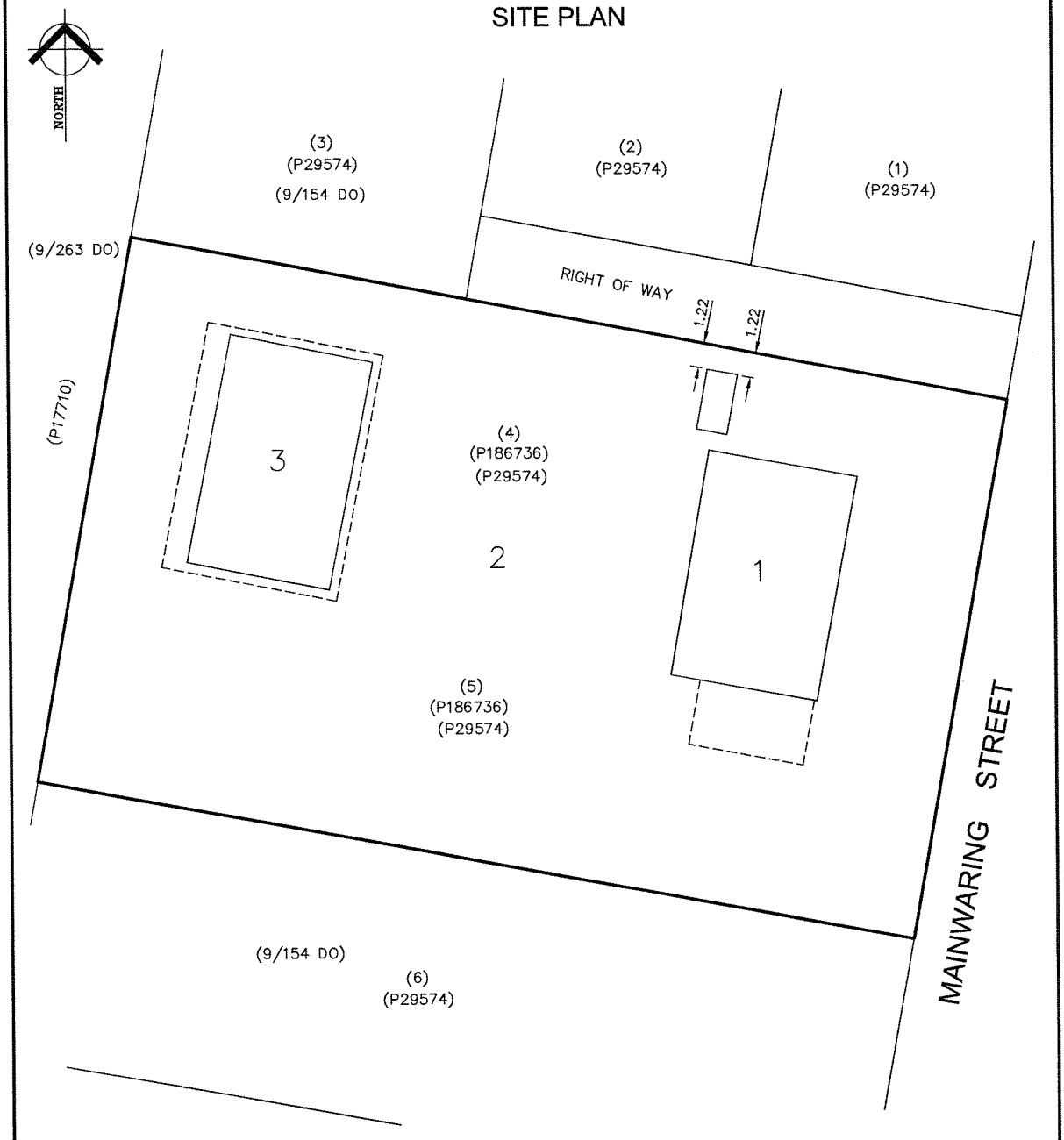
NAME OF STRATA SCHEME
33 MAINWARING STREET, BEAUTY POINT

SCALE 1: 200 | LENGTHS IN METRES

Registered Number
186737

STRATA TITLES ACT 1998
REGISTERED 27 MAR 2024
Recorder of Titles

SITE PLAN



NOTES: (i) ALL BUILDINGS ON THE SITE TO BE SHOWN ON SHEET 1
(ii) BUILDING TO SITE BOUNDARY OFFSETS OF LESS THAN 2.00 METRES TO BE SHOWN ON SHEET 1

STAGED/COMMUNITY DEVELOPMENT
SCHEME No: N176329 – (SDS) N 269000 – (SDS)

Council Delegate — Date: 30/5/25

Registered Land Surveyor — Date: 8/04/2025

LODGED BY SURVEY & ALIGNMENT SERVICES

STRATA PLAN

NEW SHEET 2 OF 3 SHEETS
PURSUANT TO (E3898)

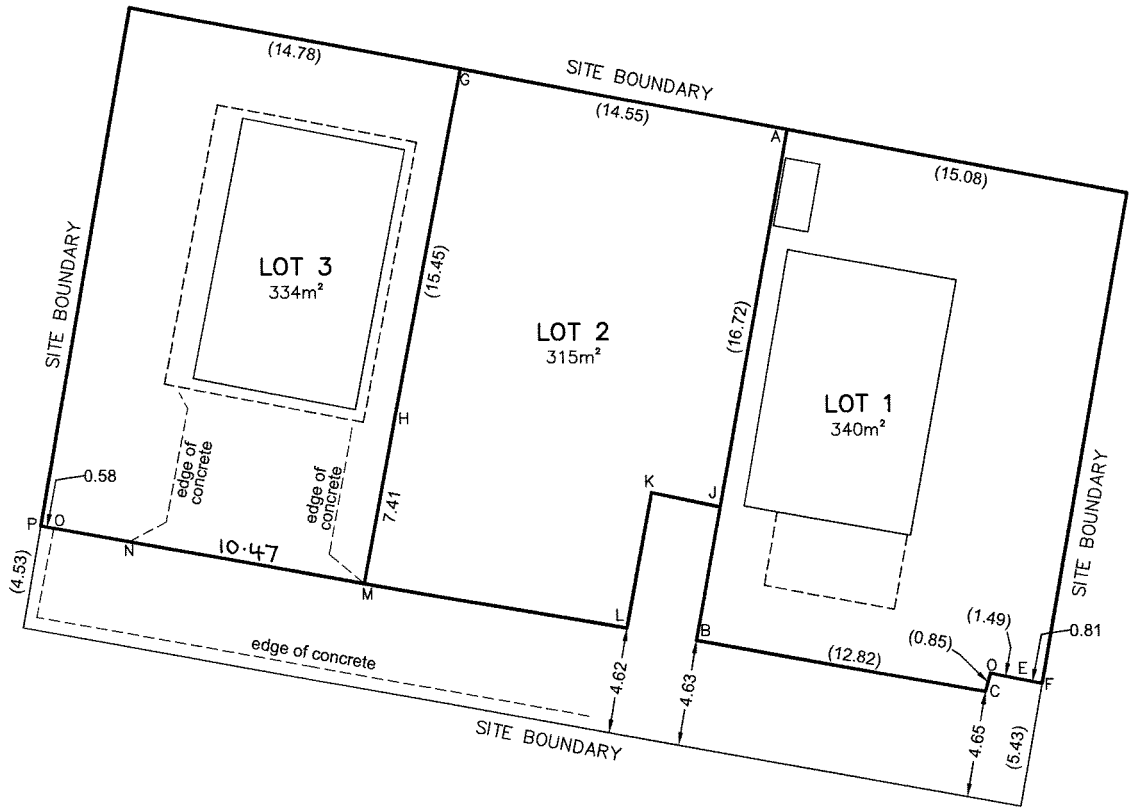
STRATA TITLES ACT 1998

Council Delegate — Date 30/5/25

Registered Number
186737

GROUND FLOOR

SCALE 1:200



THE HORIZONTAL LOT BOUNDARIES ARE SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:—

- SITE BOUNDARIES
- CENTRELINE OF FENCE LABELLED ABCDE; GH
- MEASUREMENT WHERE BOUNDARY IS OPEN
- EDGE OF CONCRETE LABELLED JKLM; NO
- OPEN BOUNDARIES LABELLED EF; HM; OP

F IS THE INTERSECTION OF DE AND THE SITE BOUNDARY
A IS AT THE INTERSECTION OF AB AND THE SITE BOUNDARY
G IS AT THE INTERSECTION OF HG AND THE SITE BOUNDARY
P IS THE INTERSECTION OF NO AND THE SITE BOUNDARY

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION ONLY.

THE VERTICAL LOT BOUNDARIES EXTEND FROM 1.00 METRE BELOW GROUND LEVEL TO 10.00 METRES ABOVE GROUND LEVEL

Registered Land Surveyor — Date 8/04/2025

STRATA PLAN

NEW SHEET 3 OF 3 SHEETS
PURSUANT TO (E 3898)

STRATA TITLES ACT 1998

Registered Number
186737

NAME OF BODY CORPORATE: STRATA CORPORATION No. 186737
33 MAINWARING STREET, BEAUTY POINT

ADDRESS FOR THE SERVICE OF NOTICES: 1/33 MAINWARING STREET, BEAUTY POINT, TAS 7270

SURVEYORS CERTIFICATE

I, Dovid Poul Tompkins of Riverside
o surveyor registered under the Surveyors Act 2002 certify thot
the building or buildings erected on the site ond drown on sheet 1 of
this plon ore within the site boundories of the folio stoted on sheet 1
ond ony encroachment beyond those boundories is properly outhorised
according to low

Registered Lond Surveyor | 8/04/2025 Dote | (2023124) Ref No

COUNCIL CERTIFICATE

I certify thot the West Tomor Council hos:
(o) opproved the lots shown in this plon and
(b) issued this certificote of opprovol in occordonce
with section 31 of the Stroto Titles Act 1998

Council Delegote | 30/5/25 Dote | MI2025082 Ref No

GENERAL UNIT ENTITLEMENTS

LOT	UNIT ENTITLEMENT
1	10
2	10
3	10
TOTAL	30

RESULT OF SEARCH

ASSISTANT RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
186737	2
EDITION	DATE OF ISSUE
2	04-Jul-2025

SEARCH DATE : 16-Oct-2025
SEARCH TIME : 11.15 AM

DESCRIPTION OF LAND

Town of BEAUTY POINT
Lot 2 on Strata Plan 186737 and a general unit entitlement operating for all purposes of the Strata Scheme being a 10 undivided 1/30 interest
Derived from Strata Plan 186737
Derivation : Part of 200 Acres Gtd. to W.M. Davidson

SCHEDULE 1

M570583, N112457 & N113665 TRANSFER to WILLIAM MICHAEL GROENEWOLD and ANNELISE JAN GROENEWOLD Registered 06-Feb-2023 at 12.02 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement subject to any interest noted on common property Folio of the Register volume 186737 folio 0
BENEFITING EASEMENT a right to go pass and repass more fully set forth in Conveyance No. 20/1476 (appurtenant to that part of the land formerly comprised in Lot 4 on Diagram 29574) in through over along and upon the Right of Way shown on Diagram No. 29574
N269000 APPLICATION for registration of variation to a staged development scheme Registered 04-Jul-2025 at noon
N176329 APPLICATION for registration of a staged development scheme Registered 27-Mar-2024 at noon
E3898 APPLICATION for registration of stage of staged dev. scheme by amending Lot 2, creating Lot 3, increasing common property & adjusting unit entitlements Registered 04-Jul-2025 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Department of Natural Resources and Environment Tasmania
www.thelist.tas.gov.au

TOWN OF BEAUTY POINT

FOLIO REFERENCE: F.R.29574/4
F.R.29574/5

SITE COMPRISES THE WHOLE OF
LOTS 4 & 5 ON PLAN No (P186736)

STRATA PLAN

NEW SHEET 1 OF 3 SHEETS
PURSUANT TO (E3898)

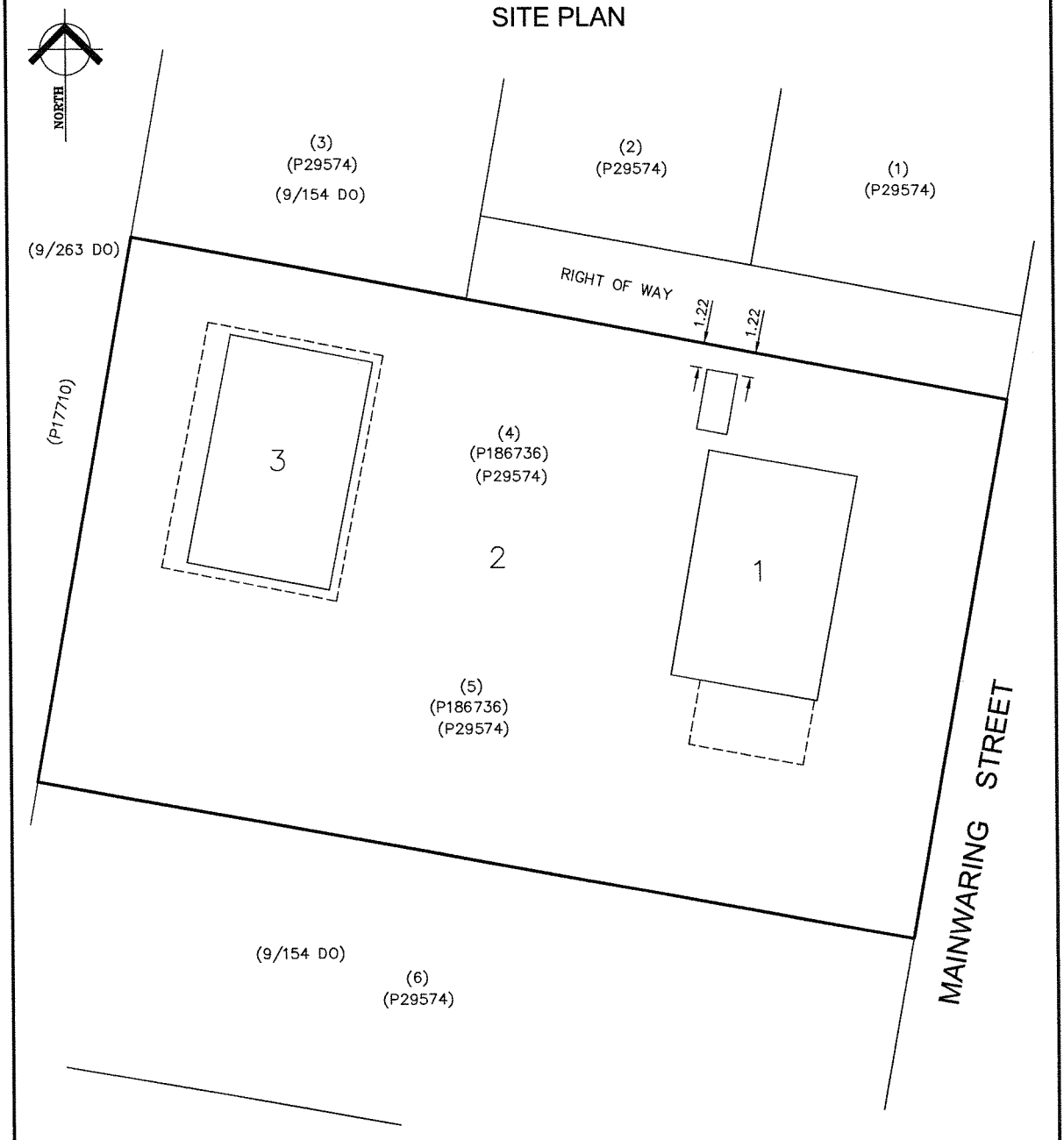
NAME OF STRATA SCHEME
33 MAINWARING STREET, BEAUTY POINT

SCALE 1: 200 | LENGTHS IN METRES

Registered Number
186737

STRATA TITLES ACT 1998
REGISTERED 27 MAR 2024
Recorder of Titles

SITE PLAN



NOTES: (i) ALL BUILDINGS ON THE SITE TO BE SHOWN ON SHEET 1
(ii) BUILDING TO SITE BOUNDARY OFFSETS OF LESS THAN 2.00 METRES TO BE SHOWN ON SHEET 1

STAGED/COMMUNITY DEVELOPMENT
SCHEME No: N176329 – (SDS) N 269000 – (SDS)

Council Delegate — Date: 30/5/25

Registered Land Surveyor — Date: 8/04/2025

LODGED BY SURVEY & ALIGNMENT SERVICES

STRATA PLAN

NEW SHEET 2 OF 3 SHEETS
PURSUANT TO (E3898)

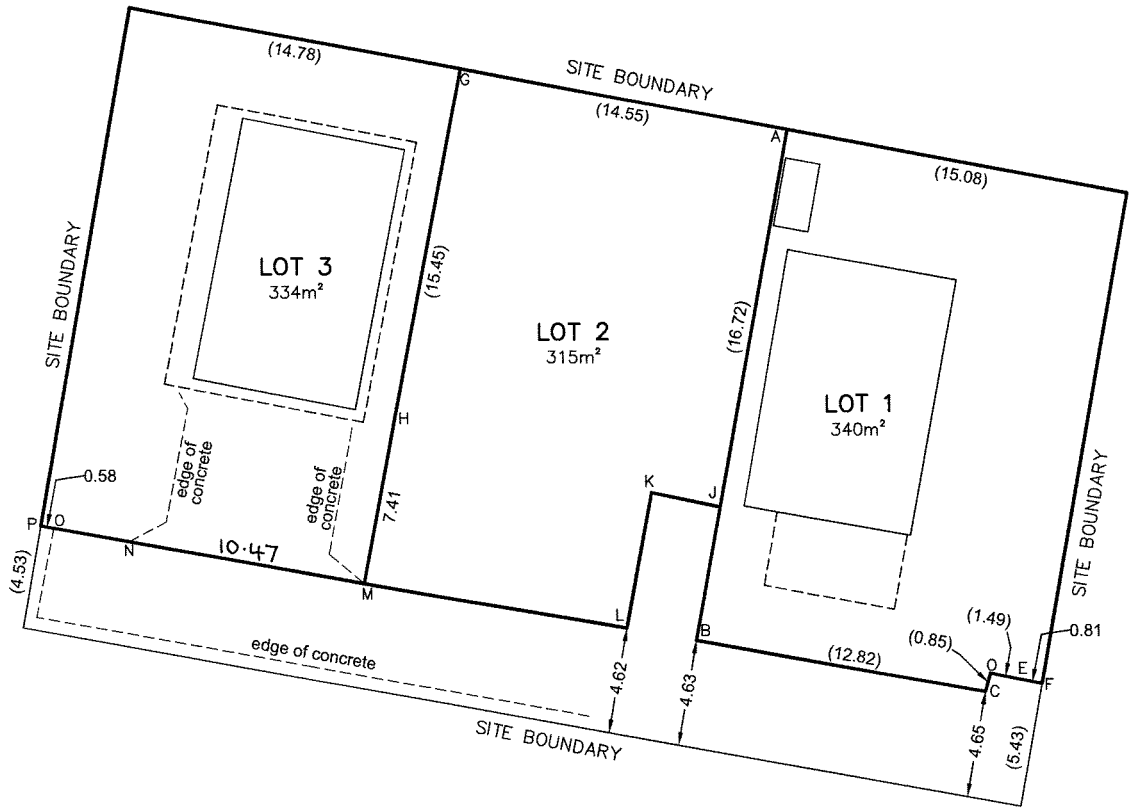
STRATA TITLES ACT 1998

Council Delegate — Date 30/5/25

Registered Number
186737

GROUND FLOOR

SCALE 1:200



THE HORIZONTAL LOT BOUNDARIES ARE SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:—

- SITE BOUNDARIES
- CENTRELINE OF FENCE LABELLED ABCDE; GH
- MEASUREMENT WHERE BOUNDARY IS OPEN
- EDGE OF CONCRETE LABELLED JKLM; NO
- OPEN BOUNDARIES LABELLED EF; HM; OP

F IS THE INTERSECTION OF DE AND THE SITE BOUNDARY
A IS AT THE INTERSECTION OF AB AND THE SITE BOUNDARY
G IS AT THE INTERSECTION OF HG AND THE SITE BOUNDARY
P IS THE INTERSECTION OF NO AND THE SITE BOUNDARY

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION ONLY.

THE VERTICAL LOT BOUNDARIES EXTEND FROM 1.00 METRE BELOW GROUND LEVEL TO 10.00 METRES ABOVE GROUND LEVEL

Registered Land Surveyor — Date 8/04/2025

STRATA PLAN

NEW SHEET 3 OF 3 SHEETS
PURSUANT TO (E 3898)

STRATA TITLES ACT 1998

Registered Number
186737

NAME OF BODY CORPORATE: STRATA CORPORATION No. 186737
33 MAINWARING STREET, BEAUTY POINT

ADDRESS FOR THE SERVICE OF NOTICES: 1/33 MAINWARING STREET, BEAUTY POINT, TAS 7270

SURVEYORS CERTIFICATE

I, Dovid Poul Tompkins of Riverside
o surveyor registered under the Surveyors Act 2002 certify thot
the building or buildings erected on the site ond drown on sheet 1 of
this plon ore within the site boundories of the folio stoted on sheet 1
ond ony encroachment beyond those boundories is properly outhorised
according to low

Registered Lond Surveyor | 8/04/2025 Dote | (2023124) Ref No

COUNCIL CERTIFICATE

I certify thot the West Tomor Council hos:
(o) opproved the lots shown in this plon and
(b) issued this certificote of opprovol in occordonce
with section 31 of the Stroto Titles Act 1998

Council Delegote | 30/5/25 Dote | MI2025082 Ref No

GENERAL UNIT ENTITLEMENTS

LOT	UNIT ENTITLEMENT
1	10
2	10
3	10
TOTAL	30

RESULT OF SEARCH

ASSISTANT RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
186737	1
EDITION	DATE OF ISSUE
2	08-Jun-2024

SEARCH DATE : 16-Oct-2025
SEARCH TIME : 11.07 AM

DESCRIPTION OF LAND

Town of BEAUTY POINT
Lot 1 on Strata Plan 186737 and a general unit entitlement operating for all purposes of the Strata Scheme being a 10 undivided 1/30 interest
Derived from Strata Plan 186737
Derivation : Part of 200 Acres Gtd. to W.M. Davidson

SCHEDULE 1

N192693 TRANSFER to DAVID LANCE MAYNARD and DIANNE LOUISE MAYNARD Registered 08-Jun-2024 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement subject to any interest noted on common property Folio of the Register volume 186737 folio 0
BENEFITING EASEMENT a right to go pass and repass more fully set forth in Conveyance No. 20/1476 (appurtenant to that part of the land formerly comprised in Lot 4 on Diagram 29574) in through over along and upon the Right of Way shown on Diagram No. 29574
E378041 MORTGAGE to Commonwealth Bank of Australia Registered 08-Jun-2024 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

TOWN OF BEAUTY POINT

FOLIO REFERENCE: F.R.29574/4
F.R.29574/5

SITE COMPRISES THE WHOLE OF
LOTS 4 & 5 ON PLAN No (P186736)

STRATA PLAN

NEW SHEET 1 OF 3 SHEETS
PURSUANT TO (E3898)

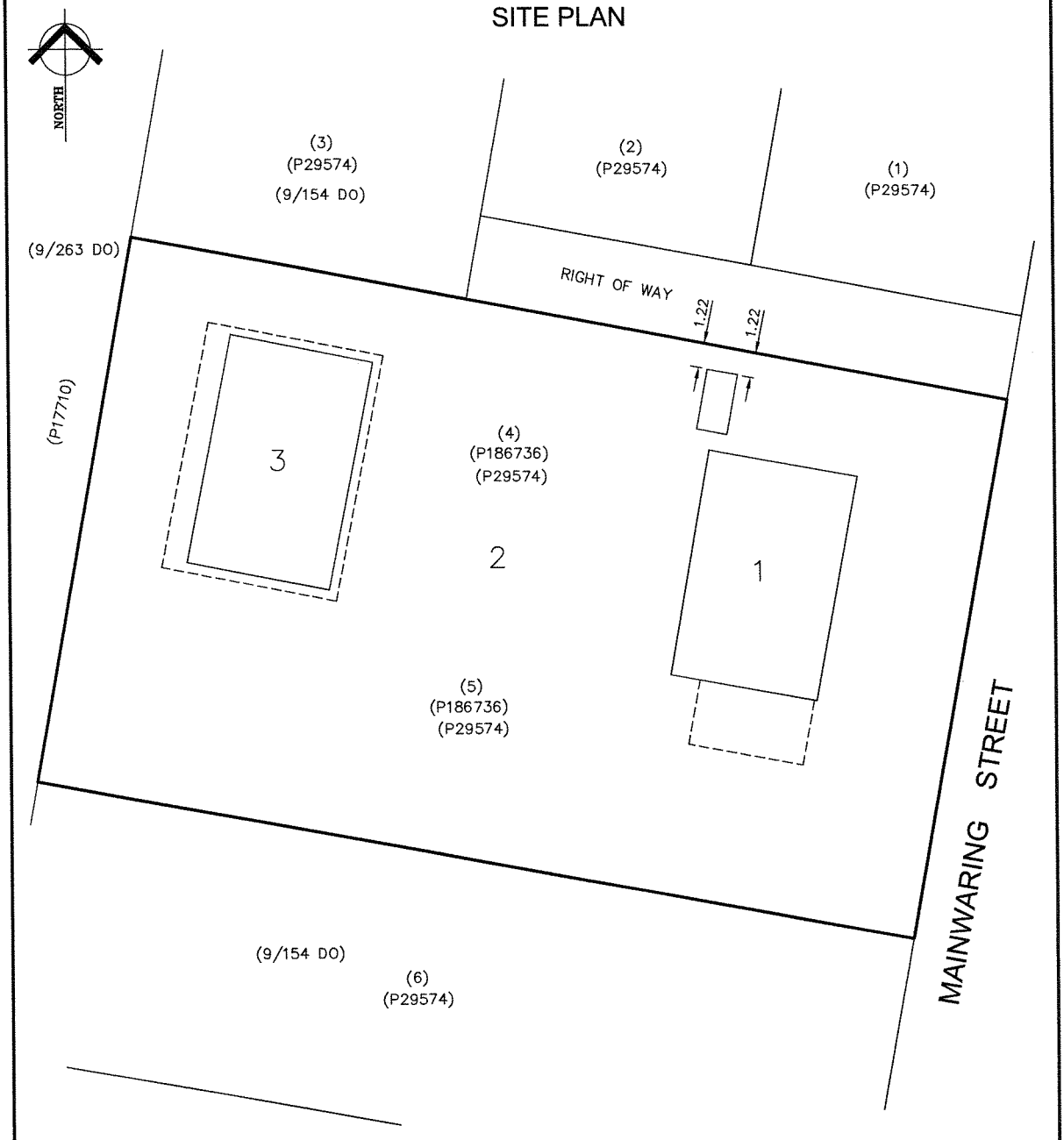
NAME OF STRATA SCHEME
33 MAINWARING STREET, BEAUTY POINT

SCALE 1: 200 | LENGTHS IN METRES

Registered Number
186737

STRATA TITLES ACT 1998
REGISTERED 27 MAR 2024
Recorder of Titles

SITE PLAN



NOTES: (i) ALL BUILDINGS ON THE SITE TO BE SHOWN ON SHEET 1
(ii) BUILDING TO SITE BOUNDARY OFFSETS OF LESS THAN 2.00 METRES TO BE SHOWN ON SHEET 1

STAGED/COMMUNITY DEVELOPMENT
SCHEME No: N176329 – (SDS) N 269000 – (SDS)

Council Delegate — Date: 30/5/25

Registered Land Surveyor — Date: 8/04/2025

LODGED BY SURVEY & ALIGNMENT SERVICES

STRATA PLAN

NEW SHEET 2 OF 3 SHEETS
PURSUANT TO (E3898)

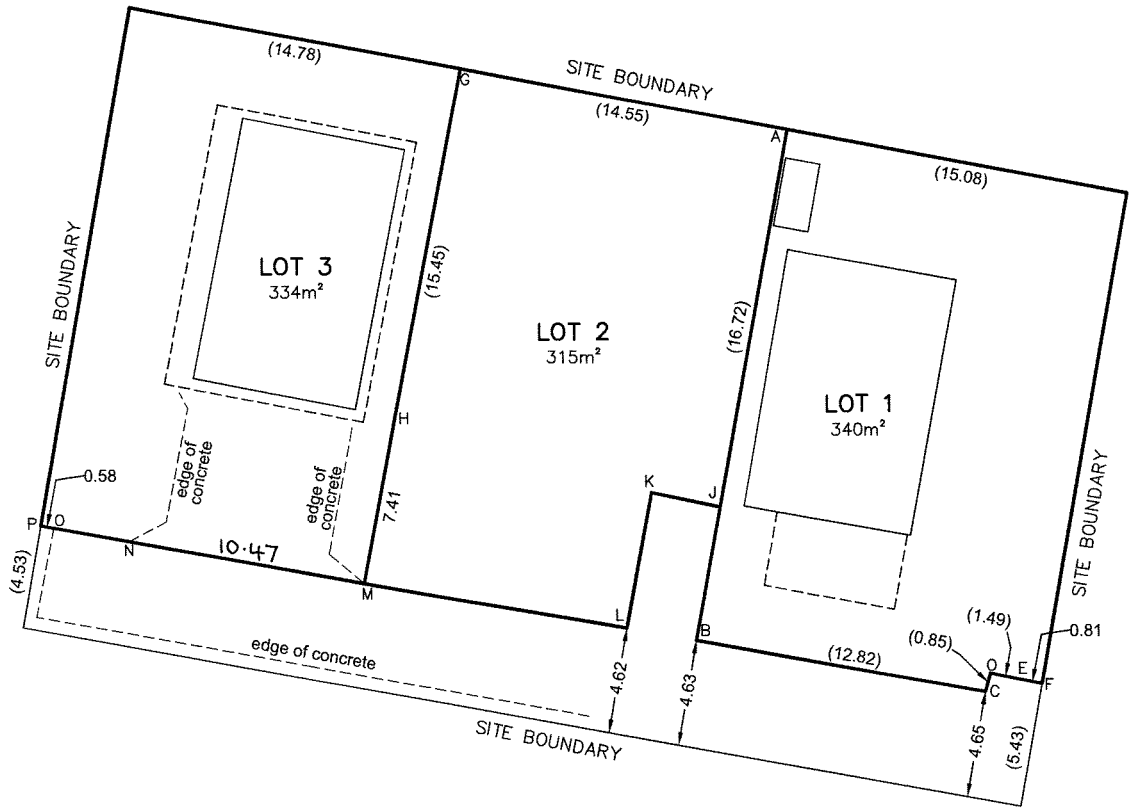
STRATA TITLES ACT 1998

Council Delegate — Date 30/5/25

Registered Number
186737

GROUND FLOOR

SCALE 1:200



THE HORIZONTAL LOT BOUNDARIES ARE SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:—

- SITE BOUNDARIES
- CENTRELINE OF FENCE LABELLED ABCDE; GH
- MEASUREMENT WHERE BOUNDARY IS OPEN
- EDGE OF CONCRETE LABELLED JKLM; NO
- OPEN BOUNDARIES LABELLED EF; HM; OP

F IS THE INTERSECTION OF DE AND THE SITE BOUNDARY
A IS AT THE INTERSECTION OF AB AND THE SITE BOUNDARY
G IS AT THE INTERSECTION OF HG AND THE SITE BOUNDARY
P IS THE INTERSECTION OF NO AND THE SITE BOUNDARY

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION ONLY.

THE VERTICAL LOT BOUNDARIES EXTEND FROM 1.00 METRE BELOW GROUND LEVEL TO 10.00 METRES ABOVE GROUND LEVEL

Registered Land Surveyor — Date 8/04/2025

STRATA PLAN

NEW SHEET 3 OF 3 SHEETS
PURSUANT TO (E 3898)

STRATA TITLES ACT 1998

Registered Number
186737

NAME OF BODY CORPORATE: STRATA CORPORATION No. 186737
33 MAINWARING STREET, BEAUTY POINT

ADDRESS FOR THE SERVICE OF NOTICES: 1/33 MAINWARING STREET, BEAUTY POINT, TAS 7270

SURVEYORS CERTIFICATE

I, Dovid Poul Tompkins of Riverside
o surveyor registered under the Surveyors Act 2002 certify thot
the building or buildings erected on the site ond drown on sheet 1 of
this plon ore within the site boundories of the folio stoted on sheet 1
ond ony encroachment beyond those boundories is properly outhorised
according to low

Registered Lond Surveyor | 8/04/2025 Dote | (2023124) Ref No

COUNCIL CERTIFICATE

I certify thot the West Tomor Council hos:
(o) opproved the lots shown in this plon and
(b) issued this certificote of opprovol in occordonce
with section 31 of the Stroto Titles Act 1998

Council Delegote | 30/5/25 Dote | MI2025082 Ref No

GENERAL UNIT ENTITLEMENTS

LOT	UNIT ENTITLEMENT
1	10
2	10
3	10
TOTAL	30

RESULT OF SEARCH

ASSISTANT RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
186737	0
EDITION	DATE OF ISSUE
1	27-Mar-2024

SEARCH DATE : 16-Oct-2025
SEARCH TIME : 11.00 AM

DESCRIPTION OF LAND

Town of BEAUTY POINT
The Common Property for Strata Scheme 186737
Derivation : Part of 200 Acres Gtd. to W.M. Davidson
Prior CTs 29574/4 and 29574/5

SCHEDULE 1

STRATA CORPORATION NUMBER 186737, 33 MAINWARING STREET, BEAUTY POINT

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
BENEFITING EASEMENT a right to go pass and repass more fully set forth in Conveyance No. 20/1476 (appurtenant to that part of the land formerly comprised in Lot 4 on Diagram 29574) in through over along and upon the Right of Way shown on Diagram No. 29574
N269000 APPLICATION for registration of variation to a staged development scheme Registered 04-Jul-2025 at noon
N176329 APPLICATION for registration of a staged development scheme Registered 27-Mar-2024 at noon
E3898 APPLICATION for registration of stage of staged dev. scheme by amending Lot 2, creating Lot 3, increasing common property & adjusting unit entitlements Registered 04-Jul-2025 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

TOWN OF BEAUTY POINT

FOLIO REFERENCE: F.R.29574/4
F.R.29574/5

SITE COMPRISES THE WHOLE OF
LOTS 4 & 5 ON PLAN No (P186736)

STRATA PLAN

NEW SHEET 1 OF 3 SHEETS
PURSUANT TO (E3898)

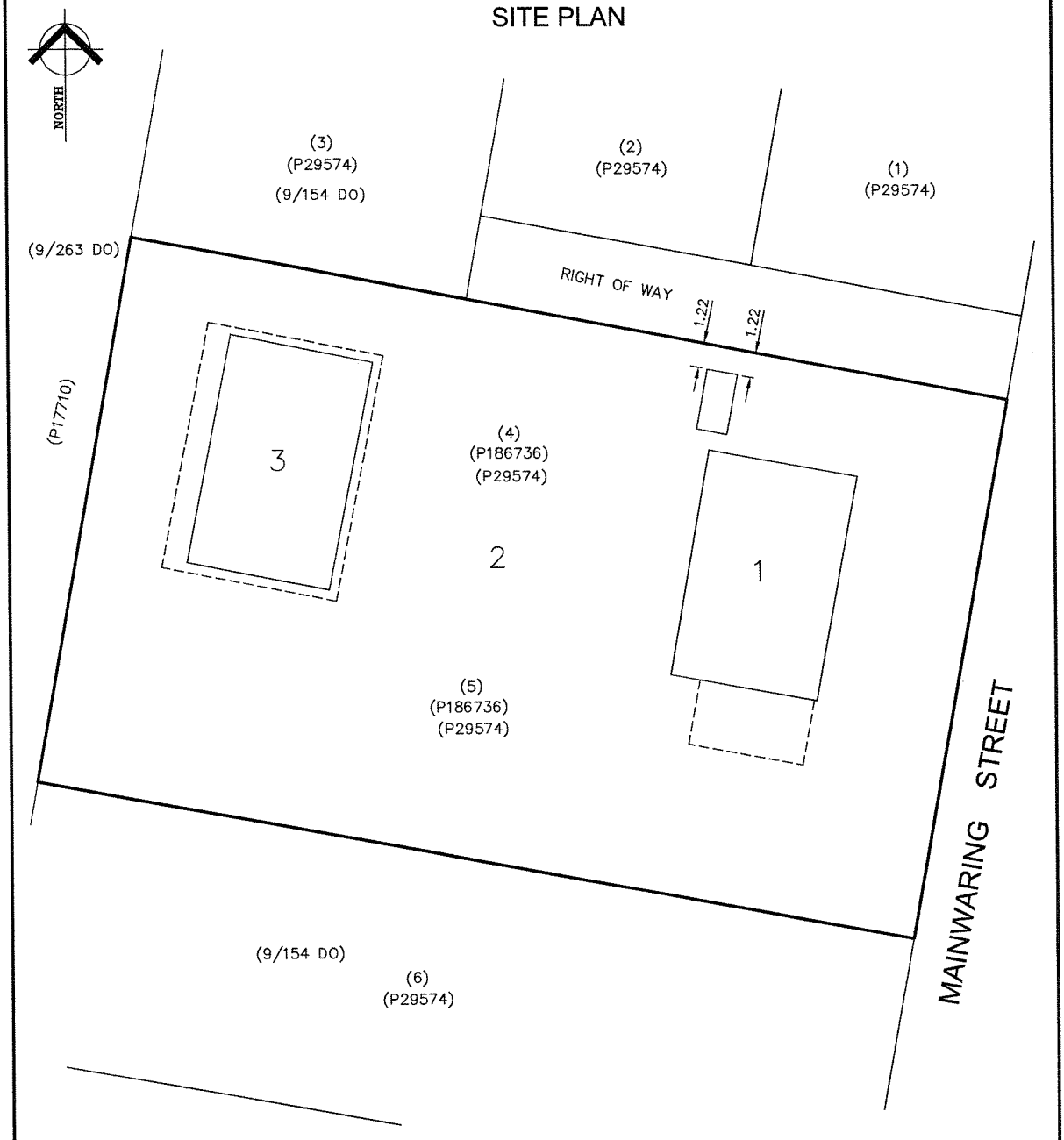
NAME OF STRATA SCHEME
33 MAINWARING STREET, BEAUTY POINT

SCALE 1: 200 | LENGTHS IN METRES

Registered Number
186737

STRATA TITLES ACT 1998
REGISTERED 27 MAR 2024
Recorder of Titles

SITE PLAN



NOTES: (i) ALL BUILDINGS ON THE SITE TO BE SHOWN ON SHEET 1
(ii) BUILDING TO SITE BOUNDARY OFFSETS OF LESS THAN 2.00 METRES TO BE SHOWN ON SHEET 1

STAGED/COMMUNITY DEVELOPMENT
SCHEME No: N176329 – (SDS) N 269000 – (SDS)

Council Delegate — Date: 30/5/25

Registered Land Surveyor — Date: 8/04/2025

LODGED BY SURVEY & ALIGNMENT SERVICES

STRATA PLAN

NEW SHEET 2 OF 3 SHEETS
PURSUANT TO (E3898)

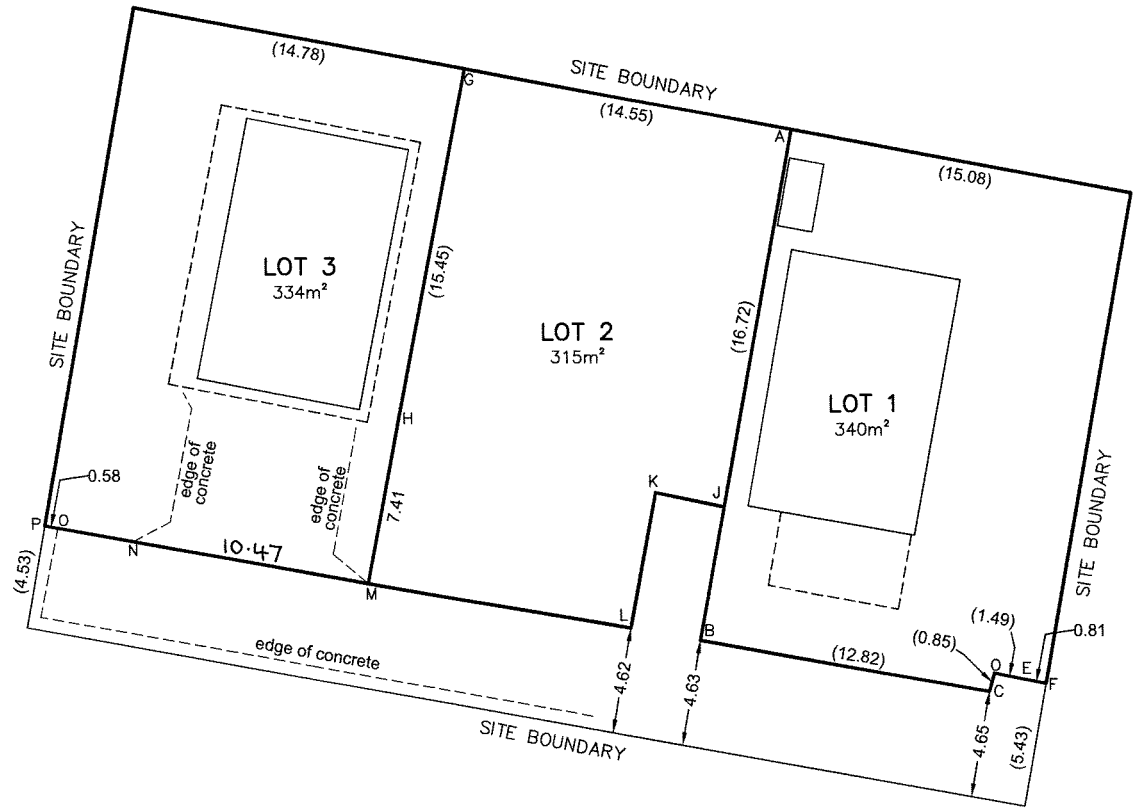
STRATA TITLES ACT 1998

Council Delegate — Date 30/5/25

Registered Number
186737

GROUND FLOOR

SCALE 1:200



THE HORIZONTAL LOT BOUNDARIES ARE SHOWN BY HEAVY UNBROKEN LINES DEFINED BY:—

- SITE BOUNDARIES
- CENTRELINE OF FENCE LABELLED ABCDE; GH
- MEASUREMENT WHERE BOUNDARY IS OPEN
- EDGE OF CONCRETE LABELLED JKLM; NO
- OPEN BOUNDARIES LABELLED EF; HM; OP

F IS THE INTERSECTION OF DE AND THE SITE BOUNDARY
A IS AT THE INTERSECTION OF AB AND THE SITE BOUNDARY
G IS AT THE INTERSECTION OF HG AND THE SITE BOUNDARY
P IS THE INTERSECTION OF NO AND THE SITE BOUNDARY

MEASUREMENTS IN BRACKETS ARE FOR BOUNDARY FIXATION ONLY.

THE VERTICAL LOT BOUNDARIES EXTEND FROM 1.00 METRE BELOW GROUND LEVEL TO 10.00 METRES ABOVE GROUND LEVEL

Registered Land Surveyor — Date 8/04/2025

STRATA PLAN

NEW SHEET 3 OF 3 SHEETS
PURSUANT TO (E 3898)

STRATA TITLES ACT 1998

Registered Number
186737

NAME OF BODY CORPORATE: STRATA CORPORATION No. 186737
33 MAINWARING STREET, BEAUTY POINT

ADDRESS FOR THE SERVICE OF NOTICES: 1/33 MAINWARING STREET, BEAUTY POINT, TAS 7270

SURVEYORS CERTIFICATE

I, Dovid Poul Tompkins of Riverside
o surveyor registered under the Surveyors Act 2002 certify thot
the building or buildings erected on the site ond drown on sheet 1 of
this plon ore within the site boundories of the folio stoted on sheet 1
ond ony encroachment beyond those boundories is properly outhorised
according to low

Registered Lond Surveyor | 8/04/2025 Dote | (2023124) Ref No

COUNCIL CERTIFICATE

I certify thot the West Tomor Council hos:
(o) opproved the lots shown in this plon and
(b) issued this certificote of opprovol in occordonce
with section 31 of the Stroto Titles Act 1998

Council Delegote | 30/5/25 Dote | MI2025082 Ref No

GENERAL UNIT ENTITLEMENTS

LOT	UNIT ENTITLEMENT
1	10
2	10
3	10
TOTAL	30

RECORDER OF TITLES TASMANIA

N176329

Application for registration of a Staged Development Scheme

Section 38 Strata Titles Act 1998

DESCRIPTION OF LAND			
Folio of the Register			
Volume	Folio	Volume	Folio
29574	4	29574	5

TO THE RECORDER OF TITLES

Name and address of Developer **WILLIAM MICHAEL & ANNELISE JAN GROENEWOLD of "EMOHRUO" 33 MAINWARING ST BEAUTY POINT TAS 7270**
Name of Staged Development Scheme **33 Mainwaring Street, Beauty Point**
Address of Staged Development Scheme **33 Mainwaring Street, Beauty Point, TAS, 7270**
Name of Registered Proprietor/s (if not the Developer)

I/We apply for registration of the Staged Development Scheme and lodge in support the following documents:
1) the master plan
2) the disclosure statement
3) certificate of approval of council
4) any affected certificates of title

Date: 20th December 2023

Signed by the Developer and Registered Proprietor

Signed: .....
Witness (Signature): .....
Print Full Name: Toby Holmes
Complete Address: 7 Bolton St Beaconsfield
: TAS
(Complete residential or complete workplace address)

Signed: .....
Witness (Signature): .....
Print Full Name: Toby Holmes
Complete Address: 7 Bolton St Beaconsfield
: TAS
(Complete residential or complete workplace address)

Land Titles Office Use Only

REGISTERED IN TASMANIA
27 MAR 2024
RECORDER OF TITLES

SDS
Version 2 (TOLD)

THE BACK OF THIS FORM MUST NOT BE USED

Created 19-Dec-2023 02:26PM

186737

RECORDER OF TITLES
TASMANIA

Disclosure Statement

Section 35(2) of the Strata Titles Act 1998
PURSUANT TO (N176329)

STAGED DEVELOPMENT SCHEME DOCUMENT

This disclosure statement contains details of a staged development scheme, which is proposed to be developed in multiple stages on the land of the developer

This disclosure statement forms part of a staged development scheme and should be read in conjunction with the master plan

1. Name and address of Developer:

William & Annelise Groenewold
214 Bowens Jetty Road, Beaconsfield, TAS, 7270

Name and address of Staged Development Scheme:

33 Mainwaring Street, Beauty Point, TAS, 7270

2. A description of the proposed development and the stages in which it is to be carried out:

2.1 Stage 1 will comprise the development of lot 1 & associated common property, and creation of a single vacant lot comprising lots 2 & 3.

2.2 Stage 2 will comprise the development of lot 2 & associated common property, and creation of vacant lot 3.

2.3 Stage 3 will comprise the development of lot 3 & associated common property.

2.4 The construction zone for stage 2 will be within lots 2 & 3 and associated common property.

2.5 The construction zone for stage 3 will be within lot 3 and associated common property.

2.6 The access zone for stages 2 & 3 will be within the common property.

3. Schedule of times, or the happening of specified events, for the commencement and completion of each stage:

3.1 Stage 1 has been commenced and will be completed upon the registration of a strata plan by the Recorder of Titles.

THE BACK OF THIS FORM MUST NOT BE USED

PURSUANT TO (N176329) 186737 DISCLOSURE STATEMENT

3.2 Stage 2 will commence upon the construction of a residential dwelling and will be completed upon the registration of a corresponding amendment to the strata plan by the Recorder of Titles.

3.3 Stage 3 will commence upon the construction of a residential dwelling and will be completed upon the registration of a corresponding amendment to the strata plan by the Recorder of Titles.

3.4 The common property driveway associated with each stage will be constructed in conjunction with each stage as necessary.

3.5 The scheme will be completed upon the registration of an amendment to the strata plan by the Recorder of Titles showing buildings on lot 3.

4. Schedule of working hours during which work may proceed for the proposed stages:

4.1 All construction work will be carried out from Mondays to Fridays between 7am and 6pm. Saturday 9am to 6pm. Sunday & Public Holidays 10am to 6pm

4.2 By necessity, concrete finishing will be completed as the prevailing weather conditions permit

5. Description of amenities to be provided: Nil

6. Purposes for which amenities are to be provided: Nil

7. Extent for which amenities are to be available for use by owners, occupiers or other invitees: Nil

8. Arrangements for providing and maintaining the amenities and defraying the cost of their provision or maintenance: Nil

9. Schedule of materials and finishes to be used in the building work involved in carrying out proposed development work:

9.1 The site will be developed in accordance with Compliance Statement PA2023109.

9.2 The proposed dwelling on lots 2 & 3 will be constructed with materials and finishes in accordance with the building detail plans shown in Compliance Statement PA2023109.

10. Schedule of the proposed unit entitlements for each proposed lot at the completion of each stage of the proposed development:

10.1 Stage 1 will allocate lot 1 10 GUE & lot 2 (lots 2 & 3 combined) 20 GUE being a total of 30 general units

10.2 Stage 2 will allocate lot 2 10 GUE & lot 3 10 GUE being a total of 20 general units.

11. Any other details relevant to the disclosure statement forming part of the scheme:

11.1 All lots and common property will be developed and maintained in accordance with the Council permits

NAME OF SCHEME:
33 Mainwaring Street, Beauty Point 2 OF 3 PAGES

THE BACK OF THIS FORM MUST NOT BE USED

186737
DISCLOSURE STATEMENT
PURSUANT TO (N176329)

WARNING

The information contained in the Master Plan and Disclosure Statement is of a general nature only as to how the development may affect you. If you require further information you should contact the developer. You may also wish to obtain your own independent advice.

Date: 20th December 2023

Developer signature.....

Signed by the developer in the presence of-

Witness:.....

Print Full Name: Toby Holmes

Postal Address: 7 Bolton st Beaconsfield TAS

Signed by West Tamar Council-

Council delegate: 22/02/2024

NAME OF SCHEME:
33 Mainwaring Street, Beauty Point 3 OF 3 PAGES

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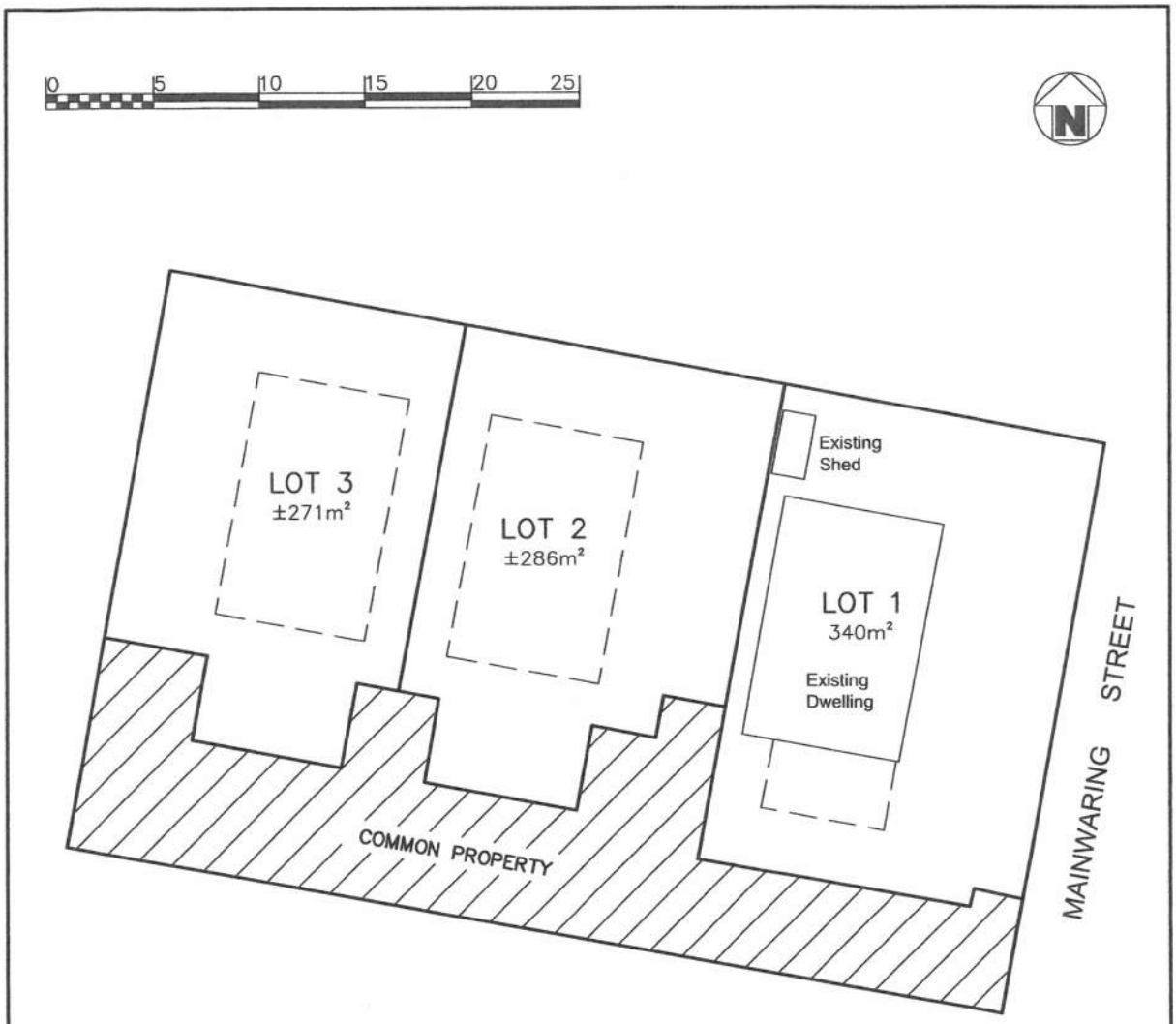
186737



Stage 1 will comprise the development of lot 1 & associated common property, and the creation of a single vacant lot comprising lots 2 & 3.

Stage 2 will comprise the development of lot 2 & associated common property, and the creation of vacant lot 3.

Stage 3 will comprise the development of lot 3 & associated common property,

The construction zone for stage 2 will be within lots 2 & 3 and associated common property.

The construction zone for stage 3 will be within lot 3 and associated common property.

The access zone for stages 2 & 3 will be within the common property.

The common property will be extended with each new stage.

MASTER PLAN
PURSUANT TO (N176329)

REFERENCE: 2023124	SCALE.	1:200 AT A3	WILLIAM MICHAEL GROENEWOLD ANNELISE JAN GROENEWOLD STAGED DEVELOPMENT SCHEME 33 MAINWARING STREET BEAUTY POINT	SURVEY & ALIGNMENT SERVICES
	DRAWN.	DT		
	SURVEYED.	DT		
	DATE.	16/12/2023		
	SHEET #	1 of 1		
	REVISION	00		

- INDUSTRIAL ALIGNMENT
- ENGINEERING SURVEYING
- LAND DEVELOPMENT

Mobile: 0429 003 584
Email: admin@survalign.com.au
Website: www.survalign.com.au

RECORDER OF TITLES TASMANIA

N269000

Application for registration of variation of a Staged Development Scheme

Section 43 Strata Titles Act 1998

DESCRIPTION OF LAND			
Folio of the Register			
Volume	Folio	Volume	Folio
186737	2		

TO THE RECORDER OF TITLES

STAGED DEVELOPMENT SCHEME NAME: **33 MAINWARING STREET, BEAUTY POINT**
Name and address of Developer: **WILLIAM MICHAEL GROENEWOLD of "ALVINA HOUSE" 214 BOWENS JETTY RD BEACONSFIELD TAS 7270**
Name of Registered Proprietor/s (if not the Developer): WILLIAM MICHAEL GROENEWOLD & ANNELISE JAN GROENEWOLD

I/We apply for registration of a variation to the Staged Development Scheme and lodge in support the following documents:
1) the proposed scheme as varied, indicating the variations
2) certificate of approval of council
3) any certificates of title affected by the variation but not formerly part of the scheme

Date: 8 JUNE 2025

Signed by the Developer and Registered Proprietor (Annelise & William Groenewold)

Signed: .....
Witness (Signature): .....
Print Full Name: DAVID PAUL TOMPKINS
Complete Address: 14 DENIS DRIVE
: RIVERSIDE, TAS, 7250
(Complete residential or complete workplace address)

Signed: .....
Witness (Signature): .....
Print Full Name: DAVID PAUL TOMPKINS
Complete Address: 14 DENIS DRIVE
: RIVERSIDE, TAS, 7250
(Complete residential or complete workplace address)

Land Titles Office Use Only

REGISTERED IN TASMANIA
- 4 JUL 2025
RECORDER OF TITLES

VSD
Version 1 (TOLD)

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Created 05-Jun-2025 02:35PM

186737

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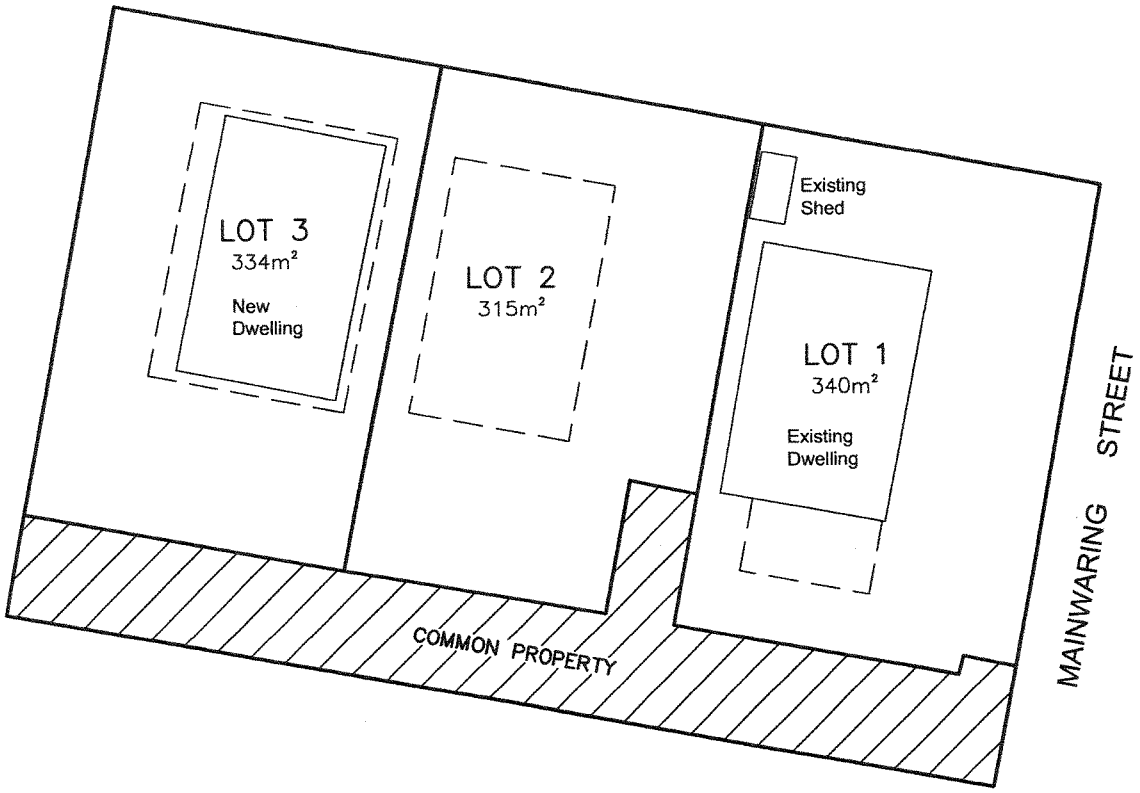


Stage 1 is complete

Stage 2 will comprise the development of lot 3 & associated common property, and the creation of vacant lot 2.

Stage 3 will comprise the development of lot 2.

The construction zone for stage 3 will be within lot 2 and associated common property.

The access zone for stage 3 will be within the common property.

The common property will be complete with stage 2.

NEW
MASTER PLAN - Rev 1
(PURSUANT TO N269000)

REFERENCE: 2023124	SCALE.	1:200 AT A3	WILLIAM MICHAEL GROENEWOLD ANNELISE JAN GROENEWOLD STAGED DEVELOPMENT SCHEME 33 MAINWARING STREET BEAUTY POINT
	DRAWN.	DT	
	SURVEYED.	DT	
	DATE.	5/06/2025	
	SHEET #	1 of 1	
	REVISION	01	

SURVEY & ALIGNMENT SERVICES

- INDUSTRIAL ALIGNMENT
- ENGINEERING SURVEYING
- LAND DEVELOPMENT

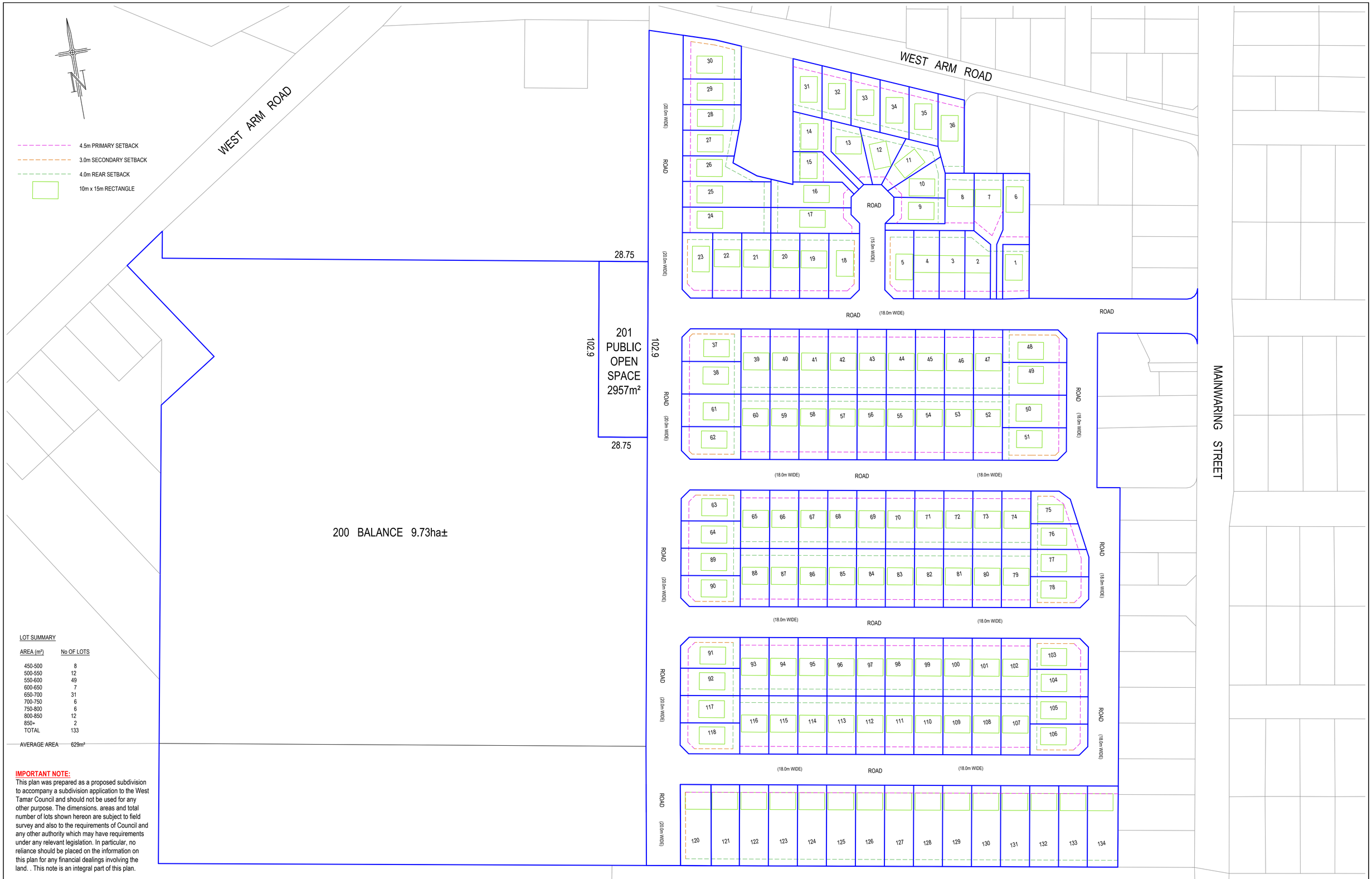
Mobile: 0429 003 584
Email: admin@survalign.com.au
Website: www.survalign.com.au

Appendix B Proposal plans

B.1 Subdivision plans

B.2 Engineering plans

B.3 Landscaping plans



LOT SUMMARY

AREA (m²)	No OF LOTS
450-500	8
500-550	12
550-600	49
600-650	7
650-700	31
700-750	6
750-800	6
800-850	12
850+	2
TOTAL	133
AVERAGE AREA	629m²

IMPORTANT NOTE:
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Contours supplied by AAD Consulting.

AMENDMENTS

No.	Revision/Issue	Date
8	INITIAL STAGE 1 ADDED	27-11-2023
9	200m CIRCLE PLAN ADDED	27-11-2023
10	POS AND BALANCE LOTS CHANGED AND MINOR AMENDMENTS	6-6-2024
11	BUFFER REMOVED SHEET 9 REMOVED	15-9-2025
12	PUBLIC OPEN SPACE HALVED AND NOTE REGARDING STAGING OF PUBLIC OPEN SPACE	28-11-2025

LEARYCOX&CRIPPS
LAND & ENGINEERING SURVEYORS
Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN

Client ADD CONSULTING

SCALE 1:1000 at A1

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Date 21-4-2020
SHEET 1 of 8
DRAWN MC
CHK'D TC

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Geocivil Ref 1137510
AutoCAD Ref 1137510
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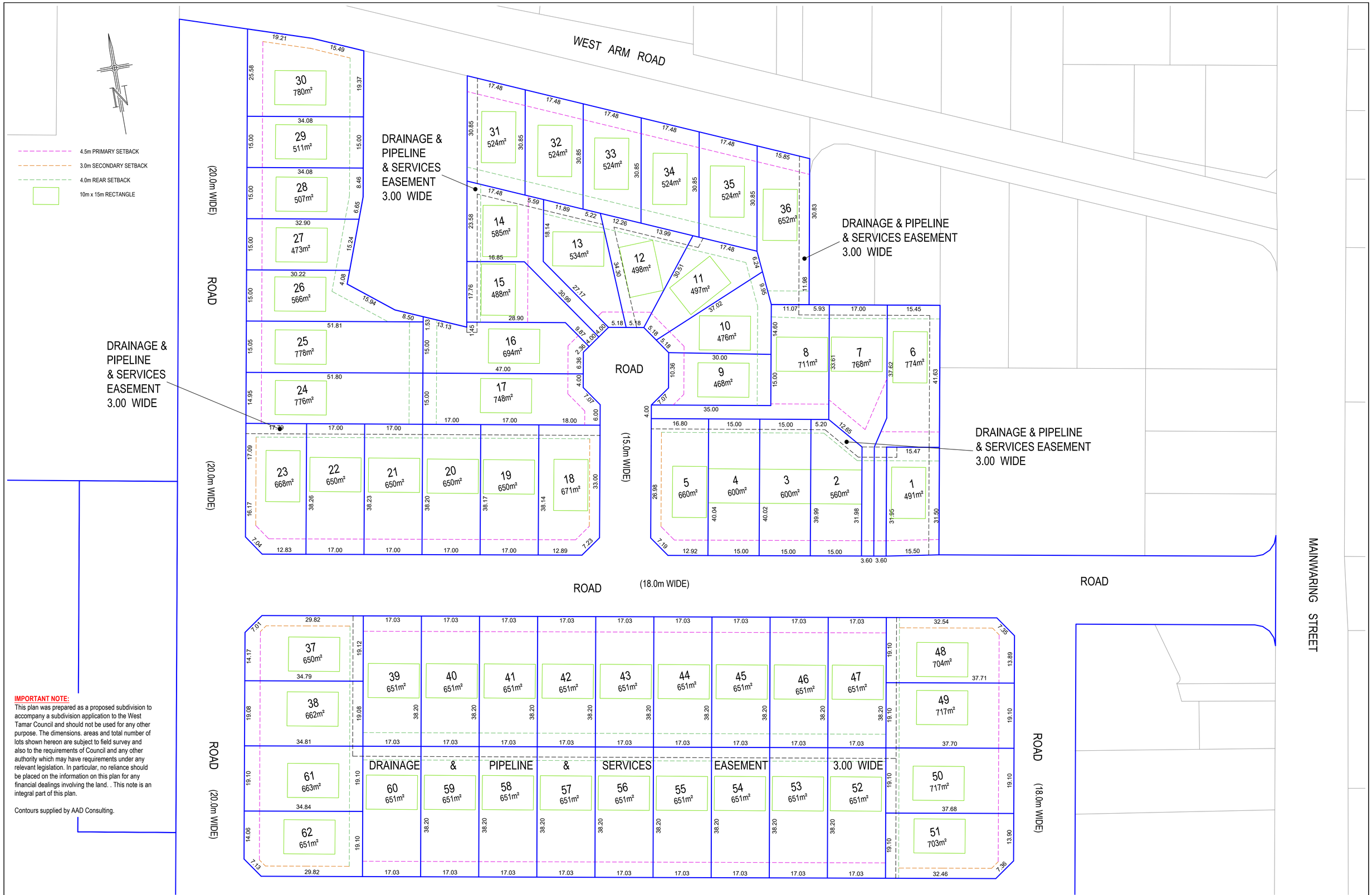

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E admin@learyandcox.com

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SHEET 2 of 8

DRAWN MC

CHK'D TC

FILE REF: 11375

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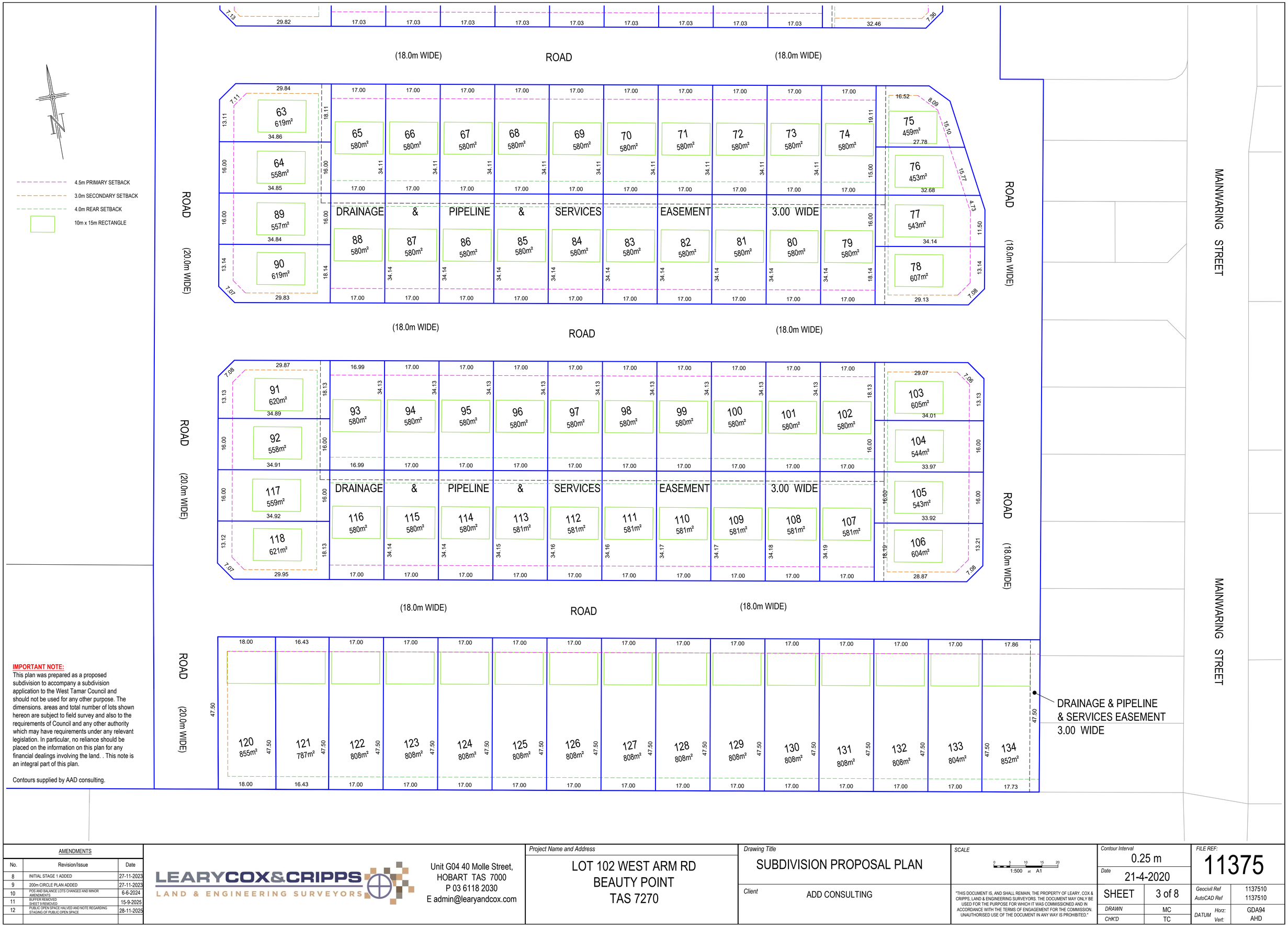

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TAS 7270

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Date	21-4-2020
SHEET	3 of 8
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CHK'D	TC
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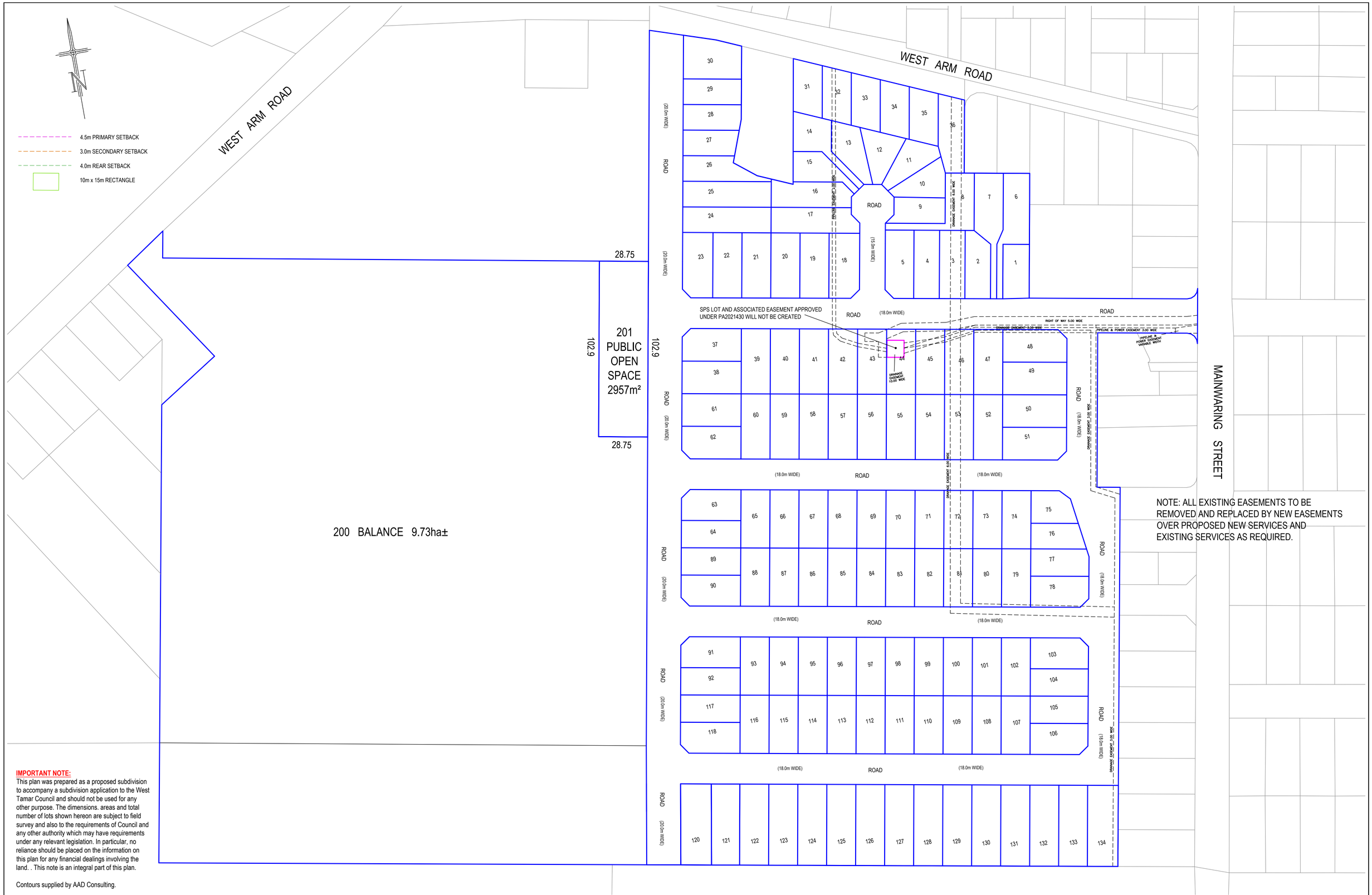
Vert:	AHD



NOTE: ALL EXISTING EASEMENTS TO BE REMOVED AND REPLACED BY NEW EASEMENTS OVER PROPOSED NEW SERVICES AND EXISTING SERVICES AS REQUIRED.

IMPORTANT NOTE:
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P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
EXISTING EASEMENTS

Client ADD CONSULTING

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Date 21-4-2020
SHEET 4 of 8
DRAWN MC
CHK'D TC
DATUM *Horz:* GDA94 *Vert:* AHD

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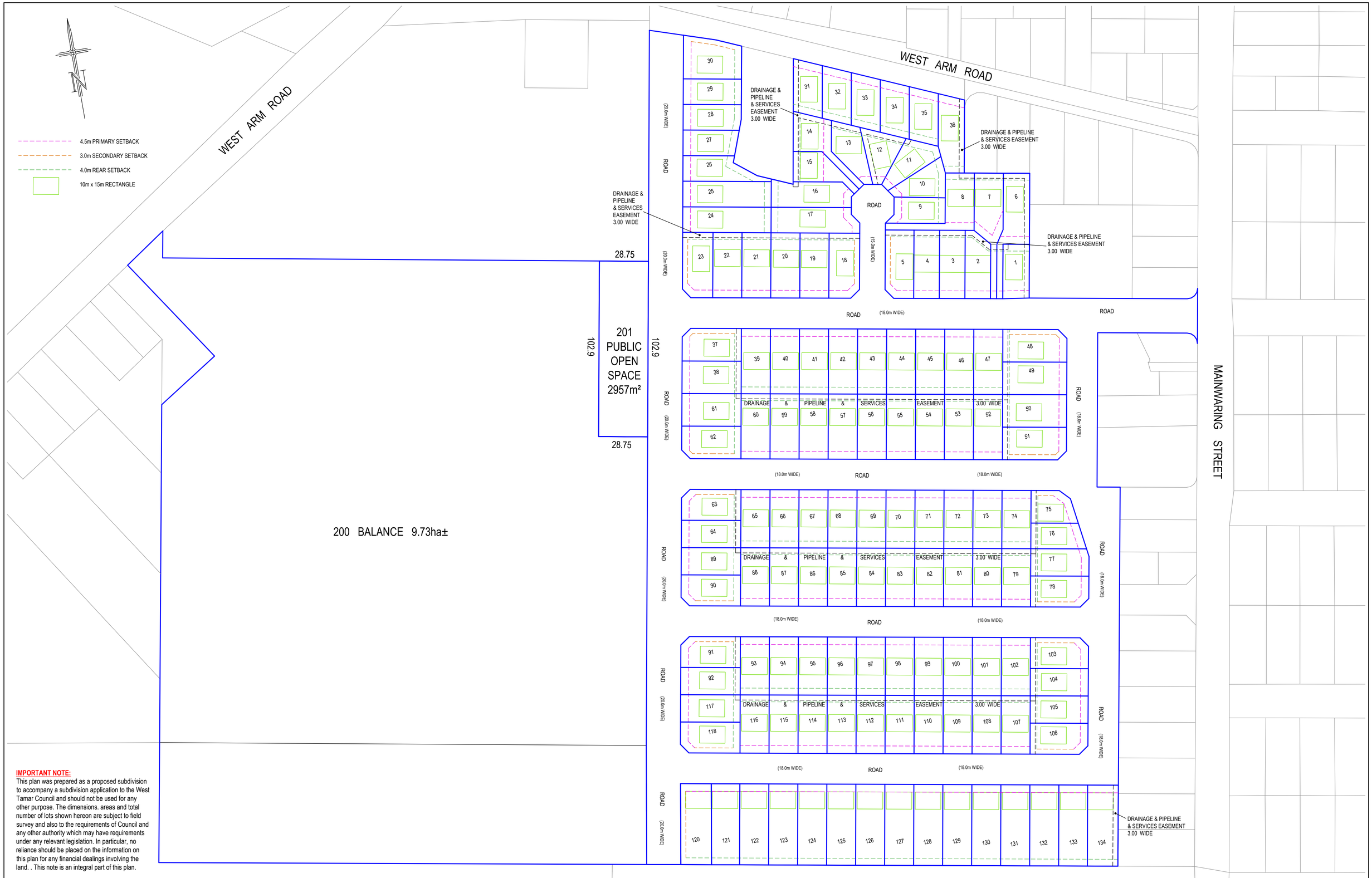
AutoCAD Ref 1137510



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LAND & ENGINEERING SURVEYORS
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HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
PROPOSED EASEMENTS

Client
ADD CONSULTING

SCALE
1:1000 at A1

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Date 21-4-2020

SHEET	5 of 8
DRAWN	MC
CHK'D	TC

FILE REF: 11375

Geocivil Ref	1137510
AutoCAD Ref	1137510
DATUM Horz:	GDA94
DATUM Vert:	AHD

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12	PUBLIC OPEN SPACE HALVED AND NOTE REGARDING STAGING OF PUBLIC OPEN SPACE.	28-11-2025

LEARYCOX&CRIPPS
LAND & ENGINEERING SURVEYORS
Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
STAGE 1

Client
ADD CONSULTING

SCALE
0 10 20 30 40
1:1000 at A1

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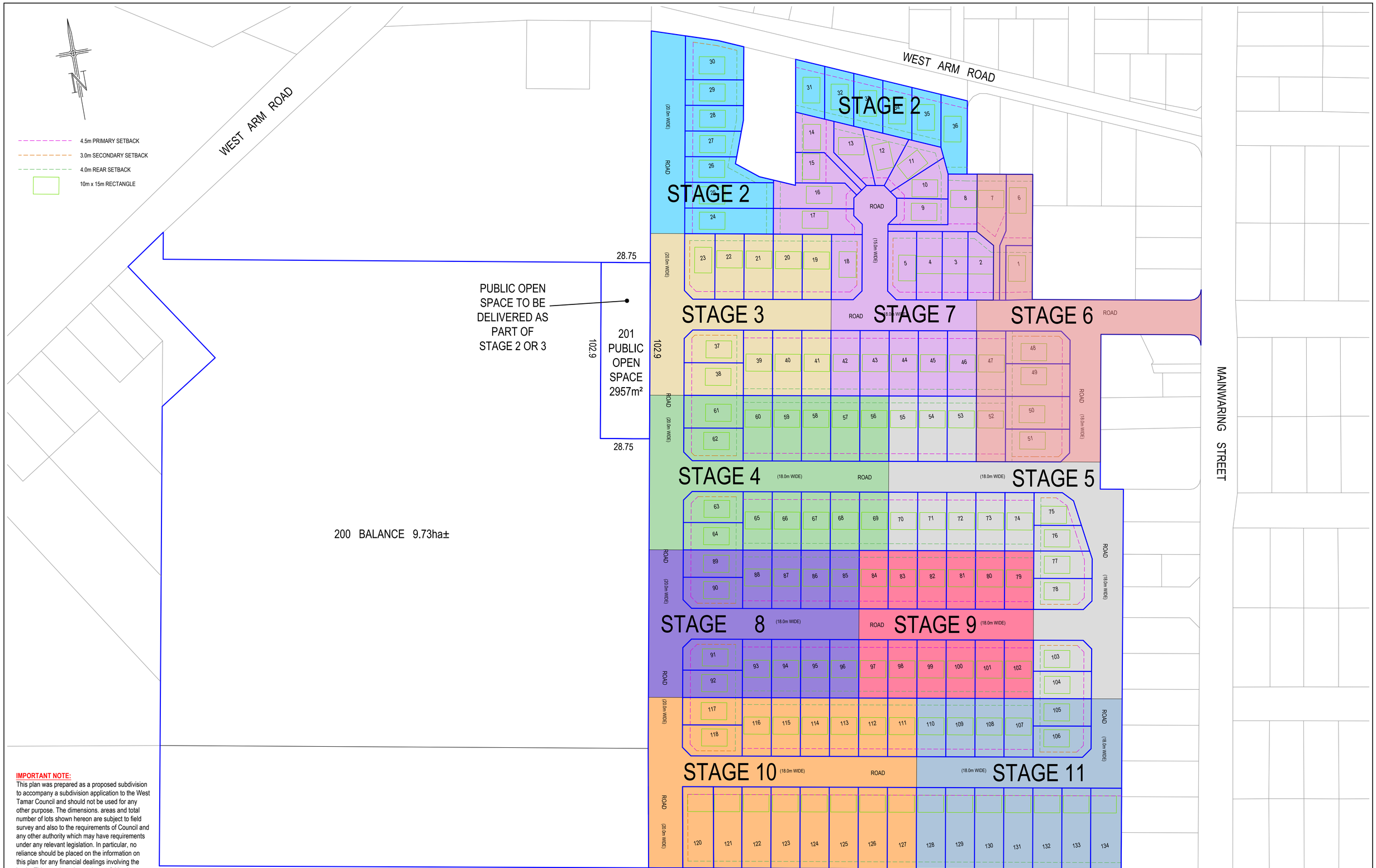
Contour Interval 0.25 m
Date 21-4-2020

SHEET	6 of 8
DRAWN	MC
CHK'D	TC

FILE REF: 11375

Geocivil Ref	1137510
AutoCAD Ref	1137510
DATUM Horz:	GDA94
Vert:	AHD



IMPORTANT NOTE:
This plan was prepared as a proposed subdivision to accompany a subdivision application to the West Tamar Council and should not be used for any other purpose. The dimensions. areas and total number of lots shown hereon are subject to field survey and also to the requirements of Council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land. . This note is an integral part of this plan.

Contours supplied by AAD Consulting.

AMENDMENTS

No.	Revision/Issue	Date
8	INITIAL STAGE 1 ADDED	27-11-2023
9	200m CIRCLE PLAN ADDED	27-11-2023
10	POS AND BALANCE LOTS CHANGED AND MINOR AMENDMENTS	6-6-2024
11	BUFFER REMOVED SHEET 9 REMOVED	15-9-2025
12	PUBLIC OPEN SPACE HALVED AND NOTE REGARDING STAGING OF PUBLIC OPEN SPACE	28-11-2025

LEARYCOX&CRIPPS
LAND & ENGINEERING SURVEYORS
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Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
STAGE 2-11

Client
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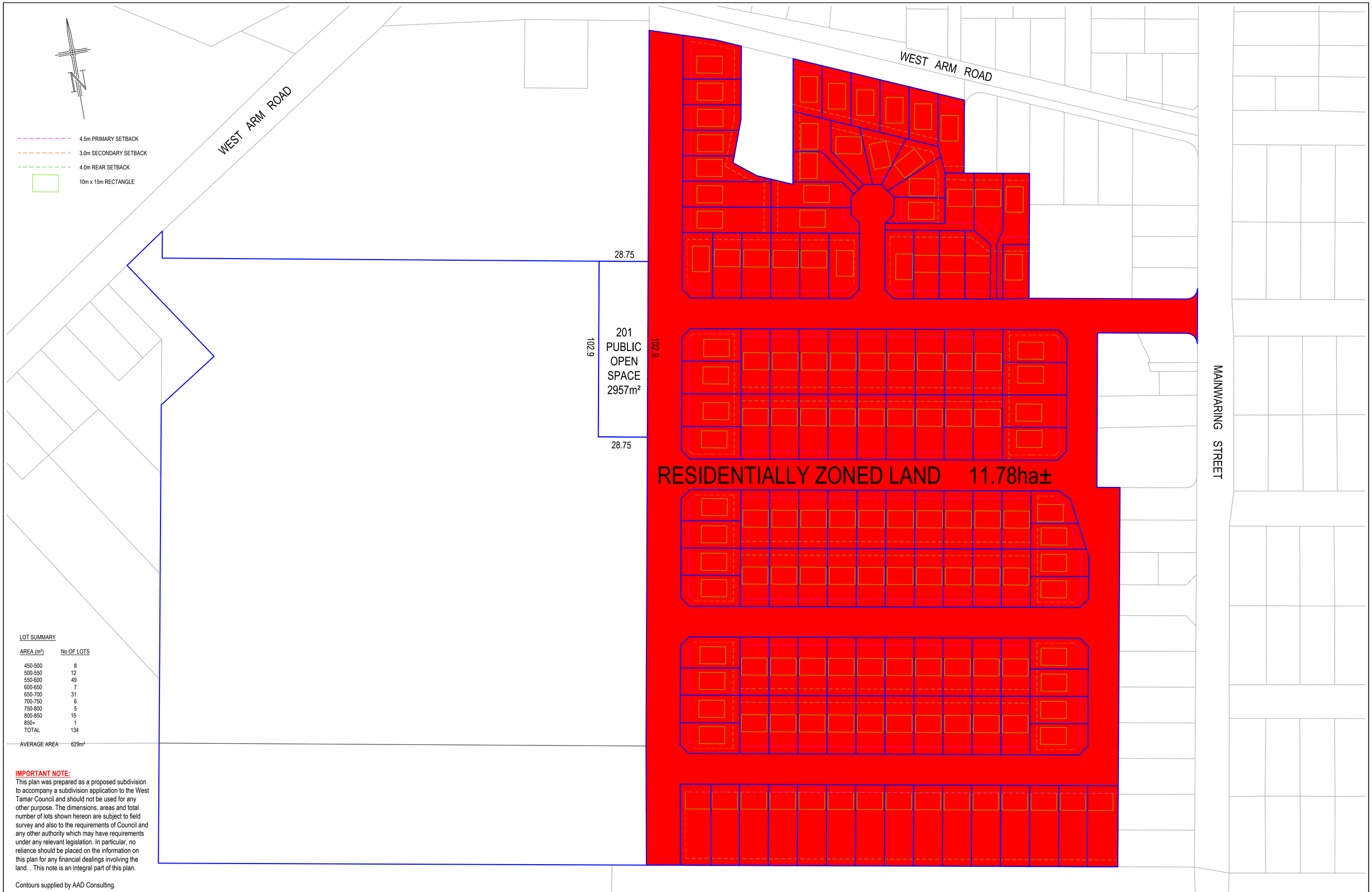
Contour Interval 0.25 m
Date 21-4-2020

SHEET	7 of 8
DRAWN	MC
CHK'D	TC

FILE REF: 11375

Geocivil Ref	1137510
AutoCAD Ref	1137510
DATUM Horz:	GDA94
Vert:	AHD



LOT SUMMARY

AREA (m²)	No OF LOTS
450-500	8
500-550	12
550-600	49
600-650	7
650-700	31
700-750	6
750-800	5
800-850	15
850+	1
TOTAL	134
AVERAGE AREA	629m²

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12	PUBLIC OPEN SPACE HALVED AND NOTE REGARDING STAGING OF PUBLIC OPEN SPACE	28-11-2025

LEARYCOX&CRIPPS
LAND & ENGINEERING SURVEYORS

Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address

LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title

SUBDIVISION PROPOSAL PLAN
AREA OF RESIDENTIAL ZONED LAND

Client ADD CONSULTING

SCALE 1:1000 at A1

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Contour Interval 0.25 m

Date 21-4-2020

SHEET 8 of 8

DRAWN MC

CHK'D TC

FILE REF: 11375

Geocivil Ref 1137510

AutoCAD Ref 1137510

DATUM *Horz:* GDA94 *Vert:* AHD

Beauty Point Subdivision
Lot 102 West Arm Road, Tasmania, TAS 7270
For Approval

Locality Plan - Beauty Point Subdivision
Scale N.T.S

DRAWING LIST	
NUMBER	DESCRIPTION
D-1-00-01	Cover Sheet
D-1-00-02	Legend
D-1-00-03	Project Notes
D-1-01-01	Key Plan
D-1-06-00	Roadworks General Arrangement - Overall
D-1-07-00	Drainage General Arrangement - Overall
D-1-07-01	Drainage General Arrangement - Sheet 1
D-1-07-02	Drainage General Arrangement - Sheet 2
D-1-07-03	Drainage General Arrangement - Sheet 3
D-1-08-01	Typical Sections - Sheet 1
D-1-08-02	Typical Section - Sheet 2
D-1-10-00	Water and Sewer General Arrangement - Overall
D-1-10-01	Water and Sewer General Arrangement - Sheet 1
D-1-10-02	Water and Sewer General Arrangement - Sheet 2
D-1-10-03	Water and Sewer General Arrangement - Sheet 3

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FOR APPROVAL
NOT FOR CONSTRUCTION

Rev No	Date	Revision Note	Drn	Ver.	App.
B	04/12/23	Drawing Removed, and Development area amended	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Cover Sheet

Project No.: 20018
Scale: NTS
Sheet Size: A3
Drawing No.: D-1-00-01
Rev: B

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Legend

Existing

- 12.5 — Contours Labels
- Contours Major
- Contours Minor
- Boundary Cadastral
- Boundary Easement
- Boundary Fence
- 12 — Boundary Lot Numbers
- Boundary Property Line
- Building Outline
- Building Retaining Wall
- Building Roof Cover
- Building Stairs
- Building Wall
- Earthworks Batter Top
- Earthworks Batter Toe
- Driveway/Access
- Road Centre Line
- Road Edge of Pavement
- Road Edge of Formation
- Road Unsealed Edge
- Road Kerb
- Road Edge Of Median
- Road Footpath
- Road Table Drain
- Road Barrier W-Beam
- Road Barrier Wire Rope

- SW — Drainage Pipe
- Drainage Structure
- Drainage Dish Drain
- OD — Drainage Open Drain
- SD — Drainage Spoon Drain
- D — Drainage Table Drain
- WC — Drainage Water Course
- KA — Drainage Kerb Connection
- S — Sewer Main
- S—RM — Sewer Rising Main
- S—TM — Sewer Trunk Main
- Sewer Structures
- W — Water Main
- RW — Water Main - Recycled
- WT — Water Main - Trunk Main
- Water Fittings
- Section Existing Surface
- T — Comms
- OF — Comms Optic Fibre
- Comms Tele Conc Pit
- Comms Tele Conc Pit Twin
- G — Gas Main
- HP—G — Gas Main High Pressure
- GMH — Gas Manhole
- E—UG — Power Underground
- E—OH — Power Overhead
- Power/Tele Overhead
- EJB — Power Junction Box
- Power Light Outreach
- Power Pole Light
- EP — Power Pole Power

Design

- 4.0 — Contours Labels
- Contours Major
- Contours Minor
- Boundary Property
- Boundary Easement
- 12 — Boundary Lot Numbers
- Development Boundary
- Stage Boundary
- Earthworks Batter
- Earthworks Batter Top
- Earthworks Batter Toe
- face — Retaining wall
- Fence
- Lot Fall Direction
- Misc Demolish
- Driveway Crossover/Access
- Road Control Line
- Road Edge of Concrete
- Road Kerb Back
- Road Kerb Invert
- Road Kerb Lib
- Road Kerb Top
- Road Edge Of Lane Seal
- Road Shoulder
- Road Edge Of Median
- Road Verge
- Road Footpath
- Road Table Drain
- Road Barrier W-Beam
- Road Barrier Wire Rope
- SJ — Road Sawcut
- Line Marking

- SW — Drainage Pipe
- ISW — Drainage Internal
- Drainage Structure Internal
- SS — Drainage Subsoil
- Drainage GVP
- Drainage SEP Type 1
- Drainage SEP Type 2
- Drainage SEP Type 3
- Drainage SEP Type 4
- Drainage SEP Type 5
- Drainage SEP Type 6
- Drainage Field Inlet
- Drainage Manhole
- KA — Drainage Kerb Connection
- Detention Basin
- Flow Path Arrow
- S — Sewer Main
- S-RM — Sewer Rising Main (SRM)
- SI — Sewer Internal
- Sewer Structures Internal
- Sewer Structures
- W — Water Main
- IW — Water Internal
- Water Fittings Internal
- Water Fittings
- Section Design Surface
- Section Nominal Stripping
- T — Comms
- T[FO] — Comms Optical Fiber
- Comms Tele Conc Pit
- Comms Tele Conc Pit Twin
- G — Gas main
- GMH — Gas Manhole
- EUG — Power Underground
- E(OH) — Power Overhead
- EJB — Power Junction Box
- Power Light Outreach
- Power Pole Light
- EP — Power Pole Power

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NOT FOR CONSTRUCTION

Rev No	Date	Revision Note	Drn	Ver.	App.
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Legend

Project No.: 20018
Scale: NTS
Sheet Size: A3
Drawing No.: D-1-00-02
Rev: A

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PROJECT NOTES

General

1. These notes have been prepared as a guide to relevant codes, regulations and standards for use by the Contractor during the construction process.
2. Council & LGAT current specifications and drawings are to be read in conjunction with these drawings. Works to be carried out to the satisfaction of the Council and in accordance with relevant Permits.
3. The Council and all service authorities shall be notified, in writing, seven days prior to commencement of the works. All existing services in the vicinity of the works are to be located prior to commencement.
3. Workmanship and materials are to comply with the requirements of relevant S.A.A. Codes, the NCC Australia and by-laws and ordinances of relevant building authorities. All codes referred to are those current (as amended) at commencement of the Contract.
4. Prior to commencement of the works, the Contractor shall provide the Superintendent with the following information:
   (a) Source of quarry material.
   (b) Optimum moisture content and maximum modified dry density of the fine crushed rock (FCR), to be used from NATA approved laboratory.
   (c) If the source of the quarry material is changed during the course of the works, new test results shall be provided.
5. On completion, the Contractor is responsible for the removal of all rubbish and spoil from the site.
6. All services are to be located prior to commencement of works.
7. All levels are to be confirmed prior to commencement of works.
8. All levels are to the Australian Height Datum (Tasmania) 1983.

Approvals

1. The Contractor is responsible for ensuring that start work notices are in placed for all works.
2. The Contractor shall not commence construction within a road reserve until the following requirements are met:

   2.1 The 'Permit to Carry Out Works Within a Council Road Reservation' (or equivalent) has been issued by Council; and

   2.2 All traffic management has been prepared in accordance with DSG Traffic Control Code of Practice.
3. Refer to Council permit for full disclosure of permit conditions.

Safety in Design

1. The 'Safety in Design' risk mitigation measures for this project do not necessarily account for all design, construction, operation, maintenance and demolition assessments. It does not reduce or limit the obligations of the constructor, user, operator, maintainer and demolisher to perform their own safety in design risk assessment.
2. Construction and installation safe work method statements, to eliminate and minimise installation risks, must be reviewed and approved by a suitably qualified person.

Soil and Water Management

1. The Contractor must implement soil and water management procedures to avoid erosion, contamination and sedimentation of site, surrounding areas and drainage systems.
2. All works are to be carried out in accordance with the EPA Tasmania 'Soil & Water Management on Large Building & Construction Sites'. All guidelines are available from the EPA Tasmania and Derwent Estuary Program websites.

Earthworks

1. All general earthworks, material and workmanship shall comply with the current edition of the S.A.A. AS 3798 Guidelines on Earthworks for Commercial and Residential Developments, where applicable.
2. The Contractor is to engage an approved Geotechnical Engineer to carry out Level 1 Inspection and Testing of all earthworks to AS3798, including but not limited to:

   2.1. Subgrade;
   2.2. Fills;
   2.3. Pavements; and
   2.4. Backfilling of service trenches.

   Certification of these elements are to be provided to the Superintendent prior to practical completion.
3. All earthwork filling is to be constructed in accordance with Section 6 of AS3798. Minimum 95% standard dry density (SMDD).
4. Pavement subgrade is to be compacted to a minimum 98% standard dry density (SMDD).
5. The Contractor shall erect and maintain all shoring, planking and strutting, dewatering devices, barricades, signs, lights etc necessary to keep works in a safe and stable condition and for the protection of the public.
6. The Contractor must take the utmost care to protect all existing vegetation, unless identified on the civil works plans for removal. Should any tree be removed without the Council's written authority, or damaged due to negligence by the Contractor, then the Contractor shall pay compensation for the tree.
7. All areas shown on the drawings to be cut or filled are to be stripped of topsoil. Upon completion of the bulk earthworks, the topsoil is to be spread to a depth of 100mm over the area and graded to finished levels shown on the drawings with a minimum slope of 1 in 150.

Services

1. All conduit trenches under road pavement and kerb and channel shall be backfilled with 20 mm Class 4 FCR.
2. Connections to existing stormwater and sewer are to be constructed to Council & TasWater standards and in accordance with approvals.
3. Telstra conduits and cable ducts shall be laid in trenches excavated and backfilled by the Contractor. The Contractor shall give the Telstra Area Engineer 7 days notice prior to commencing work.
4. 100 mm diameter sub soil drains to be constructed behind or under kerb and channel, kerb only and edge strips where directed by the Superintendent or as shown on the plans and to be connected to underground SW drains.
5. The reinstatement and compaction of public authority service trenches shall be the Contractors responsibility, and to the satisfaction of the Council.

Signage

1. The Contractor is to install all signage.
2. The Contractor is to install "end of road" barricade/sign at end of works in accordance with staging plans.

Roads

1. All works are to be carried out in accordance with Council and DSG standards. Any departures from the standards requires the prior approval of the Superintendent and the Council Municipal Engineer.
2. The Contractor must supply to the Superintendent a schedule and plan of testing to be carried out on pavement & backfill material and this is to be approved by the Superintendent before any works can commence.
3. All batters shall be 1 in 4 unless otherwise stated.
4. All footpaths to be 100mm thick,N25 concrete in accordance with TSD-R11-v3. Thickening at vehicle crossovers is to be in accordance with TSD-R09-v3.
5. All kerb and channel, kerb only, edge strips, and concrete inverts are to be constructed in accordance with TSD-R14-v3. All concrete is to be 25MPa and have a minimum cement content of 280 kg/m^3.
6. For all filling and backfilling requirements, refer to Earthworks section.

Drainage

1. All works to be carried out in accordance with Council Municipal Standards, LGAT standard drawings, AS3500 and project specification where required and to the satisfactory of the Council.
2. All fill material is to be placed and compacted prior to excavation of trenches.
3. All trench excavations over 1.5m in depth must be carried out in accordance with the Safe Work Australia Excavation Work Code of Practice. The Contractor is to notify the Superintendent 48 hours prior to commencing excavations.
4. All stormwater drains shall be as specified on drawings, if not specified all pipes are to be Iplex Blackmax or approved equivalent.
5. All stormwater pits in allotments shall be 1.0m offset from building lines unless otherwise shown.
6. For all pits constructed on steep terrain, the finished surface profile of the structure is to match the existing or finished slope of the ground.
7. All house drains for allotments shall be at a sufficient depth to control drainage at a minimum of 1 in 100 fall from all points within the building area, and shall be connected to underground drains in road reserves where possible, with 600mm minimum cover at the building line. House drains to be placed 2.0m from the low corner of the lot unless otherwise shown.
8. All pipes, located beneath existing or proposed road pavement, driveways, footpaths and drains must be completely backfilled with 20mm, Class 4 FCR, watered, compacted & tested to the satisfaction of Council.
9. All pipe work in stormwater drainage pits are to be well aligned ensuring incoming flows are jetted directly to the outlet pipe, that is, the centre line of the inlet pipe is to intersect the centre line of the outlet pipe at the outlet pit wall.
10. All stormwater pits unless otherwise specified are to be constructed with a minimum concrete strength of 25MPa and provide 2 No. 65 dia weep holes for stormwater side entry pits and manholes.
11. All stormwater lot connections are to be 150 mm dia PVC Class SN8 pipes. Unused connections and to be sealed.
12. All anchor blocks (concrete bulkheads) are to be keyed into undisturbed, competent material to ensure movement of bedding and backfill material is reduced and the integrity of the pipe is maintained.

Water

1. All water works are to be constructed in accordance with WSAA Water Supply Code of Australia (MRWA) - WSA 03-2011 VER 3.1, AS/NZS 3500 Part 0-4:2021 and the TasWater Supplement to the Code.
2. All property connections are to be DN25 PE100 PN16 and in accordance with TWS-W-0002 with meter with integral dual check valve, gate valve and PVC box as specified by TasWater.
3. All thrust blocks to be in accordance with WSA03-2011-3.1 MRWA VER 2.0 MRWA-W-204 AND 205.
4. Detector tape is to be installed over all non-metallic water mains.
5. All conduits for poly water road crossings are to be uPVC SN4 100mm.
6. All dual service road crossings are to be DN63 PE100 PN16 pipe.
7. All single service road crossings are to be DN32 PE100 PN16 pipe.
8. All hydrant road marking indicators shall be in accordance with Section 8 of the Institute of Municipal Engineering Australia's Tasmanian Division document titled 'Fire Hydrant Guidelines' and the TasWater Supplement to WSA 03-2011-3.1 MRWA.
9. All water works must be tested and inspected by TasWater prior to backfill.
10. The allowable deflections shall be in accordance with MRWA-W-212.

Sewerage

1. All sewerage works are to be in accordance with the WSAA Sewerage Code of Australia (MRWA) WSA 02-2014-3.1 MRWA VER 2.0, AS/NZS 3500 Part 0-4:2021 and the TasWater Supplement to the Code.
2. All maintenance structures are to be constructed in accordance with MRWA standard drawings MRWA-S-308 to MRWA-S-314.
3. All maintenance shafts are to be constructed in accordance with MRWA standard drawing MRWA-S-305.
4. All property connections are to be 100mm UPVC SN10 unless noted otherwise and are to be constructed in accordance with MRWA standard drawings MRWA-S-301, MRWA-S-302 (Type 1), MRWA-S-303 (Type 2) and MRWA-S-304 (Type 4).
5. All sewer pipes to be DN150 UPVC minimum SN8 solvent weld joint.
6. All pipework under trafficable areas, including driveways are to be backfilled with 20mm, Class 4 FCR.
7. All sewer works must be tested and inspected by TasWater prior to backfill.
8. Fall through manholes to be as specified on design drawings

Schedule of works by TasWater

1. All live connections for water and sewer infrastructure are to be performed by the an approved TasWater contractor at the Developer's cost.

Services Constructed in Embankment Fill

Where the location of water or sewer requires fill or construction in an embankment, along the alignment shown in the design drawings.

Proceed as follows:

1. Prepare the foundation for filling by cleaning away all debris, vegetation, organic material and topsoil for the full width of the fill area.
2. Compact the cleared soil surface to not less than 95% of the standard maximum dry density (SMDD) (AS3798).
3. Place the fill in layers not exceeding 200mm thickness and compact each layer to not less than 95% of it's standard maximum dry density (SMDD) (AS3798). Bring the compacted fill level up to a height of at least 300mm above the design level of the top of the pipe.
4. Place the remainder of the fill in layers not exceeding 300mm thickness and compact each layer to not less than 95% of the standard maximum dry density (SMDD) (AS3798).

Note that all earthworks are to be constructed in accordance with AS3798.

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NOT FOR CONSTRUCTION

Rev No	Date	Revision Note	Drn	Ver.	App.
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Project Notes

Project No.: 20018
Scale: NTS
Sheet Size: A3
Drawing No.: D-1-00-03
Rev: A

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NOT FOR CONSTRUCTION

Rev No	Date	Revision Note	Drn	Ver.	App.
B	04/12/23	Lot 200 and 201 shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Key Plan

Project No.: 20018
Scale: NTS
Sheet Size: A3
Drawing No.: D-1-01-01
Rev: B

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15.0
Right of way easement
(for lot 200 - private)
Pedestrian/maintenance vehicle
access to future frog habitat pathway
201
PUBLIC OPEN
SPACE
5915m²
3.6m wide Balance Lot Access.
ReferLGAT TSD-R09
Road 1
Road 2
Road 3
Road 4
Road 5
Road 6
Road 7
8.9
6.9
6.5
9.95
West Arm Rd
Eton St
Lenborough St
Mainwaring St
Lempriere Av
Napier St
Jellico St
Scott St
Beatty St
Street parking
Beauty Point
Bowls Club
13A
0 20 40 60 80 100m
SCALE 1:2000 A3
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Rev No	Date	Revision Note	Drn	Ver.	App.
C	3/8/24	Council RFI	FP	AD	AD
B	04/12/23	Lots 200, 201 and Right of way easement shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn BW	Signed	Date 29/08/23
Designed BW	Signed	Date 29/08/23
Checked TN	Signed	Date 29/08/23
Approved AD	Signed	Date 29/08/23

Drawing Title: Roadworks General Arrangement Overall

FOR APPROVAL
NOT FOR CONSTRUCTION

Project No. 20018	
Scale 1:2000m	Sheet Size A3
Drawing No. D-1-06-00	Rev B

PLOTTED: 10/16/2024 8:07:35 PM c:\12ds\data\addc-s1\20018 - beauty point subdivision_41\02 cadd\drawings\da\d-1-06-00.dwg

Provide suitably sized inlet structure within the subject site to collect the upstream catchment including locally shaping the surround area and scour protection

GPT's Final location, size and configuration to be determined during Detail Design phase.

Connection of overflow from frog wetland to the proposed stormwater system be determined during Detail Design phase.

FLF's Final location, size and configuration to be determined during Detail Design phase.

Existing Stormwater main and outlet to be upgraded to accommodate increased runoff from proposed development.

201 PUBLIC OPEN SPACE 5915m²

Road 1 Road 1 Road 1

Road 2 Road 3 Road 3 Road 4 Road 5 Road 6 Road 7

West Arm Rd

Eton St

Lenborough St

Mainwaring St

Lempriere Av

Napier St Jellico St Scott St Beatty St

Beauty Point Bowls Club

0 20 40 60 80 100m

SCALE 1:2000 A3

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B	04/12/23	Lot 200 and 201 shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

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Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	MB	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Drainage General Arrangement Overall

Project No. 20018

Scale 1:2000m | Sheet Size A3

Drawing No. D-1-07-00 | Rev B

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Existing Stormwater main and outlet to be upgraded to accommodate increased runoff from proposed development.

Existing table drain to be filled in and provide new verge profile as detailed

Provide new kerb and channel and neatly connect to West Arm Road. Refer LGAT Std Drg TSD-R15

Atlan FlowFilter (Hydrosystem) FLF 2500/17 or approved equivalent. Location TBC during detailed desing

The location of the crossover driveways is indicative and to be confirmed during detailed design

West Arm Rd

Eton St

Lenborough St

Mainwaring St

Road 1

Road 4

Road 7

201 OPEN SPACE

Beauty Point Bowls Club

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0 10 20 30 40 50m

SCALE 1:1000 A3

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Client: Dourias Group Holdings

Project: Beauty Point Subdivision

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Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Drainage General Arrangement Sheet 1

Project No. 20018
Scale 1:1000m
Sheet Size A3
Drawing No. D-1-07-01
Rev B

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Project: Beauty Point Subdivision

Drawn: BW	Signed	Date: 29/08/23
Designed: MB	Signed	Date: 29/08/23
Checked: TN	Signed	Date: 29/08/23
Approved: AD	Signed	Date: 29/08/23

Drawing Title: Drainage General Arrangement Sheet 2

Project No.: 20018
Scale: 1:1000m
Sheet Size: A3
Drawing No.: D-1-07-02
Rev: B

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Road 1
Road 2
Road 3
Road 6
Lempriere Av
Mainwaring St

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Internal service layouts are preliminary in nature and subject to change during detailed design phase

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0 10 20 30 40 50m
SCALE 1:1000 A3

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Project: Beauty Point Subdivision

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Designed MB	Signed	Date 29/08/23	
Checked TN	Signed	Date 29/08/23	
Approved AD	Signed	Date 29/08/23	

Drawing Title: Drainage General Arrangement Sheet 3

Project No. 20018
Scale 1:1000m
Sheet Size A3
Drawing No. D-1-07-03
Rev B

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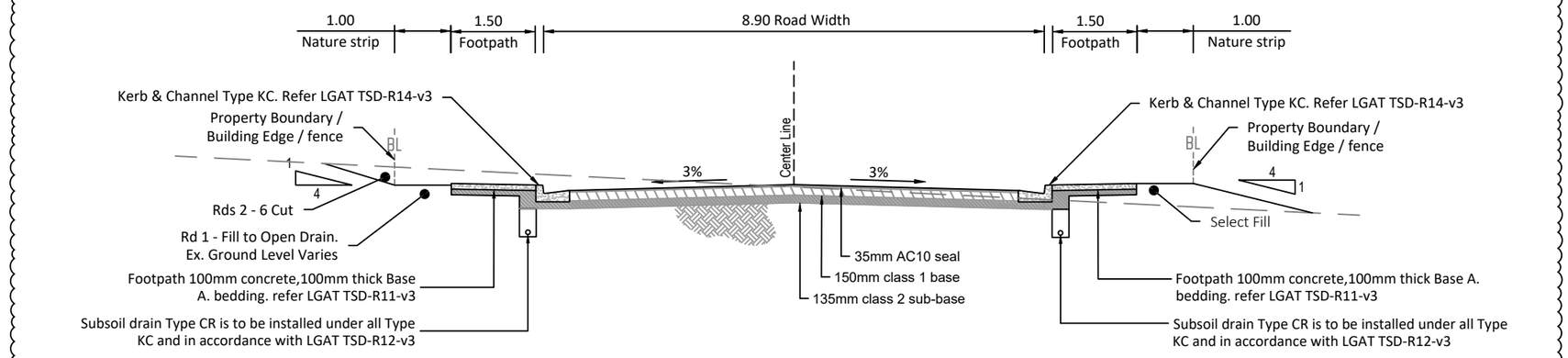
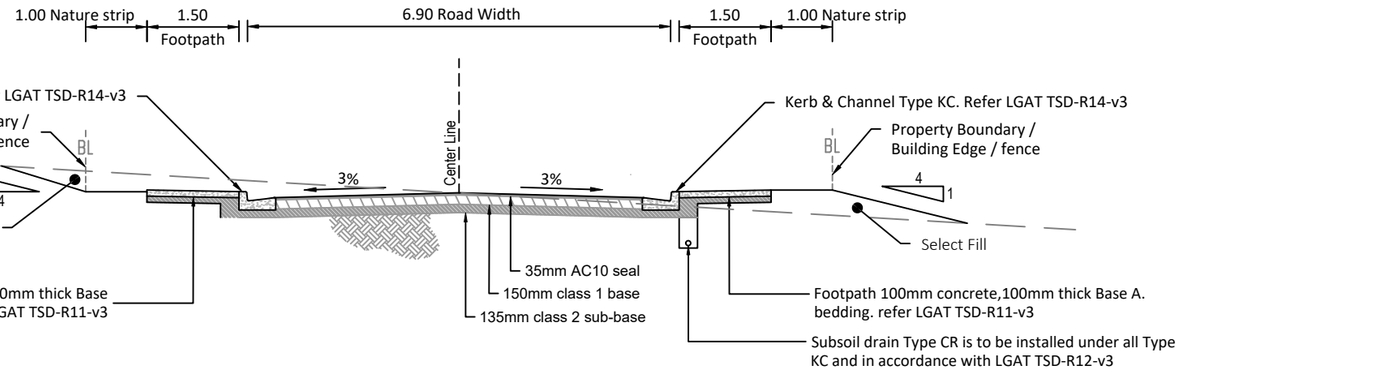
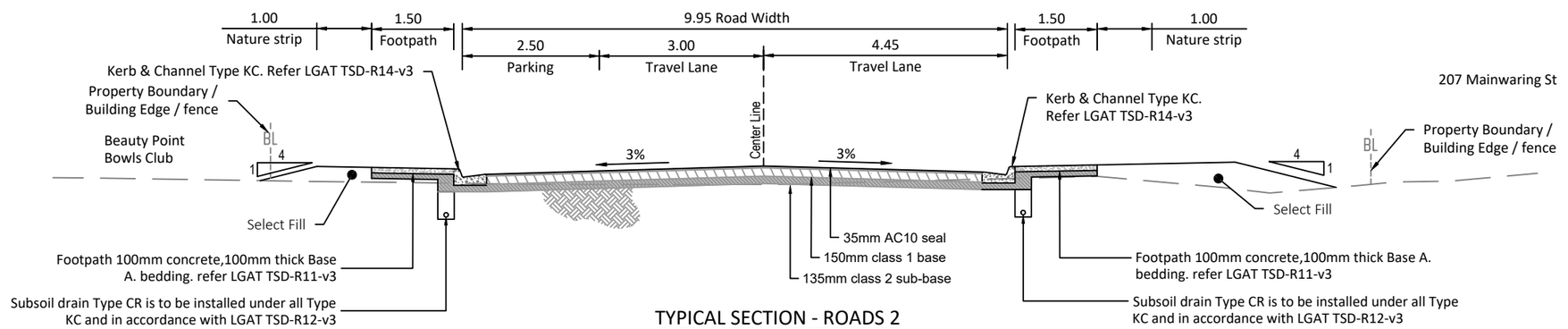
B



TYPICAL SECTION - ROADS 1, 2 - 6
SCALE 1:100



TYPICAL SECTION - ROAD 7
SCALE 1:100



TYPICAL SECTION - ROADS 2
along existing bondary with Beauty Point Bowls Club
SCALE 1:100

0 1.0 2.0 3.0 4.0 5.0m

SCALE 1:100 A3

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Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Typical Sections
Sheet 1

Project No. 20018
Scale 1:100m
Sheet Size A3
Drawing No. D-1-08-01
Rev A

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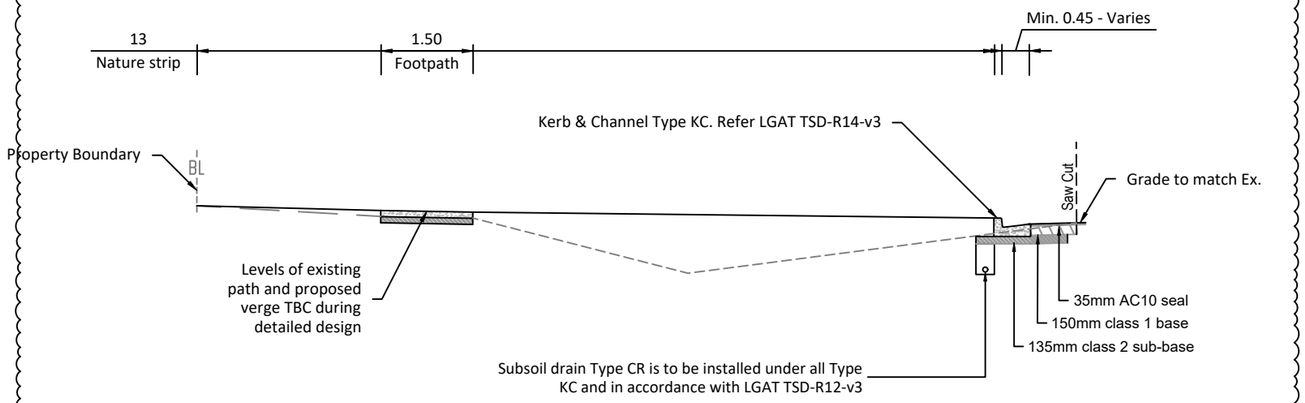
B



TYPICAL SECTION - WEST ARM ROAD

SCALE 1:100

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0 1.0 2.0 3.0 4.0 5.0m

SCALE 1:100 A3

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Designed	BW	Signed	Date 29/08/23
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Approved	AD	Signed	Date 29/08/23

Drawing Title: Typical Section Sheet 2

Project No.: 20018
Scale: 1:100m
Sheet Size: A3
Drawing No.: D-1-08-02
Rev: A

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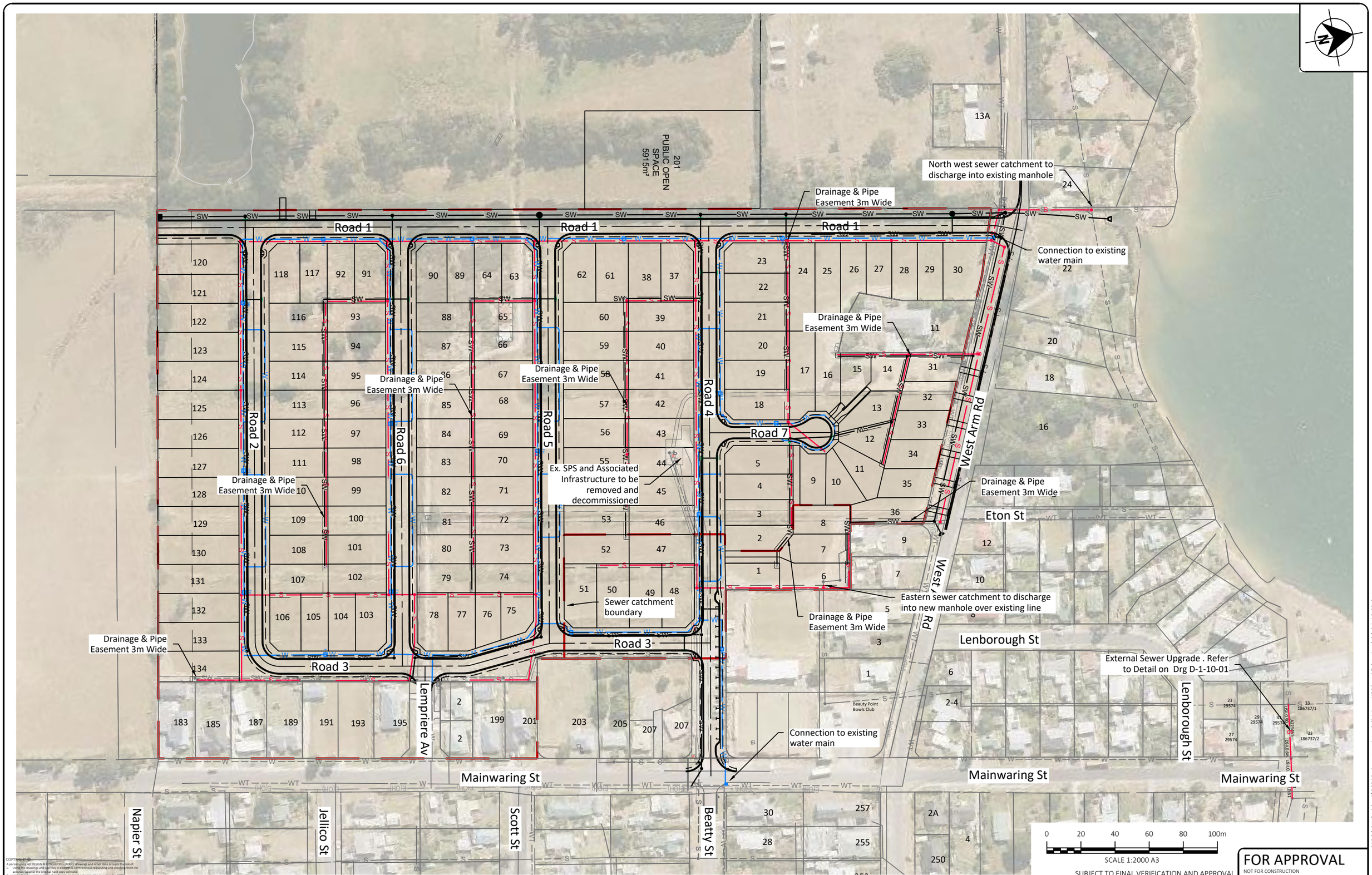

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Project: Beauty Point Subdivision

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Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Water and Sewerage General Arrangement Overall

Project No.: 20018
Scale: 1:2000m
Sheet Size: A3
Drawing No.: D-1-10-00
Rev: B

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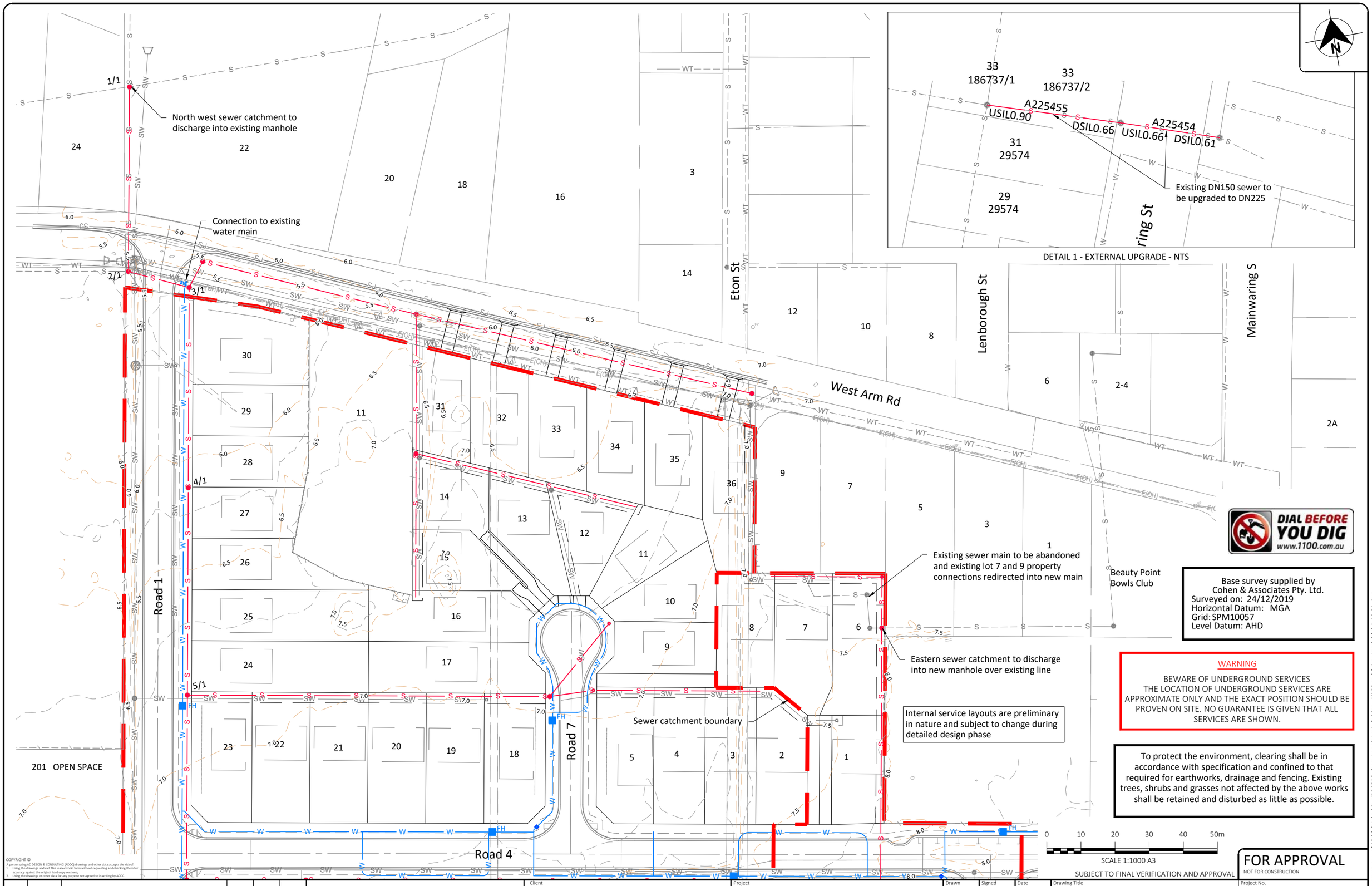

DETAIL 1 - EXTERNAL UPGRADE - NTS

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C	04/12/23	Lot 201 shown	BW	AD	AD
B	15/11/23	Fire Hydrant locations added	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

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Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn BW	Signed	Date	29/08/23
Designed BW	Signed	Date	29/08/23
Checked TN	Signed	Date	29/08/23
Approved AD	Signed	Date	29/08/23

Drawing Title: Water and Sewerage General Arrangement Sheet 1

Project No. 20018
Scale 1:1000m
Sheet Size A3
Drawing No. D-1-10-01
Rev C

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Connection to existing water main

Existing sewer main from lot 183 to sewer pump station are be abandoned and all existing property connections redirected into new mains

Internal service layouts are preliminary in nature and subject to change during detailed design phase

Existing sewer property connections to be redirected into the new sewer for existing lots 183, 185, 187, 189, 191,193 195, 199, and 201 Mainwaring St and lot 2 Lempriere Av.

To protect the environment, clearing shall be in accordance with specification and confined to that required for earthworks, drainage and fencing. Existing trees, shrubs and grasses not affected by the above works shall be retained and disturbed as little as possible.

Sewer catchment boundary

Road 1
Road 3
Road 4
Road 5
Road 6
Road 7
Mainwaring St

201 OPEN SPACE

0 10 20 30 40 50m
SCALE 1:1000 A3

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Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn BW	Signed	Date 29/08/23
Designed BW	Signed	Date 29/08/23
Checked TN	Signed	Date 29/08/23
Approved AD	Signed	Date 29/08/23

Drawing Title: Water and Sewerage General Arrangement Sheet 2

Project No. 20018
Scale 1:1000m
Sheet Size A3
Drawing No. D-1-10-02
Rev C

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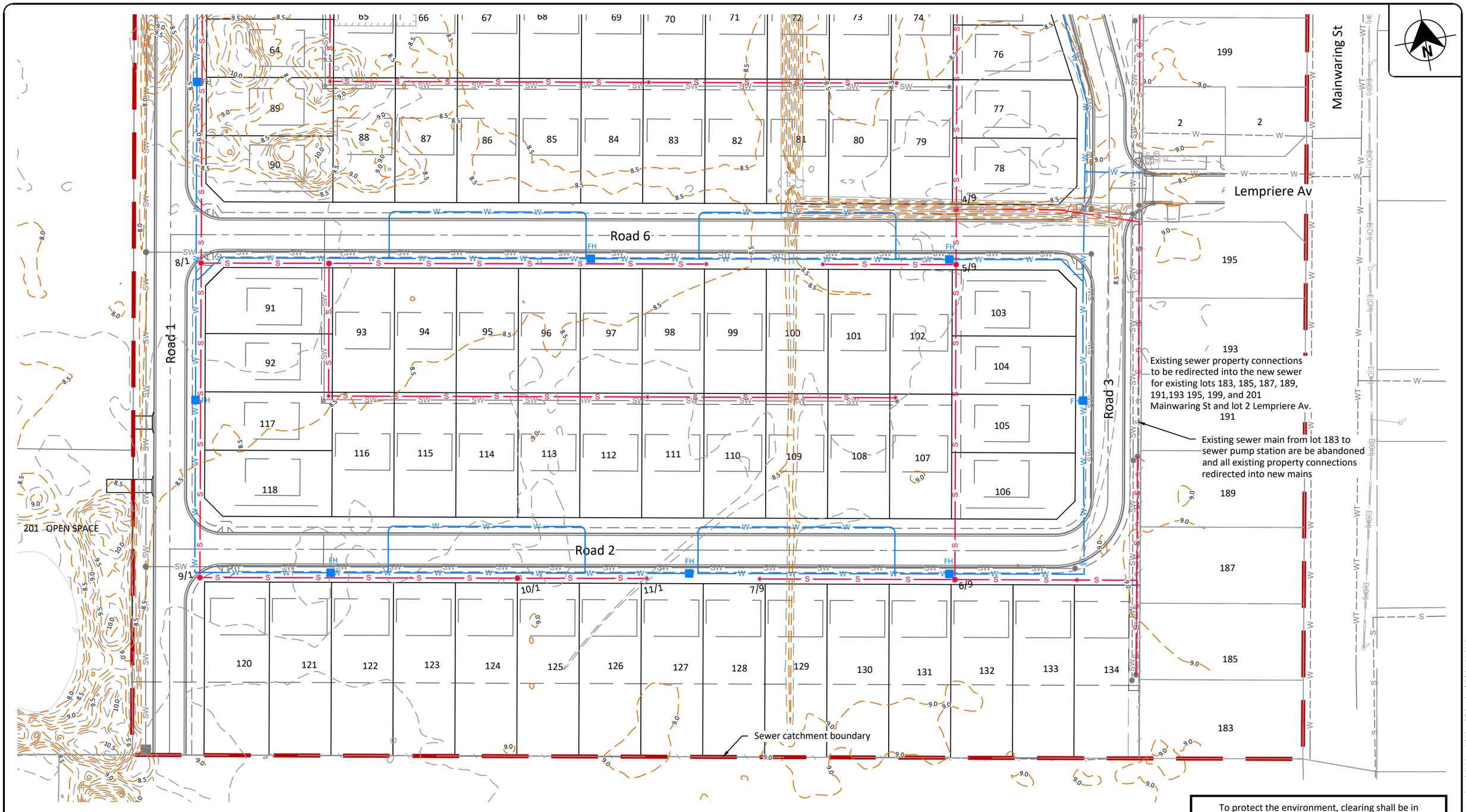

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0 10 20 30 40 50m

SCALE 1:1000 A3

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Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Water and Sewerage General Arrangement Sheet 3

Project No.	20018
Scale	1:1000m
Sheet Size	A3
Drawing No.	D-1-10-03
Rev	C

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BEAUTY POINT SUBDIVISION | **LANDSCAPE DA REPORT**

PLAY /ST.

River Tamar

Beauty Point Recreation Ground

Consider pedestrian easement/ connections to recreation ground

Public open space

New frog habitat

New frog habitat

Passive recreation/ interpretation trail

Frog ponds upgrade

Beauty Point Foreshore

Council to consider streetscape upgrades/ footpath connection to town centre and foreshore

Town centre

1

2

3

4

5

6

Opportunities + Connections

This plan identifies key open space opportunities within the site and explores connections to the adjacent residential neighbourhood & town centre amenities. Protection of critical habitat & the establishment of the Frog Pond are recognised as key to retaining and enhancing the sites existing character.

Key

- Amenity area
- Existing *Melaleuca ericifolia* swamp forest
- Frog pond/ habitat upgrades
- Open space & existing neighbourhood connections

Existing Conditions:

Landscape Concept

The landscape at Beauty Point has been designed to crate a vibrant residential community that sits comfortably within the existing context by celebrating and protecting significant vegetation and adding to the canopy cover through native street tree planting. A looped walking trail and gathering node is proposed to encourage passive recreation within the open space.

Precedent Images

PLAY /ST.

BEAUTY POINT SUBDIVISON | **LANDSCAPE PLAN**

LOT 102 WEST ARM RD
BEAUTY POINT, 7270

1:2000@A3
DA REPORT

VERSION 4
DEC 2025

Key + Planting Schedule

Marker trees & low naturstrip planting at key entries & crossings
E.g. Corymbia ficifolia, *Carpobrotus rossii, Myoporum parvifolium*

Swale Planting
E.g. Juncus Spp, Carex Spp, Baumea Spp.

Street Trees
E.g. *Agonis flexuosa &Acacia melanoxylon*

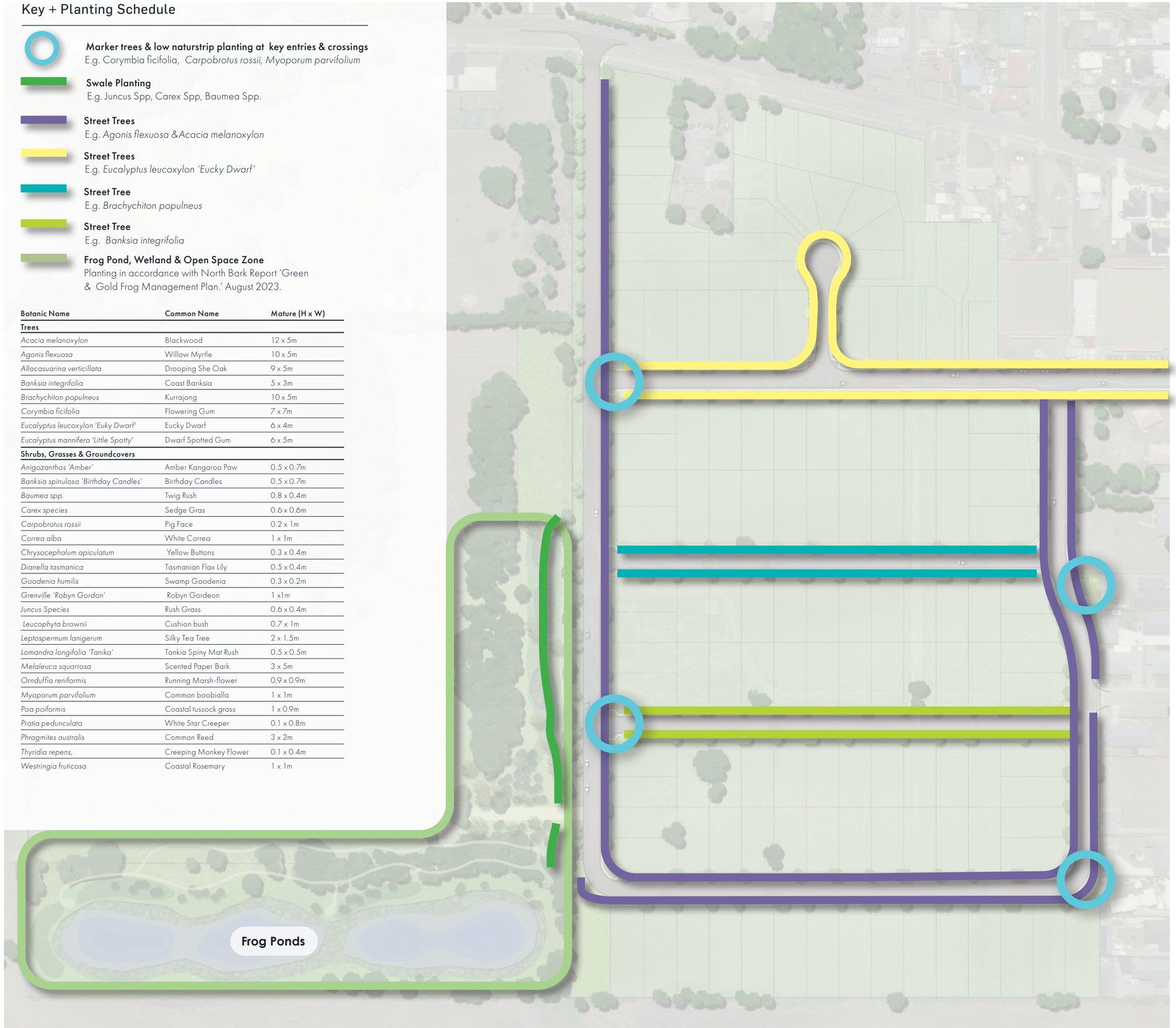
Street Trees
E.g. *Eucalyptus leucoxylon 'Eucky Dwarf'*

Street Tree
E.g. *Brachychiton populneus*

Street Tree
E.g. *Banksia integrifolia*

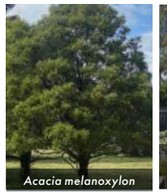
Frog Pond, Wetland & Open Space Zone
Planting in accordance with North Bark Report 'Green & Gold Frog Management Plan.' August 2023.

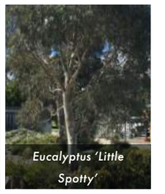
Botanic Name	Common Name	Mature (H x W)
Trees		
Acacia melanoxylon	Blackwood	12 x 5m
Agonis flexuosa	Willow Myrtle	10 x 5m
Allocasuarina verticillata	Drooping She Oak	9 x 5m
Banksia integrifolia	Coast Banksia	5 x 3m
Brachychiton populneus	Kurrajong	10 x 5m
Corymbia ficifolia	Flowering Gum	7 x 7m
Eucalyptus leucoxylon 'Euky Dwarf'	Eucky Dwarf	6 x 4m
Eucalyptus mannifera 'Little Spotty'	Dwarf Spotted Gum	6 x 5m
Shrubs, Grasses & Groundcovers		
Anigozanthos 'Amber'	Amber Kangaroo Paw	0.5 x 0.7m
Banksia spinulosa 'Birthday Candles'	Birthday Candles	0.5 x 0.7m
Baumea spp.	Twig Rush	0.8 x 0.4m
Carex species	Sedge Gras	0.6 x 0.6m
Carpobrotus rossii	Pig Face	0.2 x 1m
Correa alba	White Correa	1 x 1m
Chrysocephalum apiculatum	Yellow Buttons	0.3 x 0.4m
Dianella tasmanica	Tasmanian Flax Lily	0.5 x 0.4m
Goodenia humilis	Swamp Goodenia	0.3 x 0.2m
Grenville 'Robyn Gordon'	Robyn Gordeon	1 x1m
Juncus Species	Rush Grass	0.6 x 0.4m
Leucophyta brownii	Cushion bush	0.7 x 1m
Leptospermum lanigerum	Silky Tea Tree	2 x 1.5m
Lomandra longifolia 'Tanika'	Tankia Spiny Mat Rush	0.5 x 0.5m
Melaleuca squarrosa	Scented Paper Bark	3 x 5m
Ornduffia reniformis	Running Marsh-flower	0.9 x 0.9m
Myoporum parvifolium	Common boobialla	1 x 1m
Poa poiformis	Coastal tussock grass	1 x 0.9m
Pratia pedunculata	White Star Creeper	0.1 x 0.8m
Phragmites australis	Common Reed	3 x 2m
Thyridia repens,	Creeping Monkey Flower	0.1 x 0.4m
Westringia fruticosa	Coastal Rosemary	1 x 1m



Street Trees + Garden Beds Palette:

Example Species:

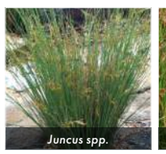




Wetland, Swale + Frog Pond Palette:

Plating selections will be derived from the plant list prepared as part of North Barker report 'Green & Gold Frog Management Plan.' August 2023.

Example Species:



Appendix C Stormwater report

Mark O'Brien

From: Michael Burgess (ADDC) <michael@addc.com.au>
Sent: Tuesday, 2 December 2025 10:58 AM
To: Mark O'Brien
Cc: Alan Darwin (ADDC)
Subject: RE: [#20018] PA2023403 - SPAN Request for Additional Information DA 2024 00035-WTC for LOT 102 WEST ARM RD, BEAUTY POINT PA2023403

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Mark,

Please see the points below outlining the proposed decommissioning of the existing SPS:

- The Mainwaring Street Sewage Pumping Station BETSP02 (SPS) will be decommissioned once sewer infrastructure for the entire subdivision is constructed and commissioned to the satisfaction of TasWater.
- The existing SPS and gravity main shall remain in operation until completion of all sewer infrastructure works.
- TasWater personnel shall be provided with full access to the SPS until the new gravity sewer main and property connections are constructed and become live.
- A construction management plan shall be provided to TasWater detailing the construction sequencing during detailed design.

Kind Regards,

Michael Burgess
Senior Civil Engineer
AD Design & Consulting Pty Ltd
BE(Hons), GradDipSpScTech

AD DESIGN+CONSULTING

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Level 5, 147 Macquarie Street, Hobart, TAS 7000

My current work pattern is as follows:

MON	TUE	WED	THUR	FRI
				OOO

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AD DESIGN + CONSULTING

Engineering + Development
Infrastructure Services
Project Management

CLIENT

Dourias Group Holdings

PROJECT

Beauty Point Subdivision

TITLE

Stormwater Management Plan

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ABN 55 169 899 683

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Document Status

Rev No.	Author	Signed	Status	Verified			Approved for Issue		
				Name	Signed	Date	Name	Signed	Date
A	TN		For Approval	AD		29.08.23	AD		29.08.23
B	TN		For Apprival	AD		19.8.24	AD		19.08.24

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1 Introduction

1.1 Background

Dourias Group Holdings has engaged AD Design & Consulting to provide advice on the stormwater management requirements for the proposed residential subdivision at Lot 102 West Arm Road, Beauty Point.

This document aims, in addition to the other planning application documents, to satisfy the General Residential Code (E8.0) of the Tasmanian Planning Scheme through,

- Assessment of the peak pre-development and post-development stormwater discharge from the site and provide mitigation solutions if required, and
- Determining the requirements for stormwater quality treatment devices to satisfy the reduction targets outlined in the Tasmanian Planning Scheme.

2 Site Overview

2.1 Site Details

Table 1: Site details

Location	**Lot 102 West Arm Road**
Municipality	West Tamar Council
Planning Controls	Tasmanian Planning Scheme
Zoning	General Residential
Property Area	13.52ha

Figure 1: Locality Plan (2020, List Map)

2.2 Existing Site Conditions

The Site is currently split between General Residential (A) and Rural Resource (B). The development intends to subdivide along the boundary of this zoning to develop the General Residential area into a new residential subdivision.

The site is vacant except for a TasWater Sewerage Pump Station and an old shed located within the general residential zoned land. Access tracks to the pump station and shed have been constructed with access from Beatty Street and Lempriere Ave respectively. These access tracks are private; not being contained within a road reserve. The TasWater access is burdened by a right of way easement.

The rural resource zoned land consists of two titles. There is a large dam to the south, estimated at 30,00m^3, on a separate title. The dam is to be decommissioned and turned into a frog habitat for the Green and Gold Frogs which have been identified as inhabiting the area. There are also three groups of swamp paperbark trees on the site which have been identified as an endangered community habitat. There are no existing structures within the rural resource zoned land. From here on in, this serviceability report will focus on the General Residential half of the site.

2.3 Existing Infrastructure

The site is flat, with most of the site falling at less than a 1% grade from the south to the north. The site is sparsely vegetated with two pockets of dense tree growth. Ground cover is maintained grass consistent with rural properties.

The site has a slight ridge just to the west of where the zoning changes from General Residential to Rural Resource. Adjacent to the ridge runs a swale drain which directs the east catchment's runoff north and to a culvert under West Arm Road. The west catchment drains to the northwest through a known overland flow path to the west of 13 West Arm Road to a culvert under West Arm Rd.

The site has numerous drainage channels throughout, which are assumed to help drain the flat site. The drainage channel traversing through the middle of the eastern catchment serves as a point of stormwater discharge for 183 to 201 Mainwaring St. As such there is a 6.0m wide drainage easement over this drainage channel ending at the property boundary adjacent to West Arm Rd. West Arm Rd has a roadside table drain along the entire frontage of the site. This table drain appears to convey the eastern catchment's runoff west to a culvert under West Arm Road.

The site is positioned within the lower part of a larger 150ha catchment. The upper catchment extends from the south from the quarry near Torney's Rd to the north past West Arm Rd out to the River Tamar.

2.4 Legal Point of Discharge

The proposed legal point of discharge is to the main residing within 22 West Arm Road's boundary. This main resides in an implied drainage easement through 22 West Arm, as such owner's consent is not required to undertake works on this main.

As the site has a consistent fall towards this main, it is possible to drain the entire site to this point and thus will take all development flows. Due to the increase in flows as a result of the development the existing main within 22 West Arm will be upgraded from the development boundary out to the outfall location within the River Tamar.

The upgrade will either consist of a main duplication or a complete upgrade depending on the constraints through 22 West Arm. This will be decided during detailed design.

3 Hydrology

3.1 Methodology

This assessment has been undertaken in accordance with Australian Rainfall and Runoff 2019 (ARR19) and uses the new 2016 rainfall intensity, frequency and duration (IFD) data, which match the recently released temporal pattern ensembles for ARR'19. Design rainfall events are derived from these and applied within 12D's hydraulic model.

The hydrological assessment was completed using a semi-distributed catchment approach endorsed by ARR19 as a suitable method of deriving critical duration design storm events and is described in Figure 2.

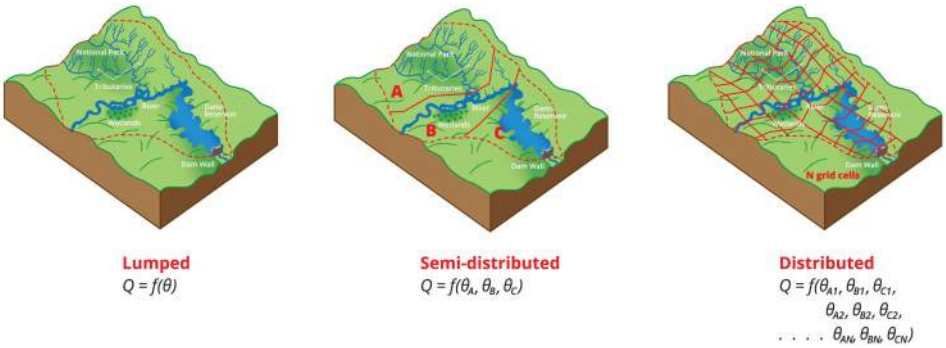


Figure 2: Catchment modelling

Land use information, including surface roughness and infiltration capacity, was derived from an assessment of the aerial photography available from LISTmap, historical aerial photography, site investigation, geotechnical report, and guidance from the Australian Rainfall & Runoff (ARR) Data Hub.

Modelling of the stormwater system has been undertaken in accordance with ARR19 Book 9. The analysis of the stormwater system utilises rainfall ensembles in the coupled hydrology-hydraulic simulations to determine the mean stormwater runoff rate and subsequent critical storm event hydrograph. Running the full suite of ensembles through the coupled hydrologic-hydraulic system ensures the most accurate response of the stormwater system is simulated.

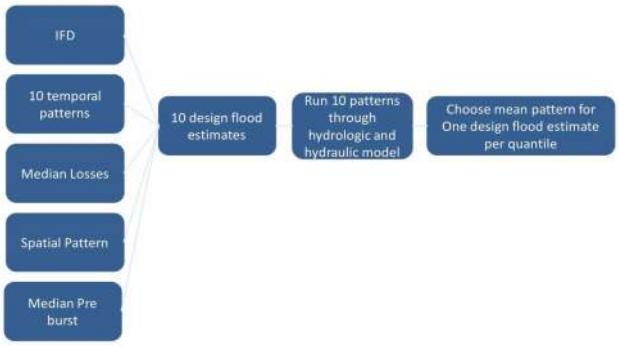


Figure 3: System modelling (2019, Australian Rainfall and Runoff)

To comply with the requirements of the Tasmanian Planning Scheme, the stormwater infrastructure will be designed to drain the fully developed catchment flow rates with no attenuation. As stated in Section 2.4, the council stormwater infrastructure within 22 West Arm Road is required to be upgraded to meet this increase in loading. As the stormwater design does not rely on attenuation, it is not necessary to undertake pre-development hydrology to establish permissible site discharge.

3.2 Catchments

3.2.1 Post-development

Figure 4: Internal Catchment Boundaries gives an overview of post-development catchment. As shown the infrastructure will capture the entire development plus additional runoff from 183 to 207 Mainwaring Road as these properties currently drain to the open drain within the site.

Figure 4: Internal Catchment Boundaries

3.2.2 External

The site is at the bottom of a greater catchment that spans from the development, south, to the quarry adjacent Torney Road. There is an overland flow path that affects the site due to this catchment. Management of this will be discussed in the subsequent sections. Figure 5: External Catchment shows an overview of the external catchment.

Figure 5: External Catchment

3.3 Model Parameters

3.3.1 Land Use Categories

Two land use categories have been identified to define the model parameters for both the external and internal catchment properties. These are as follows:

- Impervious surfaces. Areas that are smooth and have no infiltration.
- Urban pervious surfaces. Area covered by maintained vegetation such as lawns. Higher Manning's values and infiltration rates.

Each land use category has been assigned individual loss rates and Manning's values to represent the catchments accurately and in line with best practices.

3.3.2 Design Rainfall

The rainfall Intensity-Frequency-Duration (IFD) curve and the storm temporal patterns used for the hydrological analysis were obtained from the Bureau of Meteorology for the ARR19 data. The following design storm events were used for the assessment:

- Minor Storm Event: 5 % AEP, underground stormwater system and mitigation.
- Major Storm Event: 1 % AEP, overland flow.

3.3.3 Rainfall Losses

Methods for modelling the proportion of rainfall that is "lost" to infiltration are outlined in ARR2019 (Book 5, Ch 3). The methods are of varying complexity, with the more complex options only suitable if enough data is available. The method most typically used for design flood estimation is to apply an initial and continuing loss to the rainfall. The initial loss represents the wetting of the catchment before runoff starts to occur, and the continuing loss represents the ongoing infiltration of water into the saturated soils while rainfall continues.

A summary of the initial and continuous loss rates adopted for each land use category is given below:

Table 2: Catchment Losses

Land Use	Initial	Continuous
Impervious	0	0
Urban Pervious	8	2

3.3.4 Manning's Values

The Manning's n values, accounting for surface roughness, have been taken from Chow, 1959 and are widely accepted. The determination of existing surface conditions was from site investigations and aerial photography of the study area. A summary of manning values for each land use category is given below:

Table 3: Manning's values

Land Use	Manning's	Description
Impervious	0.015	General urban area some obstructions and discontinuities in flow
Urban Pervious	0.045	Well maintained urban area with some vegetation and obstructions.

3.3.5 Adopted Parameters

The Laurenson Runoff Routing Method was used to calculate peak runoff. The adopted model parameters for each catchment are given below.

3.3.5.1 Post-Development

Catchment	Internal	Pervious	Impervious
Area (ha)	12.7	5.08	7.62
Fraction Imperv (%)	60	0	100
Manning's		0.04	0.015
Equal Area Slope (%)		2	2

Catchment	Internal	Pervious	Impervious
Initial Loss		10	3
Continuous Loss		0	0

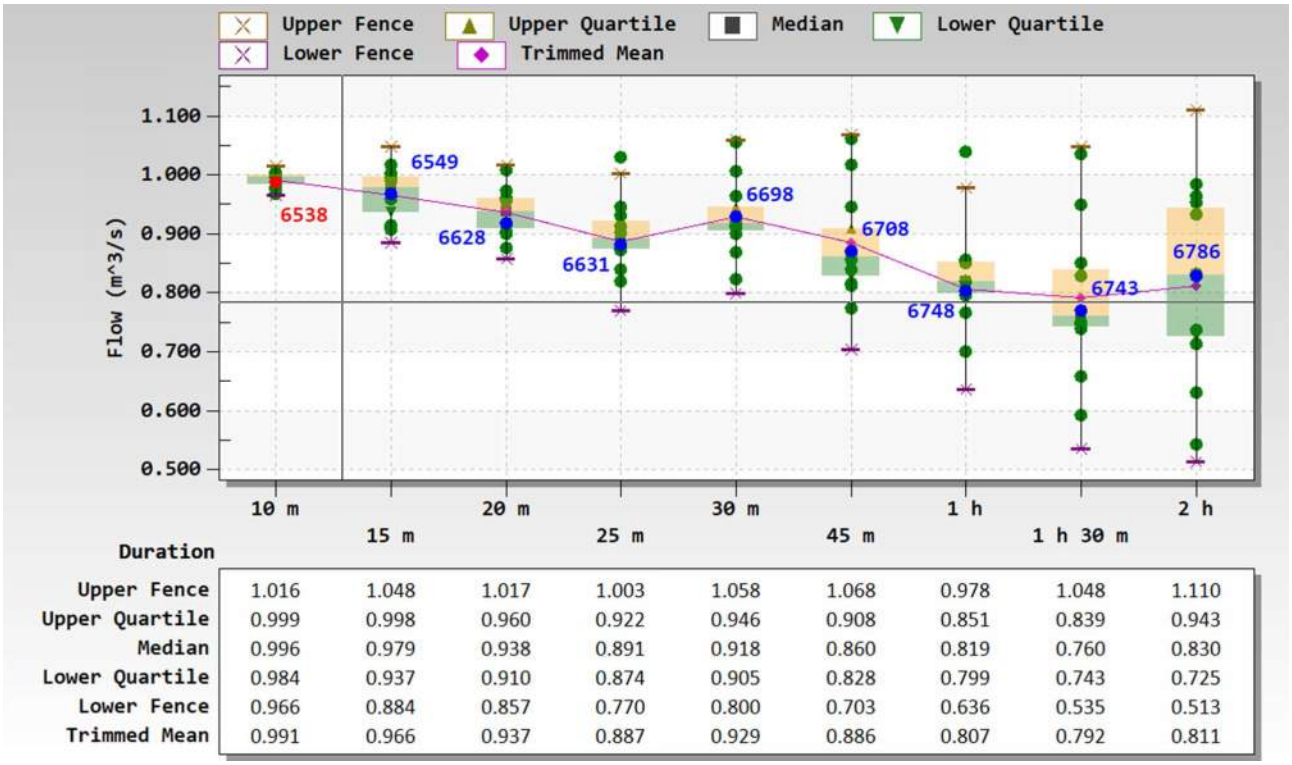
3.3.5.2 External

Catchment	External	Pervious	Impervious
Area (ha)	115.3	115.3	0
Fraction Imperv (%)	0	0	100
Manning's		0.05	0.015
Equal Area Slope (%)		6	6
Initial Loss		17	0
Continuous Loss		4	0

3.4 Results

3.4.1 Post-Development

The 5% AEP storm event was modelled to determine the loadings on the underground pipe network and the upgrade of the existing infrastructure necessary to facilitate the development. Figure 6: Post-development storm ensembles 5% AEP provides an overview of the storm ensembles with the 10min duration being the critical storm event with a mean runoff of 0.99m^3/s.

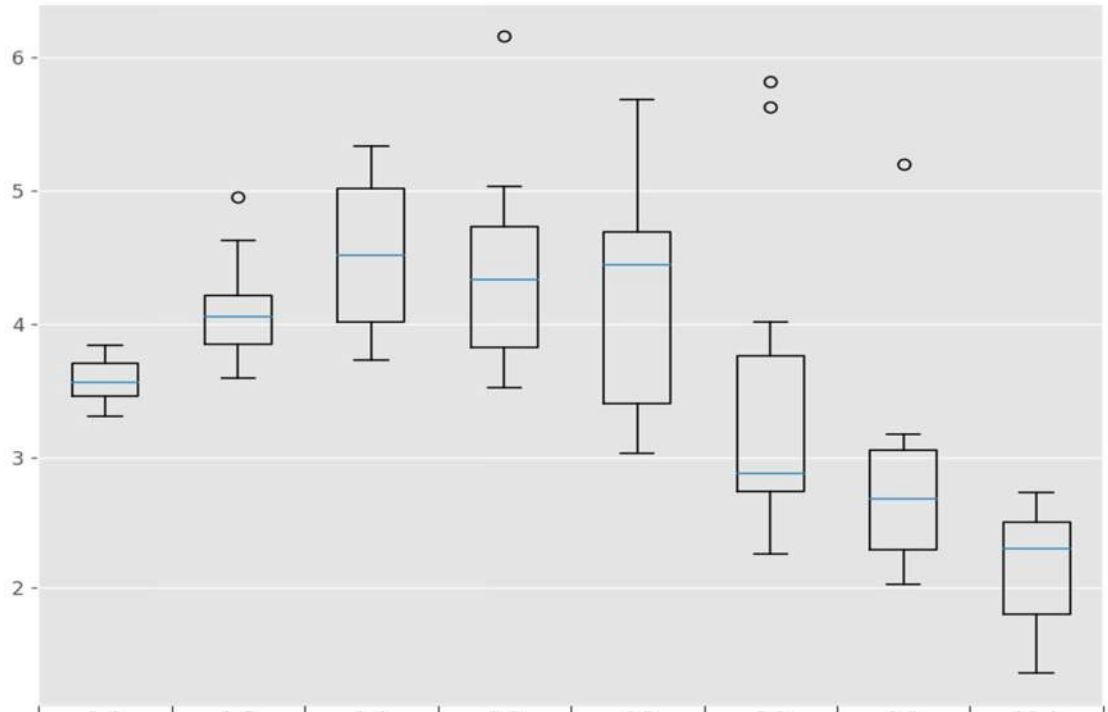


Duration	10 m	15 m	20 m	25 m	30 m	45 m	1 h	1 h 30 m	2 h
Upper Fence	1.016	1.048	1.017	1.003	1.058	1.068	0.978	1.048	1.110
Upper Quartile	0.999	0.998	0.960	0.922	0.946	0.908	0.851	0.839	0.943
Median	0.996	0.979	0.938	0.891	0.918	0.860	0.819	0.760	0.830
Lower Quartile	0.984	0.937	0.910	0.874	0.905	0.828	0.799	0.743	0.725
Lower Fence	0.966	0.884	0.857	0.770	0.800	0.703	0.636	0.535	0.513
Trimmed Mean	0.991	0.966	0.937	0.887	0.929	0.886	0.807	0.792	0.811

Figure 6: Post-development storm ensembles 5% AEP

3.4.2 External

The upper external catchment was modelled to assess overland flow paths which affect the site. As such the 1% AEP storm event was modelled for the external catchment. If the development is flood immune in the 1% AEP storm event then all smaller events will be satisfied. Figure 7: External storm ensembles 1% AEP provided an overview of the external catchment hydrology. The critical storm duration is 2 hours with a mean runoff of 4.5m^3/s.



	1.0	1.5	2.0	3.0	4.5	6.0	9.0	12.0
Mean	3.569	4.126	4.529	4.421	4.21	3.47	2.863	2.17
Lower Quartile	3.46	3.845	4.018	3.823	3.401	2.748	2.305	1.797
Median	3.563	4.055	4.518	4.332	4.442	2.877	2.692	2.319
Upper Quartile	3.709	4.211	5.012	4.729	4.687	3.758	3.052	2.514

Figure 7: External storm ensembles 1% AEP

4 Hydraulics

4.1 Minor Storm Event (5% AEP)

4.1.1 Proposed Infrastructure

The runoff generated by the development will be conveyed via an underground stormwater network, discharging into the River Tamar. It is proposed to upgrade the existing stormwater network within 22 West Arm Rd to facilitate the increase in runoff generated by the development. As the new network will have sufficient capacity to drain the development, stormwater detention will not be required.

Preliminary site drainage design has been undertaken with the hydraulic calculations given in Appendix B, with the stormwater layout shown in Appendix A.

4.2 Major Storm Event (1% AEP)

The site grades favourably towards West Arm Road where it intercepts a roadside drain. The site will facilitate the overland flow throughout the road network

, this is shown in the development plans in Appendix A.

4.3 External Catchment Management

There are flows from an external catchment that the site must accommodate. There are approximately 19 lots in the south of the development which are affected by the overland flow path from this external catchment.

The runoff from this external catchment does not concentrate at a single point but exhibits behaviour more akin to a floodplain, rather than riverine flooding. As such it will be necessary to divert the flood water to the western boundary whilst raising the lots, so they become flood immune. Overland flow path maps are given in Appendix C. Management of the overland flow paths will be further refined during detailed design.

5 Stormwater Quality

The Tasmania State Government outlines the requirements for water quality objectives for new developments. These reduction targets are to be met under the requirements of the Tasmanian Planning Scheme.

5.1 Methodology

Water quality modelling has been undertaken in accordance with Derwent Estuary Program and Water by Design guidelines. MUSIC has been used to estimate the reduction targets for the given development. Where a proprietary device is to be used, the treatment nodes have been provided by the manufacturer of the device. The parameters used within MUSIC are given below. The treatment train utilises a lump catchment model as outlined in the Water by Design modelling guidelines.

5.2 Model Parameters

Table 4: Rainfall Data

Parameter	Value
Rain Station	LITTLE FORESTER RIVER- 19206
Time Step	6 min
Modelling Period	2012 – 2023
Mean Annual Rainfall	810
Evapotranspiration	903

Table 5: Rainfall Parameters

Parameter	Value
Rainfall threshold	1
Soil Storage Capacity	120
Initial Storage Capacity	25
Field Capacity	50
Infiltration Capacity coeff. A	200
Infiltration Capacity exp. B	1
Initial Depth	10
Daily Recharge Rate	25.00
Daily Base Flow Rate	5.00
Daily Deep Seepage Rate	0

Table 6: Urban Pollutant Sources

Pollutant	Surface Type	Storm Flow		Base Flow	
		Mean (log mg/l)	SD (log mg/L)	Mean (log mg/l)	SD (log mg/L)
TSS	Roof	1.301	0.333	-	-
	Hardstand/ Road	2.431	0.333	-	-
	Ground	1.900	0.333	0.96	0.401
TP	Roof	-0.886	0.242	-	-
	Hardstand/ Road	-0.301	0.242	-	-
	Ground	-0.700	0.242	-0.731	0.360
TN	Roof	0.301	0.205	-	-
	Hardstand/ Road	0.342	0.205	-	-
	Ground	0.243	0.182	0.455	0.363

Table 7: Pollutant Catchments

Source	Pollutant Catchment (m^2)	Impervious	Description
Urban Bioretention	11.61	70%	Urban catchment based on Water by Design Guidelines. The section of the urban development is treated by Altlan GPT and Atla Flow Filter.
Urban	1.91	70%	Urban catchment based on Water by Design Guidelines. The section of the urban development bypasses the Bioretention basin as the infrastructure cannot be facilitated to drain to the location of the Biorientation basin.

5.3 Treatment Train

The proposed treatment train has been summarised in

Table 8: Treatment Nodes and Figure 8: Proposed treatment train. The treatment train has been modelled within MUSIC and meets the reduction targets set out by state legislation.

Table 8: Treatment Nodes

Node	Quantity	Description
Atlan Flow Filter – Hydrosystem – FLF 2500/17	1	A tertiary treatment device utilizing an up-flow filtration system to treat stormwater runoff in a reduced footprint and with a design life of 100 years
Atlan Ecoceptor GPT 800	1	A Gross Pollutant Trap is a primary treatment device responsible for removing gross pollutants and coarse sediment. One provided before the Atlan Flowfilter

Figure 8: Proposed treatment train

5.4 Results

The results of the pollution reduction are summarised in Table 9: Results Summary. It is shown that the proposed treatment train is effective at reducing the pollutant levels to their legislative requirements.

Table 9: Results Summary

Pollutant	Source	Residual Load	Reduction (%)
Flow ML/year	58.7	58.7	0
Suspended Solids kg/y	3950	766	80.6
Phosphorus kg/y	16.9	3.41	79.8
Nitrogen kg/y	126	53.4	57.6
Gross Pollutants kg/y	2340	109	95.3

6 Conclusion

It has been shown that the site can be developed in accordance with the stormwater requirements of the Tasmania Planning Scheme. This stormwater management plan has undertaken a hydrological and hydraulic analysis for both the internal and external catchment to understand the drainage infrastructure and flood mitigation requirements.

To service the development, it has been identified that the existing stormwater main within 22 West Arm Road will need to be upgraded. Upgrading this main allows runoff from the site to be drained to the River Tamar without the need for stormwater detention. The outlet in the River Tamar will require upgrading with appropriate scour protection installed, this will be addressed during detailed design. Overland flow paths through the site will be managed via the road network,

It has been identified that the site is subjected to overland flow from an external catchment. There are approximately 19 lots at the south of the development which require further flood mitigation. It is anticipated that this overland flow path will be diverted to the western boundary with the affected lots raised out for the flood extent. This will be further investigated during detailed design as we do not anticipate any issues in achieving flood immunity.

Water Sensitive Urban Design principles have been utilised for the treatment of stormwater throughout the development. It has been shown that a primary and tertiary proprietary system can be installed to treat approximately 85% of the development, with a small portion needing to be bypassed. It is however possible to overtreat the larger catchment so that the net pollution reductions are compliant with the State Stormwater Strategy's requirements.

AD DESIGN+CONSULTING

APPENDIX

Appendix A

Proposed Infrastructure

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Provide suitably sized inlet structure within the subject site to collect the upstream catchment including locally shaping the surround area and scour protection

GPT's Final location, size and configuration to be determined during Detail Design phase.

Connection of overflow from frog wetland to the proposed stormwater system be determined during Detail Design phase.

FLF's Final location, size and configuration to be determined during Detail Design phase.

Existing Stormwater main and outlet to be upgraded to accommodate increased runoff from proposed development.

201 PUBLIC OPEN SPACE 5915m²

Road 1 Road 2 Road 3 Road 4 Road 5 Road 6 Road 7

West Arm Rd Eton St Lenborough St Mainwaring St Lempriere Av Napier St Jellico St Scott St Beatty St

Beauty Point Bowls Club

0 20 40 60 80 100m

SCALE 1:2000 A3

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B	04/12/23	Lot 200 and 201 shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	MB	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Drainage General Arrangement Overall

Project No. 20018
Scale 1:2000m
Sheet Size A3
Drawing No. D-1-07-00
Rev B

PLOTTED: 10/16/2024 8:22:02 PM C:\126\data\addc-s1\20018 - beauty point subdivision_41\02 cadd\drawings\da\d-1-07-00.dwg

Existing Stormwater main and outlet to be upgraded to accommodate increased runoff from proposed development.

Existing table drain to be filled in and provide new verge profile as detailed

Provide new kerb and channel and neatly connect to West Arm Road. Refer LGAT Std Drg TSD-R15

Atlan FlowFilter (Hydrosystem) FLF 2500/17 or approved equivalent. Location TBC during detailed desing

The location of the crossover driveways is indicative and to be confirmed during detailed design

West Arm Rd

Eton St

Lenborough St

Mainwaring St

Road 1

Road 4

Road 7

201 OPEN SPACE

Beauty Point Bowls Club

DIAL BEFORE YOU DIG www.1100.com.au

Base survey supplied by
Cohen & Associates Pty. Ltd.
Surveyed on: 24/12/2019
Horizontal Datum: MGA
Grid: SPM10057
Level Datum: AHD

Internal service layouts are preliminary in nature and subject to change during detailed design phase

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THE EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

To protect the environment, clearing shall be in accordance with specification and confined to that required for earthworks, drainage and fencing. Existing trees, shrubs and grasses not affected by the above works shall be retained and disturbed as little as possible.

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C	1/7/24	Council RFI Changes	FP	AD	AD
B	04/12/23	Lot 201 shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

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Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	MB	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Drainage General Arrangement Sheet 1

Project No. 20018
Scale 1:1000m
Sheet Size A3
Drawing No. D-1-07-01
Rev B

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Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn: BW	Signed	Date: 29/08/23
Designed: MB	Signed	Date: 29/08/23
Checked: TN	Signed	Date: 29/08/23
Approved: AD	Signed	Date: 29/08/23

Drawing Title: Drainage General Arrangement Sheet 2

Project No.: 20018
Scale: 1:1000m
Sheet Size: A3
Drawing No.: D-1-07-02
Rev: B

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Road 1
Road 2
Road 3
Road 6
Lempriere Av
Mainwaring St

Provide suitably sized inlet structure within the subject site to collect the upstream catchment including locally shaping the surround area and scour protection

Internal service layouts are preliminary in nature and subject to change during detailed design phase

Base survey supplied by
Cohen & Associates Pty. Ltd.
Surveyed on: 24/12/2019
Horizontal Datum: MGA
Grid: SPM10057
Level Datum: AHD

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Project: Beauty Point Subdivision

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Checked TN	Signed	Date 29/08/23	
Approved AD	Signed	Date 29/08/23	

Drawing Title: Drainage General Arrangement Sheet 3

Project No. 20018
Scale 1:1000m
Sheet Size A3
Drawing No. D-1-07-03
Rev B

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APPENDIX

Appendix B

Network Hydraulics

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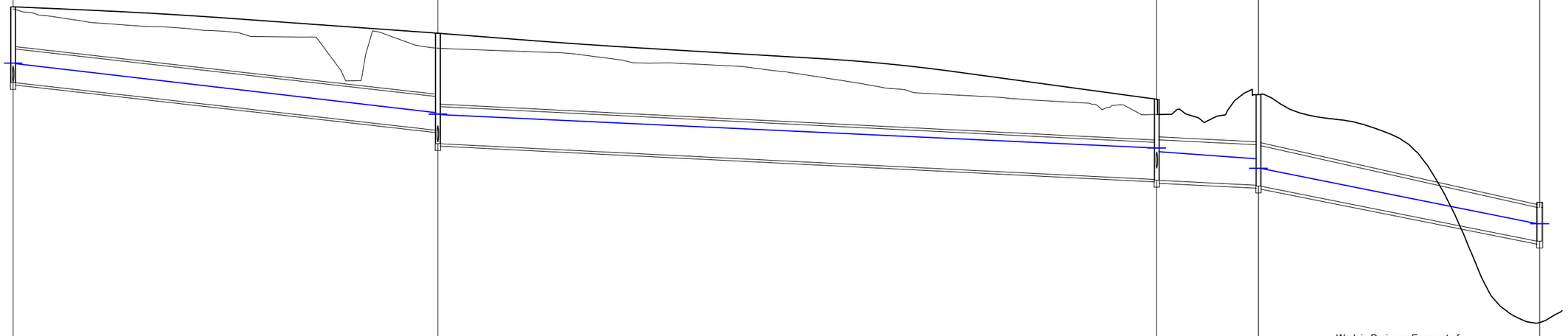
STRUCTURE NAME	1.6	1.5	1.4	1.3	1.2	
STRUCTURE DESCRIPTION	LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1	LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1	LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1	LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1	River Tamar Outfall	



PIPE SIZE (mm)	750	825		900	900	
PIPE TYPE	CL2 RCP	CL2 RCP		CL2 RCP	CL2 RCP	
PIPE GRADE (%)	1.13%	0.50%		0.50%	1.99%	
PIPE SLOPE (1 in X)	88.5	200.0		200.0	50.2	
PIPE FLOW (cumecs)	0.636	0.835		0.988	0.988	
CAPACITY FLOW (cumecs)						
FULL PIPE VELOCITY (m/s)	2.56	1.91		2.06	3.72	
NORMAL DEPTH VELOCITY (m/s)						
DATUM RL	-4.000					
HGL ELEVATION	6.840 6.647 6.635	5.546 5.512 5.501	4.760 4.677	4.520 4.309 4.308	3.078	
DEPTH TO INVERT	1.494 1.687	2.156 2.456	1.780 1.800	2.015 2.035	0.750 0.750	
INVERT LEVEL OF DRAIN	6.403 6.211	5.155 4.855	4.061 4.041	3.932 3.912	2.688 2.688	
DESIGN SURFACE RL (EXISTING SURFACE RL)	7.897 (7.853)	7.310 (6.977)	5.841 (5.505)	5.948	0.883	
CHAINAGE	348.980	443.326	603.005	625.583	688.053	
SETOUT COORDINATES (CENTRE OF PIT)	484116.522 E 5444737.940 N	484133.204 E 5444830.800 N	484161.474 E 5444987.956 N	484165.523 E 5445010.168 N	484176.152 E 5445071.727 N	

LINE 1

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Checked	Signed	Date	
Approved	Signed	Date	

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Project No.

Scale: N.T.S.

Sheet Size: A3

Drawing No.: C-1-01-01

Rev

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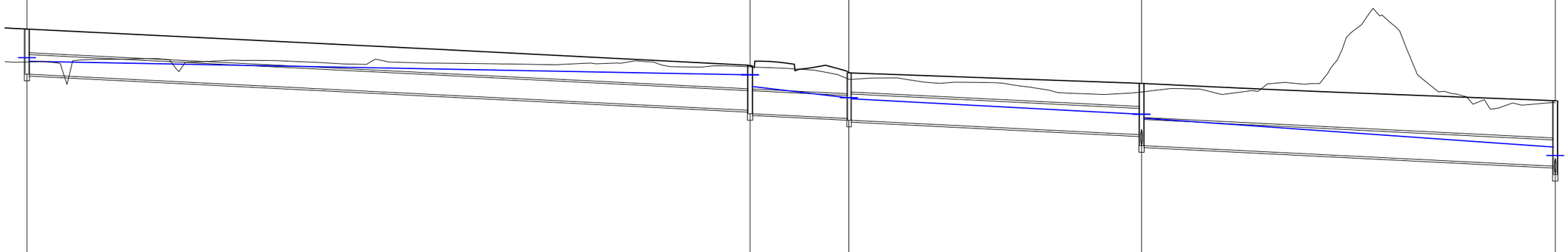
STRUCTURE NAME	1.10				1.9		1.8		1.7				1.6		
STRUCTURE DESCRIPTION	LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1				LGAT SIDE ENTRY PIT (SAG) TYPE 4 REFER TSD-SW10-v1		LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1		LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1				LGAT SIDE ENTRY PIT (ON-GRADE) TYPE 4 REFER TSD-SW10-v1		
PIPE SIZE (mm)	450				525		600		600						
PIPE TYPE	CL2 RCP				CL2 RCP		CL2 RCP		CL2 RCP						
PIPE GRADE (%)	0.50%				0.50%		0.50%		0.50%						
PIPE SLOPE (1 in X)	199.4				200.0		200.0		200.0						
PIPE FLOW (cumecs)	0.149				0.340		0.323		0.445						
CAPACITY FLOW (cumecs)															
FULL PIPE VELOCITY (m/s)	1.05				1.69		1.47		1.71						
NORMAL DEPTH VELOCITY (m/s)															
DATUM RL	0.000														
HGL ELEVATION	8.883	8.800			8.491	8.224	7.969	7.944	7.591	7.500			6.840	6.647	
DEPTH TO INVERT	1.033				1.021	1.100	1.043	1.083	1.172	1.423			1.494		
INVERT LEVEL OF DRAIN	8.504				7.680	7.602	7.493	7.453	7.123	6.871			6.403		
DESIGN SURFACE RL (EXISTING SURFACE RL)	9.537	(8.784)			8.701	(8.674)	8.536	(8.389)	8.294	(8.099)			7.897	(7.853)	
CHAINAGE	0.000				165.128		187.686		254.527				348.980		
SETOUT COORDINATES (CENTRE OF PIT)	484267.352 E 5444535.542 N				484104.785 E 5444564.107 N		484088.061 E 5444579.177 N		484099.840 E 5444644.971 N				484116.522 E 5444737.940 N		

LINE 1



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Project No.

Scale: N.T.S.

Sheet Size: A3

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APPENDIX

Appendix C

Overland Flow Maps

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A	For Information

Location

Client

Dourias Group Holdings

AD DESIGN+CONSULTING
Cat & Fiddle Centre, Level 2, 51 Murray Street
Hobart
TAS 7000
Email: admin@addconsulting.com.au

Overland Flow Path

Project

Job No: 20018
Job Name: Residential Subdivision
Job Address: Lot 102 West Arm Road, Beauty Point

Projection: MGA94 Zone 55
Horizontal Datum: GDA94
Vertical Datum: AHD (Tas)
Data Acknowledgements: Base data from the LIST (Tasmanian Government)

Scale	1:4,000
Drawn	TN
Checked	TN
Date	28/08/2023
GIS File Ref	20018
Revision	For Information
A	A3

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Appendix D Serviceability report

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Engineering + Development
Infrastructure Services
Project Management

CLIENT

Dourias Group Holdings

PROJECT

Beauty Point Subdivision

TITLE

Engineering Serviceability Report

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ABN 55 169 899 683

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Document Status

Rev No.	Author	Status	Approved for Issue	
			Name	Date
A	TN	For Approval	AD	28.09.23
B	TN	Stormwater Quality Updated	AD	19/8/24

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1 1 Introduction

1.1 Background

AD Design & Consulting has been engaged by Dourias Group Holdings to investigate and report on the civil engineering requirements for the proposed residential subdivision, located at Lot 102 West Arm Road, Beauty Point herby known as 'the site'. This document reports on the civil infrastructure requirements necessary to facilitate the proposed development in accordance with the Tasmanian Planning Scheme, TasWater and Engineering Best Practices. This report should be read in conjunction with the other accompanying documentation issued by the consultant team.

2 Site Overview

2.1 Site Information

The Site is currently split between General Residential (A) and Rural Resource (B). The intention of the development is to subdivide along the boundary of this zoning to develop the General Residential area into a new residential subdivision. Table 1 outlines the details of the current site titles.

The site is vacant with the exception of a TasWater Sewerage Pump Station and an old shed located within the general residential zoned land. Access tracks to the pump station and shed have been constructed with access from Beatty Street and Lempriere Ave respectively. These access tracks are private; not being contained within a road reserve. The TasWater access is burdened by a right of way easement.

The rural resource zoned land consists of two titles. There is a large dam to the south, estimated at 30,00m^3, on a separate title. The dam is to be decommissioned and turned into a frog habitat for the Green and Gold Frogs which have been identified as inhabiting the area. There are also three groups of swamp paperbark trees on the site which have been identified as an endangered community habitat. There are no existing structures within the rural resource zoned land. From here on in, this serviceability report will focus on the General Residential half of the site.

Table 1: Property Details. Source: LIST © State of Tasmania

Location	Lot 102 West Arm Road, Beauty Point, Tasmania, 7270, Australia
Title Reference	Site: 156126/102 Dam: 64199/1
Municipality	West Tamar Council
Planning Controls	Tasmanian Planning Scheme
Zoning	General Residential (A) Rural Resource (B)
Property Area	Total: 22.054 ha General Residential: 11.797 ha Rural Resource: 8.256 ha Dam: 2.001 ha

Figure 1 - Location plan. Source: annotated map and aerial from the LIST © State of Tasmania

2.2 Landuse

2.2.1 Existing

The site comprises of a residential zoned area of approximately 11.797 ha. The site is currently not being used for any purposes and is a vacant paddock. There is however an existing TasWater Sewerage Pump Station located centrally within the site, with an associated rising main and gravity system leading from/to this pump station.

The site is currently burdened by three easements.

- A pipeline and drainage easement over the sewerage rising main and gravity main.
- A pipeline and drainage easement over the main open drain.
- A right of way over the access track leading to the sewerage pump station.

2.2.2 Proposed

The proposal is a reconfiguration of lot into 134 new residential freehold titles, resulting in a residential density of approximately 12 dwellings per hectare. The reconfiguration of lots will be supported by the necessary infrastructure, new roads, sewer, water, electrical, communications and drainage.

2.3 Topography & Site Drainage

The site is flat, with most of the site falling at less than a 1% grade from the south to the north. The site is sparsely vegetated with two pockets of dense tree growth. Ground cover is maintained grass consistent with rural properties.

The site has a slight ridge just to the west of where the zoning changes from General Residential to Rural Resource. Adjacent to the ridge runs a swale drain which directs the east catchment's runoff north and to a culvert under West Arm Road. The west catchment drains to the northwest through a known overland flow path to the west of 13 West Arm Road to a culvert under West Arm Rd.

The site has numerous drainage channels throughout, which are assumed to help drain the flat site. The drainage channel traversing through the middle of the eastern catchment (drainage channel C) serves as a point of stormwater discharge for 183 to 201 Mainwaring St. As such there is a 6.0m wide drainage easement over this drainage channel ending at the property boundary adjacent West Arm Rd. West Arm Rd has a roadside table drain along the entire frontage of the site. This table drain appears to convey the eastern catchment's runoff west to a culvert under West Arm Road.

The site is positioned within the lower part of a larger 150 ha catchment. The upper catchment extends from the south from the quarry near Torney's Rd to the north past West Arm Rd out to the River Tamar. This external catchment contributes to overland flow within the site, which must be managed during the development's design phase.

2.3.1 Existing Flooding Conditions

It is estimated that the southern area of the site is at medium risk of flooding. There is a large upper catchment that flows towards the existing dam, flood mapping shows that this does flow through the general residential zoned area of the site, refer to the Stormwater Management Plan prepared by AD Design and Consulting. The general residential zoned area is also subjected to minor localised flooding, which can be sufficiently addressed through the construction of an underground drainage network and drainage channels. Refer to the stormwater management plan prepared by AD Design and Consulting for further details.

2.4 Geotechnical and Environmental

The List interactive mapping geology and geotechnical information classify soil conditions as follows "Dominantly non-marine sequences of gravel, sand, silt, clay and regolith". A geotechnical investigation will be undertaken to confirm.

2.4 2.5 Bushfire Management

A bushfire assessment has not been completed.

3 Existing and Proposed Civil Works and Infrastructure

3.1 Site Earthworks

Earthworks will be necessary to construct roads and ensure the lots can be adequately serviced. A detailed earthworks plan will be prepared as a part of the detailed design. All earthworks will be required to be constructed per AS3798.

3.2 Roads and Access

3.2.1 Existing Infrastructure

There is currently no sealed road infrastructure within the site. There is a gravel track which leads to the TasWater Sewerage Pump Station and the existing shed. The existing road infrastructure surrounding the site is in good condition.

The site is currently accessed via the Beatty Street and Mainwaring junction.

3.2.2 Proposed Infrastructure

New road works are proposed to facilitate property accesses for the development. This will include the construction of approximately seven new streets.

Access to the development is proposed from three location.

- West Arm Road, it is expected that this access will service most of the vehicle movements.
- Beatty Street and Mainwaring junction, servicing slightly less than West Arm Road access.
- Lempriere Ave, with the lowest number of vehicle movements from this access.

According to the traffic report undertaken by Hubble Traffic, no upgrading of West Arm Road is required to facilitate the new junction. Simple give way junctions are sufficient at all three locations to achieve an 'A' level of service. No other external infrastructure works are anticipated to facilitate the development.

3.3 Stormwater

3.3.1 Existing Infrastructure

There are a series of open channels throughout the site that aid in the drainage of the site. These drainage channels are subject to a drainage easement and are responsible for providing stormwater property connection to 183 to 207 Mainwaring Street.

To facilitate the development, these drainage easements will be removed. As such it will be necessary to connect 183 to 207 Mainwaring Street to the underground stormwater infrastructure provided by the development.

No underground network is currently within the site boundaries.

Figure 2 - Drainage Easements Burdening the Site (shown grey).

3.3.2 Proposed Infrastructure

The runoff generated within this development will be conveyed via an underground stormwater pit and pipe network designed for a 5 % AEP (20-year ARI) event which will discharge to the existing infrastructure. Overland flow paths will be provided to convey the 1 % AEP (100-year ARI) event with the proposed road also functioning as an overland flow path. The design will be in accordance with Stormwater Management Code of the Tasmanian Planning Scheme.

There is an existing overland flow path generated from the upstream catchment which drains through the site. Management of this overland flow path will need to be considered in the design of the development. For further detailes refer to the Stormwater Management Plan prepared by AD Design and Consulting for further details.

3.4 Stormwater Quantity & Quality

It is proposed to upgrade the existing council culvert traversing 22 West Arm Road to the River Tamar. Upgrading this culvert will ensure that runoff generated from the site can be safely conveyed into River Tamar without the need for stormwater mitigation such as detention. Liaison with the Council is required to ensure this will be an acceptable solution.

To comply with the Stormwater Management Code of the Tasmanian Planning Scheme, stormwater quality is proposed. This will consist of a tertiary treatment (Atlan Flow Filter – Hydrosystem – FLF 2500/17) and a gross pollutant trap (GPT - Atlan Ecoceptor GPT 800). Refer to the Stormwater Management Plan prepared by AD Design and Consulting for further details.

3.5 Sewerage Reticulation

3.5.1 Existing Infrastructure

There is an existing TasWater Sewerage Pump Station within the site. This pump station service houses 183 to 207 Mainwaring Street, which gravity feeds to the pump station. From the pump station a rising main pumps sewerage to the gravity system within Mainwaring Street and then makes it way to Sand Beach SPS to the north.

There are two candidate sewer connection locations for the development. One in West Arm Road (A225475) and one at the rear of 5 West Arm Road (A225335), with a manhole within the development site available for connection. Both these sewer mains are gravity fed to Sandy Beach SPS, which pumps to the Sewer Treatment Plant to the north west of the development.

3.5.2 Proposed Infrastructure

To service the development, it is proposed to utilise two new sewer connections. The sewer connection located behind 5 West Arm Road (A225335) will be utilised for 8% of the site, with the sewer located adjacent 22 West Arm Road (A225475) being used for the remainder.

Service advice has been obtained from TasWater with respects to the capacity of the existing sewer infrastructure. Based on the split of properties above, the existing main near the Sand Beach SPS will need to be upgraded to a DN225.

Due to the increase in sewerage flow to the Sandy Beah SPS, TasWater have indicated that it will be necessary to upgrade the pumping capacity of this pump station.

The existing storage capacity of Sandy Beach SPS can accommodate the development.

Due to the recently introduced headworks charges, upgrades of the existing sewerage main and pump station will be undertaken by TasWater, with head works charges paid by the Developer.

3.6 Water Reticulation

3.6.1 Existing Infrastructure

There are two DN100 TasWater water mains adjacent the development site. There is a dead-end main terminating at the property boundary within Lempriere Avenue and another main in West Arm Road to the north. Service advice has been received from TasWater which indicates the existing water infrastructure will have sufficient capacity to service the development in a ‘well loop’ network.

3.6.2 Proposed Infrastructure

It is proposed to connect into the existing TasWater water infrastructure at both Lempriere Avenue and West Arm Road. Based on service advice from TasWater it is proposed to install new DN100 water mains to all property frontages. The water network will follow the road reserve and be ‘well looped’ to help achieve service limits.

No external water infrastructure works are proposed to service the development.

3.7 Electricity

The TasNetworks Asset Plans indicate electricity infrastructure exists along West Arm Road and Mainwaring Street. It is anticipated connecting to TasNetworks infrastructure is possible.

The requirements of a site substation or any upgrades to service the proposed development will be determined by TasNetwork during an early engagement meeting.

3.8 Communications

NBN and Telstra Asset Plans indicate that communications infrastructure exists within West Arm Road and Mainwaring Street. All works required to provide communication services to the proposed development will be undertaken with Telstra/ NBN approval and coordination.

3.9 Natural Gas

Tas Gas Asset Plans indicate natural gas infrastructure does not exist within area of the development.

4 Summary

This document relating to the proposed development located at Lot 102 West Arm Road, Beauty Point has shown the following:

- Stormwater detention is not required for the proposed development due to its location within the greater catchment. Given that the existing stormwater infrastructure can be upgraded.
- Stormwater quality treatment is required.
- The sewer connection to existing infrastructure is achievable to the existing 150 mm main to the north adjacent 22 West Arm Road and Northeast adjacent to 5 West Arm Road.
- Sewer upgrades of the existing will be covered by the recently introduced headworks charges.
- Water connections are available from West Arm Road and Lempriere Ave. Flow and pressure testing are required to undertake the design of the water reticulation.
- There are existing electrical and telecommunications surrounding the site to service the development.
- There is not existing natural gas infrastructure surrounding the site to service the development.

Appendix A – Development Plans

15.0
Right of way easement
(for lot 200 - private)

Pedestrian/maintenance vehicle
access to future frog habitat pathway

201
PUBLIC OPEN
SPACE
5915m²

3.6m wide Balance Lot Access.
ReferLGAT TSD-R09

Road 1
Road 2
Road 3
Road 4
Road 5
Road 6
Road 7

West Arm Rd
Eton St
Lenborough St
Mainwaring St
Lempriere Av
Napier St
Jellico St
Scott St
Beatty St

Street parking
Beauty Point
Bowls Club

8.9
6.9
6.5
9.95

0 20 40 60 80 100m
SCALE 1:2000 A3

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Rev No	Date	Revision Note	Drn	Ver.	App.
C	3/8/24	Council RFI	FP	AD	AD
B	04/12/23	Lots 200, 201 and Right of way easement shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

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Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn BW	Signed	Date 29/08/23
Designed BW	Signed	Date 29/08/23
Checked TN	Signed	Date 29/08/23
Approved AD	Signed	Date 29/08/23

Drawing Title: Roadworks General Arrangement
Overall

FOR APPROVAL
NOT FOR CONSTRUCTION

Project No. 20018
Scale 1:2000m
Sheet Size A3
Drawing No. D-1-06-00
Rev B

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Provide suitably sized inlet structure within the subject site to collect the upstream catchment including locally shaping the surround area and scour protection

GPT's Final location, size and configuration to be determined during Detail Design phase.

Connection of overflow from frog wetland to the proposed stormwater system be determined during Detail Design phase.

FLF's Final location, size and configuration to be determined during Detail Design phase.

Existing Stormwater main and outlet to be upgraded to accommodate increased runoff from proposed development.

201 PUBLIC OPEN SPACE 5915m²

Road 1 Road 2 Road 3 Road 4 Road 5 Road 6 Road 7

West Arm Rd Eton St Lenborough St Mainwaring St Lempriere Av Napier St Jellico St Scott St Beatty St

Beauty Point Bowls Club

0 20 40 60 80 100m

SCALE 1:2000 A3

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B	04/12/23	Lot 200 and 201 shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

AD DESIGN+CONSULTING
Engineering / Project Management / Property Development

Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	MB	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Drainage General Arrangement Overall

Project No. 20018
Scale 1:2000m
Sheet Size A3
Drawing No. D-1-07-00
Rev B

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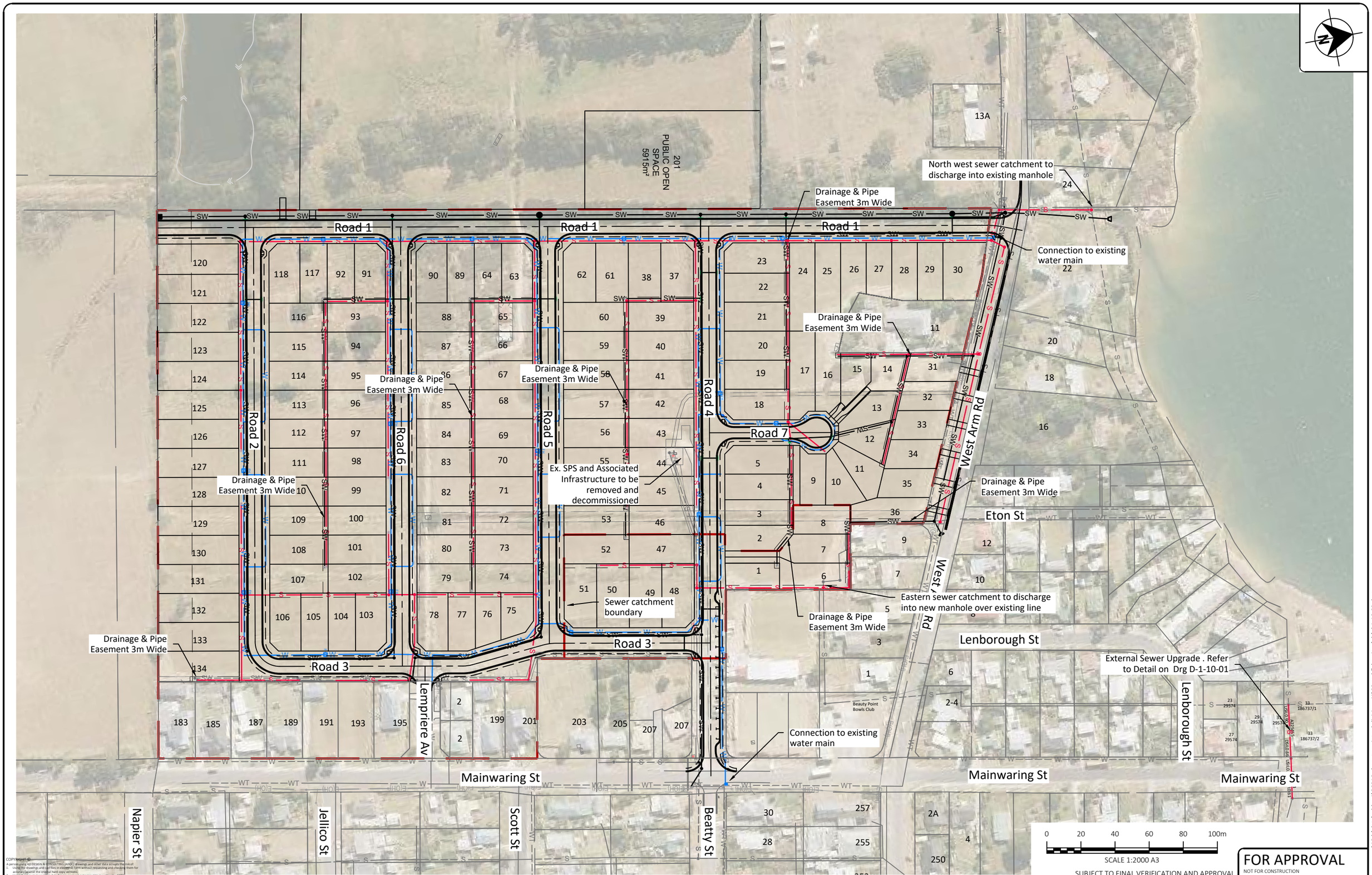

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B	04/12/23	Lot 200 and 201 shown	BW	AD	AD
A	29/08/23	For Approval	BW	TN	AD

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Client: Dourias Group Holdings

Project: Beauty Point Subdivision

Drawn	BW	Signed	Date 29/08/23
Designed	BW	Signed	Date 29/08/23
Checked	TN	Signed	Date 29/08/23
Approved	AD	Signed	Date 29/08/23

Drawing Title: Water and Sewerage General Arrangement Overall

Project No.: 20018
Scale: 1:2000m
Sheet Size: A3
Drawing No.: D-1-10-00
Rev: B

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Appendix B – Sewer and Water Supply Calculations

Water Demand Sheet

AD Design & Consulting

Project: Beauty Point Subdivision
Number: 20 018

Inputs

ET for PSD	Yes	Use the ET or number of units for PSD calc
Tourist Zone	No	Is this a tourist zone

Loading:	**No.**	**ET**	**Reference**
RC04	140	140	Lots - 500m2

copy and insert above row to add new type

Demand:

Demand calculated automatically, do not change

ET	140 ETs	
AD	1.11 L/s	
PD	2.50 L/s	2.25AD
PH	4.99 L/s	2PD

if Units < 100, Check PSD

PSD	PSD N/A	AS3500.1.18 Section 3.2.3

Design Criteria:

Base Demand	2.50 L/s	Using PD
Fire Demand	10.00 L/s	

Appendix E Traffic impact assessment

RESIDENTIAL SUB-DIVISION LOT 102 WEST ARM ROAD BEAUTY POINT

TRAFFIC IMPACT ASSESSMENT

Hubble Traffic

Updated - October 2025

Hubble Traffic

E: Hubbletraffic@outlook.com
W: Hubbletraffic.com.au

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Version	Date	Reason for Issue
Draft	June 2023	Draft issued for client feedback
Final	**September 2023**	Final issued
Updated	**October 2025**	Impact of internal road connection to Cabin Park

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1. Introduction

ERA Planning and Environment has engaged Hubble Traffic Consulting on behalf of the developers, to prepare an independent Traffic Impact Assessment, to consider the traffic impacts from the provision of a 134 lot residential subdivision (development site) at Lot 102 West Arm Road, Beauty Point.

This report has considered the amount of traffic this subdivision is likely to generate, and how the additional traffic movements will enter and leave the development site using three access points; an existing side road, an access onto Mainwaring Street, and the creation of a new junction onto West Arm Road. Also, consideration of the subdivision layout, and the impact to traffic on the surrounding local road network.

This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019, and has referred to the following information and resources:

- Tasmanian Planning Scheme (West Tamar Council)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards AS2890 parts 1, 2 and 6
- Austroads series of Traffic Management and Road Design
  - Part 4: Intersection and crossings, General
  - Part 4a: Unsignalised and Signalised Intersections
  - Part 12: Traffic Impacts of Development
- Department of State Growth crash database
- Autoturn Online vehicle turning software
- Google Earth imagery

1.1 West Tamar Council's Request for Further Information (RFI)

In February 2024, the West Tamar Council requested that the Traffic Impact Assessment (TIA) be expanded to evaluate the potential traffic implications of an internal road connection between the proposed residential subdivision and the adjacent Cabin Park.

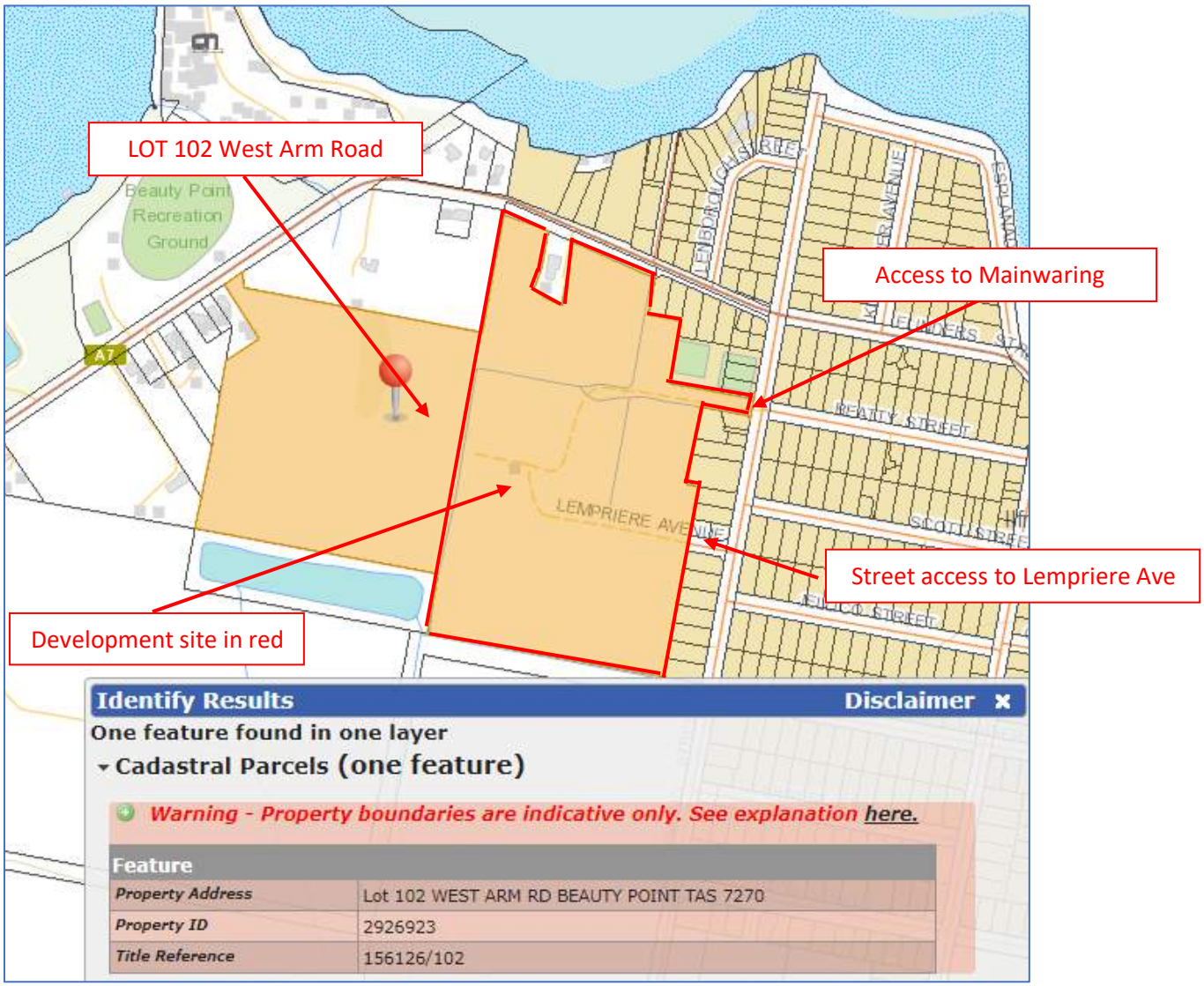
For the purpose of this assessment, it has been conservatively assumed that all traffic generated by the Cabin Park will predominantly utilise Access Road 1, which connects directly to West Arm Road via the new two-way access point. This additional traffic analysis, including modelling outcomes and operational performance metrics, is documented in Section 8 of the TIA.

2. Site Description

The development site is located at Lot 102 West Arm Road, Beauty Point, on a large parcel of land that has multiple zones, with the developer intending to rezone the development site to general residential.

The vacant land is located on the western side of Mainwaring Street, on the fringe of Beauty Point's urban development, with established residential properties located on the eastern and northern sides, and in close proximity to local facilities. The site currently has two access points, a gravel access on Mainwaring Street adjacent to the Beauty Point Bowling club, and an access at the end of Lempriere Avenue.

Diagram 2.0 – Extract from the LIST land information database



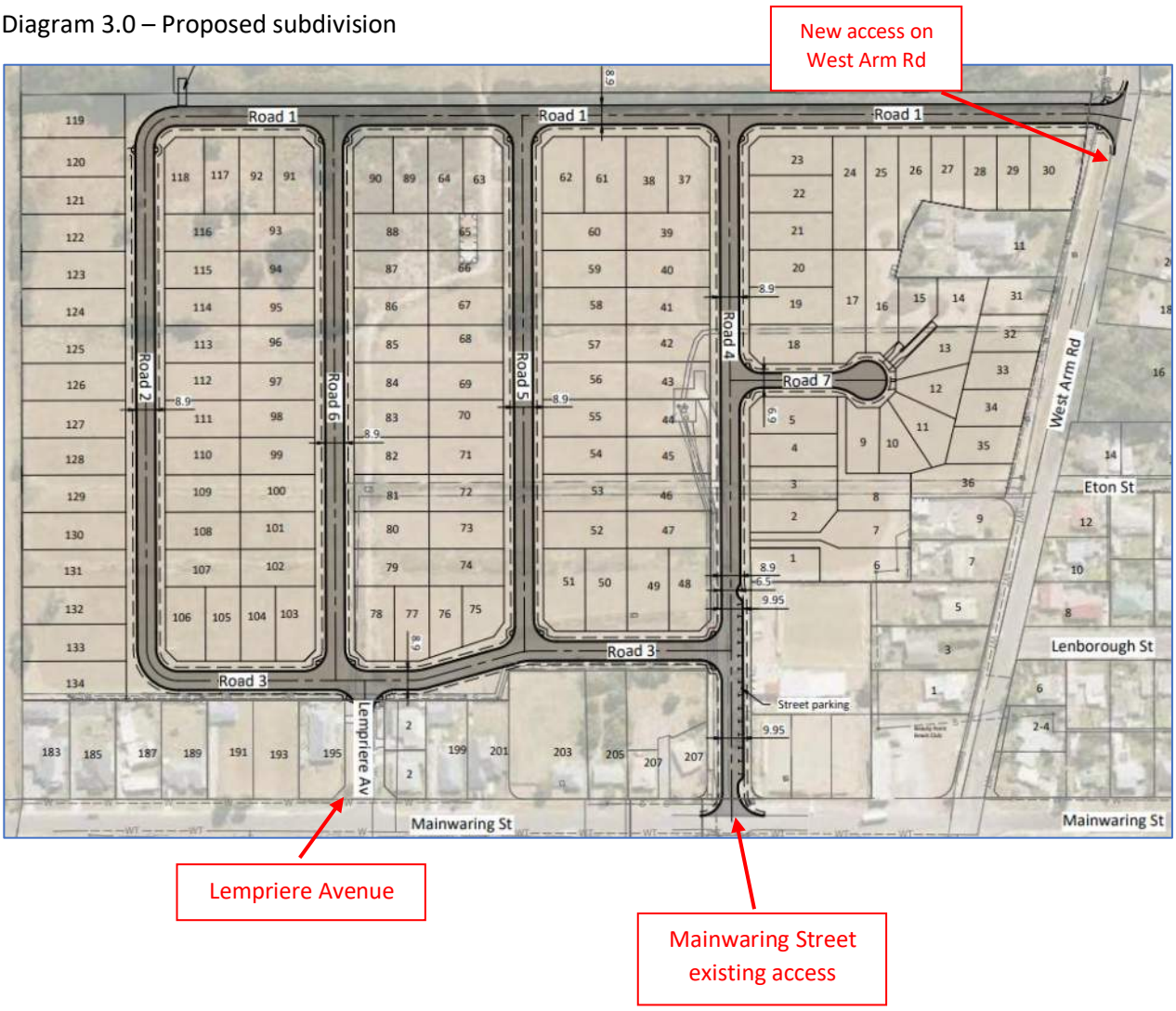
3. Development proposal

As advised by the developer, the proposed residential subdivision is for the provision of 134 residential lots. It is understood that the majority of the building lots will be between 530 and 650 square metres in area and suitable for a single dwelling development.

The site has two existing accesses at Mainwaring Street and Lempriere Avenue, with a third access proposed on West Arm Road. The sub-division includes an internal network of seven roads to service the 134 Lots. From a traffic engineering perspective, three access points to service the Lots is considered appropriate to provide adequate connection and vehicle circulation. Six lots (lots 31 – 36) have direct road frontage with West Arm Road and will have direct access to the road.

The development site is level and cleared of vegetation.

Diagram 3.0 – Proposed subdivision



4. Trip generation by this development

A trip in this report is defined as a one-way vehicular movement from one point to another, excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

To determine the number of trips likely to be generated by this development, reference has been taken from the RTA Guide to Traffic Generating Developments, section 3.3 residential housing.

This Guide recommends for low density residential dwellings in regional areas (RTA update 4a - August 2013):

- Daily vehicle trips of 7.4 per dwelling
- Weekday morning trips of 0.71 per dwelling and
- Weekday evening trips of 0.78 per dwelling

From these generation rates, a total of 992 trips could be expected during the normal weekday, with 105 of these trips expected during the morning and afternoon peak periods.

Table 4.0 – expected number of trips to be generated

Dwelling Type	RTA Generation rate	Number of dwellings	Daily trips	Peak trips
Standalone dwelling	7.4 per day 0.78 per peak	134	992	105
Total		**134**	**992**	**105**

5. Existing road network and traffic conditions

The development site currently has a direct access onto Mainwaring Street and Lempriere Avenue, and a proposed new access onto West Arm Road. It is likely that trips generated by the development will use West Arm Road to travel in an easterly or westerly direction. This section will examine the road characteristics of the surrounding road network, to determine their ability to accommodate the additional vehicle movements.

5.1 Mainwaring Street characteristics

Mainwaring Street is a local council road passing the development site in a north to south orientation, continuing north to an intersection with West Arm Road. The horizontal and vertical road alignments of Mainwaring Street are straight and flat.

While the road is principally of an urban standard with a minimum 7 metre-wide sealed bitumen surface, there are two different road standards, with large sections of the road without kerb, guttering or footpath. Along the western side, between Scott and Napier Streets, the road is supported with concrete kerbing and concrete footpath. Street lighting along the road is minimal.

Based on the layout of the surrounding road network, Mainwaring Street would operate as a local residential street.

Photograph 5.1 – Mainwaring Street adjacent to development site

5.2 Lempriere Avenue characteristics

Lempriere Avenue is a local council street that extends off Mainwaring Street in a westerly direction. The road has been constructed to accommodate future development, with a direct connection to the development site.

Within this street there are three existing residential properties with direct street access. The street is of an urban residential standard and is 52 metres long, with a two percent gradient towards the development site. The road is located within an 18 metre wide road reserve, has an 8.1 metre wide bitumen seal with a standard two-way camber, concrete kerb and guttering, and concrete footpath on the northern side. Lempriere Avenue intersects Mainwaring Street at ninety degrees and forms a standard T-junction, which is supported with street lighting.

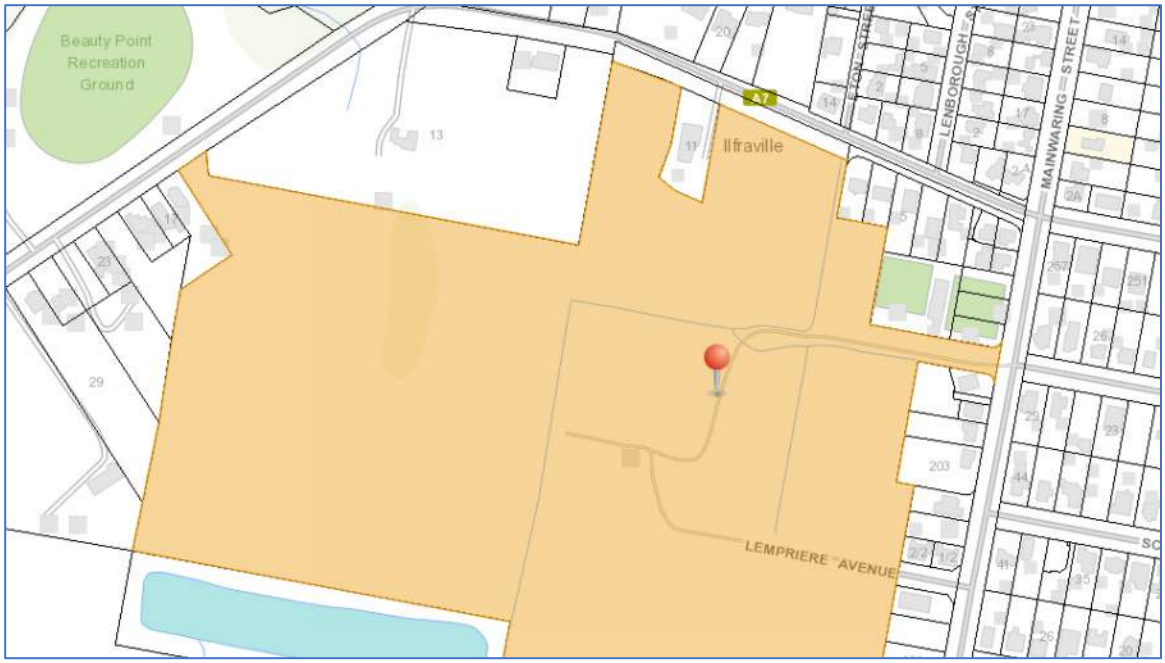
Based on the existing road standard, it appears that continuation of this street to connect onto the development site would be appropriate, causing no adverse impact to the existing residential properties.

Photograph 5.2 – Lempriere Avenue

5.3 Existing gravel access between development site and Mainwaring Street

Although the development site is situated behind existing properties, it has direct access to Mainwaring Street through a reserved road corridor, located south of the Bowls Club, as shown in the diagram below. This road reserve allows for a road to be constructed, which will connect with Mainwaring Street directly opposite Beatty Street, forming a cross intersection.

Diagram 5.3 – LIST database showing road reserve to Mainwaring Street



Within this road reserve there is an existing gravel track providing access to the development site, as shown in the photograph below.

Photograph 5.3 – Condition of existing gravel track

5.4 West Arm Road

West Arm Road is a local road managed by the West Tamar Council and is a continuation of the West Tamar Highway. The road passes the development site in an east to west orientation, continuing west to Greens Beach Road.

The road adjacent to the development site is of a rural standard, with sealed bitumen measuring 5.8 metres wide, and a formal footpath which runs along the southern side adjacent to the property boundary. Delineation of the road is provided by a marked separation centreline, with guideposts located at the back of the road edge. The horizontal road alignment is straight, and vertical terrain is flat.

Photograph 5.4 – West Arm Road

5.5 Surrounding environment and land-use

Along West Arm Road west of the development site are several residential properties, Beauty Point Tourist Park, Beauty Point Recreation Ground, council's waste treatment plant, and land further west becoming rural residential.

On the western side of Mainwaring Street there are several residential properties and the Beauty Point Community Bowls Club. Along the eastern side is the fringe of the established urban residential catchment, with several residential properties.

Overall, this subdivision would form a continuation of the residential development.

5.6 Traffic flow on the surrounding road network

Based on the location of the development site within the surrounding road network, it is expected that most vehicles will arrive and leave using West Arm Road, either using the direct access or through the intersection of Mainwaring Street.

A traffic survey was conducted in October 2021, between 8:00am to 9:00am and 3:45pm to 4:45pm, to coincide with the expected busiest periods associated with residents travelling to work, and parents returning after collecting students from schools.

The manual traffic survey data is available in appendix A. The survey demonstrates the surrounding road network is lightly trafficked.

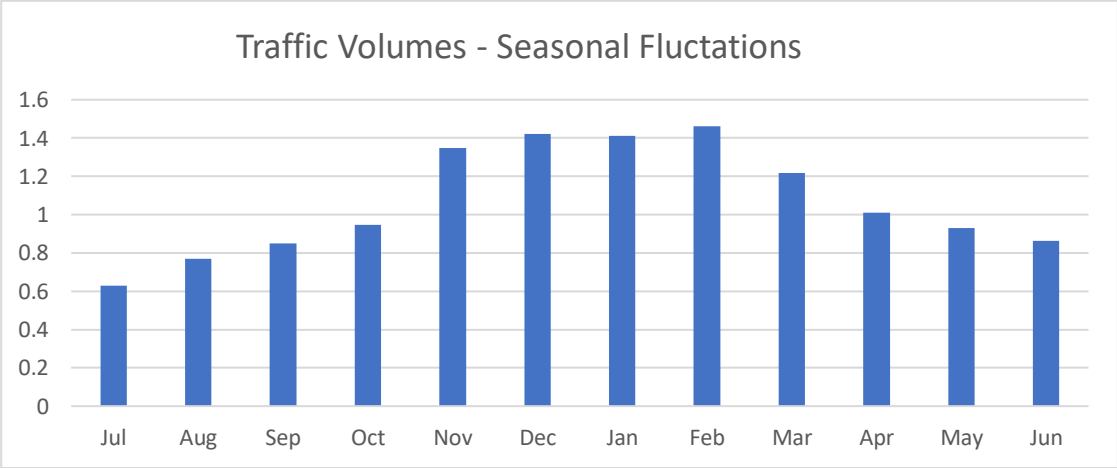
5.7 Seasonal Fluctuations on traffic flows

It is recognised that traffic flows in regional areas can be seasonal, the recent traffic flow surveys were undertaken outside of the seasonal peak and should be adjusted accordingly.

The Department of State Growth maintains a database of traffic volumes for the State Road network as noted in table 5.7 below, and from this database seasonal fluctuations can be estimated. Tourist activity around the summer period can significantly increase the volume of traffic using the road network. Although the seasonal fluctuations are based on the State Road network, it can be applied to West Arm Road and Mainwaring Street, to enable this assessment to consider the traffic impact in the peak season.

With the traffic surveys adjacent to the development site undertaken in October, the seasonal variation indicates that during the peak tourist season, the traffic flows can increase by 60 percent. Consequently, the recent traffic survey data has been adjusted, and with the traffic survey conducted in 2021, the traffic flows have been adjusted with two percent annual growth to reflect 2023 peak season traffic conditions, which are shown in diagrams 5.7A and 5.7B.

Table 5.7 – Seasonal Fluctuations



The traffic survey data collected at the intersection of Mainwaring Street and West Arm Road has been adjusted to represent peak seasonal traffic conditions. Overall, the roads are lightly trafficked.

Diagram 5.7A – Seasonal adjusted morning peak hour – West Arm Road and Mainwaring Street

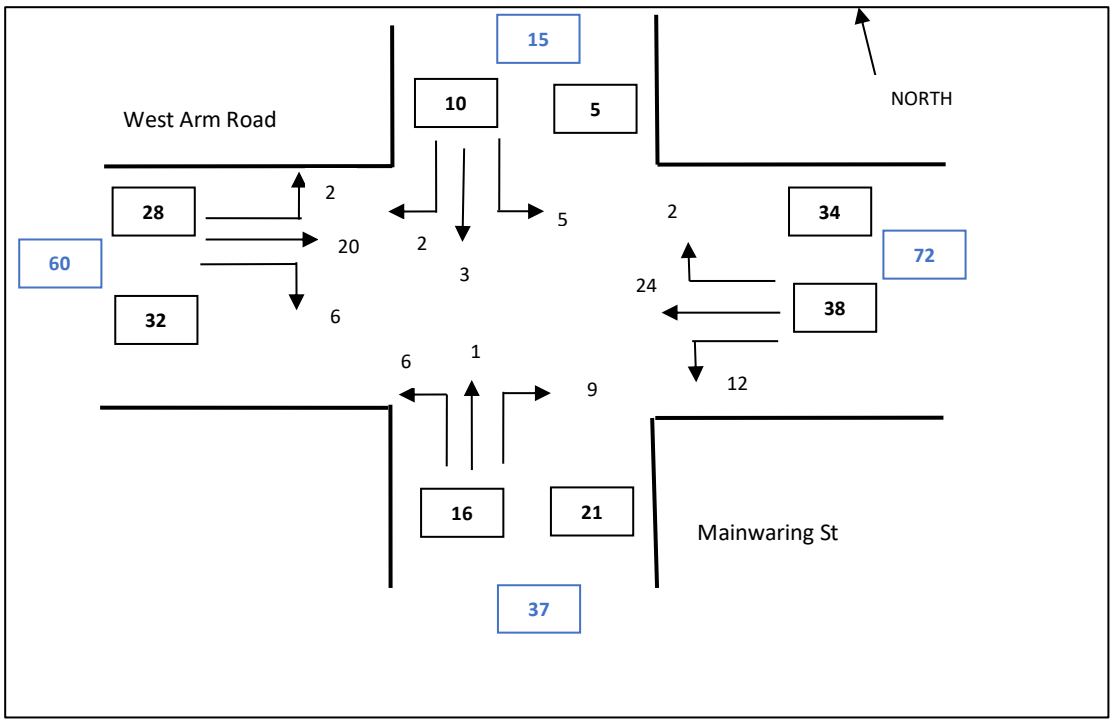
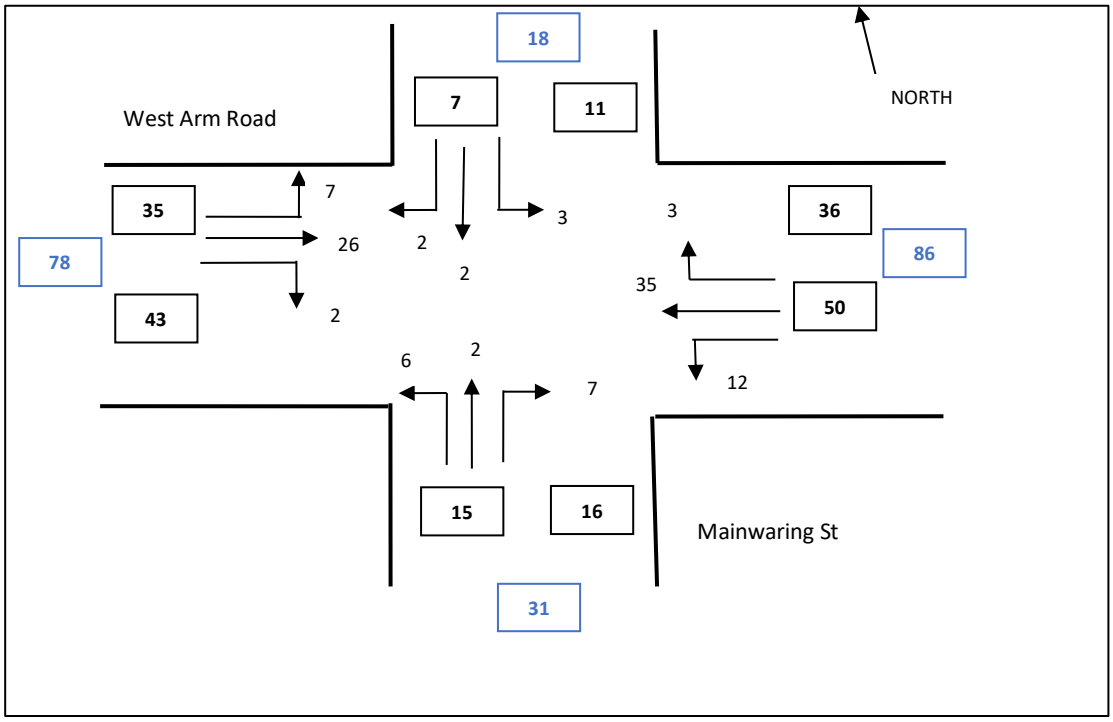


Diagram 5.7B – Seasonal adjusted afternoon peak hour – West Arm Road and Mainwaring Street



5.8 Existing traffic performance - West Arm Road and Mainwaring Street

The simplest method to evaluate the impact of vehicles entering and leaving West Arm Road, is to use SIDRA traffic modelling software. Level of Service (LOS) is a quantifiable assessment of the factors that contribute to the traffic performance, which includes traffic density, gaps in traffic streams, expected delays and queues. There are six levels from A to F, with A providing the highest level for give-way controlled junctions, meaning motorists are not incurring delays, with ample gaps in the traffic stream for vehicles to turn freely and safely without disrupting other users.

A traffic model of the intersection, with the current traffic flows (seasonally adjusted) for the morning and afternoon periods has been developed. The traffic modelling in table 5.8 indicates during both peak hour periods the intersection is operating at the highest level of service for a give way control, with all motorists receiving LOS A. Motorists are not expected to incur any notable delays or queues.

Table 5.8 – Results of traffic modelling

Period	Total veh	DOS	Ave delay	LOS	Max queue
Morning peak	87	0.02	2.9 seconds	A	0.3 metres
Afternoon	102	0.027	2.3 seconds	A	0.3 metres

5.9 Reported road crashes

The Department of State Growth maintains a database of reported road crashes. A check of this database found no crashes reported in Mainwaring Street, or at the intersection of Mainwaring Street and West Arm Road in the last five years.

This indicates motorists are not experiencing any difficulties with negotiating the road network.

5.10 Speed limits

Mainwaring Street is a local residential street with the 50 km/h urban default speed limit applying. While along West Arm Road the speed limit is 60km/h in recognition of its collector road function.

5.11 Active transport infrastructure

The development site is located on the fringe of the Beauty Point urban development, this provides an excellent opportunity for new residents to use active transport modes, to reduce the reliance on private motor vehicles for short trips.

A concrete footpath is located on the northern side of Lempriere Avenue, and the western side newer section of Mainwaring Street. Bus stops are located on West Arm Road within 300 metres of the Lempriere Avenue access, and local shops are within 500 metres east of the development site.

While there are no formal cycling facilities, the surrounding local road network is lightly trafficked, with sufficient road widths to allow for cyclists to share the roads in a safe and convenient manner.

Photograph 5.11 – Existing footpath leaving Lempriere Avenue towards West Arm Road

6. Impact from traffic generated by this development

As determine in section 4 of this report, when this development site is fully developed it has the potential to generate up to 992 additional traffic movements per weekday, with 105 of these trips likely to occur in the morning and afternoon peak periods. This is considered a worst case scenario, as the development site is located in accessible walking distance to Beauty Point's main activity centre, with many of the short trips expected to be undertaken by active transport modes.

6.1 Traffic distribution from the development site

It is common with residential properties that during the morning peak 90 percent of trips will leave the development site, with the opposite occurring in the evening peak.

With West Arm Road being the main arterial road in Beauty Point, it is logical that the vast majority (90 per cent) of the traffic generated by the development will commute along this road, with the other ten percent using local residential streets.

From the manual traffic survey data, 70 per cent of the current traffic movements are arriving and leaving from the eastern approach of West Arm Road, with this rate expected to continue once the development is operating. This means that during the peak hour periods, the 105 additional trips generated by the development is likely to split in the following ways, 75 vehicles using the eastern approach of West Arm Road, 19 vehicles using the western approach of West Arm Road, and 11 vehicles using the local streets.

With the development operating with three access points, drivers will choose the most convenient and shortest route between their property and their desired route. As West Arm Road is the primary route, the West Arm Road access point is expected to be the primary access for drivers. This assessment predicts the West Arm Road access is likely to attract 45 percent of the vehicle movements, with 35 percent of the movements using the access adjacent to the bowls club, and 20 percent using Lempriere Avenue.

The assignment of additional traffic generated by the development site for the morning and evening peak hour periods, is shown in the following two diagrams.

Diagram 6.1A – Assignment of development traffic to the surrounding road network - Morning

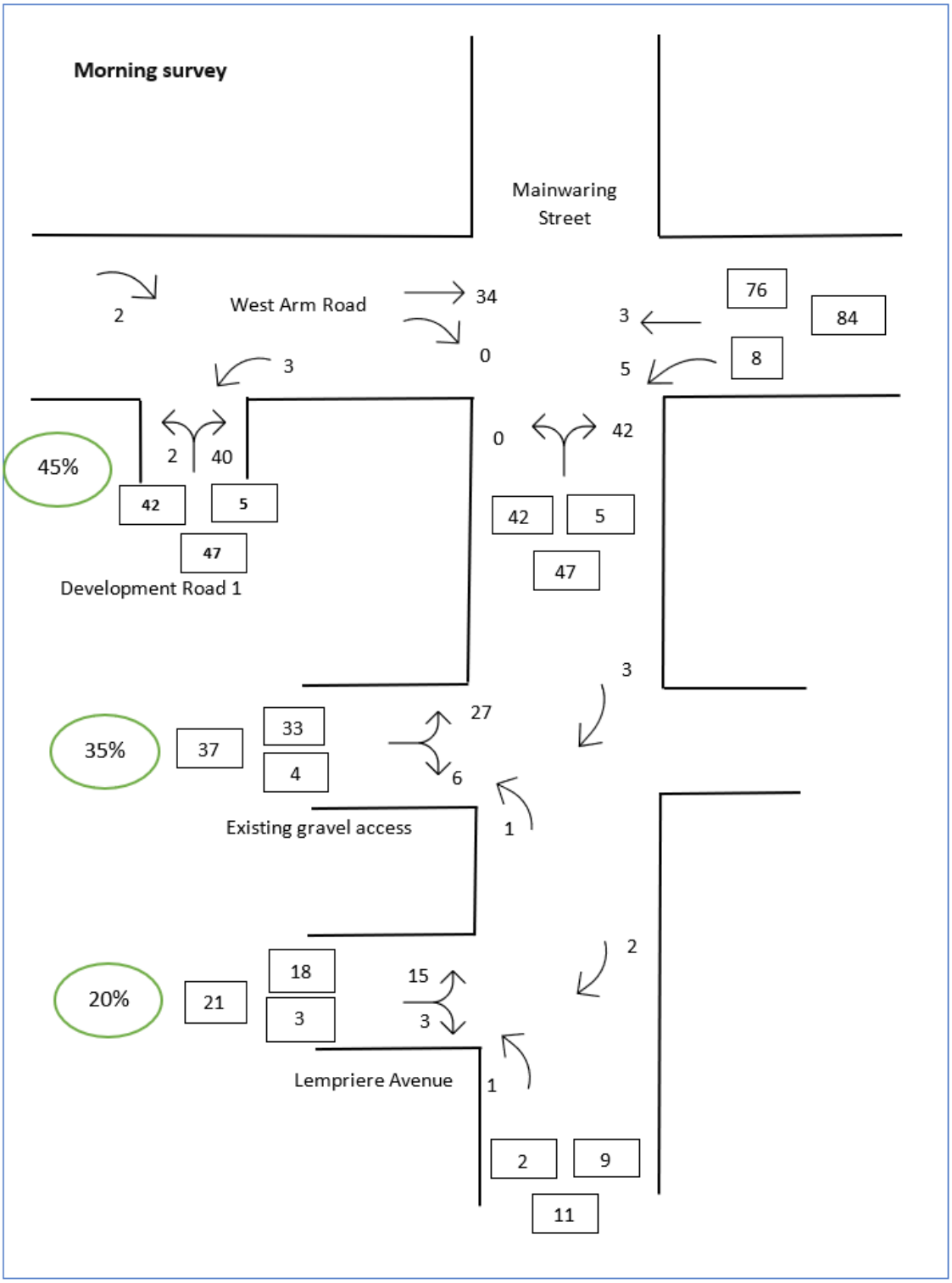
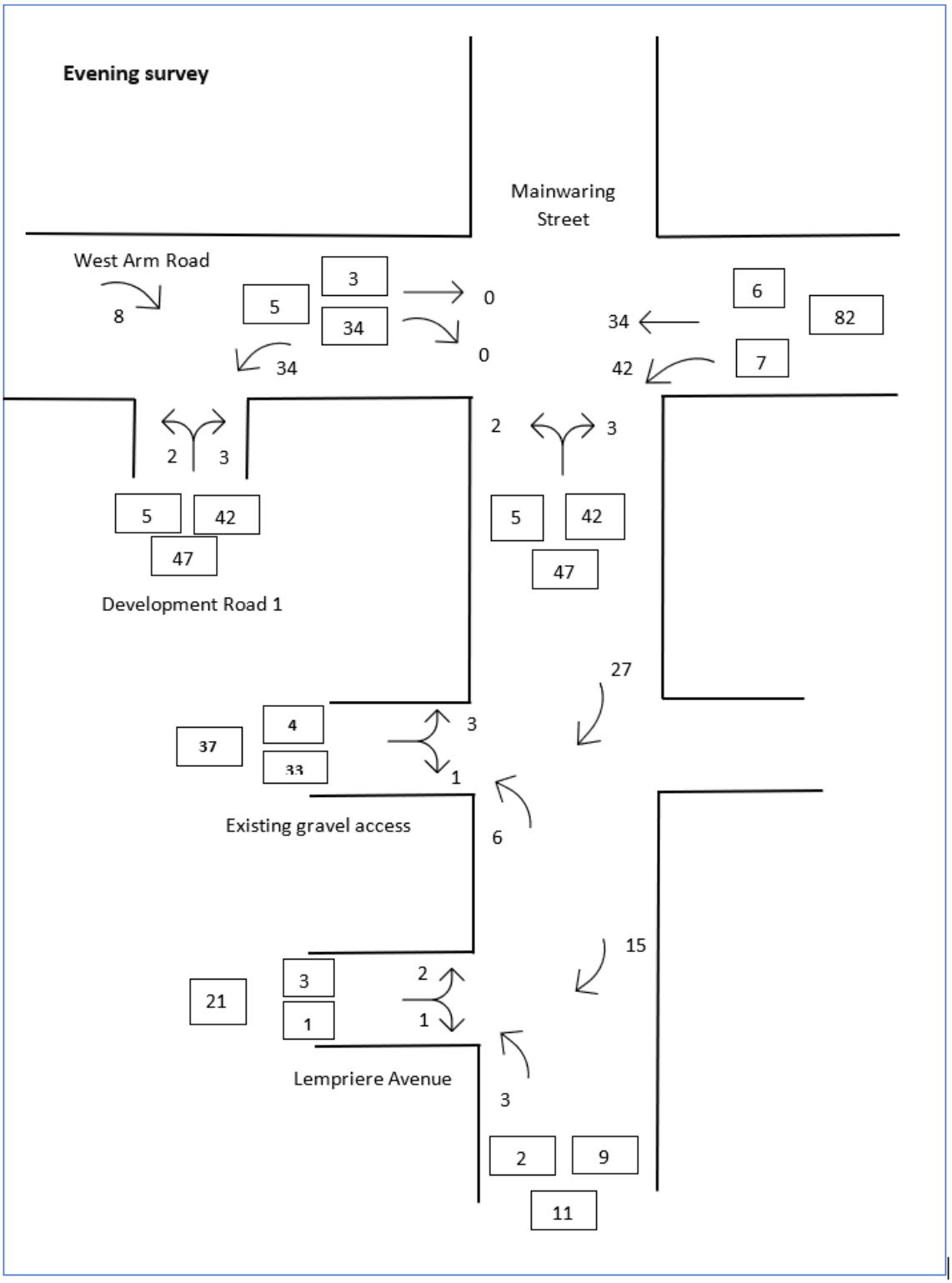


Diagram 6.1B - Assignment of development traffic to the surrounding road network – Evening



6.2 Traffic modelling of the West Arm Road intersection and development accesses

Traffic models of West Arm Road and Mainwaring Street intersection and junction connections were developed within the SIDRA traffic software. The models are based on the existing traffic flows, (adjusted for the peak summer period of 2023), and assignment of the traffic generated from the development.

Traffic modelling indicates:

- The additional traffic generated by the development at the Mainwaring Street and West Arm Road intersection will not cause any deterioration in traffic performance, with the intersection continuing to operate at LOS A, which is the highest level of traffic service.
- The three junctions providing vehicular access to the development site will operate at the highest level of service, LOS A, with motorists not expected to incur any notable delays, or traffic queues.

The modelling clearly demonstrates traffic from the development will not cause any adverse traffic impact to the surrounding road network.

Table 6.2 – Summary of traffic modelling

Location	Period	Scenario	Total Vehicles	DOS	Worst delay	Level of Service	Max queue
Mainwaring St and West Arm Road intersection	Morning peak hour	Existing	100	0.022	5.7secs	A	0.3 metres
		With development	229	0.087	6.1secs	A	2.2 metres
	Evening peak hour	Existing	113	0.029	5.8secs	A	0.3 metres
		With development	173	0.053	5.9secs	A	0.5 metres
Access with West Arm Rd	Morning	With development	113	0.036	5.7secs	A	0.8 metres
	Evening	With development	120	0.037	5.7secs	A	0.7 metres
Mainwaring/ Access/ Beatty	Morning	With development	92	0.024	5.6secs	A	0.6 metres
	Evening	With development	83	0.027	5.7secs	A	0.8 metres
Lempriere / Mainwaring	Morning	With development	61	0.013	5.6secs	A	0.3 metres
	Evening	With development	54	0.18	5.6secs	A	0.06 metres

Printouts of the traffic modelling results are available in appendix A.

6.3 Residential amenity impact

A new development in urban areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide to Traffic Generating Developments (RTA Guide) has considered this matter and provided an environmental performance standard, that can be used to evaluate the likely impact of additional traffic on residential amenity. Extract 6.3 is from the RTA Guide and relates to urban environment, providing maximum two-way peak hour goals.

For an urban collector road such as West Arm Road, the environmental goal is 300 to 500 vehicles per peak hour, for Mainwaring Street which is a local street, the environmental goal is 200 to 300 vehicles per peak hour. The current two-way traffic flows have been extracted from the manual traffic survey (seasonally adjusted for 2023) and is contained in the table below. Additional traffic to be generated by the development, is assigned to the surrounding road network based on previous assumptions. The last two columns (highlighted in green) in the table below represents the expected two-way traffic flow when the development is fully occupied, and is the combined total of the existing traffic flow and the additional development traffic.

This table demonstrates that additional traffic generated by the development, is not expected to cause any adverse impact to residential amenity on the surrounding roads, as the predicted traffic flow on West Arm Road is expected to be less than 200 two-way vehicles per peak hour. While along Mainwaring Street the two-way traffic flow is predicted to be less than 100 vehicles per peak hour.

Table 6.3 – Comparison of two-way traffic flow with development traffic

Street	Environment standard	Period	Existing two-way flows		Two-way flow with development traffic	
			West	East	West	East
West Arm Rd	Collector (300 to 500)	Morning	60	72	102	166
		Evening	78	86	117	161
Mainwaring St	Local (200-300)	Morning	37		84	
		Evening	31		78	

Extract 6.3 – Extract from the RTA Guide on environment gaols

Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

6.4 Sight distance at two accesses onto Mainwaring Street

It is important that drivers leaving the development site have suitable sight distance to undertake turning manoeuvres in a safe manner, without impacting motorists travelling on Mainwaring Street. Safe Intersection Sight Distance (SISD) must be provided within the creation of new road junctions.

SISD is based on the operating speed of traffic approaching the junction, with Mainwaring Street covered by the urban residential 50km/h speed limit, the corresponding minimum SISD is 90 metres, based on Austroads Guide to Road Design.

The available sight distance at the existing gravel access (opposite Beatty Street) and the Lempriere Avenue junction were measured on-site, based on a driver being 1.05 metres above the road surface, with approaching vehicles being 1.2 metres high. For both accesses, the expected available sight distance for drivers leaving the new subdivision in both directions, is expected to exceed 150 metres.

Photograph 6.4A – View looking left from the existing gravel access opposite Beatty Street

Photograph 6.4B – View looking right from the existing gravel access opposite Beatty Street

Photograph 6.4C – View looking left from Lempriere Avenue

Photograph 6.4D – View looking right from Lempriere Avenue

6.5 Sight distance at proposed junction on West Arm Road

With West Arm Road operating under a 60 km/h speed limit, the recommended SISD is 114 metres.

The available sight distance at the proposed new junction onto West Arm Road was measured on-site, based on the driver being 1.05 metres above the road surface, with approaching vehicles being 1.2 metres high. The expected available sight distance for drivers leaving in both directions is expected to exceed 150 metres, as shown in the following two photographs.

Photograph 6.5A – View looking right from the proposed access

Photograph 6.5B – View looking left from the proposed access

6.6 Need for turning treatments on West Arm Road

As the additional trips generated from this development will create new turning manoeuvres on West Arm Road, it is necessary to analyse the impact and determine whether dedicated turning treatments, such as a right turn or left deceleration lane is warranted.

Guidance on turning treatments is taken from Austroads Guide to Traffic Management Part 6: Intersection, Interchanges and Crossing Movements.

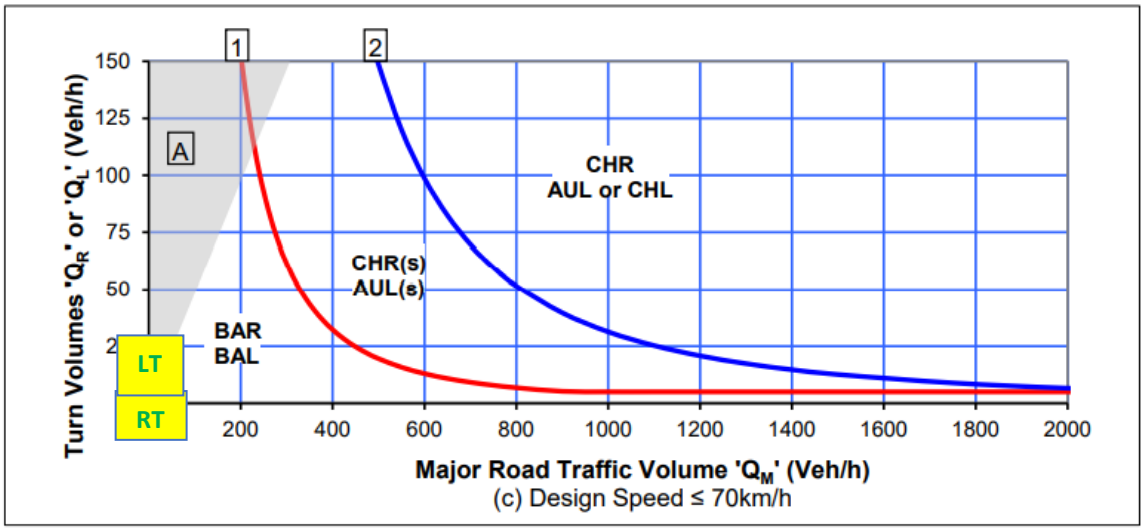
With the Beauty Point township located east of the development site, it is logical that the majority of vehicle movements generated by the site is expected to arrive and leave from an easterly direction. This is confirmed by the manual traffic survey at the Mainwaring Street intersection, where the majority of the traffic entering and leaving the southern end of Mainwaring Street, used the eastern approach of West Arm Road.

The number of vehicles expected to turn right into the development site from the Greens Beach direction, is expected to be low, estimated at two in the morning and eight in the evening peak hour periods. With 34 vehicles predicted to turn left off West Arm Road in the evening

Using the seasonally adjusted peak hour directional flows calculated earlier, the number of turning vehicles has been plotted against the volume of through vehicles, and the Austroads warrant indicates no turning treatment is considered necessary. Formal turning treatments are not generally required in urban environments unless there is a high turning demand, as operating speeds are lower, and motorists expect that turning traffic may cause a slight delay.

The traffic modelling confirms that vehicles turning into the development site are not expected to cause delay to through traffic along West Arm Road, and dedicated turning facilities are not considered necessary.

Graph 6.6 – Austroads turning treatment warrant



6.7 Sight distance associated with lots having direct access to West Arm Road

To optimise the number of lots for residential development, the subdivision will create new accesses onto West Arm Road for lots 31 – 36, as these lots have direct road frontage with West Arm Road.

With existing properties along West Arm Road already operating with direct access, additional six residential property accesses associated with this development is not expected to cause any adverse safety or traffic impact.

There is a range of sight distance parameters that can be applied to various situations, with Safe Intersection Sight Distance (SISD) being the highest parameter. SISD is suitable for new junctions, where traffic flows are much higher than a single residential lot, and where some users may be unfamiliar with the junction layout. Sight distance requirement for a single domestic property is lower, as traffic generation is significantly lower, and users are familiar with the access configuration.

With each of the six lots being suitable for single residential dwellings only, they will be assessed as a domestic property under the Australian Standard 2890.1:2004 (the Standard), which specifies a domestic property is a property comprising three or less domestic units.

Section 3.2.4 and figure 3.2 of the Standard specifies minimum sight distances required for domestic and residential properties, based on the speed environment. With West Arm Road having a 60 km/h speed environment, a domestic property access requires a minimum sight distance of 55 metres, with the desirable sight distance of 83 metres based on a five second gap.

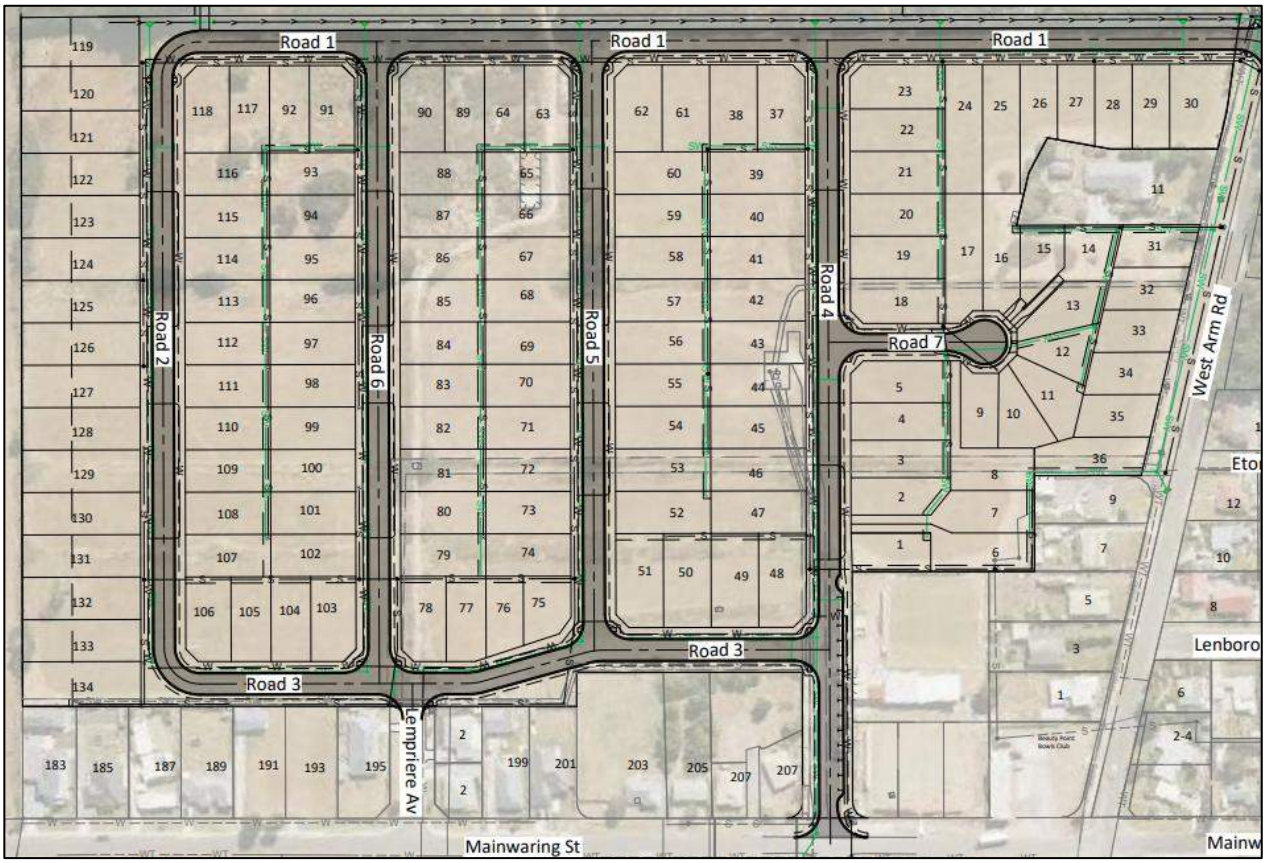
Sight distances were measured on site for each of the lots with direct access onto West Arm Road and the available sight distance for each lot was found to exceed 100 metres in both directions.

All direct property accesses are expected to have sufficient sight distance to exceed the Standard desirable sight distance of 83 metres, ensuring vehicles can enter and leave the properties in a safe and efficient manner. Each of the property accesses will also have sufficient sight distance to comply with the higher sight distance parameter, Safe Intersection Sight Distance.

7. Proposed access and internal layout

The subdivision is situated behind existing residential properties, will have direct access to West arm Road and connect with Mainwaring Street in two locations. Lots 31 – 36 will have direct access with West Arm Road. The internal road layout will consist of a loop road, with three internal streets and one short cul-de-sac.

Diagram 7.0 – Proposed subdivision layout



7.1 Subdivisional road standard

With consideration to the Local Government Association of Tasmania standard drawing for urban roads, drawing TSD-R06-V1, the road standard for the new subdivision loop road and three internal connecting roads will be a minimum road width of 8.9 metres, within an 18-metre-wide road reservation.

The one short cul-de-sac that extends off the main loop road is less than 150 metres in length and will serve less than 15 properties, and a 6.9 metre road width will be adequate.

The road link adjacent to the Beauty Point Bowls Club will be 9.95 metres wide, to facilitate two-way traffic flow, plus provide for on-street parallel parking.

The roads will have bitumen surface, supported with concrete kerb and gutter, and concrete footpaths with a minimum width of 1.2 metres. The roads will be supplemented with street lighting to comply with the vehicle and pedestrian lighting standard.

7.2 Turning facilities

At the end of the one short cul-de-sac, an 18 metre diameter circular turning head will be provided in accordance with LGAT standard drawing TSD-R07-V1. This turning head will accommodate a standard waste collection vehicle. The remaining road layout will enable all vehicles to circulate and leave the development in a forward-driving direction.

7.3 On-site parking provisions

Each of the residential properties will have a single access point, with each property having suitable space to accommodate on-site parking spaces, with the development site not expected to cause a parking overflow to the local road within the subdivision. Each of the internal roads will have sufficient road width to accommodate on-street parking for visitors.

7.4 Active transport

The development will include internal footpaths, these will connect to the existing footpaths to make walking and cycling a realistic mode of transport.

7.5 Road gradients

The existing terrain of the development site is relatively flat, the gradients of the internal roads and connection to the surrounding road network are also expected to be relatively flat and not cause any adverse traffic impact.

7.6 Connection onto Lempriere Street

Lempriere Street will be extended and form a standard T-junction with the new internal subdivisional road network.

7.7 Junction layout with Mainwaring Road

The existing gravel access will be upgraded to form an intersection with Mainwaring Street and Beatty Street. The peak hour traffic flows are predicted to be less than 100 vehicles, and this intersection is expected to operate safely and efficiently and not cause any adverse impacts. A give way control will be provided at the intersection to prioritise traffic to Mainwaring Street.

7.8 Junction layout with West Arm Road

The development site will intersect with West Arm Road at approximately ninety degrees, forming a standard T-junction. The corner radius has been designed to accommodate the vehicle swept path of a medium rigid vehicle, without encroaching the centreline of West Arm Road.

The access road will be 8.9 metres in width, suitable to accommodate vehicles entering and leaving at the same time. Traffic modelling determined the junction will be lightly trafficked, with motorists not expected to incur any notable traffic delays or traffic queues, and receiving the highest level of traffic service, LOS A.

7.9 Direct accesses with West Arm Road

Lots 31 – 36 have direct road frontage with West Arm Road and will create new accesses onto the road. This is compatible with the current urban street environment, as other properties along West Arm Road operate with direct vehicular access. The driveway crossovers will be provided in accordance with LGAT standard drawing TSD-R09-V1.

8. Traffic analysis of internal connection to the adjacent Cabin Park

The Traffic Impact Assessment prepared by Hubble Traffic in November 2021 for the proposed Cabin Park at Lot 102 West Arm Road, Beauty Point, identified when fully occupied, is expected to generate approximately 244 daily vehicle trips. Of these, 33 trips are anticipated to occur during each weekday peak hour.

For the purpose of this additional analysis, all Cabin Park trips have been conservatively assigned to operate via proposed residential subdivisional Road 1, which connects to West Arm Road through a new two-way access point.

Section 6.1 of this assessment determined that, based on the internal layout of the residential subdivision and the presence of three access points, approximately 45 percent of the subdivisional traffic is expected to use this new access. This equates to 47 vehicles during each weekday peak hour. Directional distribution assumptions indicate that in the morning peak hour, 90 percent of trips will depart the site, with 95 percent of these outbound vehicles turning right onto West Arm Road.

Conversely, during the evening peak hour, the majority of trips will be returning to the site, with approximately 19 percent of inbound vehicles predicted to turn right into the site from West Arm Road. The following table summarises the predicted turning movements at the new access point, combining both Cabin Park and residential subdivision traffic volumes.

Table 8.0 – Traffic movements at the new access point onto West Arm Road

Peak period	Movement	Residential subdivision	Cabin Park	Total
Morning	Right out	40	28	68
	Left out	2	1	3
	Right in	2	1	3
	Left in	3	2	5
Evening	Right out	3	2	5
	Left out	2	1	3
	Right in	8	5	13
	Left in	34	24	58

8.1 Traffic analysis of the new West Arm Road junction.

The combined traffic movements generated by the proposed residential subdivision and the Cabin Park, as presented in Table 8.0, have been modelled using SIDRA Intersection software. This modelling incorporates a conservative traffic growth rate of 3 percent per annum along West Arm Road over a ten-year horizon to assess the long-term performance of the new junction.

For both the morning and evening peak hour periods, the total volume of vehicles expected to use the new access point is forecast to remain below 200 vehicles. Given this relatively low traffic demand, the junction is predicted to operate with a high level of efficiency, achieving Level of Service (LOS) A. SIDRA modelling outputs indicate minimal delays and negligible queuing, with the Degree of Saturation (DoS) remaining well below critical thresholds, and not expected to exceed 0.062.

These results confirm that the proposed access arrangement will accommodate projected traffic volumes with excellent operational performance over the design horizon, which represents 6.2% traffic capacity of the junction. Demonstrating there will be ample spare traffic capacity for the junction to cater for additional traffic growth. The traffic modelling results are available in appendix B of this assessment.

Table 8.1 – Summary of traffic modelling

Peak	Scenario	Total vehicles	DOS	Worst delay	LOS	Max Queue
Morning	Residential Sub	113	0.036	5.7secs	A	0.8m
	With Cabin Park	146	0.061	5.7 secs	A	1.4m
	3% annual growth	168	0.062	5.8 secs	A	1.4m
Evening	Residential sub	120	0.037	5.7Secs	A	0.3m
	With Cabin Park	154	0.050	5.8 secs	A	0.5m
	3% annual growth	178	0.056	5.9secs	A	0.6m

8.2 Right turn movement from West Arm Road

Although the volume of vehicles turning right into the new access during the evening peak hour is expected to increase from 8 to 13 vehicles, the relatively low two-way traffic volumes along West Arm Road in the vicinity of the junction do not warrant the provision of a dedicated right-turn treatment. SIDRA modelling of this movement indicates that right-turning vehicles are unlikely to experience delays or cause interference with the through traffic flow. The predicted traffic conditions support the conclusion that the proposed junction will provide efficient and safe traffic outcomes, without the need for auxiliary turn treatments.

8.3 Combined impact on the West Arm Road and Mainwaring Street intersection

Manual traffic surveys have confirmed that the existing intersection currently experiences relatively low traffic volumes, with fewer than 120 vehicle movements during the weekday peak hour periods. The proposed residential subdivision has the potential to increase peak hour flows to approximately 200 vehicles, while the Cabin Park is expected to contribute an additional 33 vehicle movements. When combined and assessed with a conservative annual traffic growth rate of 3 percent, the total peak hour volume at the intersection could reach up to 250 vehicles.

Traffic modelling has been undertaken using this upper-bound scenario of 250 vehicles during the weekday peak hour. The SIDRA analysis predicts the intersection will continue to operate at Level of Service (LOS) A, with the worst-case delay estimated at 6.1 seconds and the longest queue measured at 2.5 metres (equivalent to less than one vehicle). The intersection is forecast to operate at only 10 percent of its theoretical capacity, indicating substantial residual capacity.

These results demonstrate that the combined traffic generated by the residential subdivision and the Cabin Park will not adversely impact the operational performance of the surrounding road network. The existing intersection control is deemed sufficient to accommodate the projected traffic volumes, and there remains ample spare capacity to support future development in the area.

8.4 Impact on lane capacity and residential amenity of the internal road

The proposed residential subdivision is expected to generate approximately 47 two-way vehicle movements on internal Road 1 during both the weekday morning and evening peak hour periods.

With the addition of the internal connection to the adjacent Cabin Park, this two-way traffic volume is projected to increase to approximately 80 vehicle movements in each peak hour. As outlined in Section 6.3 of this assessment, local residential streets operating with fewer than 200 vehicles per hour are considered to be within acceptable environmental thresholds. At this level of traffic activity, vehicle movements are not anticipated to result in any adverse impacts on residential amenity, and the proposed internal road layout remains consistent with the intended function of a local residential street.

8.5 Summary of traffic impact from Cabin Park

Additional traffic analysis confirms that the combined traffic generation from the proposed residential subdivision and the Cabin Park can be readily accommodated by the surrounding road network without compromising operational performance or safety. Furthermore, a proposed internal connection between the two development sites can be integrated without adversely impacting residential amenity.

9. Planning scheme

9.1 C3 Road and Railway Assets Code

C3.5.1 Traffic Generation at a vehicle crossing, level crossing or new junction

The development site has two existing accesses to Mainwaring Street, a proposed access to West Arm Road and six proposed new accesses with West Arm Road, with the development expected to exceed 40 vehicle movements per day. As the increase in traffic movements exceeds the planning scheme table C3.5.1 requirements, it must be assessed against the performance criteria P1.

Performance criteria	Assessment
To ensure that the safety and efficiency of roads is not reduced by increased use of existing accesses and junctions:	
a) The increase in traffic caused by the use;	The new residential subdivision is expected to generate some 992 daily vehicle movements, with 105 of these vehicle movements expected to occur in each of the two weekday peak hour periods.
b) The nature of the traffic generated by the use,	The development is for residential units, and most of the vehicle movements will be passenger cars associated with urban residential living. This type of vehicle is compatible with existing vehicles using the surrounding local road network, and not expected to cause any adverse safety or traffic efficiency impact.
c) The nature of the road;	The development is located on the western fringe of the urban development of Beauty Point, with surrounding land-use including residential properties. West Arm Road has a rural road standard, while the road standard along Mainwaring Street is more urbanised. Both roads are sealed, operate with one traffic lane in each direction, and manual traffic survey data found the roads are lightly trafficked. Site inspections found no deficiencies that would limit the roads to absorb additional traffic from the development. Although the development will connect to the surrounding road network via three access points, the majority of the traffic generated will travel through the West Arm Road and Mainwaring Street intersection. Within the surrounding road network, West Arm Road would function as a collector road, with Mainwaring Street functioning as a local residential street. There are existing footpaths, which can be connected with the development, providing pedestrians with safe, convenient, and connected pathways.
d) The speed limit and traffic flow of the road;	The nearest main arterial road is West Arm Road, which operates under a 60 km/h speed limit. The other surrounding roads are local residential streets operating under the default 50 km/h urban speed limit. Manual traffic surveys determined the surrounding road network is lightly trafficked. Traffic modelling

	at the main junction of West Arm Road and Mainwaring Street predicts that the increase in traffic movements will not cause any deterioration in the level of service motorists are currently receiving. All motorists will continue to receive the highest level of traffic efficiency for a give way intersection. Traffic modelling of the three access points to the surrounding road network, predicts all access points will operate safely and efficiently, without causing an adverse impact to other users. All the access points will operate at the highest level of performance, and motorists are not expected to incur any notable delay or queues. The increase in two-way traffic flow on the surrounding roads is not expected to cause any adverse residential amenity to existing residential properties.
e) Any alternative access to a road;	The development site has access to both west Arm Road and Mainwaring Street, the layout of the subdivision has been designed to optimise these access points, to provide a connective road network, and provide connectivity to the other roads. The proposed road layout and access points is considered appropriate.
f) The need for the use;	Urban infill in established suburbs is an excellent method to increase the supply of housing, while optimising the current infrastructure and community facilities.
g) Any traffic impact assessment; and	An independent traffic impact assessment found no reason for this development not to proceed.
h) Any written advice received from the road authority.	Aware of none.

9.2 C2 Parking and Sustainable Transport Code

C2.5.1 Car parking numbers

All residential lots will have provision for on-site parking spaces, plus 13 indented visitor parking spaces adjacent to the Beauty Point Bowls Club, which complies with the acceptable solution A1, minimising the risk of parking overflow.

C2.5.2 Bicycle parking numbers

Residential developments do not require bicycle parking to be provided.

C2.5.3 Motorcycle parking numbers

There will be sufficient parking within the development site to meet the reasonable demand, and a motorcycle can occupy a standard parking space. Dedicated motorcycle parking spaces are not considered necessary for residential development.

C2.5.4 Loading bays

Residential developments do not generate regular heavy vehicle demand and loading bays are not necessary. As no floor area is greater than 1000m2 in a single occupancy, this complies with the acceptable solution A1.

C2.6 Development standards for Building and Works

C2.6.1 Construction of parking area.	The internal road network will be constructed to LGAT standard for urban roads, consisting of bitumen road surface, concrete kerb and channel, concrete footpaths. The design complies with the acceptable solution A1.
C2.6.1 Design and layout of parking areas.	Not applicable
C2.6.3 Number of accesses for vehicles	The development site has two existing accesses to Mainwaring Street and Lempriere Avenue that will be retained, while a new access will be created onto West Arm Road. This meets the acceptable solution
C2.6.4 Lighting of parking areas within the General Business Zone and Central Business Zone.	The subdivision will be fitted with the appropriate level of street lighting.
C2.6.5 Pedestrian access.	The development will provide appropriate footpaths to connect with the existing footpaths on the surrounding roads.
C2.6.6 Loading bays.	A residential development does not require loading bays.
C2.6.7 Bicycle parking and storage facilities.	Not applicable for residential unit development.
C2.6.8 Siting of parking and turning areas.	Not applicable

10. Conclusion

The provision of a new 134 lot subdivision will provide a supply of urban residential building lots, compatible with the surrounding land-use, and the traffic generated from these new lots is expected to be residential in nature.

The development site is located within 500 metres of the Beauty Point local shops, will connect to the existing pedestrian pathways, making walking and cycling a realistic mode of transport, reducing the reliance on private vehicles.

From a traffic engineering and road safety perspective, additional traffic generated from this development site is not expected to create any adverse safety, amenity, or traffic efficiency problems, as:

- the amount of traffic generated is considered to be moderate, and there is sufficient capacity within the current road network to absorb the extra traffic movements, without causing adverse impact to current users,
- the development access points to the surrounding road network, will have adequate Safe Intersection Sight Distance to ensure vehicles can enter and leave in a safe and efficient manner, and in a forward-driving direction,
- the six new accesses for lots 31 to 36 with West Arm Road, will have sufficient sight distance that complies with the Standard for a domestic property driveway access,
- traffic modelling demonstrates the existing intersection of West Arm Road and Mainwaring Street has spare traffic capacity to absorb additional traffic generated by the development, without causing any deterioration in traffic performance, and motorists will continue to receive the highest level of service LOS A,
- traffic modelling also demonstrated the three access points connecting the development site with the surrounding road network, will provide safe, convenient, and efficient vehicular access, and all motorists are not expected to incur any notable delays or traffic queues,
- traffic analysis determined that additional turning treatments on West Arm Road is not necessary, as the road is lightly trafficked, and
- the internal road layout will provide excellent connectivity with the surrounding road network.

This Traffic Impact Assessment found no reason for this development not to proceed.

11. Appendix A – Traffic modelling

West Arm Road and Mainwaring Street – Existing traffic conditions for morning peak

MOVEMENT SUMMARY

Site: 101 [West Arm and Manwaring - AM existing]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Manwaring (from Development site)								
1	L2	6	0.0	0.014	5.6	LOS A	0.0	0.3
2	T1	1	0.0	0.014	4.4	LOS A	0.0	0.3
3	R2	9	0.0	0.014	5.7	LOS A	0.0	0.3
Approach		17	0.0	0.014	5.6	LOS A	0.0	0.3
East: West Arm (Beauty Point)								
4	L2	13	0.0	0.022	5.6	LOS A	0.0	0.1
5	T1	25	10.0	0.022	0.0	LOS A	0.0	0.1
6	R2	2	0.0	0.022	5.5	LOS A	0.0	0.1
Approach		40	6.3	0.022	2.0	NA	0.0	0.1
North: Manwaring								
7	L2	5	0.0	0.011	5.6	LOS A	0.0	0.3
8	T1	3	0.0	0.011	4.4	LOS A	0.0	0.3
9	R2	5	0.0	0.011	5.7	LOS A	0.0	0.3
Approach		14	0.0	0.011	5.4	LOS A	0.0	0.3
West: West Arm Road (Greens Beach)								
10	L2	2	0.0	0.016	5.6	LOS A	0.0	0.3
11	T1	21	10.0	0.016	0.0	LOS A	0.0	0.3
12	R2	6	0.0	0.016	5.5	LOS A	0.0	0.3
Approach		29	7.1	0.016	1.6	NA	0.0	0.3
All Vehicles		100	4.6	0.022	3.0	NA	0.0	0.3

West Arm Road and Mainwaring Street – Existing traffic conditions for evening peak

MOVEMENT SUMMARY

Site: 101 [West Arm and Manwaring - PM existing]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Manwaring (from Development site)								
1	L2	6	0.0	0.013	5.6	LOS A	0.0	0.3
2	T1	2	0.0	0.013	4.4	LOS A	0.0	0.3
3	R2	7	0.0	0.013	5.8	LOS A	0.0	0.3
Approach		16	0.0	0.013	5.6	LOS A	0.0	0.3
East: West Arm (Beauty Point)								
4	L2	13	0.0	0.029	5.6	LOS A	0.0	0.2
5	T1	37	10.0	0.029	0.0	LOS A	0.0	0.2
6	R2	3	0.0	0.029	5.5	LOS A	0.0	0.2
Approach		53	7.0	0.029	1.7	NA	0.0	0.2
North: Manwaring								
7	L2	3	0.0	0.006	5.6	LOS A	0.0	0.1
8	T1	2	0.0	0.006	4.4	LOS A	0.0	0.1
9	R2	2	0.0	0.006	5.8	LOS A	0.0	0.1
Approach		7	0.0	0.006	5.3	LOS A	0.0	0.1
West: West Arm Road (Greens Beach)								
10	L2	7	0.0	0.020	5.6	LOS A	0.0	0.1
11	T1	27	10.0	0.020	0.0	LOS A	0.0	0.1
12	R2	2	0.0	0.020	5.6	LOS A	0.0	0.1
Approach		37	7.4	0.020	1.4	NA	0.0	0.1
All Vehicles		113	5.7	0.029	2.4	NA	0.0	0.3

West Arm Road/Mainwaring/Beatty – with development traffic for morning peak hour

MOVEMENT SUMMARY

Site: 101 [West Arm and Manwaring - AM existing - with development traffic]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Manwaring (from Development site)								
1	L2	37	0.0	0.087	5.6	LOS A	0.3	2.2
2	T1	5	0.0	0.087	4.6	LOS A	0.3	2.2
3	R2	60	0.0	0.087	6.0	LOS A	0.3	2.2
Approach		102	0.0	0.087	5.8	LOS A	0.3	2.2
East: West Arm (Beauty Point)								
4	L2	16	0.0	0.025	5.6	LOS A	0.0	0.1
5	T1	28	10.0	0.025	0.0	LOS A	0.0	0.1
6	R2	2	0.0	0.025	5.6	LOS A	0.0	0.1
Approach		46	6.1	0.025	2.2	NA	0.0	0.1
North: Manwaring								
7	L2	5	0.0	0.011	5.7	LOS A	0.0	0.3
8	T1	3	0.0	0.011	4.5	LOS A	0.0	0.3
9	R2	5	0.0	0.011	6.1	LOS A	0.0	0.3
Approach		14	0.0	0.011	5.6	LOS A	0.0	0.3
West: West Arm Road (Greens Beach)								
10	L2	2	0.0	0.037	5.7	LOS A	0.1	0.4
11	T1	57	10.0	0.037	0.0	LOS A	0.1	0.4
12	R2	8	0.0	0.037	5.6	LOS A	0.1	0.4
Approach		67	8.4	0.037	0.9	NA	0.1	0.4
All Vehicles		229	3.7	0.087	3.6	NA	0.3	2.2

West Arm Road and Mainwaring Street – with development traffic for evening peak hour

MOVEMENT SUMMARY

Site: 101 [West Arm and Manwaring - PM existing - with development traffic]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	C
South: Manwaring (from Development site)									
1	L2	9	0.0	0.020	5.6	LOS A	0.1	0.5	
2	T1	3	0.0	0.020	4.5	LOS A	0.1	0.5	
3	R2	12	0.0	0.020	5.9	LOS A	0.1	0.5	
Approach		24	0.0	0.020	5.6	LOS A	0.1	0.5	
East: West Arm (Beauty Point)									
4	L2	57	0.0	0.053	5.5	LOS A	0.0	0.2	
5	T1	37	10.0	0.053	0.0	LOS A	0.0	0.2	
6	R2	3	0.0	0.053	5.5	LOS A	0.0	0.2	
Approach		97	3.8	0.053	3.4	NA	0.0	0.2	
North: Manwaring									
7	L2	3	0.0	0.010	5.6	LOS A	0.0	0.3	
8	T1	7	0.0	0.010	4.6	LOS A	0.0	0.3	
9	R2	2	0.0	0.010	5.8	LOS A	0.0	0.3	
Approach		13	0.0	0.010	5.1	LOS A	0.0	0.3	
West: West Arm Road (Greens Beach)									
10	L2	7	0.0	0.021	5.6	LOS A	0.0	0.2	
11	T1	27	10.0	0.021	0.0	LOS A	0.0	0.2	
12	R2	4	0.0	0.021	5.7	LOS A	0.0	0.2	
Approach		39	7.0	0.021	1.7	NA	0.0	0.2	
All Vehicles		173	3.7	0.053	3.5	NA	0.1	0.5	

Development access with West Arm Road – with development traffic for morning peak hour

MOVEMENT SUMMARY

Site: 101 [Access to West Arm Rd - Morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Developmnet site								
1	L2	2	0.0	0.036	5.6	LOS A	0.1	0.8
3	R2	42	0.0	0.036	5.7	LOS A	0.1	0.8
Approach		44	0.0	0.036	5.7	LOS A	0.1	0.8
East: West Arm Rd (Beauty Point)								
4	L2	3	0.0	0.019	5.5	LOS A	0.0	0.0
5	T1	34	0.0	0.019	0.0	LOS A	0.0	0.0
Approach		37	0.0	0.019	0.5	NA	0.0	0.0
West: West Arm Road (Greens Beach)								
11	T1	29	0.0	0.016	0.0	LOS A	0.0	0.1
12	R2	2	0.0	0.016	5.5	LOS A	0.0	0.1
Approach		32	0.0	0.016	0.4	NA	0.0	0.1
All Vehicles		113	0.0	0.036	2.5	NA	0.1	0.8

Development access with West Arm Road - with development traffic for evening peak hour

MOVEMENT SUMMARY

Site: 101 [Access to West Arm Rd - Evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Developmnet site								
1	L2	2	0.0	0.004	5.6	LOS A	0.0	0.1
3	R2	3	0.0	0.004	5.7	LOS A	0.0	0.1
Approach		5	0.0	0.004	5.7	LOS A	0.0	0.1
East: West Arm Rd (Beauty Point)								
4	L2	36	0.0	0.037	5.5	LOS A	0.0	0.0
5	T1	34	0.0	0.037	0.0	LOS A	0.0	0.0
Approach		69	0.0	0.037	2.9	NA	0.0	0.0
West: West Arm Road (Greens Beach)								
11	T1	37	0.0	0.024	0.1	LOS A	0.0	0.3
12	R2	8	0.0	0.024	5.6	LOS A	0.0	0.3
Approach		45	0.0	0.024	1.1	NA	0.0	0.3
All Vehicles		120	0.0	0.037	2.3	NA	0.0	0.3

Gravel development access onto Mainwaring Street and Beatty Street – Morning Peak hour

MOVEMENT SUMMARY

Site: 101 [Gravel access to Mainwaring and Beatty st - Morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Mainwaring								
1	L2	1	0.0	0.011	5.6	LOS A	0.0	0.1
2	T1	17	0.0	0.011	0.0	LOS A	0.0	0.1
3	R2	3	0.0	0.011	5.5	LOS A	0.0	0.1
Approach		21	0.0	0.011	1.1	NA	0.0	0.1
East: Beatty Street								
4	L2	2	0.0	0.006	5.6	LOS A	0.0	0.1
5	T1	2	0.0	0.006	4.3	LOS A	0.0	0.1
6	R2	3	0.0	0.006	5.8	LOS A	0.0	0.1
Approach		7	0.0	0.006	5.3	LOS A	0.0	0.1
North: Mainwaring								
7	L2	2	0.0	0.014	5.6	LOS A	0.0	0.1
8	T1	22	0.0	0.014	0.0	LOS A	0.0	0.1
9	R2	3	0.0	0.014	5.5	LOS A	0.0	0.1
Approach		27	0.0	0.014	1.1	NA	0.0	0.1
West: Development								
10	L2	28	0.0	0.024	5.6	LOS A	0.1	0.6
11	T1	1	0.0	0.024	4.3	LOS A	0.1	0.6
12	R2	6	0.0	0.024	5.7	LOS A	0.1	0.6
Approach		36	0.0	0.024	5.6	LOS A	0.1	0.6
All Vehicles		92	0.0	0.024	3.2	NA	0.1	0.6

Gravel development access to Mainwaring Street and Beatty Street – Evening peak hour

MOVEMENT SUMMARY

Site: 101 [Gravel access to Mainwaring and beatty st - Evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Mainwaring								
1	L2	6	0.0	0.013	5.6	LOS A	0.0	0.1
2	T1	16	0.0	0.013	0.0	LOS A	0.0	0.1
3	R2	2	0.0	0.013	5.5	LOS A	0.0	0.1
Approach		24	0.0	0.013	1.9	NA	0.0	0.1
East: Beatty Street								
4	L2	1	0.0	0.002	5.6	LOS A	0.0	0.1
5	T1	1	0.0	0.002	4.4	LOS A	0.0	0.1
6	R2	1	0.0	0.002	5.7	LOS A	0.0	0.1
Approach		3	0.0	0.002	5.2	LOS A	0.0	0.1
North: Mainwaring								
7	L2	3	0.0	0.027	5.6	LOS A	0.1	0.8
8	T1	17	0.0	0.027	0.1	LOS A	0.1	0.8
9	R2	28	0.0	0.027	5.5	LOS A	0.1	0.8
Approach		48	0.0	0.027	3.6	NA	0.1	0.8
West: Development								
10	L2	3	0.0	0.005	5.6	LOS A	0.0	0.1
11	T1	3	0.0	0.005	4.4	LOS A	0.0	0.1
12	R2	1	0.0	0.005	5.7	LOS A	0.0	0.1
Approach		7	0.0	0.005	5.1	LOS A	0.0	0.1
All Vehicles		83	0.0	0.027	3.3	NA	0.1	0.8

Lempriere Avenue junction with Mainwaring Street – Morning peak hour

MOVEMENT SUMMARY

Site: 101 [Lempriere Avenue and Mainwaring - Morning peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Mainwaring Street								
1	L2	1	0.0	0.009	5.5	LOS A	0.0	0.0
2	T1	17	0.0	0.009	0.0	LOS A	0.0	0.0
Approach		18	0.0	0.009	0.3	NA	0.0	0.0
North: Mainwaring Street								
8	T1	22	0.0	0.013	0.0	LOS A	0.0	0.1
9	R2	2	0.0	0.013	5.5	LOS A	0.0	0.1
Approach		24	0.0	0.013	0.5	NA	0.0	0.1
West: Lempriere Avenue								
10	L2	16	0.0	0.012	5.6	LOS A	0.0	0.3
12	R2	3	0.0	0.012	5.6	LOS A	0.0	0.3
Approach		19	0.0	0.012	5.6	LOS A	0.0	0.3
All Vehicles		61	0.0	0.013	2.0	NA	0.0	0.3

Lempriere Avenue junction with Mainwaring Street – Evening peak hour

MOVEMENT SUMMARY

Site: 101 [Lempriere Avenue and Mainwaring - Evening peak]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Mainwaring Street								
1	L2	2	0.0	0.009	5.5	LOS A	0.0	0.0
2	T1	16	0.0	0.009	0.0	LOS A	0.0	0.0
Approach		18	0.0	0.009	0.7	NA	0.0	0.0
North: Mainwaring Street								
8	T1	17	0.0	0.018	0.0	LOS A	0.1	0.5
9	R2	16	0.0	0.018	5.5	LOS A	0.1	0.5
Approach		33	0.0	0.018	2.7	NA	0.1	0.5
West: Lempriere Avenue								
10	L2	2	0.0	0.002	5.6	LOS A	0.0	0.1
12	R2	1	0.0	0.002	5.6	LOS A	0.0	0.1
Approach		3	0.0	0.002	5.6	LOS A	0.0	0.1
All Vehicles		54	0.0	0.018	2.2	NA	0.1	0.5

West Arm Road and new junction with both residential and Cabin Park traffic

MOVEMENT SUMMARY

▽ Site: 101 [Access to West Arm Rd - Morning peak with Cabin Park flows]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Developmnet site								
1	L2	3	0.0	0.061	5.6	LOS A	0.2	1.4
3	R2	72	0.0	0.061	5.7	LOS A	0.2	1.4
Approach		75	0.0	0.061	5.7	LOS A	0.2	1.4
East: West Arm Rd (Beauty Point)								
4	L2	5	0.0	0.020	5.5	LOS A	0.0	0.0
5	T1	34	0.0	0.020	0.0	LOS A	0.0	0.0
Approach		39	0.0	0.020	0.8	NA	0.0	0.0
West: West Arm Road (Greens Beach)								
11	T1	29	0.0	0.017	0.0	LOS A	0.0	0.1
12	R2	3	0.0	0.017	5.5	LOS A	0.0	0.1
Approach		33	0.0	0.017	0.5	NA	0.0	0.1
All Vehicles		146	0.0	0.061	3.2	NA	0.2	1.4

MOVEMENT SUMMARY

▽ Site: 101 [Access to West Arm Rd - Morning peak with Cabin Park - Traffic growth]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Developmnet site								
1	L2	3	0.0	0.062	5.7	LOS A	0.2	1.4
3	R2	72	0.0	0.062	5.8	LOS A	0.2	1.4
Approach		75	0.0	0.062	5.7	LOS A	0.2	1.4
East: West Arm Rd (Beauty Point)								
4	L2	5	0.0	0.026	5.5	LOS A	0.0	0.0
5	T1	45	0.0	0.026	0.0	LOS A	0.0	0.0
Approach		51	0.0	0.026	0.6	NA	0.0	0.0
West: West Arm Road (Greens Beach)								
11	T1	40	0.0	0.022	0.0	LOS A	0.0	0.1
12	R2	3	0.0	0.022	5.6	LOS A	0.0	0.1
Approach		43	0.0	0.022	0.4	NA	0.0	0.1
All Vehicles		168	0.0	0.062	2.8	NA	0.2	1.4

MOVEMENT SUMMARY

▽ Site: 101 [Access to West Arm Rd - Evening peak with Cabin Park flows]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Developmnet site								
1	L2	3	0.0	0.006	5.6	LOS A	0.0	0.2
3	R2	5	0.0	0.006	5.8	LOS A	0.0	0.2
Approach		8	0.0	0.006	5.7	LOS A	0.0	0.2
East: West Arm Rd (Beauty Point)								
4	L2	61	0.0	0.050	5.5	LOS A	0.0	0.0
5	T1	34	0.0	0.050	0.0	LOS A	0.0	0.0
Approach		95	0.0	0.050	3.6	NA	0.0	0.0
West: West Arm Road (Greens Beach)								
11	T1	37	0.0	0.027	0.1	LOS A	0.1	0.5
12	R2	14	0.0	0.027	5.7	LOS A	0.1	0.5
Approach		51	0.0	0.027	1.6	NA	0.1	0.5
All Vehicles		154	0.0	0.050	3.1	NA	0.1	0.5

MOVEMENT SUMMARY

▽ Site: 101 [Access to West Arm Rd - Evening peak with Cabin Park - Traffic growth]

New Site
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Developmnet site								
1	L2	3	0.0	0.007	5.7	LOS A	0.0	0.2
3	R2	5	0.0	0.007	5.9	LOS A	0.0	0.2
Approach		8	0.0	0.007	5.8	LOS A	0.0	0.2
East: West Arm Rd (Beauty Point)								
4	L2	61	0.0	0.056	5.5	LOS A	0.0	0.0
5	T1	45	0.0	0.056	0.0	LOS A	0.0	0.0
Approach		106	0.0	0.056	3.2	NA	0.0	0.0
West: West Arm Road (Greens Beach)								
11	T1	49	0.0	0.034	0.1	LOS A	0.1	0.6
12	R2	14	0.0	0.034	5.7	LOS A	0.1	0.6
Approach		63	0.0	0.034	1.3	NA	0.1	0.6
All Vehicles		178	0.0	0.056	2.6	NA	0.1	0.6

12. Appendix B – Manual traffic data

Time	West Arm Rd Eastbound left into Manwaring St	West Arm Rd Eastbound	West Arm Rd Eastbound right into Manwaring St	Manwaring St South left into West Arm Rd	Manwaring St South to Manwaring St North	Manwaring St South right into West Rd	West Arm Rd Westbound left into Manwaring St	West Arm Rd Westbound	West Arm Rd Westbound right into Manwaring St	Manwaring St North right into West Arm Rd	Manwaring St North to Manwaring St South	Manwaring St North left into West Arm Rd
8:00am to 8:15am	0	3	1	1	0	1	2	3	1	0	1	1
8:15am to 8:30am	1	2	1	1	0	2	2	3	0	1	0	0
8:30am to 8:45am	0	2	0	0	0	1	1	5	0	0	0	1
8:45am to 9:00am	0	4	1	1	0	1	1	3	0	0	1	1
Total - Morning	**1**	**11**	**3**	**3**	**0**	**5**	**6**	**14**	**1**	**1**	**2**	**3**
3:45pm to 4:00pm	0	4	0	1	0	2	2	8	0	0	0	0
4:00pm to 4:15pm	1	2	1	0	0	1	1	4	1	1	0	1
4:15pm to 4:30pm	0	4	2	1	0	0	1	6	1	0	0	1
4:30pm to 4:45pm	0	5	1	1	0	1	2	2	0	0	0	0
Total - Afternoon	**1**	**15**	**4**	**3**	**0**	**4**	**6**	**20**	**2**	**1**	**0**	**2**

Appendix F Natural values assessment

F.1 Natural values assessment

F.2 Frog management plan

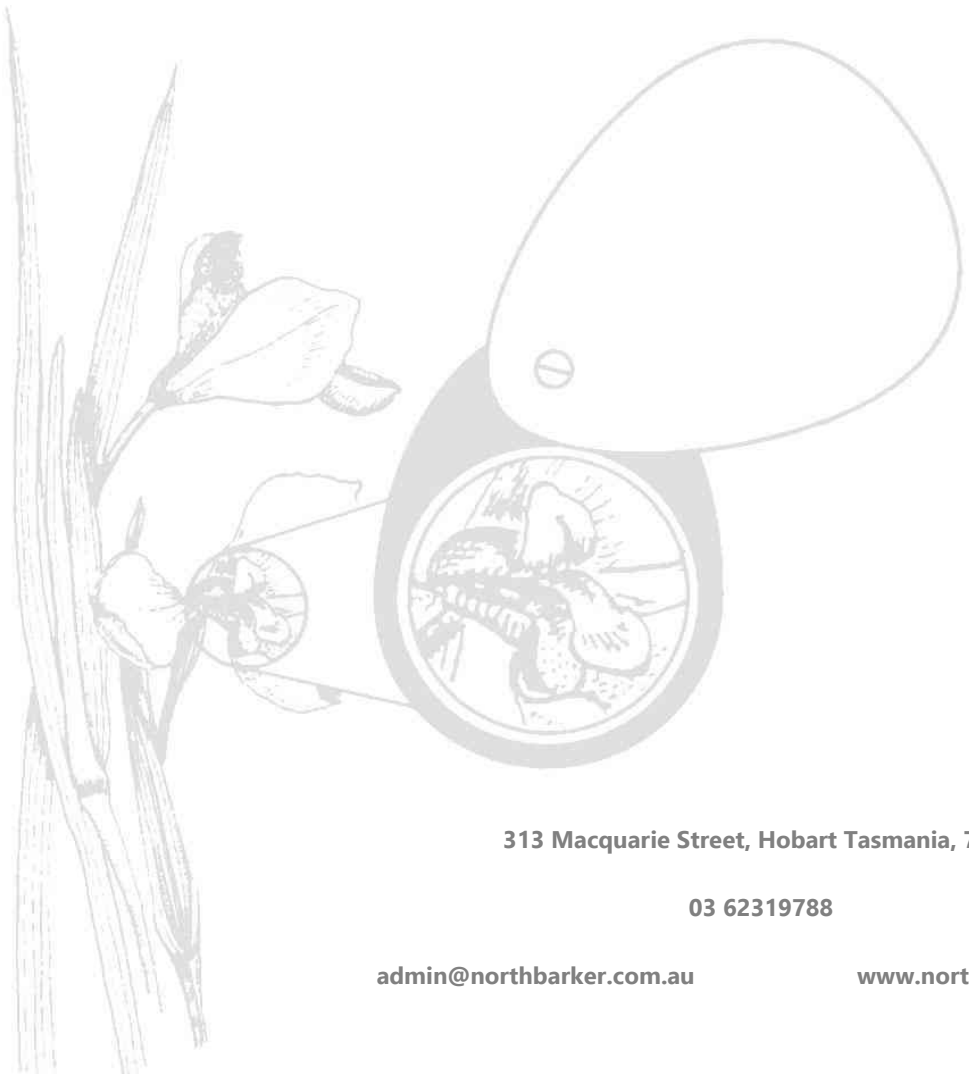
F.3 Significant impact assessment

Lot 102 West Arm Road, Beauty Point

Natural Values Assessment

16 July 2024

For ERA Planning
ERA016



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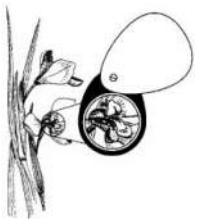
File Control

Version	Date	Author / Comment
First Draft 0.1	16/01/2020	M. Hitchcock
Final Draft 1.0	21/01/2020	A. North
Version 2.0	24/04/2023	R. White – substantial update to only include the development of the housing subdivision
Version 3.0	01/08/2023	R. White & W. Dobson- update to include Public Open Space based on feedback from Mark O'Brien (ERA Planning)
Version 3.1	09/07/2024	Andrew North. Response to RFI
Version 3.2	16/07/2024	Andrew North. Response to ERA review



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Summary

A residential subdivision is proposed for Lot 102, West Arm Road, Beauty Point. The proposal includes 134 residential lots and roads occupying 12.37 ha, 0.59 ha public open space (POS) and the balance as single Lot of 9.45 ha.

The area was surveyed for proposed development by North Barker Ecosystem Services (NBES) in 2020 which included the area of the approved cabin park development on the balance lot. The natural values assessment specifically addresses the proposed residential subdivision in the eastern section of the lot. It also considers an amended POS proposal and frog management plan for land on the balance adjacent to the approved cabin park development.

No threatened flora or vegetation communities were identified or are considered likely to occur in the proposed housing subdivision area. One threatened vegetation community, *Melaleuca ericifolia* swamp forest (NME) listed under the *Nature Conservation Act 2002* (NCA) occurs within the POS subdivision area; no impact is planned for this area. Habitat for threatened fauna was identified during surveys, most salient of which is habitat for green and gold frog which is listed as vulnerable under both the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). This species was recorded in a dam immediately southwest of the planned residential subdivision area on the balance lot south of the cabin park. Additionally, the largely degraded drainage lines within the planned housing subdivision area constitute potential habitat that may be utilised by this species for dispersal and potentially breeding. A frog management plan has been developed to improve the dam habitat within the proposed POS lot but also introduces additional habitat elements into the balance lot that are expected to be beneficial for the frog. This includes the provision of a drainage swale with shallow scrapes to act as temporary water bodies.

Impact to the frog by the removal of much of the drainage line habitat has been considered in a significant impact assessment against EPBCA criteria. It was concluded that the impact to the frog is not significant, especially when coupled with habitat enhancement outlined in Frog Management Plan.

The subdivision is subject to the Tasmanian Planning Scheme - West Tamar. The land is zoned as General Residential (8.0) and the Natural Assets Code (C7) applies as some of the drainage lines in the code overlay map intersect with a Waterway and Coastal Protection Area overlay, and the NME in the proposed POS is under a Priority Vegetation Area overlay These waterways are anthropogenic in origin and largely degraded (infested with blackberry). The priority vegetation areas are all outside the proposed residential subdivision although partly extending into the POS. It is our assessment that the proposed project can comply with the provisions of the scheme.

Recommendations

1. To protect and improve the areas of priority vegetation:
    a. Retain all areas of threatened vegetation:
    b. Implement the Frog Management Plan
    c. Retain and fence off the area of threatened vegetation within the POS. Include management measures to remove weeds.
    d. Implement a weed management plan that includes measures to treat weeds (predominantly blackberry) within the areas of NME on the Balance lot.
2. To reduce impact to green and gold frog habitat

a. Implement the frog management plan in full before replacing the open drain on the western boundary with a piped outlet.
b. Cat ownership in the housing subdivision must be restricted to limit the potential impact to frogs. This can be achieved by placing a covenant on each title that requires cat owners to ensure that Cats must remain indoors at all times or if outdoors in entirely enclosed cat-proof enclosures.

3. To protect fauna habitat retain large hollow bearing tree on the Balance lot

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1 INTRODUCTION

1.1 Background

In 2020, North Barker Ecosystem Services (NBES) compiled a natural values assessment (NVA) for proposed development of Lot 102 West Arm Road, Beauty Point, for ERA Planning on behalf of Dourias MGH Pty Ltd[1] (Figure 1). The subdivision sought to split title 156126 roughly in half (an eastern and western portion and append title 64199 to the western section of 156126.

In the assessment of natural values for this proposal, a vegetation community listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NC Act), and threatened fauna values listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and the Tasmanian *Threatened Species Protection Act 1995* (TSP Act) were recorded: *Melaleuca ericifolia* swamp forest (NME) was identified in the western half of the property, green and gold frog was recorded on the dam margin (on title 64199), with the drainage system present across the property identified as habitat for the species at the site; a potentially suitable habitat tree for masked owl was identified in the western half of the property, and two potential foraging habitat trees for swift parrot were recorded in the eastern half[2]. At the time of this assessment, the extent of the impact was not fully understood and comment on impact to these values was not specific. Rather, broad comment on impact was provided, and recommendations, including measures for mitigating potential impacts to green and gold frog and avoidance of the threatened vegetation and the habitat trees for masked owl and swift parrot.

Subsequently, in March 2023, the West Tamar Council approved the development of a cabin park of 73 cabins plus a reception office on the western lot (Figure 3) and. The proponent, Dourias MGH Pty Ltd, has submitted a development application for a staged residential development of the eastern half of the property (Figure 2 and Figure 4). In the initial application the proponent proposed an area of public open space (POS) over areas south and east of the approved cabin park area to be set aside as habitat managed for green and gold frog that also included some of the the threatened NME vegetation community. Council have rejected adoption of such a large POS preferring a much smaller contribution to be utilised as a formal recreation facility. This report has been updated to reflect the amended subdivision proposal. The focus of this assessment is very much on the eastern half of the site (given the cabin park development on the western half has been approved).

Two documents specifically addressing the green and gold frog are referenced through this report:

- Green & Gold Frog Management Plan for Lot 102 West Am Road [3]; (Attachment 1)
- Significant Impact Assessment of green and gold frog (*Litoria raniformis*) Lot 102 West Am Road, Beauty Point [4], (Attachment 2)

When considering potential impact to green and gold frog the implications of the undeveloped cabin park are included in an assessment of the action against significant impact guidelines of the EPBC Act.

1.2 Study area

The residential and POS subdivision study area is in Beauty Point in northern Tasmania. It is in the Tasmanian Northern Midlands bioregion[5] in the West Tamar Council and is approximately 13 ha in extent. The site is subject to the *Tasmanian Planning Scheme - West Tamar* and is zoned as General

[1] North Barker Ecosystem Services 2020
[2] North Barker Ecosystem Services 2020
[3] North Barker Ecosystem Services 2024a
[4] North Barker Ecosystem Services 2024b
[5] IBRA 7 (2012)

Residential. The POS and balance lot are zoned Rural. The site is subject to the Natural Assets Code (C7) due to the presence of a waterway and coastal protection area overlay on the drainage lines that intersect with the area (Figure 8).

The site is at ~8 m asl and is relatively flat. There is large dam (1 ha) in the south-west of the site. The geology is undifferentiated Paleogene–Neogene non-marine sequences of gravel, sand, silt, clay, and regolith.

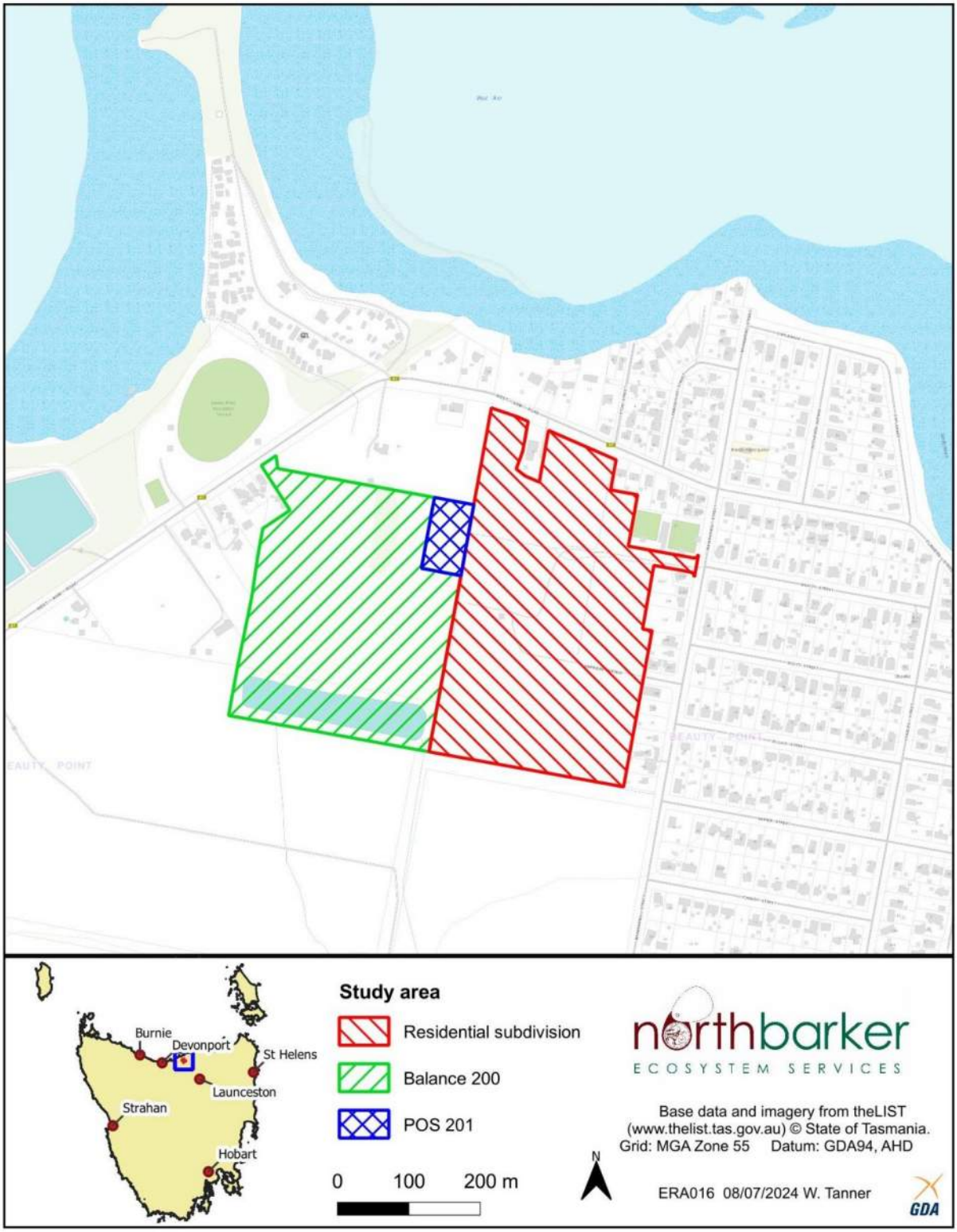

Figure 1: Study Area.

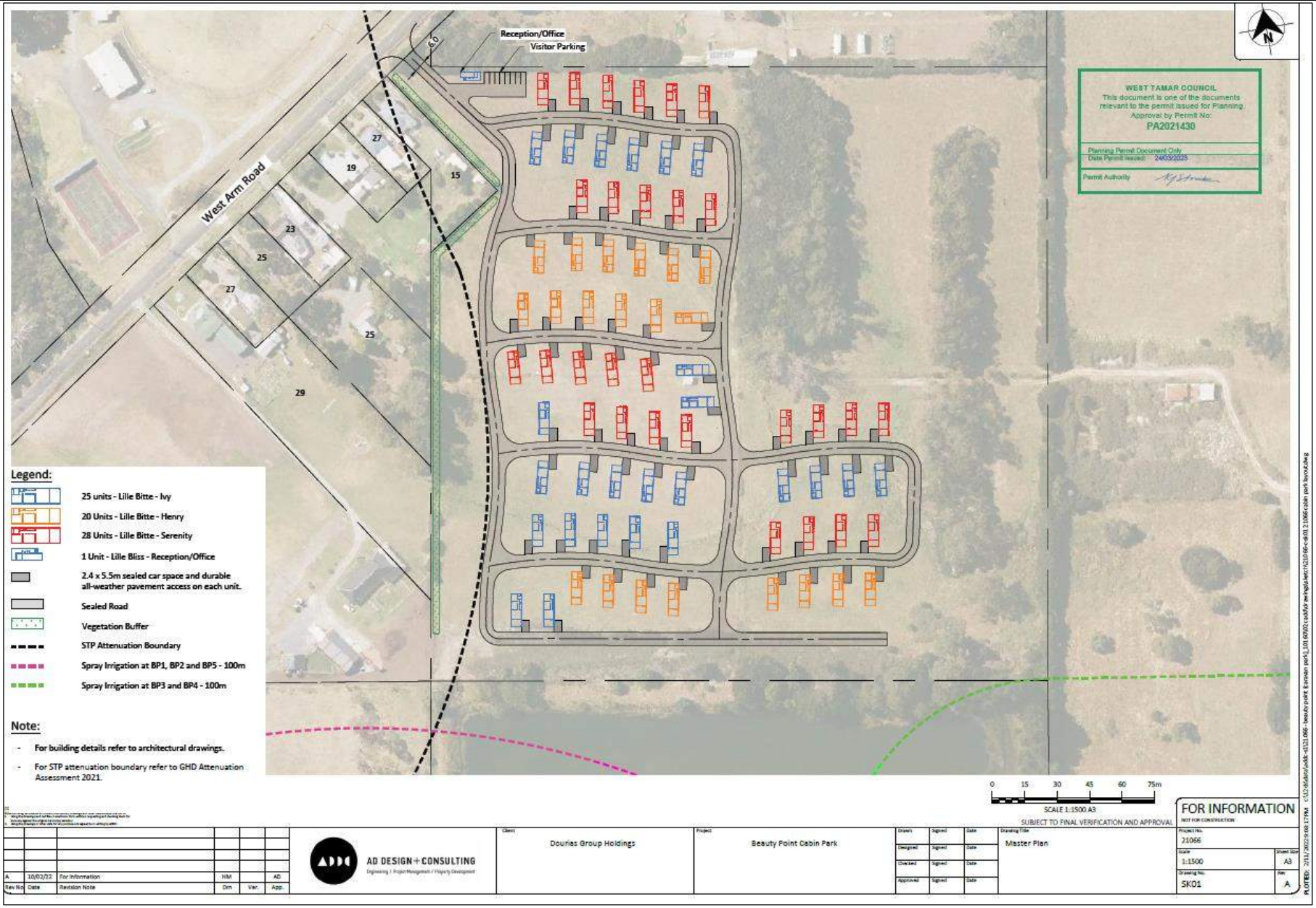

Figure 2: The approved cabin park development in the western lot

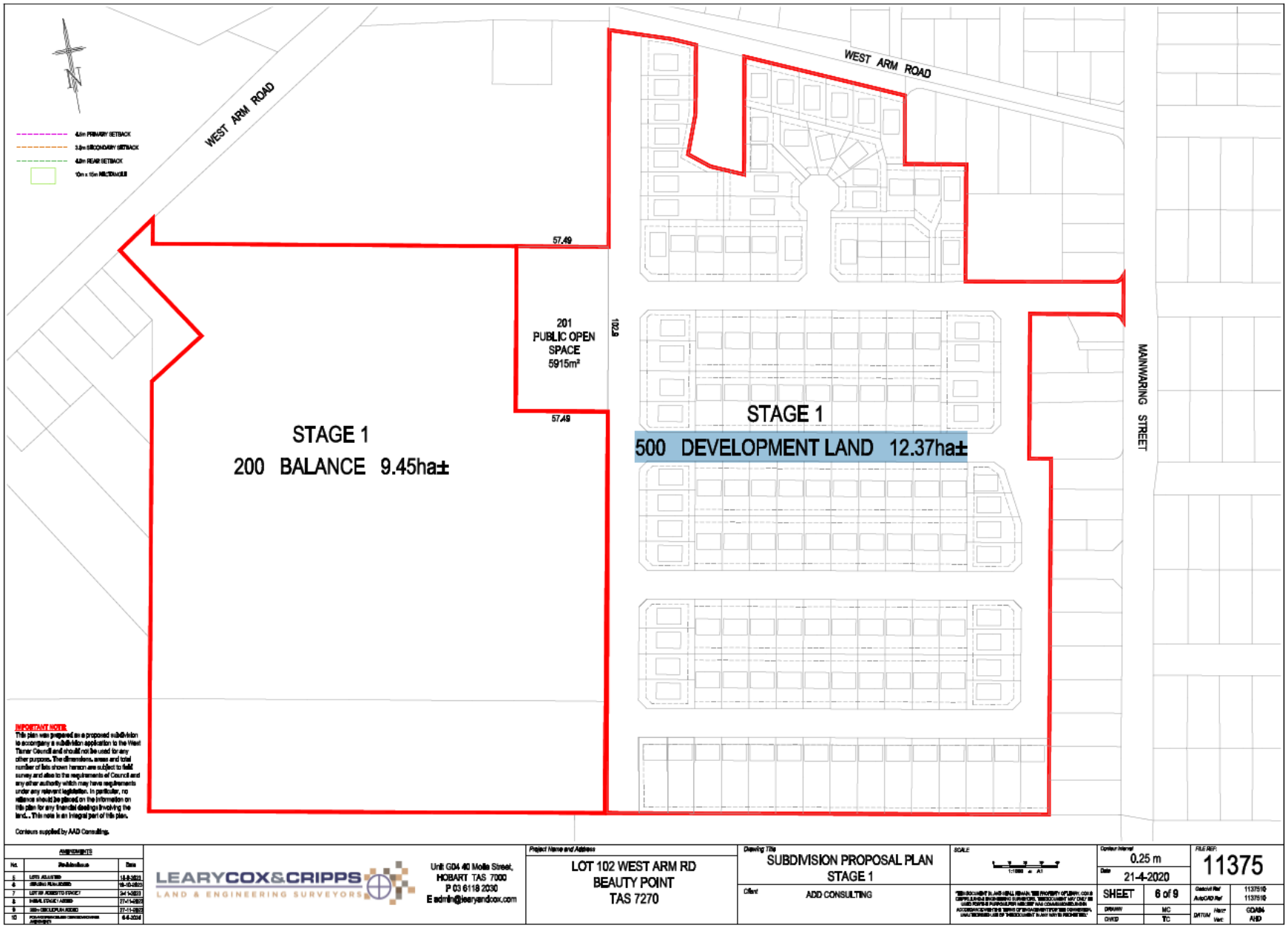

Figure 3: Proposed subdivision

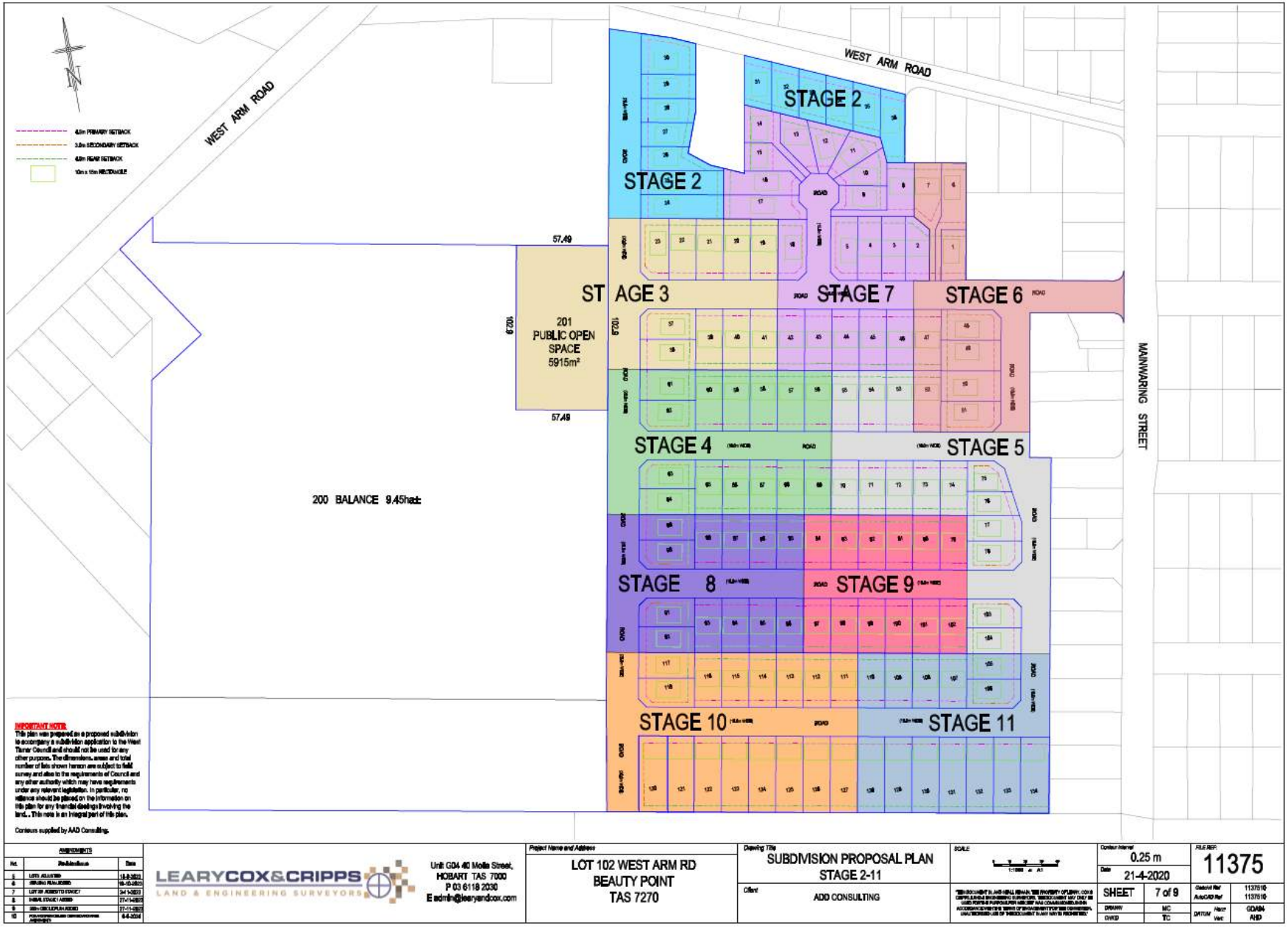

Figure 4: The staged development of the proposed residential subdivision

2 METHODS

The following sources were used for biological records for the region:

- TASVEG version 4.0 digital layer[6],
- Natural Values Atlas (NVA) - all threatened species records within 5 km of the study area and threatened fauna considered possible to occur in suitable habitat[7],
- EPBCA Matters of National Environmental Significance database - a 5 km buffer was used to search for potential values[8].

2.1 Botanical Survey

This assessment was undertaken in accordance with the 'Guidelines for Natural Values Surveys – Terrestrial Development Proposals'[9]. Field work was carried out on the 9th and 10th of January 2020. Native vegetation was mapped in accordance with units defined in TASVEG 4.0[10]. Vascular plants were recorded in accordance with the current census of Tasmanian plants[11]. The site was mapped using a meandering area search technique[12]. Particular attention was given to habitats suitable for threatened species under the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA), and to 'declared' weeds under the Tasmanian *Biosecurity Act 2019* (BSA)[13].

2.2 Fauna survey

The 2019 survey was carried out in accordance with DPIPWE's 'Guidelines for Natural Values Surveys – Terrestrial Development Proposals'[14]. Other local guidelines were also consulted:

- Tasmanian masked owl - Forest Practices Authority (2014) *Fauna Technical Note No. 17: Identifying Masked owl habitat.* Forest Practices Authority. Hobart, Tasmania.[15]
- Green and gold frog - *DPIPWE 'Guidelines for designing surveys for the vulnerable Green and Gold Frog* (*Litoria raniformis*)'[16]
- Tasmanian devil - Natural and Cultural Heritage Division (2015) *Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil (Sarcophilus harrisii)* [17]

The study area was searched for the potential presence, habitat, and sign (e.g. scats, tracks, nests), threatened fauna concurrently with the botanical survey.

Surveys for the green and gold frog, *Litoria raniformis,* were undertaken in 2020 using complimentary methods. First, two aural and visual surveys were performed (one during daylight and another at night). These surveys follow DPIPWE guidelines, whereby each survey was conducted over 20 mins; with calling frogs identified to species level, followed by audible playback to stimulate green and gold frogs, and

[6] Kitchener and Harris (2013)
[7] DPIPWE Natural Values Atlas Report (2023) report #: nvr_1_16-Mar_2023
[8] Commonwealth of Australia, EPBC Protected Matters Search Tool Report (2023) report #: PMST_20230316_WD
[9] DPIPWE (2019)
[10] Kitchener and Harris (2013)
[11] de Salas and Baker (2023)
[12] Goff *et al.* (1982)
[13] Tasmanian State Government 1995; Commonwealth of Australia 1999; Tasmanian State Government 2019
[14] DPIPWE (2015)
[15] Forest Practices Authority (2014) Fauna Technical Note No. 17: Identifying Masked owl habitat
[16] DPIPWE 'Guidelines for designing surveys for the vulnerable Green and Gold Frog (*Litoria raniformis*)'
[17] Natural and Cultural Heritage Division (2015) Survey Guidelines and Management Advice for Development Proposals that may impact on the Tasmanian Devil (*Sarcophilus harrisii*).

then a visual survey and dip netting to locate tadpoles and frogs. This method is suggested to achieve 90% confidence[18]. Nocturnal surveys were conducted between 10 pm and 1 am, in overcast conditions, and temperatures at ~20°C. The diurnal survey was between 4 and 6 pm, in fine weather at ~25°C.

2.3 Limitations

Due to various limitations (e.g. variations in species presence and detectability), biological surveys cannot typically guarantee that all species will be recorded during a single visit. The field survey was undertaken in summer, so seasonal and ephemeral species/habitat may have been overlooked or are seasonally absent, including summer flowering species and areas of poor winter drainage. However, we are confident the surveys sufficiently captured community level diversity. We compensate for survey limitations in part by considering all listed threatened species from data from the Tasmanian *Natural Values Atlas* (NVA)[19]. These data include records of all threatened species known to occur, or with the potential to occur, up to 5 km from the study area.

3 RESULTS - BIOLOGICAL VALUES

3.1 Vegetation communities

The vegetation in the proposed housing subdivision area is entirely non-native agricultural land (FAG, TASVEG 4.0, Plate 1, Figure 5). One native vegetation community was identified in the 2020 survey: *Melaleuca ericifolia* swamp forest (NME, Plate 2), and listed as threatened under the Tasmanian *Nature Conservation Act 2002* (NCA). This community occurs as three discrete patches occupying 1.1 ha in the balance lot with one patch extending into the POS (Figure 5). An area of open water occurs southwest of the housing subdivision (Plate 3, Figure 5); the native wetland vegetation hemming this dam is likely to be insufficient to map this as a native wetland community (< 20 % cover, Plate 4).

3.1.1 FAG – Agricultural land (Plate 1)

Ex pasture dominates the site and comprises mostly introduced species, but occasional natives are present. The declared weed, blackberry (*Rubus fruticosus* agg) is notable, occurring in dense patches throughout the site, especially along fence lines and drainage channels (Plate 4). Two large *Eucalyptus ovata* occur in the area planned for the subdivision. A number of drainage channels are present.

3.1.2 NME – *Melaleuca ericifolia* swamp forest (1.16 ha, Plate 2)

Three patches of this community occur in the balance lot, part of one extending into the POS (Figure 5). *Melaleuca ericifolia* is the canopy dominant in this community, with emergent black gum *Eucalyptus ovata* and blackwood *Acacia melanoxylon*. Trees are ~ 10 m, and in good health. Much of the understorey is covered in dense patches of blackberry, *Rubus fruticosus,* broken by some open ground areas. The ground cover is dominated by *Pteridium esculentum* and *Lomandra longifolia*. NME is listed as a threatened community under the NCA.

The abundance of eucalypts in portions of this community is atypical and exceed standard threshold. TASVEG communities with more than 5% solid crown cover of eucalypts are more typically allocated to either dry or wet eucalypt communities. The prominence of a dense stand of mature *Melaleuca ericifolia* has lead to a preference to apply this classification. The description of vegetation composition and structure for NME states that "Emergent eucalypts (mainly *Eucalyptus ovata* and *E. brookeriana*) may be

[18] DPIPWE 'Guidelines for designing surveys for the vulnerable Green and Gold Frog (*Litoria raniformis)'
[19] DPIPWE Natural Values Atlas (2023), report #: nvr_1_16-Mar-2023

subdominant to sparse"[20]. TASVEG 4 erroneously places the largest patch as *Acacia dealbata* forest (NAD) and subsumes the smaller patches into the extensive surrounding Agricultural land (FAG) classification.

3.1.3 OAQ – Water (1.2 ha, Plate 3)

A water body in the form of a constructed dam exists in the south-west of the study area. The margins support small band of native marginal species, notably spike rush *Eleocharis acuta* and occasional pin rushes *Juncus procerus* and *Juncus sarophorus*. These are not extensive enough to be mapped as a native vegetation community. The periphery of the habitat is largely infested with various weeds including the declared blackberry and Montpellier broom plus various other naturalised weeds including the New Zealand cabbage tree *Cordyline australis* and stands of mature pine trees.

Plate 1: Modified agricultural land (FAG) within the housing subdivision area.

[20] From Forest to Fjaeldmark (revised May 2018) Non eucalypt forest and woodland p 28

Plate 2: *Melaleuca ericifolia* swamp forest (NME).

Plate 3: Area of open water south west of the proposed subdivision area

Plate 4: Drainage channel choked with blackberry

3.2 Threatened Flora

Of the 57 species recorded in 2020, only 22 are native species (Appendix A). No species listed as threatened flora were recorded.

No threatened species are known within 500 m of the study area on the Tasmanian Natural Values Atlas database [21]. However, thirty-eight species have been recorded within 5000 m, as well as several species that are considered to have potential habitat in the region according to the EPBCA Protected Matters Search Tool. Each of these threatened flora species are presented in Appendix B in context of the suitability of habitat within the study area, and the likelihood of occurrence. Importantly, none of these species is considered likely to occur in the proposed residential subdivision or POS areas.

3.3 Threatened Fauna and Habitat

No threatened fauna species were recorded in the proposed subdivision area. Green and gold frog was recorded at the dam on the balance and habitat for two listed bird species is present in the proposed subdivision area.

3.3.1 Green and gold frog (*Litoria raniformis*, EPBCA and TSPA vulnerable)

Two green and gold frogs were recorded in the dam to the southwest of the proposed POS area in 2020. Habitat for this species comprises the dam and its margins (Plate 5), and it is expected to use the surrounding pasture, adjacent *Melaleuca ericifolia* swamp forest, and drainage lines in the proposed housing subdivision area (Figure 5).

While the species may breed in the dam, this was not apparent during the field survey as no tadpoles or froglets were recorded. The dam has relatively sparse vegetation cover and as a result may not be ideal for breeding. Predatory fish may also be present. Breeding habitat tends to be mor protected and vegetated waters. The drainage lines, when there is sufficient water provide at best marginal breeding habitat due to the presence of blackberry in most drainage lines which reduces the suitability of these areas for the frog[22].

3.3.2 Swift parrot (*Lathamus discolor*, EPBCA critically endangered and TSPA endangered)

Two mature *E. ovata* trees are present in the area for the proposed subdivision; these are one of the preferred foraging habitat trees for swift parrot. No sign of swift parrots was observed during the field survey. There are no records within 5 km on the Natural Values Atlas nor is the species considered to be present in 5 km based on range boundaries. Although this is outside the core breeding range of the swift parrot it is within the north and west potential range [23]. Consequently, these trees should be considered as foraging habitat. However, considering there are just two isolated paddock trees on site, it is not expected that the species will utilise these trees with any regularity, diminishing their importance.

3.3.3 Tasmanian masked owl (*Tyto novaehollandiae* subsp. *castanops*, EPBCA vulnerable, TSPA endangered)

One large *E. ovata* tree (112 cm DBH) located within the balance lot was found to contain a single tree hollow of suitable potential dimensions for Tasmanian masked owl. The hollow did not show signs of

[21] DPIPWE Natural Values Atlas (2023), report #: nvr_1_16-Mar-2023
[22] Forest Practices Authority (2014)
[23] Forest Practices Authority - Biodiversity Values Database. https://fpa.tas.gov.au/BVD/BVD_NVA.html

use by owls; no feathers, regurgitation or wash was present. This species has large territories (~2000 ha)[24], and although they may utilise paddock trees for breeding, the chances of the species utilising this relatively isolated tree for nesting is low. It is much more likely to be used by brush-tailed possum.

3.3.4 Additional species of threatened fauna

Several threatened species, including Tasmanian devil, quolls, eastern barred bandicoot, Tasmanian masked owl, grey goshawk, and wedge-tailed eagle may utilise the property from time to time. However, the site does not contain habitat elements that are notable or significant for any of these threatened species. No burrows, caves, or rock outcrops suitable for threatened carnivores were noted and aside from the single large *E. ovata* mentioned above, there are no additional trees with significant hollows or large trees or areas of potential breeding habitat suitable for threatened raptors.

In Appendix C, all fauna species recorded within a 5 km radius (or considered likely to have potential habitat), as identified in the Natural Values Atlas and EPBC Protected Matters Search Tool reports, are discussed[25]. Coastal, marine, cave-dwelling and wetland species (e.g. Australasian bittern, eastern curlew) included in these reports are excluded from the table as they have no chance of occurring in the study area.

Plate 5: Emergent and aquatic vegetation surrounding dam provide habitat for green and gold frogs

[24] Todd (2012)
[25] DPIPWE Natural Values Atlas Report (2020) report #: nvr_1_06-Jan-2020; Commonwealth of Australia, EPBC Protected Matters Search Tool Report (2020) report #: PMST_ZWHE01

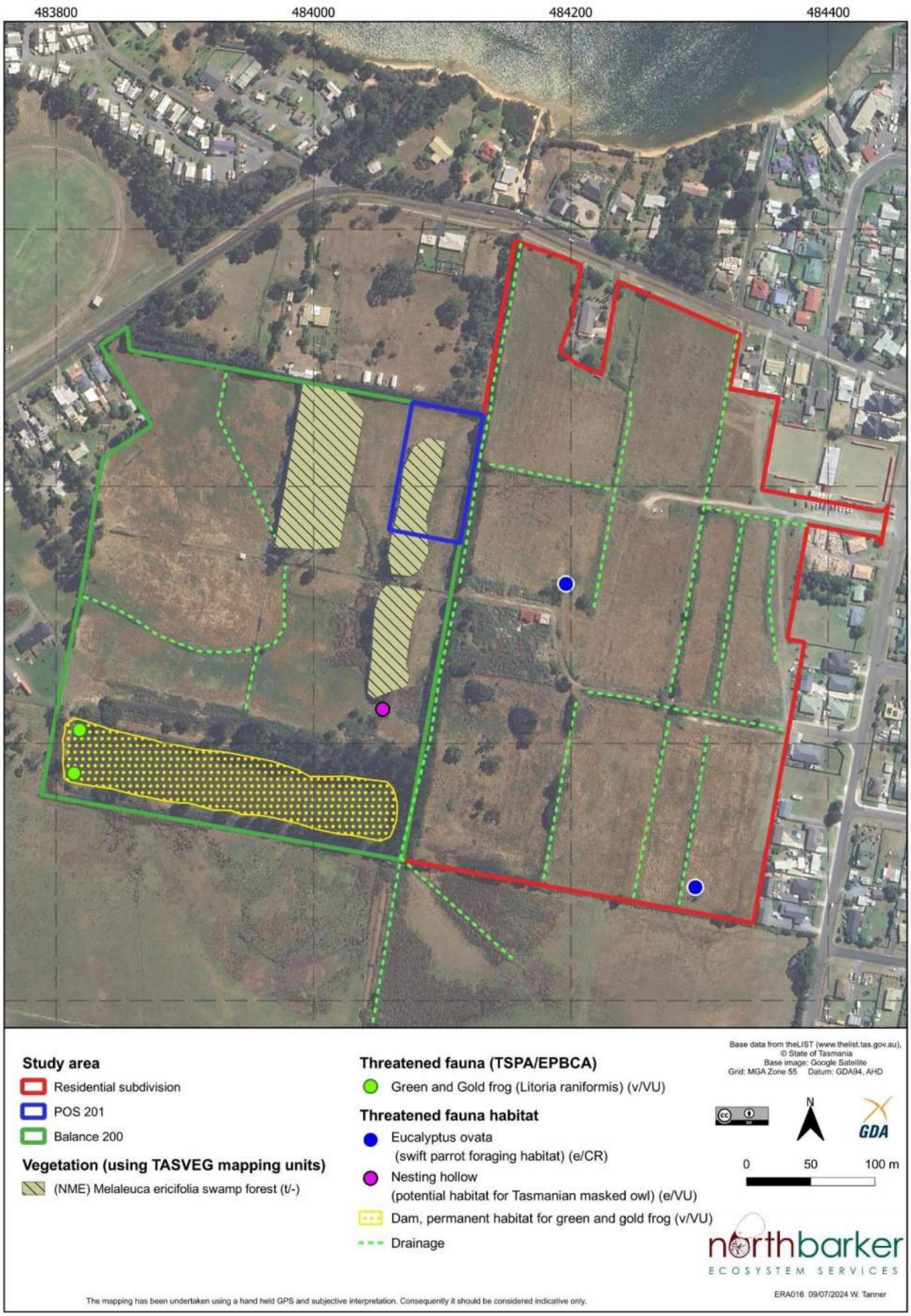

Figure 5: Threatened vegetation, fauna and fauna habitat within the study area

3.4 Declared weeds

Four species of declared weeds occur on site (Figure 6):

- slender thistle, *Carduus pycnocephalus* – occurs as a sparse infestation in the northwest of the proposed subdivision area.
- blackberry, *Rubus fruticosus* – occurs widely and in dense occurrences on all fence lines and drainage lines and in one large patch on the western boundary of the paddock(Plate 6), within patches of remnant NME forest and in dense occurrences surrounding the dam.
- boneseed, *Chrysanthemoides monilifera* subsp. *monilifera*- occurs in a single patch northwest of the dam.
- Montpellier broom, *Genista monspessulana*- occurs in two large patches northeast and northwest of the dam.

Plate 6: Blackberry (*Rubus fruticosus*) Infestation within the housing subdivision area.

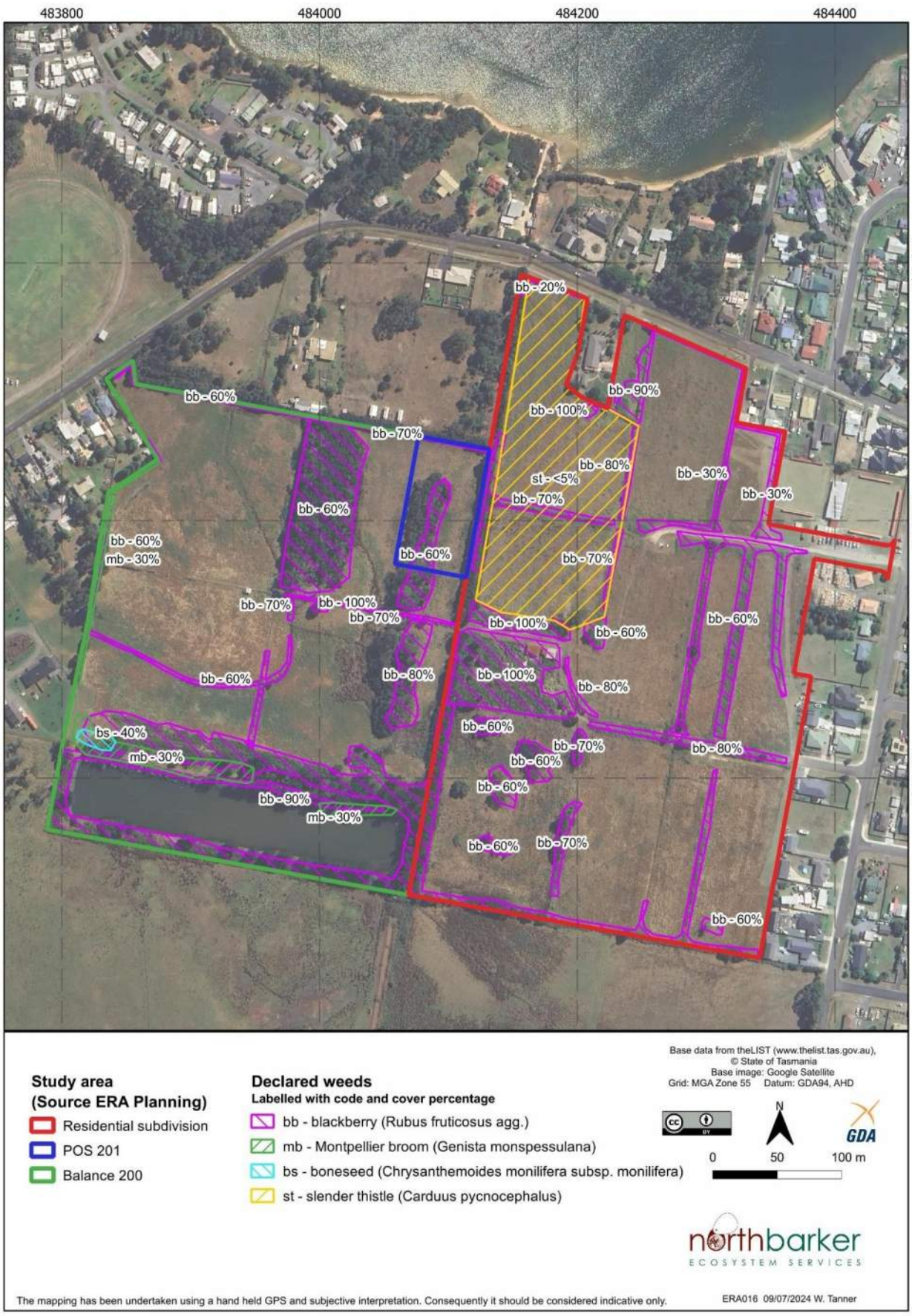

Figure 6: Distribution of declared weeds in the study area

4 IMPACT ASSESSMENT and MITIGATION

4.1 Vegetation communities

The vegetation is primarily non-native agricultural land and measures to avoid or mitigate impact to such vegetation are not warranted.

The threatened vegetation community, *Melaleuca ericifolia* swamp forest (NME), occurs as three discrete patches occupying 1.16 ha. None are within the proposed residential subdivision area although 0.19 ha occurs within the proposed POS.

A design brief for the POS includes retention of the patch of NME. Future use such as for a playground will introduce a higher level of public activity on site and potential disturbance of the NME. The most effective way of controlling such risk would be to fence off the NME.

The remainder of the NME is confined to the Balance lot where no works form part of the current application.

Recommendation

- Retain all areas of threatened vegetation:
- Implement the Frog Management Plan
- Retain and fence off the area of threatened vegetation within the POS. Include management measures to remove weeds.
- Implement a weed management plan that includes measures to treat weeds (predominantly blackberry) within the areas of NME on the Balance lot.

4.2 Threatened plants

The likelihood of the occurrence and hence potential impact of any threatened flora species is remote. It is our assessment that no threatened plant species will be impacted.

4.3 Threatened fauna habitat

Impacts and mitigation on the threatened fauna habitat found on site are discussed below, with reference to each species individually. While no signs were found, it is possible that quolls, Tasmanian devil, and eastern-barred bandicoot periodically utilise habitat in the study area.

4.3.1 Green and gold frog

The habitat in the proposed housing subdivision area comprises drainage lines, many of which are choked with blackberry. Although suboptimal, these habitats may be used for dispersal. Breeding is unlikely but cannot be entirely discounted should patches of open water persist through the breeding seasons. Most drains are however too heavily infested with blackberry to be suitable. By removing these drainage lines (and those in the approved cabin park), dispersal opportunities for the frog are reduced on site, and there is also a potential loss of suboptimal breeding habitat. Additionally, the introduction of pets from the subdivision, particularly cats, would if unchecked impact frogs as these are a recognised threat to the species.

A frog management plan has been developed to allow for the retention and improvement of frog habitat on the balance lot (but outside the footprint of the approved cabin park) (Figure 7)[26]. The aim of the plan is to improve the frog habitat that remains to allow for the persistence of the frog in the

[26] North Barker Ecosystem Services (2024a)

area and even improve the long-term potential for the species to occur; this is achieved through upgrading the dam, improving the remaining drainage line habitat, and other plantings[27]. Weed management (particularly blackberry) is viewed as important in this regard. Accordingly, there is an improvement to the permanent habitat present (the dam), and a portion of the ephemeral habitat (drainage swales and scrapes). The plan also includes chytrid management prescriptions to manage this risk.

Given this species is listed as a vulnerable under the Commonwealth EPBC Act, there is the potential for the project (and the cabin park development), to have a significant impact on a matter of national environmental significance. Accordingly, a significant impact test has been undertaken for this species[28]. Through that process it was concluded that the potential impact to green and gold frog was not significant.

Recommendations

- Implement the frog management plan in full before replacing the open drain on the western boundary with a piped outlet.
- Cat ownership in the housing subdivision must be restricted to limit the potential impact to frogs. This can be achieved by placing a covenant on each title that requires cat owners to ensure that Cats must remain indoors at all times or if outdoors in entirely enclosed cat-proof enclosures.

4.3.2 Swift parrot

There are two potential foraging trees on the site (black gums *Eucalyptus ovata*); these are relatively isolated trees in an otherwise agricultural/peri-urban landscape and are not likely to be utilised with any regularity, if at all. Although avoiding impact to these trees can be considered a mitigation measure, this is not likely to result in a meaningful conservation measure, especially given the proposed development of the surroundings. Specific mitigation measures are therefore not considered necessary for this species and given the limited potential for its occurrence, potential impact is not considered significant.

4.3.3 Tasmanian masked owl

This species may forage within the study area and a single tree hollow, potentially suitable for this species is in a black gum (*E. ovata*) in the Balance lot. Considering the paucity of large trees on site any development in its vicinity should look to retain this tree. Given the low potential for use of this tree by masked owl no further mitigation steps are considered necessary.

Recommendation:

- Retain large hollow bearing tree on the Balance lot

4.3.4 Tasmanian devil and quolls

Although it is possible threatened carnivores utilise the site from time to time, the loss of an area of heavily modified agricultural land has no potential for significant impacts to this species. There is no indication or evidence that the site contains habitat elements important for these species and or that it is important for dispersal or connectivity.

[27] North Barker Ecosystem Services (2024a)
[28] North Barker Ecosystem Services (2024b)

4.3.5 Eastern barred bandicoot

This species can occur in rank grassland and rough pasture, and it is quite possible this species utilises the site. There is ample such habitat in the broader area, plus areas of native forest and woodland that are expected to support this species. The loss of this habitat does not therefore represent a significant impact to this species, and specific mitigation measures are not considered necessary.

4.3.6 Threatened raptor species

No impact of any significance is expected for any raptor species including Tasmanian wedge-tailed eagle, white-bellied sea eagle and grey goshawk. The site may be used as a foraging resource for these species, but the site is not significant or important in this regard and there is ample potential foraging habitat in the surrounding area. No specific mitigation measures are considered necessary. A nest for white-bellied sea eagle has been recorded on the other side of the river. This is > 500 m from the site and is not expected to be within 1 km line-of-site. Impact to birds that may utilise this nest is not likely, and no mitigation measures are considered necessary.

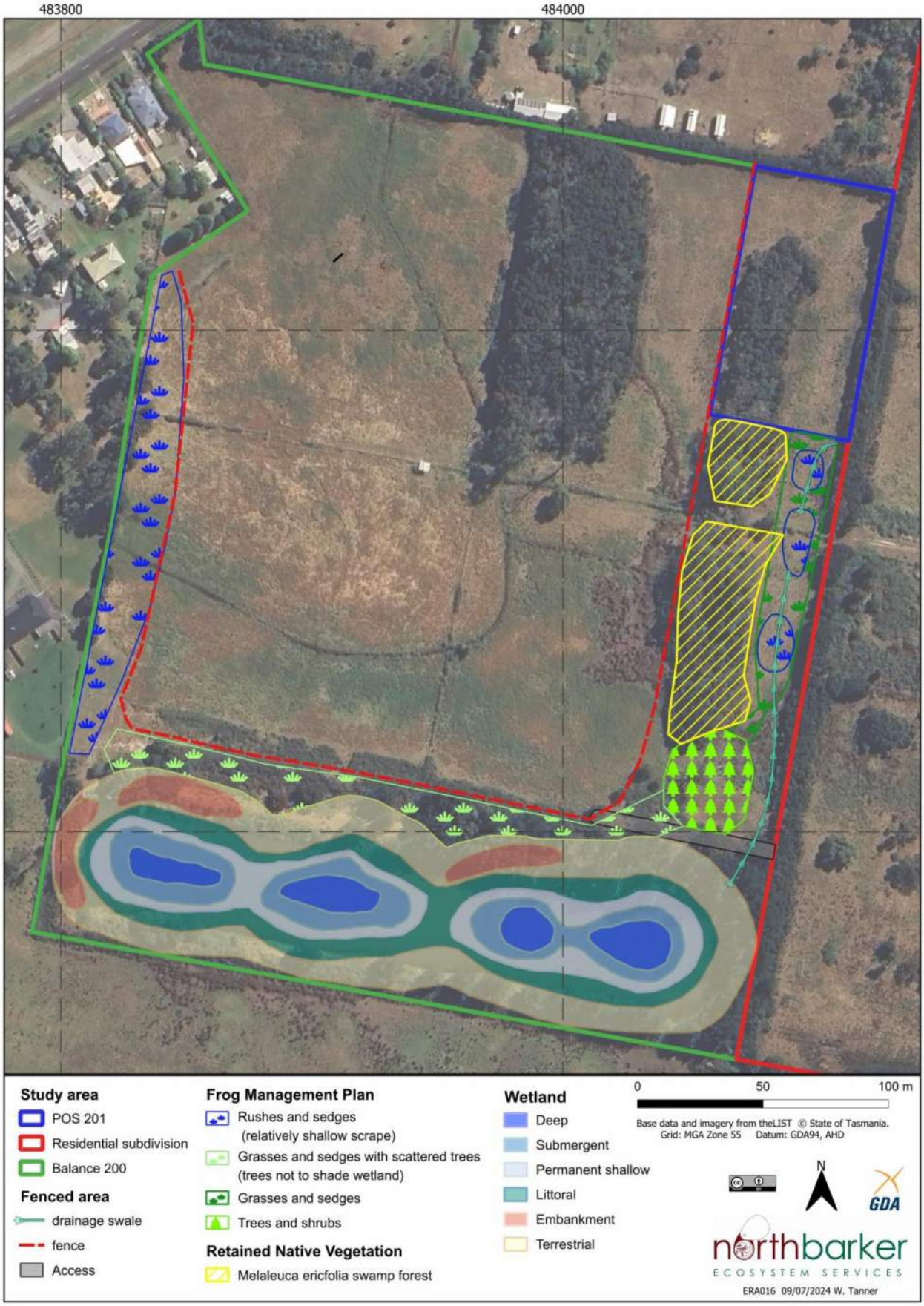

Figure 7: Elements of the frog management plan

4.4 Weed Management

Infestations of declared weeds, blackberry in particular, are ubiquitous at the site, especially along fence lines. There is likely an established blackberry seedbank, and treatment and management of this species will need to be ongoing if it is to be meaningful.

Recommendations

- *Develop a weed management plan that details the management of blackberry and other weeds though construction and into the occupancy phase of the subdivision. Such a plan should apply to all of the proposed developments in Lot 102 (the cabin park, area of public open space and the proposed housing subdivision). The plan should include:*
    - *Treatment of occurrences of declared weeds prior to works.*
    - *Procedures for the management of spoil, machinery and equipment to ensure these are not vectors for the spread of weed propagules to and from the site – such measures should include wash down stations and procedures.*
    - *Follow up weed control implemented 6-12 months after works to treat any individuals that have colonised/recolonised the area.*
    - *Ongoing measures to manage weeds to prevent the re-establishment of weeds in the area.*
    - *Complimented weed management measures with the inclusion of registers (e.g. wash down) and auditing processes to ensure compliance.*

5 LEGISLATIVE REQUIREMENTS

5.1 Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

The EPBC Act is structured for self-assessment; the proponent must determine whether or not the project is likely to have a significant impact on a matter of national environmental significance (MNES) such as a listed threatened species or community. If this is likely, then the Department of Climate Change, Energy, the Environment and Water (DCCEEW) may consider the proposed activity as a 'controlled action' which would require approval from the Federal Minister.

The green and gold frog, *Litoria raniformis*, was recorded on site in the main existing dam located on the balance lot. Ephemeral habitat in the form of drains within the residential subdivision area and within the approved cabin park may provide temporary habitat but is suboptimal for breeding. A significant impact assessment[29]. for this species undertaken against relevant guidelines has concluded that a significant impact is not expected, especially if mitigation measures in the form of improving retained habitat forms part of the action.

No other species listed under this Act that have potential to utilise the site are considered at risk of being significantly impacted.

5.2 Tasmanian *Threatened Species Protection Act 1995*

Any direct impact to the green and gold frog will require a 'permit to take' from the Conservation Assessments Branch at the Department of Natural Resources and Environment Tasmania (NRE). Implementation of the frog management plan which includes reconstruction of the dam is likely to require a permit considering there is potential for frogs to be present.

5.3 Tasmanian *Biosecurity Act 2019*

According to the provisions of the Tasmanian *Biosecurity Regulations 2022*, administered under the Tasmanian *Biosecurity Act 2019,* West Tamar is a Zone B municipality for blackberry, Montpellier broom and slender thistle. According to the provisions of the *Biosecurity Act 2019,* Zone B municipalities are those which host widespread infestations where control and prevention of spread is the principal aim. West Tamar is a Zone A municipality for boneseed where eradication is the most appropriate management objective.

The containment principles of this Act should be sufficiently met with a project specific weed and hygiene management plan which follows best practice construction hygiene to prevent the transport of contaminated material off site.

5.4 Tasmanian Planning Scheme - West Tamar

The proposed housing subdivision area is in the West Tamar Council area and subject to the Tasmanian Planning Scheme - West Tamar[30]. The residential subdivision portion is zoned as General Residential (8.0) and the balance and POS are zoned Rural. The Natural Assets Code (C7) applies: some of the drainage lines intersect with a Waterway and Coastal Protection Area overlay, and the NME in the proposed POS is under a Priority Vegetation Area overlay (Figure 89).

[29] North Barker Ecosystem Services (2024b)
[30] Tasmanian Planning Scheme- West Tamar (2017) Available from: https://iplan.tas.gov.au/pages/plan/book.aspx?exhibit=tpswta

5.4.1 General Residential Zone

In terms of natural values, there are no relevant provisions in the General Residential zone; no further consideration of the zone is required in this regard.

5.4.2 Rural Zone

In terms of natural values, there are no relevant provisions in the Rural zone for the subdivision of a lot for POS; no further consideration of the zone is required in this regard.

5.4.3 Natural Assets Code - Waterway and Coastal Protection Area overlay

Clearance in areas that intersect with a Waterway and Coastal Protection Area overlay (WCPA) must comply with the relevant provisions in the scheme.

The proposed works will impact several drainage channels within the residential subdivision site. These will all be removed and replaced with a reticulated drainage system.

The main drain running south to north along the western boundary of the subdivision will be replaced with a stormwater pipe into which all other stormwater on the residential side will be fed. All drains are all currently infested with dense blackberry with the minor drains in the east of the site with limited natural habitat and stream flow. The main drain potentially provides a corridor for frogs to disperse northwards although this doesn't lead to much in the way of habitat in that direction being the West Tamar Highway and Tamar estuary. The drains are all highly modified and anthropogenic features that provide minimal benefits from a natural values perspective. Any impacts occurring from the removal of these drains are expected to be compensated for with the habitat improvements described in the Frog Management Plan[31]. The implementation of the Frog Management Plan would provide an overall improvement to fog habitat on the site. As such it is expected that the proposed development is able to comply with the provisions of this code.

The purpose of the code (C7.1) applicable to Waterway and Coastal Protection Area is to:

> *C7.1.1 To minimise impacts on water quality, natural assets including native riparian vegetation, river condition and the natural ecological function of watercourses, wetlands and lakes.*
>
> *C7.1.2 To minimise impacts on coastal and foreshore assets, native littoral vegetation, natural coastal processes and the natural ecological function of the coast.*
>
> *C7.1.3 To protect vulnerable coastal areas to enable natural processes to continue to occur, including the landward transgression of sand dunes, wetlands, saltmarshes and other sensitive coastal habitats due to sea-level rise.*

It is unlikely that the proposed development would meet any of the exemptions from triggering this code (listed in C7.4).

Given the proposal involves subdivision and that works are also included, the provisions in both section *C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area* and *C7.7.1 Subdivision within a waterway and coastal protection area or a future coastal refugia area* will need to be satisfied:

[31] North Barker Ecosystem Services 2024b

Subdivision within a waterway and coastal protection area or a future coastal refugia area (C7.7.1)

The objective of this code is that:

(a) works associated with subdivision within a waterway and coastal protection area or a future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets; and
(b) future development likely to be facilitated by subdivision is unlikely to lead to an unnecessary or unacceptable impact on natural assets.

None of the *Acceptable Solutions A1* can be met, therefore the *Performance Criteria P1* must be satisfied:

Each lot, or a lot proposed in a plan of subdivision, within a waterway and coastal protection area or a future coastal refugia area, must minimise adverse impacts on natural assets, having regard to:

(a) the need to locate building areas and any associated bushfire hazard management area to be outside a waterway and coastal protection area or a future coastal refugia area; and
(b) future development likely to be facilitated by the subdivision.

The land under which the WCPA overlay applies is heavily modified and infested with blackberry in places. Also, the 20 m wide corridor overlaps with areas that range from completely dry with no watercourse present, to areas that are likely wet during rain events (i.e. ephemeral). On the western boundary of the proposed subdivision housing area, the WCPA overlaps with a substantial drainage line, that is expected to be more consistently wet than other drainage lines. Although weed infested, this drain may be utilised by green and gold frog for dispersal and potentially even breeding if areas of water are able to persist. Notably, a frog management plan included with the subdivision proposal includes the upgrading of the western boundary drainage line to improve the habitat for green and gold frog; this includes the planting of native sedges and rushes and the management of blackberry.

Given the entirely anthropogenic nature of the drainage lines in the proposed residential subdivision area, it is not considered necessary from a natural values perspective to design the subdivision in such a way as to avoid the drainage lines to which the WCPA overlay applies. Any losses in this regard are expected to be compensated with habitat improvements described in the Frog Management Plan. It is our assessment therefore that the project is able to comply with the provisions of this code.

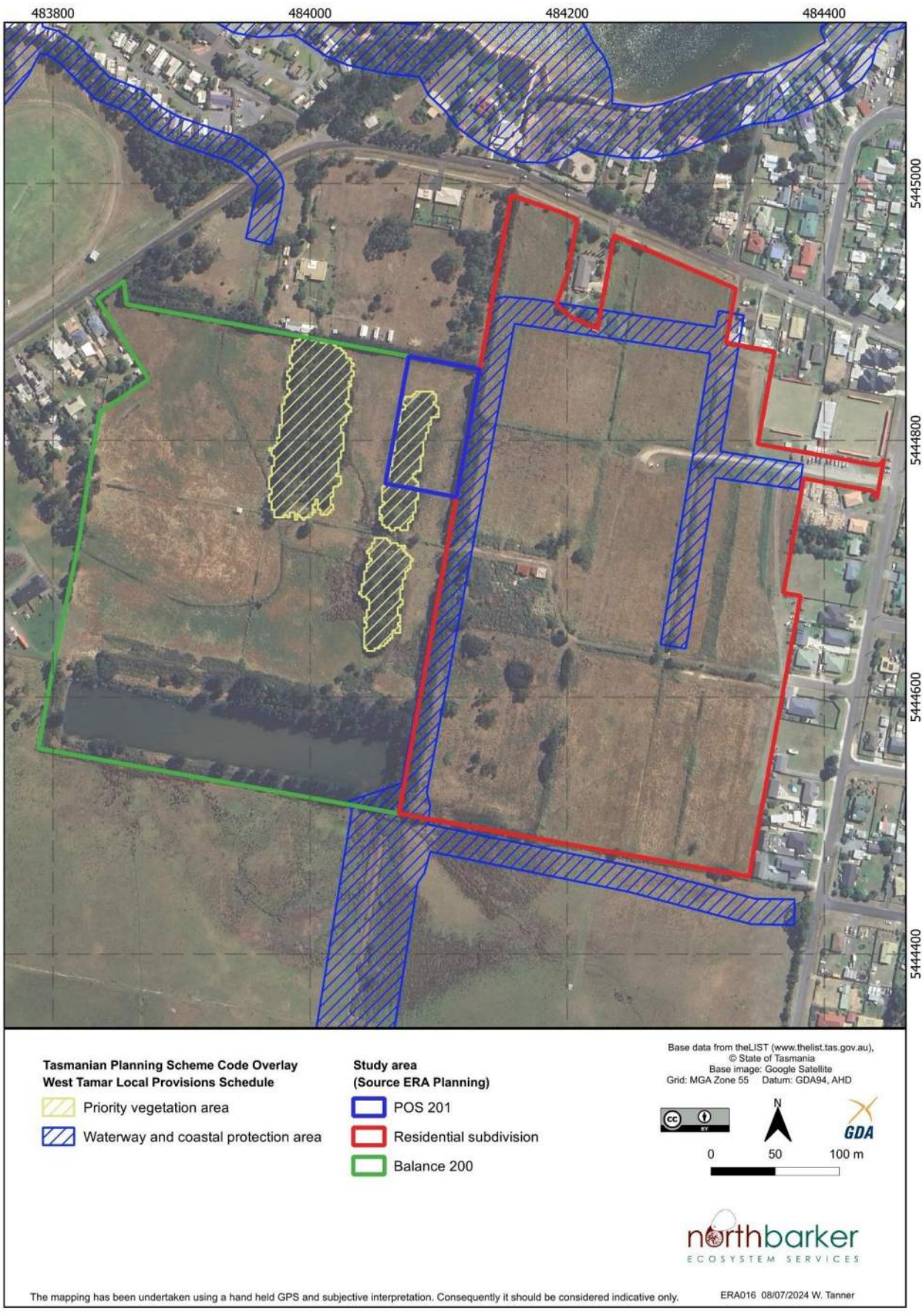

Figure 8. Applicable TPS overlays within the study area

C7.6.1 Buildings and works within a waterway and coastal protection area or a future coastal refugia area.

Specifically, the subdivision requires civil works including a drainage plan that proposes to fill existing drains and utilising a reticulated stormwater system. The main drain along the western boundary of the subdivision will be piped.

The objective of this code is that:

(a) That buildings and works within a waterway and coastal protection area or future coastal refugia area will not have an unnecessary or unacceptable impact on natural assets.

None of the *Acceptable Solutions A1* can be met, therefore the *Performance Criteria P1.1 and P1.2* must be satisfied:

P1.1 Buildings and works within a waterway and coastal protection area must avoid or minimise adverse impacts on natural assets, having regard to:

(a) Impacts caused by erosion, siltation, sedimentation and runoff;

A sediment and erosion control plan is recommended to control the potential for run off into the drainage line on the western border of the housing subdivision area.

(b) Impacts on riparian or littoral vegetation;

The drainage line habitat is highly modified and infested with blackberry and riparian vegetation values are severely degraded. The Frog Management Plan provides opportunity to replace lost habitat with improved alternate habitat elements.

(c) Maintaining natural streambank and streambed condition, where it exists;

No natural streambank or streambed exists.

(d) Impacts on in-stream natural habitat, such as fallen logs, bank overhangs rocks and trailing vegetation;

As above, the drainage line habitat is entirely anthropogenic in origin and is severely degraded with no natural habitat.

(e) The need to avoid significantly impeding natural flow and drainage;

Natural flow doesn't exist in exiting drains so replacement with pipe will make little difference. New drainage swales for outlet of dam will provide more 'natural 'style water flows.

(f) The need to maintain fish passage, where known to exist;

Fish passage in the drainage lines are not expected.

(g) The need to avoid land filling of wetlands;

The proposal does not fill any wetlands.

(h) The need to group new facilities with existing facilities, where reasonably practical;

Not applicable.

(i) Minimising cut and fill;

Not applicable.

(j) Building design that responds to the particular size, shape, contours or slope of the land;

No buildings are included in the proposal.

(k) Minimising impacts on coastal processes, including sand movement and wave action;

Not applicable.

(l) Minimising the need for future works for the protection of natural assets, infrastructure and property;

Natural assets associated with aquatic habitat, notably for green and gold frog will necessarily bot be minimised but require ongoing maintenance.

(m) The environmental best practice guidelines in the Wetlands and Waterways Works Manual; and

The proponent will need to adhere to these guidelines which are referenced in the Frog Management Plan.

(n) The guidelines in the Tasmanian Coastal Works Manual.

Not applicable.

P1.2 Buildings and works within the spatial extent of tidal waters must be for a use that relies upon a coastal location to fulfil its purpose, having regard to:

(a) *The need to access a specific resource in a coastal location;*
(b) *The need to operate a marine farming shore facility;*
(c) *The need to access infrastructure available in a coastal location;*
(d) *The need to service a marine or coastal related activity;*
(e) *Provision of essential utility or marine infrastructure; or*
(f) *Provisions of open space or for marine-related educational, research or recreational facilities*

The proposed works are not located within the spatial extent of any tidal waters and no impacts are expected.

A2 Buildings and works within a future coastal refugia area must be located within a building area on a sealed plan approved under this planning scheme.

The proposed works are not located within any future coastal refugia areas.

A3 Development within a waterway and coastal protection area or a future coastal refugia area must not involve a new stormwater point discharging into a watercourse, wetland or lake.

There are changes to stormwater points and so the Acceptable Solution is not met.

P3 Development within a waterway and coastal protection area or a future coastal refugia area involving a new stormwater point discharge into a watercourse, wetland or lake must avoid or minimise adverse impacts on natural assets, having regard to:

(a) the need to minimise impacts on water quality; and
(b) the need to mitigate and manage any impacts likely to arise from erosion, sedimentation or runoff. This clause is specifically in place to protect existing natural watercourse from adverse impacts.

Considering the main drain through the site is constructed and has no natural stream features there is no consequent impact associated with this action. Water quality and sediment can be managed through appropriate standard detention and filtration system. No natural assets are seemingly at risk. Any potential habitat value of the drain for green and gold frog will be compensated for by the implementation of the Frog Management Plan.

A4 Dredging or reclamation must not occur within a waterway and coastal protection area or a future coastal refugia area.

No dredging or reclamation is proposed unless replacement of an open drain with reticulated stormwater system constitutes reclamation.

A5 Coastal protection works or watercourse erosion or inundation protection works must not occur within a waterway and coastal protection area or a future coastal refugia area.

No coastal protection works, watercourse erosion or inundation protection works will be undertaken during the proposed works.

In conclusion development proposed within the waterway and coastal protection area can meet the performance solutions and as such meets the objective of C7.6.1 (a) that it *will not have an unnecessary or unacceptable impact on natural assets.*

5.4.4 Natural Assets Code - Priority Vegetation overlay

The Purpose of the Natural Assets Code pertain to the Priority Vegetation Area:

C7.1.4 To minimise impacts on identified priority vegetation.
C7.1.5 To manage impacts on threatened fauna species by minimising clearance of significant habitat.

The NME patches in Lot 200 and 201 are subject to the Priority Vegetation overlay (Figure 8).

The approved cabin park on Lot 200 avoids these areas of priority vegetation. The Frog Management Plan includes revegetation and creation of habitat features in proximity to the patches of NME but avoids any direct impact. A weed management plan for the site will include measures to improve the condition of these areas.

The POS (Lot 201) includes some of the priority vegetation (NME) within the overlay. This patch needs to be identified for protection in any playground development on site. The habitat should be fenced off and managed to remove weeds.

C7.7.2 Subdivision within a priority vegetation area

The objective is that:

> *(a) works associated with subdivision will not have an unnecessary or unacceptable impact on priority vegetation; and*
> *(b) future development likely to be facilitated by subdivision is unlikely to lead to an unnecessary or unacceptable impact on priority vegetation*

The Acceptable Solution A1

(e) not include any works (excluding boundary fencing), building area, bushfire hazard management area, services or vehicular access within a priority vegetation area.

Clause (e) can be met if the only works necessary as a result of the subdivision will be boundary fencing.

No works are proposed that involve clearance of native vegetation within the priority vegetation areas other than boundary fencing and so the application does not need to be assessed against Performance Criteria C7.7.2 P1.1 or P1.2.

C7.6.2 Clearance within a priority vegetation area

There is no priority vegetation area in the main subdivision area. No works are proposed ot priority vegetation within the Balance (Lot 200) as part of this application.

The Public Open Space (Lot 201) intersects with a portion of priority vegetation. If the playground design avoids any direct impact to the priority vegetation and incudes measures such as fencing to exclude playground users then no clearance of or other direct impacts to native vegetation within a priority vegetation will need to occur thus avoiding the need to meet the Acceptable Solution or address the Performance Criteria of C7.6.2.

C7.5 Use standards.

There are no Use Standards in the Natural Assets Code which is possibly where the controls on cat ownership could be addressed where the cats were impacting on natural values. The risk of 134 new households, with many cat owners, increasing the risk to frog predation has been identified in this report in section 4.3.1 where we recommend that:

- Cat ownership in the housing subdivision must be restricted to limit the potential impact to frogs. This can be achieved by placing a covenant on each title that requires cat owners to ensure that Cats must remain indoors at all times or if outdoors in entirely enclosed cat-proof enclosures.

Previously we had recommended Part 5 Agreement to be placed on titles to prevent cats from straying. Council is not supportive of this measure.

The RFI from Councl Item 9 (b) poses the specific question being "*In the absence of the cat management recommendations being adhered to, are there concerns with compliance under C7.0 of the scheme?*"

It may not be possible for these controls to be conditioned under the Natural Assets Code. Cat management is more applicable to ensuring the consequences of the residential development do not result in cat behaviours that may trigger matters under the TSP Act and EPBC Act rather than Planning Scheme requirements under LUPA Act.

Nevertheless, the application of a covenant controlling cat ownership would be effective at reducing the risk of increased predation. The covenant should require all cats to remain indoors at all times or if outdoors in entirely enclosed cat-proof enclosures. The covenant would be between the future residential landowners and the owner of the balance lot (which includes the approved cabin park) who will be responsible for implementing the frog management plan.

In conclusion the proposal meets the applicable assessment requirements of the Natural Assets Code C7 irrespective of what cat management mechanisms are in place.

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North Barker Ecosystem Services (2024a) Lot 102 West Arm Road, Beauty Point, Green and Gold Frog Management Plan and Wetland Construction, 1 August, 2023, For ERA Planning, ERA016.

North Barker Ecosystem Services (2024b) Lot 102 West Arm Road, Beauty Point, Assessment of Impact to Green and gold frog (*Litoria raniformis*), 1 August, 2023, For ERA Planning, ERA016.

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APPENDIX A: Plant species recorded in the study area

Status codes:

ORIGIN	NATIONAL SCHEDULE EPBC Act 1999	STATE SCHEDULE TSP Act 1995
i - introduced	CR - critically endangered	e - endangered
d - declared weed WM Act	EN - endangered	v - vulnerable
en - endemic to Tasmania	VU - vulnerable	r – rare
t - within Australia, occurs only in Tas.		

Sites:

1	Lot 102 Title 64199/1 (DAM) - E483922, N5444581	9/01/2020 Michael Hitchcock
2	Lot 102 Title Reference 156126/102 (WEST) - E483959, N5444755	9/01/2020 Michael Hitchcock
3	Lot 102 Title Reference 156126/102 (EAST) - E484250, N5444680	9/01/2020 Michael Hitchcock

Site	Name	Common name	Status
DICOTYLEDONAE			
	ACERACEAE		
3	*Acer pseudoplatanus*	sycamore maple	i
	APIACEAE		
3	*Daucus carota*	wild carrot	i
	ASTERACEAE		
3	*Carduus pycnocephalus*	slender thistle	d
1	*Chrysanthemoides monilifera subsp. monilifera*	boneseed	d
1 2 3	*Cirsium vulgare*	spear thistle	i
2	*Delairea odorata*	cape ivy	i
1 2	*Leontodon saxatilis*	hairy hawkbit	i
1	*Senecio minimus*	fireweed groundsel	
3	*Sonchus asper*	prickly sowthistle	i
	CAPRIFOLIACEAE		
2	*Lonicera periclymenum*	common honeysuckle	i
	DIPSACACEAE		
3	*Dipsacus fullonum*	wild teasel	i
	FABACEAE		
1	*Acacia dealbata subsp. dealbata*	silver wattle	
3	*Acacia longifolia*	coast wattle	
3	*Acacia mearnsii*	black wattle	
1 2 3	*Acacia melanoxylon*	blackwood	
1 2	*Acacia verticillata*	prickly moses	
1 2	*Genista monspessulana*	canary broom	d
	GENTIANACEAE		
2 3	*Centaurium erythraea*	common centaury	i
	LAMIACEAE		
3	*Prunella vulgaris*	selfheal	i
	LAURACEAE		
3	*Cassytha melantha*	large dodderlaurel	
	MYRTACEAE		
1 2	*Eucalyptus amygdalina*	black peppermint	en
2 3	*Eucalyptus ovata var. ovata*	black gum	
1 2 3	*Melaleuca ericifolia*	coast paperbark	
	PLANTAGINACEAE		
3	*Plantago lanceolata*	ribwort plantain	i
	POLYGONACEAE		
2	*Rumex crispus*	curled dock	i
	PRIMULACEAE		
2 3	*Lysimachia arvensis*	scarlet pimpernel	i
	ROSACEAE		
1 2 3	*Acaena novae-zelandiae*	common buzzy	
3	*Cotoneaster pannosus*	velvet cotoneaster	i
3	*Crataegus monogyna*	hawthorn	i
3	*Malus pumila*	apple	i
3	*Prunus domestica subsp. insititia*	plum	i

3	*Prunus persica*	peach	i
3	*Rosa rubiginosa*	sweet briar	i
1 2 3	*Rubus fruticosus*	blackberry	d
	RUBIACEAE		
2	*Coprosma quadrifida*	native currant	
1	*Coprosma repens*	mirrorbush	i
	SANTALACEAE		
2 3	*Exocarpos cupressiformis*	common native-cherry	
GYMNOSPERMAE			
	PINACEAE		
1 3	*Pinus radiata*	radiata pine	i
MONOCOTYLEDONAE			
	AGAPANTHACEAE		
1 3	*Agapanthus sp.*	agapanthus	i
	ALLIACEAE		
3	*Allium ampeloprasum*	wild leek	i
	ASPARAGACEAE		
	Cordyline australis	New Zealand cabbage tree	i
1 2 3	*Lomandra longifolia*	sagg	
	CYPERACEAE		
3	*Cyperus eragrostis.*	umbrella sedge	i
1	*Eleocharis acuta*	common spikesedge	
1 2 3	*Lepidosperma elatius*	tall swordsedge	
	JUNCACEAE		
1	*Juncus procerus*	tall rush	
1 2 3	*Juncus sarophorus*	broom rush	
	POACEAE		
2 3	*Agrostis stolonifera*	creeping bent	i
1 2 3	*Anthoxanthum odoratum*	sweet vernalgrass	i
1 2 3	*Arrhenatherum elatius var. bulbosum*	bulbous oatgrass	i
3	*Dactylis glomerata*	cocksfoot	i
1 2	*Holcus lanatus*	yorkshire fog	i
1	*Lachnagrostis filiformis*	common blowngrass	
2	*Lolium perenne*	perennial ryegrass	i
2 3	*Paspalum dilatatum*	paspalum	i
	TYPHACEAE		
3	*Typha latifolia*	great reedmace	i
PTERIDOPHYTA			
	DENNSTAEDTIACEAE		
2	*Pteridium esculentum subsp. esculentum*	bracken	

APPENDIX B: Flora species of conservation significance known to occur, or which may potentially occur based on range boundaries, within a 5 km radius of the study areas[32].

Species	Status TSPA / EPBCA[33]	Potential to occur in proposed subdivision area	Observations and preferred habitat
Acacia ulicifolia juniper wattle	Rare /-	Very low	*Acacia ulicifolia* is found in sandy coastal heaths and open heathy forest and woodland in the north and east of Tasmania. Populations are often sparsely distributed, and most sites are near-coastal, but it can occasionally extend inland (up to 30 km). Limited suitable habitat on site and no records within 500 m of site.
Aphelia gracilis slender fanwort	Rare /-	None	*Aphelia gracilis* inhabits damp sandy ground and wet places in the Midlands and north-east of the State. It may readily colonise sites after fire or other disturbance. No suitable habitat on site and no records within 500 m of site.
Asperula minima mossy woodruff	Rare /-	None	*Asperula minima* occurs in a range of vegetation types, the common factor being locally impeded drainage. Habitats include near-coastal swamp forests, *Melaleuca ericifolia* swamp forest, *Eucalyptus ovata* sedgy forest, "old pasture" regenerating to sedges and rushes, and firebreaks adjacent to clearfelled forest. Likely habitat infested with blackberry, reducing suitability. No suitable habitat and no records within 500 m.
Bolboschoenus caldwellii sea clubsedge	Rare /-	Very low	*Bolboschoenus caldwellii* is widespread in shallow, standing, sometimes brackish water, rooted in heavy black mud. Not present in drains or main waterbody. No records within 500 m of site.
Brunonia australis blue pincushion	Rare /-	None	*Brunonia australis* typically occurs in grassy woodlands and dry sclerophyll forests dominated by *Eucalyptus amygdalina* or less commonly *E. viminalis* or *E. obliqua*. Some smaller populations are found in heathy and shrubby dry forests. The species occurs on well-drained flats and gentle slopes between 10-350 metres above sea level. It is most commonly found on sandy and gravelly alluvial soils, with a particular preference for ironstone gravels. Populations found on dolerite are usually small. No suitable habitat in the study area and no records within 500 m of site.
Caladenia caudata tailed spider-orchid	Vulnerable / VULNERABLE	None	*Caladenia caudata* has highly variable habitat, which includes the central north: *Eucalyptus obliqua* heathy forest on low undulating hills; the north-east: *E. globulus* grassy/heathy coastal forest, *E. amygdalina* heathy woodland and forest, *Allocasuarina* woodland; and the south-east: *E. amygdalina* forest and woodland on sandstone, coastal *E. viminalis* forest on deep sands. Substrates vary from dolerite to sandstone to granite, with soils ranging from deep windblown sands, sands derived from sandstone and well-developed clay

[32] DPIPWE Natural Values Atlas Report (2020) report #: nvr_1_16-Mar_2023; Commonwealth of Australia, EPBC Protected Matters Search Tool Report (2020) report #: PMST_ZWHE01
[33] Tasmanian Threatened Species Protection Act 1995 and Commonwealth Environmental Protection and Biodiversity Conservation Act 1999

Species	Status TSPA / EPBCA[33]	Potential to occur in proposed subdivision area	Observations and preferred habitat
			loams developed from dolerite. A high degree of insolation is typical of many sites. Not recorded within 500 m and no suitable habitat.
Caladenia congesta blacktongue finger-orchid	Endangered /-	None	*Caladenia congesta* occurs in northern Tasmania, occurring sporadically in heathland, heathy woodland and open forest, usually on dry sites and amongst grass tussocks on slopes. Soils are sandy and loamy and often gravelly. No suitable habitat on site and no records within 500 m of site.
Caladenia lindleyana lindleys spider-orchid	Endangered /CRITICALLY ENDANGERED	None	*Caladenia lindleyana* occurs in lowland heathy/grassy eucalypt forest and woodland in the Midlands and open shrubby forest in the north-east. There have been very few recent records. No suitable habitat and no records within 500 m of site.
Caladenia patersonii patersons spider-orchid	Vulnerable /-	None	*Caladenia patersonii* favours coastal and near-coastal areas in northern Tasmania, growing in low shrubby heathland and heathy forest/woodland in moist to well-drained sandy and clay loam. No suitable habitat and no records within 500 m of site.
Chorizandra enodis black bristlesedge	Endangered /-	None	*Chorizandra enodis* is found in damp sandy heath around the Low Head region but can also extend to slashed roadside margins (ex-wet heathland and swamp forest) and on tracks through *Melaleuca ericifolia* swamp forest (and occasionally other poorly-drained sites). No suitable habitat and no records within 500 m of site.
Coopernookia barbata purple native-primrose	Extinct /-	None	Extinct in Tasmania. No prior records within 500 m of site.
Deyeuxia minor small bentgrass	Rare /-	Very low	*Deyeuxia minor* inhabits open eucalypt forests or the margins of wet sclerophyll forest in the south-west, south and north-east of the State. Limited suitable habitat in the study area and no records within 500 m of site.
Dianella amoena matted flax-lily	Rare /ENDANGERED	None	*Dianella amoena* occurs mainly in the northern and southern Midlands, where it grows in native grasslands and grassy woodlands. No suitable habitat was found in the study area and no records within 500 m of site.
Epacris exserta south esk heath	Endangered /ENDANGERED	None	*Epacris exserta* occurs along the lower reaches of the South Esk, North Esk and Supply rivers. It is a strictly riparian species that grows in areas subject to periodic inundation, mainly on alluvium amongst dolerite boulders within dense riparian scrub, and occasionally in open rocky sites. It has been recorded from 10-310 m above sea level. No suitable habitat in the study area and no records within 500 m of site.
Epacris virgata (Beaconsfield) twiggy heath	Vulnerable /ENDANGERED	None	*Epacris virgata* (Beaconsfield) is restricted to a small area of undulating terrain in the foothills of the Dazzler Range near Beaconsfield, where it occurs on serpentinite-derived soils in dry sclerophyll forest at an elevation of 40-80 m above sea level. No suitable habitat and no records within 500 m of site.
Euphrasia scabra yellow eyebright	Endangered /-	None	*Euphrasia scabra* occurs in moist herb/sedge communities in grassy leads in marshes and in drier open grassy areas at the headwaters of creeks. Its habitat is associated with gaps created by grazing, flooding or

Species	Status TSPA / EPBCA[33]	Potential to occur in proposed subdivision area	Observations and preferred habitat
			other disturbance. It has been recorded from scattered sites throughout lowland areas of Tasmania, including the north-west coast, central north, Midlands, Eastern Tiers and around Hobart. However, it is considered to be extinct from many of these sites, and populations are low and transient in areas (Eastern Tiers and Hobart) with the greatest probability of still supporting the species. No suitable habitat and no records within 500 m of site.
Glycine latrobeana clover glycine	Vulnerable /VULNERABLE	None	*Glycine latrobeana* mainly occurs in grassy/heathy forests and native grasslands. No suitable habitat and no records within 500 m of site.
Glycine microphylla small-leaf glycine	Vulnerable /-	None	*Glycine microphylla* occurs in dry to dampish sclerophyll forest and woodland in the north and east of the State. No suitable habitat and no records within 500 m of site.
Lepidosperma viscidum sticky swordsedge	Rare /-	None	*Lepidosperma viscidum* occurs in a range of heathland to heathy/shrubby woodland habitats often dominated by species of *Allocasuarina* (sheoak) on a range of substrates. No suitable habitat and no records within 500 m of site.
Leucochrysum albicans subsp. tricolor Grassland paper-daisy	Endangered /CRITICALLY ENDANGERED	None	*Leucochrysum albicans subsp. tricolor* occurs on basalt soils in open grassland. This species would have originally occupied Eucalyptus pauciflora woodland and tussock grassland, though most of this habitat is now converted to improved pasture or cropland. No suitable habitat and no records within 500 m of the site.
Limonium australe var. *australe* yellow sea-lavender	Rare /-	None	*Limonium australe* var. *australe* occurs in succulent or graminoid saltmarsh close to the high-water mark, typically near small brackish streams. No suitable habitat and no records within 500 m of site.
Lotus australis australian trefoil	Rare /-	None	*Lotus australis* is found mainly in coastal areas around the State within *Poa* tussock grassland, low coastal shrubbery and dunes. There are some inland records and on the mainland the species is widespread in coastal and non-coastal areas. No suitable habitat and no records within 500 m of site.
Microtidium atratum yellow onion-orchid	Rare /-	None	*Microtidium atratum* occurs in habitats subject to periodic inundation such as swamps, depressions and soaks. The base of the plants is usually immersed in water and plants can be wholly submerged in wet years. *Microtidium atratum* has been recorded from herbfield, sedgeland, grassland and heathland on peats and sandy loams. It has also been recorded from roadside drains and winter-wet pastures. No suitable habitat and no records within 500 m of site.
Pimelea flava subsp. *flava* yellow riceflower	Rare /-	Low	*Pimelea flava* subsp. *flava* occurs in wet and dry sclerophyll forest and woodland, and extends into hardwood and softwood plantations. It often occurs abundantly on disturbed sites such as in logged forest, firebreaks, powerline easements and road batters. Limited suitable habitat and no records within 500 m of site.

Species	Status TSPA / EPBCA[33]	Potential to occur in proposed subdivision area	Observations and preferred habitat
Prasophyllum apoxychilum tapered leek-orchid	Vulnerable /ENDANGERED	None	*Prasophyllum apoxychilum* is restricted to eastern and north-eastern Tasmania where it occurs in coastal heathland or grassy and scrubby open eucalypt forest on sandy and clay loams, often among rocks. It occurs at a range of elevations and seems to be strongly associated with dolerite in the east and south-east of its range. No suitable habitat and no records within 500 m of site.
Pterostylis cucullata subsp. *cucullata* leafy greenhood	Endangered /VULNERABLE	None	*Pterostylis cucullata* subsp*. cucullata* is known from near-coastal areas in the north of the State where it occurs on calcareous dunes and sand-sheets, within closed scrubs dominated by either *Leptospermum laevigatum* (coast teatree) or *Beyeria lechenaultii* var. *latifolia* (pale turpentine-bush). The sites are typically sheltered, facing south or south-easterly to westerly, with seasonally damp but well-drained humus-rich sandy loams, often with moss and deep leaf litter. No suitable habitat and no records within 500 m of site.
Pterostylis grandiflora superb greenhood	Rare /-	None	*Pterostylis grandiflora* occurs in heathy and shrubby open eucalypt forests and in grassy coastak she-oak woodland on moderately to well drained sandy and loamy soils. It prefers to grow amongst undergrowth on lightly shaded sites. No suitable habitat and records within 500 m of site.
Pultenaea mollis soft bushpea	Vulnerable /-	None	*Pultenaea mollis* occurs in heathy and shrubby forest and woodland. No suitable habitat and no records within 500 m of site.
Scutellaria humilis dwarf skullcap	Rare /-	None	*Scutellaria humilis* is found in moist, shady places in the north-east and south-east of the State. Recent sites have been associated with roc ky slopes and rises. No suitable habitat in the study area and no records within 500 m of site.
Senecio psilocarpus swamp fireweed	Endangered /VULNERABLE	Low	*Senecio psilocarpus* is known from six widely scattered sites in the northern half of the State, including King and Flinders islands. It occurs in swampy habitats including broad valley floors associated with rivers, edges of farm dams amongst low-lying grazing/cropping ground, herb-rich native grassland in a broad swale between stable sand dunes, adjacent to wetlands in native grassland, herbaceous marshland and low-lying lagoon systems. Some suitable habitat in the study area, but no sightings or records from within 500 m of site.
Senecio squarrosus leafy fireweed	Rare /-	Low	*Senecio squarrosus* occurs in a wide variety of habitats. One form occurs predominantly in lowland damp tussock grasslands. The more widespread and common form occurs mainly in dry forests (often grassy) but extends to wet forests and other vegetation types. Limited suitable habitat and no records within 500 m of site.

Species	Status TSPA / EPBCA[33]	Potential to occur in proposed subdivision area	Observations and preferred habitat
Siloxerus multiflorus small wrinklewort	Rare /-	None	*Siloxerus multiflorus* occurs in a range of somewhat exposed lowland habitats, including bare soil and rocks amongst dense windswept coastal shrubbery to rock outcrops and bare ground associated with native grassland, grassy woodland and forest. No suitable habitat and no records within 500 m of site.
Solanum opacum greenberry nightshade	Endangered /-	None	*Solanum opacum* is known from a variety of habitats. On King Island, the species occurs in poorly-drained tall *Melaleuca ericifolia* swamp forest. Similarly, on Inner Sister Island, it occurs in *Melaleuca ericifolia/ Leptospermum laevigatum* scrub on sandy loams in a small gully associated with an ephemeral stream. On Prime Seal Island, the species was recorded from open shrubberies on granite outcrops. The habitat of the site from Harford is simply reported as a "rocky hilltop". No suitable habitat and no records within 500 m of site.
Spyridium obcordatum creeping dustymiller	Vulnerable /VULNERABLE	None	*Spyridium obcordatum* is restricted to the Central North Coast. In hills to the east of the Dazzler Range near Beaconsfield, it primarily occurs amongst serpentine outcrops in dry open forest or woodland dominated by *Eucalyptus amygdalina*. In coastal areas from Greens Beach to Hawley Beach at Port Sorell, it occurs on sandstone and dolerite in *Allocasuarina verticillata* woodland and *Allocasuarina monilifera- Leptospermum scoparium* heath. The species is often associated with outcropping rocks, exposed rock plates and rocky ground. It occurs at altitudes less than 180 m above sea level. It is most abundant in disturbed areas, as it can proliferate from soil-stored seed after disturbance. No suitable habitat in the study area and no records within 500 m of site.
Stylidium despectum small triggerplant	Rare /-	None	*Stylidium despectum* is known to occupy wet sandy heaths, moist depressions, soaks, and hollows in near-coastal areas. It extends to similar habitat amongst forest and woodland in the Midlands. No suitable habitat in the study area and no records within 500 m of site.
Tetratheca ciliata northern pinkbells	Rare /-	None	*Tetratheca ciliata* occurs from near-coastal areas in the State's north at elevations below 70 m, ranging from Rocky Cape in the west to Tomahawk/Boobyalla in the east, and an outlying site near Liffey about 60 km inland and 320 m above sea level. It has been recorded from heathlands and heathy woodlands on sandy well-drained soils, the woodland dominated by *Eucalyptus amygdalina*. No suitable habitat and no records within 500 m of site.
Tetratheca gunnii shy pinkbells	Endangered /CRITICALLY ENDANGERED	None	*Tetratheca gunnii* is restricted to serpentine outcrops in the foothills of the Dazzler Range near Beaconsfield, where it occurs in relatively open areas dominated by *Eucalyptus amygdalina* and *Eucalyptus ovata* over a heathy understorey, or in *Allocasuarina littoralis* (black sheoak) woodland with a sparse understorey. Some sites are associated with disturbance induced openness from mining and timber harvesting activities. No suitable habitat for this species and no records within 500 m of site.

Species	Status TSPA / EPBCA[33]	Potential to occur in proposed subdivision area	Observations and preferred habitat
Thelymitra antennifera rabbit ears	Endangered /-	None	*Thelymitra antennifera* is known from several locations along the north and north-east coast, occurring in heathland on poorly- to moderately-drained peaty and sandy soils, sometimes in mossy skeletal soils on granite bedrock. No suitable habitat for this species and no records within 500 m of site.
Thelymitra bracteata leafy sun-orchid	Endangered /-	None	*Thelymitra bracteata* occurs in open grassy and heathy forest/woodland on mudstone and sandstone. At Rosny Hill site, Thelymitra bracteata is most abundant on the top of the hill on open ground with dense exotic grasses and sparse in a remnant patch of native grass close to *Allocasuarina verticillata* woodland. At Conningham, the species occurs in a canopy gap created by a rough track amongst heathy *Eucalyptus amygdalina* forest on Triassic sandstone. No suitable habitat for this species and no records within 500 m of site.
Thelymitra holmesii bluestar sun-orchid	Rare /-	None	*Thelymitra holmesii* occurs in moist areas of grassland, heathy open forest and heathland in water-retentive soils such as clay loam and peaty loam, in soaks, beside streams and around swamp margins, usually below about 200 m above sea level. No suitable habitat for this species and no records within 500 m of site.
Veronica plebeia trailing speedwell	Rare /-	None	*Veronica plebeia* typically occurs in dry to damp sclerophyll forest dominated by *Eucalyptus amygdalina* on dolerite or Tertiary sediments but can also occur in *Eucalyptus ovata* grassy woodland/forest and *Melaleuca ericifolia* swamp forest. Possible, but the dense sward of blackberry in the riparian habitat reduces the chances of this species occurring. No suitable habitat and no records within 500 m of site.
Xanthorrhoea arenaria sand grasstree	Vulnerable /VULNERABLE	None	*Xanthorrhoea arenaria* is restricted to coastal areas from Bridport in the north-east to Coles Bay on the East Coast, where it occurs in coastal sandy heathland, extending into heathy woodland and forest, mainly dominated by *Eucalyptus amygdalina*. No suitable habitat for this species and no records within 500 m of site.
Xanthorrhoea bracteata shiny grasstree	Vulnerable /ENDANGERED	None	*Xanthorrhoea bracteata* is restricted to coastal areas from the Asbestos Range to Waterhouse Point in the north-east, where it occurs in sandy soils, often acid and waterlogged, in coastal heathland, extending into heathy woodland and forest, mainly dominated by *Eucalyptus amygdalina*. No suitable habitat and no records within 500 m of site.
Xerochrysum palustre swamp everlasting	Vulnerable /VULNERABLE	None	*Xerochrysum palustre* has a scattered distribution with populations in the north-east, east coast, Central Highlands and Midlands, all below about 700 m elevation. It occurs in wetlands, grassy to sedgy wet heathlands and extends to associated heathy *Eucalyptus ovata* woodlands. Sites are usually inundated for part of the year. No suitable habitat and no records within 500 m of site.

Appendix C: Additional fauna species of conservation significance previously recorded, or which may potentially occur, within 5 km of the study area[34]

Species	Status[35] TSPA/EPBCA	Potential to occur	Observations and preferred habitat[36]
BIRDS			
Accipiter novaehollandiae grey goshawk	Endangered /-	Nesting: none Foraging: moderate	Not recorded within 5 km of site. No nesting habitat present. The species may forage in the area on occasion.
Aquila audax subsp. *fleayi* Tasmanian wedge-tailed eagle	Endangered / ENDANGERED	Nesting: none Foraging: moderate	Recorded within 5 km of site. No nests or potential nesting trees occur in the study area. The species may forage in the area on occasion.
Botaurus poiciloptilus australasian bittern	-/ ENDANGERED	Very low	Recorded within 5 km of site. Due to very limited wetland cover, nesting and foraging habitat potential in the study area is very low.
Ceyx azureus diemenensis Tasmanian azure kingfisher	Endangered / ENDANGERED	None	No records within 5 km of site. The Tasmanian subspecies of the azure kingfisher occurs in shady and overhanging forest vegetation along the forested margins of major rivers on the south, west, north and northwest coasts. The watercourses in the study area are not sufficient to offer foraging or nesting habitat for this species. May utilise the dam south west of the project area.
Haliaeetus leucogaster white-bellied sea-eagle	Vulnerable /-	Nesting: very low Foraging: moderate	Recorded within 5 km of site. Occurs in coastal habitats and large inland waterways. No nests were observed in the study area and although less particular that wedge-tailed eagle in terms of nesting requirements, it is not considered likely to breed here. May forage in the area from time to time. A nest for this species has been recorded on the other side of the river. This is > 500 m away, and is not expected to be in line-of-site.
Hirundapus caudacutus white-throated needletail	- /VULNERABLE	Moderate	This species is infrequently recorded in Tasmania but it is quite possible it may occur sporadically over the area; it is an aerial feeder and the impact on this species is considered negligible. Not recorded within 5 km of site.

[34] DPIPWE Natural Values Atlas Report (2020) report #: nvr_1_16-Mar_2023; Commonwealth of Australia, EPBC Protected Matters Search Tool Report (2020) report #: PMST_ZWHE01
[35] Tasmanian Threatened Species Protection Act 1995 and Commonwealth Environmental Protection and Biodiversity Conservation Act 1999, which includes ROKAMBA, JAMBA, CAMBA and Migratory species
[36] Bryant & Jackson 1999

Species	Status[35] TSPA/EPBCA	Potential to occur	Observations and preferred habitat[36]
Myiagra cyanoleuca satin flycatcher	- /Migratory	Low	A summer migrant that is widespread in Tasmanian forested habitats. Is sensitive to fragmentation and canopy thinning. Optimal habitat is considered to contain old growth elements and occur along water courses, but the species is not entirely absent from habitats lacking these features. May to occur in the general area at low frequency. Highly unlikely to be meaningfully impacted by a proposal of this nature. Not recorded within 5 km of site.
MAMMALS			
Dasyurus maculatus subsp. *maculatus* spotted-tail quoll	Rare /VULNERABLE	Low to moderate	A few records within 5 km of site. No sights of scats or tracks. The habitat in the project area and surrounds is suboptimal – it is highly fragmented with much open pasture and limited connectivity to extensive patches of native vegetation; this limits the potential for the species to occur but nonetheless it is possible that this species utilises the site from time to time.
Dasyurus viverrinus eastern quoll	- / ENDANGERED	Low	Single sighting within 5 km of site. Multiple sightings within 5 km of site. The habitat in the project area and surrounds is suboptimal – it is highly fragmented with much open pasture and limited connectivity to extensive patches of native vegetation; this limits the potential for the species to occur but nonetheless it is possible that this species utilises the site from time to time.
Perameles gunnii eastern barred bandicoot	- /VULNERABLE	Moderate	Prior records of species within 5 km of site. Much of the site is potentially suitable for this species, which can survive in a peri-urban environment.
Pseudomys novaehollandiae new holland mouse	Endangered /VULNERABLE	None	No records within 5 km of site. No potential habitat present.
Sarcophilus harrisii Tasmanian devil	Endangered / ENDANGERED	Moderate	Two individuals recorded along the road within 200 m of site. No dens found and denning habitat is suboptimal. Tasmanian devil can range relatively far and is somewhat tolerant of peri-urban environments so it is possible it may utilise the site from time to time.
INVERTEBRATES			
Antipodia chaostola chaostola skipper	Endangered / ENDANGERED	None	No records within 5 km of site. No records of *Gahnia radula*, which is the larval host plant for this species.

Species	Status[35] TSPA/EPBCA	Potential to occur	Observations and preferred habitat[36]
Engaeus granulatus central north burrowing crayfish	Endangered / ENDANGERED	Very low	Edge of range boundary, with no records within 5 km of site. Species inhabits seeps, wetlands, and stream backs in relatively undisturbed habitats. No signs of characteristic chimneys, and little undisturbed habitat on site.
AMPHIBIANS			
Limnodynastes peroni striped marsh frog	Endangered /-	Low	Some potential habitat on site, but unlikely to provide a highly suitable breeding area. No records within 5 km of site.
REPTILES			
Pseudemoia pagenstecheri tussock skink	Vulnerable /-	None	No records within 5 km of site. Inhabits tussock grasslands. No suitable habitat in the study area.
FISH			
Galaxiella pusilla eastern dwarf galaxias	Vulnerable/ VULNERABLE	Very low	No records within 5 km of site. Lives in still or slow-flowing waters such as ponds, swamps, drains and backwaters of streams, often containing dense aquatic or emergent plants. Habitat in the project area is largely unsuitable and given the paucity of records in the area we consider it highly unlikely that this species occurs.
Prototroctes maraena Australian grayling	Vulnerable/ VULNERABLE	None	Included based upon range boundaries. No records within 5 km of site. Waterbodies and drainages on site are not connected to the marine environment and so will not provide habitat for this diadromous species.

northbarker
ECOSYSTEM SERVICES

Lot 102 West Arm Road, Beauty Point

Green and Gold Frog Management Plan

09/07/2024

For ERA Planning
ERA016

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Key actions for green and gold frog management and habitat creation

Pre-works planning

- ☐ Apply for permit to take threatened fauna from NRE
- ☐ Construct and designate a frog safe zone
- ☐ Refine landscape plan and design of dam and swale drains and scrapes
- ☐ Pre-order wetland plants

During works

- ☐ Undertake inspections, searches, captures and translocations as necessary
- ☐ Implement site hygiene measures
- ☐ Keep up-to-date registers

Post-works

- ☐ Complete data submissions associated with permit to take
- ☐ Manage weeds

Dam decommissioning

- ☐ Note recommendations for draining dam and removing existing walls

Wetland design and construction

- ☐ Reshape earth walls into new frog habitat zones as per recommendations and use strategic planting to enhance connectivity with terrestrial spaces.
- ☐ Adhere to water quality guidelines
- ☐ Engage landscape ecologist to complete planting

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1 INTRODUCTION

1.1 Background

A natural values assessment (NVA)[1] undertaken for a proposed subdivision of Lot 102 West Arm Road, Beauty Point (property ID 2926923, title reference 156126/102 and 64199/1) established that green and gold frog (*Litoria raniformis*)[2] utilises the current dam in the southwest of the site. It was also concluded that the ephemeral drainage line habitat present at the site may also be utilised.

Although the species was recorded at the site, the habitat is considered not optimal for breeding: the dam is moderately suitable as the vegetation in the dam and on the margins, is relatively structurally simple and limited in extent[3]. Additionally, the drainage lines are densely infested with the introduced blackberry *Rubus fruticosus* which reduces the quality of the habitat for green and gold frog[4]. Regardless, it was established that frog and potential habitat was present at the site, and that efforts to improve the habitat and reduce potential impact to the frog are warranted.

1.2 Purpose

This green and gold frog management plan (the plan) was initially developed to inform an application for a dam works permit (specifically a Division 3 Modify Existing Dam permit) to facilitate the modification of the existing dam and replacement with a more natural wetland habitat[5]. Notably, at that time the development design was not finalised - the scale and location of the impact were not known - and the plan focused solely on the upgrading of the dam. Currently, it is understood that the site has planning approval for the development of a cabin park, and there is a planning application for a residential subdivision. Consequently most of the drainage line habitat will therefore be lost to development. Although this habitat is suboptimal, it does allow for connectivity with the surrounding landscape, and there is some possibility these will be used for breeding in wet years[6]. Therefore, this plan has been updated to reflect these changes by including landscaping of the existing dam to make it more suitable for frogs, the provision of a swale drain with shallow scrapes to provide alternate habitats, between the cabin park and residential subdivision, improve connectivity of the *Melaleuca ericifolia* swamp forest through the planting of native shrubs and trees, and improved ground cover in areas of former pasture with native grasses and sedges.

[1] North Barker Ecosystem Services (2020a)
[2] A threatened species (vulnerable) under the Tasmanian *Threatened Species Protection Act 1995* and the Commonwealth *Environment and Biodiversity Protection Conservation Act 2002*
[3] North Barker Ecosystem Services (2024)
[4] Forest Practices Authority (2014)
[5] North Barker Ecosystem Services (2020b)
[6] North Barker Ecosystem Services (2020a)

2 CONSTRUCTION WORKS MITIGATION PLAN

Frogs may be at risk on site from civil works involved in the dam reconstruction and general development of site. The following measures are recommended to reduce physical impacts to green and gold frogs (including potential mortalities) and to limit the potential for introduction or spread of the harmful chytrid fungus.

2.1 Pre-works planning

- The implementation of the recommended management measures during works will require a permit applied for in advance to take threatened fauna listed under the Tasmanian *Threatened Species Protection Act 1995*. A permit can be applied for from the Policy and Conservation Advice Branch of the Department of Natural Resources and Environment Tasmania (NRE), with the standard application processing time being 28 days. If the permit is granted, all of its conditions must be adhered to.
- Designate and develop a frog 'safe zone' that will not be impacted or modified during works. This area must be developed prior to the commencement of dam works and used for frogs if they are found and need to be relocated during the proposed dam works. An appropriate site for this is in the area proposed for the shallow scrape to the west of the cabin park site (see **Figure 1**). The frog 'safe zone' should contain water suitable to provide foraging and breeding habitat for tadpoles and mature individuals while dam works are being completed. Weeds contained within this area, including blackberry, should be removed and replaced with native tall reeds and rushes (e.g. *Eleocharis* spp., *Carex* spp. *Juncus* spp. etc.). Depressions should contain permanent water with a depth of at least 1.5 m in places (although shallow areas will be important). An ecologist should be consulted for advice on appropriate levels of cover in and on the edges (e.g. logs, brush, relocated wetland plants) to ensure frogs avoid predation.
- Consult an ecologist regarding a design for the construction of the habitat elements other than the dam (which is considered in this report, Figure 1). The design of these habitats should make reference to ecologically driven approaches such as Water Sensitive Urban Design.
- Pre-order wetland and terrestrial plants for the habitat planting to allow time for propagation and establishment. This needs to be at least nine months prior to planting.

2.2 Frog management during works

The following measures are recommended during civil works to limit the likelihood of physical impacts (and potential mortalities) to frogs:

- Prior to any vehicles or plant entering or altering the drainage channels, dam or eventual wetland (Figure 2) at any time (i.e. not just once off), a visual search of the channels (and any associated wet areas) must be undertaken for green and gold frogs:
    - To prevent physical injury (and potentially mortalities) to individuals, any adult green and gold frog seen during a visual search must be captured and relocated to the safe zone.

  - Searches, captures and relocations (e.g. any frog handling) must be conducted by a suitably qualified and experienced animal handler. When necessary to handle a frog, the handler must use new disposable, non-powdered gloves, changing gloves for each frog. If a sick frog (e.g. abnormal posture or behaviour, such as hind legs stretched behind body, wobble or lack of fleeing, or skin changes such as skin discolouration, peeling or ulceration) or deceased frog is found, then do not release the frog, and report the finding to NRE Tas 'Wildlife Services Team' (Ph: (03) 6165 4305, email Wildlife.Services@nre.tas.gov.au. Injured or sick animals may need to be euthanised under stipulations of the permit to take.
  - A register of searches must be kept up to date, as well as videos or photos of each capture and relocation, which will also need to be recorded on a register for permit submission.
- Any pipes required for works must have their ends capped at the conclusion of works each day to prevent frogs becoming trapped inside and killed.
- Steep sided (approximately vertical) excavations should be inspected on each morning of works and frogs removed and transferred to the safe zone (in accordance with the handling and relocation prescriptions of a permit to take).
- Any roading over drainage lines must include large culverts that are suitable for the movement of frogs. A 6 m wide service road between the cabin park and subdivision is also proposed but no design has been submitted – it is expected this will be located just north of the dam and it will cross over the main drainage line – culverts will need to suitable to allow for movement of frogs under this road as detailed in the plan
- To reduce the spread or introduction of the lethal chytrid fungus, works must be conducted in accordance with best practice guidelines to prevent the spread of freshwater pests and pathogens[7]. Specifically:
  - The contractor must have machinery, vehicles and equipment clean from soil and mud when they commence works on site.
  - Equipment, including vehicles and footwear, must be treated with F10 disinfectant (proven to be effective against chytrid at very low concentrations) before each occasion entering and/or working in the frog habitat areas (Figure 1) – treated items need to completely dry before entering/being used in the frog habitat areas.
  - Pesticides, detergents and heavy metals used during works should be used in a way that ensures they don't make their way into the water body or the main drainage line between the proposed cabin park and housing subdivision sites.

[7] Allen and Gartenstein (2010). Keeping it Clean – A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens; DPIPWE (2015) Weed and Disease Planning and Hygiene Guidelines – Preventing the spread of weeds and diseases in Tasmania

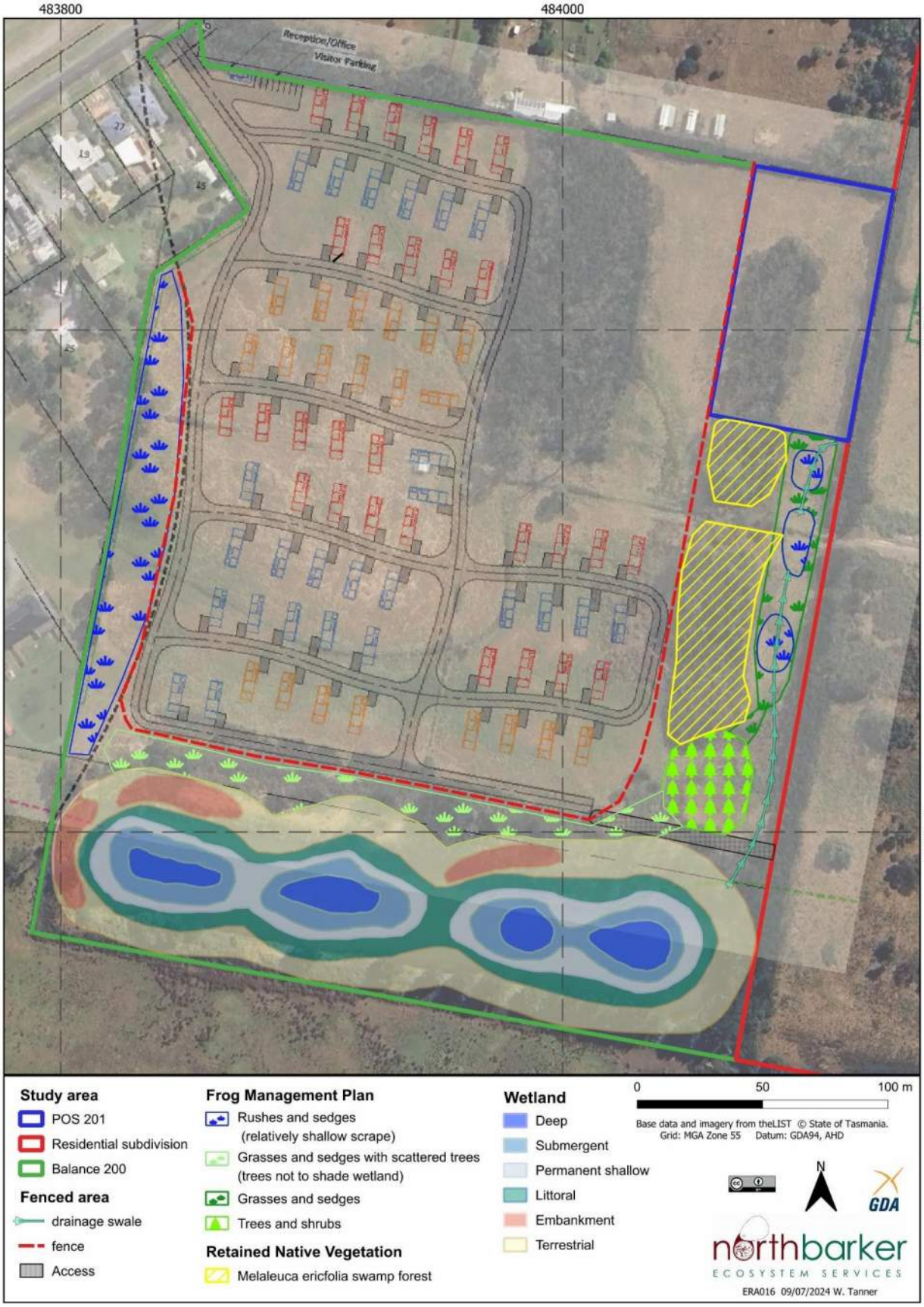


Figure 1: Areas for green and gold frog habitat works with the proposed cabin park development included as a base layer

2.3 Post-works

- A fence with gates in desired locations should be established to control access to areas of frog habitat. The purpose of such fencing is not to exclude people but rather to discourage random/uncontrolled access (hence disturbance) to the wetland and other areas.
- Complete any data submission requirements associated with the permit to take.
- Native vegetation replaced as needed where plants fail to establish.
- Ongoing weed management must be undertaken in all areas of improved frog habitat at the site. Weed management must not include the use of herbicides that are potentially harmful to frogs in areas of frog habitat.

2.4 Dam decommissioning

The existing dam will need to be partially drained prior to being refurbished into a wetland habitat. The following steps are recommended in relation to the decommissioning process.

- Partially and slowly drain the dam by siphoning the water into the drainage line in the northeast (which will require a new drainage outlet) or onto adjacent pasture. Draining must be:
    - Undertaken outside the September to March potential breeding season to avoid loss of tadpoles.
    - Undertaken at a slow pace to limit physical harm to any individuals in the siphoned water.
    - Monitored for stranded animals if siphoning water onto pasture; native species must be relocated to the safe zone (using the same handling specifications outlined in section 2.2) and non-native species euthanised in an appropriate manner.
    - Monitored for any non-native species found within the dam; non-native species (*i.e.* freshwater turtles, eastern gambusia) sighted during works should be immediately reported to NRE Tas "Invasive Species Branch' (Ph: (03)6165 377, email InvasiveSpecies@nre.tas.gov.au. Non-native species found within the dam should be euthanised humanely.
    - Native species (*i.e.* eels and possibly some fish) should be left if possible or moved to a safe location on site (under permit).
- Remove dam walls and high/steep embankments (including removing existing weeds); importantly:
    - Ensure sediment does not infiltrate the remaining water or designated frog safe zone.
    - Ensure excess sediment that is not being used to develop the new habitat is removed appropriately.

3 WETLAND DESIGN AND CONSTRUCTION

When building the wetland, avoid transferring aquatic plants, water and soils from multiple habitats and sources as this increases the risk of introducing pathogens and weeds.

3.1 Zoning

Wetland habitat design for the green and gold frog should aim to support multiple aspects of the species lifecycle, including habitat for breeding, refuge, and foraging. To achieve this, it is recommended to reshape the banks and base of the existing dam into the below zones, using the scale wetland design (Figure 2) for direction and the general zone descriptions[8] for guidance (Figure 3). Terrestrial spaces which will be unaffected by construction have also been earmarked for revegetation to maximise the habitat available to local green and gold frogs and improve landscape connectivity for dispersing individuals.

- Terrestrial zone - outermost zone of the wetland and incorporated adjacent terrestrial spaces
- Littoral/ephemeral wetland zone
- Permanent shallow zone
- Submergent zone
- Deep water zone

3.1.1 Terrestrial zone

This zone surrounds the wetland, providing a buffer to different land uses, connectivity to other habitats and the drainage line and is important for frog foraging, refuge and dispersal. This zone is where a walking track (if any) should be located: in such cases the walking track should be a boardwalk and at least 15 m from the start of the littoral zone and must include appropriate signage regarding frog habitat and frog protection, ensuring people stay on boardwalk or designated grassy areas.

This zone should include:

- Short open vegetation such as grasses, flowering plants, bare soil, leaf litter and some mulch:
  - Short open grass, (non-native acceptable) (70% coverage).
  - A diversity of taller native grasses and tussocks should be included at low coverage (< 20 % coverage) to provide refuge.
  - Bare soil and leaf litter (30 % coverage).
  - Where former pasture is retained, it should be enhanced with the planting of native sedges and grasses in order to improve ground cover and aid in green and gold frog dispersal.
- Minimal tree cover:

[8] Department of State Growth (2015) Green and Golden Frog (*Litoria raniformis*) Management Guidelines. Report prepared by GHD; Department of Environment, Land, Water and Planning (2017) growling grass frog habitat design standards

  - Shading over wetland should not exceed 10 % coverage.
  - Trees should not have a large root system that could damage wetlands.
  - Native shrubs and trees, in-keeping with species currently found on-site, should be used to improve connectivity between the linear stand of native swamp forest (NME) and the renovated wetland on the right-hand side of the reconstituted dam. So, while trees directly overhanging the dam should be limited, woody vegetation way from the edge should be established.
- Connectivity with adjacent habitats, including a new ephemeral shallow scrape, extant native swamp forest (NME) and the revegetated former pasture, should be maintained and accessible to frogs.
- Embankments to protect wetland margins from prevailing cold northwest winds.
- Managed for weeds to ensure the integrity of the native habitat is maintained through time.

3.1.2 Littoral/ephemeral zone

This zone is where breeding, foraging, refuge and dispersal can occur, and it may become periodically inundated after heavy rains; it therefore requires riparian vegetation that can withstand both wet and dry conditions. Native plants that form tussocks are particularly important in this zone as they provide both foraging opportunities and refuge for both frogs and emerging froglets.

This zone should be at least 5 m in width with only a slight slope and should incorporate the following structural features[9]:

- A gradual slope (1:8 grade) with a depth ranging from 0 - 0.20 m.
- Moderate to high percentage of vegetation cover such as tall reeds and rushes (6-8 species per square metre).
- A diversity of plant species that reflect the local vegetation community, particularly Tasmanian native vegetation that can tolerate fluctuating water levels (section 3.1.3).
- A selection of concaved rocks that extend into the permanent shallow zone. Rocks should be dark and include:
  - large rocks (300 – 1500 mm in diameter).
  - small rock piles and scattered smaller rocks.
- A selection of large logs, sticks, woody debris and leaf litter around the outer pond margins and along the banks[10].
- Bare soil/ exposed mud when water level is low (40 % coverage).

In addition to the ephemeral zone associated with the remodelled wetland an ephemeral manmade channel or "shallow scrape" will be constructed along the western border of the cabin park site connected in with the wetland.

[9] Department of State Growth (2015) Green and Golden Frog (*Litoria raniformis*) Management Guidelines. Report prepared by GHD

[10] Logs and woody debris provide additional shelter for frogs and attracts invertebrate prey

- The shallow scrape will be planted with native tall reeds and rushes (e.g. *Eleocharis* spp., *Carex* spp., *Juncus* spp. etc.) to provide breeding habitat and foraging opportunities for tadpoles and mature individuals when seasonally inundated.
- This depression is not intended to retain standing water throughout the year but to offer a more naturalised ephemeral water source to substitute the substandard habitat provided by the drainage ditches lost during construction.

3.1.3 Permanent shallow zone

This is the entry zone, it should have a gradual slope that is steeper than the littoral zone. It is an important zone for breeding and refuge.

This zone should be at least 2 m in width and should incorporate the following structural features[11]:

- A depth ranging from 0.20 m - 0.50 m.
- A clay bottom to prevent leakage (rocky or synthetic material is not appropriate) with a layer of soil for aquatic plant establishment. A mixture of clay with soil is acceptable.
- Semi aquatic native vegetation, such as rushes and water tolerant sedges that can withstand being inundated (4-6 emergent species per square meter).
- Submerged and floating attached native vegetation such as *Myriophyllum* and *Potamogeton* species.
- A variety of rocks (dark only) and logs both submerged and semi submerged.

3.1.3.1 Submergent zone

This zone is the largest zone and should be greater than 5 m in length. This zone is important for tadpole refuge and foraging.

This zone should incorporate the following structural features[12]:

- A depth ranging from 0.25 m to at least 1.5 m.
- A variable grade (1:3 grade) extending to at least 1.5 m deep before steepening into the deep-water zone.
- A clay bottom to prevent leakage (rocky or synthetic material is not appropriate) with a layer of soil for aquatic plant establishment.
- Large submerged logs (>3 logs 1-4 m long).
- Piles of rocks down to 1 m deep (rocks to be 10 cm - 1 m diameter).
- A variety of native aquatic submerged (> 6 plants per square m) attached floating vegetation (> 6 plants per square m).

3.1.4 Deepwater zone

The deep-water zone serves to act as a reservoir for extended dry periods, where frogs and tadpoles can seek refuge. To ensure water always remains in the wetlands, a constant flow of

[11] Department of State Growth (2015) Green and Golden Frog (*Litoria raniformis*) Management Guidelines. Report prepared by GHD

[12] Department of State Growth (2015) Green and Golden Frog (*Litoria raniformis*) Management Guidelines. Report prepared by GHD

water from multiple drainages will keep the wetlands inundated and thus protect crucial breeding habitat and act as a consistent source of water for green and gold frogs of all life-stages.

This zone should be at least 3 m wide and should incorporate the following structural features[13]:

- A steep drop-off after the submergent zone.
- A depth of at least 2 m.
- A flat clay bottom to prevent leakage (rocky or synthetic material is not appropriate).
- Submerged vegetation (> 50 % of cover).
- No rocks or logs.
- Maintained water all year round through appropriate water source (refer to section 3.1.2).

3.2 Water source and quality

- The wetland will need to be filled following completion of the zoning and planting of the interior zones.
- Water sources to refill the wetland can include groundwater, rainwater, stream water, treated stormwater, potable water or recycled water. It is important that the water[14]:
    - Does not have a salinity level that is too high or low, moderate salinity (up to 5000µS/cm[15]) is most effective at reducing chytrid virulence[16]
    - Does not contain high levels of nitrogen
    - Does not contain contaminants
    - Does not contain high nutrient levels
    - Is not turbid or contain high amounts of floating particles
    - Has a pH level between 6.0-8.5[17]
    - Is free of frog and tadpole predators
- If inlets to the dam are present, they should be maintained to keep water in the wetland and a hydrologist should be consulted to ensure flow into the dam is optimised.
- Once wetland is full, finalise the outer zones by planting native vegetation, positioning logs and rocks for shelter, and covering bare ground with leaf litter and grass (see the littoral/ephemeral zone (section 3.1.1.2) and the terrestrial zone (section 3.1.1.1).

[13] Department of State Growth (2015) Green and Golden Frog (*Litoria raniformis*) Management Guidelines. Report prepared by GHD

[14] Department of Environment, Land, Water and Planning (2017) growling grass frog habitat design standards

[15] Heard *et al* 2014. Wetland characteristics influence disease risk for a threatened amphibian

[16] Furthermore, water temperature within wetlands is known to influence the prevalence of chytrid infections in green and gold frogs - green and gold frogs that inhabit warmer, moderately saline wetlands exhibit lower infection and intensity rates of the disease – the design attributes incorporated into the design principles are intended to maintain optimal water temperature for limiting chytrid

[17] SEPP (2001) Waters of Victoria

3.3 Planting and plant selection

- Plant emergent species in the interior zones first, slowly refilling the wetlands as the plants go in, working from the centre outwards. An indicative plant list is provided below for different types of plants suited to all zones other than the terrestrial zone – the terrestrial zone can be more of a landscaped area rather than the interior zones of the wetland and thus requires less adherence to specific types of plants. The planting will need to be undertaken by a landscape management ecological professional in order to ensure the plants are distributed correctly within different zones.

  Abbreviations used for the types of plants are as follows:

  H = Herb, LSR = Large sedge/ rush, T = Tree

3.3.1 Marginal and shallow water aquatics

Centella cordifolia	swampwort	H
Charaphyte spp.	stoneworts	H
Crassula spp.	stonecrop	H
Elatine gratioloides	waterwort	H
Eryngium vesiculosum	prickfoot	H
Gonocarpus micranthus	creeping raspwort	H
Goodenia humilis	swamp native-primrose	H
Hydrocotyle species	pennyworts	H
Isotoma fluviatilis	swamp stars	H
Leptinella reptans	creeping buttons	H
Lilaeopsis polyantha	jointed swampstalks	H
Limosella australis	southern mudwort	H
Mazus pumilio	swamp mazus	H
Montia australasica	white purslane	H
Montia fontana	waterblinks	H
Myriophyllum spp.	watermilfoil	H
Pratia pedunculata	matted pratia	H
Pratia surrepens	mud pratia	H
Ranunculus amphitrichus	river buttercup	H
Ruppia spp.	seatassel	H
Schoenus fluitans	floating bogsedge	H
Selliera radicans	shiny swampmat	H
Thyridia repens	creeping monkeyflower	H
Utricularia spp.	bladderwort	H

3.3.2 Marginal tussocks and clumping rushes

Baumea spp.	twigsedge	LSR
Carex spp.	sedge	LSR
Eleocharis acuta	common spikesedge	LSR
Eleocharis spp.	spikesedge	LSR
Gahnia spp.	sawsedge	LSR

Juncus holoschoenus	jointleaf rush	LSR
Juncus pallidus	pale rush	LSR
Juncus pauciflorus	looseflower rush	LSR
Juncus spp.	rush	LSR
Lepidosperma laterale	variable swordsedge	LSR
Lepidosperma spp.	swordsedge	LSR
Typha spp.	native cumbungi	LSR

3.3.3 Permanently submerged aquatics

Cycnogeton procerum	greater waterribbons	H
Eleocharis sphacelata	tall spikesedge	LSR
Myriophyllum spp.	watermilfoil	H
Ornduffia reniformis	running marshflower	H
Potamogeton spp.	pondweed	H
Phragmites australis	southern reed	LSR

3.3.4 Woody edge species capable of surviving inundation

Acacia melanoxylon	blackwood	T
Leptospermum lanigerum	woolly teatree	T
Melaleuca ericifolia	scented paperbark	T
Melaleuca squarrosa	scented paperbark	T

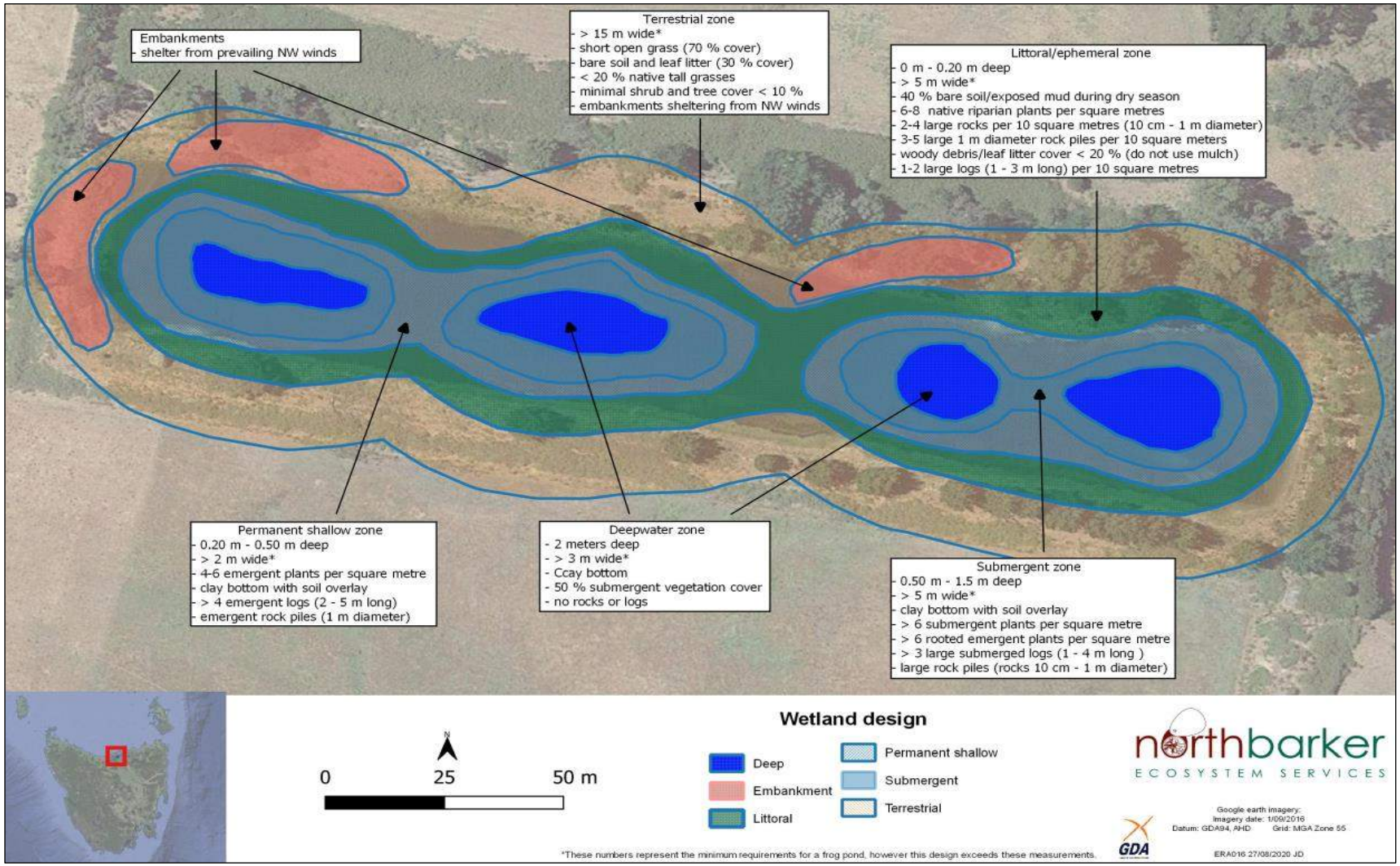
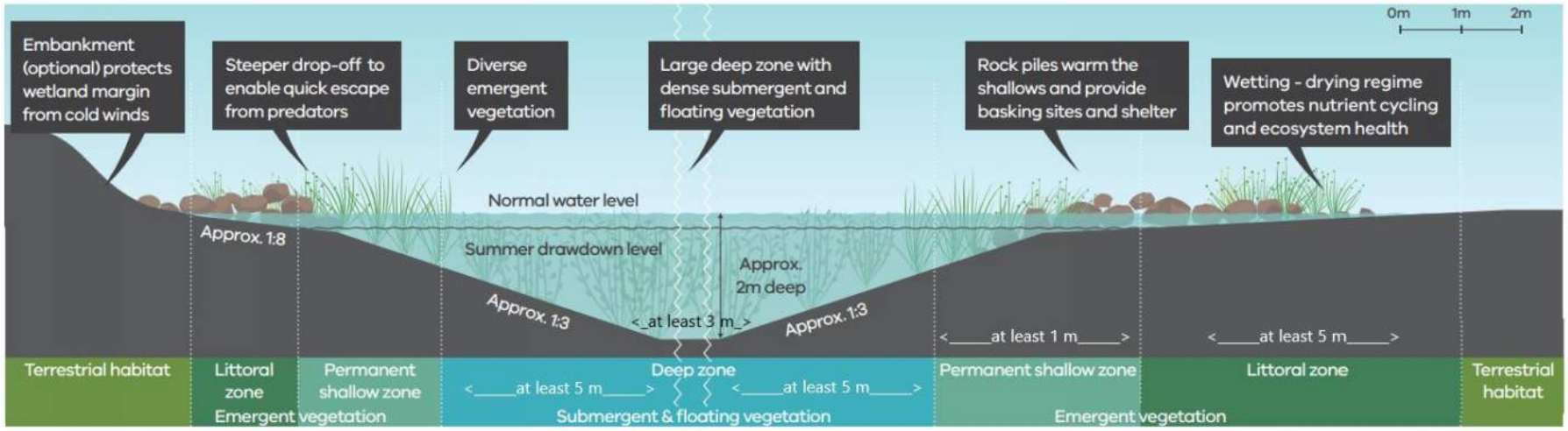


Figure 2: Proposed wetland design indicating requirements for each habitat zone



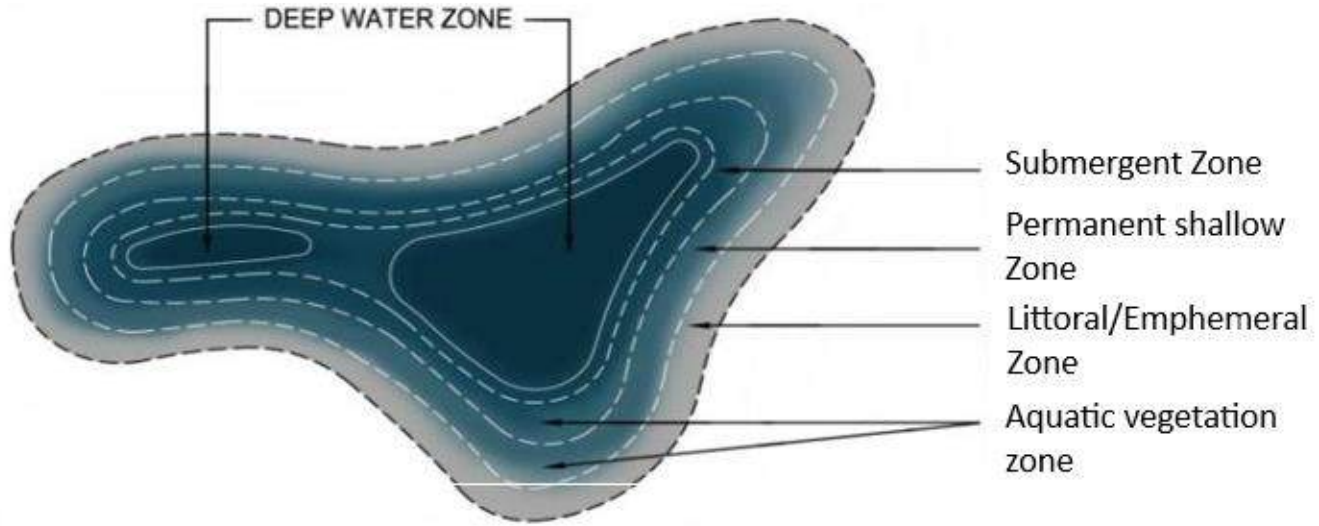


Figure 3a and 3b: Recommended use of zones to create diverse frog habitat (from Department of Environment, Land, Water and Planning 2017)

REFERENCES

Department of Environment, Land, Water and Planning 2017, growling grass frog habitat design standards; Department of State Growth 2015, Green and Golden Frog (Litoria raniformis) Management Guidelines

Forest Practices Authority 2014, 'Threatened frogs, Fauna Technical Note No. 18, Forest Practices Authority, Hobart, Tasmania

North Barker Ecosystem Services (2024). Lot 102 West Arm Road, Beauty Point, Assessment of Impact to Green and gold frog (Litoria raniformis), For ERA Planning (ERA016).

North Barker Ecosystem Services (2020a). Lot 102 West Arm Road, Natural Values Assessment. 21 January 2020

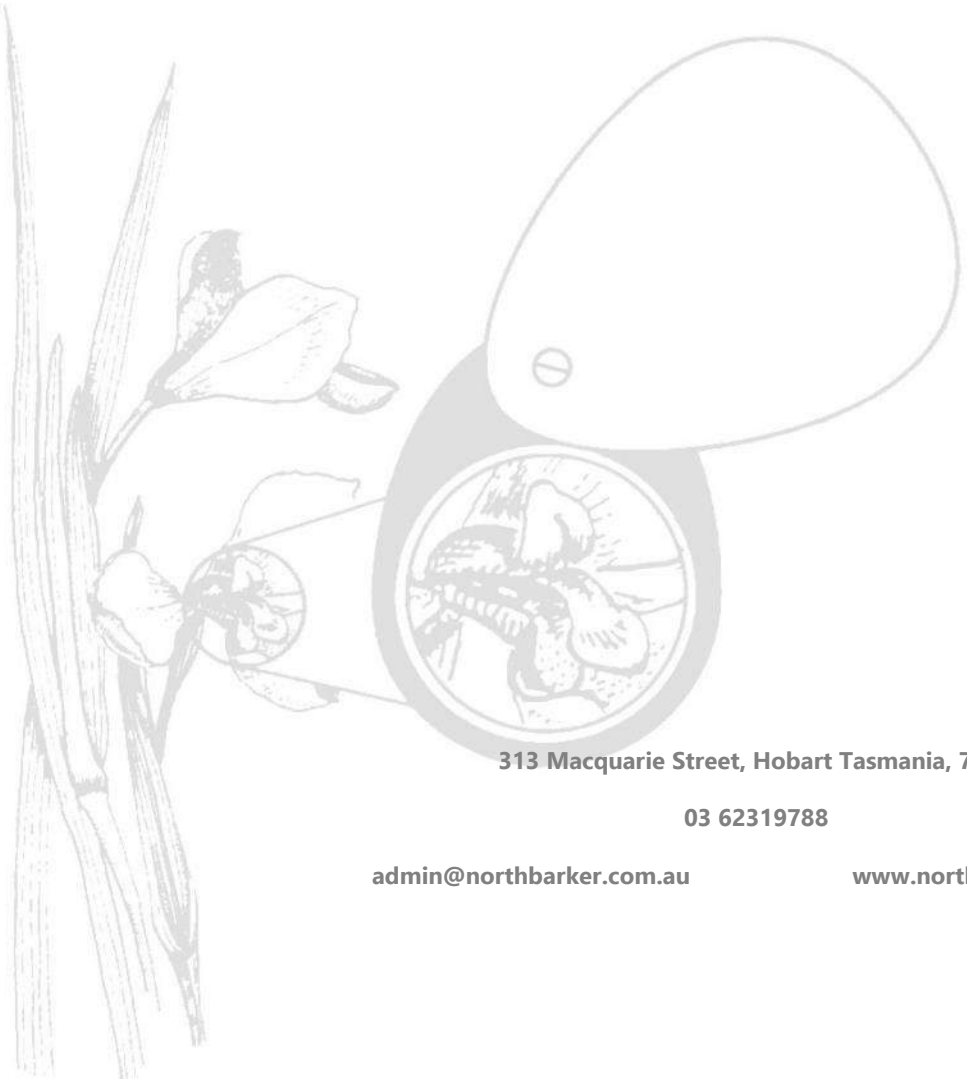
North Barker Ecosystem Services (2020b). Lot 102 West Arm Road, Beauty Point. Green and Gold Frog Management Plan and Wetland Construction. 18 September 2020

Lot 102 West Arm Road,
Beauty Point

Significant Impact Assessment of Green and gold frog (*Litoria raniformis*)

9 July 2024

For ERA Planning (ERA016)



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Summary

The proposed development of a cabin park and housing subdivision at Lot 102, West Arm Road, Beauty Point has the potential to impact green and gold frog *Litoria raniformis* which was detected in one location at the site. The habitat for the species at the site comprises a dam, drainage lines, a small area of native vegetation, and agricultural land. Although frogs were recorded at the dam, the habitat is not structurally complex and not optimal for the species. Also, most of the drainage lines are infested with blackberry, reducing the quality and suitability of these habitats.

Improvements to the dam and main drainage channel habitats and the protection of an area of terrestrial habitat are outlined in a frog management plan which has been developed to improve the remaining habitats at the site for the frog.

The species is listed as vulnerable under the Commonwealth *Environment and Biodiversity Conservation Act 1999,* and the site is utilised by the frog so the potential impact to it from the proposed works must be considered under the Act. Accordingly, the potential impact of the proposed development and the frog management plan have been considered for each of the six Commonwealth significant impact criteria for a vulnerable species.

It was concluded that the proposed development did not conflict with any of the six criteria and that the project will not have a significant impact on green and gold frog.

INTRODUCTION

Project background and report aims

A residential subdivision and cabin park development are proposed on Lot 102 West Arm Road, Beauty Point (property ID 2926923, title reference 156126 and 64199, Figure 1, Appendix A). Works include dam modification and wetland construction[1]. A Natural Values Assessments (NVA)[2] was undertaken for the project area and confirmed the green and gold *Litoria raniformis* frog (GGF) in a dam situated in the southwest of the site. In addition to the dam, the frog is also suspected to utilise the ephemeral habitat within connecting drainage lines (Figure 2).

A 'Green and Gold Frog Management Plan'[3] (the plan) outlines the appropriate management of this species during all stages of the dam modification and wetland construction. Also, the plan aims to protect the GGF during development and encourage its persistence on site following the subdivision works through design and management recommendations for the dam and other areas of habitat. Since 2020, the area to the east of the cabin park has been proposed for a subdivision and the plan and the NVA report have been updated accordingly[4&5].

The GGF is listed as Vulnerable under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBCA). The EPBCA is structured for self-assessment with guidelines and criteria available to assist in determining whether an 'action' is likely to have a significant impact on any species or community listed under the Act. If a significant impact is likely, then the action should be referred to the Australian Government Department of Agriculture Water and the Environment for a decision by the Minister on whether assessment and approval is required under the Act.

Accordingly, the aim of this report is to assess the project against significant impact criteria for the green and gold frog as a Matter of National Environmental Significance (MNES). This is done by more thoroughly considering the quality and context of the habitat for green and gold frog at the site, the potential impact as a result of the development, and addressing each of the nine impact criteria in turn. Additional background information is also provided.

[1] North Barker ecosystem services (2024a)

[2] North Barker Ecosystem Services (2020a)

[3] North Barker ecosystem services (2020b)

[4] North Barker ecosystem services (2024a)

[5] North Barker ecosystem services (2024b)

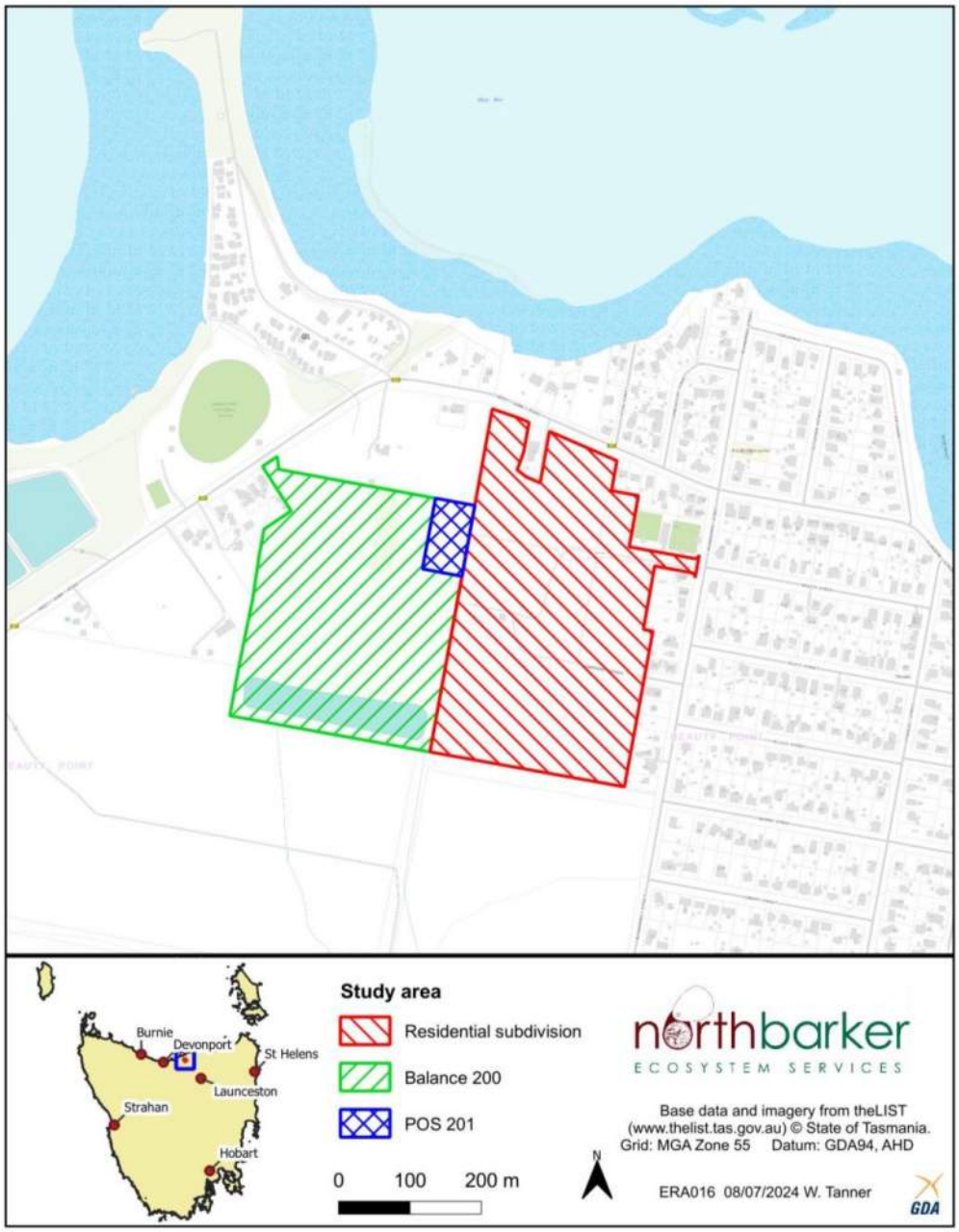

Figure 1. Location of Lot 102 West Arm Road, Beauty Point

NVA method and result

GGF detection surveys were undertaken by NBES ecologists for the NVA. Surveys for the GGF were undertaken on site. Two aural and visual surveys as described by the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE)[6] were performed (one during daylight and another at night) and dip netting for tadpoles was conducted.

During the surveys, two individual mature adult GGF were recorded in the dam margins (Plate 1); no tadpoles or froglets of any species of frog were seen or captured[7].

[6] DPIPWE (undated)

[7] North Barker Ecosystem Services (2024b)

Species background

The GGF is the largest of Tasmania's native frogs, with adults growing up to 80 – 100 mm in length. They vary in colour, from bright emerald-green to dull olive on their back with irregular golden or brown spots along their sides. Powerful hind-limbs aid in swimming and over-land dispersal.

The GGF has a distribution ranging across south-eastern mainland Australia to Tasmania (Appendix A). In Tasmania, their numbers are heavily concentrated in lowland areas in the mid-north and north east (Appendix B), with smaller populations in the east and south. GGF's typically breed in ephemeral and permanent freshwater bodies including natural lagoons, ponds, and wetlands, as well as manmade water sources such as farm dams, reservoirs, and ornamental ponds. GGF's have been recorded to prefer waterbodies which contain emergent and aquatic vegetation. Individuals have often been recorded 'basking' along the shoreline, on rocks and logs, or amongst vegetation, a behaviour unique to GGFs among Tasmania's frog species. Notably, habitat structure provided by some exotic plant species reduces the habitat quality for frogs, including blackberry, gorse and pasture[8].

The distribution and abundance of GGF in Tasmania has contracted significantly in recent decades, most notably in the west, midlands and much of the south of the island. This decline is primarily attributed to habitat loss and modification, a reduction in available aquatic habitat due to climate change, and the introduction of chytrid fungus disease (*Batrachochytrium dendrobatidis*).

Potential habitat in the project area

The study area is located in Beauty Point in northern Tasmania (Figure 1). It is in the Tasmanian Northern Midlands bioregion[9] in the West Tamar City Council and is approximately 21.68 ha in extent. The site is at ~8 m a.s.l and is relatively flat and crossed by multiple drainage lines. The dam is located in the south-western corner of the site and is roughly 260 m by 45 m.

Habitat for this species comprises the dam and its margins (~1.2 ha, Plate 2). The margins of the dam support narrow bands of native marginal species, notably spike rush *Eleocharis acuta* and the occasional pin rushes *Juncus procerus* and *Juncus sarophorus*. Emergent vegetation in the dam is relatively sparse. Ideal breeding habitat for frogs is the shallow part of waterbodies (to approx. 1.5 m deep) where there is generally a complex vegetation structure including emergent and submerged plants[10]. Additionally, the long-term persistence of amphibian populations within modified environments is often linked to the appropriate provision of dense vegetation at the water's edge or in the water (e.g. fringing grasses and rushes, floating aquatic vegetation) as well as hard structure (e.g. rocks and timber) to provide natural cover[11]. The dam is moderately suitable in this regard: although there is some vegetation in the dam and on the margins, this is relatively structurally simple and limited in extent (Plate 2). While the species may breed in the dam, it was not observed utilising the area for breeding during the field survey (no tadpoles or froglets were recorded).

[8] Forest Practices Authority (2014)

[9] IBRA (2012)

[10] Forest Practices Authority (2014)

[11] Wassens et al (2008)

The species may also utilise the ephemeral drainage lines during wet conditions, especially for dispersal but also potentially breeding as GGFs occasionally breed in suboptimal water sources, such as wells, irrigation pits, water troughs and buckets[12]. These drainage lines are however largely suboptimal as most are densely infested with the introduced blackberry *Rubus fruticosus* which reduces the quality and suitability of the habitat for the species (the weed map in the NVA)[13]. The species may also use the patches of *Melaleuca ericifolia* swamp forest (NME) and dense areas in the pasture for shelter during non-breeding periods and when dispersing.

Project impacts

Most of the cabin park (7.93 ha), subdivision (11.77 ha) and dam areas (1.98 ha, total ~21.68 ha) will be developed (Appendix B). Of this only 6 % or 1.3 ha is native habitat (NME), and the remainder comprises agricultural land with drainage lines, and the dam. The dam area is not directly included in the development of either the cabin park or subdivision, but an upgrade of the dam habitat for frogs is proposed in the plan[14]. Most of the drainage lines will be removed with a swale drain outlet to the modified dam to be constructed through a series of shallow scrapes[15] (Figure 3). A 6 m wide service road between the cabin park and subdivision is also proposed but no design has been submitted – it is expected this will be located just north of the dam and it will cross over the main drainage line – culverts will need to suitable to allow for movement of frogs under this road as detailed in the plan.

Some of the extant *Melaleuca ericifolia* forest patches will be retained in the Management Area (Figure 3)[16].

Frogs and tadpoles may be at risk on site from civil works involved in the dam habitat upgrades, wetland construction, removal/upgrade of drainage lines, and general development on site. This significant impact assessment details the potential impacts from the loss of the areas of pasture, associated drainage lines, and intended dam modification/wetland construction, to the existing GGFs and habitat on site (Figures 2 and 3).

[12] Department of State Growth (2015)

[13] Forest Practices Authority (2014)

[14] North Barker Ecosystem Services (2024a)

[15] North Barker Ecosystem Services (2024a)

[16] North Barker Ecosystem Services (2024a)

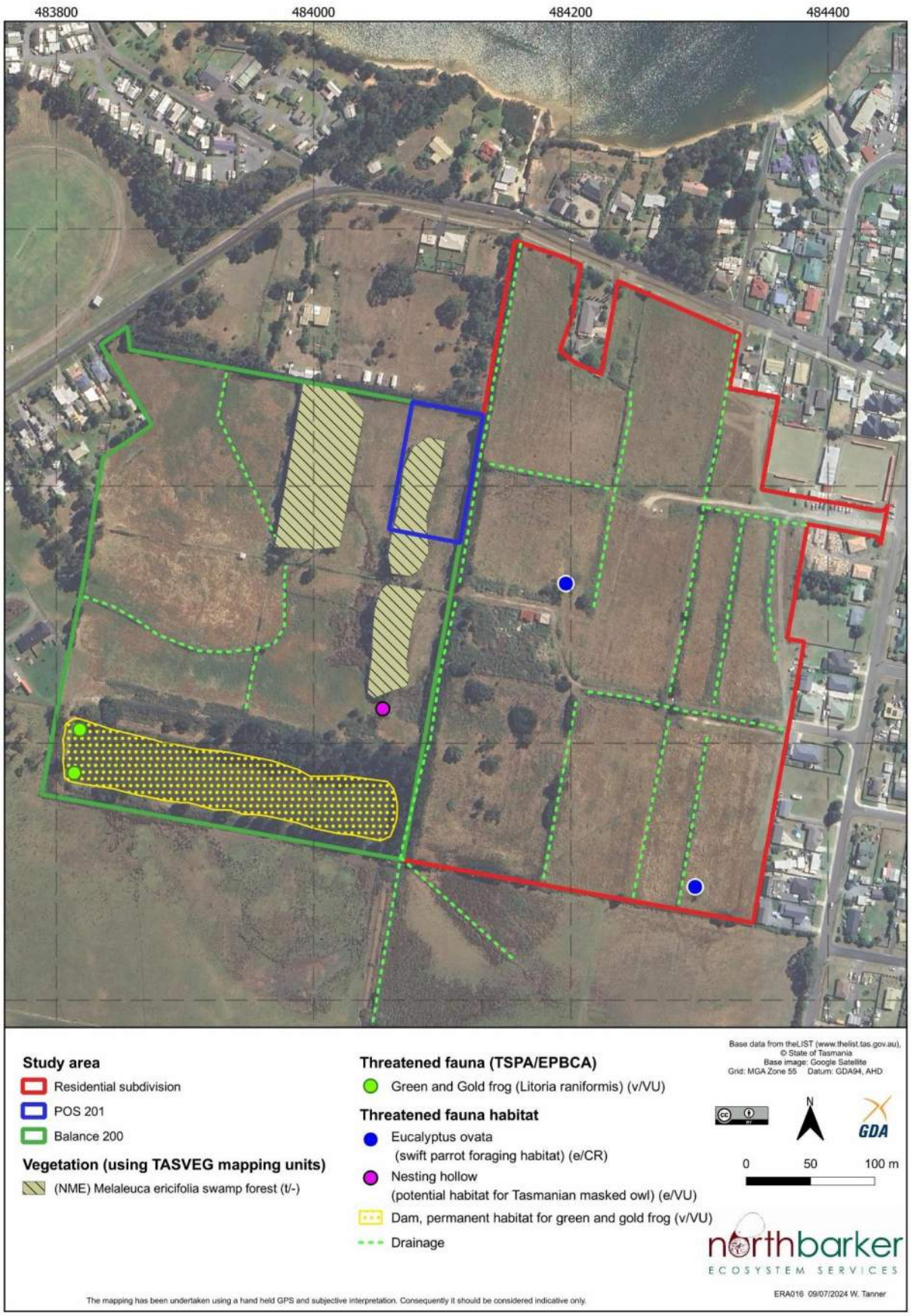

Figure 2: The existing dam and surrounding areas of potential green and gold frog habitat on site

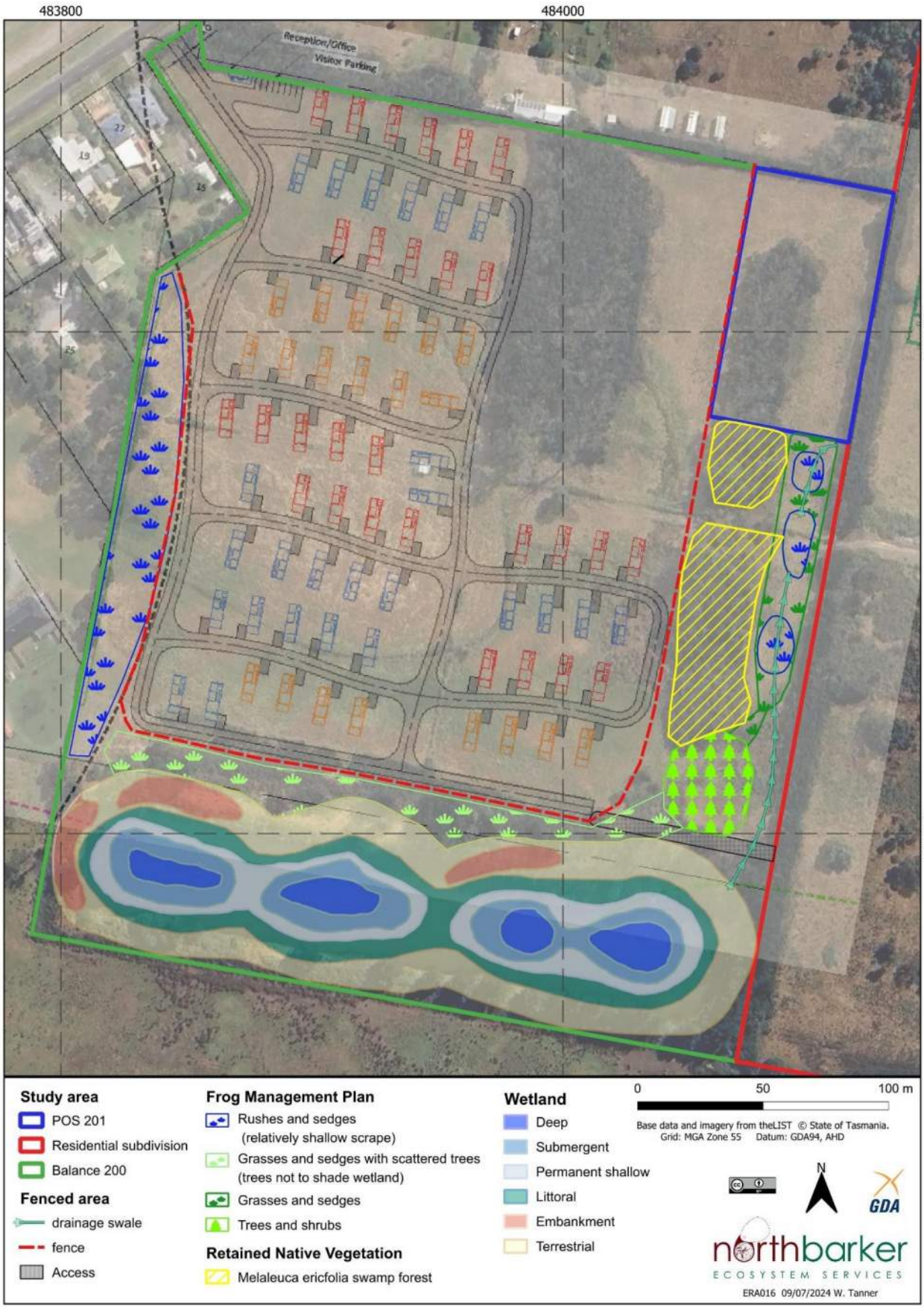

Figure 3: Frog management plan habitat elements

Plate 1: Mature green and gold frog captured on site during field surveys (January 2020).

Plate 2: Emergent and aquatic vegetation surrounding dam provide habitat for green and gold frog

LEGISLATION

Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBCA)

POTENTIAL FOR DETERMINATION AS A CONTROLLED ACTION

The EPBC Act is structured for self-assessment so the proponent must determine whether or not the project is considered a 'controlled action', which, if confirmed, would require approval from the Commonwealth Minister. An action will require approval from the Minister if the action[17]:

- Has, will have, or is likely to have, a significant impact on a matter of national environmental significance (MNES), which encompasses all species and habitats listed under the Act.
- A 'significant impact' is an impact which is important, notable, or of consequence, having regard to its context or intensity.
- Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment, which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts.
- A proponent must consider all of these factors when determining whether an action is 'likely' to have a significant impact on matters of national environmental significance.
- To be likely, it is not necessary for a significant impact to have a greater than 50 % chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility.
- If there is scientific uncertainty about the impacts of an action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment.
- Substantial penalties apply for taking an action that has, will have, or is likely to have a significant impact on a matter of national environmental significance without approval.

Vulnerable species – significant impact criteria

An action is likely to have a significant impact on a EPBC vulnerable species if there is a real chance or possibility that it will:

1. **lead to a long-term decrease in the size of an important population of a species**
2. **reduce the area of occupancy of an important population**
3. **fragment an existing important population into two or more populations**
4. **adversely affect habitat critical to the survival of a species**
5. **disrupt the breeding cycle of an important population**
6. **modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline**

[17] Statements in this section referring to self-assessment guidelines and impact criteria have been taken verbatim, or paraphrased from the Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

7. **result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat**
8. **introduce disease that may cause the species to decline, or**
9. **interfere substantially with the recovery of the species.**

Important populations

In the Commonwealth's generic significant impact guidelines (i.e. for all MNES), an 'important population for a species is defined as per a, b and c below; after each, the context of the present occurrence is provided [18]:

a. key source populations either for breeding or dispersal

Given the paucity of records at the site, and the limited availability of suitable habitat at the site and in the broader surrounding area – much of the area has been developed for agriculture - it is not expected that the animals at the Beauty Point site are key in terms of breeding and dispersal for the species.

b. populations that are necessary for maintaining genetic diversity, and/or

There is nothing to suggest that the animals from this site are important in terms of genetic diversity. They occur in the broader landscape where there is a degree of connectivity and no geographical or other impediments/features that might drive genetic diversity within the species; it is therefore not likely these animals have much if any impact on the genetic variation of the broader population.

c. populations that are near the limit of the species range.

The species is not near the limit of its range. It occurs on mainland Australia (in Victoria, New South Wales and South Australia – see Appendix B). The Beauty Point site is near the north coast of Tasmania but there are numerous records for the species across northern Tasmania (Appendix B).

In terms of the generic Commonwealth significant impact guidelines then, the Beauty Points records of GGF do not qualify as an important population. However, and more specifically, in the Commonwealth significant impact guidelines for GGF, an important population is one that is considered viable and thus is a population that is[19]:

- ***not physically isolated from other GGF populations or waterbodies and thus is a key source for breeding, dispersal and maintaining genetic diversity,***
- ***near the limit of its range, or***
- ***well-studied with a history of monitoring that provides greater understanding of that species.***

To qualify as an important population the occurrence in question only needs satisfy one of the three criteria. The site is not located near the limit of GGFs range (see above), nor is the area 'well-studied' with a history of monitoring. However, the occurrence is not physically isolated

[18] Commonwealth of Australia (2013)

[19] DEWHA (2009)

from other waterbodies, with suitable suboptimal waterbodies identified less than 600 m south of the project area and optimal waterbodies with emergent vegetation found less than 2 km south (Figure 4). GGF have been recorded dispersing as far as 1 km over 24 hours[20], indicating that these waterbodies are likely within viable dispersal distance, particularly when surrounding ephemeral rivers, creeks and drainage lines are full (Figure 5), or where native vegetation remnants can act as corridors for terrestrial travel. Dispersal rates are generally lower and site fidelity higher in GGF occupying permanent waterbodies with significant aquatic and terrestrial vegetative cover, compared to when they occupy ephemeral, vegetation-poor waterbodies[21] such as the dam at the site. So, the population on site is not physically isolated from other waterbodies due to its proximity to other suitable habitats, and accordingly the site can be considered 'important' for GGFs, although dispersal is likely low during the non-breeding season.

Whilst the site can be considered 'important' for GGFs there are limited records of GGFs in the surrounding area on the Natural Values Atlas, with the closest sighting on the west side of the Tamar River occurring over 2.9 km to the north in 2021 (Figure 5). Due to a paucity of sightings, it is unclear how significant the wider area is for local population maintenance and wider connectivity; however it is likely the surrounding habitat is used at least for foraging, refuge and dispersal.

Each of the nine criteria are discussed below in the context of dam and habitat modification at the Beauty Point site. The takeaway conclusion for each criterion is italicised at the bottom of each section.

ADDRESSED CRITERIA

1. lead to a long-term decrease in the size of an important population

As discussed, the number of frogs recorded during detection surveys was low with no evidence of breeding at the site. Although it's not possible to discount breeding at the site (and noting that there is connectivity to a broader that contains habitat, including more suitable waterbodies within 2 km), the quality of the habitat at the site that will be removed (drainage lines largely infested with blackberry and pasture) is not optimal. Accordingly, the potential loss of animals as a result of the development of the Beauty Point site is not likely to lead to a long-term decrease in the size of the population. This is especially so given the proposed retention and improvement of the dam and other habitat elements for frogs, as outlined in the plan[22].

Conclusion: *no long-term decrease in the size of the important population is expected.*

2. reduce the area of occupancy of an important population

The entire property occupies ~21.68 ha and is predominantly characterised by pasture and has previously been managed for agricultural use. Only 1.3 ha (6 %) of the site is comprised of native habitat. Drainage lines are evident throughout the property, particularly on the east side where the subdivision development is proposed. Impacts to these drainage lines will cause alterations to the current water course ecosystems, flow regimes and flood mitigations and

[20] Australian Government (2021)

[21] Wassen et al. (2008)

[22] North Barker Ecosystem Services (2024a)

may impede GGF dispersal and see the loss of potential ephemeral water sources. However, these are highly modified and suboptimal habitats, and in the context of an important population are not notable in terms of a reduction in the area of occupancy.

Additionally, the improvement of the dam for frogs, and the provision of a drainage swale with associated scrapes and the improvement of other habitat elements for frogs as per the plan will allow for the persistence of the animal in the area[23]. The dam is roughly 1.1 ha, and although during works the water will be drained for a short period of time, the plan provides detail on the safe capture and relocation (with an appropriate permit from the Policy and Conservation Advice Branch of DPIPWE) of frogs found on site to a designated 'safe zone' that will eventually become a part of the final wetlands[24]. The plan also proposes a shallow scrape along the western length of the property, planted with hardy wetland plants. This scrape is intended to act as a seasonal rather than permanent water source and will facilitate an ecosystem function not currently provided on site. The scrape should provide a more suitable, functional alternative to those agricultural drainage lines lost due to construction.

So, although the project will result in the loss of the drainage lines in the cabin park and subdivision areas, the remaining habitat at the site will be improved for GGF, and it is expected to persist at the site.

Conclusion: *no reduction expected in the area of occupancy of an important population.*

3. fragment an existing important population into two or more populations

Much of the State-wide habitat for the GGF has been fragmented causing isolation and restricting the opportunity for 'important population' processes, such as dispersal, colonisation and genetic flow. The landscape where the proposed site is situated has already been heavily fragmented due to land use change. Despite being a robust species capable of significant terrestrial dispersal, GGF do not often travel more than 1 km between waterbodies in a single event[25]. There are a number of small waterbodies within 2 km of the proposed site and within 1 km of the adjoining drainage lines. All the adjacent waterbodies recorded are situated on modified land and consist of dams, farm ponds, creeks and drainage lines, which may not be permanently inundated year-round.

The proposed development aims to improve the habitat values of the dam, and the existing drainage line in the centre of the property which allows for GGF dispersal and connectivity within the surrounding landscape. The proposed development will still allow the movement of GGF between the improved wetland and the surrounding landscape, with the provision of an drainage swale, an ephemeral shallow scrape, connection of the *Melaleuca ericifolia* swamp forest fragment to the reconstituted wetland with planting of native shrubs and trees and provision of improved ground cover in areas of former pasture with native grasses and sedges[26]. Landscape connectivity should therefore remain stable or increase post development, providing safer alternative routes than currently exist on site.

Conclusion: *The proposal will not cause further fragmentation of an existing population of*

[23] North Barker Ecosystem Services (2024a)

[24] North Barker Ecosystem Services (2024a)

[25] Australian Government (2021)

[26] North Barker Ecosystem Services (2024a)

GGF into two or more populations.

4. adversely affect habitat critical to the survival of a species

Habitat critical to the survival of the GGF differs throughout its range. In Tasmania GGFs are typically found amongst vegetation within or at the edges of permanent freshwater waterbodies, such as slow flowing lagoons, swamps, ponds (both natural and artificial), dams and freshwater lakes that contain submergent and emergent vegetation[27]. It is important to consider potential GGF habitat at both the local and landscape scale, and also giving due consideration to non-breeding refuge sites, such as dense riparian vegetation and native remnant woodlands, and how the network of aquatic and terrestrial habitat facilitate population connectivity within modified landscapes.

Currently, the drainage lines and the dam on site provide suboptimal breeding habitat for local GGFs. For breeding to occur in the drainage lines, water would need to be present for at least four months during the breeding season whilst eggs and tadpoles develop[28]. Even if breeding was successful in the drainage lines on occasion, the drainage lines are not notable habitat for the frog[29], and hence do not comprise habitat critical habitat for GGFs. As detailed above (and in the plan[30]) the provision of the western shallow scrape should act to ameliorate the loss of these substandard lines with the provision of a more appropriately vegetated and scaled ephemeral habitat.

Due to the lack of tadpoles, of any species, recorded in the dam during the breeding season; it is likely that the current habitat conditions of the dam are not optimal for breeding and development. This could be due to a number of reasons, such as a lack of sufficient submergent and emergent vegetation, a lack of suitable foraging habitat, a lack of appropriate refuge options, increased difficulty in colonisation, or increased predation from current dam predators[31]. Enhancing the existing dam's values, specifically designed for the GGF following other successful GGF habitat designs[32], and providing an alternative drainage line will likely promote GGF colonisation and improve breeding outcomes. This is an improvement of habitat for the species.

There will be no direct, immediate loss of native vegetation. The westernmost patch of NME is not included in any development plans (and development of this would require formal assessment against the Natural Assets Code of the Tasmanian Planning Scheme), and the eastern patches are to be retained[33]. Additionally, an area of remaining pasture east of this NME patch will be improved with native plantings suitable for the frog. As per the plan[34], a small area of native trees and shrubs, in keeping with those present, will be established to connect the terrestrial zone to a stand of *Melaleuca ericifolia* swamp forest in which local GGFs can forage and over-winter. So, although there will be the loss of pasture and drainage lines,

[27] Clemann and Gillespie (2012)

[28] Anstis (2002)

[29] Forest Practices Authority (2014)

[30] North Barker Ecosystem Services (2024a)

[31] North Barker Ecosystems (2020a)

[32] Heard *et al* (2014); Department of State Growth (2015); Department of Environment, Land, Water and Planning (2017)

[33] North Barker Ecosystems (2024a)

[34] North Barker Ecosystems (2024a)

these will not be a loss of habitat critical to the survival of a species.

Conclusion: *The proposed development is expected to improve habitat for GGF and will not adversely affect habitat critical to the survival of a species*.

5. disrupt the breeding cycle of an important population

During the NVA undertaken by NBES, no tadpoles or froglets of any species of frog were seen or captured during dip-netting surveys. It is likely that the GGF are not using the current dam for breeding. Although there is the potential for breeding in the surrounding drainage lines this is limited by the degraded nature of the habitat and was also not observed during surveys.

If breeding had been attempted in the dam, then it is likely that the tadpoles are struggling to persist in its current conditions (paucity of suitable cover). Increasing the habitat and water quality through the development of the new wetland and maintaining/upgrading the drainage line in the centre of the site will likely have a positive effect on the breeding success of the GGF.

Importantly, developments to the dam and impacts to the drainage line in the centre of the site will also be undertaken outside the breeding season, so in the event that any frogs are utilising these habitats for breeding, they will not be disrupted.

Conclusion: *Given the timing of the works and the aims of improving the habitat available on the site the project will not disrupt the breeding cycle of an important population.*

6. modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

Although there will be a loss of drainage lines in the east and west of the site, these drainage lines are not likely used as a long-term refuge or breeding for this species given their lack of deep water or preferred vegetation, and infrequent inundation. The drainage lines to the east are also limited in their availability for dispersal due to their close proximity to the Beauty Point township. The losses of this suboptimal habitat on site will be negligible at a species or population level. Any potential habitat losses will be countered with the improvements to the remaining areas of frog habitat as per the plan and this should allow for the persistence of the GGF in the area and promote colonisation and breeding potential.

Conclusion: *The proposed action will not impact the availability or quality of habitat to the extent that the species is likely to decline.*

7. result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat

Invasive species that are harmful to the GGF include feral and domestic cats, introduced fish that prey on tadpoles such as the Eastern Gambusia (*Gambusia holbrooki)*, brown trout (*Salmo truttaI)* and carp (*Cyprinus carpio)* as well as birds such as the laughing kookaburra (*Dacelo novaeguineae*) which is considered a pest in Tasmania.

The property is situated in a peri urban area where domestic cats and kookaburras are likely to be prominent, especially in the open drainage lines. Although the dam was not surveyed, it is expected that introduced fish species are present in the dam. Although the cabin park is not expected to result in an increase of domestic cats due to the transient nature of the clientele (tourists), subdivision developments have more permanent occupants and the risk of impact

from domestic cats is increased.

Importantly, the plan includes measures that will temper and even reduce the potential for invasive species:

- Invasive fish species found within the dam during drainage will be removed.
- Restrictions on cat ownership will be included as a covenant on ownership such that cats must be desexed, microchipped and kept indoors.
- Improvements to local ground-cover in the form of the revegetated pasture, a naturalised shallow scrape and new wetland will provide far more refuge options than what is currently available on site with the addition of logs, rocks, dense vegetation and deeper water.

Conclusion: *The proposed development will not result in the establishment of any harmful invasive species.*

8. introduce disease that may cause the species to decline, or

The chytrid fungus *Batrachochytrium dendrobatidis* is a fungal pathogen causing chytridiomycosis, an infectious disease in amphibians worldwide that is formally recognised by the World Organisation for Animal Health (OIE) as an international notifiable disease. The fungus invades the surface layers of amphibian skin, or around the mouth of tadpoles causing damage to the outer keratin layer of the adult frogs, affecting its structure and function and leading to death. The fungal spores are spread through the movement of frogs between different waterbodies, where it can persist in water indefinitely. The GGF has a low mortality in infection experiments compared to other Tasmanian frog species such as the Tasmanian tree frog *Litoria burrowsae,* however, their overall risk rating is still considered 'medium'[35].

Any work planned within the site will have a 'Chytrid Management Plan', which follows the DPIPWE guidelines and best practices[36] for hygiene measures. Furthermore, as required in plan all works should be conducted in accordance with the best practice guidelines outlined in Allen and Gartenstein (2010) *Keeping it Clean – A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens*; Published by NRM South, Hobart, Tasmania. The chytrid management plan will, at a minimum, stipulate actions to prevent the spread of the chytrid fungus and monitor the health and population of frogs within the study area.

Conclusion: *With the 'Chytrid Management Plan' and field hygiene protocols in place the project is safeguarded against chytrid fungus being introduced onto the proposed site.*

9. interfere substantially with the recovery of the species.

The National Recovery Plan objectives for the southern bell frog (*i.e.* green and gold frog) *Litoria raniformis* are as follows[37]:

1. Secure extant populations of southern bell frogs, particularly those occurring in known breeding habitats, and improve their viability through increases in size and / or area of occurrence,

[35] DPIPWE (2010)

[36] DPIPWE (2010)

[37] Clemann and Gillespie (2012)

2. Determine distribution, biology and ecology of the southern bell frog, and identify causes of the decline of the species across its geographic range,
3. Address known or predicted threatening processes, and implement appropriate management practices where possible to ensure that land use activities do not threaten the survival of the southern bell frog, and
4. Increase community awareness of and support for southern bell frog conservation.

Objectives 2 and 4 are considered research and education based and the proposed project will not interfere with these processes. The proposed plan positively addresses objectives 1 and 3 through the improvement of habitat for the species. Regardless, given the relatively small scale of the works in terms of impact (i.e. only the drainage channels will be impacted), the proposed project will not interfere substantially with the recovery of the species.

Conclusion: *The proposed development is likely to contribute to the recovery of the species and will not interfere substantially with the recovery of the species.*

CONCLUSION

The proposed development of a cabin park and subdivision at Beauty Point has the potential to impact green and gold frog *Litoria raniformis* which was detected at the site. The habitat for the species at the site comprises a dam, drainage lines, a small area of native vegetation, and agricultural land. Although frogs were recorded at the dam, the habitat is not structurally complex and not optimal for the species. Also, most of the drainage lines are infested with blackberry, reducing the quality and suitability of these habitats. Most of the area will be developed but a frog management plan has been developed to improve the remaining habitats for the frog: the dam, the larger central drainage line, and some areas of pasture.

The species is listed as vulnerable under the Commonwealth *Environment and Biodiversity Conservation Act 1999,* and the site is utilised by the frog so the potential impact to it from the proposed works must be considered under the Act. Accordingly, the potential impact has been considered for each of the six Commonwealth significant impact criteria for a vulnerable species. The proposed development does not conflict with any of the six criteria and it was concluded that the project will not have a significant impact on green and gold frog.

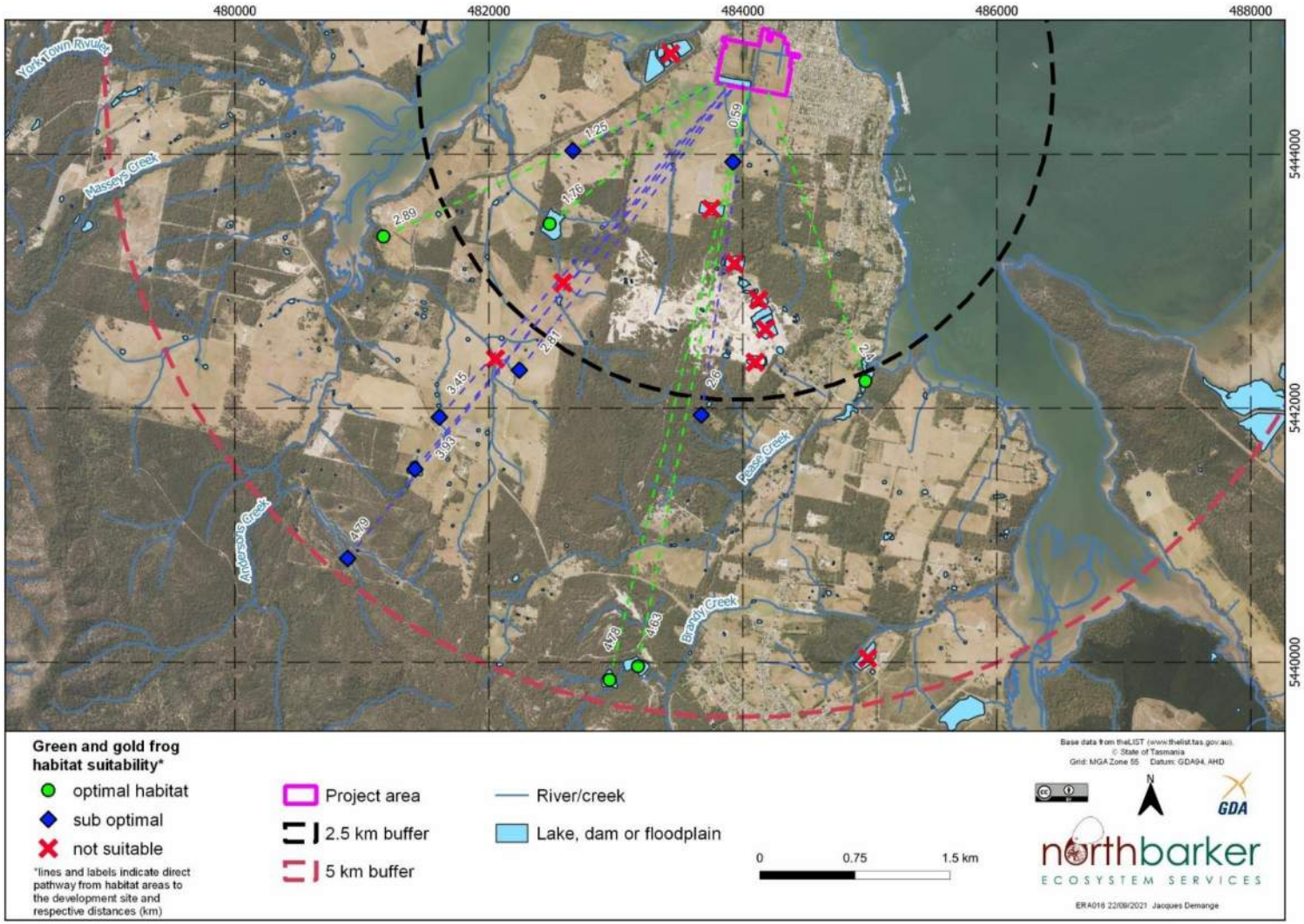

Figure 4: Project area in relation to optimal and sub optimal habitat, including rivers and creeks

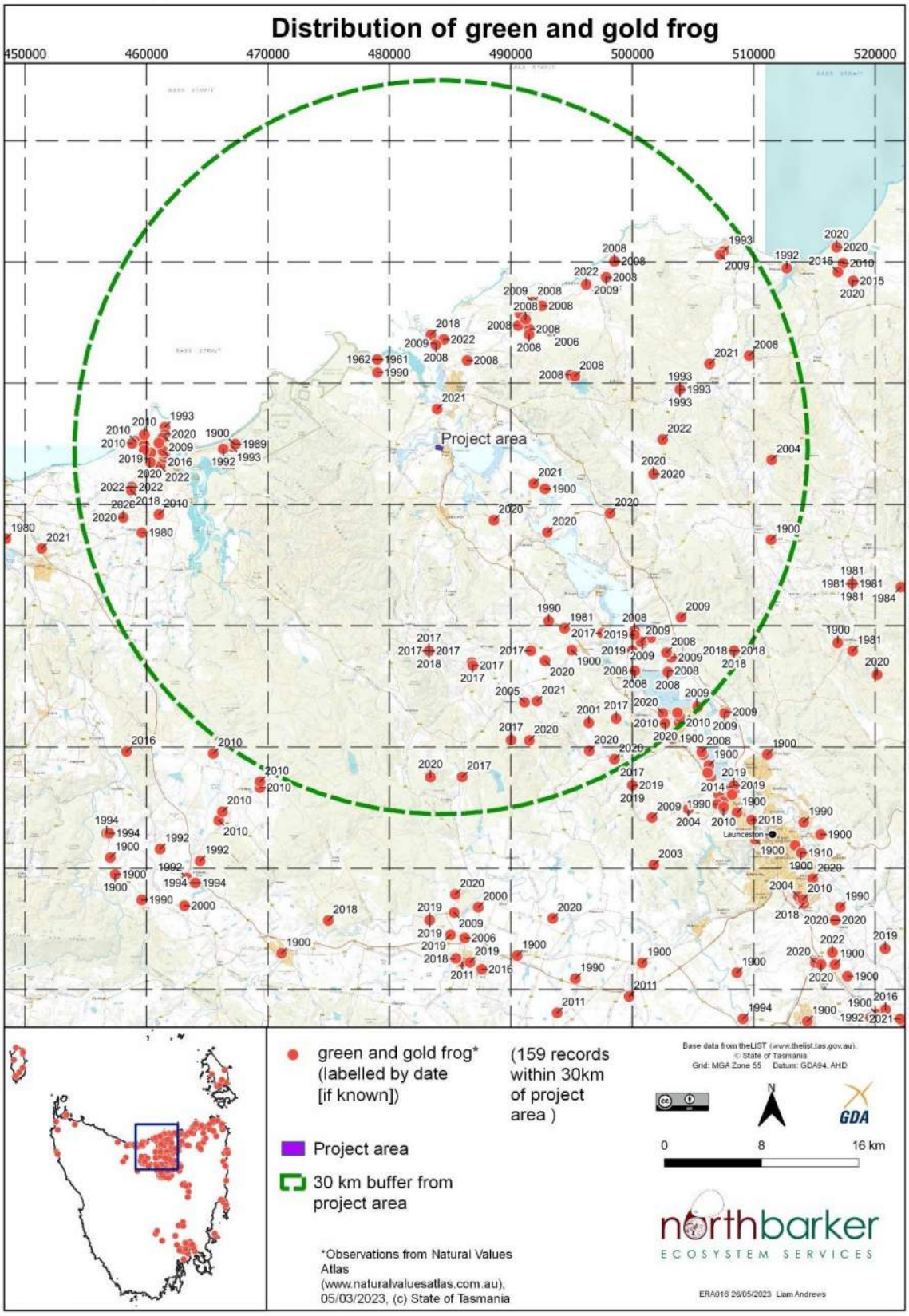

Figure 5: Recorded observations on the Natural Values Atlas of Green and Gold Frogs relative to the project area

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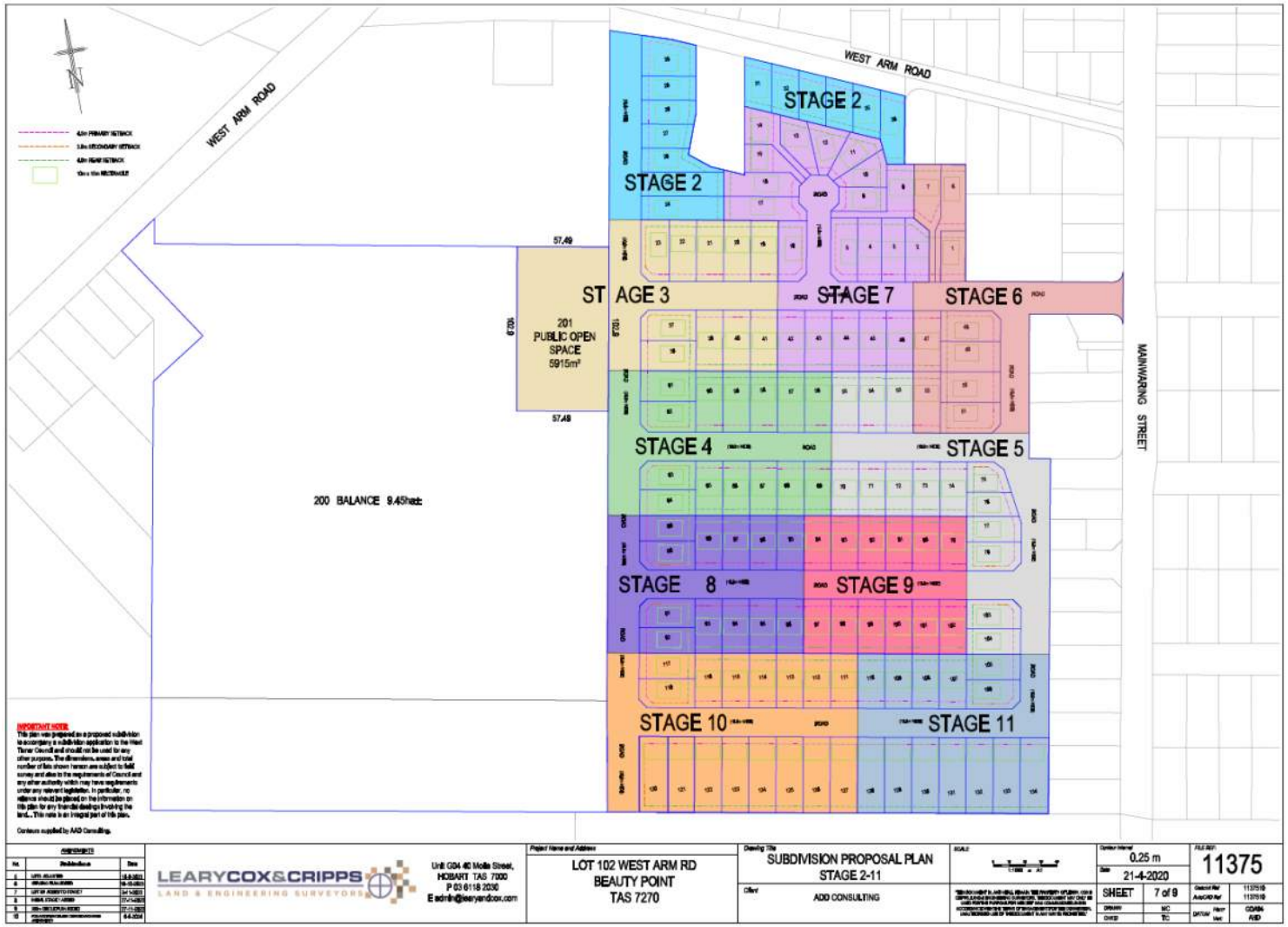
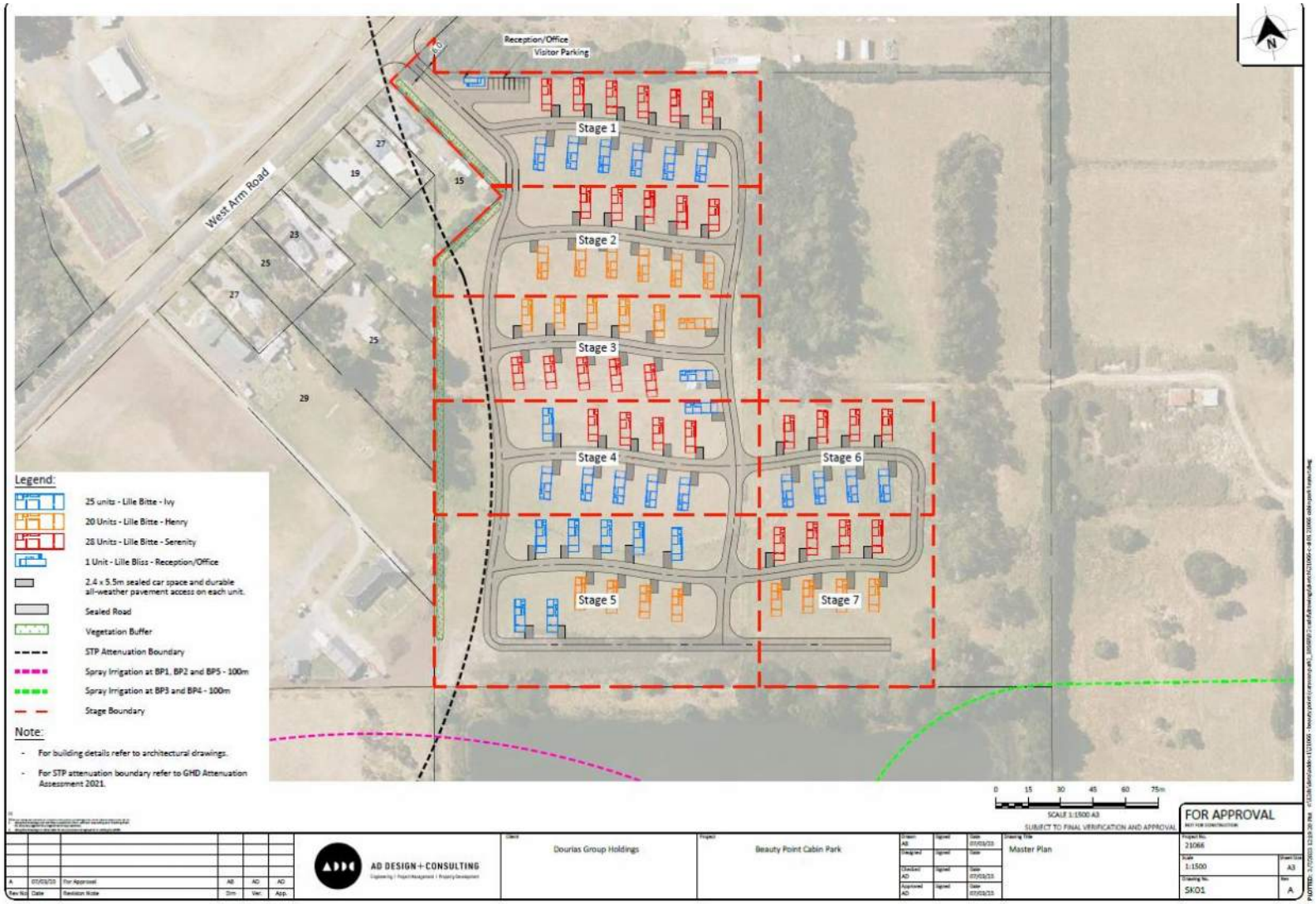
APPENDIX A: DEVELOPMENT PLANS

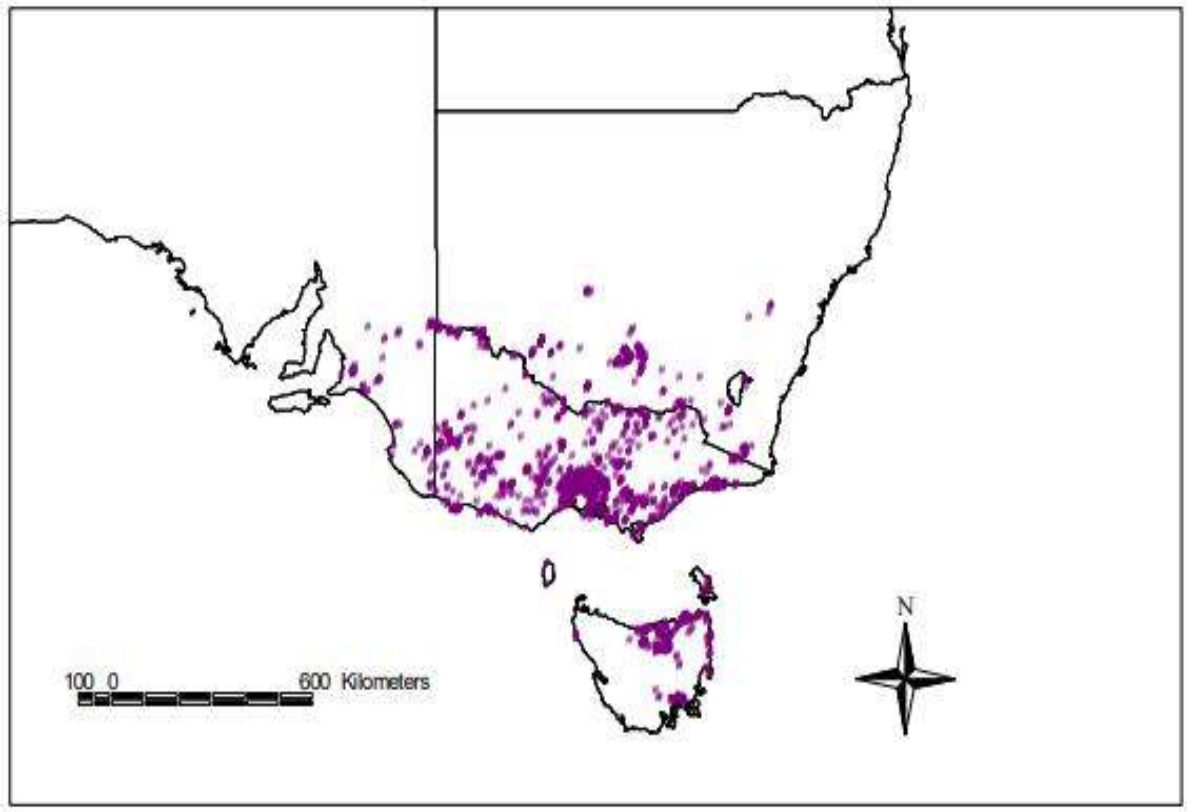


Subdivision design



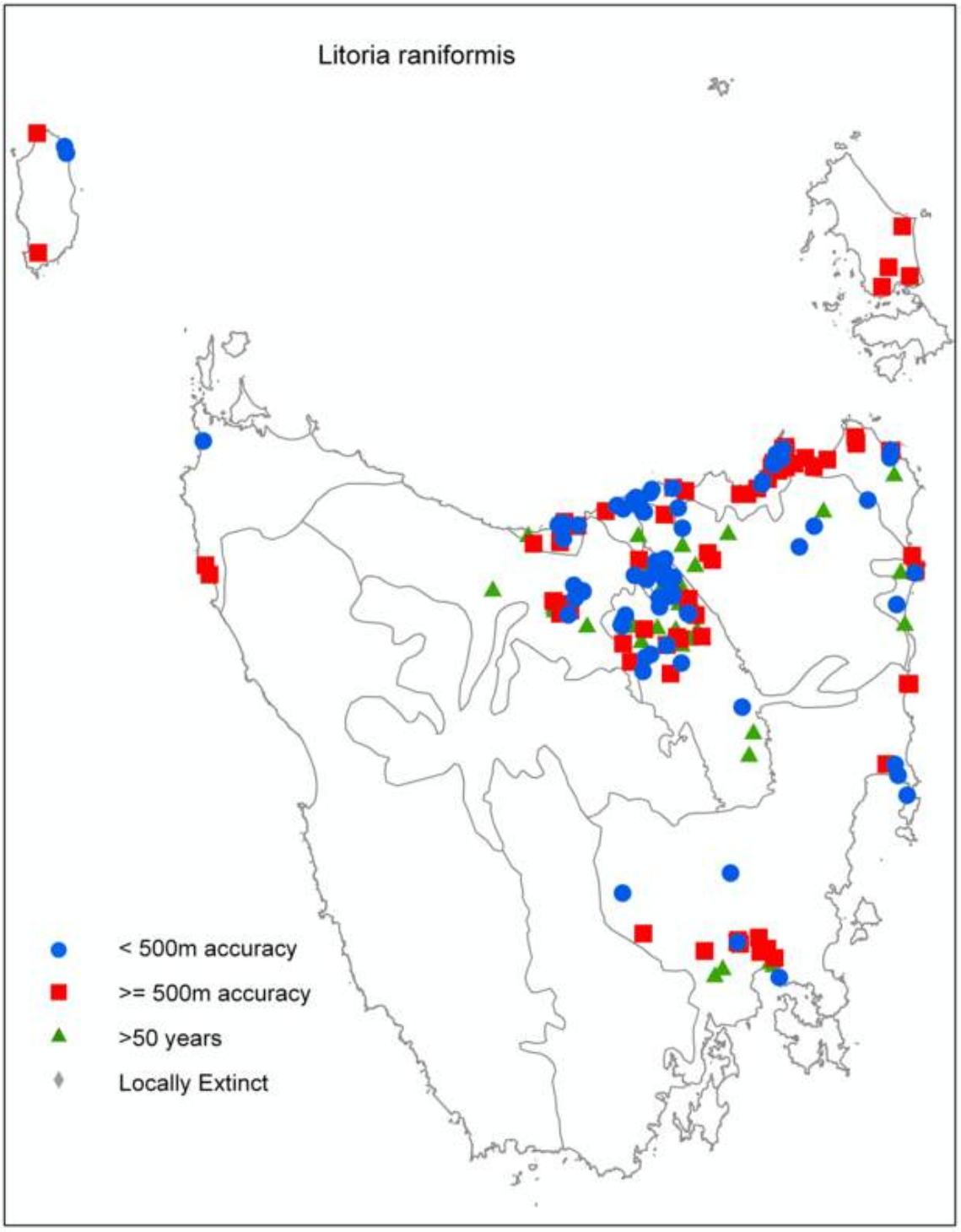
Cabin park design

APPENDIX B: DISTRIBUTION OF GREEN AND GOLD FROG *LITORIA RANIFORMIS*



National distribution records of the green and gold frog (*Litoria raniformis*)[38]

[38] Clemann, N. and Gillespie, G.R. (2012)



State-wide distribution of the green and gold frog (*Litoria raniformis*)[39]

[39] Threatened Species Section (2020)

Appendix G Attenuation assessment

G.1 Attenuation assessment

G.2 Addendum

Beauty Point Subdivision Attenuation Assessment

Dourias MGH Pty Ltd ATF MGH Dourias Family Trust

23 June 2023

The Power of Commitment

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[Status code]							
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Appendices

Appendix A Cabin Park Attenuation Assessment Section 6 – STP Odour Assessment
Appendix B Cabin Park Attenuation Assessment Section 7 – STP Noise Assessment

1. Introduction

GHD has been engaged by Dourias MGH Pty Ltd ATF MGH Dourias Family Trust *trading as* Dourias MGH Pty Ltd (D-MGH) to undertake an attenuation assessment in relation to their proposal to subdivide a portion of the land at Lot 102 West Arm Rd, Beauty Point, Tasmania for residential purposes ("the subdivision"). The site is positioned in proximity to the Beauty Point Sewage Treatment Plant (STP) operated by TasWater, land subject to an effluent reuse scheme, and land containing a cattle effluent dam (Gypsy Hill). An attenuation assessment is required to assess the site's suitability in accordance with the Tasmanian Planning Scheme – West Tamar (the planning scheme), specifically in relation to the Attenuation Code in Part C9.0 of the planning scheme.

Attenuation, odour and noise assessments for the STP and the effluent reuse scheme were completed for the adjacent Beauty Point Cabin Park Attenuation Assessment (Refer to: 12572593-REP-3). The results of the Cabin Park Attenuation Assessment have been applied in the assessment of the subdivision with respect to the Beauty Point STP, given the increased separation distance from the subdivision to the STP.

1.1 Purpose of this report

The purpose of this report is to evaluate the Beauty Point STP, the cattle effluent dam (Gypsy Hill), the effluent reuse scheme and associated activities with respect to the planning scheme attenuation distances relevant to spray drift and odour as they effect the land at Lot 102 West Arm Rd, Beauty Point, Tasmania.

1.2 Scope and limitations

The scope of works carried out included:

- Defining the assessment context including relevant objectives and performance criteria from the Attenuation Code of the planning scheme
- Description of the proposed subdivision
- Completing a standard attenuation distance assessment to determine if the proposed subdivision falls within any relevant attenuation distances
- Where the subdivision falls within the relevant attenuation distances complete further assessment to determine compliance with the relevant performance criteria.
- Where non-compliance with the performance criteria is predicted for any part of the proposed subdivision, propose options for development within these areas.

This report: has been prepared by GHD for Dourias MGH Pty Ltd ATF MGH Dourias Family Trust and may only be used and relied on by Dourias MGH Pty Ltd ATF MGH Dourias Family Trust for the purpose agreed between GHD and Dourias MGH Pty Ltd ATF MGH Dourias Family Trust as set out in section 1.1 of this report.

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The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

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GHD has prepared this report on the basis of information provided by Dourias MGH Pty Ltd ATF MGH Dourias Family Trust and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

1.3 Assumptions

The following assumptions relate to the assessment:

- Details of the proposal including location and subdivision layout are provided by ERA Planning on behalf of D-MGH.
- On the instruction of ERA Planning on behalf of D-MGH, this assessment is carried out with consideration of the Attenuation Code from the planning scheme.
- Information provided by TasWater by email (as referenced throughout) is accurate
- Spray drift management measures for the Beauty Point Effluent Reuse Scheme as outlined in *Beauty Point Effluent Re-use Scheme Development Proposal and Environmental Management Plan* (SKM, 2003) are still being considered during any irrigation as part of the reuse scheme.
- Odour emission rates used in the odour assessment are representative of emission rates from the Beauty Point STP.

2. Context

2.1 Tasmanian Planning Scheme Attenuation Code

With the proximity of the proposed subdivision to agricultural sources of air pollutants, an assessment is required in accordance with section C9.0 Attenuation Code of the planning scheme.

The relevant clauses of the Attenuation Code include:

– C9.5 Use standards, specifically:
  - C9.5.2 Sensitive use within an attenuation area
– C9.6 Development Standards for Subdivision, specifically:
  - C9.6.1 Lot design

The relevant objectives and performance criteria for each clause are outlined in section 2.1.1 and 2.1.2 respectively.

The attenuation distances relevant to this assessment are outlined in section2.1.3.

2.1.1 C9.5.2 Sensitive use within an attenuation area

Objective

That sensitive use located within an attenuation area does not interfere with or constrain the operation of an existing activity listed in Tables C9.1 or C9.2.

Performance criteria

Sensitive use within an attenuation area, must not interfere with or constrain an existing activity listed in Tables C9.1 or C9.2, having regard to:

a. The nature of the activity with potential to cause emissions including:
   i. operational characteristics of the activity
   ii. scale and intensity of the activity
   iii. degree of hazard or pollution that may be emitted from the activity
b. The nature of the sensitive use
c. The extent of encroachment by the sensitive use into the attenuation area
d. Measures in the design, layout and construction of the development for the sensitive use to eliminate, mitigate or manage effects of emissions of the activity
e. Any advice from the Director, Environment Protection Authority
f. Any advice from the Director of Mines

2.1.2 C9.6.1 Lot design

Objective

To provide for subdivision so that a lot intended for a sensitive use:

a. Is located to avoid an activity with potential to cause emissions and enable appropriate levels of amenity
b. Does not conflict with, interfere with or constrain an existing activity with potential to cause emissions.

Performance Criteria

Each lot, or a lot proposed in a plan of subdivision, within an attenuation area must not result in the potential for a sensitive use to be impacted by emissions, having regard to:

a. The nature of the activity with the potential to cause emissions, including:

i. operational characteristics of the activity
ii. scale and intensity of the activity
iii. degree of emissions from the activity

b. The intended use of the lot.

2.1.3 Relevant attenuation distances

The relevant attenuation distances for this assessment, per the Attenuation Code, are reproduced in Table 1, Table 2 and Table 3 below respectively for wastewater treatment, effluent irrigation and organic (animal) waste treatment in place of a specific coded practice for effluent dams.

The attenuation distances for sewage treatment processes are expected to be associated with prevention of odour impacts.

The attenuation distances for effluent irrigation are expected to be associated with both prevention of odour and spray drift impacts.

The attenuation distances for organic waste treatment are expected to be associated with the prevention of odour impacts, gases and disease vectors.

Table 1 Attenuation distances for sewage treatment processes (Table C9.2 of Attenuation Code)

Type of process	Attenuation distance (m)				
Designed capacity dry weather flow (kL/d – EP)	<275 kL/day <1000 PE	<1375 kL/day <5000 PE	<5500 kL/day <20000 PE	<13750 kL/day <50000 PE	>13750 kL/day >50000 PE
Mechanical/biological treatment (includes aerated lagoons)	100	200	300	400	>400
Aerobic lagoons	150	350	700	1000	>1000
Facultative lagoons	300	550	700	1000	>1000
Anaerobic lagoons	400	700	1400	2200	>2200

Table 2 Attenuation distances for an Effluent Irrigation Scheme (Table C9.1 of Attenuation Code)

Type of irrigation	Attenuation distance (m)
Spray irrigation	200
Flood irrigation	50
Drip irrigation	20
Storage lagoon/holding dams	250
Effluent transfer/irrigation pumps	50

Table 3 Attenuation distances for organic waste treatment processes (Table C9.1 of Attenuation Code)

Type of Process	Attenuation Distance (m)
Organic Waste Treatment The treatment of organic waste such as animal manures, and solid waste from fruit or vegetable processing, excluding sewage treatment plants and liquid waste treatment – emissions such as odour, gases and disease vectors.	500

2.2 Other Guidance Documentation

The attenuation distances and objectives outlined in the Attenuation Code of the planning scheme are considered sufficient to allow for assessment of the specific risks associated with the proposed site. However, reference to guidance documentation produced, including by other states can provide valuable context in assessment of the

risks against the relevant performance criteria. Where relevant, this assessment refers to the guidance documentation as outlined below:

– *Environmental Guidelines for the Use of Recycled Water in Tasmania* (DPIWE, 2002)
– *Recommended separation distances for industrial residual air emissions* (EPA Victoria, 2013)
– *Separation distance guidelines for air emissions* (ACT Government, 2018)
– *Evaluation distances for effective air quality and noise management* (SA EPA, 2016)
– *Environmental Management Guidelines of the Dairy Industry* (DPI NSW, 2008)
– *Effluent and Manure Management Database for the Australian Dairy Industry* (Dairy Australia, 2008)

Separation distances and evaluation distances are referred to as attenuation distances. Buffer zones are the areas enclosed by the perimeter of the attenuation distance surrounding the assessed activity.

Each of the above guidance documents have a precedent for seeking provision to demonstrate a variation to the default/standard attenuation distance is appropriate for specific applications. The purpose of varying the default attenuation distance is to take into account any situation specific factors, such as:

– The scale and intensity of the activity;
– The expected frequency and magnitude of the emission from the activity;
– Any control measures which are in place to mitigate the emissions or impacts from the activity;
– Any relevant meteorological or topographical influences; and
– Any other factors which might influence the impact of emissions on a sensitive use.

3. Description of the Proposal

The proposed subdivision is at Lot 102 West Arm Rd, Beauty Point Tasmania. The total area of the eastern portion of Lot 102 is 8.38 ha.

The draft subdivision plan is shown in Figure 1, and subdivides the lot in to 134 residential lots with an average area of 629 m².

The subdivision plan includes a minimum distance of 33 m between dwellings and the property's southern boundary adjacent to land where spray irrigation occurs.

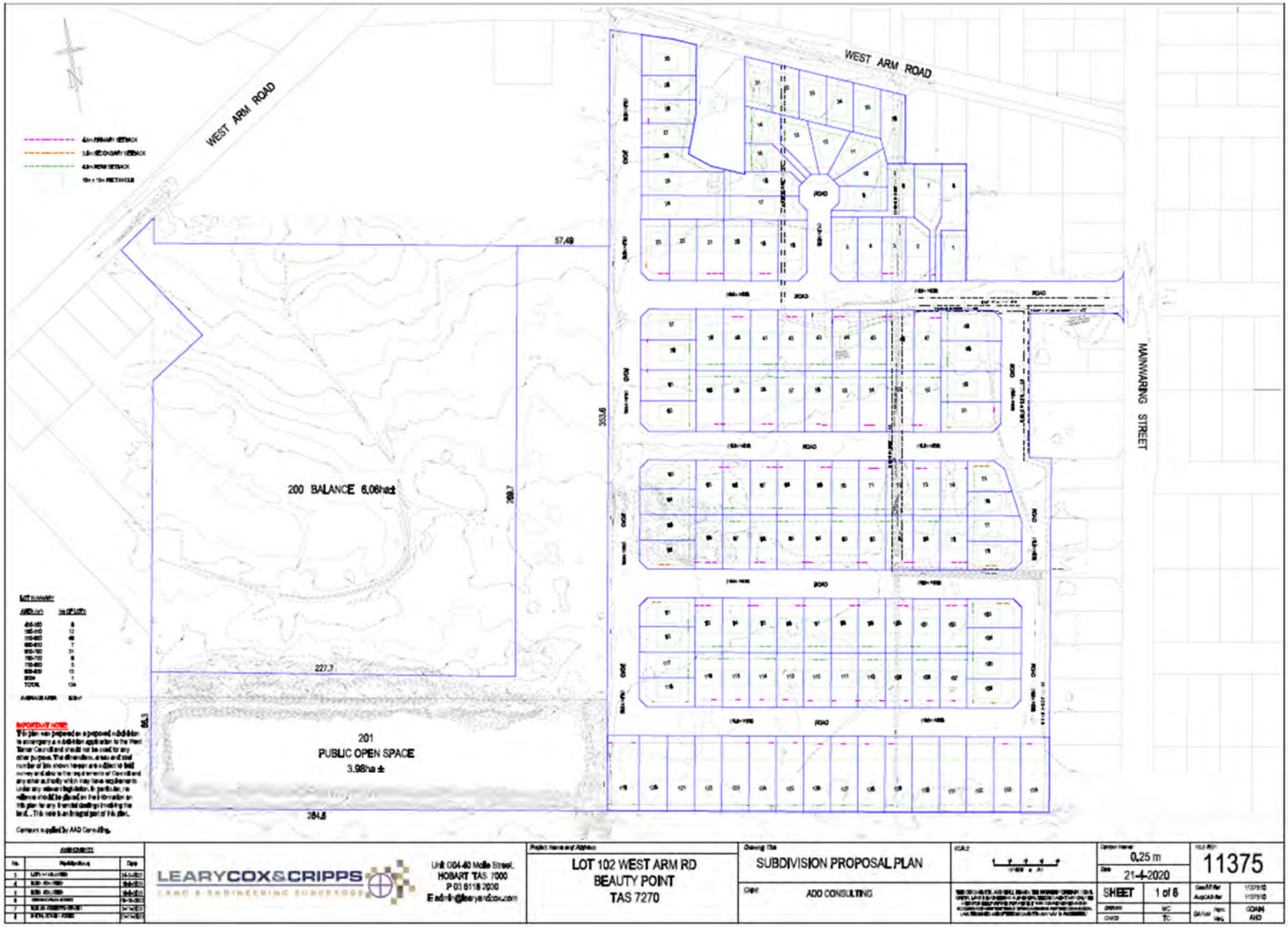


Figure 1 *Proposed Lot Configuration (Leary Cox & Cripps, 2023)*

4. Standard Attenuation Distance Assessment

4.1 Beauty Point STP

Beauty Point STP (the STP) is a facultative lagoon style process including four lagoons and an onsite reuse storage dam with an average dry weather flow (ADWF) of 540 kL/day (GHD, 2014). A schematic of the STP is shown in Figure 2.

Given the activity type and the flow, the default attenuation distance for the STP is 550 m (see Table 1). The boundary of the activity is the boundary of all lagoons at the STP.

The relevant attenuation distance from the STP is shown on Figure 5. From Figure 5, it is evident that the proposed subdivision falls in part within the attenuation distance for the STP, and therefore further assessment is required to demonstrate that development within the affected area satisfies the performance criteria. It is noted that several existing dwellings fall within the attenuation distance, with the nearest property located within 100 m of the STP.

4.2 Beauty Point Effluent Reuse Scheme

The Beauty Point Reuse Scheme (the reuse scheme) was approved in 2004 with the objective of allowing for reuse of the majority of effluent produced by the Beauty Point STP. At its inception, it was expected that the scheme would lead to irrigation of 195 ML/year over an estimated 43 ha of land.

The reuse scheme is executed out by an agreement between TasWater and the landholder of the property named Byrne (also known as Gypsy Hill), located directly east of the Beauty Point STP (Property Identification Number 6102200).

The following are pertinent details of the effluent irrigation as part of the reuse scheme:

– The effluent quality irrigated is Class B (Macquarie Franklin, 2019), as per the *Environmental Guidelines for the Use of Recycled Water in Tasmania* (DPIWE, 2002).
– The irrigation is by a low pressure[1] spray type irrigator (SKM, 2003).
– Flow data from the STP shows that for at least two months a year the STP discharges to water rather than to reuse[2]
– The most recent available data on irrigation areas, suggests irrigation occurs in the following locations, as shown in Figure 3.
    - Circular irrigation areas on the western side of the property, labelled sites BP1, BP2 and BP5 in Figure 3. It is expected that areas BP2 and BP5 are irrigated by a single pivot irrigator.
    - Irrigation areas on the eastern side of the property, labelled as sites BP3 and BP4 in Figure 3. It is expected that areas BP3 and BP4 are irrigated by a travelling irrigator or similar sprinkler type systems.
– Communications from TasWater and the landholder[3] suggest that irrigation 'almost never' occurs at BP3 and BP4. As of the date the communications were received, 'one traveller run' was the only irrigation to have occurred in more than five years.
– As part of the management plan for the reuse scheme (SKM, 2003), commitment is made to not irrigate within 20 m of the property boundary and within 100 m of residential premises. These 'buffers' influence the area available for irrigation at BP3 and BP4, as shown in Figure 3***Figure 3***.

[1] Email communication from Jason Taylor (TasWater) to Danny Craggs (GHD) dated 13/12/2019.
[2] Email communication from Jason Taylor (TasWater) to Danny Craggs (GHD) dated 13/12/2019.
[3] Email communication from George Fitzgibbon (TasWater) to Mark O'Brien (ERA Planning) dated 30/04/2020.

Based on the activity type (spray irrigation), the default attenuation distance for irrigation as part of the reuse scheme is 200 m (see Table 2). The boundary of the activity is the light blue shaded areas from Figure 3, which considers the relevant buffers as per the management plan for reuse scheme.

The relevant attenuation distances from the irrigation areas are show in Figure 5. From Figure 5, it is evident that the proposed subdivision falls in part within the attenuation distance for the irrigation areas (specifically at BP3 and BP4), and therefore further assessment is required to demonstrate that development within the affected area satisfies the performance criteria. Given the high effluent quality, odour impacts are not expected to be significant, and the attenuation distance is required for the protection of spray drift impacts.

It is noted that several existing dwellings fall with the attenuation distance, with residential premises (houses) located 100 m from the irrigation area. A review of aerial imagery suggests that approximately 30 dwellings fall within the 200 m attenuation distance for the reuse scheme.

4.3 Gypsy Hill Cattle Effluent Dam

The Gypsy Hill cattle effluent dam is located 385 m south of the proposed subdivision boundary on the adjacent property, 1 Mainwaring St, Beauty Point, Tasmania.

Given the presence of organic (animal) wastes, and without a specific coded practice for effluent dams in the scheme, the default attenuation distance for Gypsy Hill's effluent dam is taken as 500 m (see Table 3). The boundary of the activity is the boundary of the dam shown in Figure 4.

The relevant attenuation distance from the Gypsy Hill effluent dam is shown on Figure 5. Evidently, a portion of the proposed subdivision falls within the attenuation distance, and therefore further assessment is required to demonstrate that development within the affected area satisfies performance criteria.

It is noted that existing dwellings fall within the standard attenuation distance, with the Gypsy Hill residence located 138 m away and the nearest neighbouring residence 204 m away from the Gypsy Hill effluent dam as shown in on Figure 4.

Figure 2 Site configuration of Beauty Point STP (GHD, 2014)

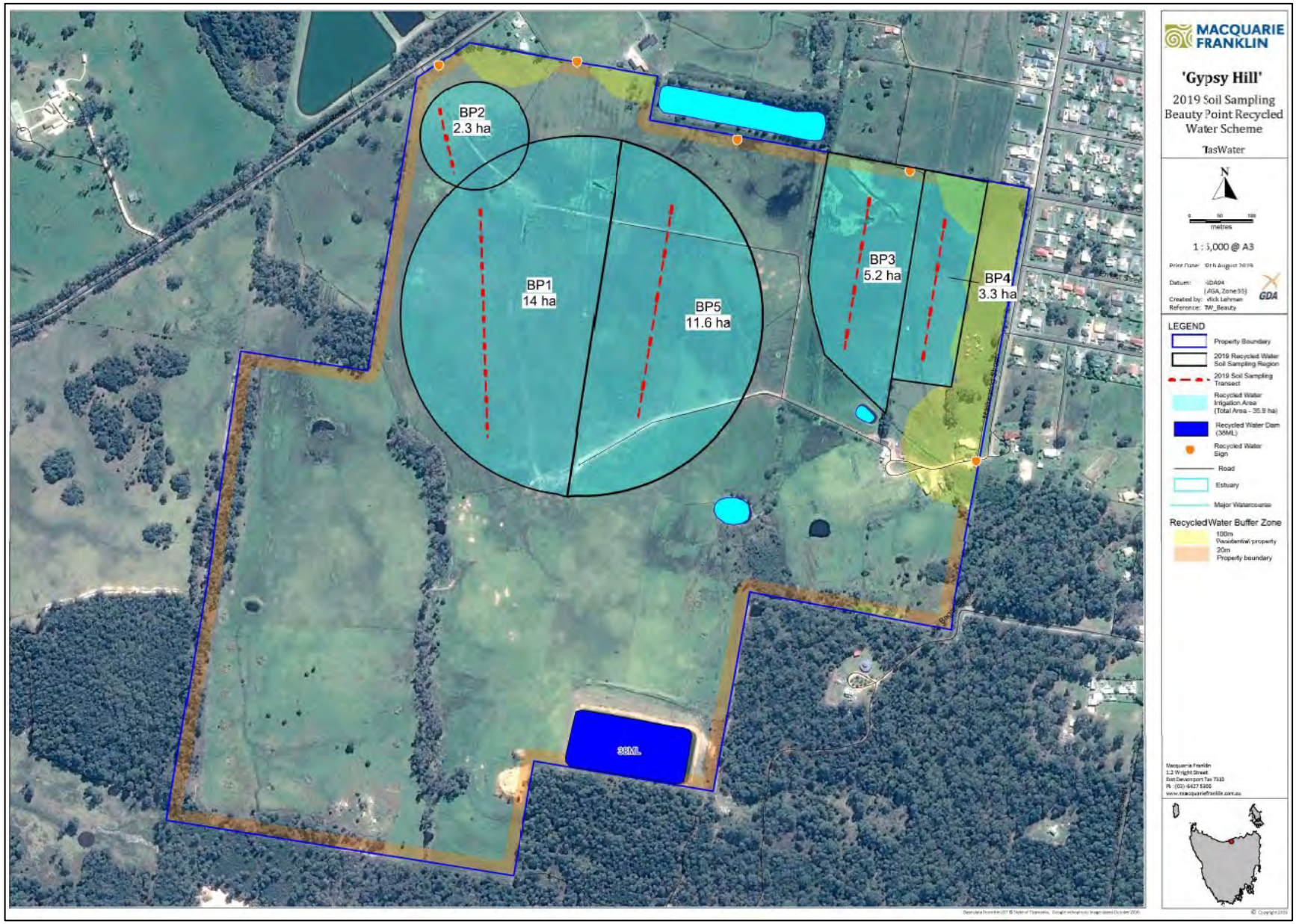
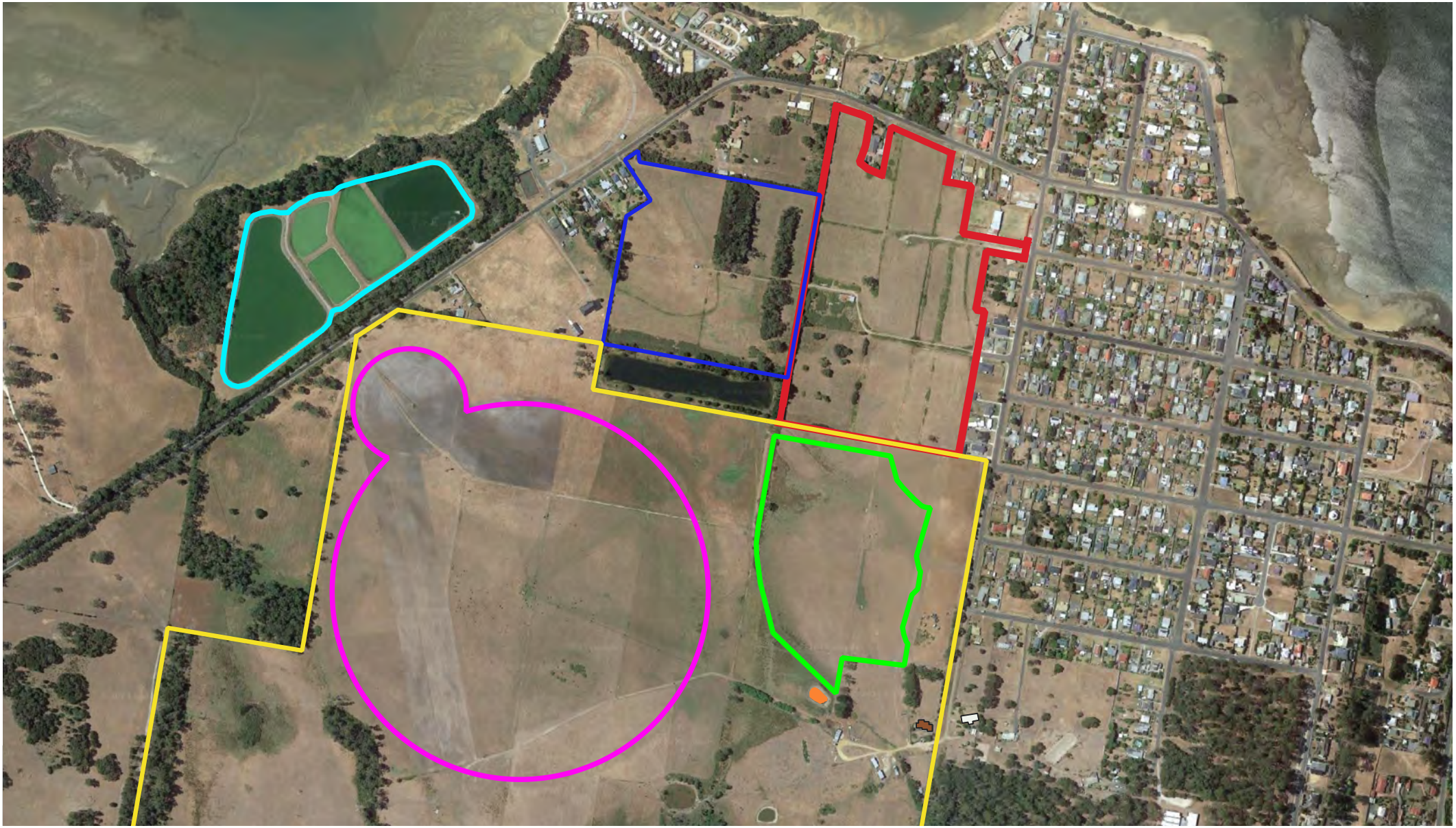


Figure 3 ***Gypsy Hill Site configuration showing Recycled water irrigation areas as of 2019 (Macquarie Franklin, 2019)***



Legend

- Proposed Subdivision Boundary
- Gypsy Hill Site Boundary
- Gypsy Hill effluent dam
- Gypsy Hill Residence
- Cabin Park
- Pivot-irrigators
- Eastern-irrigators
- Beauty Point WWTP
- Neighbouring Residence

Paper Size ISO A4

0 0.1 0.2 km

Map Projection: Mercator Auxillary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxillary Sphere

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Dourias MGH Pty Ltd ATF MGH Dourias Family Trust
Beauty Point Subdivision
Attenuation Assessment

Site and Activity Boundaries

Project No. **12572593**
Revision No. **-**
Date. **26/05/2023**

FIGURE 4

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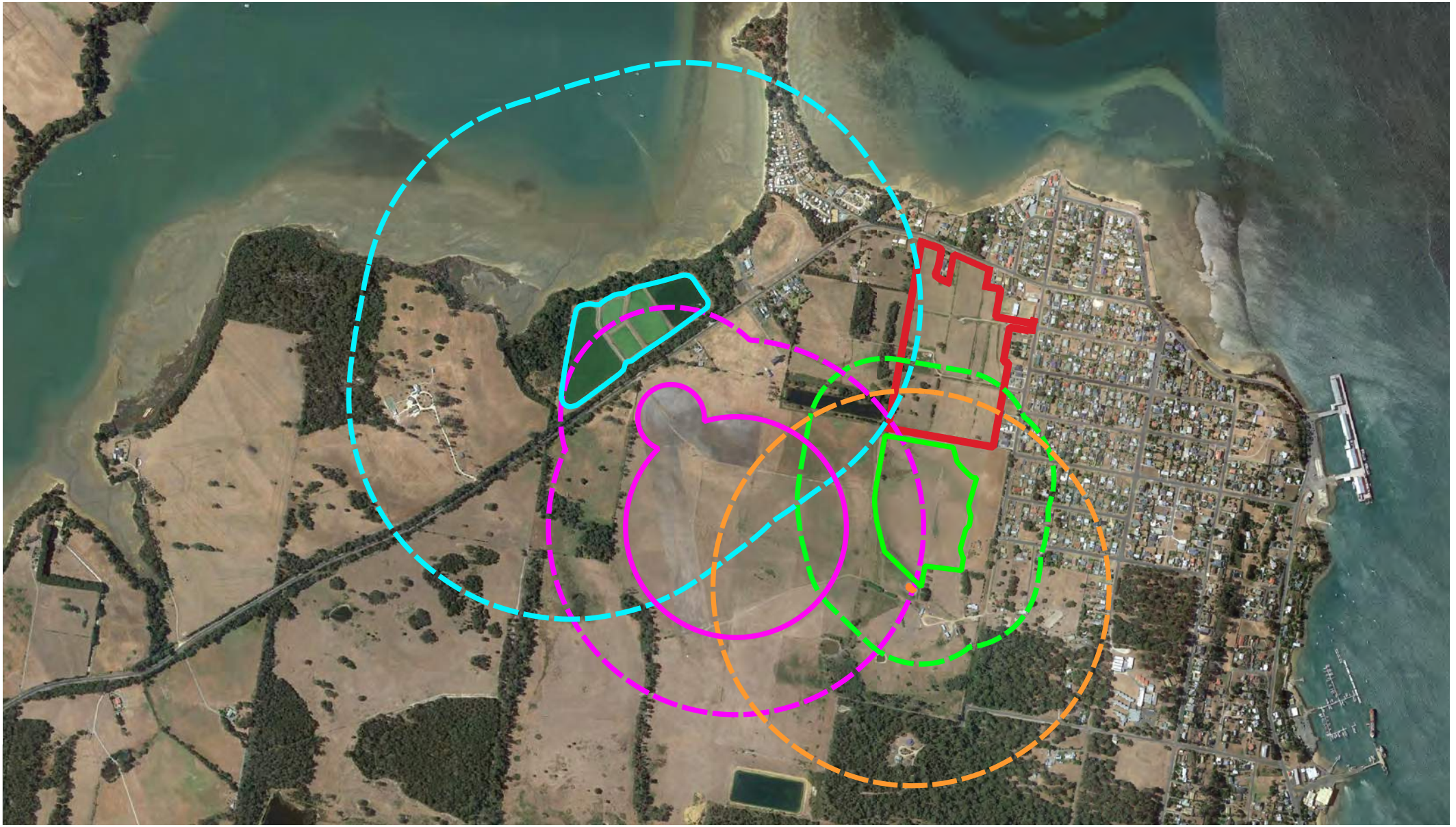

Legend

- Eastern-irrigators
- Eastern-irrigators-200m
- Gypsy Hill effluent dam
- Pivot-irrigators
- Pivot-irrigators-200m
- Effluent Dam-500m
- Beauty Point STP
- STP-550m
- Proposed Subdivision Boundary

Paper Size ISO A4

0 0.2 0.4 km

Map Projection: Mercator Auxillary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxillary Sphere

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Dourias MGH Pty Ltd ATF MGH Dourias Family Trust
Beauty Point Subdivision
Attenuation Assessment

Standard Attenuation Distances for STP, Irrigation Sources and Effluent Dam

Project No. **12572593**
Revision No. **-**
Date. **26/05/2023**

FIGURE 5

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5. Performance Criteria Assessment

Some part of the proposed subdivision falls within the standard attenuation distances for the Beauty Point STP, for irrigation as part of the Beauty Point Effluent Reuse Scheme, and for the Gypsy Hill cattle effluent dam. Consequently, further assessment is required to demonstrate that the performance criteria are met and therefore that subdivision of the site will not jeopardise the relevant objectives of the attenuation code.

For the Beauty Point Effluent Reuse Scheme and Gypsy Hill cattle effluent dam, further assessment is completed as follows:

– A site-specific attenuation assessment which considers the following:
  - The nature of the activity, specifically including where appropriate information is available:
    – The scale of the activity
    – The intensity of the activity
    – The frequency of the activity
  - Environmental factors (such as meteorology and topography) which would influence the dispersion of the air pollutants within the environment
  - Any control measures which are in place to mitigate the emissions or impacts from the activity.
  - Details of any (or lack of) complaints arising from residual emissions from an existing plant

For the Beauty Point STP, further quantitative assessment is completed to support the performance criteria assessment, as follows:

– An odour modelling assessment
– A noise modelling assessment

5.1 Beauty Point STP

As described in section 4.1 and shown in Figure 5, the proposed subdivision falls within the standard attenuation distances which are relevant to the Beauty Point STP. Consequently, assessment is required against the relevant performance criteria to demonstrate that the objectives (C9.5.2 & C9.6.1) of the Attenuation Code are met.

As outlined in the Attenuation Code, assessment against the performance criteria allows for consideration of site-specific factors.

Upon request from TasWater, D-MGH engaged GHD to perform assessments of site-specific odour and noise modelling for the proposed cabin park development (“the cabin park”), located in the adjacent 8.04ha western portion of Lot 102 West Arm Rd, Beauty Point, Tasmania shown on Figure 1. The cabin park notably lies directly between the Beauty Point STP and the site of the proposed subdivision.

The relevant sections of the cabin park attenuation assessment (Refer to 12572593-REP-3) have been included in Appendix A and Appendix B for reference in the following summary sections. It has been inferred that results of the site-specific odour and noise modelling assessment completed for the cabin park appropriately and conservatively represent the results for the proposed subdivision given the increased separation distance from the proposed subdivision to the Beauty Point STP.

5.1.1 Odour Assessment

An odour assessment was conducted, as presented in Appendix A, to assess potential odour impacts from the existing Beauty Point STP on the cabin park, using atmospheric dispersion modelling. Use of site-specific odour modelling was requested by TasWater and is consistent with the allowances of the performance criteria. The odour modelling was completed in accordance with EPA Tasmania guidance and using a methodology which was endorsed (in principle) by TasWater.

The dispersion modelling assessment predicted that the odour criterion outlined in the EPP was met at the adjacent cabin park. The predicted odour concentrations within the proposed cabin park were less than 1 OU (50% of the criterion). The predicted results at existing sensitive receptors aligned with the lack of odour complaints associated with the Beauty Point STP. The predicted odour contours for 1 and 2 OU are included on Figure 7.

The results of the site-specific odour modelling assessment completed for the cabin park indicate that the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme are met for the proposed subdivision in relation to odour impacts from the Beauty Point STP.

5.1.2 Noise assessment

A noise assessment was conducted, as presented in Appendix B, to assess noise impacts from the existing Beauty Point STP on the cabin park. Use of site-specific noise modelling was requested by TasWater and is consistent with the allowances of the performance criteria. The noise modelling was based off a review of relevant noise requirements and on-site observations and measurements. The noise modelling was completed in accordance with the relevant guidelines, and using a methodology prescribed by TasWater in Request for Additional Information (RAI).

It was predicted that noise levels from the Beauty Point STP on the adjacent cabin park would be below all acoustic environment indicator levels in accordance with the Tasmanian *Environment Protection Policy* (EPP). As such, no noise impacts from the Beauty Point STP was anticipated for future residences within the proposed cabin park, and therefore noise mitigation measures were not required.

The results of the site-specific noise modelling assessment completed for the cabin park indicate that the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme are met for the proposed subdivision in relation to noise impacts from the Beauty Point STP.

5.2 Beauty Point Effluent Reuse Scheme Site-Specific Attenuation Assessment

As described in section 4.2 and shown in Figure 5, the proposed subdivision falls within the standard attenuation distances which are relevant to irrigation activities occurring as part of the Beauty Point Effluence Reuse Scheme. Consequently, assessment is required against the relevant performance criteria to demonstrate that the objectives (C9.5.2 & C9.6.1) of the Attenuation Code are met.

As outlined in the Attenuation Code, assessment against the performance criteria allows for consideration of site-specific factors. Several factors are considered relevant when making further assessment of the required attenuation distances for the Reuse Scheme. These include:

– The type of sprays used
– The management measures committed to as part of the reuse scheme
– The frequency of the activity

A description of these factors including consideration of their impact on the attenuation assessment is provided below.

5.2.1 Type of sprays

It is expected that the type of spray, including pressure and nozzle type, would have a significant influence on the potential for off-target spray and spray drift, leading to impacts at sensitive land uses. High pressure spray nozzles can produce a spray with a higher proportion of fine and ultrafine droplets, which deposit (fallout) at a slower rate than large droplets. This slower rate of deposition can lead to greater amounts of droplets travelling offsite and impacting sensitive uses.

Given that the scheme utilises low-pressure irrigators, it is expected that the spray drift potential would be lower than the worst-case (high pressure) scenario.

5.2.2 Operational management measures

In addition to observing the relevant buffer distance (20 m and 100 m to boundary and residences respectively), the management plan for the reuse scheme (SKM, 2003) outlines the following spray drift management measures:

– Where possible, irrigation to occur during night/morning where wind speeds are typically lowest
– During irrigation no visible spray drift will be allowed to cross the property boundary
– An anemometer is installed which prevents irrigation where wind speed is greater than 20 km/h

It is noted that the above measures are general measures and are for the minimisation of spray drift potential at all times at the property boundary, rather than at any specific existing residential locations.

5.2.3 Frequency of the activity

As previously discussed, communications from TasWater have indicated that irrigation rarely occurs at irrigation areas BP3 and BP4. Assuming that a traveller run lasts for up to one day, then based on the comments from the landholder, the frequency of the activity could be conservatively summarised as one day in five years or occurring approximately 0.05% of the time.

Based on the current available data, the risk of spray drift impacts occurring from BP3 and BP4 irrigation areas is negligible due to the reduced frequency. However, GHD understands that in the future, the landholder could utilise these areas more frequently.

5.2.4 Proposed site-specific attenuation distance

Based on the type of sprays and the operational management measures, a 100 m attenuation distance is considered appropriate for the protection of spray drift impacts associated with irrigation carried out as part of the Beauty Point Effluent Reuse Scheme. This proposed distance is consistent with:

– The site-specific distance determined as part of the reuse scheme managing plan (SKM, 2003)
– The buffer distance for high pressure irrigation presented in Environmental Guidelines for the Use of Recycled Water in Tasmania (DPIWE, 2002)

The proposed attenuation distance for irrigation as part of the Beauty Point Effluent Reuse Scheme is shown on Figure 7. From Figure 7, it is evident that up to 80 m of the southernmost part of the proposed subdivision is within this irrigation attenuation buffer zone.

5.2.5 Design specific mitigation measures

As a result of the 80 m buffer zone encroachment into the subdivision, additional mitigation measures are required to construct residences within 80 m of the Southern boundary. D-MGH has committed to incorporating a vegetation buffer to mitigate odour impacts while allowing for development within 80 m. Detailed discussion of the basis for, and requirements of, a vegetative buffer for the purposes of mitigating impacts of spray drift is provided in section 6. In summary, D-MGH have included plans for a vegetative buffer at the southernmost boundary of the proposed subdivision comprised of:

– 20 m vegetation buffer
– 13 m open setback to the nearest residences

The layout of the design measure is illustrated in Figure 6 and if adopted by D-MGH, reduces encroachment of impacts from spray drift into the sensitive use area such that residential lots within 80 m of the southern boundary are capable of meeting the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme.

Paper Size ISO A4

0 0.05 0.1 km

Map Projection: Mercator Auxillary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxillary Sphere

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Dourias MGH Pty Ltd ATF MGH Dourias Family Trust

Beauty Point Subdivision Attenuation Assessment

D-MGH Proposed Subdivision Vegetative Buffer Layout

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Date. **09/06/2023**

FIGURE 6

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5.2.6 Summary

Based on site-specific characteristics of the irrigation activities, a reduced attenuation distance of 100 m is considered appropriate for irrigation at all locations as part of the Beauty Point Effluent Reuse Scheme. Based on the location of the irrigation, up to 80 m of the southernmost part of the proposed subdivision is within this irrigation attenuation buffer zone.

Odour mitigation design measures have been recommended in Section 6 which have been adopted by D-MGH to allow for creation of residential lots within 80 m of the southern boundary which are capable of meeting the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme.

5.3 Gypsy Hill Cattle Effluent Dam Site Specific Attenuation Assessment

As described in section 4.3 and shown in Figure 5, the proposed subdivision falls within the standard attenuation distances which are relevant to organic (animal) waste treatment. It is noted that there is no specific code of practice specified for effluent dams or ponds in the scheme and the attenuation distance for the nearest comparable activity given the presence of organic (animal) wastes has been applied. Consequently, assessment is required against the relevant performance criteria to demonstrate that the objectives (C9.5.2 & C9.6.1) of the Attenuation Code are met.

As outlined in the Attenuation Code, assessment against the performance criteria allows for consideration of site-specific factors. Several factors are considered relevant when making further assessment of the required attenuation distances for the effluent dam:

– The operational characteristics of the effluent dam
– The extent of encroachment of the subdivision into the standard attenuation area
– Details of any (or lack of) history of complaints arising from residual emissions from an existing plant
– Any design measures which are in place to mitigate the emissions or impacts from the activity.

Additionally, guidance documentation has been consulted where specific reference to dairy effluent dams and ponds is made with respect to minimum separation distances:

– *Environmental Management Guidelines of the Dairy Industry* (DPI NSW, 2008)
– *Effluent and Manure Management Database for the Australian Dairy Industry* (Dairy Australia, 2008)

A description of these factors including consideration of their impact on the attenuation assessment is provided below.

5.3.1 Operational characteristics of the effluent dam

The Gypsy Hill cattle effluent dam measures 28 m by 15 m and constitutes a small operation. No aeration or machinery for treatment purposes is present.

5.3.2 Extent of encroachment

As shown on Figure 4, the southernmost boundary of the proposed subdivision is located 387 m away from the northernmost point of the Gypsy Hill cattle effluent dam. Therefore, the extent of the standard separation distance into the proposed subdivision is 113 m across the southernmost boundary.

Additionally, as discussed in Section 5.2.5, D-MGH has committed to incorporating a vegetation buffer to mitigate impacts of spray drift while allowing for development within the 80 m of the southern boundary that lies within the site-specific attenuation zone for the Beauty Point Effluent Reuse Scheme. If adopted by D-MGH, the encroachment of the standard attenuation distance is reduced to just 76 m into the sensitive use area of the subdivision.

It is noted that up to 46 existing dwellings, including the Gypsy Hill residence (138 m) and the nearest neighbouring residence (204 m), fall within the standard attenuation distance shown on Figure 5 and no odour nuisance complaints have been reported as of May 2023[4].

5.3.3 Guidance Documentation Consulted

The Tasmanian Dairy Industry Authority refers to Dairy Australia's *Effluent and Manure Management Database for the Australian Dairy Industry* which has compiled commonly-applied separation distances for Odour Emissions and Control as per Table 4.

Table 4 Separation Distances to Nearest House (Dairy Australia, 2008)

	NSW	VIC	TAS	SA	WA
Pond	200	300	300	200	200
Solids Trap				50	
Manure Stockpiile	200		300		
Land application	100	300 (slurry)	100, 300	100	100, 300

While the planning scheme makes no specific allowances for effluent ponds outside organic (animal) waste treatment, the NSW *Environmental Management Guidelines for the Dairy Industry* (DPI NSW, 2008) suggest that the above separation distance specifically refers to effluent ponds.

5.3.4 Proposed site-specific attenuation distance

Based on site-specific characteristics of the effluent dam, and review of alternative guidance documentation, a reduced attenuation distance of 200 m is considered appropriate for the protection from odour impacts associated with the operation of the Gypsy Hill cattle effluent dam. This proposed distance is consistent with:

– The buffer distance for effluent ponds presented in *Environmental Management Guidelines for the Dairy Industry* (DPI NSW, 2008) endorsed by Dairy Australia's *Effluent and Manure Management Database for the Australian Dairy Industry* (2008)
– The current buffer distance between the Gypsy Hill cattle effluent dam and the nearest neighbouring dwelling
– The absence of odour complaints

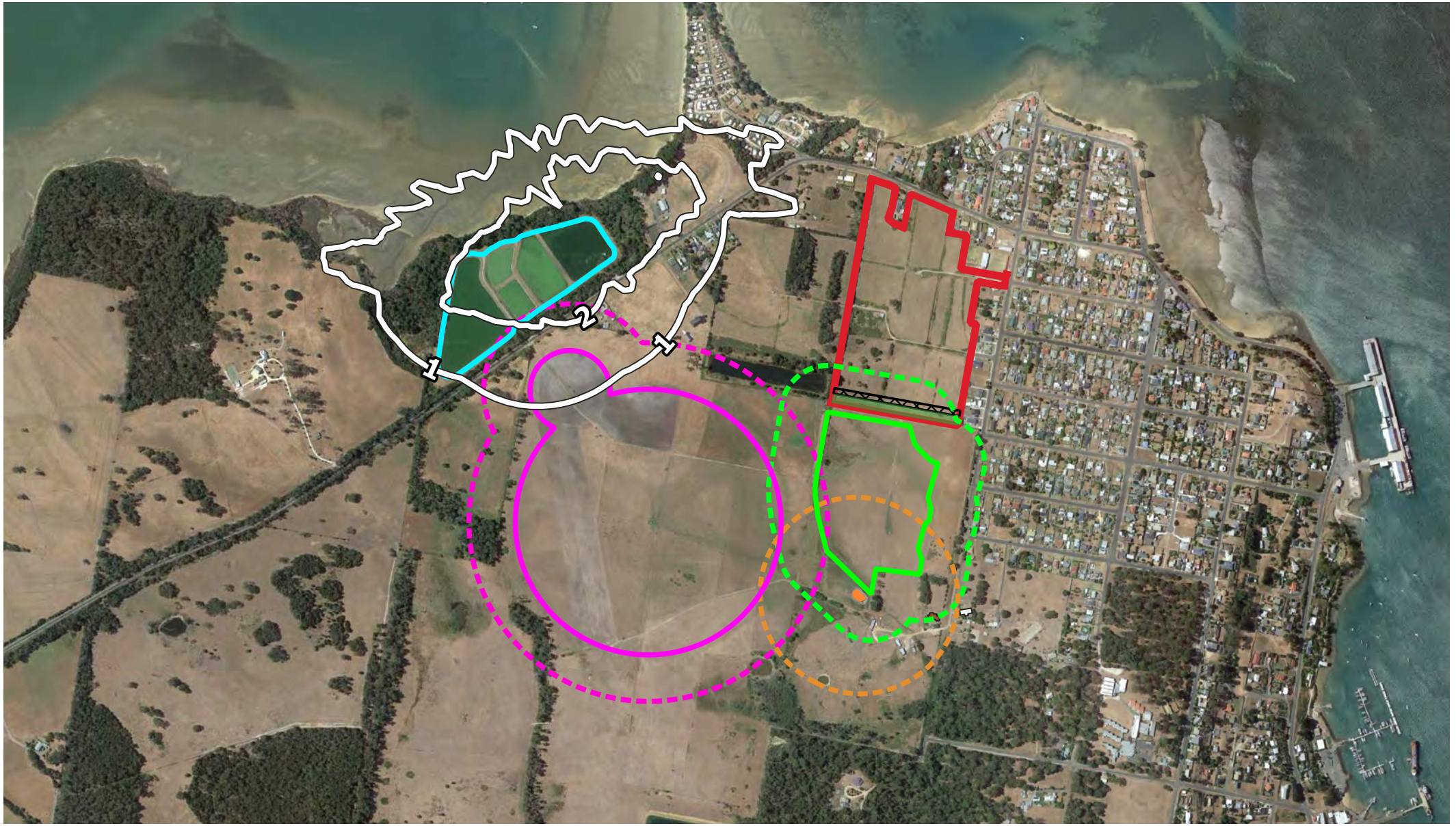
This site-specific attenuation buffer is shown on Figure 7.

5.3.5 Summary

The performance criteria assessment indicates that there is a negligible risk to residents of the proposed subdivision due to odour and gaseous emissions from the Gypsy Hill effluent Dam. This assessment is made on the following basis:

– The nearest planned residence within the subdivision is 424 m from the Gypsy Hill effluent Dam, which is more than double the site-specific attenuation distance determined through review of site-specific factors and alternative guidance documentation.
– The southernmost boundary of the proposed subdivision is approximately 187 m further from the Gypsy Hill effluent Dam than the nearest existing neighbouring residence. It is understood that no amenity complaints have been lodged with council from residences closes to the Gypsy Hill effluent Dam as of May 2023. As such, the risk of impacts resulting in complaints at receptors with almost double the attenuation distance is considered very low.
– Further mitigating the risk is the planned uptake by D-MGH of the recommended vegetation buffer zone across the extent of the southern subdivision boundary, detailed requirements of which are outlined in Section 6.

[4] Email from Tiffany Heys (West Tamar Council) to Mark O'Brien (ERA Planning) 17/05/2023



Proposed Subdivision Boundary
Eastern-irrigators
Eastern-irrigators-100m
Beauty Point STP
Pivot-irrigators
Pivot-irrigators-100m
Gypsy Hill effluent dam
Effluent Dam-200m
20m Vegetative Buffer

STP Predicted Odour Concentrations (OU)
1.00 OU (50% of the criterion)
2.00 OU
13m Open Setback

Paper Size ISO A4
0 0.2 0.4 km
N

Map Projection: Mercator Auxillary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxillary Sphere

GHD

Dourias MGH Pty Ltd ATF MGH Dourias Family Trust
Beauty Point Subdivision
Attenuation Assessment

Site-Specific Attenuation Distances for Irrigation Sources and Effluent Dam, Predicted Odour Contours for STP

Project No. **12572593**
Revision No. **1**
Date. **09/06/2023**

FIGURE 7

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Print Date: 09/06/2023

Data Source: Google Earth Imagery 2023
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6. Mitigations

Based on site-specific characteristics of the irrigation activities, a reduced attenuation distance of 100 m is considered appropriate for irrigation at all locations as part of the Beauty Point Effluent Reuse Scheme. Based on the location of the irrigation, up to 80 m of the southernmost part of the proposed subdivision is within this irrigation attenuation buffer zone, as shown in Figure 7.

As a result of this, additional mitigation measures are required to construct residences within 80 m of the Southern boundary. D-MGH has committed to incorporating a vegetation buffer to mitigate impacts of spray drift while allowing for development within 80 m of the southern boundary.

This method for mitigating transport of aerosols (spray drift) is mentioned in the *Environmental Guidelines for the Use of Recycled Water in Tasmania* (DPIWE, 2002). The guideline states that 'three rows of trees with open leaf growth' could be used.

This method is also mentioned in various Australian guidance documents for the prevention of spray drift impacts for agricultural spraying of herbicides, pesticides etc, including:

– *Spray Drift Management Principles, Strategies and Supporting Information* (CSIRO, 2002)
– *Fact Sheet: Using Vegetative Barriers to Minimise Spray Drift on Cotton Farms* (Cottoninfo, 2015)
– *Separation distance guidelines for air emissions* (ACT Government, 2018)

Each of these four reference documents stipulate a minimum appropriate vegetative buffer distance of 40m consisting of:

– 10 m of open space, 20 m of tall vegetation - specifically selected for efficient capture of spray droplets, permeability, and differing growth habits - and a further 10 m of open space, as shown in Figure 8 below. A schematic showing how these distances plan to be applied at the proposed subdivision is presented in Figure 6 and detailed in Section 5.2.5.

With 20m of open space between the spraying activity boundary and the subdivision's southern property boundary, the nearest residential premises would be required to be set back from that boundary by at least 30 m in order to incorporate the 20m vegetation zone and 10m additional open setback stipulated. Figure 6 shows a total planned setback from the southern boundary of 33 m. Gypsy Hill's eastern spray irrigators are required to maintain a 20m open space buffer between the boundary of their activity and the boundary of the property. The planned subdivision setback of 33m combined with this 20m open buffer zone means sensitive residential receptors within the attenuation boundary are expected to meet the performance criteria at clause C9.5.2 and C9.6.1 of the Attenuation code of the planning scheme.

It is recommended that D-MGH engage a specialist to develop the vegetative buffer adopted in their designs, considering the following principles from the four reference documents consulted:

- The porosity should be approximately 50%. It should be noted that if the porosity of the barrier becomes too low (too thick), then it will become less effective. Figure 9 below shows a comparison between effective and ineffective porosity.
- The mature height of the buffer should be at least 1.5 to 2 times the maximum spray height, with a height of 3-4 m being considered appropriate for ground application.
- Vegetation must be maintained from top to bottom of the barrier, and therefore it is recommended that multiple storeys of vegetation be included, as shown in Figure 10.
- Plant types should be selected as outlined in the guidance documents listed above, and their sources.

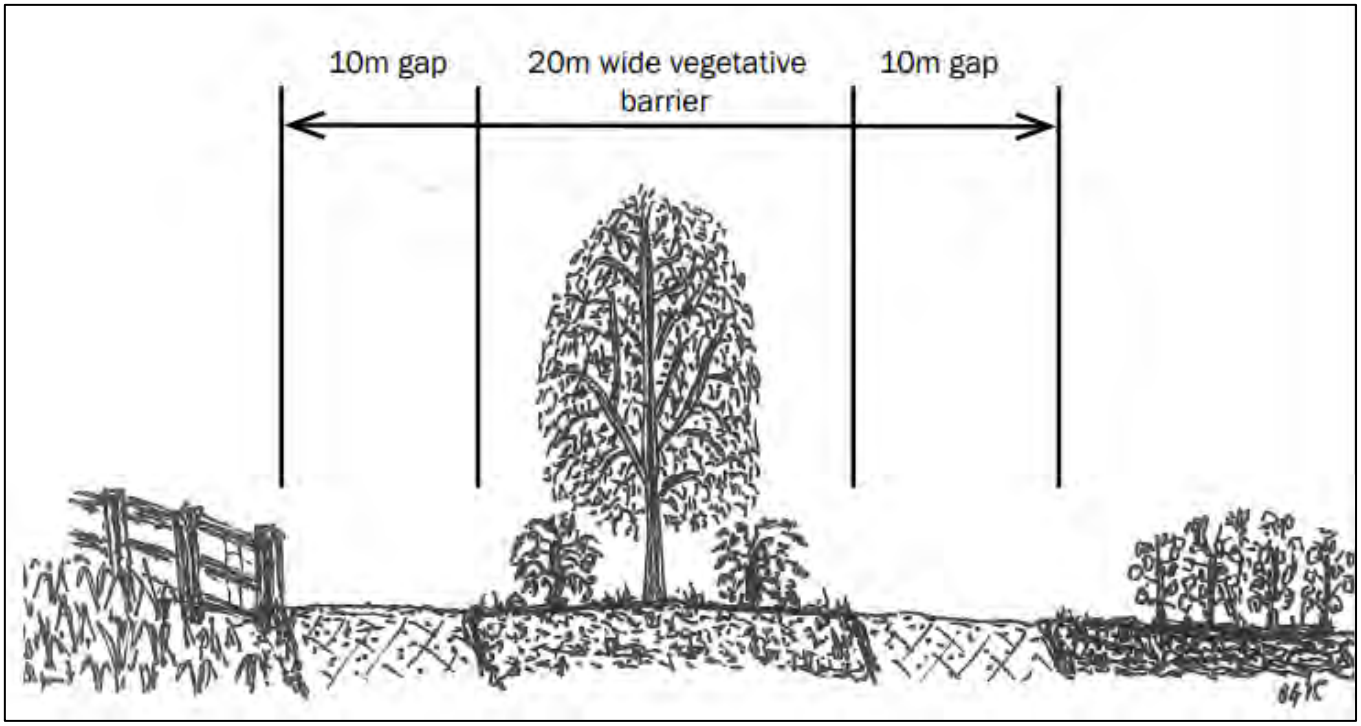

Figure 8 *Schematic of vegetative barrier – 40 m total (Cottoninfo, 2015)*

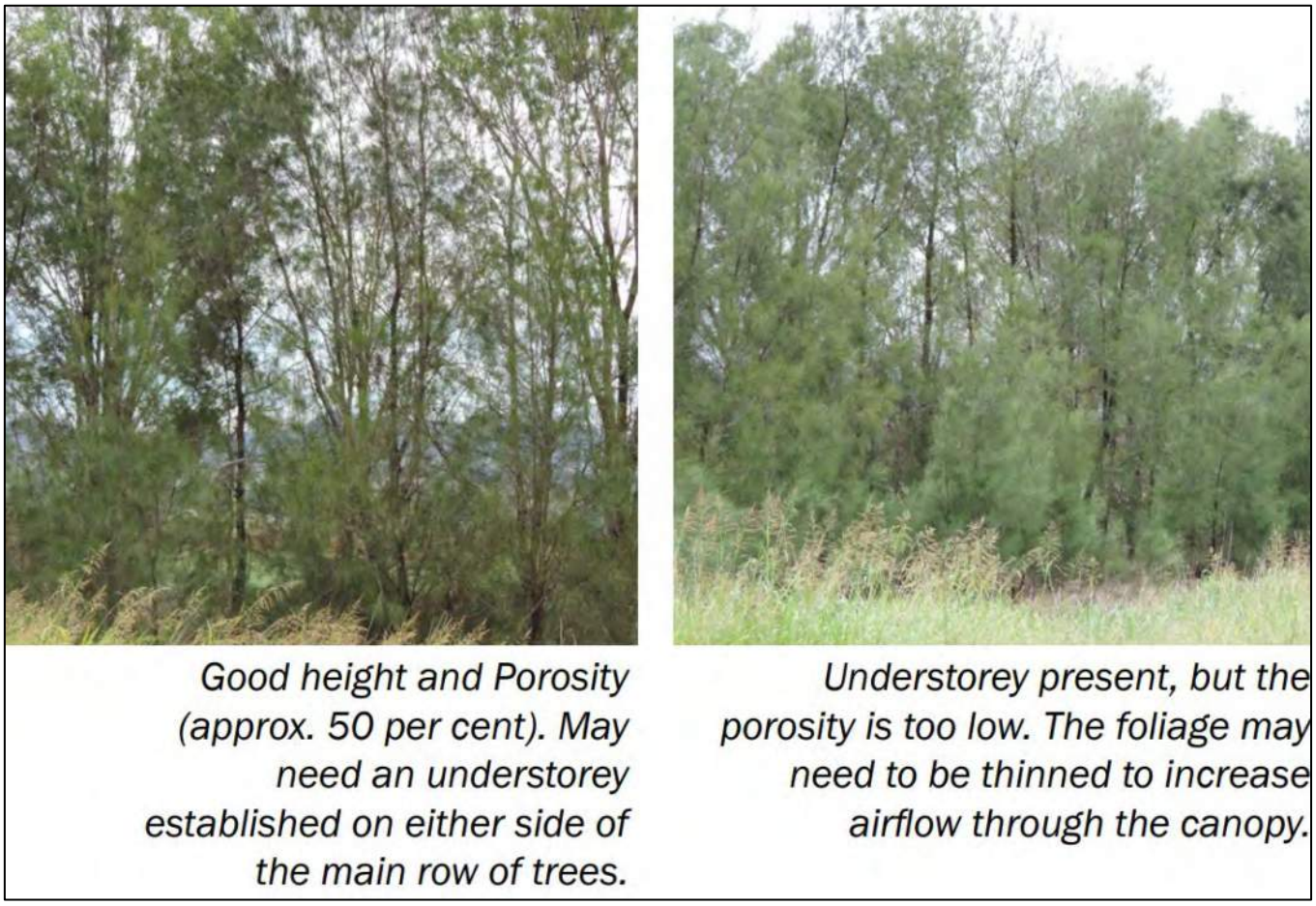

Figure 9 *Pictures showing comparison of porosity (Cottoninfo, 2015)*

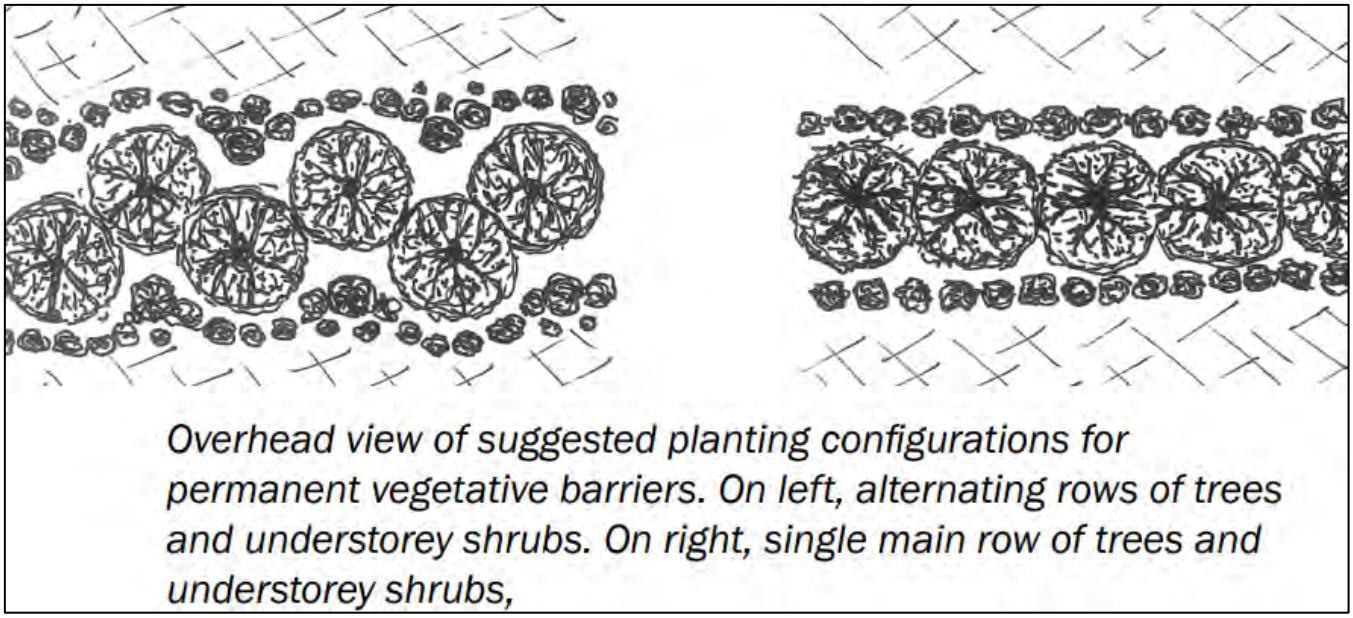

Figure 10 Schematic showing multiple storeys of vegetation (Cottoninfo, 2015)

If the recommended mitigations for this vegetative buffer on the southern boundary of the subdivision are adopted by D-MGH (with respect to residential lots within 80 m of the southern boundary), then the proposed subdivision is expected to meet the performance criteria at clause C9.5.2 and C9.6.1 of the Attenuation code of the planning scheme.

7. Conclusion

7.1 Attenuation Distance Assessments

The attenuation assessment was completed for the proposed subdivision, which considered attenuation distances relevant to the Beauty Point STP, irrigation activities occurring as part of the Beauty Point Effluent Reuse Scheme and the Gypsy Hill Cattle Effluent Dam. The attenuation distance assessment is summarised below:

– For the Beauty Point STP – given the STP ADWF of 540 kL/day, the relevant attenuation distance is 550 m, as presented in Table C9.2 of the Attenuation Code. The proposed subdivision falls partially within the relevant 550 m attenuation distance and therefore further assessment was required to demonstrate compliance with the performance criteria (and therefore objectives) for Attenuation Code sections C9.5.2 and C9.6.1. Further assessment was completed by means of site-specific odour and noise modelling, consistent with requests from TasWater (see Appendix A and Appendix B).
– For irrigation as part of the Beauty Point Effluent Reuse Scheme – given the spray irrigators used, the relevant attenuation distance is 200 m, as presented in Table C9.1 of the Attenuation Code. The proposed subdivision falls partially within the relevant 200 m attenuation distance and therefore further assessment was required to demonstrate compliance with the performance criteria (and therefore objectives) for Attenuation Code sections C9.5.2 and C9.6.1. Further assessment was completed by means of development of a site-specific attenuation distance, considering site-specific factors, consistent with allowances of the performance criteria.
– For the Gypsy Hill cattle effluent dam – given the presence of organic (animal) wastes, and without a specific coded practice for effluent dams in the planning scheme, the relevant attenuation distance is 500 m, as presented in Table C9.1 of the Attenuation Code. The proposed subdivision falls partially within the relevant 500 m attenuation distance and therefore further assessment was required to demonstrate compliance with the performance criteria (and therefore objectives) for Attenuation Code sections C9.5.2 and C9.6.1. Further assessment was completed by means of development of a site-specific attenuation distance, considering site-specific factors, consistent with allowances of the performance criteria.

7.2 Assessments Against Performance Criteria

7.2.1 Beauty Point STP

The results of the site-specific odour modelling assessment completed for the cabin park indicate that the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme are met for the proposed subdivision in relation to odour impacts from the Beauty Point STP.

The results of the site-specific noise modelling assessment completed for the cabin park indicate that the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme are met for the proposed subdivision in relation to noise impacts from the Beauty Point STP.

7.2.2 Beauty Point Effluent Reuse Scheme

The site-specific attenuation distance was determined to be 100 m, which was consistent with the distances established as part of the management plan for the Beauty Point Effluent Reuse Scheme.

The site-specific attenuation required for the irrigation activities as part of the Beauty Point Effluent Reuse Scheme encroaches up to 80 m on the southernmost boundary of the proposed subdivision. Therefore, recommendations for mitigation measures were developed in Section 6. If the recommended mitigations are adopted by D-MGH (with respect to residential lots within 80 m of the southern boundary), then the proposed subdivision is expected to meet the performance criteria at clause C9.5.2 and C9.6.1 of the Attenuation code of the planning scheme.

7.2.3 Gypsy Hill Cattle Effluent Dam

The site-specific attenuation distance was determined to be 200 m, which is consistent with:

– The buffer distance for effluent ponds presented in *Environmental Management Guidelines for the Dairy Industry* (DPI NSW, 2008) endorsed by Dairy Australia's *Effluent and Manure Management Database for the Australian Dairy Industry* (2008)
– The current buffer distance between the Gypsy Hill cattle effluent dam and the nearest neighbouring dwelling

The site-specific attenuation required for the Gypsy Hill cattle effluent dam does not encroach on the proposed subdivision, and therefore the performance criteria (and therefore objectives) in clause C9.5.2 and C9.6.1 of the Attenuation Code of the planning scheme are met in relation to this effluent dam.

7.3 Summary

Development of the proposed subdivision would be within the relevant attenuation distances as outlined in the Attenuation Code of the Tasmanian Planning Scheme, for the Beauty Point STP, irrigation activities as part of the Beauty Point Effluent Reuse Scheme and the Gypsy Hill cattle effluent dam.

Further assessment was completed to determine compliance with the relevant performance criteria and objectives for clauses C9.5.2 and C9.6.1 of the Attenuation Code. Further assessment for the Beauty Point STP and the Gypsy Hill cattle effluent dam determined that the relevant performance criteria and objectives for clauses C9.5.2 and C9.6.1 of the Attenuation Code would be met with site-specific attenuation distances.

The site-specific attenuation required for the Beauty Point STP and the Gypsy Hill cattle effluent dam do not encroach on the proposed subdivision. The site-specific attenuation required for the Beauty Point Effluent Reuse Scheme encroaches on the southernmost boundary of the subdivision by approximately 80 m.

With implementation of the recommended mitigations for a vegetative buffer on the southern boundary (with respect to lots within 80 m of the southern boundary), it is expected that Development of the proposed subdivision would be consistent with the Attenuation Code.

9. References

ACT Government. (2018). Separation Distance Guidelines for Air Emissions.

Cottoninfo. (2015). Fact Sheet: Using Vegetative Barriers to Minimise Spray Drift on Cotton Farms .

CSIRO. (2002). Spray Drift Management Principles, Strategies and Supporting Information . *Primary Industries Standing Committee PISC (SCARM) Report 82*.

Dairy Australia. (2008, December). the Effluent and Manure Management Database for the Australian Dairy Industry. Dairy Australia.

DPI NSW. (2008, September). Environmental Management Guidelines for the Dairy Industry. NSW Department of Primary Industries.

DPIWE. (2002, December). Environmental Guidelines for the Use of Recycled Water in Tasmania. Tasmania Department of Primary Industries, Water and Environment.

EPA Victoria. (2013). Reccomended separation distances for industrial residual air emissions.

GHD. (2014). TasWater Beauty Point STP and Reuse Scheme Environmental Management Plan Review.

Leary Cox & Cripps. (2023, March). Subdivision Proposal Plan Proposed Easements. *Lot 102 West Arm Rd Beauty Point TAS 7270*. Leary Cox and Cripps.

Macquarie Franklin. (2019). TasWater 2019 Annual Soill Monitoring and Compliance Auditing Report. *Northern Regional Recycled Water Schemes*.

SA EPA. (2016). Evaluation distances for effective air quality and noise management.

SKM. (2003). Beauty Point Effluent Re-use Scheme Development Proposal and Environmental Management Plan.

Appendices

Appendix A

Cabin Park Attenuation Assessment

Section 6 – STP Odour Assessment

6 STP odour assessment

As described in section 4.1 and shown in Figure 4, the proposed cabin park falls within the standard attenuation distances which are relevant to the Beauty Point STP. Consequently, assessment is required against the relevant performance criteria to demonstrate that the objectives (C9.5.2 & C9.6.1) of the Attenuation Code are met.

As outlined in the Attenuation Code, assessment against the performance criteria allows for consideration of site-specific factors.

The operator of the Beauty Point STP, TasWater, provided feedback on the attenuation assessment completed. Due to the cabin park falling within the attenuation distance, TasWater requested that a detailed odour modelling assessment be completed.

6.1 Assessment methodology

The assessment of odour impacts from the use and operation of the Beauty Point STP on the proposed cabin park is based on the assumptions and methodology detailed below and is assessed against the relevant criteria described in Section 2.2.1.

6.1.1 Air emission inventory

As stated in Section 4.1, the STP is a facultative lagoon style process including four lagoons and an onsite reuse storage dam, with a maximum permitted average dry weather flow (ADWF) of 540 kL/day (GHD, 2014). Raw sewage is fed into the primary lagoon 1, which has an aerator at the inlet to provide additional aerobic treatment. From the primary lagoon, the wastewater gravitates into a series of three secondary lagoons (2, 3 and 4) for further treatment. Treated effluent is then stored in the reuse storage dam (lagoon 5) to be used as part of the reuse scheme descried in Section 4.2.

No odour measurements from the Beauty Point STP were available for this assessment. Regarding TasWater's requirement for odour emission rates as part of the modelling process, the following are noted:

– TasWater Request for Additional Information (RAI TWDA 2021/02175-WTC 17/01/2022) stated *'Odour emission rates from process units (**based on conservative desktop analysis** unless site specific odour collection and analysis is undertaken – SOER references should be provided)'*

– TasWater provided confirmation[5] of the proposed odour assessment methodology as follows: '*As per comment in the meeting if the report is prepared in line with the EPA guidelines, **with database values as close to Tasmanian and site conditions as possible** and they use the maximum allowable flows for the site – this should be acceptable'*

To satisfy the above requirements, GHD reviewed emission sampling data from similar facilities to in order to estimate emissions applicable to Beauty Point STP. The Wallan STP located in Victoria was determined to be an appropriate reference facility given the similar processes (lagoon system) and similar climatic conditions to Tasmania. The Wallan STP is a facultative lagoon-based sewage treatment system which consists of five treatment lagoons and one final winter storage lagoon where treated effluent is stored prior to being irrigated.

At the time of the database odour measurements, the Wallan STP had an ADWF of 1.2 ML/day, and the ambient temperature was 27 degrees Celsius.

The emission rates measured at the Wallan STP were scaled to be representative of the Beauty Point licenced ADWF of 540 kL/day, noting that total influent to the STP has historically averaged less than this amount. Emission rates are therefore considered conservative and representative of worst-case influent volumes.

A summary of the source odour emission rates (SOERs) used in this assessment is provided in Table 4. When the area of each source is taken into consideration (odour emission rate (OER)), the highest emission rate is

[5] Email from Anthony Cengia (TasWater) to Danny Craggs (GHD) 18/05/2022

associated with primary lagoon 1. This emission rate (the maximum rate) is used for modelling of the facultative lagoon as Beauty Point STP.

Table 4 Summary of emission rates

Source description	SOER (OU/m²/min)		Beauty Point OER (OU/min)	Source and method
	Wallan STP	Scaled Beauty Point STP		
Inlet and aerator	192	86.4	8640	Aerator operating on Wallan primary treatment lagoon. Emission rate determined using back calculation method
Primary lagoon 1	4.7	2.1	23374	Wallan primary treatment lagoon, isolation flux chamber
Secondary lagoon 2	3	1.4	10747	Average of Wallan secondary lagoons, isolation flux chamber
Secondary lagoon 3	3	1.4	3819	Average of Wallan secondary lagoons, isolation flux chamber
Secondary lagoon 4	3	1.4	3650	Average of Wallan secondary lagoons, isolation flux chamber
Reuse storage dam 1	1.3	0.6	12478	Wallan final winter storage, isolation flux chamber

6.1.2 Existing air quality environment

As stated in Section 2.2.1, the assessment must consider local terrain and meteorology, the effect of background concentrations and the contribution of adjacent sources.

These items have been assessed in the following sections

6.1.2.1 Local terrain and meteorology

The local terrain and meteorology are described in Appendix A.

6.1.2.2 Background concentrations / adjacent sources

A review of Google Maps and the National Pollutant Inventory did not identify any adjacent sources with the potential to contribute to background odour concentrations. The closest identified source is the TasWater pumping station, located on Mainwaring Street & Esplanade approximately 1km northeast of the STP and approximately 500 m northeast of the proposed cabin park. It was determined that due to the distance between the pump station and the proposed cabin park, odour from the pump station is unlikely to contribute to the odour concentrations at the cabin park.

Therefore, background odour concentrations at the cabin park from adjacent sources are anticipated to be negligible.

6.1.3 Atmospheric dispersion modelling

Atmospheric dispersion modelling was conducted using the US EPA regulatory Gaussian puff model CALPUFF. This is considered an acceptable model to use for the modelling of emissions from existing industrial activities within Tasmania (EPA Tasmania, 2020).

The following settings were used:

– The receptor grid was 1.7 km x 1.5 km, with a 25 m nested grid resolution.
– The existing housing along West Arm Road were identified as discrete receptors (R_7 – R_15). Proposed future sensitive receptors within the cabin park were also included (R_1 – R_6), as shown in Figure 6.
– Meteorology was sourced from CALMET.
– The modelled source locations are provided in Figure 6.
– Modelling of the predicted peak 100th percentile ground level concentrations was conducted for averaging periods of 1-hour.

Legend

- Proposed cabin park boundary
- Cabin park layout
- Modelled lagoon
- Modelled inlet
- Identified receptor

Paper Size ISO A4

0 0.05 0.1 km

N

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 55

GHD

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Attenuation, Odour and Noise Assessment

Odour model inputs

Project No. **12572593**
Revision No. **-**
Date. **20/07/2022**

FIGURE 8

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6.2 Predicted odour impacts

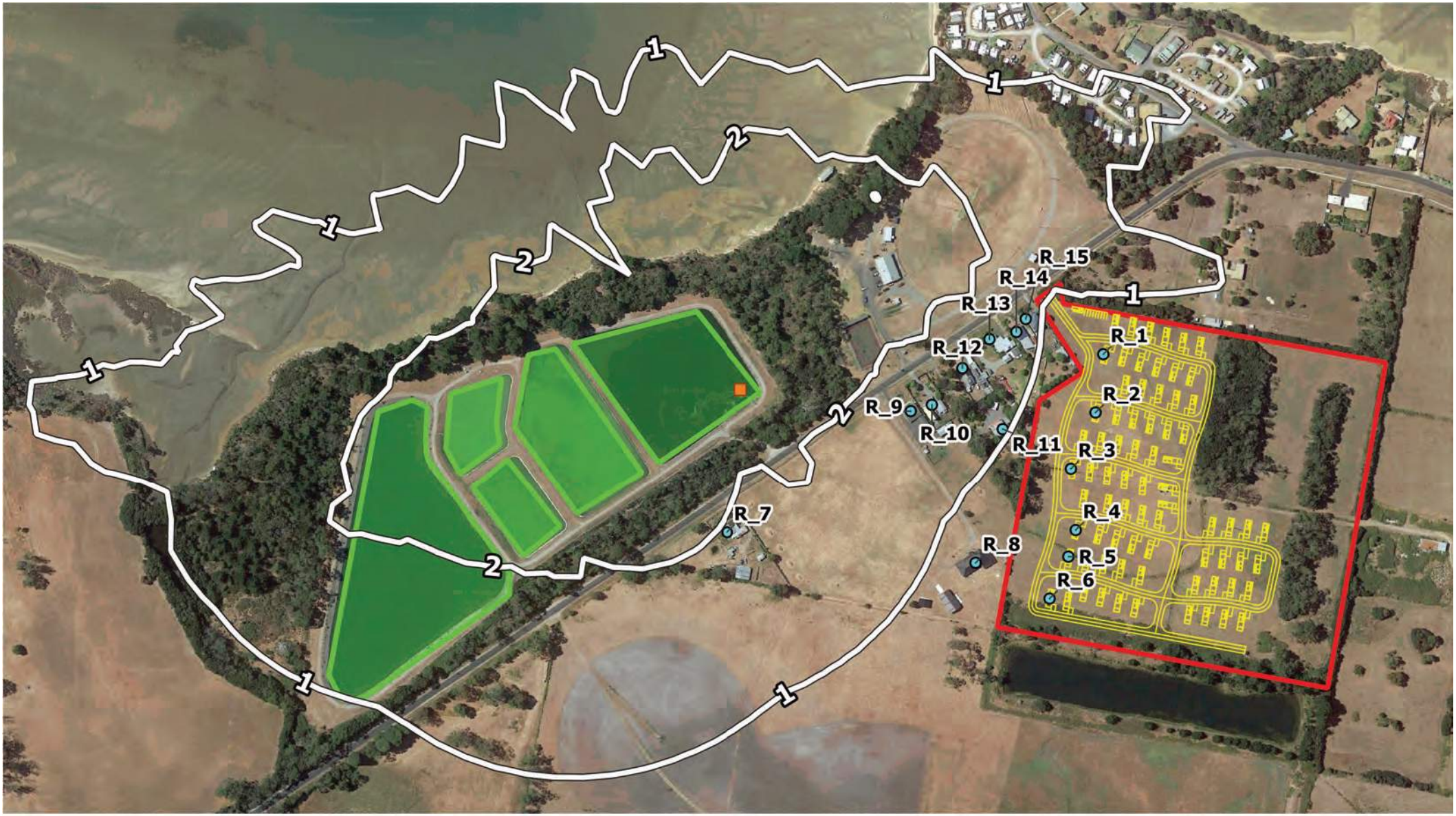
6.2.1 Atmospheric dispersion modelling

The predicted odour concentrations from the Beauty Point STP on the proposed cabin park and surrounding area are provided below in Figure 7 and Table 5. The predicted odour concentrations at the receptors located within the proposed cabin park (R_1 – R_6) are all less than 1 OU. It can also be seen that the 2 OU contour does not extend to any of the existing receptors.

Therefore, the odour criterion outlined in the EPP is met at the proposed cabin park, and at existing receptor locations.

Table 5 Predicted 1 hour, 100th percentile odour concentrations

Receptor ID	Location	Predicted odour concentration (OU)
R_1	In cabin park	0.71
R_2	In cabin park	0.67
R_3	In cabin park	0.65
R_4	In cabin park	0.62
R_5	In cabin park	0.62
R_6	In cabin park	0.63
R_7	On West Arm Road	1.95
R_8	On West Arm Road	0.85
R_9	On West Arm Road	1.60
R_10	On West Arm Road	1.50
R_11	On West Arm Road	1.04
R_12	On West Arm Road	1.40
R_13	On West Arm Road	1.27
R_14	On West Arm Road	1.13
R_15	On West Arm Road	1.08



Legend

- Proposed cabin park boundary
- Predicted odour concentration (OU)
- Cabin park layout
- Modelled lagoon
- Modelled inlet
- Identified receptor

Paper Size ISO A4

0 0.05 0.1 km

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 55

N

GHD

Dourias MGH Pty Ltd ATF MGH Dourias Family Trust

Attenuation, Odour and Noise Assessment

Predicted 100th percentile, 1 hour, odour concentrations

Project No. **12572593**
Revision No. **-**
Date. **20/07/2022**

FIGURE 9

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6.2.2 Model validation

Empirical evidence in the form of an analysis of the complaint history is commonly used to ground truth odour dispersion models. As stated in section 4.1, no odour complaints were attributed to the Beauty Point STP.

The EEP notes that concentrations of 1 OU would be expected to be perceivable by most people. The 1 OU contour was predicted to extend to the identified receptors along West Arm Road under worst case meteorological conditions. It is anticipated that odour concentrations under typical meteorological conditions would be less than 1 OU at these receptors.

The model results therefore align with the lack of odour complaints associated with the Beauty Point STP and indicates that the developed model is sufficiently reflective of the current situation at Beauty Point STP.

Further, the following are noted:

– The maximum (worst hour in the year) predicted odour concentrations, under maximum STP flows (540 kL/day) are less than the 2 OU criteria at all existing receptors. Odour concentrations from the STP at existing receptors along West Arm Road are likely be less than 1 OU for majority of the year.
– The predicted impact at the Cabin Park is less than 50% of the criteria value. Therefore, this indicates that the STP design throughput could increase significantly (~2x) prior to odour becoming an issue at the Cabin Park.

6.3 Upset conditions

The most likely upset condition at the Beauty Point STP is associated with the inlet works, such as shock load increases to the plant or receival of septic sewage. Scheduled de-sludging of the lagoons a non-routine operation that may also result in increased odour concentrations. De-sludging of the lagoons occurs infrequently and the community is notified when it is scheduled to occur.

Based on the lack of odour complaints associated with the Beauty Point STP, if an upset has occurred in the past, it was likely very infrequent (rare occurrence), did not generate odour strong enough or have tonal characteristics that led to complaints.

Appendix B

Cabin Park Attenuation Assessment

Section 7 – STP Noise Assessment

7 STP noise assessment

As described in section 4.1 and shown in Figure 4, the proposed cabin park falls within the standard attenuation distances which are relevant to the Beauty Point STP. Consequently, assessment is required against the relevant performance criteria to demonstrate that the objectives (C9.5.2 & C9.6.1) of the Attenuation Code are met.

As outlined in the Attenuation Code, assessment against the performance criteria allows for consideration of site-specific factors.

The operator of the Beauty Point STP, TasWater, provided feedback on the attenuation assessment completed. Due to the cabin park falling within the attenuation distance, TasWater requested that a detailed noise modelling assessment be completed.

7.1.1 Background noise monitoring

Noise monitoring has been undertaken to determine the prevailing noise environment for the proposal. The methodology for the noise monitoring program included the following:

– Identification of suitable noise monitoring locations. Noise monitoring close to the western boundary of the proposed subdivision. Background noise levels at this location were representative of the surrounding environment for residential receivers.
– Noise logging was conducted from Wednesday 29 June to Thursday 7 July 2022.
– A calibration check was performed on the noise monitoring equipment using a sound level calibrator with a sound pressure level of 94 dB) at 1 kHz. At completion of the measurements, the meter's calibration was re-checked to ensure the sensitivity of the noise monitoring equipment had not varied. The noise loggers were found to be within the acceptable tolerance of ± 1.0 dBA.
– Noise monitoring was undertaken using a SVAN 977 environmental noise logger. The noise logger was programmed to accumulate L_{A90}, L_{A10}, L_{Amax} and L_{Aeq} noise descriptors continuously over the entire monitoring period. Details of the noise monitoring equipment are provided in Table 6.
– The data collected by the loggers was downloaded and analysed, and any invalid data removed. Invalid data generally refers to periods of time where average wind speeds were greater than 5 m/s, or when rainfall occurred. Meteorological data was sourced from the Bureau of Meteorology's Low Head AWS weather station (number 091293).
– Unattended noise monitoring was conducted by a competent Acoustic Engineer Angus Bagby, who:
  - is a member employee of GHD, a member firm of the Association of Australasian Acoustical Consultants (AAAC)
  - possesses the qualification Bachelor of Aerospace Engineering, attained at the University of New South Wales (UNSW) in 2017
  - has over 4 years of professional experience in the field of acoustics

All noise monitoring activities were undertaken and processed in accordance with the Noise Policy for Industry (NSW EPA 2017) long-term monitoring method. All noise logger settings and descriptors used were based on this method.

The results of the background noise monitoring are provided below in Table 6. Daily noise monitoring charts are provided in Appendix B.

Table 6 Noise monitoring details and results

Noise monitoring results									
Day	Rating background level (RBL) $L_{90(15min)}$, dBA			Ambient $L_{Aeq(15min)}$ noise level, dBA			Sound level meter details	Sound level calibrator results	Equipment settings
	Day[1]	Evening[1]	Night[1]	Day[1]	Evening[1]	Night[1]			
Wednesday-29-Jun-22			31			39	SVAN 977 Type 1 Sound level meter SN: 45746 IEC 61672-3:2013 Compliant Manufactured prior 2019 1.5 m above ground level Free-field conditions	GRAS 42AG Class 1 Sound level calibrator SN: 278663 AS 60942:2003 Compliant Manufactured prior 2017	A-weighted Fast time response 15 minute intervals
Thursday-30-Jun-22	31	35	29	43	42	38			
Friday-1-Jul-22	25	33	25	43	39	34			
Saturday-2-Jul-22	24	31	27	41	38	34			
Sunday-3-Jul-22	26	28	23	42	36	31			
Monday-4-Jul-22	26	29	28	40	35	35			
Tuesday-5-Jul-22	24	26	32	43	35	39			
Wednesday-6-Jul-22	34	20	15	44	37	37			
RBL and L_{Aeq}	26	29	27	42	38	37	**Equipment photo**		

Monitoring location

Monitoring location was selected to be along the western boundary of the proposed subdivision. Monitoring location considered representative of residential receivers within proposed subdivision.

Monitoring location coordinates:

– 41.148878 south
– 146.807726 east

Site observations

Noise environment characterised by low level rural noise, with intermittent vegetation movement in light gusts, local wildlife noise and infrequent road traffic passbys. Noise from the STP was not audible at the unattended monitoring location.

Note 1:

– Day – 7:00 am to 6:00 pm
– Evening – 6:00 pm to 10:00 pm
– Night – 10:00 pm to 7:00 am

7.1.2 Attended noise monitoring

Operator attended noise monitoring was undertaken between 12:00 pm to 1:00 pm at the TasWater STP to quantify noise generating equipment comprising typical operations. The following observations were made following the site visit:

– An aerator was located in the eastern corner of the site, approximately 20 metres from the south-eastern boundary, and was considered to be the dominant noise source from the site. No other significant sources of noise were identified on the subject site
– Noise monitoring was conducted utilising the same equipment and settings as provided above in Table 6.
– A member of staff was present on site so that the aerator considered the dominant operational noise source could be switched on or off.
– Nearfield measurements of the aerator were conducted, with the results of the noise monitoring provided below in Table 7.

Table 7 Operator attended noise monitoring results

Location	Measured sound pressure level (SPL) L_{Aeq}, dBA	Calculated sound power level (SWL) L_{Aeq}, dBA	Equipment photo
11 metres from aerator	65	95	
5.5 metres from aerator	71	94	
Average SWL L_{Aeq}, dBA		***95***	

7.2 Assessment methodology

The assessment of noise emission from the use and operation of the Beauty Point STP on the proposed cabin park has been conducted. Whilst it was noted that the STP was not audible nor measured during unattended noise monitoring, noise modelling has been conducted to quantify operational noise levels at the proposed cabin park's location. It is based on the assumptions and methodology detailed below and is assessed against the relevant criteria described in Section 2.3.1.

7.2.1 Modelling methodology

External noise modelling was undertaken using CadnaA 2021. CadnaA is a computer program for the calculation, assessment, and prognosis of noise exposure. Environmental noise propagation in CadnaA has been calculated using the CONCAWE algorithm. The following noise modelling assumptions were made to establish site specific conditions:

– Surrounding land was modelled assuming a combination of 25% hard and 75% soft ground with an absorption coefficient of 0.75. Bodies of water (ponds within the STP) have been modelled assuming 100% reflection, with an absorption coefficient of 0.
– Modelled scenarios consider the shielding effect from surrounding buildings and local topography adjacent to the site.

The following meteorological conditions used in the model, taking into consideration both standard and noise-enhancing conditions:

– Atmospheric air absorption was based on an average temperature of 10ºC and an average humidity of 70% (conservative)
– For **standard** meteorological conditions, zero wind and up to a D-class stability class
– For **noise-enhancing** meteorological conditions, 2 m/s in worst case direction and up to an F-class stability class

7.2.2 Source noise levels

The assessment of noise emission from the STP on the proposed cabin park is based on the operation of the noisiest piece of equipment situated in the closest point to the cabin park, being the aerator located in the western corner boundary of the STP site. This is based off a site inspection and operator attended noise measurements as described in Section 7.1.2. The resulting assumptions for the aerator are as follows:

– Worst case operational equipment, being the aerator operating continuously for a given 15-minute period with a sound power level of $L_{Aeq(15min)}$ 95 dBA.

7.3 Predicted noise levels

The predicted noise levels from the Beauty Point STP on the proposed cabin park is provided below in Table 8. Noise predictions have been prepared along the western boundary of the proposed cabin park and considered the most sensitive for residences. If compliance is predicted here, then compliance will be achieved for all residences within the proposed cabin park.

It is predicted that operational noise levels from the Beauty Point STP are below the acoustic environment indicator levels for all outdoor/external indicator levels for bedrooms and dwellings, as is the case during both standard and noise-enhancing meteorological conditions. As compliance with the outdoor indicator levels is achieved, compliance with internal indicator levels is achieved. As such, no noise impacts from the Beauty Point STP are anticipated for the proposed cabin park.

Table 8 Predicted operational noise levels on proposed cabin park

Location	Acoustic environment indicator levels (Tasmanian EPP)			Predicted noise levels	
				Standard meteorological conditions	Noise-enhancing meteorological conditions
Proposed cabin park – Western boundary	Outdoor living area	Serious annoyance, daytime, and evening	L_{Aeq} 55 dBA	$L_{Aeq(15min)}$ 29-30 dBA external	$L_{Aeq(15min)}$ 34-35 dBA external
		Moderate annoyance, daytime, and evening	L_{Aeq} 50 dBA		
	Dwelling indoors	Speech intelligibility and moderate annoyance, daytime, and evening	L_{Aeq} 35 dBA		
	Inside bedrooms	Sleep disturbance, night-time	L_{Aeq} 30 dBA		
	Outside bedrooms	Sleep disturbance, window open (outdoor values)	L_{Aeq} 45 dBA		

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Your ref: Q1150
Our ref: 12681175

17 October 2025

The Trustee for MGH Dourias Family Trust (D-MGH)
Tony Dourias
PO Box 3193
West Hobart
Tasmania 7000

Addendum to Beauty Point Subdivision Attenuation Assessment

GHD Pty Ltd (GHD) undertook an attenuation assessment in 2023 in relation to the proposed subdivision of a portion of land at Lot 102 West Arm Road, Beauty Point, Tasmania, for residential purposes ("the subdivision").

GHD evaluated the Beauty Point Sewage Treatment Plant (STP), the Gypsy Hill cattle effluent dam, and the effluent reuse scheme and associated activities against the planning scheme attenuation distances relevant to spray drift and odour as they affect the subdivision.

The assessment found that the site-specific attenuation required for the Beauty Point STP and the Gypsy Hill cattle effluent dam did not encroach on the proposed subdivision. However, the site-specific attenuation required for the Beauty Point Effluent Reuse Scheme extended into the southernmost boundary of the subdivision by approximately 80 m, and mitigation measures such as a vegetative buffer were recommended.

In undertaking this assessment, GHD referred to the *Beauty Point Effluent Re-use Scheme Development Proposal and Environmental Management Plan (DPEMP)* (SKM, 2003). The DPEMP included a commitment to exclude irrigation within 20 m of the property boundary and 100 m of residential premises.

Subsequently, D-MGH provided additional information. An Irrigation and Environmental Management Plan (IEMP) for the Gypsy Hill property (2021) supersedes relevant operational aspects of the 2003 DPEMP by introducing updated irrigation management requirements. The IEMP requires a 100 m buffer from both the property boundary and the Gypsy Hill residential dwelling, compared with the 20 m boundary setback in the 2003 DPEMP.

In light of this additional information, the site-specific attenuation required for the Beauty Point Effluent Reuse Scheme no longer encroaches on the proposed subdivision, and mitigation measures are not required.

Development of the subdivision would therefore comply with the relevant performance criteria and objectives of the Attenuation Code, without the need for additional mitigation measures, subject to observance of the site-specific attenuation distances established in GHD's assessment.

Regards

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Appendix H Bushfire assessment

Rebecca Green & Associates

Bushfire Hazard Assessment Report &

Bushfire Hazard Management Plan

Lot 102 West Arm Road, Beauty Point

Prepared for (Client)

Dourias MGH Pty Ltd

Attention: Tony Dourias, Joint Director

Douriasgroupholdings@gmail.com

Assessed & Prepared by

Rebecca Green

Senior Planning Consultant & Accredited Bushfire Hazard Assessor

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Version No.	Date	Comment
3	17 October 2025	POS and Balance Lots changes, buffer removed and Lot 119 removed (road)
2	12 December 2023	Initial Stage 1 Added and all subsequent stages renumbered
1	27 November 2023	

Job No: RGA-B2409

Executive Summary

The proposed development at Lot 102 West Arm Road, Beauty Point, is subject to bushfire threat. A bushfire attack under extreme fire weather conditions is likely to subject buildings at this site to considerable radiant heat, ember attack along with wind and smoke.

The site requires bushfire protection measures to protect the buildings and people that may be on site during a bushfire.

These measures include provision of hazard management areas in close proximity to the buildings, implementation of safe egress routes, establishment of a water supply and construction of buildings as described in AS 3959-2018 Construction of Buildings in Bushfire Prone Areas.

Rebecca Green & Associates

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Schedule 1 – Bushfire Report

1.0 Introduction

The Bushfire Attack Level (BAL) Report and Bushfire Hazard Management Plan (BHMP) has been prepared for submission with a Planning Permit Application under the *Land Use Planning and Approvals Act 1993; Bushfire-Prone Areas Code* and/or a Building Permit Application under the *Building Act 2016 & Regulations 2016*.

The Bushfire Attack Level (BAL) is established taking into account the type and density of vegetation within 100 metres of the proposed building site and the slope of the land; using the simplified method in AS 3959-2018 Construction of Buildings in Bushfire Prone Areas; and includes:

- The type and density of vegetation on the site,
- Relationship of that vegetation to the slope and topography of the land,
- Orientation and predominant fire risk,
- Other features attributing to bushfire risk.

On completion of assessment, a Bushfire Attack Level (BAL) is established which has a direct reference to the construction methods and techniques to be undertaken on the buildings and for the preparation of a Bushfire Hazard Management Plan (BHMP).

1.1 Scope

This report was commissioned to identify the Bushfire Attack Level for the existing property. ALL comment, advice and fire suppression measures are in relation to compliance with *Bushfire-Prone Areas Code* of the Tasmanian Planning Scheme – West Tamar, the National Construction Code and Australian Standards, *AS 3959-2018, Construction of buildings in bushfire-prone areas*.

1.2 Limitations

The inspection has been undertaken and report provided on the understanding that:-

1. The report only deals with the potential bushfire risk, all other statutory assessments are outside the scope of this report.
2. The report only identifies the size, volume and status of vegetation at the time the site inspection was undertaken and cannot be relied upon for any future development.
3. Impacts of future development and vegetation growth have not been considered.

No action or reliance is to be placed on this report; other than for which it was commissioned.

1.3 Proposal

The proposal is for the development of a subdivision, Lots 1-118, Lots 120-134 together with Lot 200 (Balance), Lot 201 (Public Open Space) and Lot 500 (Development Land) and Roads in 11 stages. Each lot (Lot 1-134) is to be provided with access to new road or West Arm Road (Lots 30-36). The development is to be staged, as shown on Staging Plan, Leary Cox & Cripps, Sheet 7/8.

Access to each of the residential lots will be via crossovers onto new Council maintained roads (existing road – West Arm Road for Lots 31-36). New water mains and hydrants will be installed as part of the subdivision (existing hydrants in West Arm Road), ensuring that a building area on each residential lot can be adequately protected via a reticulated water supply.

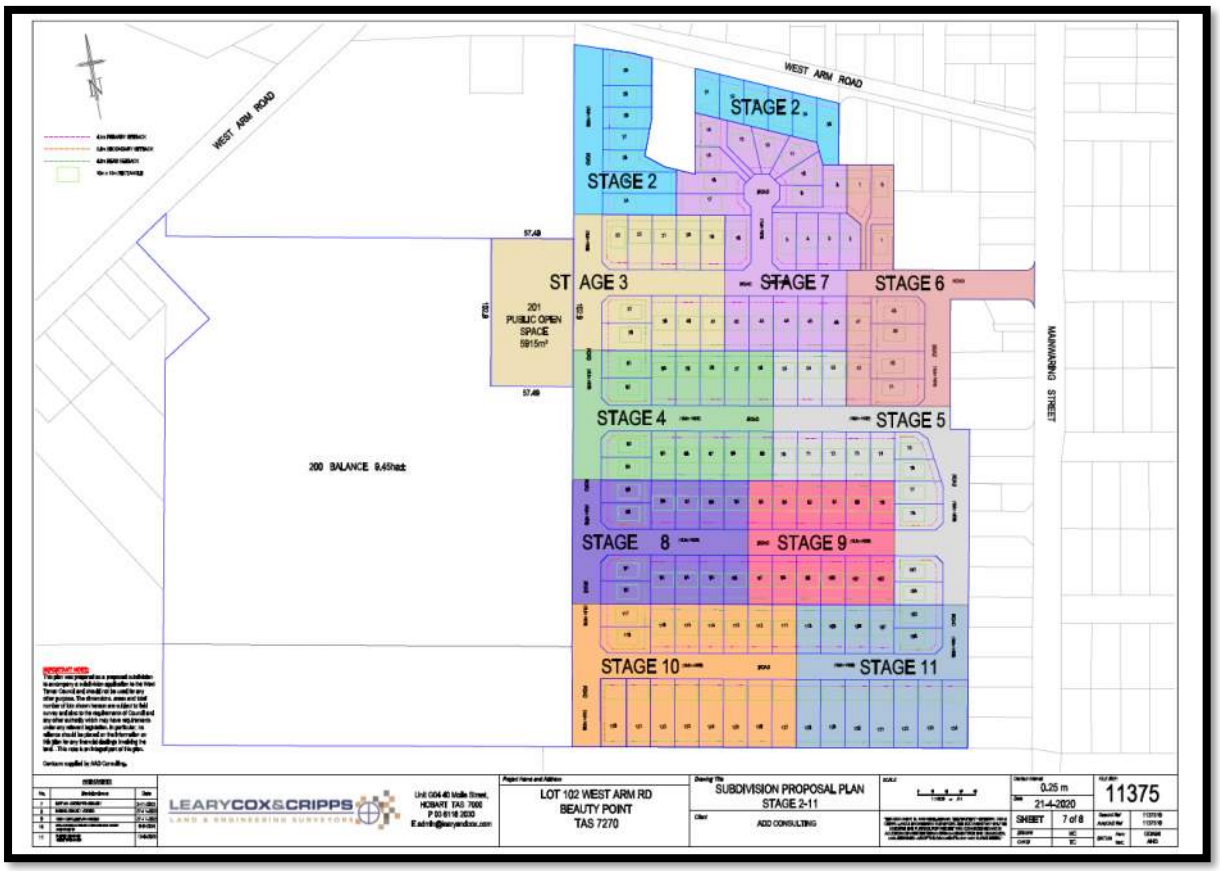


Figure 1: Staging Plan

2.0 Site Description for Proposal (Bushfire Context)

2.1 Locality Plan

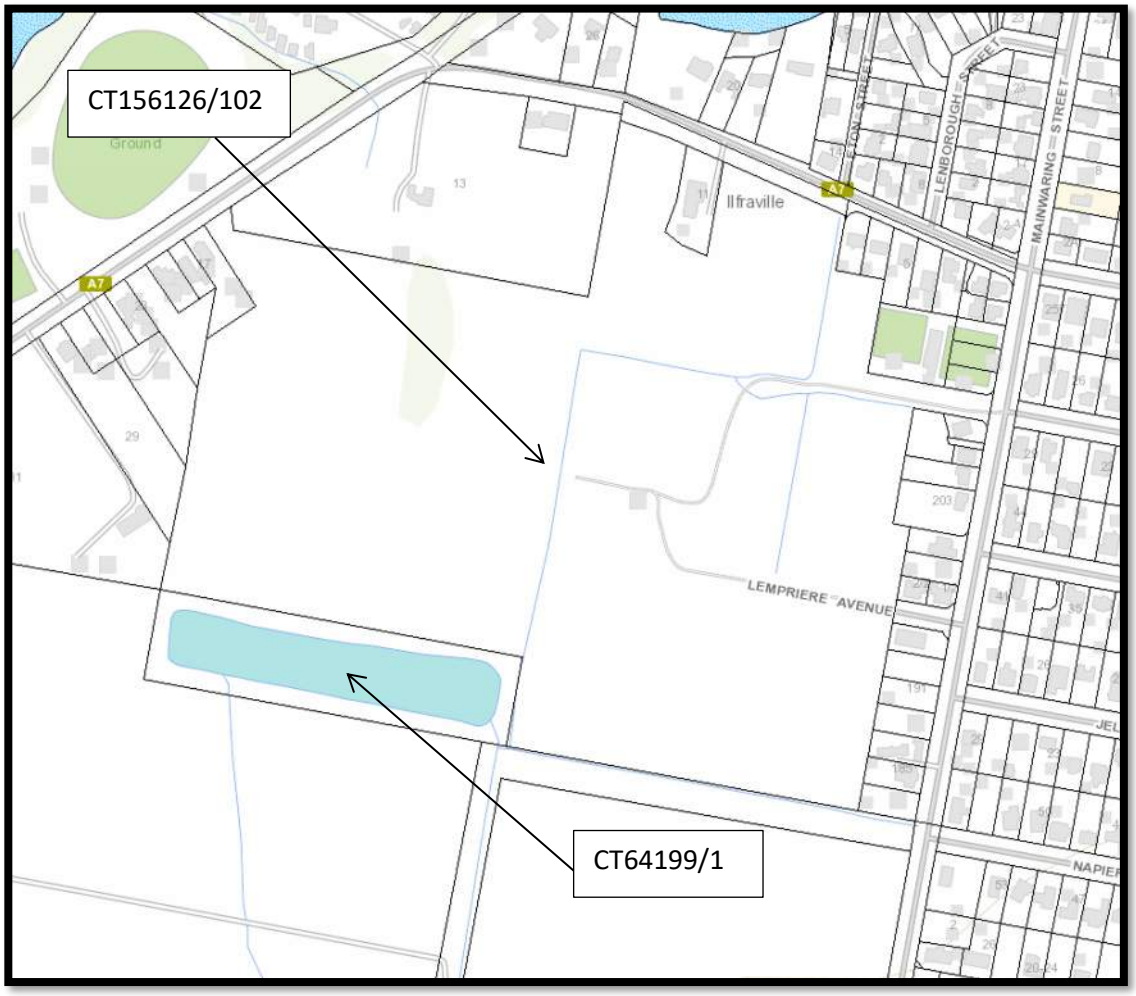


Figure 2: Location Plan of Lot 102 West Arm Road, Beauty Point

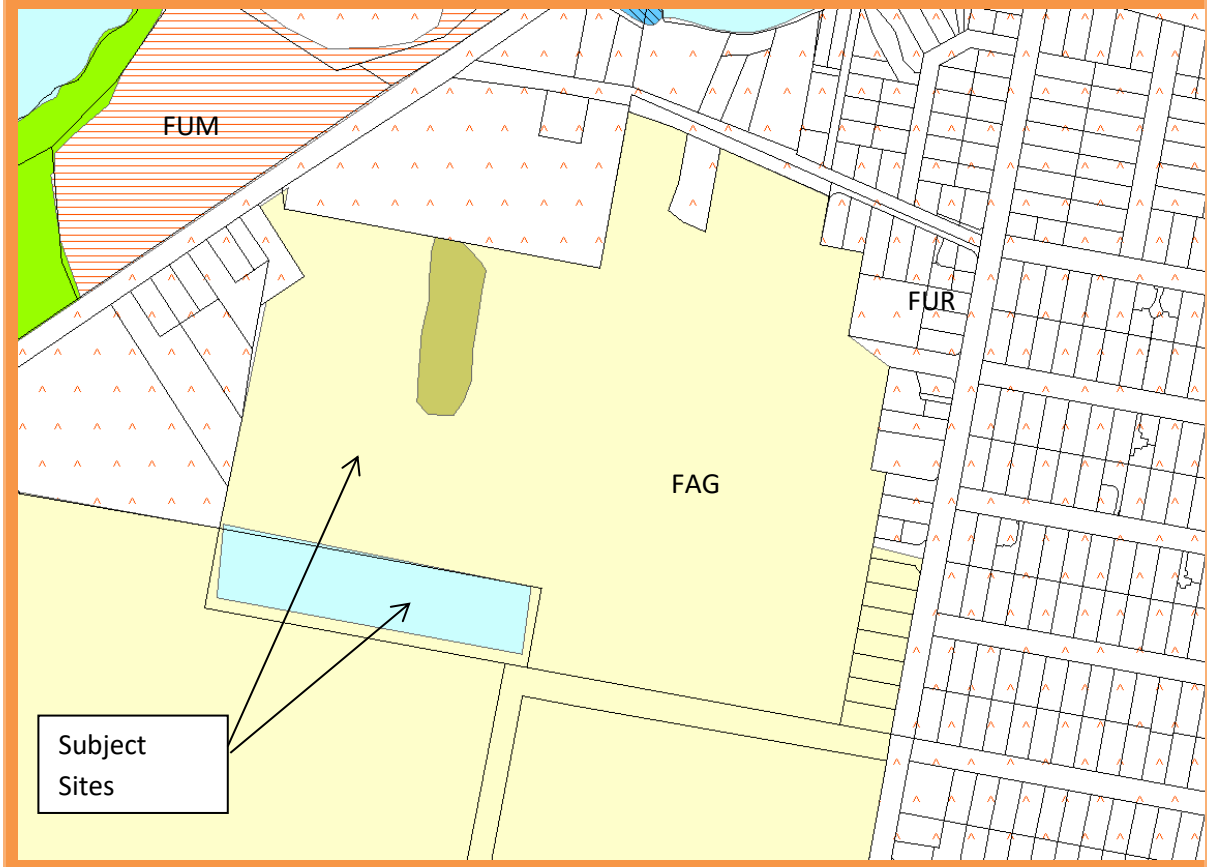
Property Address	Lot 102 West Arm Road, Beauty Point
Certificate of Title	Volume 156126 Folio 102 and Volume 64199 Folio 1
Owner	Dourias MGH Pty Ltd
Existing Use	Vacant
Type of Proposed Work	Subdivision – Stages 1 to 11
Water Supply	Reticulated TasWater supply available. It is noted that all indicative building areas on residential lots (Lots 1-134) will be within 120m hose lay.
Road Access	New Council maintained roads and West Arm Road

3.0 Bushfire Site Assessment

3.1 Vegetation Analysis

3.1.1 TasVeg Classification

Reference to Tasmanian Vegetation Monitoring & Mapping Program (TASVEG) indicates the land in and around the property is generally comprising of varying vegetation types including:



Code	Species	Vegetation Group
FUR	• Urban areas	Modified land
FUM	• Extra-urban miscellaneous	Modified land
FAG	• Agricultural land	Modified land

3.1.2 Site & Vegetation Photos

Lot 200 looking from West Arm Road

Lot 200 looking from West Arm Road

Existing fire plug adjacent to Lot 30 in West Arm Road

Looking south to Stage 2 road from West Arm Road

Looking south from West Arm Road toward Lots 31-36

Existing fire plug adjacent to Lot 36 in West Arm Road

Existing fire plug in Mainwaring Street east of Stage 6

Looking west from Mainwaring Street toward Stage 6

Looking north – Stage 3

Looking east – Stage 3

Looking south – Stage 3

Looking west – Stage 3

Looking north – Stage 7

Looking east – Stage 7

Looking south – Stage 7

Looking west – Stage 7

Balance Lot – looking north

Balance Lot – looking west

Looking west – Stage 4/8

Looking north – Stage 10

Looking east – Stage 10

Looking south – Stage 10

Looking west – Stage 10

Stage 9

Existing fire plug – from Mainwaring Street to Stage 5

Road to Stage 5 from Mainwaring Street looking west

Looking north – Stage 11

Looking east – Stage 11

Looking south – Stage 11

Looking west – Stage 11

Looking north – Stage 9

Looking south – Stage 9

TasWater infrastructure

Looking north – Stage 6

Looking south – Stage 6

3.1.3 Vegetation Type and Separation

A site visit was conducted on 26th of October 2023. An analysis of the land and bushfire prone vegetation within and surrounding the subject site is provided below.

Direction	Analysis
North	Land to the north is urban in nature and classified as managed. It is developed for residential purposes.
South	Land to the south is classified as predominantly grassland.
West	Land to the west is classified as predominantly grassland.
East	Land to the east is urban in nature and classified as managed. It is developed for residential purposes.

3.2 BAL Assessment – Subdivision

The Acceptable Solution in Clause 13.6.1, C13.0 Bushfire-Prone Areas Code requires all lots within the proposed subdivision to demonstrate that each lot can achieve a Hazard Management Area between the bushfire vegetation and each building on the lot with distances equal to or greater than those specified in Table 2.6 of AS3959-2018 Construction of Buildings in Bushfire Prone Areas for **BAL 19, BAL 12.5 and BAL LOW**

Although mapped as Bushfire Prone Area, the rating of the following lots is BAL LOW as final subdivision completion will ensure that all lots are greater than 100m from Bushfire Prone Vegetation (and 50m from grassland to the west and south – Lot 200 and Lot 201). The developer is to provide and maintain a 50m wide hazard management strip on the balance around each stage, where located within the internal boundary of the subdivision (excluding Lots 200 and 201). This 50m wide management strip is to be cleared and mown prior to Council sealing a final plan for each stage.

STAGE	BAL LOW
Stage 1	-
Stage 2	Lots 31-36
Stage 3	Lots 19-21, 39-41
Stage 4	Lots 56-60, 65-69
Stage 5	Lots 53-55, 70-78, 103-104
Stage 6	Lot 1, Lots 6-7, 47-52
Stage 7	Lots 2-5, Lot 8-18, 42-46
Stage 8	Lots 85-88, 93-96
Stage 9	Lots 79-84, 97-102
Stage 10	Lot 111-116
Stage 11	Lots 105-110

Stage 2

Lots 24-30	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	0-100m managed	0-100m managed	0-<100m grassland
Slope (degrees, over 100m)	N/A	N/A	N/A	Upslope/flat
BAL rating at boundary (existing vegetation)	N/A	N/A	N/A	FZ
BAL rating with setbacks/HMA (external to site)	N/A	N/A	N/A	BAL12.5/LOW

Stage 3

Lots 22-23 & 37-38	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	0-100m managed	0-100m managed	0-<100m grassland
Slope (degrees, over 100m)	N/A	N/A	N/A	Upslope/flat
BAL rating at boundary (existing vegetation)	N/A	N/A	N/A	FZ
BAL rating with setbacks/HMA (external to site)	N/A	N/A	N/A	BAL12.5

Stage 4

Lots 61-64	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	0-100m managed	0-100m managed	0-<100m grassland
Slope (degrees, over 100m)	N/A	N/A	N/A	Upslope/flat
BAL rating at boundary (existing vegetation)	N/A	N/A	N/A	FZ
BAL rating with setbacks/HMA (external to site)	N/A	N/A	N/A	BAL12.5

Stage 8

Lots 89-96	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	>50m to grassland	0-100m managed	0-<100m grassland
Slope (degrees, over 100m)	N/A	Upslope/flat	N/A	Upslope/flat
BAL rating at boundary (existing vegetation)	N/A	N/A	N/A	FZ
BAL rating with setbacks/HMA (external to site)	N/A	N/A	N/A	BAL12.5

Stage 10

Lots 120-127	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	0m to grassland	0-100m managed	0-<100m grassland
Slope (degrees, over 100m)	N/A	Upslope/flat	N/A	Upslope/flat
BAL rating at boundary (existing vegetation)	N/A	FZ	N/A	FZ
BAL rating with setbacks/HMA (external to site)	N/A	BAL-19/12.5	N/A	BAL-12.5

Lots 117-118	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	>50m to grassland	0-100m managed	0-<100m grassland
Slope (degrees, over 100m)	N/A	Upslope/flat	N/A	Upslope/flat
BAL rating at boundary (existing vegetation)	N/A	N/A	N/A	FZ
BAL rating with setbacks/HMA (external to site)	N/A	N/A	N/A	BAL12.5

Stage 11

Lots 128-134	North	South	East	West
Vegetation within 100m of Building Area	0-100m managed	0m to grassland	0-100m managed	0-100m managed
Slope (degrees, over 100m)	N/A	Upslope/flat	N/A	N/A
BAL rating at boundary (existing vegetation)	N/A	FZ	N/A	N/A
BAL rating with setbacks/HMA (external to site)	N/A	BAL-19/12.5	N/A	N/A

Specified Hazard Management Areas/ BAL Rating – All Residential Lots

Stage	Lot	Rating	Setback	Hazard Management Area
2	31-36	LOW	No setback required	Entire Lot
	26-30	BAL 12.5	No setback required	Entire Lot
	24-25	BAL 12.5 LOW *(see note 1)*	No setback required 50m from western boundary of Road 1	Entire Lot
3	19-21 39-41	LOW	No setback required	Entire Lot
	22-23 37-38	BAL 12.5	No setback required	Entire Lot
4	56-60 65-69	LOW	No setback required	Entire Lot
	61-64	BAL 12.5	No setback required	Entire Lot
5	53-55 70-78 103-104	LOW	No setback required	Entire Lot
6	1 6-7 47-52	LOW	No setback required	Entire Lot
7	2-5 8-18 42-56	LOW	No setback required	Entire Lot

8	85-88 93-96	LOW	No setback required	Entire Lot
	89-92	BAL 12.5	No setback required	Entire Lot
9	79-84 97-102	LOW	No setback required	Entire Lot
10	111-116	LOW	No setback required	Entire Lot
	117-118	BAL 12.5	No setback required	Entire Lot
	120-127	BAL 19 BAL 12.5 *(see note 2)*	10.0m setback from southern boundary 14.0m setback from southern boundary	Entire Lot
11	105-110	LOW	No setback required	Entire Lot
	128-134	BAL 19 BAL 12.5 *(see note 2)*	10.0m setback from southern boundary 14.0m setback from southern boundary	Entire Lot

Note 1 – BAL LOW: Habitable buildings must be fully constructed to BAL 12.5 if any façade is within the BAL 12.5 building area.

Note 2 – BAL 12.5: Habitable buildings must be fully constructed to BAL 19 if any façade is within the BAL 19 building area.

3.3 Staging of the Subdivision

Hazard management areas include the area to protect the buildings as well as the access and water supplies. Low threat vegetation includes maintained lawns (<100mm in height), gardens and orchards.

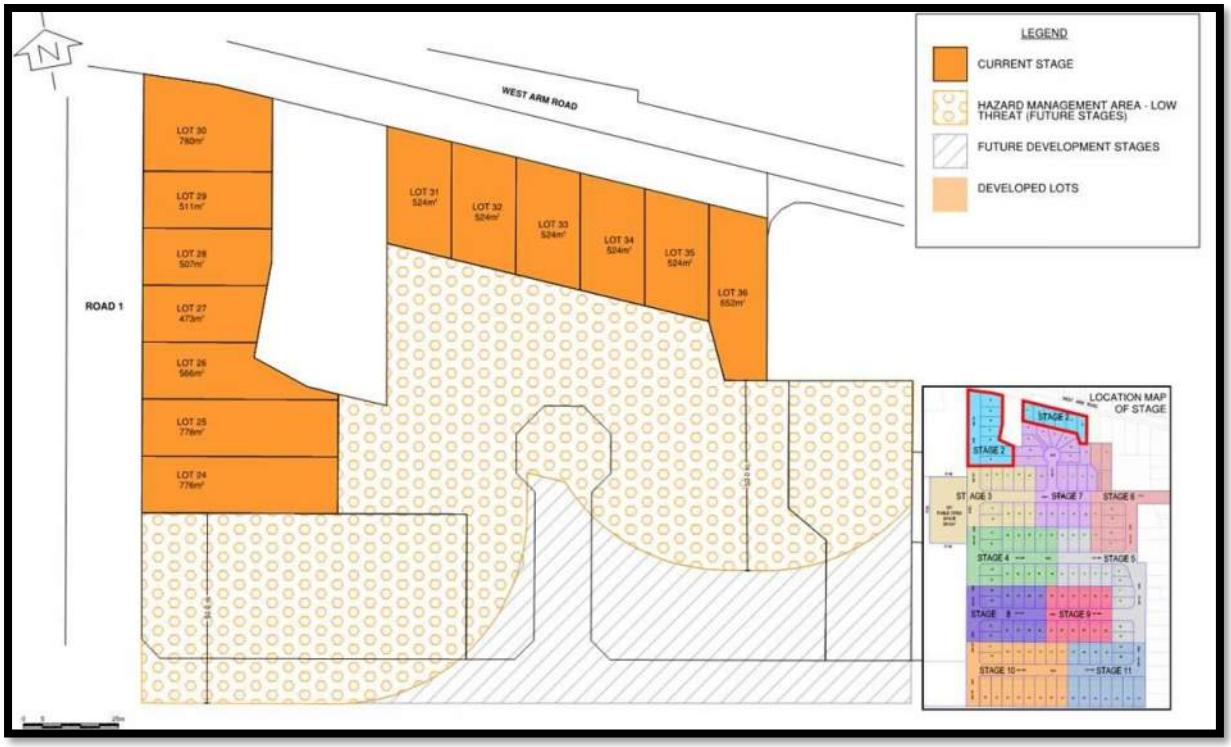
Staging of the subdivision is proposed. It is anticipated that staging will be undertaken in numerical order.

At any stage all developed lots and roads and the balance lot within 50m (Stages 2-10) of a developed lot must be managed as low threat vegetation from sealing of titles and in perpetuity (except Lot 200 and Lot 201 and Lot 500). The owner of a lot is responsible for management of vegetation within a lot.

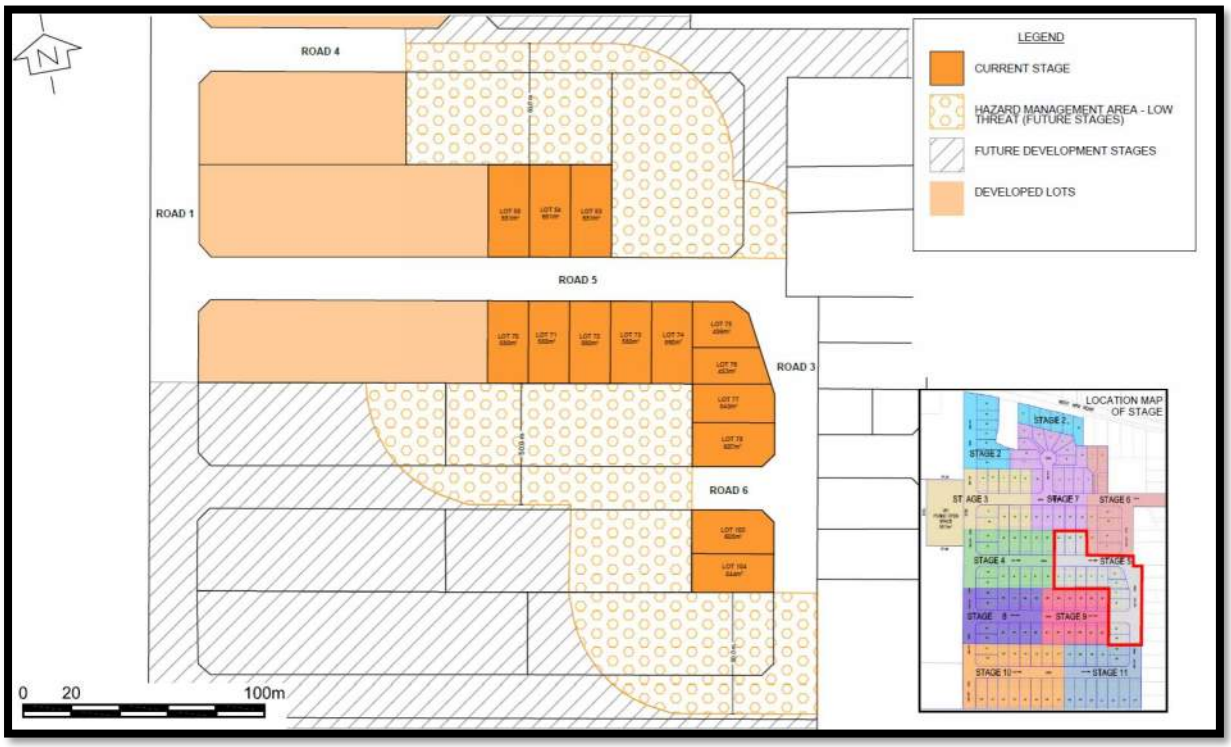
The developer is to provide a temporary gravel turning head on the balance lot prior to the sealing of the final plan for each stage, where applicable.

Staged Hazard Management examples

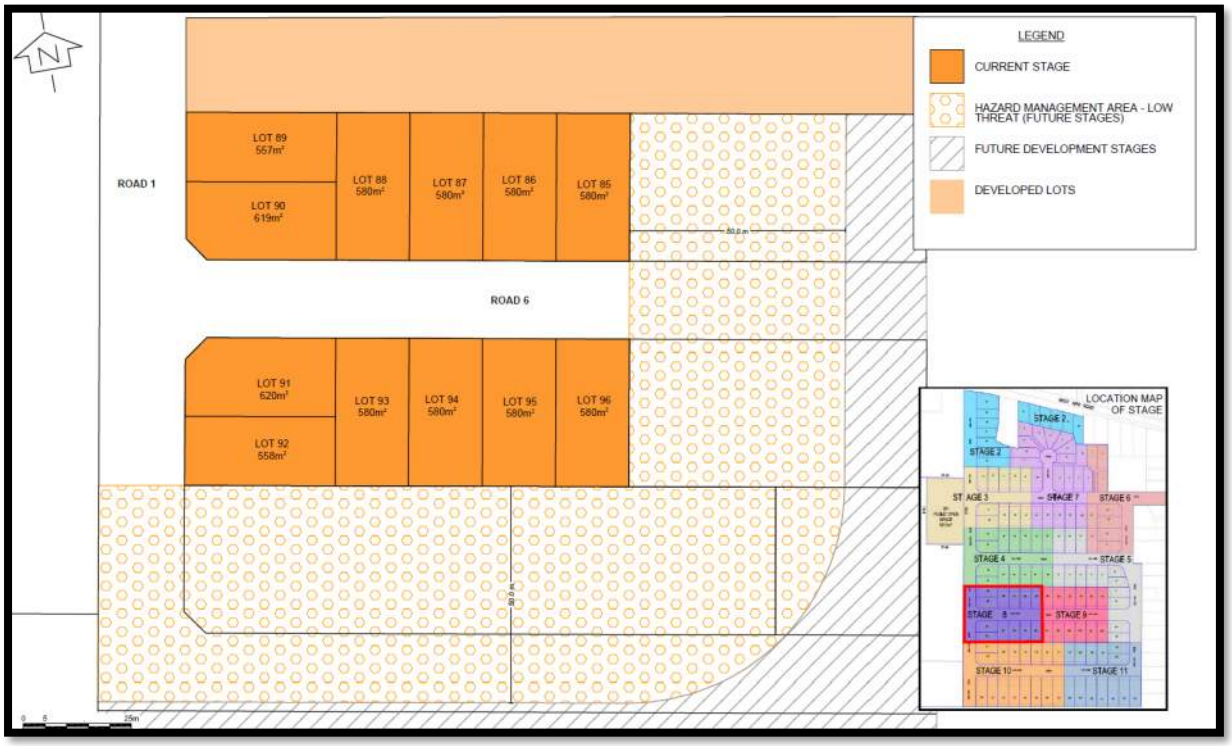
Stage 2



Stage 5



Stage 8



3.4 Road Access

Roads are to be constructed to provide vehicle access to the site to assist firefighting and emergency personnel to defend the building or evacuate occupants; and provide access at all times to the water supply for firefighting purposes on the building site.

Private access roads are to be maintained from the entrance to the property cross over with the public road through to the buildings on the site.

ROAD	The new access roads providing road frontage to all lots is to be constructed to a standard not less than Table C13.1, including carriageway width (compliance demonstrated on Civil Plans and Hazard Management Plan), excepting cul-de-sac turning circle in Stage 7 which meets performance criteria.
BAL LOW LOTS	No specified design and construction requirements.
ACCESS LESS THAN 30m; OR ACCESS IS NOT REQUIRED FOR A FIRE APPLIANCE TO ACCESS A FIRE FIGHTING WATER POINT	Private access driveways are to be constructed/maintained from the entrance of the property cross over at the public road through to **any new** habitable building/existing building. Private access roads are to be maintained to a standard not less than specified in Table **C13.2A**.

Table C13.1: Standards for Roads

Unless the development standards in the zone require a higher standard, the following apply:

(a) Two-wheel drive, all-weather construction;
(b) Load capacity of at least 20 tonnes, including for bridges and culverts;
(c) Minimum carriageway width is 7m for a through road, or 5.5m for a dead-end or cul-de-sac road;
(d) Minimum vertical clearance of 4m;
(e) Minimum horizontal clearance of 2m from the edge of the carriageway;
(f) Cross falls of less than 3 degrees (1:20 or 5%);
(g) Maximum gradient of 15 degrees (1:3:5 or 28%) for sealed roads, and 10 degrees (1:5:5 or 18%) for unsealed roads;
(h) Curves have a minimum inner radius of 10m;
(i) Dead-end or cul-de-sac roads are not more than 200m in length unless the carriageway is 7m in width;
(j) Dead-end or cul-de-sac roads have a turning circle with a minimum 12m outer radius; and
(k) Carriageways less than 7m wide have 'No Parking' zones on one side, indicated by a road sign that complies with *Australian Standard, AS 1743-2001 Road signs-Specifications.*

Table C13.2A: Standards for Property Access

There is no specified design and construction requirements for property access length less than 30m; or access is not required for a fire appliance to access a fire fighting water point.

3.5 Water Supply

A building that is constructed in a designated bushfire prone area must provide access at all times to a sufficient supply of water for firefighting purposes on the building site.

All residential lots - Reticulated Water Supply	The proposed civil plans prepared by AD Design + Consulting shows the location of hydrants. Building areas are compliant with Table **C13.4**, being within 120m of a hydrant.

Table C13.4: Reticulated Water Supply for Fire Fighting

Column 1		**Column 2**
Element		**Requirement**
A.	Distance between building area to be protected and water supply	The following requirements apply: (a) The building area to be protected must be located within 120 metres of a fire hydrant; and (b) The distance must be measured as a hose lay, between the fire fighting water point and the furthest part of the building area.

B.	Design criteria for fire hydrants	The following requirements apply: (a) Fire hydrant system must be designed and constructed in accordance with *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA 2nd Edition*; and (b) Fire hydrants are not installed in parking areas.
C.	Hardstand	A hardstand area for fire appliances must be: (a) No more than 3m from the hydrant, measured as a hose lay; (b) No closer than 6m from the building area to be protected; (c) A minimum width of 3m constructed to the same standard as the carriageway; and (d) Connected to the property access by a carriageway equivalent to the standard of the property access.

3.6 Hazard Management Areas

The Hazard Management Area (defendable space) is provided between the vegetation and the buildings subject to bushfire risk. The space provides for management of vegetation and reduction in fuel loads in an attempt to:

- Prevent flame impingement on the dwelling;
- Provide a defendable space for property protection;
- Reduce fire spread;
- Deflect and filter embers;
- Provide shelter from radiant heat; and
- Reduce wind speed.

The *Building Act 2016*, requires a hazard management area to be established and maintained between the bushfire prone vegetation and the building at a distance equal to, or greater than the separation distance specified for the Bushfire Attack Levels (BAL) in *AS 3959-2018 Construction of Buildings in Bushfire Prone Areas*.

Refer to the attached BHMP Site Plan in Schedule 2 of this management plan for specific details on the Hazard Management Area.

3.6.1 Vegetation (Fuel) Management

Managing an area in a minimum fuel condition generally means a reduction in the amount and altering the arrangement of fuels. Most fine fuels are at or close to the ground, often as part of a grass, litter or shrub layer. If there is enough fuel, when a fire comes these fuels will ignite the trees above or set the bark alight which will burn up into the tree canopy causing the most dangerous of bushfire situation; a crown fire.

To prevent crown fires occurring it is necessary to remove the "ladder of fuel" between the ground and the tree crowns and to make sure the amount of ground fuel is not sufficient to set the crowns alight. Without fire burning below, a crown fire should not be sustained. Further removing continuity and separation of the vegetation canopies both horizontally and vertically will assist.

All vegetation will burn under the influence of bushfire; shrub layers need to be modified to remove tall continuous walls of vegetation and establish clear separation between the ground and the bottom of the tree canopy. Further minimisation of flammable ground litter such as leafs, twigs, bark, ferns and debris will further reduce fuel load with potential to burn or contribute to the growth of a bushfire.

Fuels do not need to be totally removed however fuels close to the building and inside the Hazard Management Area are to be kept to a minimum. As a general practice 5 tonnes per hectare is accepted as being controllable with normal firefighting resources. This can be visualised as grass cut to about 10 centimetres in height or ground litter about 2 centimetres thick. This is considered to be a low fuel level.

3.6.2 Other Risk Management Actions

Other actions that can be implemented to reduce the bushfire risk in the Hazard Management Areas include:

1. Establishing non-combustible paths and driveways around buildings.
2. Establish plantings of low flammability shrub species.
3. Ensure garden beds and shrubs are established well away from buildings.
4. Tree planting to be located at the outer edge of the Hazard Management Area and spaced well apart to ensure canopy separation.
5. Cut lawns short and maintain.
6. Remove fallen limbs, leaf and bark litter.
7. Avoid using pine bark and other flammable mulch in gardens.
8. Prune trees to ensure canopy separation horizontally and vertically, remove low hanging branches to ensure separation from ground litter.
9. Where the amount of land permits extend the vegetation management in to a secondary hazard management zone.

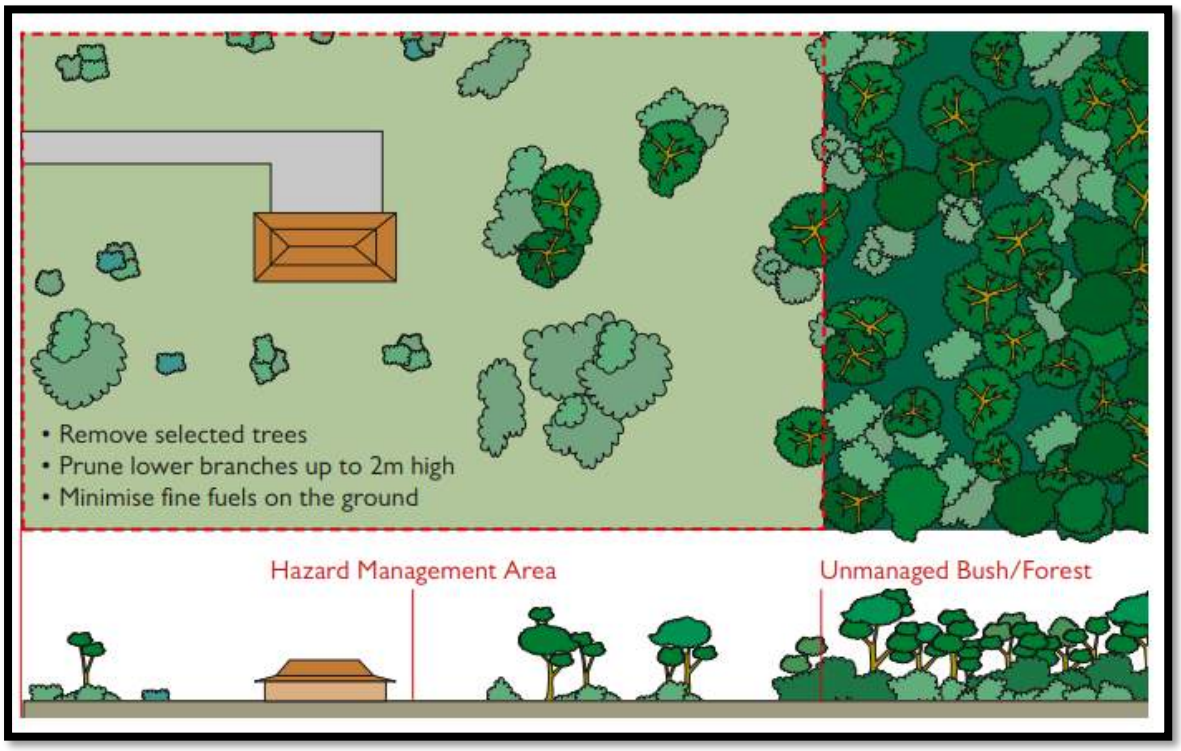


Figure 3: Hazard Management Area

4.0 Bushfire-Prone Areas Code Assessment Criteria

Assessment has been completed below to demonstrate the BAL and BHMP have been developed in compliance with the Acceptable Solutions and/or the Performance Criteria as specified in the Bushfire-Prone Areas Code.

C13.4 – Exemptions – Not applicable.

C13.6.1 Subdivision

C13.6.1.1 Hazard Management Areas		
		Comments
☒ **A1**	(a) & (b)	Specified distances for Hazard Management Areas for BAL LOW/12.5/19 (Lots 1-118, 120-134) as specified on the plan are in accordance with AS3959. The proposal complies.
☐ **P1**		Not applicable.
C13.6.2 Public Access		
		Comments
☐ **A1**	(a)	Not applicable.
☒ **A1**	(b)	The private driveway to all lots (excluding BAL LOW lots) will be constructed/maintained in accordance with Table C13.2A at the time of future habitable building. Proposed roads will comply with Table C13.1.

☒ **P1**		Performance criteria is relied upon due to the outer radius of the proposed cul-de-sac in Stage 7. A response to the criteria and justification has been provided in Section 6 of this report.
C13.6.3 Water supply for fire fighting purposes		
		Comments
☒ **A1**	(a) (b)	Not applicable. All residential lots indicative dwellings are located within 120m hose lay of existing/ proposed fire plugs in the new roads and West Arm Road. The acceptable solution is achieved.
☐ **P1**	No PC	
☐ **A2**	(a) (b)	Not applicable. Not applicable.
☐ **A2**	(c)	Not applicable.
☐ **P2**	No PC	

5.0 Layout Options

Not relevant to this proposal.

6.0 Other Planning Provisions

Justification of Cul-De-Sac Road (Stage 7)

As noted in section 4 of this report, the application relies on performance criteria due to the cul-de-sac in one of the stages not proposing a 12m outer radius turning head.

In providing justification on a reduced standard, it is noted that all parts of the access standards can be achieved as compliant with Table C13.1, with the exclusion of the cul-de-sac radius.

The current cul-de-sac in Stage 7 is proposed to be 9m outer radius, with regular kerb and channel, consistent with the remainder of residential areas in Beauty Point.

In demonstrating that a cul-de-sac constructed to urban standards is appropriate, the following is noted:

- In Stage 7, Lot 5 and Lots 8-18 which are serviced by cul-de-sac road (Road 7), are all large enough to ensure dwellings can be constructed to achieve BAL Low setbacks. The area of bushfire prone vegetation, being entirely to the west, is approximately 118m from the cul-de-sac.
- The surrounding area of this single stage is not bushland, but will be predominantly urban in character, as part of the subdivision proposal, made up of future residential uses. There are to be no large areas of unmanaged vegetation within 100m of the new lots.
- All lots can all provide compliant accesses.
- Hydrants will be installed along the new cul-de-sac road, as well as on the new roads with thorough-fare, ensuring all lots will have a building area within 120m of a hydrant.

It is subsequently argued that an urban cul-de-sac outer radius of 9m is appropriate for the location of Stage 7 in the overall subdivision layout, given the nature of the lots and surrounding area, compliant accesses, and water provisions.

The safety of fire fighters has been considered when making this assessment. The short length of the cul-de-sac and urban environment created by the subdivision ensures there will be no unmanaged fuels within the road reserve. The adjoining lots and stages provide a suitable buffer from radiant heat and direct flame for fire fighters. A large tanker with a turning radius of 19.8m would require a three point turn at the end of the cul-de-sacs in this stage, however, as they are not considered to be in imminent danger (based on the above factors), the risk of burn is assessed as low.

A detailed response to the performance criteria of clause C13.6.2 Subdivision: Public and firefighting access is provided below.

P1) Performance criteria is relied upon as:

a) The cul-de-sac head of Stage 7 will be constructed in accordance with LGAT Standard drawings, having a radius of 9m. The acceptable solution requires a radius of 12m for cul-de-sacs within a bushfire prone area.
   i. The road provides for two way traffic, including access for fire appliances in a bushfire event.
   ii. The road will be sealed as per LGAT standards. The road will be suitable for use in all weather conditions.
   iii. There is no vegetation above the road. The road has a horizontal separation to any potential threat to the west of the subdivision of some 118+ metres. There is no identified threat to the north, south and east for this stage. The balance of the lot will be managed as a HMA as part of each stage of the subdivision.
   iv. The road has an appropriate load capacity to facilitate fire appliances in a bushfire event.
   v. Passing is achievable given the width of the road (min. 7m) and road reserve (min. 15m).
   vi. There are no recommended traffic control devices as part of the subdivision.
   vii. The roads are relatively level, the bushfire threat is on generally flat land or upslope. The cul-de-sac is generally straight with minimal bends or deviations proposed in the road.
   viii. The road is a cul-de-sac road, joining to other roads.
   ix. The cul-de-sac is limited in length which reduces risk and provides ample opportunity for vehicles to exit in a bushfire event.
   x. Turning area is provided. There are numerous access strips at the conclusion of the cul-de-sac allowing for three-point turn if required.
   xi. Parking areas at the end of the cul-de-sac will be limited due to the number of access strips in this part. It would be expected vehicles would park onsite.
   xii. Perimeter access is provided via Council maintained roads and residential lots.
   xiii. There are no proposed fire trails.

b) The TFS can access the bushfire prone vegetation on the surrounding land should a bushfire event occur. The size of the lots around the perimeter of the subdivision also ensures a fire vehicle can park on the proposed road, and fight the fire to the south and east.
c) The TFS have not provided comment on this application at the time of writing this report, however the author has met with officers prior to preparation.

The bushfire threat in the areas of cul-de-sac for Stage 7 is assessed as low. The lots will be cleared in their entirety to provide for residential development. The entire lot will be treated as a bushfire hazard management area. The development is within an established and growing urban environment. The requirements to provide a cul-de-sac with 12m radius would be out of character with the Beauty Point area and not warranted for this single stage given the level of threat. The risk is considered low based on the site characteristics and the nature of the area.

The performance criteria is achieved.

Justification of Insufficient Increase in Risk Lot 200 and Lot 500

The proposed subdivision of the existing title to provide for Lot 201 of public open space will provide for an area less than existing title of managed land. Lot 200 is to be a Balance lot with access provided as existing situation from West Arm Road. Lot 500 is the initial subdivision of Stage 1 to provide for the residential lots. Road lots are proposed between Lot 200 and residential lots proposed together with an area of public open space (Lot 201). According to TasVeg 4.0, vegetation is predominantly grassland. Existing road frontage is available, no additional roadworks is proposed to access Lot 200 and Lot 500.

No new habitable use is proposed as part of this proposal for Lot 200 and Lot 500. The existing use will remain.

Any further subdivision of Lot 200 will require consideration and assessment against the Code at that point in time. Further subdivision of Lot 500 is considered in Stages 2-11.

There are further no water requirements as the proposal is exempt for Lot 200 and Lot 500 due to insufficient increase in risk to warrant any mitigation measures at this point in time.

7.0 Conclusions and Requirements

Mitigation from bushfire is dependent on the careful management of the site by maintaining reduced fuel loads within the hazard management areas and within the site generally and to provide sources of water supply dedicated for firefighting purposes and the construction and maintenance of a safe egress route.

a) **Lot 200 and Lot 500 are considered exempt in accordance with Clause C13.4 of the Bushfire Prone Areas Code, insufficient increase in risk.**

b) **Hazard management areas meet the requirements of BAL LOW, BAL 12.5, BAL 19 for all residential lots.**

c) **Access roads/driveways comply with Table C13.1 and C13.2, with the exception of the 12m outer radius for cul-de-sac in Stage 7.**

d) **Water supply complies with Table C13.4. New hydrants are required in accordance with the TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA Edition 2:0.**

e) **The developer is to provide and maintain a 50m wide hazard management strip on the balance lot around each stage (Stages 2-10), internal to the residential development area. This 50m wide management strip is to be cleared and mown prior to Council sealing a final plan for each stage.**

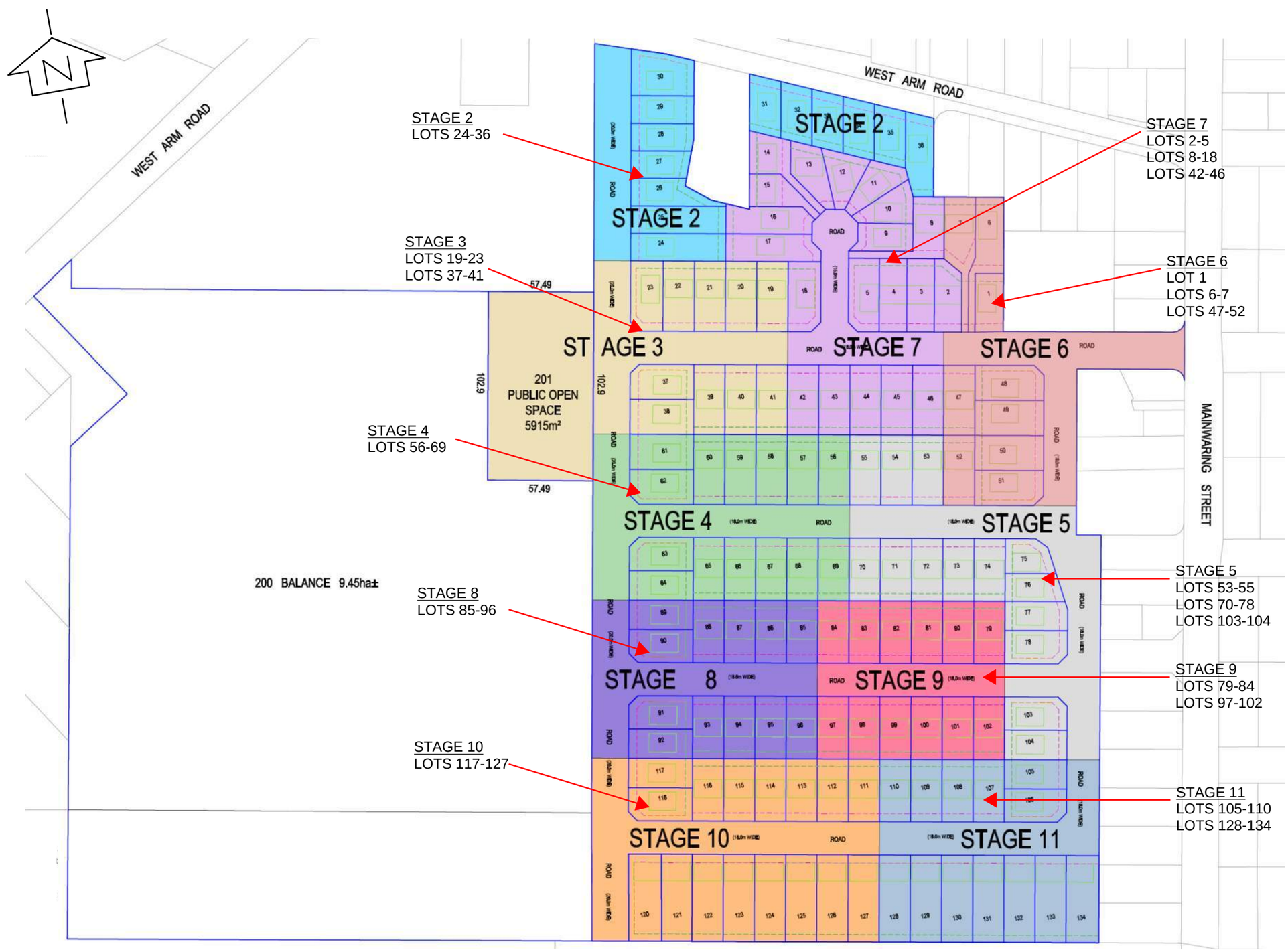
f) **The developer is to provide a temporary gravel turning head on the balance lot prior to the sealing of the final plan for each stage.**

g) **Hazard Management areas for each lot within the stage must be established prior to Council sealing a final plan and must be maintained in perpetuity.**

h) **Future buildings must Maintain Hazard Management Areas and follow recommendations as outlined in Bushfire Hazard Management Plan and as detailed in Schedule 2.**

i) **A copy of this report shall be made available to all prospective lot purchasers.**

Schedule 2 – Bushfire Hazard Management Plans



LEGEND

- STAGE 2 - SHEET 2
- STAGE 3 - SHEET 3
- STAGE 4 - SHEET 4
- STAGE 5 - SHEET 5
- STAGE 6 - SHEET 6
- STAGE 7 - SHEET 7
- STAGE 8 - SHEET 8
- STAGE 9 - SHEET 9
- STAGE 10 - SHEET 10
- STAGE 11 - SHEET 11

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

INDEX

LOT 102 WEST ARM ROAD, BEAUTY POINT
VOLUME 156126 FOLIO 102 & VOLUME 64199 FOLIO 1
PROPERTY ID 2926923

DATE: 17 OCTOBER 2025
VERSION: 3
DRAWN: REBECCA GREEN
PHONE: 0409 284 422
EMAIL: ADMIN@RGASSOCIATES.COM.AU
BFP - 116, SCOPE - 1, 2, 3A, 3B, 3C

Rebecca Green & Associates

LEGEND

- INDICATIVE 15m X 10m DWELLING
- BAL 19 BUILDABLE AREA
- BAL 12.5 BUILDABLE AREA
- BAL LOW
- FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 1 - STAGE 1

LOT 102 WEST ARM ROAD, BEAUTY POINT
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Rebecca Green & Associates

N

WEST ARM ROAD

EXISTING FIRE HYDRANTS

ROAD 1

LOT 30
780m²

LOT 29
511m²

LOT 28
507m²

LOT 27
473m²

LOT 26
566m²

LOT 25
778m²

LOT 24
776m²

LOT 31
524m²

LOT 32
524m²

LOT 33
524m²

LOT 34
524m²

LOT 35
524m²

LOT 36
652m²

STAGE 7

STAGE 3

ROAD 7

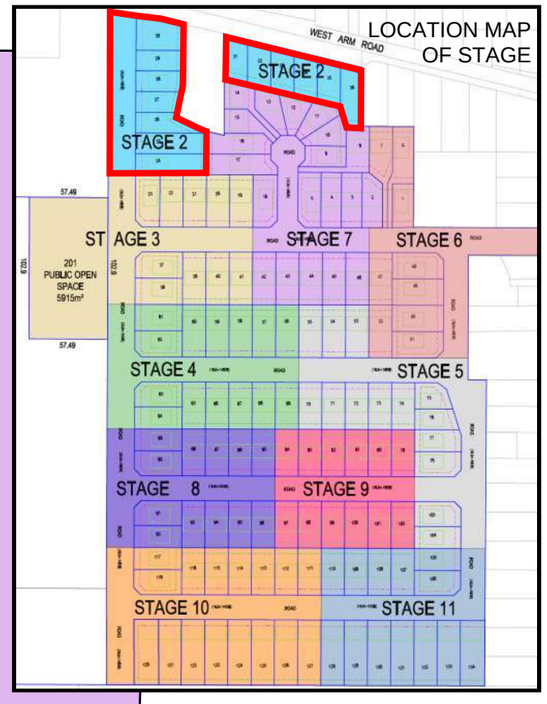
0 5 25m

LEGEND

- INDICATIVE 15m X 10m DWELLING
- BAL 19 BUILDABLE AREA
- BAL 12.5 BUILDABLE AREA
- BAL LOW
- FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY

LOCATION MAP OF STAGE



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 2 - STAGE 2

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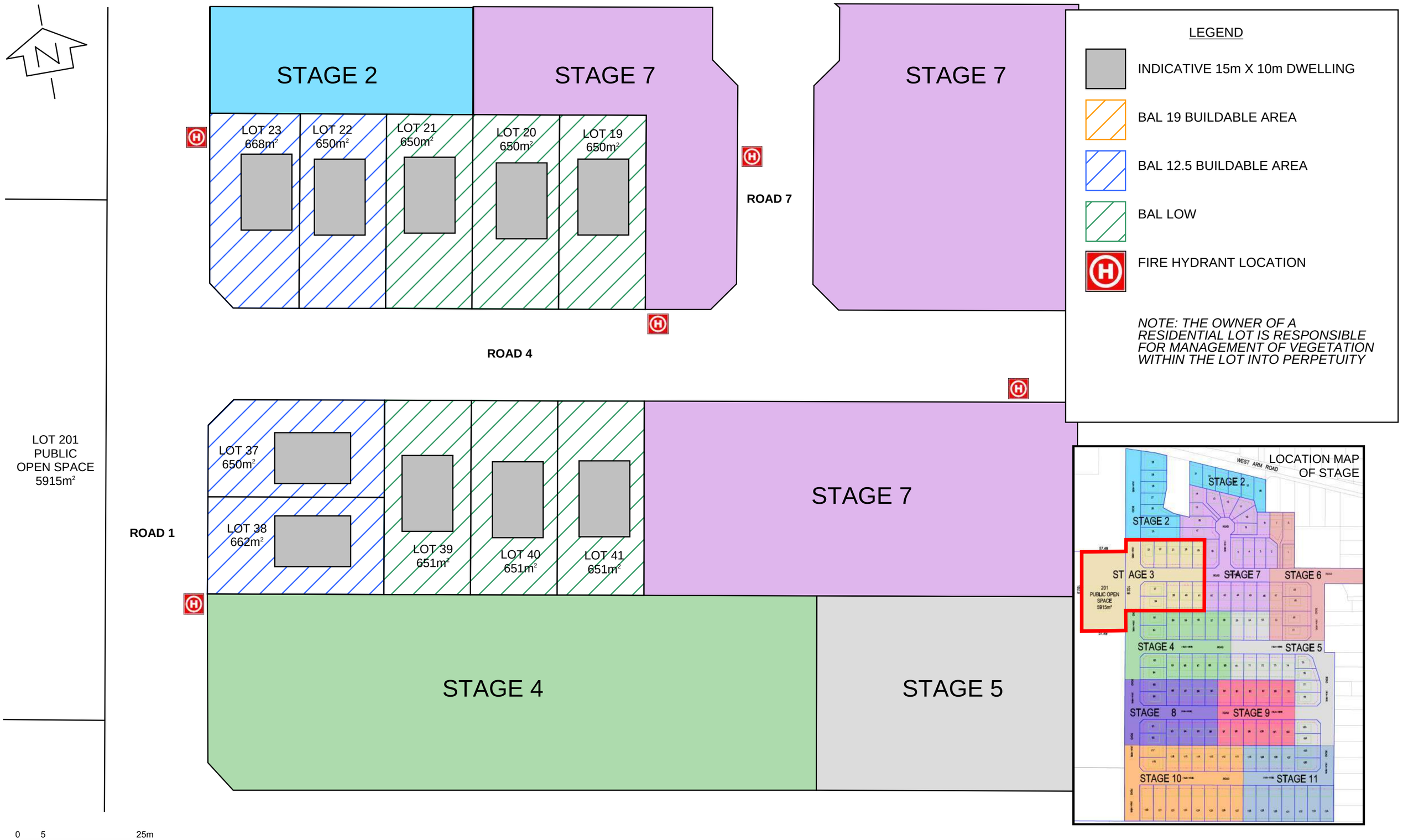

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 3 - STAGE 3

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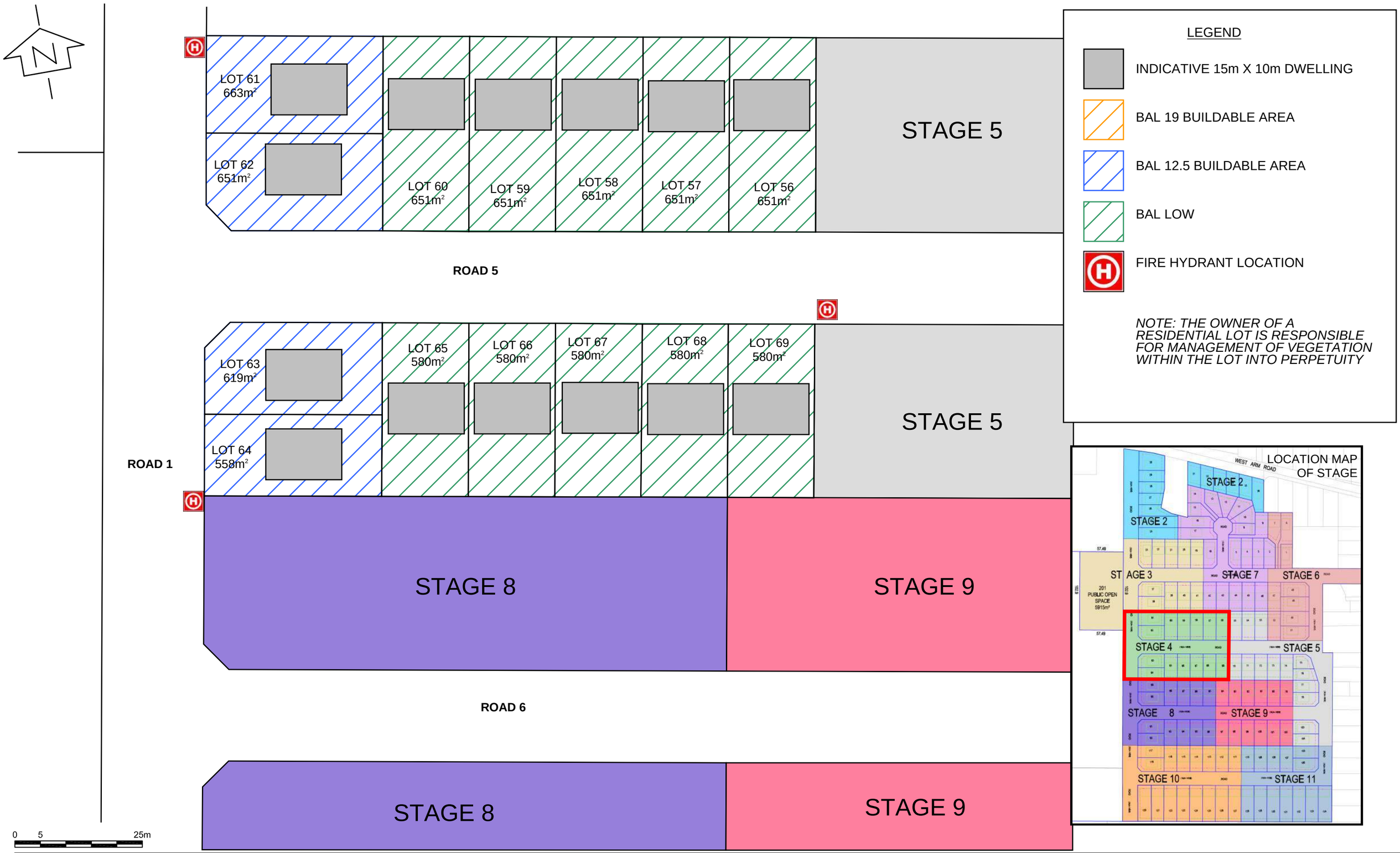

LEGEND

- INDICATIVE 15m X 10m DWELLING
- BAL 19 BUILDABLE AREA
- BAL 12.5 BUILDABLE AREA
- BAL LOW
- FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY

LOCATION MAP OF STAGE

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 4 - STAGE 4

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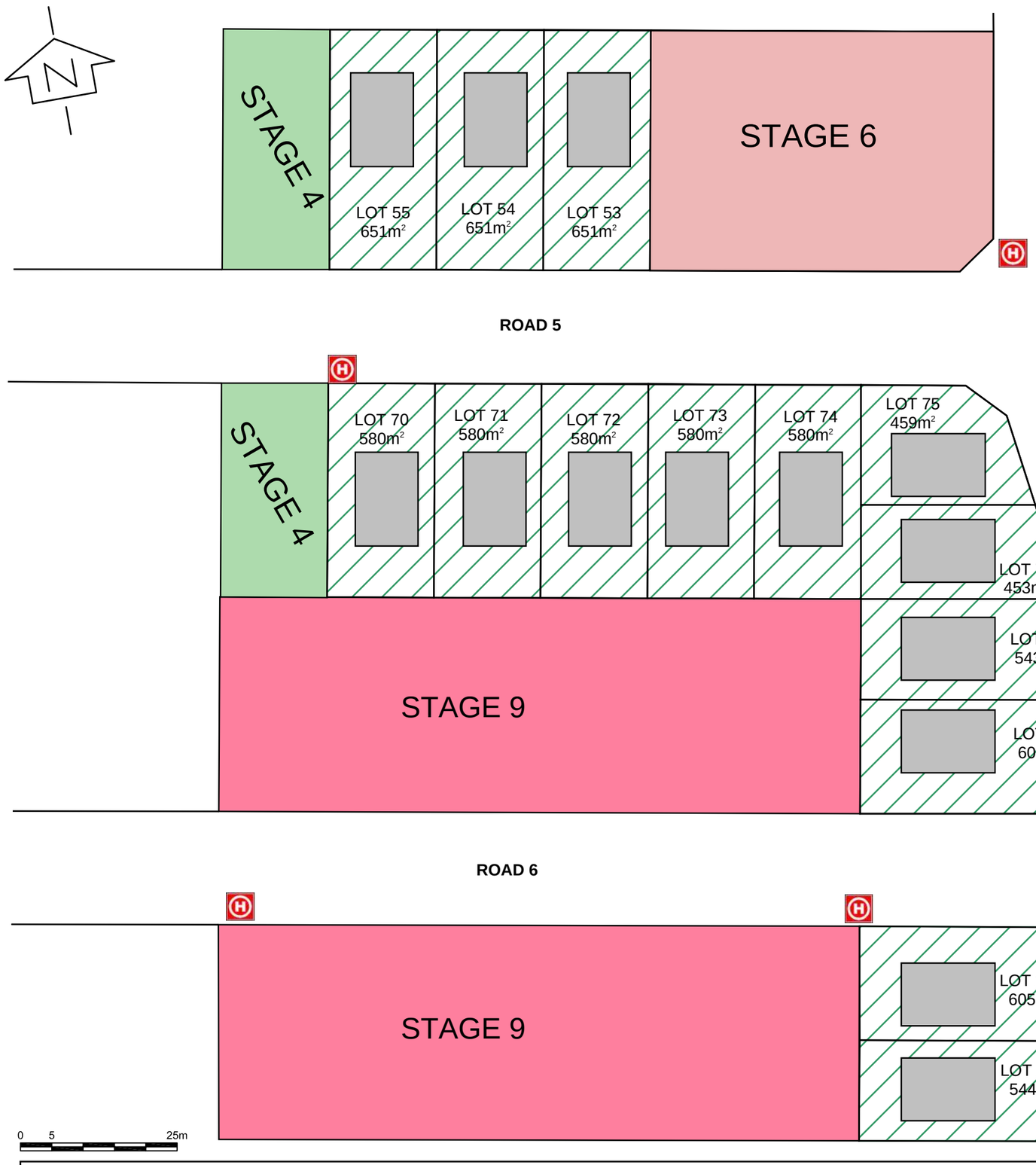
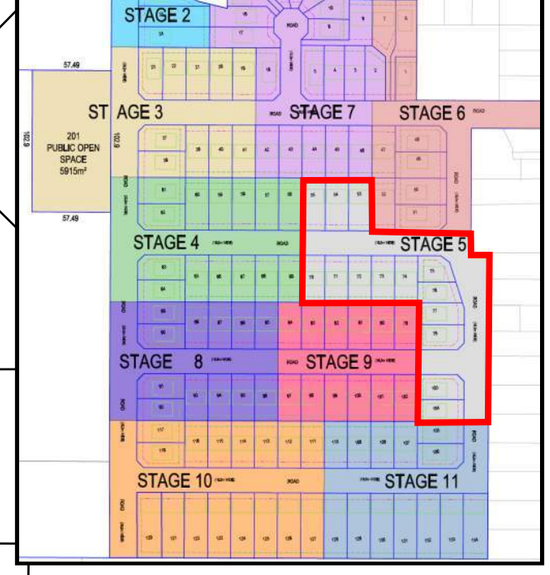


LEGEND

- INDICATIVE 15m X 10m DWELLING
- BAL 19 BUILDABLE AREA
- BAL 12.5 BUILDABLE AREA
- BAL LOW
- FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY

LOCATION MAP OF STAGE



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 5 - STAGE 5

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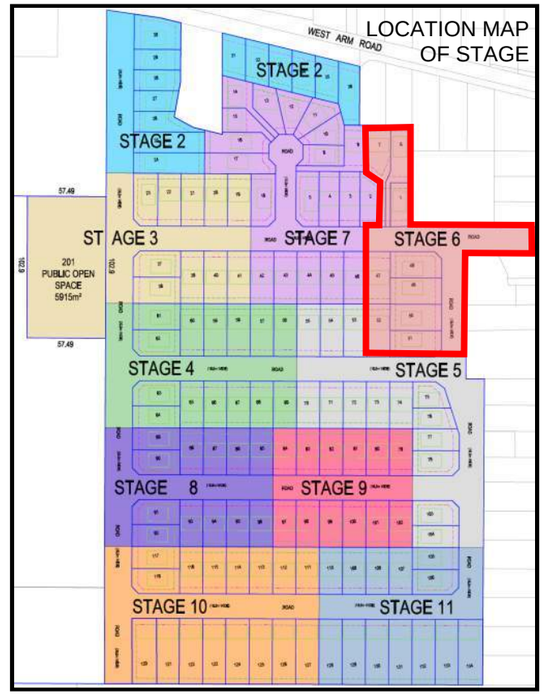
LEGEND

- INDICATIVE 15m X 10m DWELLING
- BAL 19 BUILDABLE AREA
- BAL 12.5 BUILDABLE AREA
- BAL LOW
- FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 6 - STAGE 6

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N

STAGE 2

STAGE 2

STAGE 3

STAGE 3

STAGE 6

STAGE 6

LOT 14
585m²

LOT 12
498m²

LOT 11
497m²

LOT 13
534m²

LOT 15
488m²

LOT 10
476m²

LOT 8
711m²

LOT 16
694m²

LOT 9
468m²

LOT 17
748m²

LOT 18
671m²

ROAD 7

LOT 5
660m²

LOT 4
600m²

LOT 3
600m²

LOT 2
560m²

ROAD 4

LOT 42
651m²

LOT 43
651m²

LOT 44
651m²

LOT 45
651m²

LOT 46
651m²

0 5 25m

LEGEND

INDICATIVE 15m X 10m DWELLING

BAL 19 BUILDABLE AREA

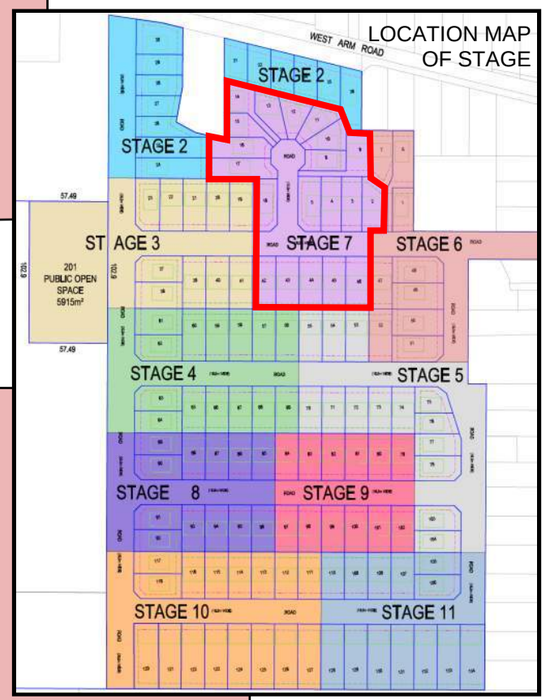
BAL 12.5 BUILDABLE AREA

BAL LOW

FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY

LOCATION MAP OF STAGE



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 7 - STAGE 7

LOT 102 WEST ARM ROAD, BEAUTY POINT
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N

STAGE 4

STAGE 5

STAGE 9

LOT 89
557m²

LOT 90
619m²

LOT 88
580m²

LOT 87
580m²

LOT 86
580m²

LOT 85
580m²

ROAD 1

ROAD 6

LOT 91
620m²

LOT 92
558m²

LOT 93
580m²

LOT 94
580m²

LOT 95
580m²

LOT 96
580m²

STAGE 9

STAGE 10

STAGE 11

ROAD 2

0 5 25m

LEGEND

INDICATIVE 15m X 10m DWELLING

BAL 19 BUILDABLE AREA

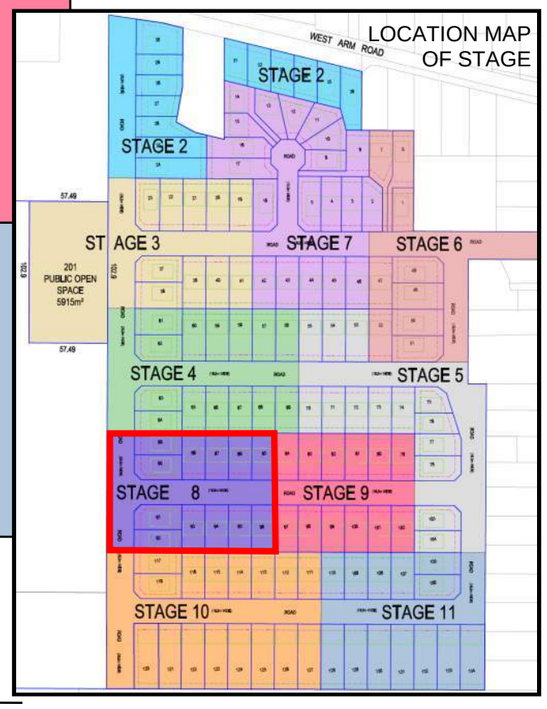
BAL 12.5 BUILDABLE AREA

BAL LOW

FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY

LOCATION MAP OF STAGE



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 8 - STAGE 8

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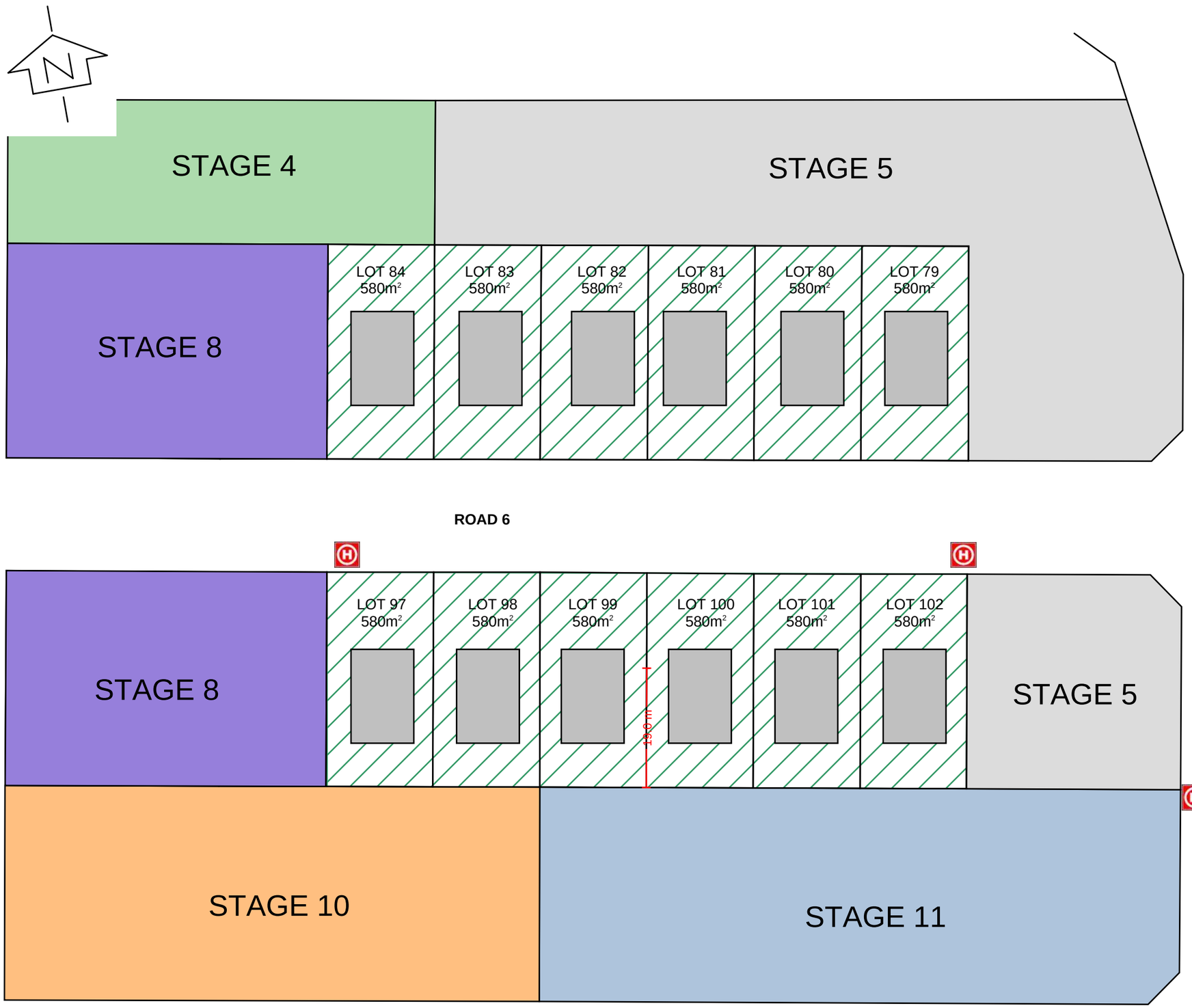
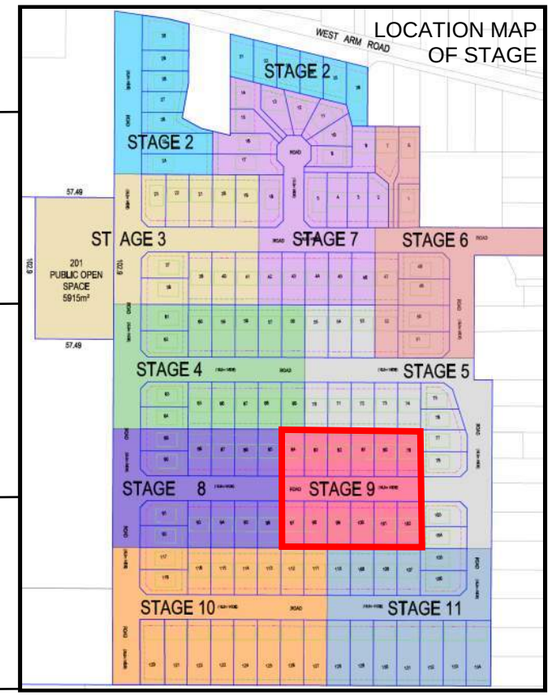


LEGEND

- INDICATIVE 15m X 10m DWELLING
- BAL 19 BUILDABLE AREA
- BAL 12.5 BUILDABLE AREA
- BAL LOW
- FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR MANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 9 - STAGE 9

LOT 102 WEST ARM ROAD, BEAUTY POINT
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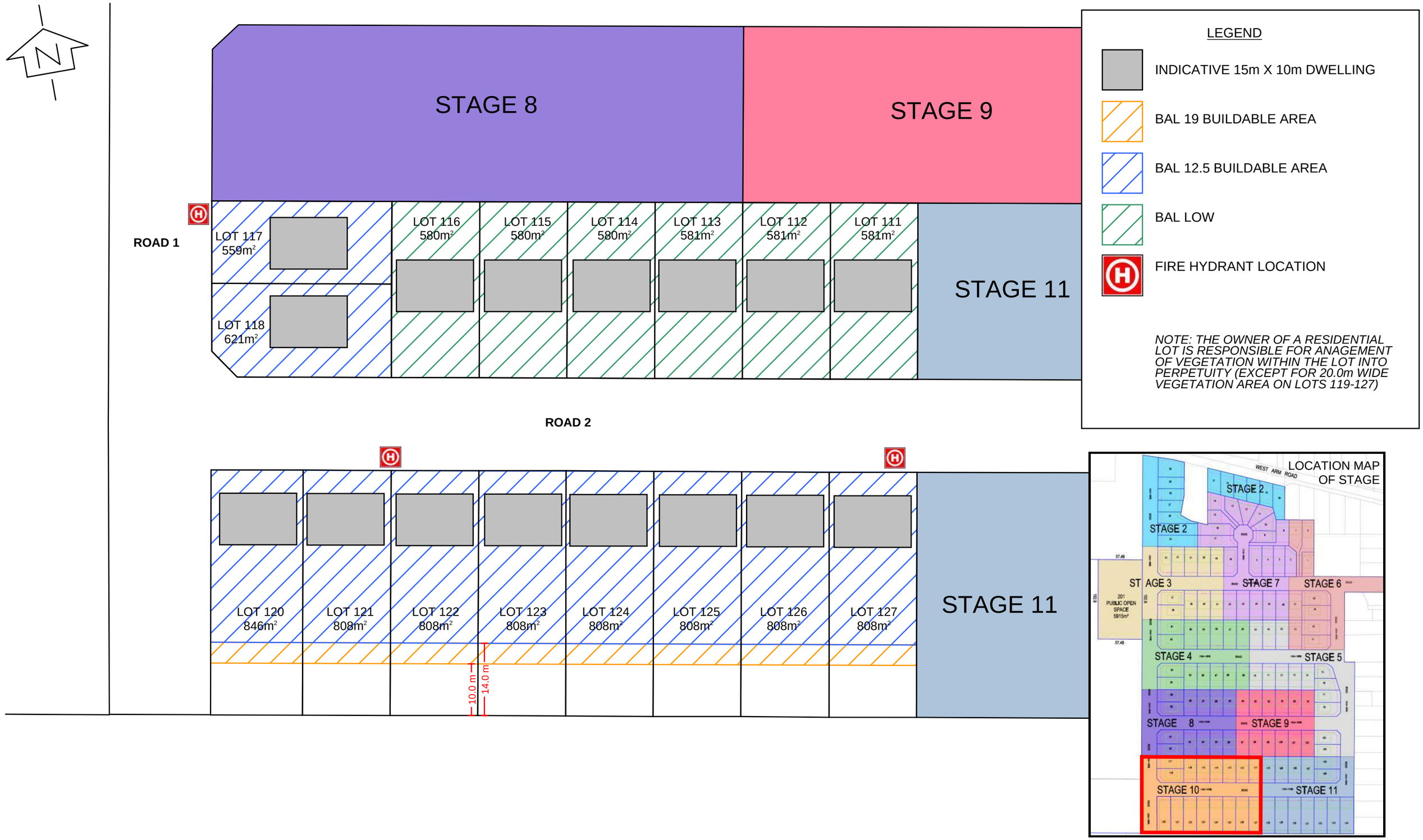

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 10 - STAGE 10

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ROAD 6

STAGE 8

STAGE 9

STAGE 5

STAGE 10

LOT 110
581m²

LOT 109
581m²

LOT 108
581m²

LOT 107
581m²

LOT 105
543m²

LOT 106
604m²

ROAD 3

ROAD 2

STAGE 10

LOT 128
808m²

LOT 129
808m²

LOT 130
808m²

LOT 131
808m²

LOT 132
808m²

LOT 133
804m²

LOT 134
852m²

10.0 m

14.0 m

0 5 25m

LEGEND

INDICATIVE 15m X 10m DWELLING

BAL 19 BUILDABLE AREA

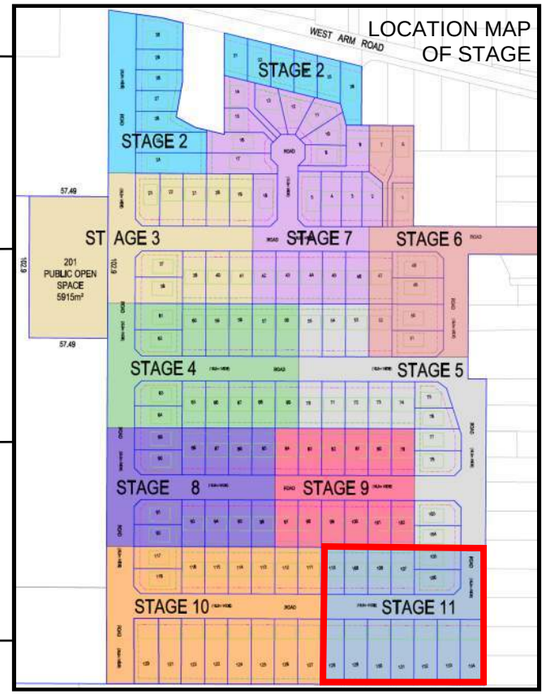
BAL 12.5 BUILDABLE AREA

BAL LOW

FIRE HYDRANT LOCATION

NOTE: THE OWNER OF A RESIDENTIAL LOT IS RESPONSIBLE FOR ANAGEMENT OF VEGETATION WITHIN THE LOT INTO PERPETUITY (EXCEPT FOR 20.0m WIDE VEGETATION AREA ON LOTS 128-134)

LOCATION MAP OF STAGE



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 11 - STAGE 11

LOT 102 WEST ARM ROAD, BEAUTY POINT
VOLUME 156126 FOLIO 102 & VOLUME 64199 FOLIO 1
PROPERTY ID 2926923

DATE: 17 OCTOBER 2025
VERSION: 3
DRAWN: REBECCA GREEN
PHONE: 0409 284 422
EMAIL: ADMIN@RGASSOCIATES.COM.AU
BFP - 116, SCOPE - 1, 2, 3A, 3B, 3C

Rebecca Green & Associates

N

WEST ARM ROAD

ROAD 1

LOT 30
780m²

LOT 29
511m²

LOT 28
507m²

LOT 27
473m²

LOT 26
566m²

LOT 25
778m²

LOT 24
776m²

LOT 31
524m²

LOT 32
524m²

LOT 33
524m²

LOT 34
524m²

LOT 35
524m²

LOT 36
652m²

50.0 m

50.0 m

LEGEND

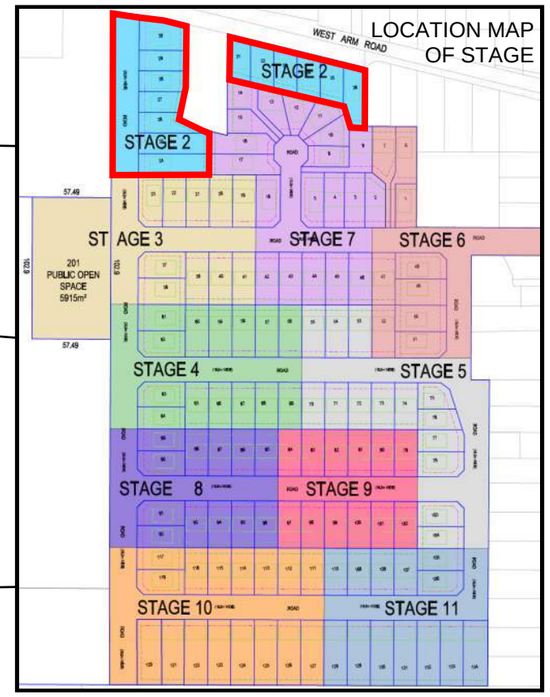
CURRENT STAGE

HAZARD MANAGEMENT AREA - LOW THREAT (FUTURE STAGES)

FUTURE DEVELOPMENT STAGES

DEVELOPED LOTS

LOCATION MAP OF STAGE



0 5 25m

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 13 - STAGE 2 STAGING EXAMPLE

LOT 102 WEST ARM ROAD, BEAUTY POINT
VOLUME 156126 FOLIO 102 & VOLUME 64199 FOLIO 1
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Rebecca Green & Associates

N

ROAD 4

ROAD 1

LOT 55
651m²

LOT 54
651m²

LOT 53
651m²

50.0 m

ROAD 5

LOT 70
580m²

LOT 71
580m²

LOT 72
580m²

LOT 73
580m²

LOT 74
580m²

LOT 75
459m²

LOT 76
453m²

LOT 77
543m²

LOT 78
607m²

ROAD 3

ROAD 6

LOT 103
605m²

LOT 104
544m²

0 20 100m

LEGEND

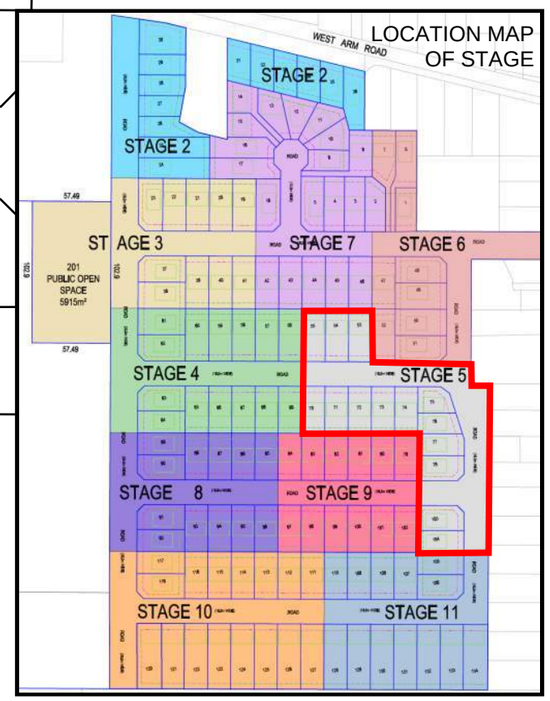
CURRENT STAGE

HAZARD MANAGEMENT AREA - LOW THREAT (FUTURE STAGES)

FUTURE DEVELOPMENT STAGES

DEVELOPED LOTS

LOCATION MAP OF STAGE



BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 14 - STAGE 5 STAGING EXAMPLE

LOT 102 WEST ARM ROAD, BEAUTY POINT
VOLUME 156126 FOLIO 102 & VOLUME 64199 FOLIO 1
PROPERTY ID 2926923

DATE: 17 OCTOBER 2025
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BFP - 116, SCOPE - 1, 2, 3A, 3B, 3C

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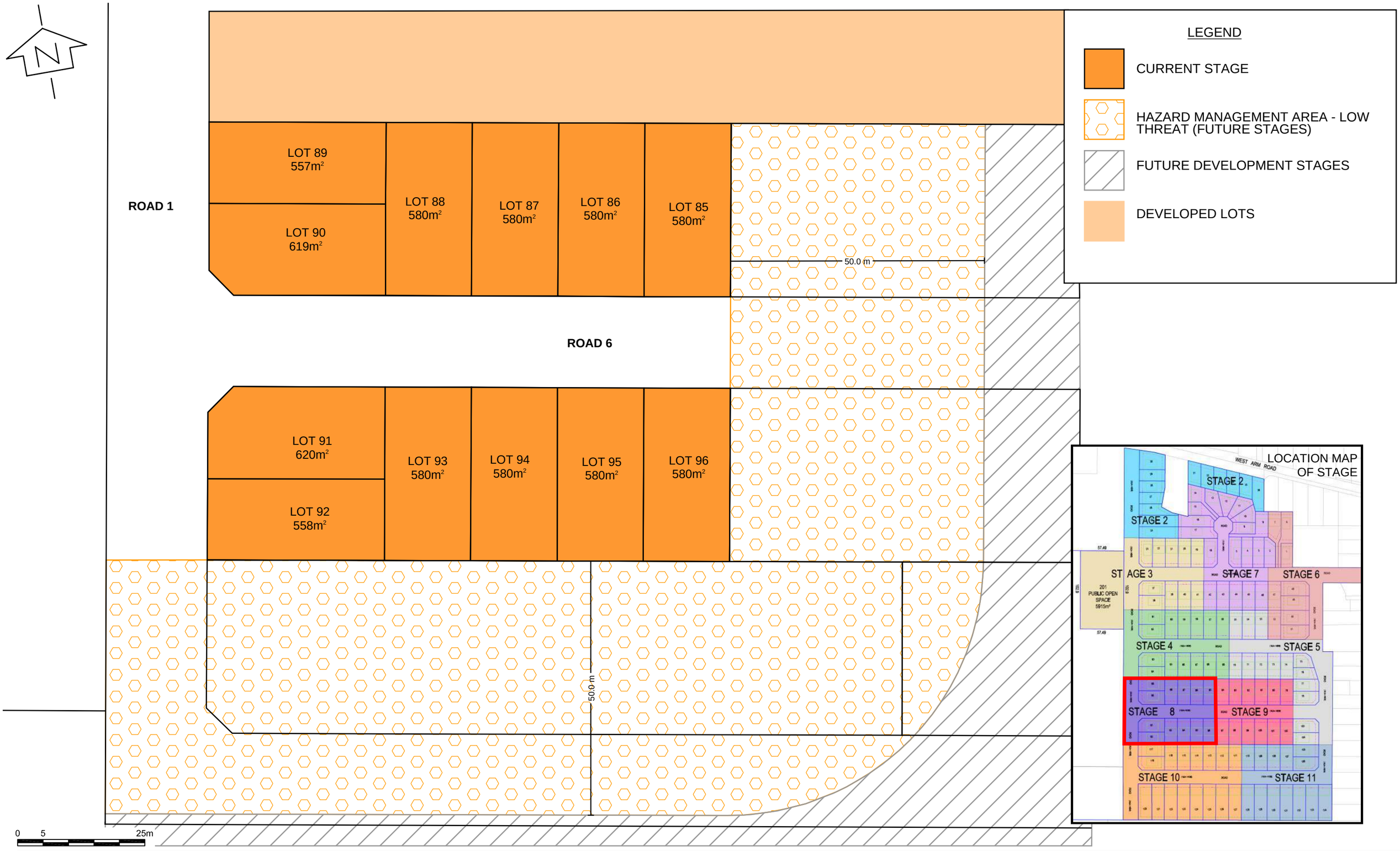

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

SHEET 15 - STAGE 8 STAGING EXAMPLE

LOT 102 WEST ARM ROAD, BEAUTY POINT
VOLUME 156126 FOLIO 102 & VOLUME 64199 FOLIO 1
PROPERTY ID 2926923

DATE: 17 OCTOBER 2025
VERSION: 3
DRAWN: REBECCA GREEN
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BFP - 116, SCOPE - 1, 2, 3A, 3B, 3C

Rebecca Green & Associates

NOTES

Construction: BAL Low, BAL 19, BAL 12.5 as shown

Buildings in Bushfire Prone Areas to be built in accordance with the National Construction Code and Australian Standard AS3959.

Building setbacks/ BAL ratings apply to habitable buildings (Class 1, 2, 3, 8 or 9) and Class 10a buildings within 6m of a habitable building.

Habitable buildings must be fully constructed to BAL 12.5 if any façade is within the BAL 12.5 building area of Lots 24-25.

Habitable buildings must be fully constructed to BAL 19 if any façade is within the BAL 19 building area of Lots 120-134.

See report table for individual BAL ratings and setback requirements.

Hazard Management Areas:

Hazard Management Areas include the area to protect the buildings as well as the access and water supplies.

Low threat vegetation, include maintained lawns (<100mm in height), gardens and orchards.

All developed lots and roads and the balance lot within 50m of a developed lot must be managed as low threat vegetation from sealing of titles and in perpetuity.

The owner of a lot is responsible for management of vegetation within the lot, including the balance lot at any stage of development.

Water Supply:

The subdivision will be serviced by a reticulated supply, additional hydrants must be installed to the standards below. The building area to be protected must be located within 120 metres of a fire hydrant, and the distance must be measured as a hose lay, between the water connection point and the furthest part of the building area.

Additional Hydrants must comply with:

(a) Fire hydrant system must be designed and constructed in accordance with *TasWater Supplement to Water Supply Code of Australia WSA 03-2011-3.1 MRWA 2nd Edition;* and
(b) Fire hydrants are not installed in parking areas.

A hardstand area for fire appliances must be provided:

(a) No more than 3m from the hydrant, measured as a hose lay;
(b) No closer than 6m from the building area to be protected;
(c) A minimum width of 3m constructed to the same standard as the carriageway; and
(d) Connected to the property access by a carriageway equivalent to the standard of the property access.

Roads:

Roads

All roads within the subdivision must comply with the following:

(a) Two-wheel drive, all-weather construction;
(b) Load capacity of at least 20 tonnes, including for bridges and culverts;
(c) Minimum carriageway width is 7m for a through road, or 5.5m for a dead-end or cul-de-sac road;
(d) Minimum vertical clearance of 4m;
(e) Minimum horizontal clearance of 2m from the edge of the carriageway;
(f) Cross falls of less than 3 degrees (1:20 or 5%);
(g) Maximum gradient of 15 degrees (1:3:5 or 28%) for sealed roads, and 10 degrees (1:5:5 or 18%) for unsealed roads;
(h) Curves have a minimum inner radius of 10m;
(i) Dead-end or cul-de-sac roads are not more than 200m in length unless the carriageway is 7m in width;
(j) Dead-end or cul-de-sac roads have a turning circle with a minimum 12m outer radius (with the exception of stage 6) ; and
(k) Carriageways less than 7m wide have 'No Parking' zones on one side, indicated by a road sign that complies with *Australian Standard, AS 1743-2001 Road signs-Specifications.*

Turning provision must be installed on dead end staged roads.

- THIS BHMP MUST BE READ IN CONJUNCTION WITH BUSHFIRE HAZARD ASSESSMENT REPORT REF: RGA-B2409, R.GREEN, 17 OCTOBER 2025

- THIS BHMP HAS BEEN PREPARED TO SATISFY THE REQUIREMENTS OF C13.0 BUSHFIRE PRONE AREAS CODE OF THE TASMANIAN PLANNING SCHEME - WEST TAMAR - EFFECTIVE DATE 9 FEBRUARY 2022

BUSHFIRE HAZARD MANAGEMENT PLAN
SUBDIVISION STAGES 1 - 11

NOTES

LOT 102 WEST ARM ROAD, BEAUTY POINT
VOLUME 156126 FOLIO 102 & VOLUME 64199 FOLIO 1
PROPERTY ID 2926923

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BFP - 116, SCOPE - 1, 2, 3A, 3B, 3C

Rebecca Green & Associates

Form 55

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form 55

To:	Dourias MGH Pty Ltd	*Owner /Agent*
	Attention: Tony Dourias, Joint Director	*Address*
	Douriasgroupholdings@gmail.com	*Suburb/postcode*

Qualified person details:

Qualified person:	Rebecca Green		
Address:	PO Box 2108	Phone No:	0409 284 422
	Launceston 7250	Fax No:	
Licence No:	BFP-116	Email address:	admin@rgassociates.com.au

Qualifications and Insurance details: Accredited to report on bushfire hazards under Part IVA of the *Fire Services Act 1979*

(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items

Speciality area of expertise: Analysis of hazards in bushfire prone areas

(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Details of work:

Address:	Lot 102 West Arm Road	Lot No:	102 & 1
	BEAUTY POINT TAS 7270	Certificate of title No:	156126 & 64199

The assessable item related to this certificate: Subdivision – Stages 1-11 (Lots 1-118, 120-134, Lots 200 & 201 & 500 & Roads)

(description of the assessable item being certified)
Assessable item includes –
- *a material;*
- *a design*
- *a form of construction*
- *a document*
- *testing of a component, building system or plumbing system*
- *an inspection, or assessment, performed*

Certificate details:

Certificate type: Bushfire Hazard

(description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - *(tick one)*

building work, plumbing work or plumbing installation or demolition work: ✓

or

a building, temporary structure or plumbing installation: ☐

In issuing this certificate the following matters are relevant –

Documents:	Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan (Rebecca Green & Associates, 17 October 2025, Version 3, Job No. RGA-B2409)
Relevant	N/A
References:	*Tasmanian Planning Scheme – West Tamar, Bushfire-Prone Areas Code* *Australian Standard 3959-2018*

Substance of Certificate: (what it is that is being certified)

1. Assessment of the site Bushfire Attack Level (to Australian Standard 3959-2018)
2. Bushfire Hazard Management Plan showing BAL-LOW, BAL-12.5 & BAL-19 solutions.

Scope and/or Limitations

Scope

This report and certification was commissioned to identify the Bushfire Attack Level for the existing property. All comment, advice and fire suppression measures are in relation to compliance with *Tasmanian Planning Scheme – West Tamar, Bushfire-Prone Areas Code* C13.0, the *Building Act 2016* & *Regulations 2016*, *National Construction Code* and *Australian Standard 3959-2018, Construction of buildings in bushfire-prone areas*.

Limitations

The assessment has been undertaken and report provided on the understanding that:-

1. The report only deals with the potential bushfire risk all other statutory assessments are outside the scope of this certificate.
2. The report only identifies the size, volume and status of vegetation at the time the inspection was undertaken and cannot be relied upon for any future development.
3. Impacts of future development and vegetation growth have not been considered.
4. No assurance is given or inferred for the health, safety or amenity of the general public, individuals or occupants in the event of a Bushfire.
5. No warranty is offered or inferred for any buildings constructed on the property in the event of a Bushfire.

No action or reliance is to be placed on this certificate or report; other than for which it was commissioned.

I certify the matters described in this certificate.

	Signed:	*Certificate No:*	*Date:*
Qualified person:		RG-217/2025	17 October 2025

Attachment 1 – Certificate of Compliance to the Bushfire-prone Area Code

BUSHFIRE-PRONE AREAS CODE

CERTIFICATE[1] UNDER S51(2)(d) *LAND USE PLANNING AND APPROVALS ACT 1993*

1. Land to which certificate applies

The subject site includes property that is proposed for use and development and includes all properties upon which works are proposed for bushfire protection purposes.

Street address:	Lot 102 West Arm Road, Beauty Point
Certificate of Title / PID:	**CT156126/102 / CT64199/1, PID 2926923**

2. Proposed Use or Development

Description of proposed Use and Development:	Subdivision - Stages 1-11 (Lots 1-118, 120-134, Lots 200 & 201 & 500 & Roads)
Applicable Planning Scheme:	Tasmanian Planning Scheme – West Tamar

3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Subdivision Proposal Plans Ref: 11375, Sheets 1/8 to 8/8	Leary Cox & Cripps Land & Engineering Surveyors	15-9-2025	11
Bushfire Hazard Assessment Report	Rebecca Green	17 October 2025	3
Bushfire Hazard Management Plan	Rebecca Green	17 October 2025	3

[1] This document is the approved form of certification for this purpose and must not be altered from its original form.

4. Nature of Certificate

The following requirements are applicable to the proposed use and development:

☐	**E1.4 / C13.4 – Use or development exempt from this Code**	
	Compliance test	**Compliance Requirement**
☐	E1.4(a) / C13.4.1(a)	Insufficient increase in risk

☐	**E1.5.1 / C13.5.1 – Vulnerable Uses**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.5.1 P1 / C13.5.1 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☐	E1.5.1 A2 / C13.5.1 A2	Emergency management strategy
☐	E1.5.1 A3 / C13.5.1 A2	Bushfire hazard management plan

☐	**E1.5.2 / C13.5.2 – Hazardous Uses**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.5.2 P1 / C13.5.2 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☐	E1.5.2 A2 / C13.5.2 A2	Emergency management strategy
☐	E1.5.2 A3 / C13.5.2 A3	Bushfire hazard management plan

☒	**E1.6.1 / C13.6.1 Subdivision: Provision of hazard management areas**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.6.1 P1 / C13.6.1 P1	***Planning authority discretion required. A proposal cannot be certified as compliant with P1.***
☒	E1.6.1 A1 (a) / C13.6.1 A1(a)	Insufficient increase in risk *Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green & Associates, 17 October 2025 Lot 200, & Lot 500.*
☒	E1.6.1 A1 (b) / C13.6.1 A1(b)	Provides BAL-19 for all lots (including any lot designated as 'balance') *Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green & Associates,*

		17 October 2025 demonstrating BAL LOW/BAL 12.5/ BAL 19 – Lots 1-118 & Lots 120-134.
☐	E1.6.1 A1(c) / C13.6.1 A1(c)	Consent for Part 5 Agreement

☒	**E1.6.2 / C13.6.2 Subdivision: Public and fire fighting access**	
	Acceptable Solution	**Compliance Requirement**
☒	E1.6.2 P1 / C13.6.2 P1	***Planning authority discretion required.*** *Performance criteria is relied upon due to the outer radius of the proposed cul-de-sac in stage 7. A response to the criteria and justification has been provided, refer to Bushfire Hazard Assessment Report, prepared by Rebecca Green & Associates, 17 October 2025.*
☐	E1.6.2 A1 (a) / C13.6.2 A1 (a)	Insufficient increase in risk
☒	E1.6.2 A1 (b) / C13.6.2 A1 (b)	Access complies with relevant Tables *Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green & Associates, 17 October 2025, all lots will have direct access to a Council maintained road. Proposed private accesses will comply with Table C13.2. The proposed roads will comply with Table C13.1, except for outer radius of the proposed cul-de-sac in stage 7.*

☒	**E1.6.3 / C13.1.6.3 Subdivision: Provision of water supply for fire fighting purposes**	
	Acceptable Solution	**Compliance Requirement**
☐	E1.6.3 A1 (a) / C13.6.3 A1 (a)	Insufficient increase in risk
☒	E1.6.3 A1 (b) / C13.6.3 A1 (b)	Reticulated water supply complies with relevant Table *Refer to Bushfire Hazard Assessment Report & Bushfire Hazard Management Plan, prepared by Rebecca Green & Associates, 17 October 2025. The bushfire hazard management plan showing proposed hydrant locations is included and demonstrates that each building area can be serviced.*
☐	E1.6.3 A1 (c) / C13.6.3 A1 (c)	Water supply consistent with the objective
☐	E1.6.3 A2 (a) / C13.6.3 A2 (a)	Insufficient increase in risk
☐	E1.6.3 A2 (b) / C13.6.3 A2 (b)	Static water supply complies with relevant Table
☐	E1.6.3 A2 (c) / C13.6.3 A2 (c)	Static water supply consistent with the objective

5. Bushfire Hazard Practitioner

Name:	Rebecca Green	**Phone No:**	0409 284 422
Postal Address:	PO Box 2108 Launceston, Tas 7250	**Email Address:**	admin@rgassociates.com.au
Accreditation No:	BFP – 116	**Scope:**	1, 2, 3A, 3B, 3C

6. Certification

I certify that in accordance with the authority given under Part 4A of the *Fire Service Act 1979* that the proposed use and development:

☐ Is exempt from the requirement Bushfire-Prone Areas Code because, having regard to the objective of all applicable standards in the Code, there is considered to be an insufficient increase in risk to the use or development from bushfire to warrant any specific bushfire protection measures, or

☒ The Bushfire Hazard Management Plan/s identified in Section 3 of this certificate is/are in accordance with the Chief Officer's requirements and compliant with the relevant **Acceptable Solutions** identified in Section 4 of this Certificate.

Signed:
certifier

Name: Rebecca Green **Date:** 17 October 2025

Certificate Number: RGA-066/2025

(for Practitioner Use only)

Attachment 2 – AS3959-2018 Construction Requirements

Rebecca Green & Associates

BAL Assessments

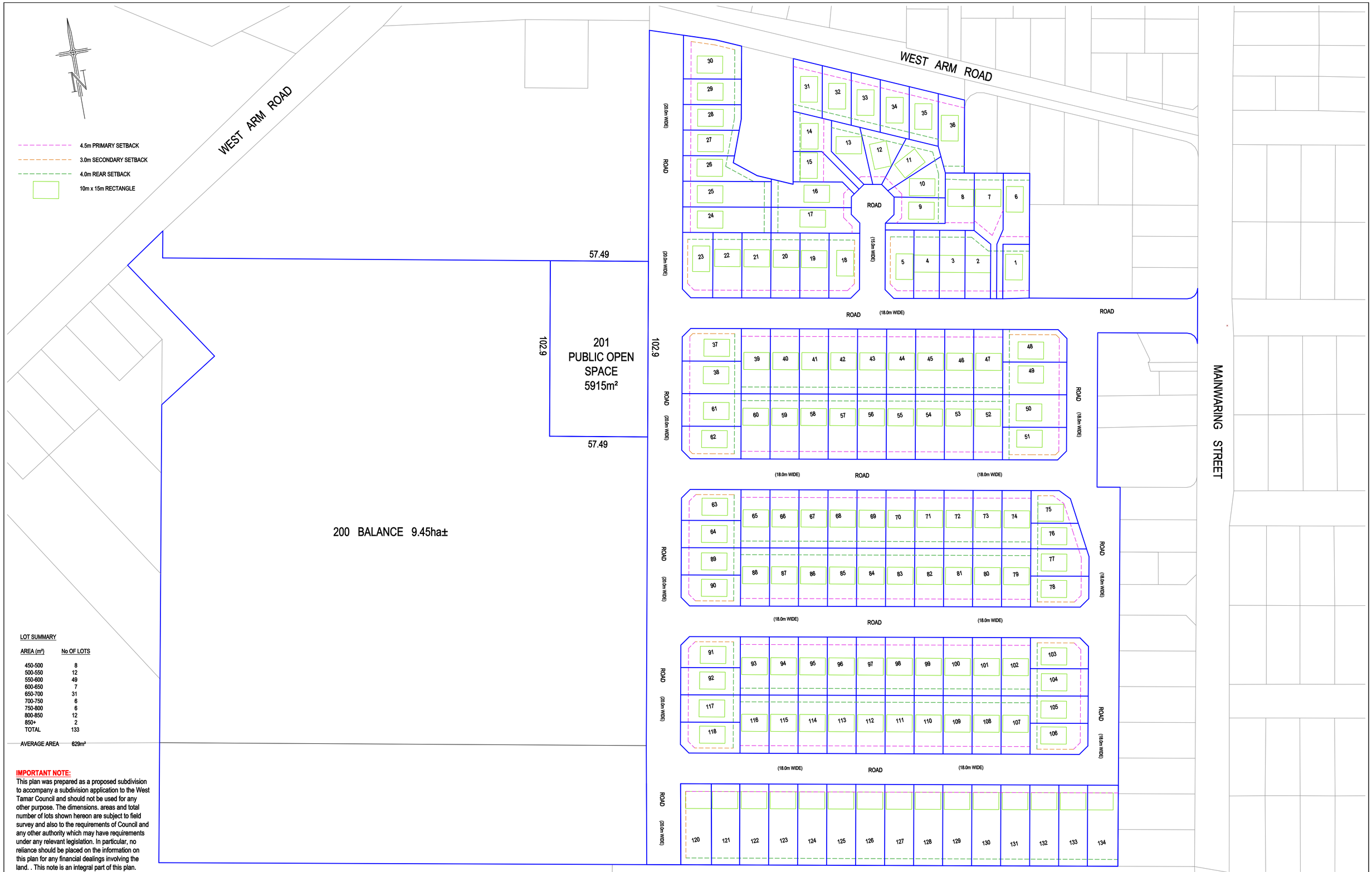
Revised for 2018 edition

	BAL—LOW	BAL-12.5	BAL-19	BAL-29	BAL-40	BAL –FZ (FLAMEZONE)
SUBFLOOR SUPPORTS	No special construction requirements	No special construction requirements	Enclosure by external wall or by steel, bronze or aluminium mesh	Enclosure by external wall or by steel, bronze of aluminium mesh. Non-combustible or naturally fire resistant timber supports where the subfloor is unenclosed	If enclosed by external wall refer below "External Walls" section in table or non-combustible sub-floor supports, or tested for bushfire resistance to AS1530.8.1	Enclosure by external wall or non-combustible with an FRL of 30/-/- or to be tested for bushfire resistance to AS1530.8.2
FLOORS	No special construction requirements	No special construction requirements	Concrete slab on ground or enclosure by external wall, metal mesh as above or flooring less than 400mm above ground level to be non-combustible, naturally fire resistant timber or protected on the underside with sarking or mineral wool insulation	Concrete slab on ground or enclosure by external wall, metal mesh as above or flooring less than 400mm above ground level to be non-combustible, naturally fire resistant timber or protected on the underside with sarking or mineral wool insulation	Concrete slab on ground or enclosure by external wall or protection of underside with a non-combustible material such as fibre cement sheet or be non-combustible or to be tested for bushfire resistance to AS1530.8.1	Concrete slab on ground or enclosure by external wall or an FRL of 30/30/30 or protection of under-side 30 minute incipient spread of fire system or to be tested for bushfire resistance to AS1530.8.2
EXTERNAL WALLS	No special construction requirements	As for BAL-19	Parts less than 400mm above ground or decks etc to be of non-combustible material, 6mm fibre cement clad or bushfire resistant/ naturally fire resistant timber	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete) or timber framed, or steel framed walls sarked on the outside and clad with 6mm fibre cement sheeting or steel sheeting or bushfire resistant timber	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete) or timber framed, or steel framed walls sarked on the outside and clad with 9mm fibre cement sheeting or steel or to be tested for bushfire resistance to AS1530.8.1	Non-combustible material (masonry, brick veneer, mud brick, aerated concrete, concrete) with a minimum thickness of 90mm or a FRL of -/30/30 when tested from outside or to be tested for bushfire resistance to AS1530.8.2
EXTERNAL WINDOWS	No special construction requirements	4mm grade A Safety Glass of glass blocks within 400m of ground, deck etc with Openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber	5mm toughened glass or glass bricks within 400mm of the ground, deck etc with openable portion metal screened with frame of metal or metal reinforced PVC-U or bushfire resisting timber. Above 400mm annealed glass can be used with all glass screened	5mm toughened glass with openable portion screened and frame of metal or metal reinforced PVC-U, or bushfire resistant timber and portion within 400mm of ground, deck, screen etc screened	6mm toughened glass. Fixed and openable portion screened with steel or bronze mesh	Protected by bushfire shutter or FRL of -/30/- and openable portion screened with steel or bronze mesh or be tested for bushfire resistance to AS1530.8.2
EXTERNAL DOORS	No special construction requirements	As for BAL-19 except that door framing can be naturally fire resistant (high density) timber	Screened with steel, bronze or aluminium mesh or glazed with 5mm toughened glass, non-combustible or 35mm solid timber for 400mm above threshold, metal or bushfire resistant timber framed for 400mm above ground, decking etc. tight-fitting with weather strips at base	Screened with steel, bronze or aluminium mesh or non-combustible, or 35mm solid timber for 400mm above threshold. Metal or bushfire resistant timber framed tight-fitting with weather strips at base	Non-combustible or 35mm solid timber, screened with steel or bronze mesh, metal framed, tight-fitting with weather strips at base	Protected by bushfire shutter or tight-fitting with weather strips at base and a FRL of -/30/-
ROOFS	No special construction requirements	As for BAL-19 (including roof to be fully sarked)	Non-combustible covering, roof/wall junctions sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked.	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked	Non-combustible covering. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. Roof to be fully sarked and no roof mounted evaporative coolers	Roof with FRL of 30/30/30 or tested for bushfire resistance to AS1530.8.2. Roof/wall junction sealed. Openings fitted with non-combustible ember guards. No roof mounted evaporative coolers
VERANDAS DECKS ETC.	No special construction requirements	As for BAL-19	Enclosed sub floor space—no special requirements for materials except within 400mm of ground. No special requirements for supports or framing. Decking to be non-combustible or bushfire resistant within 300mm horizontally and 400mm vertically from a glazed element	Enclosed sub floor space or non-combustible or bushfire resistant timber supports. Decking to be non-combustible or bushfire resistant timbers	Enclosed sub-floor space or non-combustible supports. Decking to be non-combustible	Enclosed sub floor space or non-combustible supports. Decking to have no gaps and be non-combustible

Please note: The information in the table is a summary of the construction require-ments in the AS3959-2018 standard and is not intended as a design or construction guide. You should consult the standard for the full technical details.

Attachment 3 – Proposed Plans

Leary Cox & Cripps



LOT SUMMARY

AREA (m²)	No OF LOTS
450-500	8
500-550	12
550-600	49
600-650	7
650-700	31
700-750	6
750-800	6
800-850	12
850+	2
TOTAL	133
AVERAGE AREA	629m²

IMPORTANT NOTE:
This plan was prepared as a proposed subdivision to accompany a subdivision application to the West Tamar Council and should not be used for any other purpose. The dimensions. areas and total number of lots shown hereon are subject to field survey and also to the requirements of Council and any other authority which may have requirements under any relevant legislation. In particular, no reliance should be placed on the information on this plan for any financial dealings involving the land. . This note is an integral part of this plan.

Contours supplied by AAD Consulting.

AMENDMENTS

No.	Revision/Issue	Date
7	LOT 201 ADDED TO STAGE 7	2-11-2023
8	INITIAL STAGE 1 ADDED	27-11-2023
9	200m CIRCLE PLAN ADDED	27-11-2023
10	POS AND BALANCE LOTS CHANGED AND MINOR AMENDMENTS	6-6-2024
11	BUFFER REMOVER SHEET 9 REMOVED	15-9-2025

LEARYCOX&CRIPPS
LAND & ENGINEERING SURVEYORS
Unit G04 40 Molle Street,
HOBART TAS 7000
P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

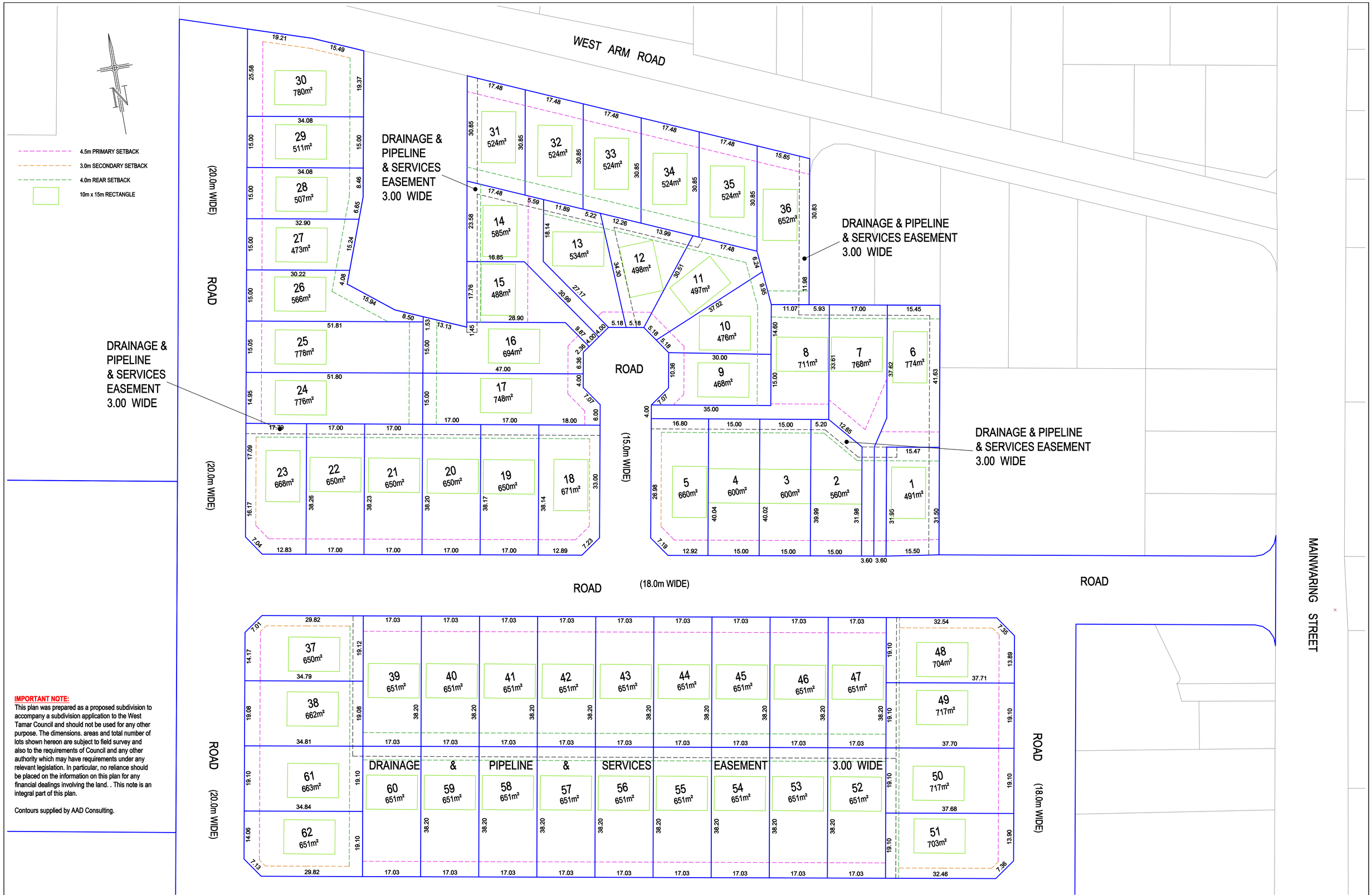
Drawing Title
SUBDIVISION PROPOSAL PLAN

Client ADD CONSULTING

SCALE 1:1000 at A1

"THIS DOCUMENT IS, AND SHALL REMAIN, THE PROPERTY OF LEARY, COX & CRIPPS, LAND & ENGINEERING SURVEYORS. THE DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS COMMISSIONED AND IN ACCORDANCE WITH THE TERMS OF ENGAGEMENT FOR THE COMMISSION. UNAUTHORISED USE OF THE DOCUMENT IN ANY WAY IS PROHIBITED."

Contour Interval	0.25 m
Date	21-4-2020
SHEET	1 of 8
DRAWN	MC
CHK'D	TC
FILE REF:	11375
Geocivil Ref	1137510
AutoCAD Ref	1137510
DATUM Horz:	GDA94
Vert:	AHD



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P 03 6118 2030
E admin@learyandcox.com

Project Name and Address
LOT 102 WEST ARM RD
BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN

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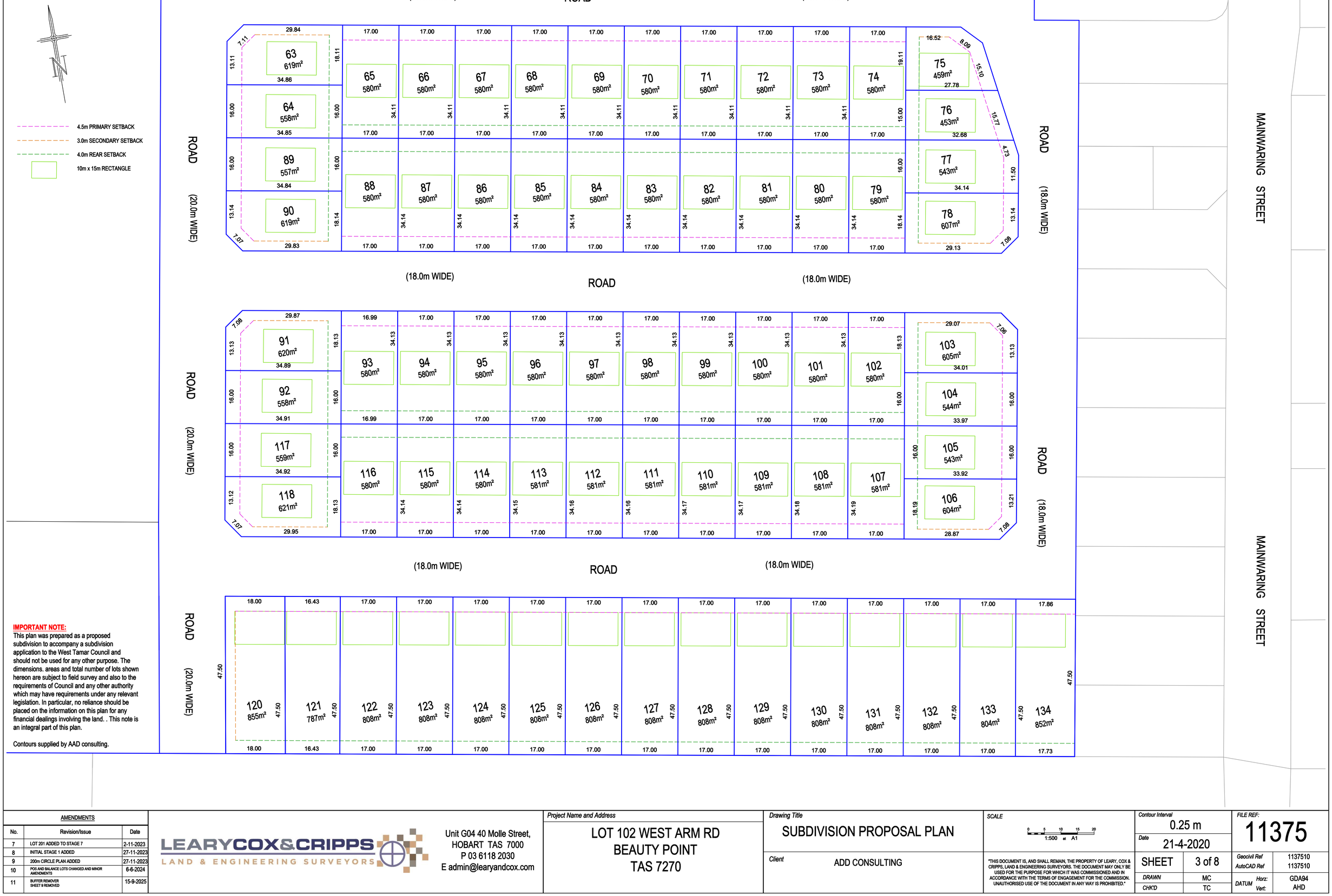
Date	21-4-2020
SHEET	2 of 8
DRAWN	MC
CHK'D	TC
FILE REF:	11375
Geocivil Ref	1137510
AutoCAD Ref	1137510
DATUM Horz:	GDA94
Vert:	AHD



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AMENDMENTS		
No.	Revision/Issue	Date
7	LOT 201 ADDED TO STAGE 7	2-11-2023
8	INITIAL STAGE 1 ADDED	27-11-2023
9	200m CIRCLE PLAN ADDED	27-11-2023
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Date 21-4-2020
SHEET 3 of 8
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Geocivil Ref 1137510
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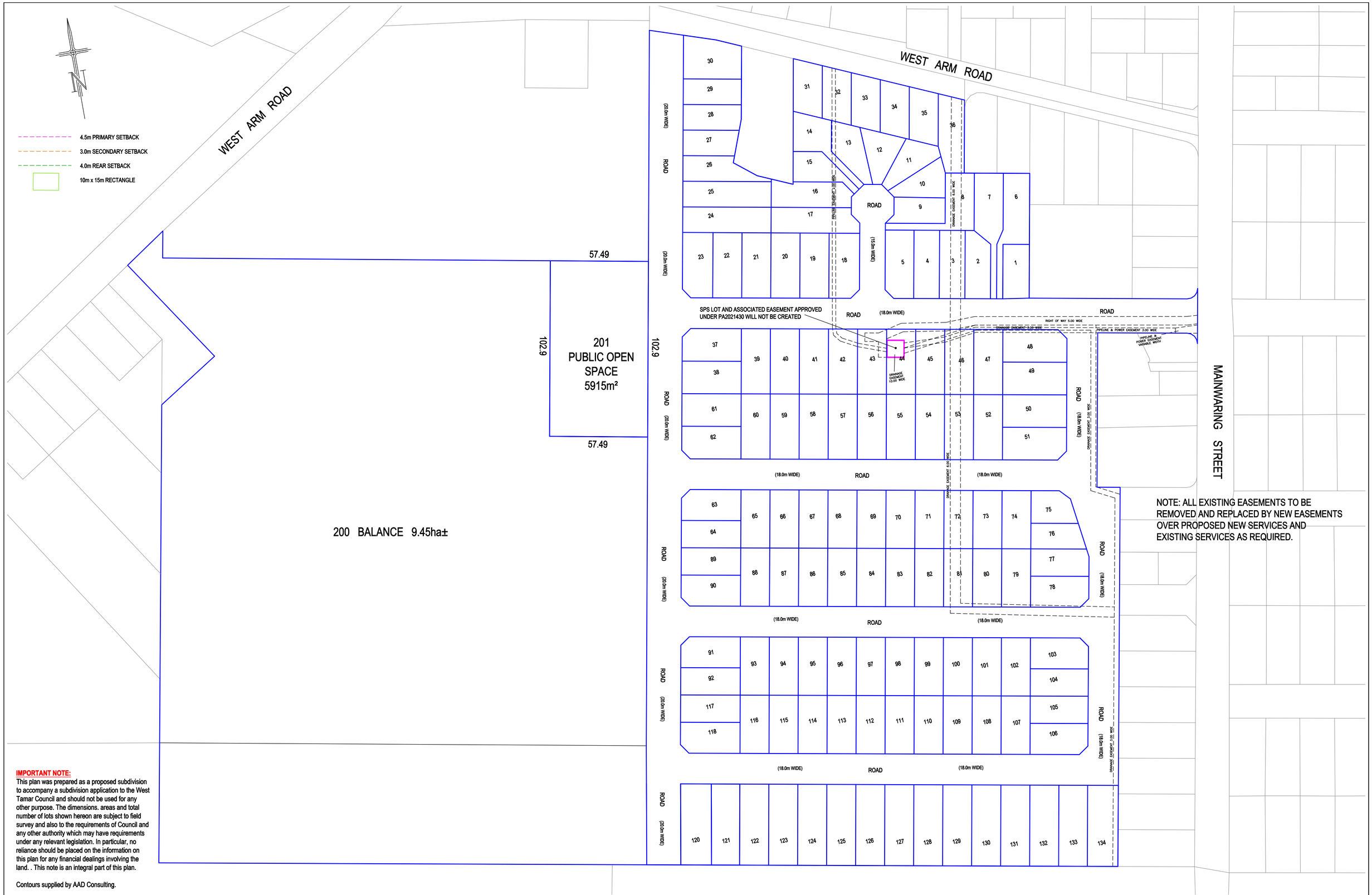

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TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
EXISTING EASEMENTS

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SHEET 4 of 8
DRAWN MC
CHK'D TC
DATUM Horz: GDA94 Vert: AHD

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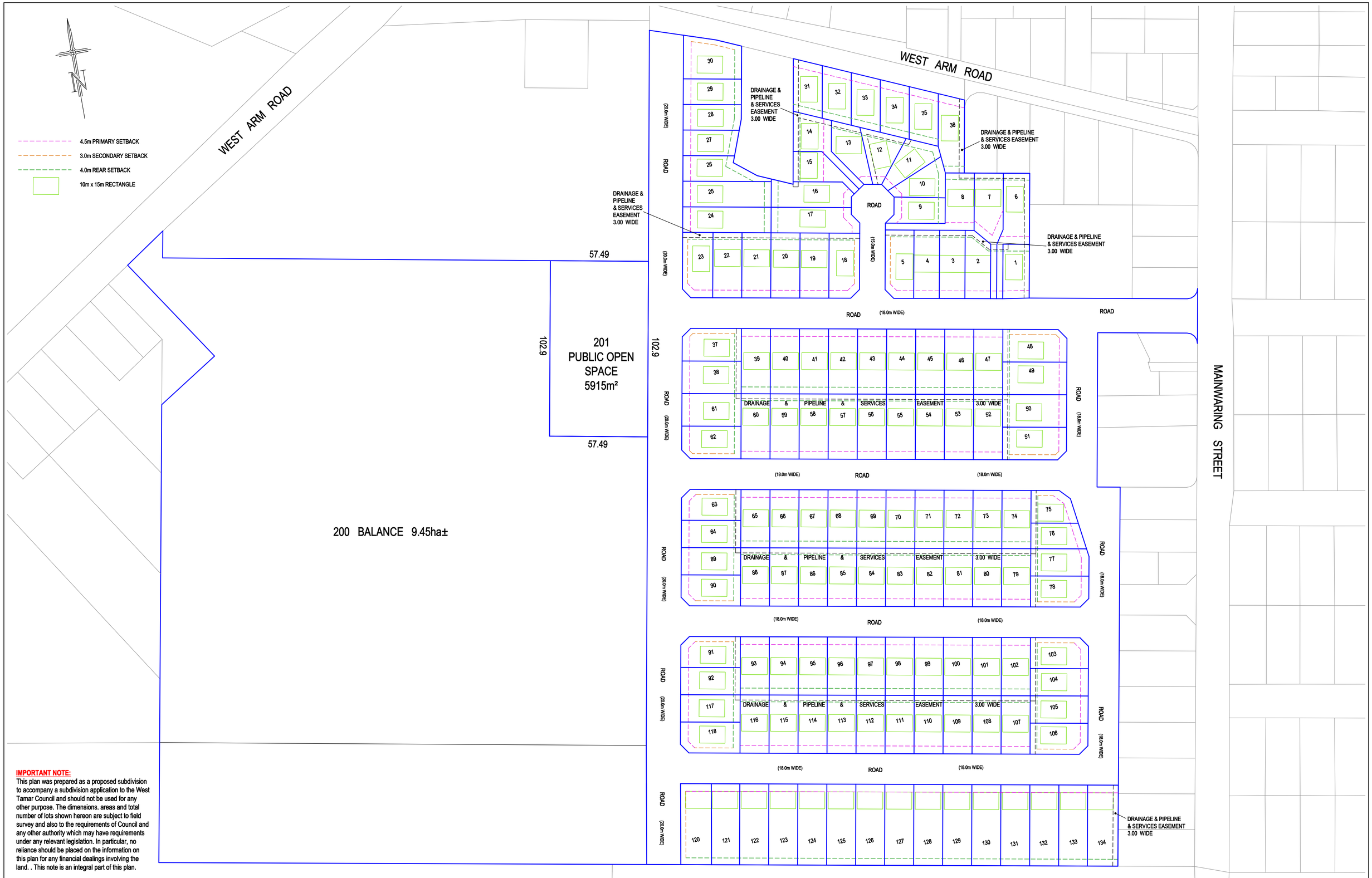

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P 03 6118 2030
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Project Name and Address
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BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
PROPOSED EASEMENTS

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SHEET 5 of 8
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Project Name and Address
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BEAUTY POINT
TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
STAGE 1

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Date 21-4-2020
SHEET 6 of 8
DRAWN MC
CHK'D TC

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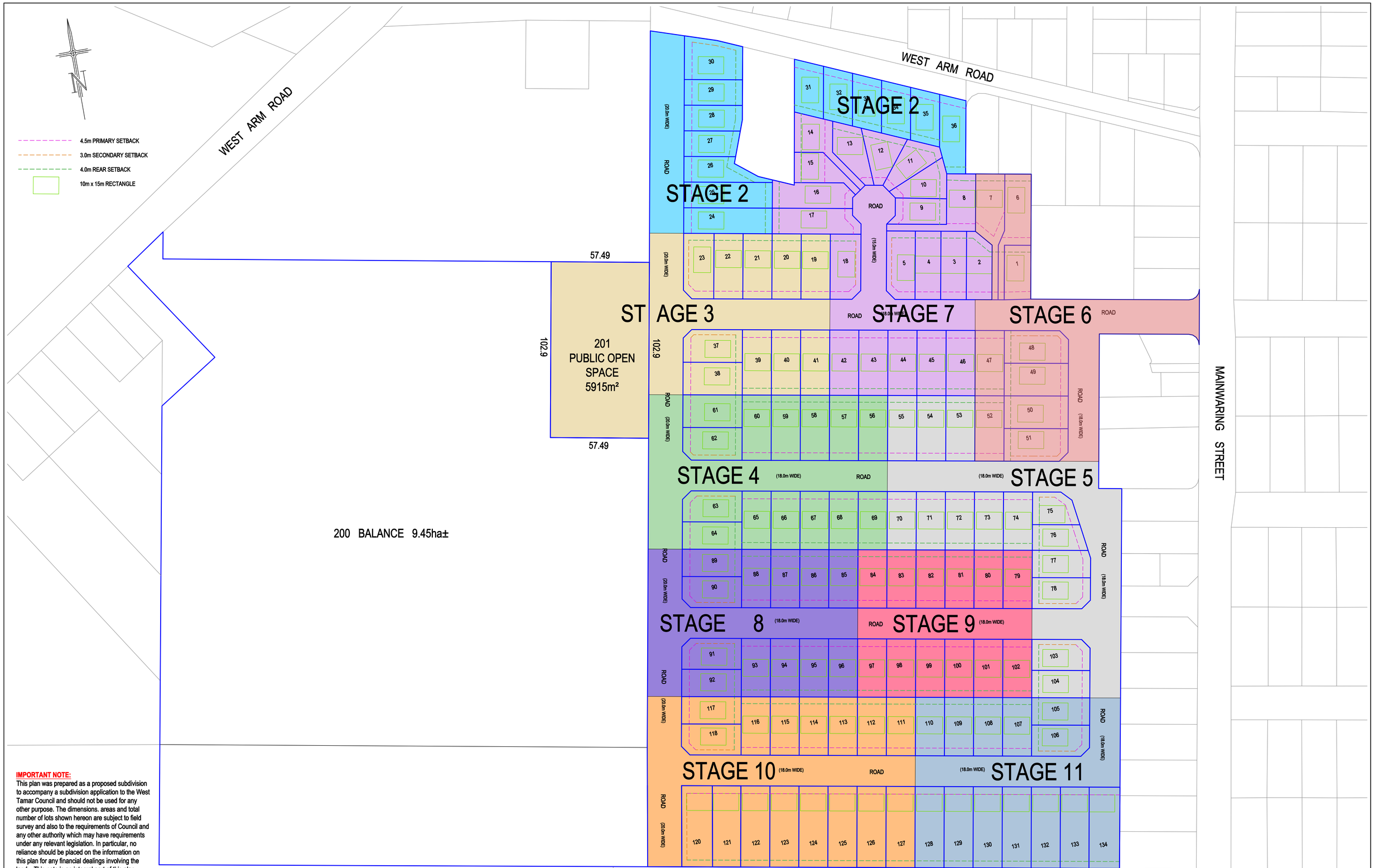

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TAS 7270

Drawing Title
SUBDIVISION PROPOSAL PLAN
STAGE 2-11

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SHEET 7 of 8
DRAWN MC
CHK'D TC

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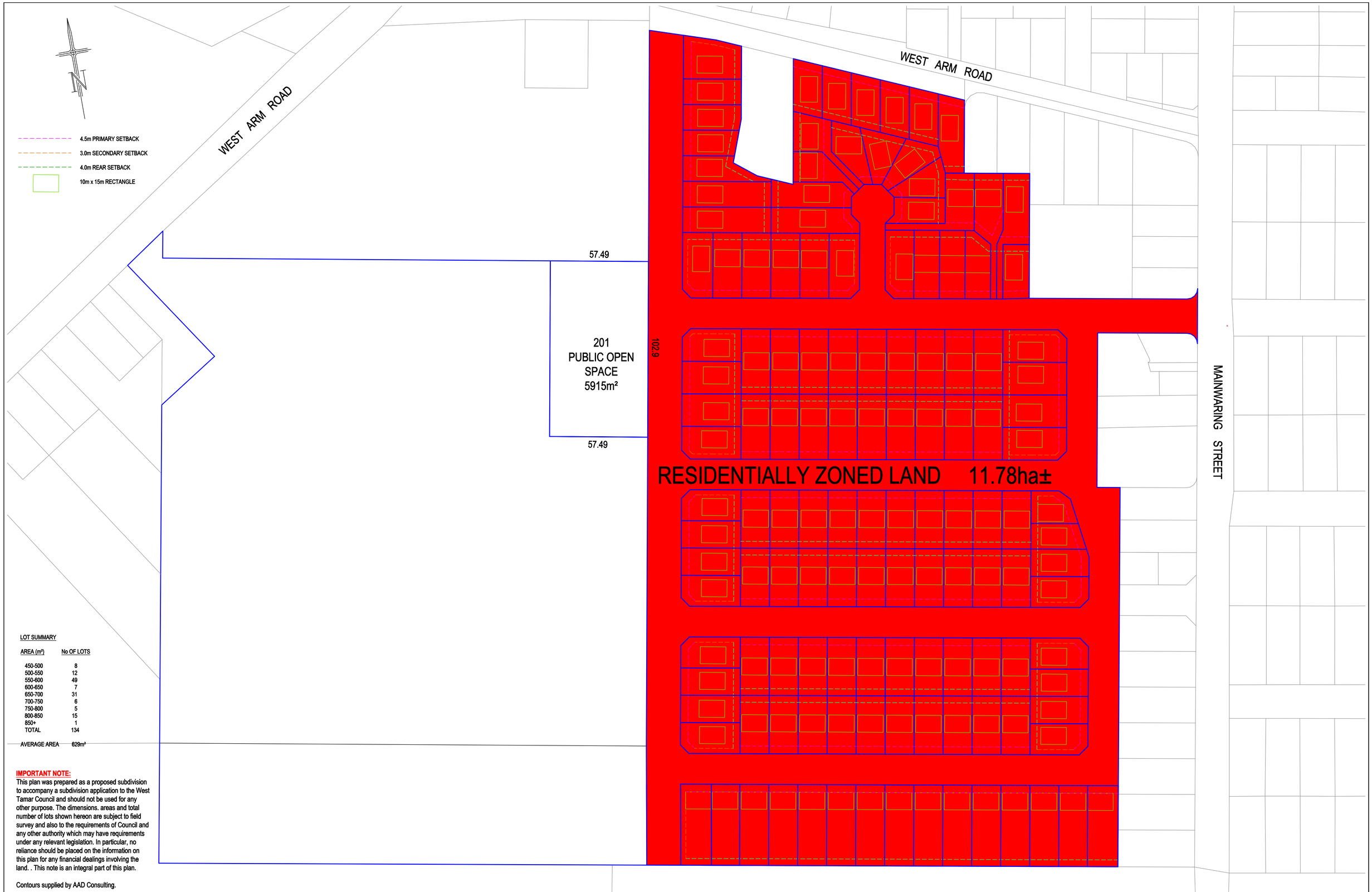

LOT SUMMARY

AREA (m²)	No OF LOTS
450-500	8
500-550	12
550-600	49
600-650	7
650-700	31
700-750	6
750-800	5
800-850	15
850+	1
TOTAL	134
AVERAGE AREA	629m²

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SUBDIVISION PROPOSAL PLAN
AREA OF RESIDENTIAL ZONED LAND

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Date	21-4-2020
SHEET	8 of 8
DRAWN	MC
CHK'D	TC
FILE REF:	11375
Geocivil Ref	1137510
AutoCAD Ref	1137510
DATUM Horz:	GDA94
Vert:	AHD

References

(a) Tasmanian Planning Commission 2021, *Tasmanian Planning Scheme – West Tamar (Effective 9 February 2022), C13.0 Bushfire-Prone Areas Code*, Tasmania.

(b) Australian Standards, AS 3959-2018, *Construction of buildings in bushfire-prone areas*, Standards Australia, Sydney NSW.

(c) Resource Management & Conservation Division of the Department Primary Industry & Water, TASVEG V4.0, *Tasmanian Vegetation Map*, Tasmania.

(d) Tasmanian Government, Land Information System Tasmania, www.thelist.tas.gov.au

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