Eden Street
Riverside Tasmania 7250
Telephone: (03) 6323 9300
Facsimile: (03) 6323 9349

PLANNING APPLICATION FORM

Section 57 & 58

OFFICE USE ONLY		
	Application Number	PA2025251
	Assess No:	A4795
	PID No:	3155681

Applicant Name:	A J PHillips Surveying					
Postal Address:						
Contact Phone:	**Home**		**Work**		**Mobile**	
Email Address:						

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:	A J PHillips Surveying

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)*	MICHAEL A CLIFFORD & MICHELLE CLIFFORD / G,L & W Parry
Location / Address:	176A FRESHWATER POINT ROAD,
Title Reference:	CT 135214-1, CT111574-3 & CT35391/2
Zone(s):	Residential
Existing Development/Use:	Residential
Existing Developed Area:	Area 1.487 ha, 46sq.m & 3.997ha

DEVELOPMENT APPLICATION DETAILS

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

Development Type:	Building work: ☐	Demolition: ☐	Subdivision: ☐	Other: ☐
	Description of development: Proposed 10 Lot subdivision plus road lot plus balance.			

New or Additional Area:	Area 1678 sq.m , 761 sq.m & 1.243ha	
Estimated construction cost of the proposed development:	$	
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) :	1	Number of Lots (proposed) :	2
Description:	Proposed 10 Lot subdivision plus road lot plus balance.		
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.			
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,*

A J Phillips		08-Aug-25
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*

General Manager *(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.

A J Phillips		08-Aug-25
Name (print)	*Signed*	*Date*

Owner: Maxwell Arthur Burr.

Title Reference: C.T. 2339-5.

Grantee: Part of 2500 Acres Gtd. to John Griffiths.

PLAN OF SURVEY
by Surveyor D. J. McCULLOCH – G. J. WALKEM & CO. P/L
of land situated in the LAUNCESTON.

LAND DISTRICT OF DEVON.
PARISH OF STANLEY.

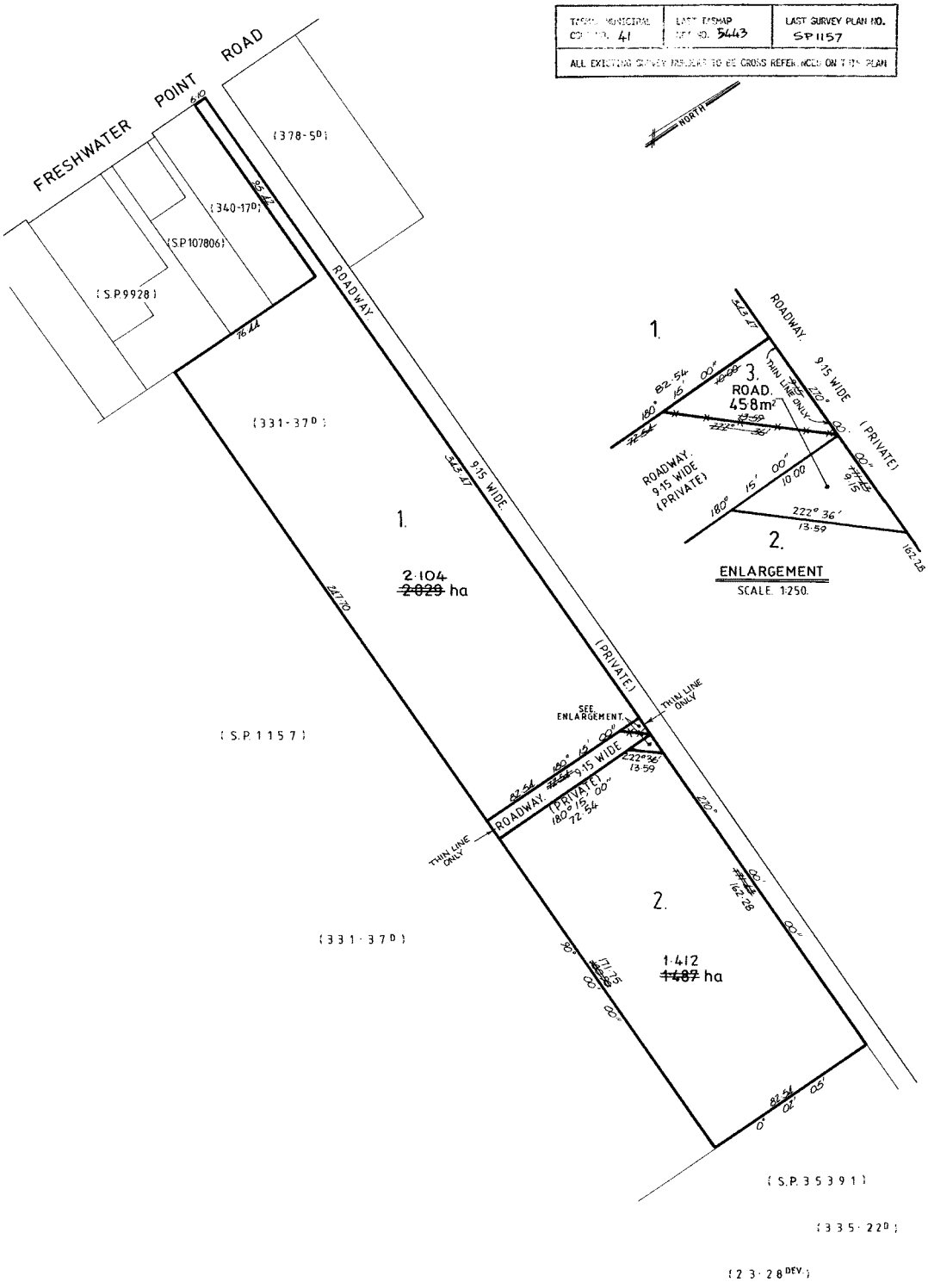
SCALE 1:1500. MEASUREMENTS IN METRES

REGISTERED NUMBER
SP111574

Approved
Effective from: 18 JUL 1994
Recorder of Titles

LOT 1 COMPILED FROM C.T. 2339-5 AND THIS SURVEY.

TOWN / MUNICIPAL COUNCIL NO. 41	LAST TASMAP NO. 5443	LAST SURVEY PLAN NO. SP1157
ALL EXISTING SURVEY MARKERS TO BE CROSS REFERENCED ON THIS PLAN		



OWNER THOMAS LEWIS BARNARD.
MICHAEL ALAN CLIFFORD.
MICHELLE ELIZABETH CLIFFORD.

FOLIO REFERENCE C.T.249640-1.
C.T.111574-2.

GRANTEE PART OF 2500 ACRES GTD. TO JOHN GRIFFITHS.

PLAN OF SURVEY

BY SURVEYOR G. J. WALKEM — G. J. WALKEM & CO LAUNCESTON.

LOCATION

LAND DISTRICT OF DEVON.
PARISH OF STANLEY.

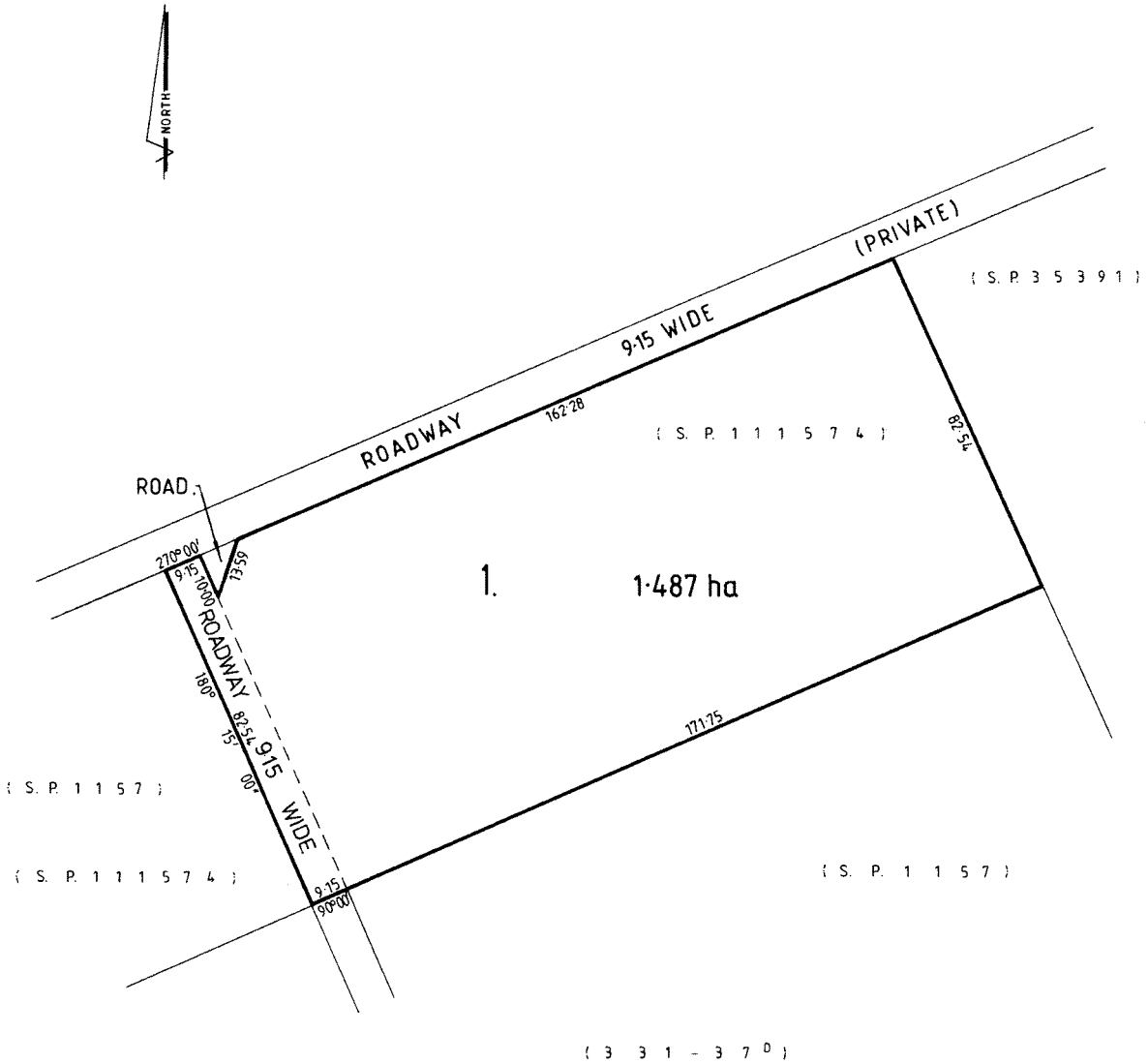
SCALE 1:1000. LENGTHS IN METRES

REGISTERED NUMBER
P135214

APPROVED
EFFECTIVE FROM 5 OCT 2001
Alice Kawa
Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 129/5042-52	LAST UPI No. 4143066	LAST PLAN No. P.249640 S.P.111574.	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 1 COMPILED FROM C.T.111574-2 AND THIS SURVEY.



PRIORITY FINAL PLAN

OWNER: LEGANA PARK DEVELOPMENT PTY LTD

FOLIO REFERENCE: C.T.162597/1

GRANTEE: Part of 2500 Acres Granted to John Griffiths

PLAN OF SURVEY

WOOLCOTT SURVEYS

BY SURVEYOR: COLIN STERLING SMITH

LOCATION: Town of LEGANA

SCALE 1:2000 LENGTHS IN METRES

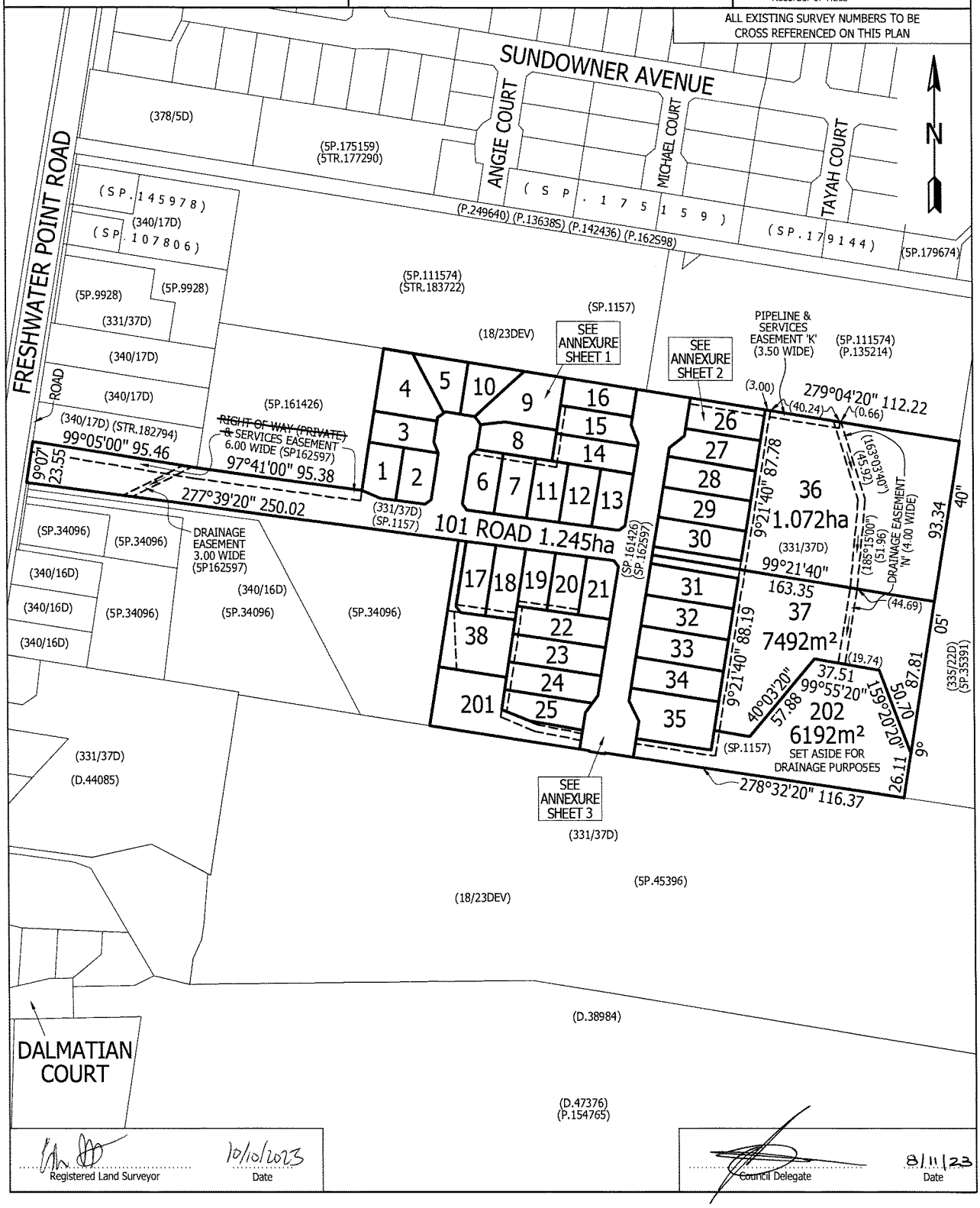
REGISTERED NUMBER

SP186003

APPROVED EFFECTIVE FROM 21 NOV 2023

Recorder of Titles

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

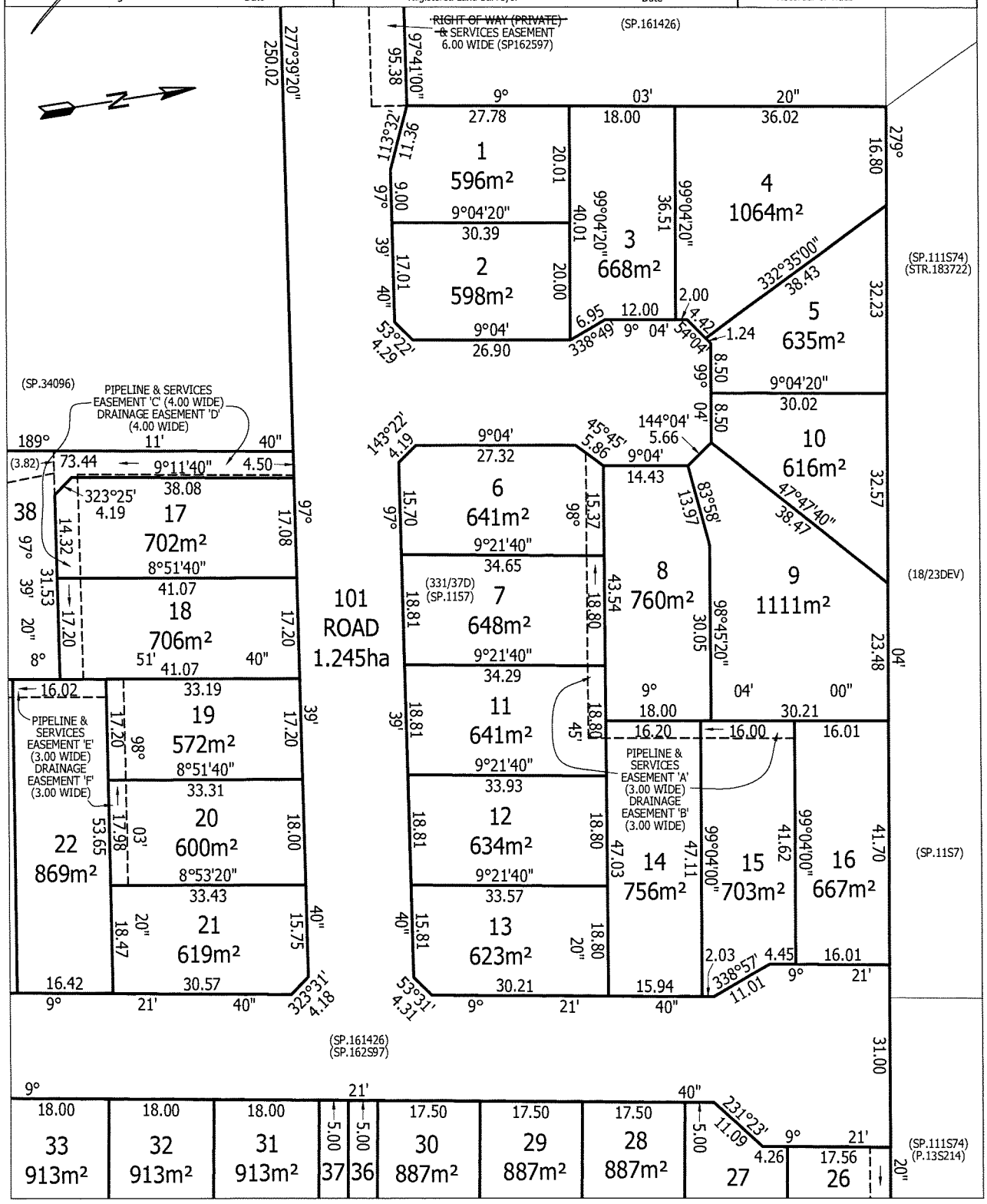


Registered Land Surveyor — 10/10/2023 Date

Council Delegate — 8/11/23 Date

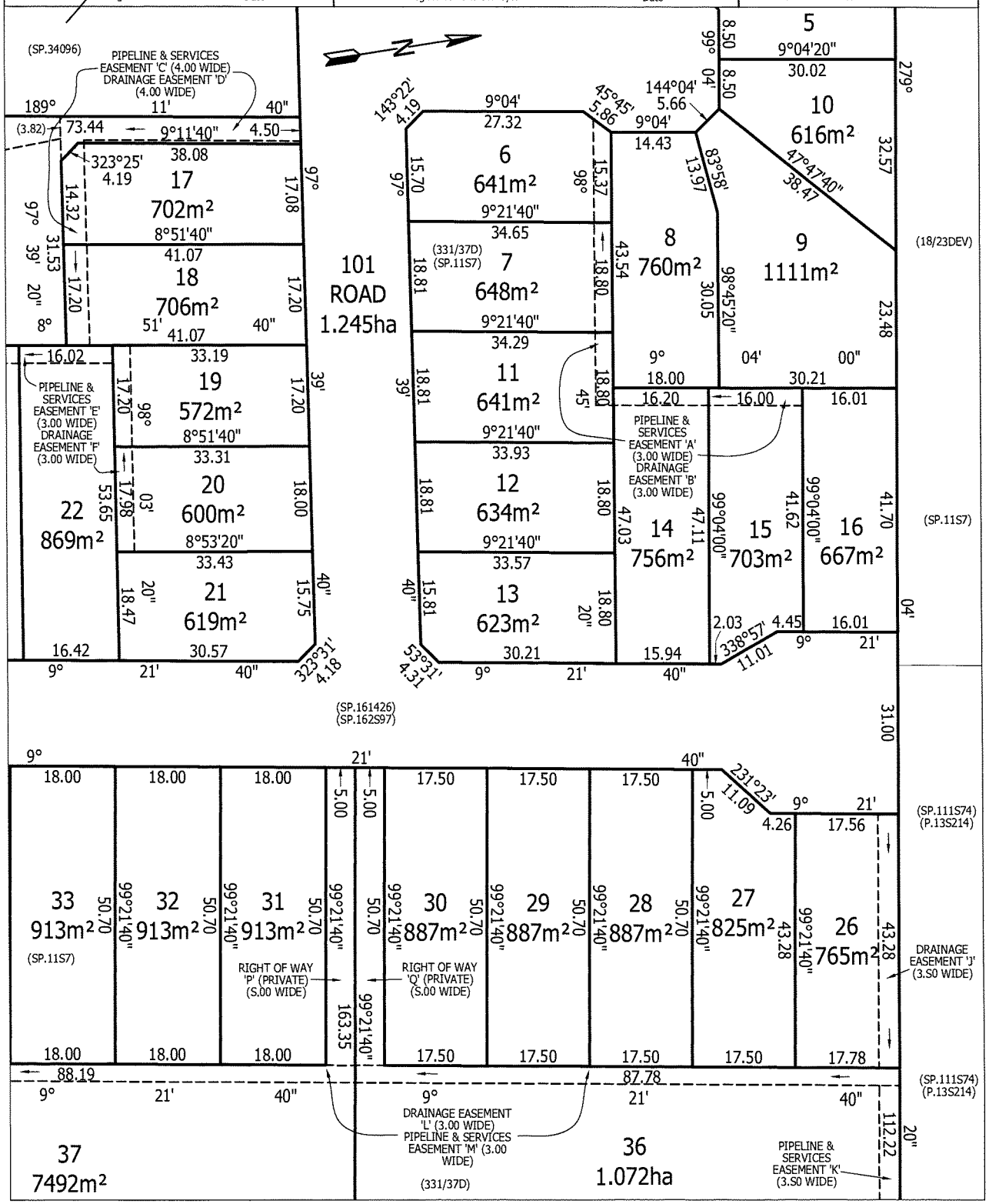
PRIORITY FINAL PLAN

PLAN OF SURVEY ANNEXURE SHEET SHEET 1 OF 3 SHEETS WOOLCOTT SURVEYS	OWNER: LEGANA PARK DEVELOPMENT PTY LTD FOLIO REFERENCE: C.T.162597/1 SCALE 1:600 LENGTHS IN METRES	Registered Number SP 186003
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 8/11/23 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 10/10/2023 Date	APPROVED EFFECTIVE FROM 21 NOV 2023 Recorder of Titles



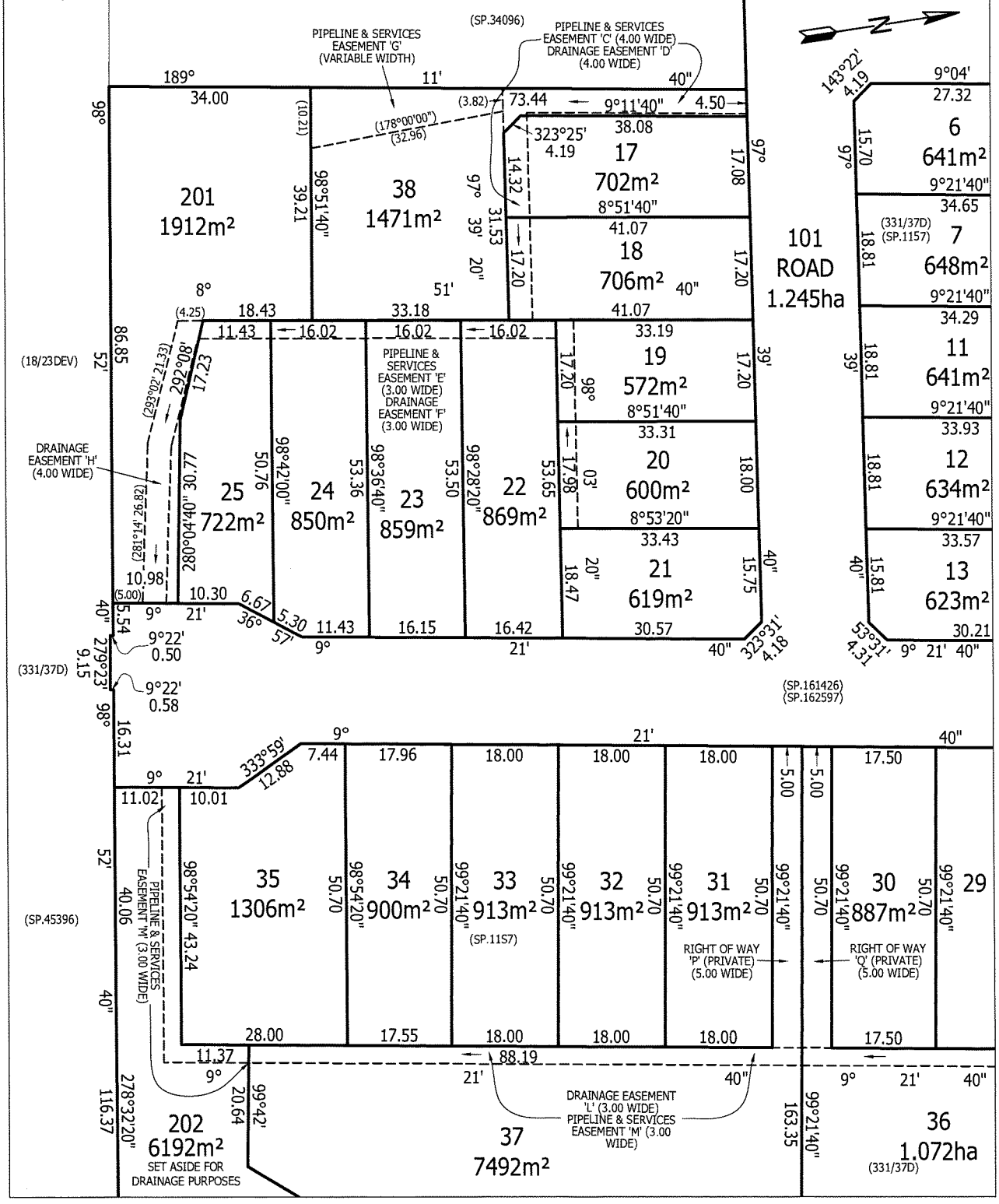
PRIORITY FINAL PLAN

PLAN OF SURVEY ANNEXURE SHEET SHEET 2 OF 3 SHEETS WOOLCOTT SURVEYS	OWNER: LEGANA PARK DEVELOPMENT PTY LTD FOLIO REFERENCE: C.T.162S97/1 SCALE 1:600 LENGTHS IN METRES	Registered Number SP 186003
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 8/11/23 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 10/10/2023 Date	APPROVED EFFECTIVE FROM 21 NOV 2023 Recorder of Titles



PRIORITY FINAL PLAN

PLAN OF SURVEY ANNEXURE SHEET SHEET 3 OF 3 SHEETS WOOLCOTT SURVEYS	OWNER: LEGANA PARK DEVELOPMENT PTY LTD FOLIO REFERENCE: C.T.162S97/1 SCALE 1:600 LENGTHS IN METRES	Registered Number SP 186003
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 8/11/23 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 24/10/2023 Date	APPROVED EFFECTIVE FROM 21 NOV 2023 Recorder of Titles



PRIORITY FINAL PLAN

OWNER: LEGANA PARK DEVELOPMENT PTY LTD

FOLIO REFERENCE: C.T.162597/1

GRANTEE: Part of 2500 Acres Granted to John Griffiths

PLAN OF SURVEY

WOOLCOTT SURVEYS

BY SURVEYOR: COLIN STERLING SMITH

LOCATION: Town of LEGANA

SCALE 1:2000 LENGTHS IN METRES

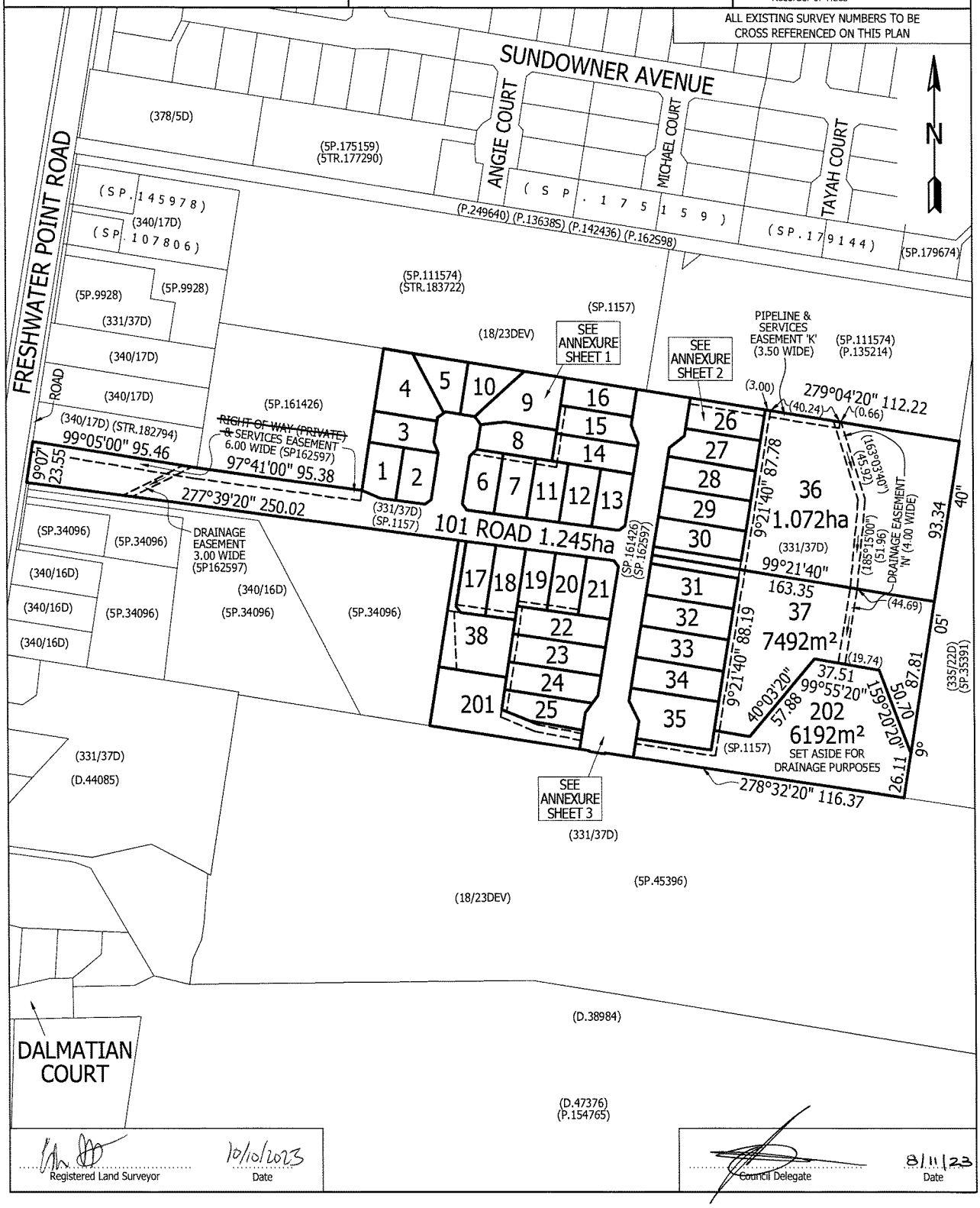
REGISTERED NUMBER

SP186003

APPROVED EFFECTIVE FROM 21 NOV 2023

Recorder of Titles

ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

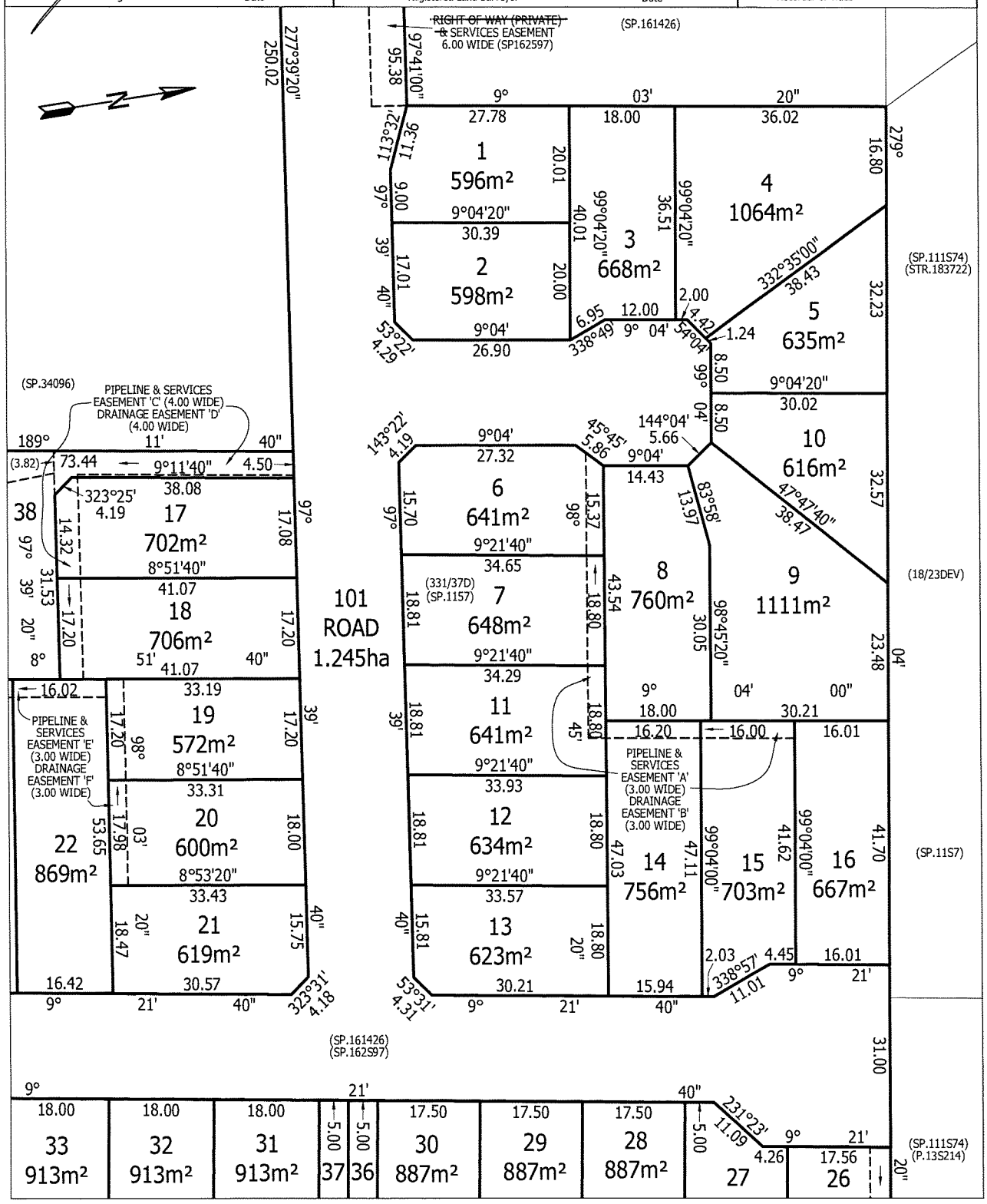


Registered Land Surveyor — 10/10/2023 Date

Council Delegate — 8/11/23 Date

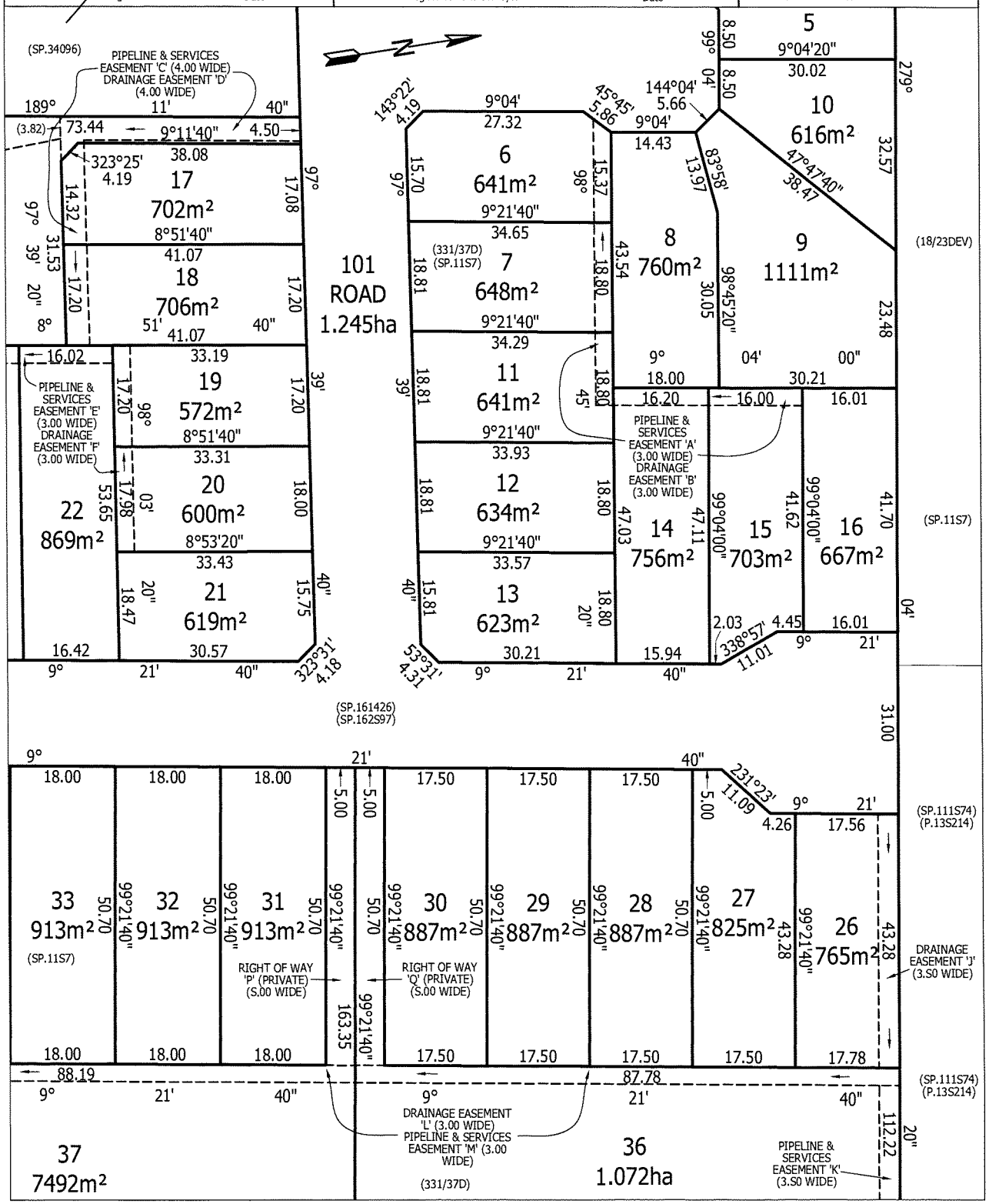
PRIORITY FINAL PLAN

PLAN OF SURVEY ANNEXURE SHEET SHEET 1 OF 3 SHEETS WOOLCOTT SURVEYS	OWNER: LEGANA PARK DEVELOPMENT PTY LTD FOLIO REFERENCE: C.T.162597/1 SCALE 1:600 LENGTHS IN METRES	Registered Number SP 186003
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 8/11/23 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 10/10/2023 Date	APPROVED EFFECTIVE FROM 21 NOV 2023 Recorder of Titles



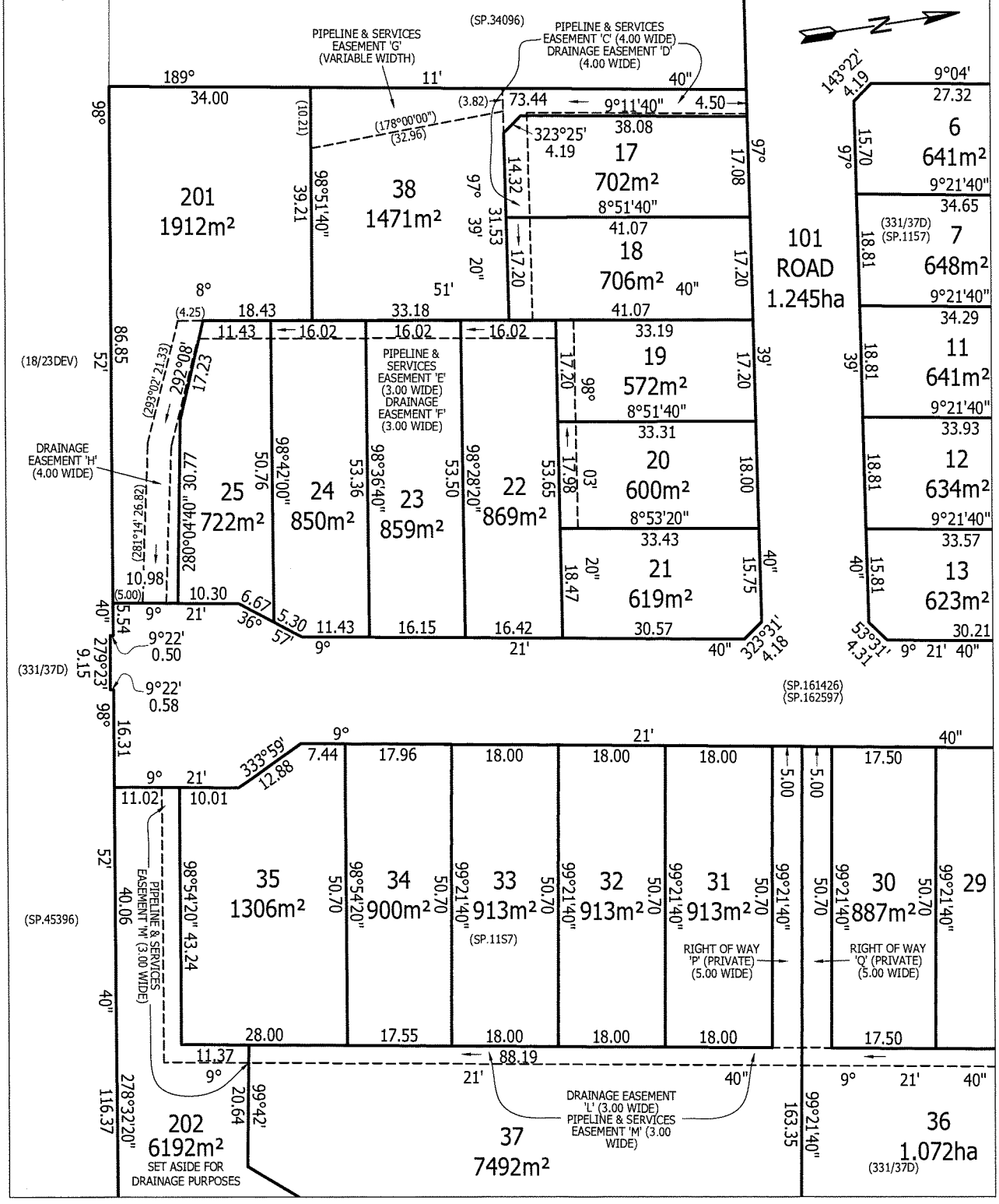
PRIORITY FINAL PLAN

PLAN OF SURVEY ANNEXURE SHEET SHEET 2 OF 3 SHEETS WOOLCOTT SURVEYS	OWNER: LEGANA PARK DEVELOPMENT PTY LTD FOLIO REFERENCE: C.T.162S97/1 SCALE 1:600 LENGTHS IN METRES	Registered Number SP 186003
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 8/11/23 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 10/10/2023 Date	APPROVED EFFECTIVE FROM 21 NOV 2023 Recorder of Titles



PRIORITY FINAL PLAN

PLAN OF SURVEY ANNEXURE SHEET SHEET 3 OF 3 SHEETS WOOLCOTT SURVEYS	OWNER: LEGANA PARK DEVELOPMENT PTY LTD FOLIO REFERENCE: C.T.162S97/1 SCALE 1:600 LENGTHS IN METRES	Registered Number SP 186003
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 8/11/23 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 24/10/2023 Date	APPROVED EFFECTIVE FROM 21 NOV 2023 Recorder of Titles



112-47

Owner: Jacob Dykstra & Wibbina Klazina Dykstra

Title Reference: C.T. Vol. 2664 Fol. 4
C.T. Vol. 3053 Fol. 19

Grantee: Part of 2 500 acres granted to John Griffiths

PLAN OF SURVEY

by Surveyor..... R.V. Tait
of land situated in the

LAND DISTRICT OF DEVON

PARISH OF STANLEY

SCALE 1: 4 000 MEASUREMENTS IN METRES

Registered Number:

S. P35391

~~Approved~~
Effective from: 28 JUN 2008

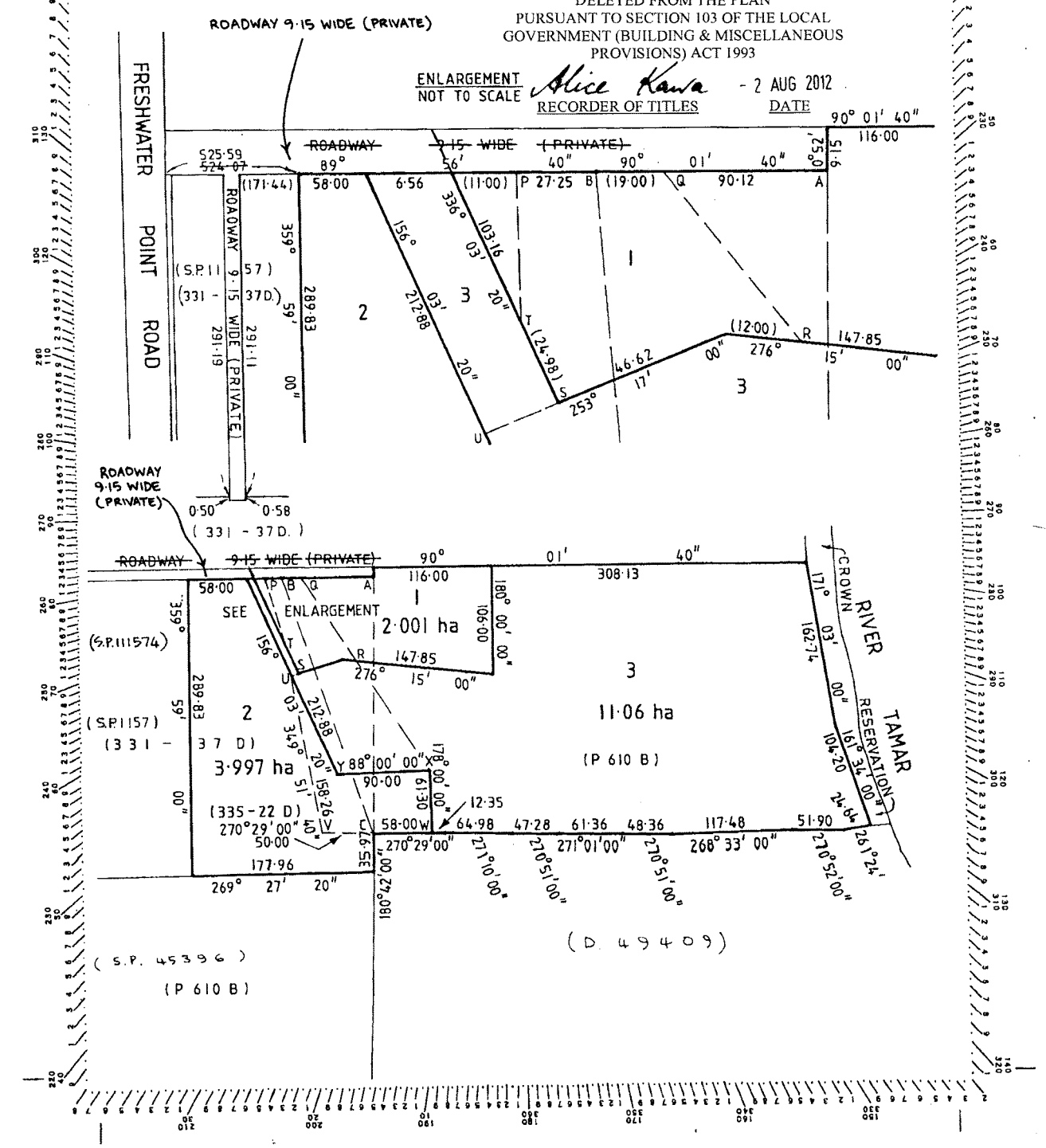
Recorder of Titles

D25023 – REQUEST TO AMEND
PORTION OF ROADWAY 9.15 WIDE (PRIVATE)
DELETED FROM THE PLAN
PURSUANT TO SECTION 103 OF THE LOCAL
GOVERNMENT (BUILDING & MISCELLANEOUS
PROVISIONS) ACT 1993

ENLARGEMENT
NOT TO SCALE

Alice Kawa
RECORDER OF TITLES

- 2 AUG 2012
DATE



Sheet 1 of 6

PROPOSAL PLAN – 10 LOT SUBDIVISION PLUS BALANCE AND ROAD

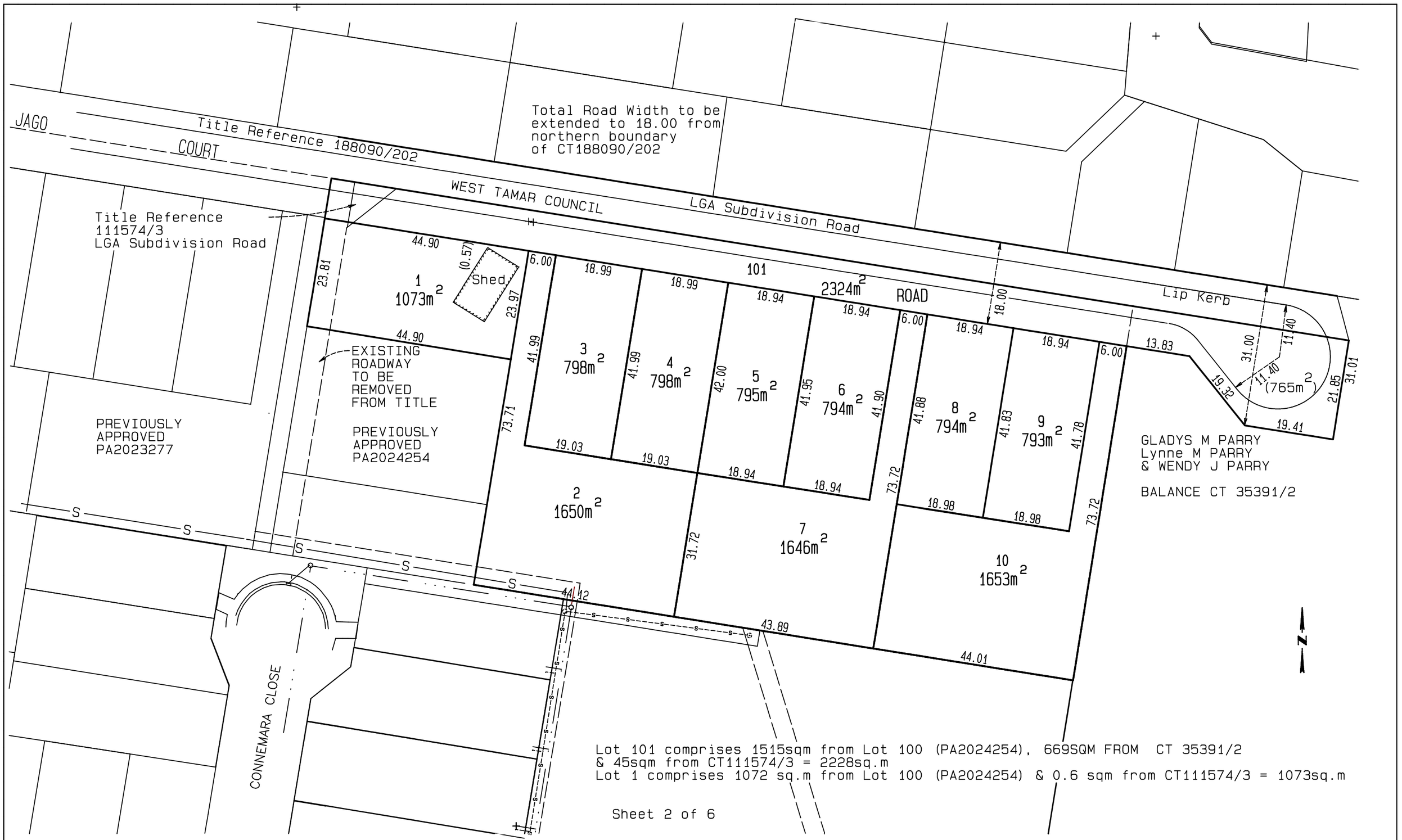
DATE	SCALE
1 Nov 2025	1:2000 @ A3
DRAWN AJP	FILE 6034 31
SURVEYED AJP	

A.J PHILLIPS SURVEYING
6 BINDAREE ROAD
LEGANA
7277

email: ajpsurv@bigpond.net.au
Mobile 0412 315 880

MICHAEL ALAN CLIFFORD & MICHELLE ELIZABETH CLIFFORD
CT 135214–1, CT 162598–1 & CT 111574–3
176A FRESHWATER POINT ROAD, LEGANA 7277

GLADYS M PARRY , Lynne M PARRY & WENDY J PARRY
CT 35391/2
176B FRESHWATER POINT ROAD, LEGANA 7277



Lot 101 comprises 1515sqm from Lot 100 (PA2024254), 669SQM FROM CT 35391/2
& 45sqm from CT111574/3 = 2228sq.m
Lot 1 comprises 1072 sq.m from Lot 100 (PA2024254) & 0.6 sqm from CT111574/3 = 1073sq.m

PROPOSAL PLAN – 10 LOT SUBDIVISION PLUS BALANCE AND ROAD

DATE	SCALE
1 Nov 2025	1:750 @ A3
DRAWN AJP	FILE 6034 31
SURVEYED AJP	

A.J PHILLIPS SURVEYING
6 BINDAREE ROAD
LEGANA
7277

email: ajpsurv@bigpond.net.au
Mobile 0412 315 880

MICHAEL ALAN CLIFFORD & MICHELLE ELIZABETH CLIFFORD
CT 135214–1 (Lot 100 PA2024254) & CT 111574–3
176A FRESHWATER POINT ROAD, LEGANA 7277

GLADYS M PARRY , Lynne M PARRY & WENDY J PARRY
CT 35391/2
176B FRESHWATER POINT ROAD, LEGANA 7277

PROPOSAL PLAN – CONTOUR PLAN

SHEET 3 OF 6

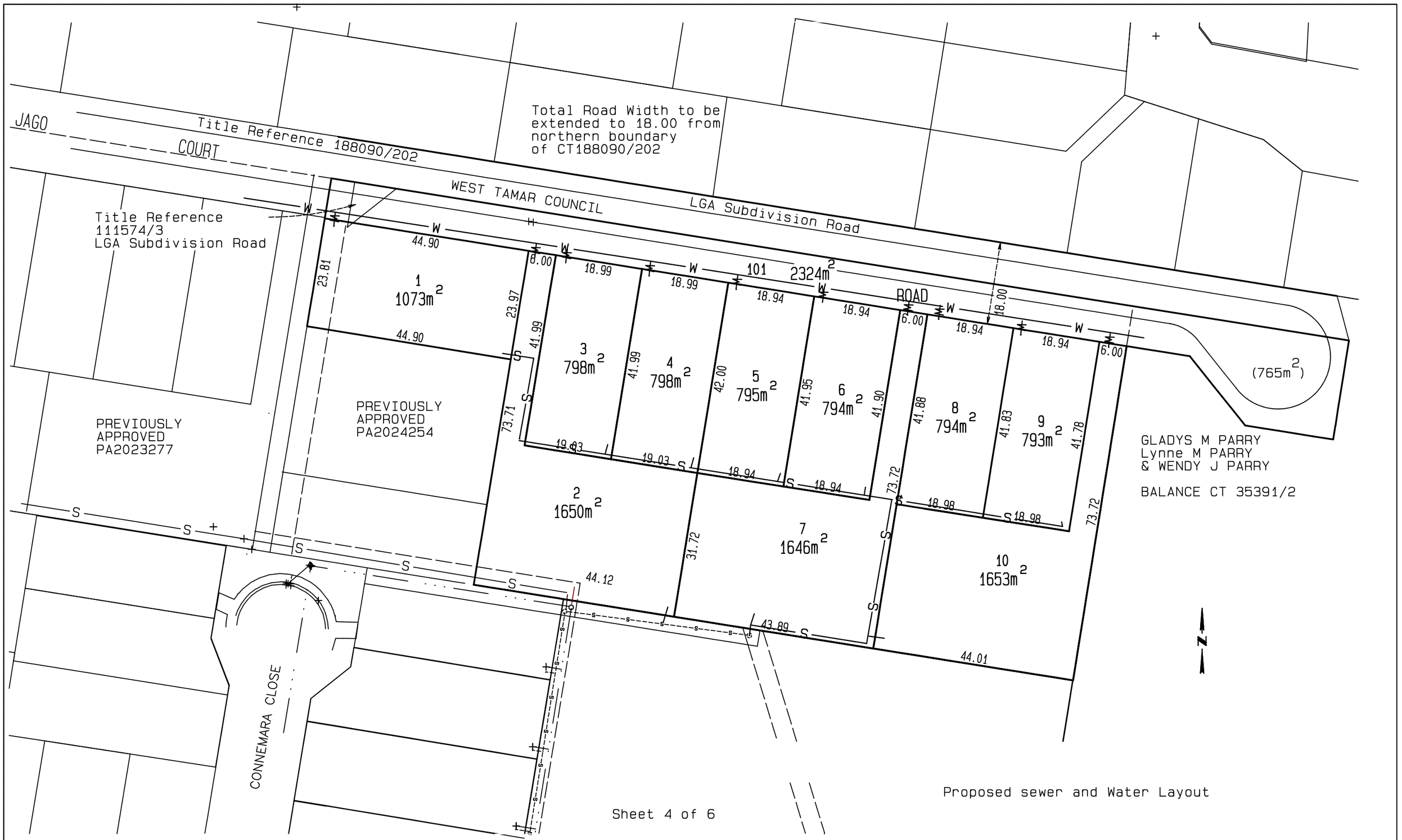
DATE	SCALE
1 Nov 2025	1: 750 @ A3
DRAWN AJP	FILE 6034 31
SURVEYED AJP	

A.J PHILLIPS SURVEYING
6 BINDAREE ROAD
LEGANA
7277

email: ajpsurv@bigpond.net.au
Mobile 0412 315 880

MICHAEL ALAN CLIFFORD & MICHELLE ELIZABETH CLIFFORD
CT 135214–1
176A FRESHWATER POINT ROAD, LEGANA 7277

Contour Plan
Interval 0.5m



Proposed sewer and Water Layout

Sheet 4 of 6

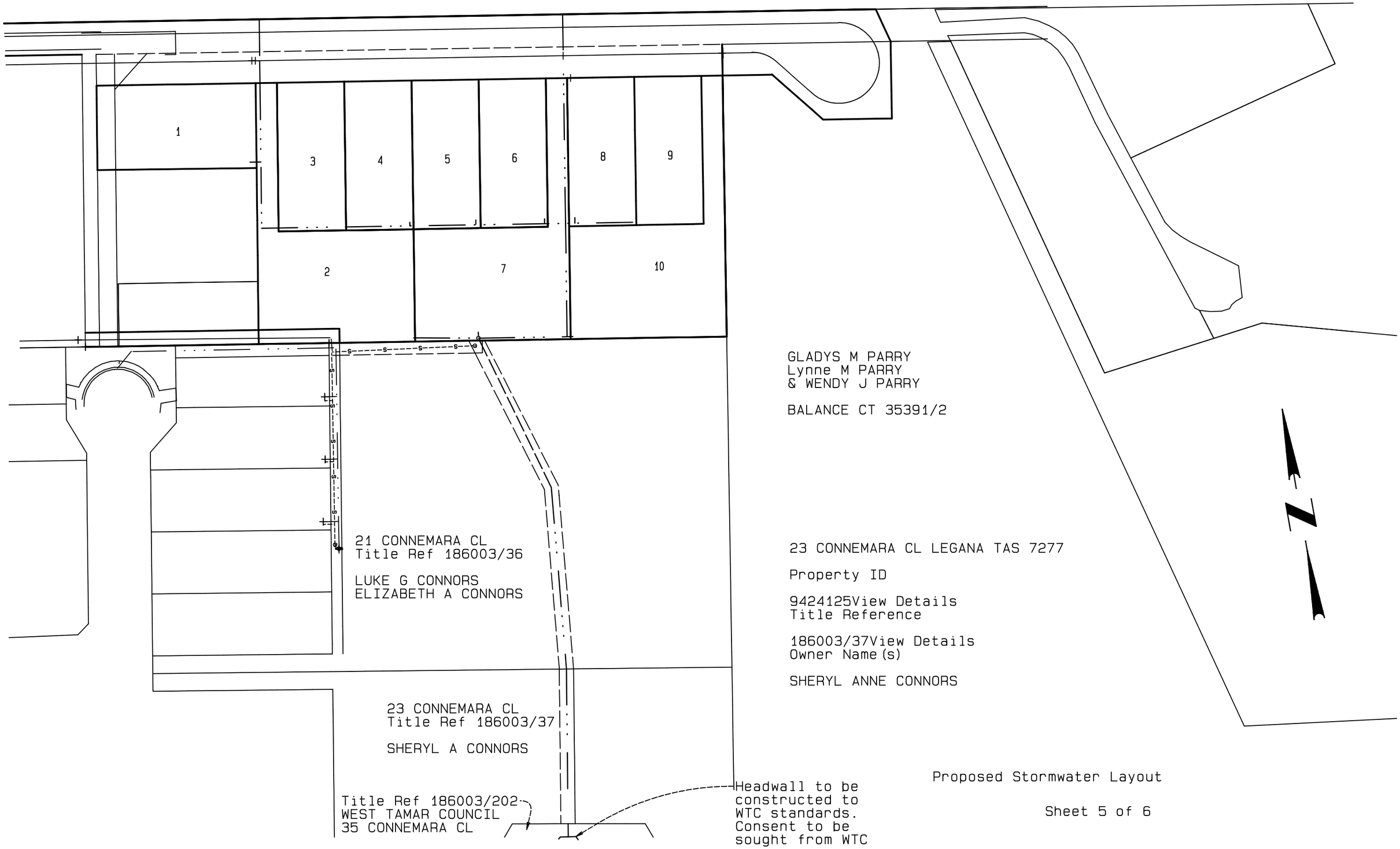
PROPOSAL PLAN – 10 LOT SUBDIVISION PLUS BALANCE AND ROAD

DATE	SCALE
1 Nov 2025	1:750 @ A3
DRAWN AJP	FILE 6034 31
SURVEYED AJP	

A.J PHILLIPS SURVEYING
6 BINDAREE ROAD
LEGANA
7277
email: ajpsurv@bigpond.net.au
Mobile 0412 315 880

MICHAEL ALAN CLIFFORD & MICHELLE ELIZABETH CLIFFORD
CT 135214–1 (Lot 100 PA2024254) & CT 111574–3
176A FRESHWATER POINT ROAD, LEGANA 7277

GLADYS M PARRY , Lynne M PARRY & WENDY J PARRY
CT 35391/2
176B FRESHWATER POINT ROAD, LEGANA 7277



Proposal Stormwater Layout

PROPOSAL PLAN – 10 LOT SUBDIVISION PLUS BALANCE AND ROAD

DATE	SCALE
1 Nov 2025	1:1000 @ A3
DRAWN AJP	FILE 6034 31
SURVEYED AJP	

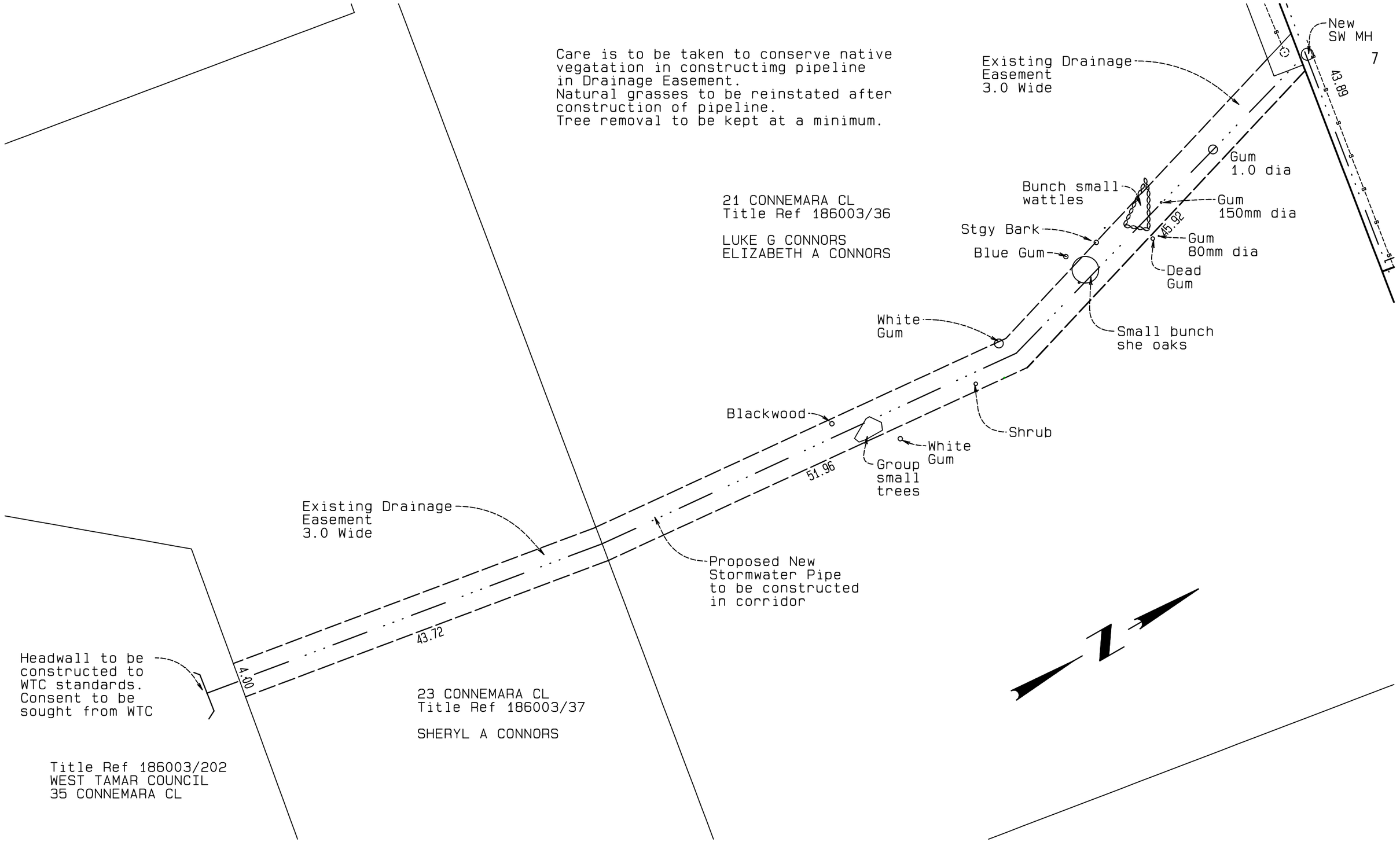
A.J PHILLIPS SURVEYING
6 BINDAREE ROAD
LEGANA
7277

email: ajpsurv@bigpond.net.au
Mobile 0412 315 880

MICHAEL ALAN CLIFFORD & MICHELLE ELIZABETH CLIFFORD
CT 135214–1 (Lot 100 PA2024254) & CT 111574–3
176A FRESHWATER POINT ROAD, LEGANA 7277

GLADYS M PARRY , Lynne M PARRY & WENDY J PARRY
CT 35391/2
176B FRESHWATER POINT ROAD, LEGANA 7277

Care is to be taken to conserve native vegatation in constructimg pipeline in Drainage Easement.
Natural grasses to be reinstated after construction of pipeline.
Tree removal to be kept at a minimum.



Proposed STORMWATER PIPELINE with existing Vegetation

DATE	SCALE
1 Nov 2025	1: 400 @ A3
DRAWN AJP	FILE 6034 36
SURVEYED AJP	

A.J PHILLIPS SURVEYING
6 BINDAREE ROAD
LEGANA
7277

email: ajpsurv@bigpond.net.au
Mobile 0412 315 880

MICHAEL ALAN CLIFFORD & MICHELLE ELIZABETH CLIFFORD
CT 135214–1 (Lot 100 PA2024254) & CT 111574–3
176A FRESHWATER POINT ROAD, LEGANA 7277

GLADYS M PARRY , Lynne M PARRY & WENDY J PARRY
CT 35391/2
176B FRESHWATER POINT ROAD, LEGANA 7277

GEOTON Pty Ltd
Geotechnical Consultants

LANDSLIDE RISK ASSESSMENT

176A Freshwater Point Road, Legana

GL25602Ab
28 October 2025

GEOTON Pty Ltd
Geotechnical Consultants

Geoton Pty Ltd ABN 81 129 764 629
PO Box 522 Prospect TAS 7250
Unit 24, 16-18 Goodman Court
Invermay TAS 7248
Tel (+61) (3) 6326 5001
www.geoton.com.au

28 October 2025

Reference No. GL25602Ab

M + M Clifford
PO Box 11669
LEGANA TAS 7277

Dear Sir

RE: Landslide Risk Assessment
Proposed Residential Subdivision
176A Freshwater Point Road, Legana

We have pleasure in submitting herein our report detailing the results of the geotechnical investigation conducted at the above site.

Should you require clarification of any aspect of this report, please contact Sean Shahandeh on 03 6326 5001.

For and on behalf of Geoton Pty Ltd

Tony Barriera

Director – Principal Geotechnical Engineer

Rev No.	Date	Written By	Reviewed By	Description
Ab	28/10/2025	S Shahandeh	T Barriera	Original

CONTENTS

1 INTRODUCTION

At the request of M + M Clifford, Geoton Pty Ltd has carried out a geotechnical Landslide Risk Assessment for a proposed subdivision development at 176A Freshwater Point Road, Legana.

A review of the Land Information System Tasmania (LIST) website shows that the steeper areas within the northeastern portion of the site are mapped within a low to medium landslide hazard band (refer to Drawing 1), and hence an area of doubtful stability. As such a landslide risk assessment is required in accordance with Sections C15.6.1 (Building and works within a landslip hazard area) and C15.7.1 (Subdivision within a landslip hazard area) of the Landslide Hazard Code of the Tasmanian Planning Scheme – West Tamar Council.

The investigation has been conducted to provide the following:

- A landslide risk assessment; and
- Recommendations and guidelines for good hillside practices to maintain or possibly lower the landslide risks.

1.1 Proposed Development

Plans of the proposed subdivision layout were provided, prepared by A.J Philips Surveying, File No. 6034 -31, dated 8 September 2025. The plan indicates that the site is to be subdivided into ten residential lots. The existing residence and outbuilding are retained within a separate lot, while a shed is proposed to remain within the proposed Lot 1. The remaining lots are currently vacant. Access to the new lots is proposed via the upgrading of Jago Court along the north of the site. The extent of the proposed development area is shown in Drawing 1.

2 ASSESSMENT METHODOLOGY

The assessment presented herein is based on the methodology promoted by the Australian Geomechanics Society, AGS (2007) Landslide Risk Management.

By way of an extract from AGS (2007a) “Guideline for Landslide Susceptibility, Hazard and Risk Zoning for Land Use Planning”:

> ***“Landslide Risk Zoning*** *takes the outcomes of hazard mapping and assesses the potential damage to persons (annual probability the person most at risk loses his or her life) and to property (annual value of property loss) for the elements at risk, accounting for probability and vulnerability.”*

The methodology adopted for this assessment was to:

- Develop a landslide inventory for the site, employing the publicly available landslide mapping carried out by the Mineral Resources Tasmania (MRT);
- Undertake assessments of the landslides relating to the site in terms of historical likelihood; and

- Undertake risk assessments, in terms of both risk-to-property and risk-to-life for critical structures within the site and relevant surrounding areas.

3 BACKGROUND INFORMATION

3.1 Geology

The Mineral Resources Tasmania (MRT) Digital Geological Atlas 1:25,000 Series, indicates the site is mapped within Cretaceous – Quaternary period sediments comprising dominantly non-marine sequences of gravel, sand, silt, clay and regolith.

3.2 Landslide Hazard

Examination of the LIST Landslide Planning Map indicates the steeper areas within the northeastern portion of the site are mapped within a low and medium landslide hazard band.

3.3 Landslide Inventory

Examination of the Mineral Resources Tasmania (MRT) Tasmanian Landslide Map Series, Windermere – Landslide Inventory Map, 1:25,000 scale, indicates that there are no mapped landslide features at the site or immediate surrounds, with the closest landslide feature being a large rock or soil slide of unknown activity (No. 936) located approximately 250m to the east of the site.

All the mapped landslide features within the Freshwater Point area are located on the steeper easterly facing slopes towards the Tamar River and typically along and extending upslope of the shoreline.

An extract of the Landslide Inventory Sheet is provided as Drawing 2.

3.4 Geomorphology

Examination of the MRT Tasmanian Landslide Hazard series, Windermere – Geomorphology sheet, 1:25,000 scale, indicates the site generally has slope angles of between 0° and 13°. A minor convex break-in slope is mapped on the east to southerly facing slopes within the western portion of the site.

An extract of the geomorphology sheet is provided as Drawing 3.

3.5 Slide Susceptibility

Examination of the MRT Tasmanian Landslide Hazard series, Windermere – Deep-Seated Landslide Susceptibility Map, 1:25,000 scale, indicates that steeper areas within the northeastern portion of the site are mapped as source areas, i.e., an area of a hillside with the potential to form a slope failure, identified largely on the basis of slope angle and geology. Slopes immediately down-slope of the source areas are mapped as a runout area, i.e., “An area down-slope of a source area where the moving earth, debris or rock can potentially travel”.

An extract of the landslide susceptibility sheet is provided as Drawing 4.

4 FIELD INVESTIGATION

The field investigation was conducted on 01 October 2025 and involved a site walkover and the drilling of 2 boreholes with a 4WD-mounted auger rig to depths of 3.4m.

Insitu vane shear strength tests and pocket penetrometer tests were conducted on the subsurface soils, with samples of these soils being obtained for subsequent laboratory testing.

The results of the field tests are shown on the borehole and excavation logs.

The logs of the boreholes are included in Appendix A and their locations are shown on Drawing 1 attached.

5 SITE DESCRIPTION

The site is located east of Freshwater Point Road and south of Jago Court and is approximately 5.65 ha in size and is partially developed, with a dwelling and outbuildings located within the western portion of the site.

The site generally features south-westerly to south-easterly facing gentle to moderate slopes that fall towards Watercourse ID 187712, located to the south of the site. Slope gradients range from relatively flatter areas in the middle to the western portion to moderate slopes of approximately 9° to 12° within the northeastern portion of the site.

At the time of the investigation, the site typically had a cover of grass, with the steeper northeastern portion covered in dense, native vegetation comprising Eucalypts and shrubs (Plates 1 and 2).

Plate 1: View of the middle and western portions of the site looking towards the west

Plate 2: View of the steeper slopes within the northeastern portion of the site, looking towards the east

The slopes across the site are generally smooth and convex and do not show any distinct sign of past or recent landslide activity, with no springs identified on site.

5.1 Subsurface Conditions

The investigation indicated that the subsurface conditions varied slightly across the site.

Borehole BH01 encountered clayey sand fill to a depth of 0.3m, overlying natural clayey sand to a depth of 2.8m, underlain by sandy clay to the investigated depths of 3.4m.

Borehole BH02 encountered silty sand topsoil to a depth of 0.2m, overlying silty to clayey sand to a depth of 0.8m, overlying sandy to silty clay to a depth of 2.5m, underlain by clayey sand to the investigated depth of 3.4m.

Groundwater seepage was encountered in Borehole BH02 at a depth of 2.5m, within the underlying sand layer.

Full details of soil conditions encountered are presented on the borehole logs.

6 GEOLOGICAL MODEL

From a review of available reports, geological maps and information collected during the investigation, a general geological model of the site has been inferred. Generally, the site is underlain by Cretaceous – Quaternary period sediments.

7 LANDSLIDE RISK ASSESSMENT

Based on the geological and geomorphological settings of the site, the following possible landslide scenarios are identified:

- Large-scale/deep-seated landslide within the Cretaceous–Quaternary period sediments affecting the proposed development; and
- Shallow/small-scale landslide occurs within the Cretaceous–Quaternary period sediments affecting the proposed development;

The qualitative likelihood, consequence and risk terms used in this report for risk to property are given in Appendix C. The risk terms are defined by a matrix that brings together different combinations of likelihood and consequence. Risk matrices help to communicate the results of risk assessment, rank risks, set priorities and develop transparent approaches to decision making. The notes attached to the tables, and terms and the comments on response to risk in Appendix C are intended to help explain the risk assessment and management process.

The findings of the investigation relevant to assessing the above landslide scenarios in relation to the site are as follows:

- No springs were observed within the area;
- There is no evidence of any recent landslide activity within the site or immediate surrounds;
- The sedimentary silty to sandy clay and sand soils within the investigated area are typically very stiff and moderately dense;
- The ground slopes away from the steeper slopes along the Tamar River and is not located on the easterly facing slopes typically associated with landslide features in the Legana area;
- The site is within a fully serviced area, therefore wastewater and stormwater will be discharged to existing council infrastructure or street drainage system;
- The steeper slopes within the site (9° to 12°) are well below the determined peak strength angle of the internal friction of very stiff silty to sandy clay or sandy materials; and
- The slopes within the proposed new lots and surrounds are typically smooth subdued, convex slopes.

In light of the findings of this investigation, the likelihood of large-scale failures occurring on the site affecting a proposed development at this site is considered Rare to Barely Credible, whilst a small-scale failure occurring or impacting the proposed subdivision development is considered Rare.

Accordingly, the likelihoods estimated for the possible landslide scenarios are summarised in Table 1 as follows.

Table 1: Summary of Estimated Pre-existing Landslide Hazard

Possible Landslide Scenarios	Indicative Annual Probability (pa)	Indicative Recurrence Interval (yrs)	Descriptor (AGS 2007c)
Large-scale/deep-seated landslide within the Cretaceous–Quaternary period sediments affecting the proposed development	10^{-5} to 10^{-6}	100,000 to 1,000,000	Rare to Barely Credible
Shallow/small-scale landslide occurs within the Cretaceous–Quaternary period sediments affecting the proposed development	10^{-5}	100,000	Rare

7.1 Incremental Landslide Hazards

The alterations to the site as a result of the proposed development can generally be classified into two categories:

- Disturbance to the site due to the proposed development; and
- Introduction of additional water into the ground affecting the groundwater regime.

It is considered that the proposed development would not adversely impact on the site and immediate surrounds nor significantly increase the pre-existing landslide hazard, provided that the development adheres to the principles of good hillside practice and the recommendations provided below. The site is within a fully serviced suburb and as such, no additional water will be introduced into the ground at the site.

7.2 Landslide Consequences

The proposed development is the element at risk for this assessment. The landslide consequences for different scenarios are summarised in Table 2 as follows.

Table 2: Summary of Consequences for Different Landslide Scenarios

Possible Landslide Scenarios	Assessed Landslide Consequences	Descriptor (AGS 2007c)
Large-scale/deep-seated landslide within the Cretaceous–Quaternary period sediments affecting the proposed development	The landslide may significantly displace the footing system of the proposed development causing major damage	Major
Shallow/small-scale landslide occurs within the Cretaceous–Quaternary period sediments affecting the proposed development	The landslide may displace the footing system of the proposed development causing minor to medium damage	Minor to Medium

7.3 Landslide Risk to Property

Based on the outcomes of the landslide hazard and landslide consequence assessments detailed above, the assessed landslide risks to property are summarised in Table 3 as follows:

Table 3: Summary of Assessed Landslide Risks to Property (AGS 2007c)

Possible Landslide Scenarios	Assessed Landslide Hazards	Assessed Landslide Consequences	Qualitative Landslide Risk to Property
Large-scale/deep-seated landslide within the Cretaceous–Quaternary period sediments affecting the proposed development	Rare to Barely Credible	Major	**Low to Very Low**
Shallow/small-scale landslide occurs within the Cretaceous–Quaternary period sediments affecting the proposed development	Rare	Minor to Medium	**Low to Very Low**

The **acceptable** qualitative risk to property criteria suggested by AGS is **LOW**.

7.4 Landslide Risk to Life

The person most at risk is considered to be someone living in the proposed development.

The landslide risk to life for the identified person most at risk is calculated in Table 4 as follows.

Table 4: Landslide Risk to Life for Person Most at Risk

Possible Landslide Scenarios	Adopted Annual Landslide Probability, P(H)	Spatial Probability of Landslide Impacting Buildings at Risk, P(S:H)	Temporal Spatial Probability of Person Most at Risk at Buildings at Risk, P(T:S)	Vulnerability of Person Most at Risk, V(D:T)	Risk to Life, R(LoL)
Large-scale/deep-seated landslide within the Cretaceous–Quaternary period sediments affecting the proposed development	10^{-5} to 10^{-6}	1.0 (Spatial Probability has been considered in the landslide hazards)	0.67 (16hrs/day)	0.5 (Building suffers major damage but is unlikely to collapse; may cause injury but death is unlikely)	3.3×10^{-6} to 3.3×10^{-7}
Shallow/small-scale landslide occurs within the Cretaceous–Quaternary period sediments affecting the proposed development	10^{-5}			0.005 to 0.05 (Building suffers minor to medium damage but is highly unlikely to collapse, may cause injury but death is highly unlikely)	3.3×10^{-8} to 3.3×10^{-7}
					Total: 3.6×10^{-7} to 3.6×10^{-6}

The tolerable risk to life criteria for the person most at risk suggested by AGS is 10^{-5}, given that the development is a new development located on an existing slope. Acceptable risks are usually considered to be one order of magnitude lower than the tolerable risks, which in this case is 10^{-6}.

Therefore, subject to compliance with the recommendations within Section 9 of this report, the landslide risks to life are assessed as **tolerable** for the identified person most at risk.

8 DISCUSSION AND RECOMMENDATIONS

8.1 General

The outcomes of the assessments for landslide risk to property and life above only apply if the principles of good hillside practice and the recommendations provided herein are adhered to.

An information sheet entitled “Some Guidelines for Hillside Construction” adapted from the Journal of the Australian Geomechanics Society, volume 42, Number 1, dated March 2007, is presented in Appendix D.

Therefore, provided the development of the site is in accordance with the recommendations within our report, we consider that a tolerable level of risk can be achieved in accordance with Sections C15.6.1 (Building and works within a landslip hazard area) and C15.7.1 (Subdivision within a landslip hazard area) of the Landslide Hazard Code of the Tasmanian Planning Scheme – West Tamar Council with the following Performance Criteria:

- **C15.6.1 - P1.1** - Building and works within a landslip hazard area must minimise the likelihood of triggering a landslip event and achieve and maintain a tolerable risk from landslip:

  A tolerable level of risk can be achieved for the proposed works, provided the works of the site are in accordance with the recommendations provided below;

- **C15.6.1 - P1.2** - A landslip hazard report also demonstrates that the buildings and works do not cause or contribute to landslip on the site, on adjacent land or public infrastructure:

  It is considered that the works would not adversely impact on the site and immediate surrounds, including land or public infrastructure, provided that the development adheres to the principles of good hillside practice and the recommendations provided below;

- **C15.6.1 - P1.3** - If landslip reduction or protection measures are required beyond the boundary of the site the consent in writing of the owner of that land must be provided for that land to be managed in accordance with the specific hazard reduction or protection measures:

  Will not be required as part of the development;

- **C15.7.1 -** P1 - Each lot, or a lot proposed in a plan of subdivision, within a landslip hazard area must not create an opportunity for use or development that cannot achieve a tolerable risk from landslip:

  A tolerable level of risk can be achieved for the proposed works on each lot, provided the works of the site are in accordance with the recommendations below.

An Engineering Certificate addressing the Landslide Code is provided in Appendix D.

8.2 Cuts and Fills

- Fills for access roads where less than 1.5m in height may be battered at slope angles no steeper than 1 vertical to 3 horizontal (1V:3H), or alternatively, these should be retained;
- Cuts for access roads should be minimised and where less than 1.5m in height may be battered at slope angles no steeper than 1 vertical to 2.5 horizontal (1V:2.5H), or alternatively, these should be retained;
- Proposed cuts and fills greater than 1.5m in height should be reviewed by a qualified geotechnical engineer;
- All retaining walls greater than 1.0m in height shall be designed by a suitably qualified structural engineer;
- Adequate subsurface and surface drainage should be provided for all retaining walls; and
- Excavations for the construction of retaining walls may result in a temporary reduction in the stability of the adjacent area particularly during wet weather until the wall is complete. This increased risk can be managed or reduced by appropriate construction planning, using temporary support, staged excavation, and control of drainage.

8.3 Earthworks

Earthworks for the access roads are required to be conducted in accordance with the controlled/structural fill requirements of AS3798-2007 "Earthworks for Residential and Commercial Development" and must be signed off by an appropriately qualified person.

The placement and compaction of selected fill materials at the site shall be carried out as follows:

- Any areas of proposed filling shall ensure that all organic materials, uncontrolled fill and deleterious materials are to be removed;
- All weak areas, which deform excessively under rolling, should be removed and replaced with selected clean fill material;
- The controlled fill should be placed in compacted layers no greater than 200mm thick;
- Earthworks for the selected fill (suitable clean soil free of organics and deleterious material) should be compacted to achieve a minimum density ratio of 98% standard maximum dry density; The clay should be placed at a moisture content within 2% of Optimum Moisture Content (OMC); and
- All testing is to be carried out by a NATA-registered laboratory with the frequency of testing required outlined in Table 6 below.

The frequency of field density testing is set below:

Table 5 - Frequency of Field Density Tests for Residential Lots

Type of Earthworks	Frequency of tests (see notes)
Type 1 Large scale operations (eg subdivisions)	1 test per layer (see Notes) per 2500m^2; *or* 1 test per 500m^3 distributed reasonably evenly throughout full depth and area; *or* 3 tests per lot. Whichever requires the most tests.

Notes

It may be acceptable to test more than one layer per site visit, by excavating to the test level.

Tests in areas of uncertain compaction and re-tests of failed areas should be carried out. These are additional to the testing recommended in this table.

9 REFERENCES

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Tasmanina Planning Commission. (2025). *Tasmanian Planning Scheme*

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Geotechnical Consultants - Limitations of report

These notes have been prepared to assist in the interpretation and understanding of the limitations of this report.

Project specific criteria

The report has been developed on the basis of unique project specific requirements as understood by Geoton and applies only to the site investigated. Project criteria are typically identified in the Client brief and the associated proposal prepared by Geoton and may include risk factors arising from limitations on scope imposed by the Client. The report should not be used without further consultation if significant changes to the project occur. No responsibility for problems that might occur due to changed factors will be accepted without consultation.

Subsurface variations with time

Because a report is based on conditions which existed at the time of subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. In the event of significant delays in the commencement of a project, further advice should be sought.

Interpretation of factual data

Site assessment identifies actual subsurface conditions only at those points where samples are taken and at the time they are taken. All available data is interpreted by professionals to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, as it is virtually impossible to provide a definitive subsurface profile which includes all the possible variabilities inherent in soil and rock masses.

Report Recommendations

The report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until earthworks and/or foundation construction is almost complete and therefore the report recommendations can only be regarded as preliminary. Where variations in conditions are encountered, further advice should be sought.

Specific purposes

This report should not be applied to any project other than that originally specified at the time the report was issued.

Interpretation by others

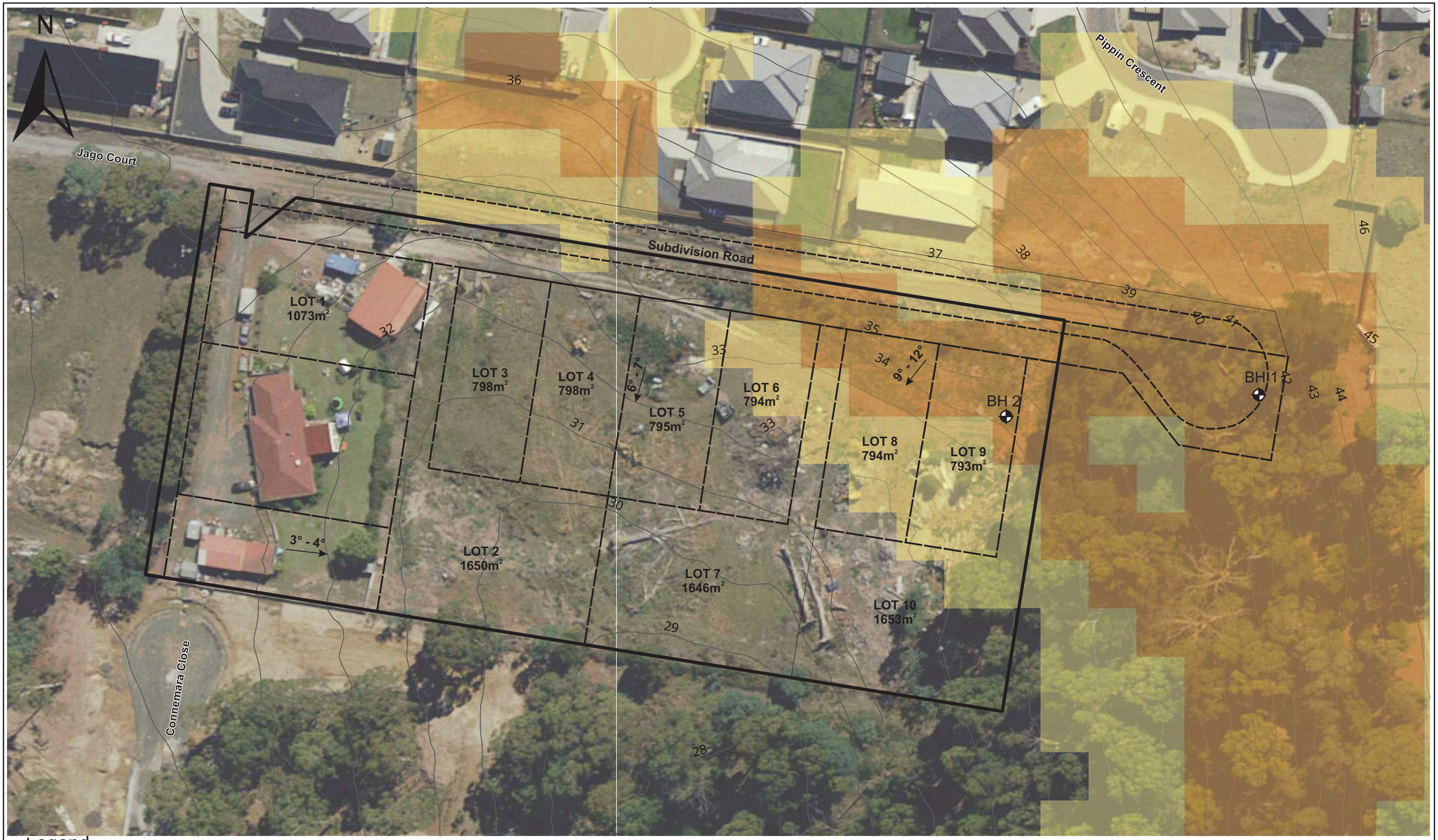
Geoton will not be responsible for interpretations of site data or the report findings by others involved in the design and construction process. Where any confusion exists, clarification should be sought from Geoton.

Report integrity

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way.

Geoenvironmental issues

This report does not cover issues of site contamination unless specifically required to do so by the client. In the absence of such a request, Geoton take no responsibility for such issues.



Legend

BH 1 — Approximate Borehole Location

5° — Approximate Slope angle in Degrees

Contour in Metres (LiDAR Derived)

Cadastral Parcels

Approximate Scale

10 0 10 20 30 m

Low Landslide Hazard Band (LIST)

Medium Landslide Hazard Band (LIST)

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Date	28/10/2025	Drawn	SS
Scale	As Shown	Approved	TB
Original size	A3	Rev	

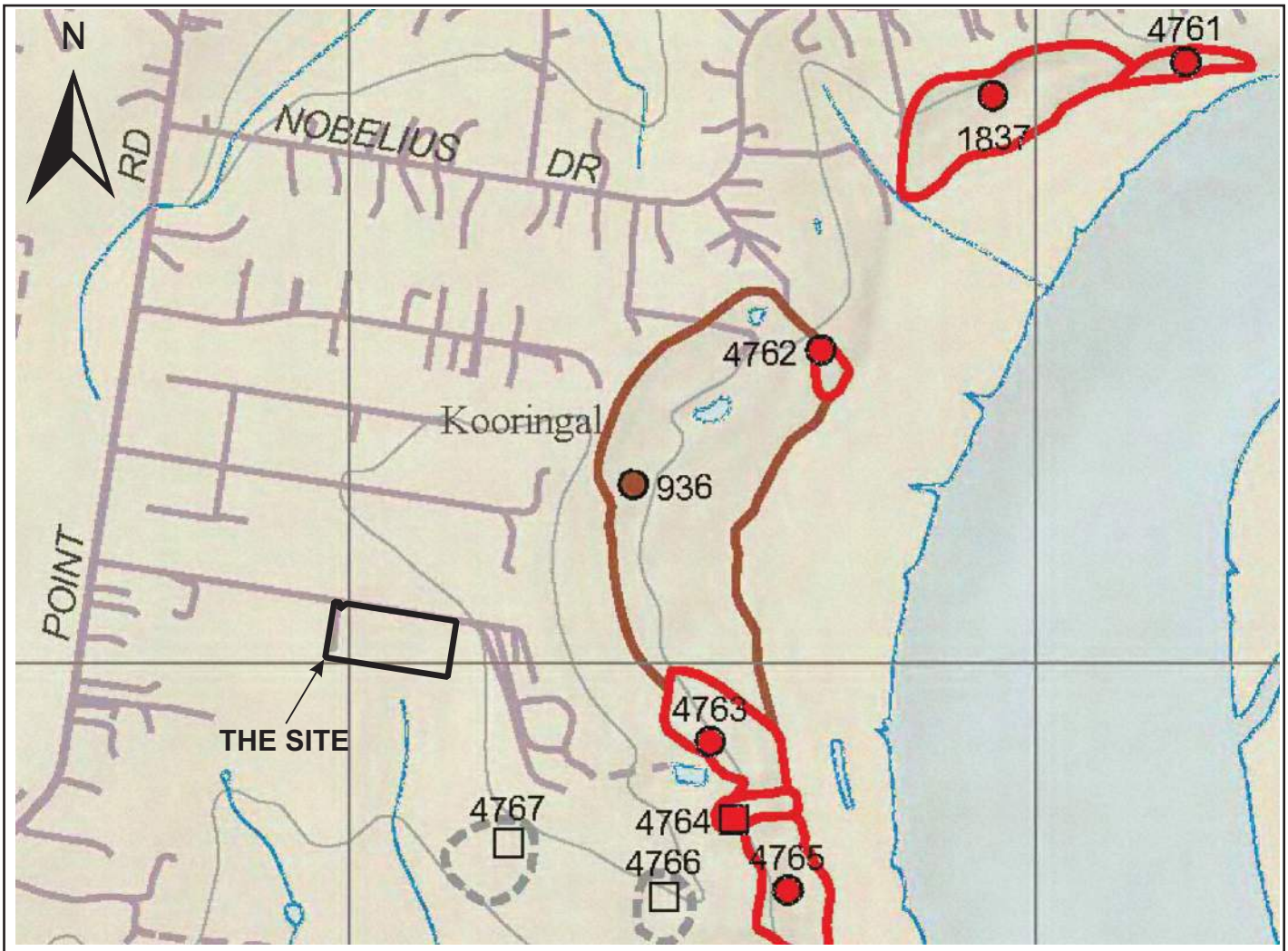
Client: M + M CLIFFORD

Project: 176A FRESHWATER POINT ROAD LEGANA

Title: SITE PLAN

Project no: GL25602A

Drawing no. 1



Approximate Scale (m)

150 0 150 300 450 m

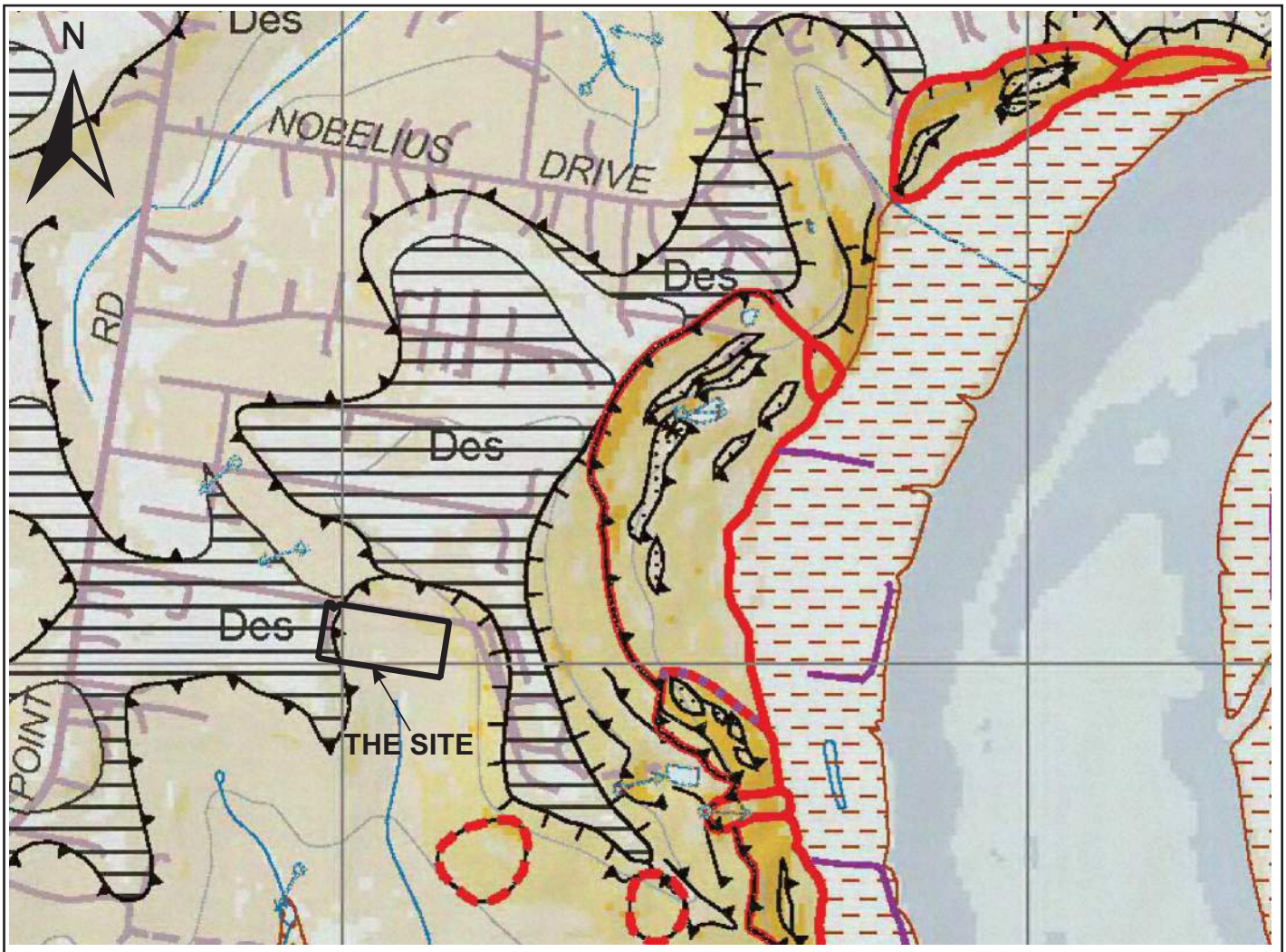
MAP EXTRACT FROM - MRT TASMANIAN LANDSLIDE MAP SERIES : WINDERMERE - LANDSLIDE INVENTORY

Landslide Features

- **Landslide, recent or active**
- **Landslide, activity unknown**
- **Possible landslide**

- **Record of damage to houses, buildings or infrastructure (roads & rail) known to be caused by landslide.**
- **Recent or active earth or debris flow.**
- **Recent or active rock or soil slide.**
- **Recent or active rock fall.**
- **Recent or active unclassified.**
- **Possible landslide, activity not specified.**
- **Earth or debris flow, activity unknown.**
- **Rock or soil slide, activity unknown**
- **Rock fall, activity unknown.**
- **Unclassified type, activity unknown.**
- **Block or complex spread, activity unknown.**

GEOTON Pty Ltd		client:	M + M CLIFFORD
		project:	176A FRESHWATER POINT ROAD LEGANA
date	28/10/2025	drawn	SS
scale	As Shown	approved	TB
original size	A4	rev	
		title:	LANDSLIDE INVENTORY SHEET
		project no:	GL25602A
		Drawing no.	2

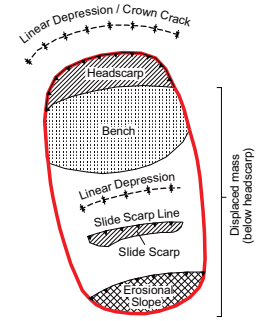


Approximate Scale (m)

150 0 150 300 450 m

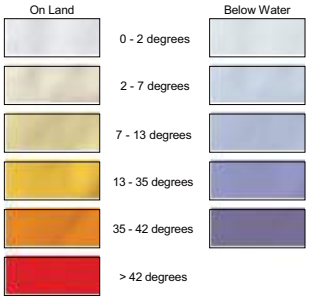
MAP EXTRACT FROM - MRT TASMANIAN LANDSLIDE MAP SERIES : WINDERMERE - GEOMORPHOLOGY

Landslide Components



- Affected area of Landslide
- Affected area of Possible Landslide
- Landslide shown as a point where too small for map's scale
- Uncertain / inferred boundary

Slope Categories



Note: The techniques used to create the slope layer tend to underestimate values along cliffs.

Linear Geomorphic Features

- Beach ridge
- Major convex break in slope
- Minor or rounded convex break in slope
- Terrace edge
- Terrace edge - poorly defined
- Sharp ridge
- Landscape lineation of uncertain origin
- Cut
- Artificial levee

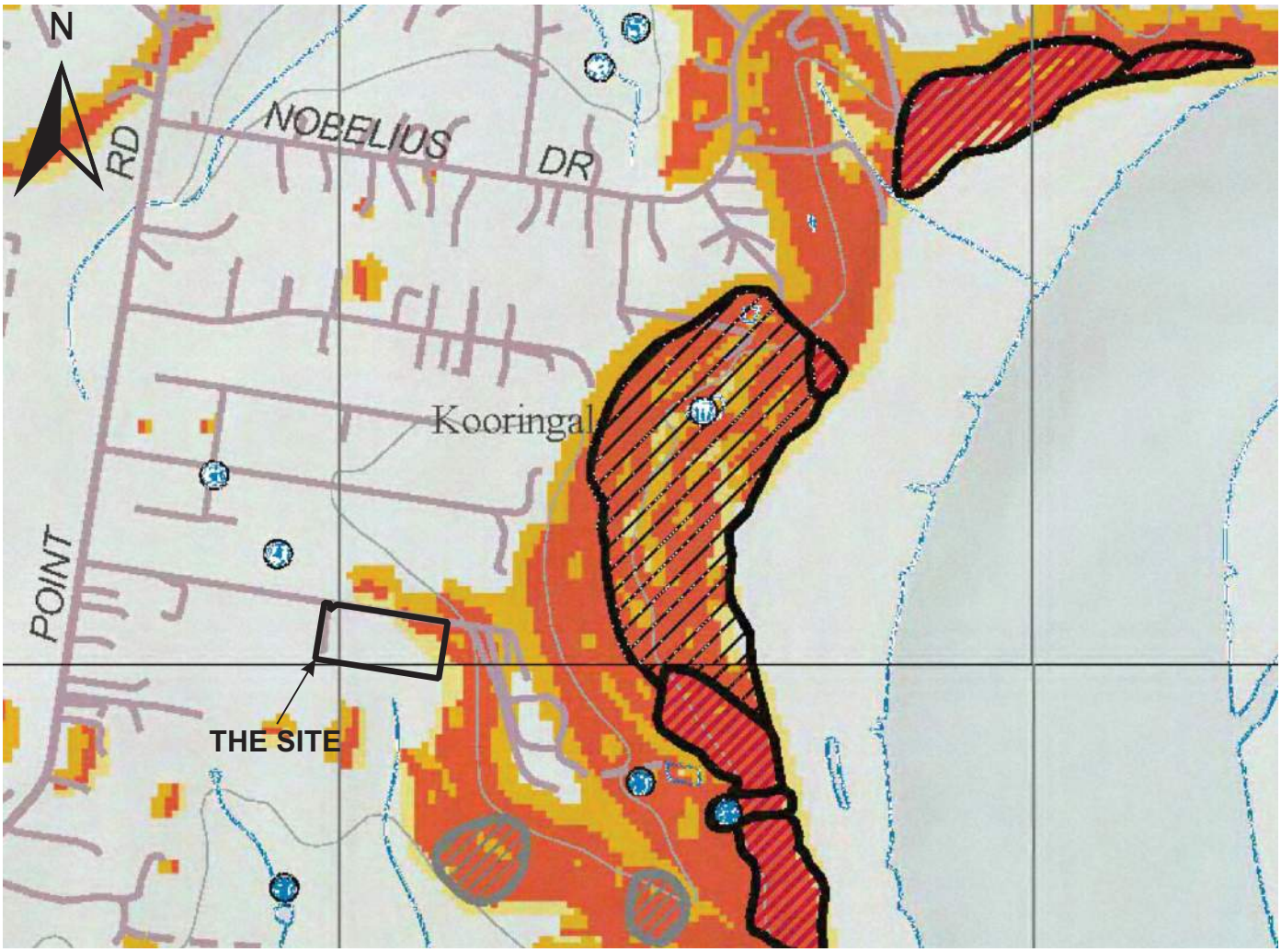
Point Geomorphic Features

- Significant knickpoint
- Spring or seep oriented downslope (may be concealed under dam or fill)
- 5 Dip direction and dip of structural surface

Hill Country Units

- **Elevated semiplanar landscape surface of uncertain origin**

GEOTON Pty Ltd		client:	M + M CLIFFORD
		project:	176A FRESHWATER POINT ROAD LEGANA
date	28/10/2025	drawn	SS
scale	As Shown	approved	TB
		title:	GEOMORPHOLOGY SHEET
original size	A4	rev	
		project no:	GL25602A
		Drawing no.	3



Approximate Scale (m)

150 0 150 300 450 m

MAP EXTRACT FROM - MRT TASMANIAN LANDSLIDE MAP SERIES : WINDERMERE - SLIDE SUSCEPTIBILITY

Susceptibility Zones for First Time Failure

- **Regression area**
- **Source area**
- **Runout area**

Regression area: An area up-slope of a source area that could fail following a deep-seated landslide movement (a.k.a retrogression or set-back area)

Source area: An area of hillside with the potential to form a slope failure, identified largely on the basis of slope angle and geology

Runout area: An area down-slope of a source area where the moving earth, debris or rock can potentially travel

Susceptibility Zones for Landslide Reactivation

- **Landslide, recent or active**
- **Landslide, activity unknown**
- **Possible landslide, activity unknown**

- **Spring or seep - which have a known association with landslides in many cases**

GEOTON Pty Ltd		client:	M + M CLIFFORD
		project:	176A FRESHWATER POINT ROAD LEGANA
date	28/10/2025 drawn SS		
scale	As Shown approved TB	title:	SLIDE SUSCEPTIBILITY
original size	A4 rev	project no: GL25602A	Drawing no. 4

Appendix A

Borehole Logs

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ENGINEERING BOREHOLE LOG: BH01

Client : M + M Clifford
Project : Landslide Risk Assessment
Location : 176A Freshwater Point Road, Legana

Easting : 505209.32
Northing : 5422104.72
Inclination : N/A
Azimuth : 0

Sheet : 1 OF 1
Job No : GL25602A
Logged : SS
Logged Date : 01/10/2025
Drill Rig : DrillTech 150mm

Method	Drilling	Water	Samples	Testing DCP	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture condition	Consistency density, index	Structure, Additional Observations
ADV				3	0.00		.	FILL - Clayey SAND black grey, trace fine to medium gravel,	M	L	
				9	0.25						
				7			SC	Clayey SAND - fine, medium and coarse grained, orange brown,	M	MD	
				10	0.50						
				14							
				13							
				16	0.75						
					1.00						
					1.25						
					1.50						
					1.75						
					2.00						
					2.25						
					2.50						
					2.75		CI	Sandy CLAY - medium plasticity, orange brown, fine, medium and coarse grained sand,	M	VSt	
					3.00						
					3.25						
								BH01 Terminated at 3.4 m			

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ENGINEERING BOREHOLE LOG: BH02

Client : M + M Clifford
Project : Landslide Risk Assessment
Location : 176A Freshwater Point Road, Legana

Easting : 505014.93
Northing : 5422038.36
Inclination : N/A
Azimuth : 0

Sheet : 1 OF 1
Job No : GL25602A
Logged : SS
Logged Date : 01/10/2025
Drill Rig : DrillTech 150mm

Method	Drilling	Water	Samples	Testing V (kPa)	Depth (m)	Graphic Log	Classification Code	Material Description	Moisture condition	Consistency density, index	Structure, Additional Observations
ADV					0.25		SM	TOPSOIL - Silty SAND - fine to medium grained, dark grey,	M	L	
					0.50		SM	Silty SAND - fine to medium grained, pale grey,	M	MD	
					0.75		SC	Clayey SAND - fine, medium and coarse grained, orange brown,	M	MD	
				120	1.00		CI	Sandy CLAY - medium plasticity, orange brown, fine, medium and coarse grained sand,		VSt	
					1.25						
					1.50						
					1.75		CH	Silty CLAY - high plasticity, brown mottled pale grey, with fine to medium grained sand		VSt	
				Refusal	2.00						
					2.25						
		▶			2.50		SC	Clayey SAND - fine, medium and coarse grained, pale brown pale orange,	W	MD	
					2.75						
					3.00						
					3.25						
								BH02 Terminated at 3.4 m			

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Investigation Log Explanation Sheet

METHOD – BOREHOLE

TERM	Description
AS	Auger Screwing*
AD	Auger Drilling*
RR	Roller / Tricone
W	Washbore
CT	Cable Tool
HA	Hand Auger
DT	Diatube
B	Blank Bit
V	V Bit
T	TC Bit

* Bit shown by suffix e.g. ADT

METHOD – EXCAVATION

TERM	Description
N	Natural exposure
X	Existing excavation
H	Backhoe bucket
B	Bulldozer blade
R	Ripper
E	Excavator
HT	Hand Tools

SUPPORT

TERM	Description
M	Mud
N	Nil
C	Casing
S	Shoring

PENETRATION

1	2	3	4	
				No resistance ranging to Refusal

WATER

Symbol	Description
	Water inflow
	Water outflow
	17/3/08 water on date shown

NOTES, SAMPLES, TESTS

TERM	Description
U_{50}	Undisturbed sample 50 mm diameter
U_{63}	Undisturbed sample 63 mm diameter
U_{81}	Undisturbed sample 81 mm diameter
D	Disturbed sample
N	Standard Penetration Test (SPT)
N*	SPT – sample recovered
N_C	SPT with solid cone
V	Vane Shear
PP	Pocket Penetrometer
P	Pressumeter
B_S	Bulk sample
E	Environmental Sample
R	Refusal – Material cannot be penetrated
DCP	Dynamic Cone Penetrometer (blows/100mm)
PL	Plastic Limit
LL	Liquid Limit
LS	Linear Shrinkage

CLASSIFICATION SYMBOLS AND SOIL DESCRIPTION

Based on AS 1726:2017

MOISTURE

TERM	Description
D	Dry
M	Moist
W	Wet

CONSISTENCY/DENSITY INDEX

TERM	Description
VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fr	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	Very dense

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Soil Description Explanation Sheet (1of 2)

DEFINITION

In engineering terms, soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material can be remoulded or disintegrated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

CLASSIFICATION SYMBOL AND SOIL NAME

Soils are described in accordance with the AS 1726: 2017 as shown in the table on Sheet 2.

PARTICLE SIZE DEFINITIONS

NAME	SUBDIVISION	SIZE (mm)
BOULDERS		>200
COBBLES		63 to 200
GRAVEL	Coarse	19 to 63
	Medium	6.7 to 19
	Fine	2.36 to 6.7
SAND	Coarse	0.6 to 2.36
	Medium	0.21 to 0.6
	Fine	0.075 to 0.21
SILT		0.002 to 0.075
CLAY		<0.002

MOISTURE CONDITION

Coarse Grained Soils

Dry Non-cohesive and free running.

Moist Soil feels cool, darkened in colour. Soil tends to stick together.

Wet As for moist but with free water forming when handling.

Fine Grained Soils

Moist, dry of Plastic Limited – w < PL
Hard and friable or powdery.

Moist, near Plastic Limit – w ≈ PL
Soils can be moulded at a moisture content approximately equal to the plastic limit.

Moist, wet of Plastic Limit – w > PL
Soils usually weakened and free water forms on hands when handling.

Wet, near Liquid Limit - w ≈ LL

Wet, wet of Liquid Limit - w > LL

CONSISTENCY TERMS FOR COHESIVE SOILS

TERM	UNDRAINED STRENGTH s_u (kPa)	FIELD GUIDE
Very Soft	≤12	Exudes between the fingers when squeezed in hand
Soft	12 to 25	Can be moulded by light finger pressure
Firm	25 to 50	Can be moulded by strong finger pressure
Stiff	50 to 100	Cannot be moulded by fingers
Very Stiff	100 to 200	Can be indented by thumb nail
Hard	>200	Can be indented with difficulty by thumb nail
Friable	–	Can be easily crumbled or broken into small pieces by hand

RELATIVE DENSITY OF NON-COHESIVE SOILS

TERM	DENSITY INDEX (%)
Very Loose	≤15
Loose	15 to 35
Medium Dense	35 to 65
Dense	65 to 85
Very Dense	> 85

DESCRIPTIVE TERMS FOR ACCESSORY SOIL COMPONENTS

DESIGNATION OF COMPONENT	IN COARSE GRAINED SOILS		IN FINE GRAINED SOILS	TERM
	% Fines	% Accessory coarse fraction	% Sand/ gravel	
Minor	≤5	≤15	≤15	Trace
	>5, ≤12	>15, ≤30	>15, ≤30	With
Secondary	>12	>30	>30	Prefix

SOIL STRUCTURE

ZONING		CEMENTING	
Layer	Continuous across the exposure or sample.	Weakly cemented	Easily disaggregated by hand in air or water.
Lens	Discontinuous layer of different material, with lenticular shape.	Moderately cemented	Effort is required to disaggregate the soil by hand in air or water.
Pocket	An irregular inclusion of different material.		

GEOLOGICAL ORIGIN

WEATHERED IN PLACE SOILS

Extremely Weathered material	Material is weathered to such an extent that it has soil properties. Structure and/or fabric of parent rock material retained and visible.
Residual soil	Structure and/or fabric of parent rock material not retained and visible.

TRANSPORTED SOILS

Aeolian soil	Carried and deposited by wind.
Alluvial soil	Deposited by streams and rivers.
Colluvial soil	Soil and rock debris transported downslope by gravity.
Estuarine soil	Deposited in coastal estuaries, and including sediments carried by inflowing rivers and streams, and tidal currents.
Fill	Man-made deposit. Fill may be significantly more variable between tested locations than naturally occurring soils.
Lacustrine soil	Deposited in freshwater lakes.
Marine soil	Deposited in a marine environment.

GEOTON Pty Ltd

Soil Description Explanation Sheet (2 of 2)

SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 63 mm and basing fractions on estimated mass)						**GROUP SYMBOL**	**PRIMARY NAME**
COARSE GRAINED SOIL More than 65% of soil excluding oversize fraction is larger than 0.075 mm	(A 0.075 mm particle is about the smallest particle visible to naked eyes)	GRAVEL More than half of coarse fraction is larger than 2.36 mm	CLEAN GRAVEL (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate particle sizes		GW	GRAVEL
				Predominantly one size or a range of sizes with some intermediate sizes missing		GP	GRAVEL
			GRAVEL WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML and MH below)		GM	Silty GRAVEL
				Plastic fines (for identification procedures see CL, CI and CH below)		GC	Clayey GRAVEL
		SAND More than half of coarse fraction is smaller than 2.36 mm	CLEAN SAND (Little or no fines)	Wide range in grain size and substantial amounts of all intermediate sizes		SW	SAND
				Predominantly one size or a range of sizes with some intermediate sizes missing		SP	SAND
			SAND WITH FINES (Appreciable amount of fines)	Non-plastic fines (for identification procedures see ML and MH below)		SM	Silty SAND
				Plastic fines (for identification procedures see CL, CI and CH below)		SC	Clayey SAND
FINE GRAINED SOIL More than 35% of soil excluding oversize fraction is smaller than 0.075 mm		IDENTIFICATION PROCEDURES ON FRACTIONS <0.075 mm					
			DRY STRENGTH	**DILATANCY**	**TOUGHNESS**		
		SILT & CLAY (low to medium plasticity, LL ≤ 50)	None to Low	Slow to Rapid	Low	ML	SILT
			Medium to High	None to Slow	Medium	CL, CI	CLAY
			Low to Medium	Slow	Low	OL	ORGANIC SILT
		SILT & CLAY (high plasticity, LL > 50)	Low to Medium	None to Slow	Low to Medium	MH	SILT
			High to Very High	None	High	CH	CLAY
			Medium to High	None to Very Slow	Low to Medium	OH	ORGANIC CLAY
		Highly Organic Soil	Readily identified by colour, odour, spongy feel and frequently by fibrous texture.			Pt	PEAT

● LL – Liquid Limit.

COMMON DEFECTS IN SOILS

TERM	**DEFINITION**	**DIAGRAM**
PARTING	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (e.g. bedding). May be open or closed.	
FISSURE	A surface or crack across which the soil has little or no tensile strength, but which is not parallel or sub parallel to layering. May be open or closed. May include desiccation cracks.	
SHEARED SEAM	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting fissures which divide the mass into lenticular or wedge-shaped blocks.	
SHEARED SURFACE	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect.	

TERM	**DEFINITION**	**DIAGRAM**
SOFTENED ZONE	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere.	
TUBE	Tubular cavity. May occur singly or as one of a large number of separate or inter-connected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter.	
TUBE CAST	An infilled tube. The infill may be uncemented or weakly cemented soil or have rock properties.	
INFILLED SEAM	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open defects.	

Appendix B

Qualitative Terminology for Use in Assessing Risk to Property

QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY

QUALITATIVE MEASURES OF LIKELIHOOD

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10^{-1}	5x10-2	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10-2	5x10-3	100 years	200 years	The event will probably occur under adverse conditions over the design life.	LIKELY	B
10-3	5x10-4	1000 years	2000 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10-4	5x10-5	10,000 years	20,000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10-5	5x10-6	100,000 years	200,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10-6		1,000,000 years		The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

Note: (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

QUALITATIVE MEASURES OF CONSEQUENCES TO PROPERTY

Approximate Cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%	40%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	10%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	1%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%		Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

Notes: (2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.

(3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilization works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.

(4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not vice versa

QUALITATIVE TERMINOLOGY FOR USE IN ASSESSING RISK TO PROPERTY (CONTINUED)

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD		CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
	Indicative Value of Approximate Annual Probability	1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A – ALMOST CERTAIN	10^{-1}	VH	VH	VH	H	M or L (5)
B - LIKELY	10^{-2}	VH	VH	H	M	L
C - POSSIBLE	10^{-3}	VH	H	M	M	VL
D - UNLIKELY	10^{-4}	H	M	L	L	VL
E - RARE	10^{-5}	M	L	L	VL	VL
F - BARELY CREDIBLE	10^{-6}	L	VL	VL	VL	VL

Notes: (5) For Cell A5, may be subdivided such that a consequence of less than 0.1% is Low Risk.
(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

RISK LEVEL IMPLICATIONS

Risk Level		Example Implications (7)
VH	VERY HIGH RISK	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
H	HIGH RISK	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	MODERATE RISK	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	LOW RISK	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	VERY LOW RISK	Acceptable. Manage by normal slope maintenance procedures.

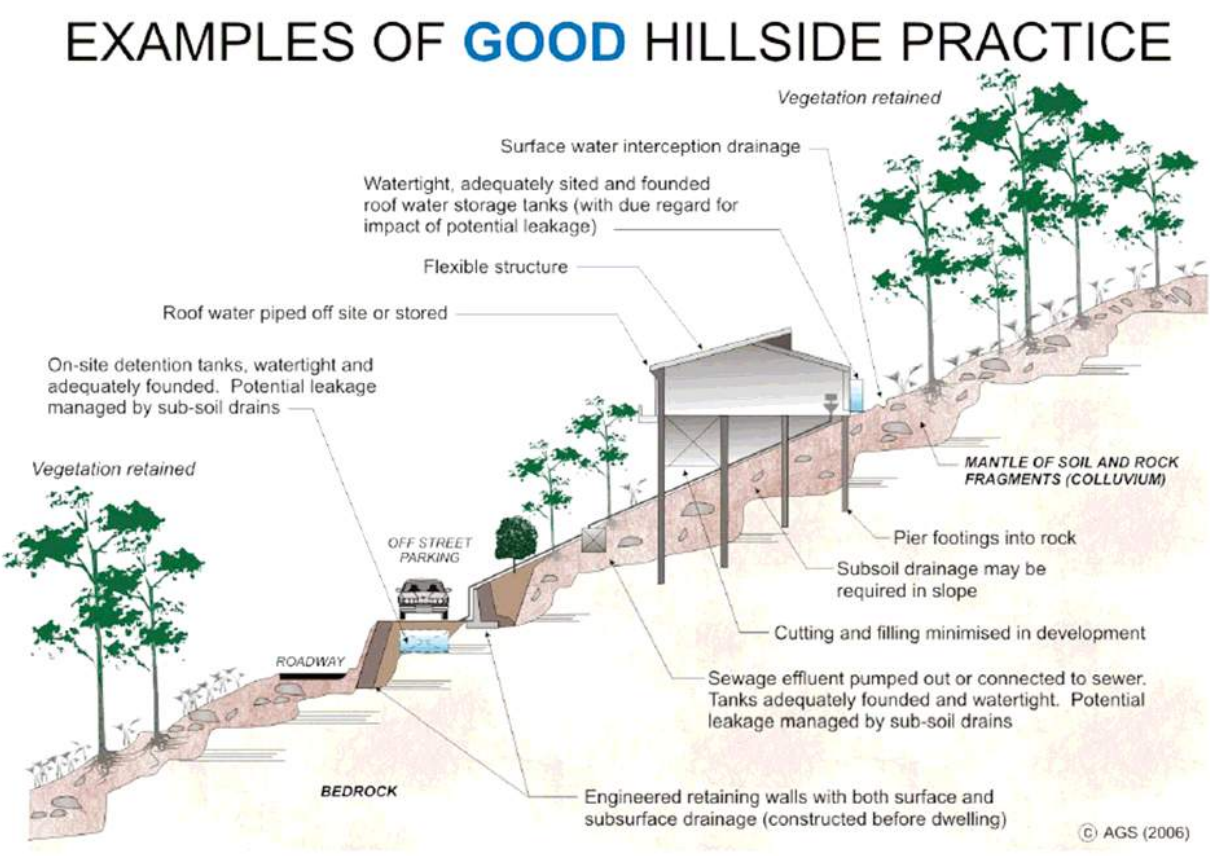
Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide

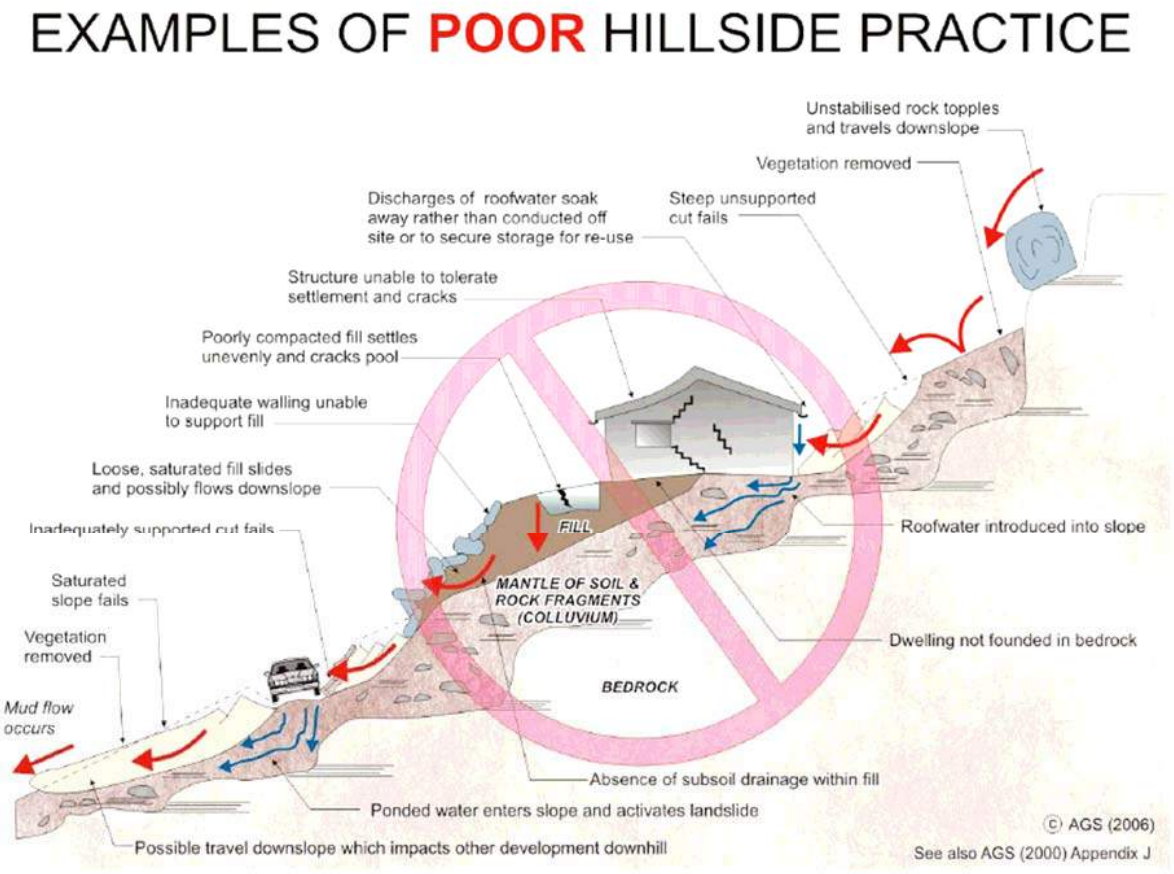
Appendix C

Some Guidelines for Hillside Construction

APPENDIX - SOME GUIDELINES FOR HILLSIDE CONSTRUCTION

	GOOD ENGINEERING PRACTICE	*POOR ENGINEERING PRACTICE*
ADVICE		
GEOTECHNICAL ASSESSMENT	Obtain advice from a qualified, experienced geotechnical practitioner at early stage of planning and before site works.	Prepare detailed plan and start site works before geotechnical advice.
PLANNING		
SITE PLANNING	Having obtained geotechnical advice, plan the development with the risk arising from the identified hazards and consequences in mind.	Plan development without regard for the Risk.
DESIGN AND CONSTRUCTION		
HOUSE DESIGN	Use flexible structures which incorporate properly designed brickwork, timber or steel frames, timber or panel cladding. Consider use of split levels. Use decks for recreational areas where appropriate.	Floor plans which require extensive cutting and filling. Movement intolerant structures.
SITE CLEARING	Retain natural vegetation wherever practicable.	Indiscriminately clear the site.
EARTHWORKS	Retain natural contours wherever possible.	Indiscriminatory bulk earthworks.
CUTS	Minimise depth. Support with engineered retaining walls or batter to appropriate slope. Provide drainage measures and erosion control.	Large scale cuts and benching. Unsupported cuts. Ignore drainage requirements
FILLS	Minimise height. Strip vegetation and topsoil and key into natural slopes prior to filling. Use clean fill materials and compact to engineering standards. Batter to appropriate slope or support with engineered retaining wall. Provide surface drainage and appropriate subsurface drainage.	Loose or poorly compacted fill, which if it fails, may flow a considerable distance including onto property below. Block natural drainage lines. Fill over existing vegetation and topsoil. Include stumps, trees, vegetation, topsoil, boulders, building rubble etc in fill.
ROCK OUTCROPS & BOULDERS	Remove or stabilise boulders which may have unacceptable risk. Support rock faces where necessary.	Disturb or undercut detached blocks or boulders.
RETAINING WALLS	Found on rock where practicable. Provide subsurface drainage within wall backfill and surface drainage on slope above. Construct wall as soon as possible after cut/fill operation.	Construct a structurally inadequate wall such as sandstone flagging, brick or unreinforced blockwork. Lack of subsurface drains and weepholes.
FOOTINGS	Found within rock where practicable. Use rows of piers or strip footings oriented up and down slope. Design for lateral creep pressures if necessary. Backfill footing excavations to exclude ingress of surface water.	Found on topsoil, loose fill, detached boulders or undercut cliffs.
SWIMMING POOLS	Engineer designed. Support on piers to rock where practicable. Provide with under-drainage and gravity drain outlet where practicable. Design for high soil pressures which may develop on uphill side whilst there may be little or no lateral support on downhill side.	
DRAINAGE		
SURFACE	Provide at tops of cut and fill slopes. Discharge to street drainage or natural water courses. Provide general falls to prevent blockage by siltation and incorporate silt traps. Line to minimise infiltration and make flexible where possible. Special structures to dissipate energy at changes of slope and/or direction.	Discharge at top of fills and cuts. Allow water to pond on bench areas.
SUBSURFACE	Provide filter around subsurface drain. Provide drain behind retaining walls. Use flexible pipelines with access for maintenance. Prevent inflow of surface water.	Discharge roof runoff into absorption trenches.
SEPTIC & SULLAGE	Usually requires pump-out or mains sewer systems; absorption trenches may be possible in some areas if risk is acceptable. Storage tanks should be water-tight and adequately founded.	Discharge sullage directly onto and into slopes. Use absorption trenches without consideration of landslide risk.
EROSION CONTROL & LANDSCAPING	Control erosion as this may lead to instability. Revegetate cleared area.	Failure to observe earthworks and drainage recommendations when landscaping.
DRAWINGS AND SITE VISITS DURING CONSTRUCTION		
DRAWINGS	Building Application drawings should be viewed by geotechnical consultant	
SITE VISITS	Site Visits by consultant may be appropriate during construction/	
INSPECTION AND MAINTENANCE BY OWNER		
OWNER'S RESPONSIBILITY	Clean drainage systems; repair broken joints in drains and leaks in supply pipes. Where structural distress is evident see advice. If seepage observed, determine causes or seek advice on consequences.	


EXAMPLES OF GOOD HILLSIDE PRACTICE
Vegetation retained
Surface water interception drainage
Watertight, adequately sited and founded roof water storage tanks (with due regard for impact of potential leakage)
Flexible structure
Roof water piped off site or stored
On-site detention tanks, watertight and adequately founded. Potential leakage managed by sub-soil drains
Vegetation retained
OFF STREET PARKING
ROADWAY
BEDROCK
MANTLE OF SOIL AND ROCK FRAGMENTS (COLLUVIUM)
Pier footings into rock
Subsoil drainage may be required in slope
Cutting and filling minimised in development
Sewage effluent pumped out or connected to sewer. Tanks adequately founded and watertight. Potential leakage managed by sub-soil drains
Engineered retaining walls with both surface and subsurface drainage (constructed before dwelling)
© AGS (2006)


EXAMPLES OF POOR HILLSIDE PRACTICE
Unstabilised rock topples and travels downslope
Vegetation removed
Discharges of roofwater soak away rather than conducted off site or to secure storage for re-use
Steep unsupported cut fails
Structure unable to tolerate settlement and cracks
Poorly compacted fill settles unevenly and cracks pool
Inadequate walling unable to support fill
Loose, saturated fill slides and possibly flows downslope
Inadequately supported cut fails
FILL
Roofwater introduced into slope
Saturated slope fails
MANTLE OF SOIL & ROCK FRAGMENTS (COLLUVIUM)
Vegetation removed
Dwelling not founded in bedrock
BEDROCK
Mud flow occurs
Absence of subsoil drainage within fill
Ponded water enters slope and activates landslide
Possible travel downslope which impacts other development downhill
© AGS (2006)
See also AGS (2000) Appendix J

Appendix D

Certificate Forms

FORM C

Geotechnical Declaration Subdivision Application

Office Use Only		Regulator: West Tamar Council

To be submitted with an application for an engineering <*construction certificate*> for subdivision of land. This form must be attached to the application for the <*construction certificate*>.
This form is essential to verify that the geotechnical report has been prepared in accordance with <*Regulator's geotechnical DCP*> and that the author of the geotechnical report is a geotechnical engineer or engineering geologist as defined by <*Regulator's geotechnical DCP*>. Alternatively, where a geotechnical report has been prepared by a professional person not recognised by the <*Regulator's geotechnical DCP*>, then this form may be used as technical verification of the geotechnical report if signed by a geotechnical engineer or engineering geologist as defined by <*Regulator's geotechnical DCP*>.

Section 1 Related Application

Reference	What is the Regulator's Development Application Number?
DA Site Address	176A Freshwater Point Road, Legana
DA Applicant	M + M Clifford

Section 2 Geotechnical Report

Details	Title: Landslide Risk Assessment	
	Author's Company/ Organisation Name: Geoton Pty Ltd	Report Reference No: GL25602Ab
	Author: Tony Barriera/Sean Shahandeh	Dated: 28 / 10 / 2025

Section 3 Declaration

Declaration (Tick all that apply) Yes	No	
☒	☐	**I am a geotechnical engineer or engineering geologist as defined by the** <*Regulator's geotechnical DCP*> **and on behalf of the company below:**
☒	☐	I prepared the geotechnical report referenced above in accordance with the AGS (2007c) as amended and Tasmanian Planning Scheme – West Tamar Council.
☒	☐	I am willing to technically verify that the geotechnical report referenced above has been prepared in accordance with the AGS (2007c) as amended and Tasmanian Planning Scheme – West Tamar Council.
☒	☐	I have professional indemnity insurance in accordance with Tasmanian Planning Scheme of not less than $5 million, being in force for the year in which the report is dated, with retroactive cover under this insurance policy extending back to the engineer's first submission to West Tamar Council.
☒	☐	I aware that the geotechnical report I have either prepared or am technically verifying (referenced above) is to be submitted in a support of a development application for the proposed development site (referenced above) and its findings will be relied upon by West Tamar Council in determining the development application.

PRACTICE NOTE GUIDELINES FOR LANDSLIDE RISK MANAGEMENT 2007

FORM **C**

Geotechnical Declaration Subdivision Application

Section 4 Checklist

Geotechnical Requirements (Tick as appropriate, either Yes or No)	**The following checklist covers the minimum requirements to be addressed in a geotechnical report in accordance with C15.7.1 Subdivision within a landslip hazard area. This checklist is to accompany the report.**
Yes ☐ **No** N/A ☒	The extent and stability of proposed embankments including those acting as retarding basins.
☒ ☐	Recommended Geotechnical testing requirements.
☒ ☐	Required level of geotechnical supervision for each part of the works as defined under AS3798 – Guidelines on Earthworks for Commercial and Residential Developments.
☒ ☐	Compaction specification for all fill within private subdivisions
☐ N/A ☒	The level of risk to existing adjacent dwellings as a result of a construction contractor using vibratory rollers anywhere within the site the subject of these works. In the event that vibratory rollers could affect adjacent dwellings, 'high risk' areas shall be identified on a plan and the engineering plans shall be amended to indicate that no vibratory roller shall be used within that zone.
☒ ☐	The impact of the installation of services on overall site stability and recommendations on short term drainage methods, shoring requirements and other remedial measures that may be appropriate during installation.
☐ N/A ☒	The preferred treatment of any areas of unacceptable risk within privately owned allotments.
☐ N/A ☒	Requirement for subsurface drainage lines.
☐ N/A ☒	Overall suitability of the engineering plans for the proposed development. (no engineering plans yet developed, recommendation that these be reviewed if and when available)
☐ N/A ☒	Risk mitigation plan defined.- no mitigation remedial works required

Section 5 Geotechnical Engineer or Engineering Geologist Details

Company/ Organisation Name	Geoton Pty Ltd	
Name (Company Representative)	Surname: Barriera	Mr /Mrs /Other: Mr
	Given Names: Antonio Jose	
	Chartered Professional Status: CPEng, NER	Registration No: 471929
Signature		Dated: 28 / 10 / 2025

Reference: AGS (2007c) *"Practice Note Guidelines for Landslide Risk Management"*. Australian Geomechanics Society, Australian Geomechanics, V42, .N1, March 2007.

RMCG

17 DECEMBER 2025

Bushfire Hazard Management Report: 176a Freshwater Point Rd, Legana

Report for: M & M Clifford

Property location: 176a Freshwater Point Rd, Legana

Prepared by: Michael Tempest
RMCG
Level 2, 102-104 Cameron Street
Launceston, TAS 7250

Table of contents

Executive summary

SUMMARY	
Client:	M & M Clifford
Property identification:	176a Freshwater Point Rd, Legana Current zoning: General Residential CT 135214/1& CT 111574/3 CT 35391/2 for turning circle and Hazard Management Area Strip CT 186003/36 for Hazard Management Area Strip
Proposal:	A 10-lot subdivision is proposed.
Assessment comments:	A field inspection of the site was conducted to determine the Bushfire Risk and Attack Level.
Conclusion:	The area is mapped as bushfire-prone under the *Tasmanian Planning Scheme – West Tamar*. There is sufficient area on the subject land and adjacent titles to provide the proposed lots with sufficient area to allow for future construction of dwellings and associated buildings (within 6m) to BAL 19 or BAL 12.5 standards. All land within the subdivision area (Lots 1-10) must be managed in a low fuel state before the subdivision plan is sealed and then be managed in perpetuity. The vegetation must be managed and maintained by the developer in the first instance and then by lot owners as each lot is sold. Agreements must be entered into with the adjacent landowners to the east and south east to enable the management of 10m wide vegetation strips on these titles to assist with providing adequate hazard management areas for the proposed building areas on Lots 5, 9, & 10. All roads within the subdivision must be constructed to the standards set out in Table C13.1 of the *Bushfire-Prone Area Code* of the Planning Scheme. Where access to a lot is greater than 30m, it must be constructed to the standards set out in Element B of Table C13.2 of the *Bushfire-Prone Area Code* of the Planning Scheme. A reticulated water supply that is compliant with all elements of Table C13.4 of the *Bushfire-Prone Area Code* of the Planning Scheme must be installed to service each lot as part of the development of the subdivision.
Assessment by:	 _____ Michael Tempest Senior Consultant Accredited Person under Part 4A of the Fire Service Act 1979, Accreditation # BFP-153

ACKNOWLEDGEMENT OF COUNTRY

Tasmania is Aboriginal land. We acknowledge the palawa and pakana, the Tasmanian Aboriginal peoples, as the Traditional Owners and continuing custodians of the lands, seas, and waterways of lutruwita, Tasmania, on which this project will be conducted. We recognise their ongoing connection to the land, waters, and culture, and pay our respects to their Elders, both past and present, acknowledging emerging leaders. Additionally, we express our gratitude for the knowledge and insights that Traditional Owners and other Aboriginal and Torres Strait Islander peoples contribute to our shared work in Australia.

We pay our respects to all Aboriginal and Torres Strait Islander communities. We acknowledge that Australia was founded on the genocide and dispossession of First Nations peoples and affirm that sovereignty was never ceded in this country. We embrace the spirit of reconciliation, striving toward self-determination, equitable outcomes, and an equal voice for Australia's First Peoples.

1 Introduction

It is a requirement under the *Land Use Planning and Approval Act* that a proposed subdivision that occurs either wholly or partially within a bushfire-prone area is assessed by an accredited person who will provide a Bushfire Hazard Management Report and a Bushfire Hazard Management Plan.

1.1 SCOPE

This report has been commissioned to provide a Bushfire Attack Level (BAL) for all proposed lots within the proposed subdivision. All advice is compliant with the *Bushfire-Prone Areas Code* of the *Tasmanian Planning Scheme – West Tamar* (the Planning Scheme) and the Australian Standard, AS3959-2018, *Construction of Buildings in Bushfire-prone Areas*.

1.2 PROPOSAL

The proposal is to complete a 10-lot subdivision from three existing titles at 176a Freshwater Point Rd, Legana. Part of the subdivision will also include land on the adjacent title to the east at 176b Freshwater Point Rd (CT 35391/2), which will provide area for a cul-de-sac turning area at the end of the new road. See Figure A3-1 for the proposal site plan. A strip of land on 176b Freshwater Point Rd, as well on 21 Connemara Crt (CT 186003/36) to the south east, will be utilised as part of the Hazard Management Area for the development. Both adjacent landowners have signed agreements to enable this to occur.

The land is zoned as General Residential and is mapped as bushfire-prone under the Planning Scheme.

On the Balance area of 176a Freshwater Point which includes the dwelling, a subdivision was approved in 2024, the permit number is PA2024254. This assessment assumes this that the approved lots are developed. The subject area associated with the current development forms the Balance lot (lot 100) as per the PA2024254 permit. See Figure A3-5 for the approved subdivision site plan.

1.3 LIMITATIONS

This report only deals with potential bushfire risk and does not consider any other potential statutory, building, or planning requirements. This report classifies type of vegetation at time of inspection and cannot be relied upon for future development outside of the assessed area.

2 Site description

There are two titles associated with 176a Freshwater Point Rd. CT 135214/1 is the main title associated with the property and is the primary site of the proposed subdivision. The title is 1.3ha in area, the title is currently undeveloped and, from a bushfire perspective, would be best described as grassland vegetation. CT 111574/3 is a small triangle shaped title in the north west corner of CT 135214/1. This title used to be part of the road reserve.

The proposal will see the subject titles developed into a 10-lot subdivision with a new access road. See Appendix 2 for site maps and Appendix 3 for the subdivision site plan.

2.1 SURROUNDING AREA

All adjacent land is mapped as bushfire-prone under the Planning Scheme. However, there has been significant recent development around the site which impacts on the bushfire-prone nature of adjacent land.

To the north are residential lots which are part of a large subdivision that has been established over the last 3 years (based on historical Google Earth imagery). There are six residential titles that are directly adjacent to the proposed development area. Of these six lots, three have had dwellings constructed on them. All six titles appear to be regularly managed, so all six have been classed as low threat vegetation.

To the west is 176 Freshwater Point Rd which is 2.1ha in area. This title has had a 10-lot subdivision approved on it, which consists of nine residential lots and a balance lot that is 0.72ha in area. The balance lot is directly adjacent to the subject site. At the time of writing this report, the approved subdivision was being developed which included the construction of a road in the most western 250m of CT 162598/1. In addition, there is also a further approved subdivision (PA2023277) for the 0.72ha balance lot into a further seven residential lots (Stage 2 of the development on 176 Freshwater Point Rd). The vegetation associated with 176 Freshwater point Rd has been classed as low threat, as it is either currently being developed, or is regularly mown.

To the south west of the subject title is the balance lot of that has an approved 2 lot subdivision. There is an existing dwelling on the most northern lot and a shed on the southern lot. Both lots are maintained in a low fuel state.

To the east is 176b Freshwater Point Rd (CT 35391/2). This title is 3.9ha in area and has an existing dwelling and associated gardens in the most south eastern corner. The balance of the title is covered in native vegetation, which, from a bushfire perspective, is classed as forest vegetation. A small section in the north western corner of this title is proposed to be included in the proposed development, to enable the construction of a cul-de-sac turning head. Furthermore, a 10m wide strip of land along this title's western boundary, that is shared with the subject site, is proposed to be managed in a low fuel state as part of the Hazard Management Area for the development on 176a Freshwater Point Rd (see Figure 4-2).

To the south are titles associated with a recent subdivision on 148 Freshwater Point Rd (see Figure A3-3, for the Bushfire Hazard Management Plan (BHMP) associated with this subdivision). There are two new titles that are directly adjacent to the southern boundary of the subject title. While neither of these titles have had dwellings constructed on them, it is a requirement of the BHMP that both are maintained in a low fuel state regardless. This is except for a 50m wide strip of land along the eastern boundary of the most eastern of the two titles, CT 18600/36. This 50m wide strip can be retained as forest vegetation. To assist with the Hazard Management Area on the subject title, a 10m wide strip of land (currently forest vegetation) along this title's northern boundary that is shared with the proposed Lot 10 and the most eastern 6.5m of Lot 5 on the subject site (50m total length) is proposed to be managed in a low fuel state (see Figure 4-2).

Bushfire threat occurs from the south east and the east. The prevailing wind is from the north west.

3 Bushfire site assessment

The land is considered to be within a bushfire-prone area under the Planning Scheme. A Bushfire Attack Level assessment has been conducted using Method 1 of AS 3959-2018 for Lots 1-6 & 8. For setbacks to adjacent vegetation to the east and southeast of Lots 7, 9, & 10, which are immediately adjacent to forest vegetation, Roger Fenwick (BFP-162) has used the Method 2 calculation (as per AS3959-2018) to determine a Bushfire Attack Level and associated setbacks (see Appendix 4 for calculations).

The Method 1 and Method 2 Calculations both use a The Fire Danger Index (FDI) of **50**. FDI is a measure of the probability of a bushfire starting, its rate of speed, intensity, and the difficulty of suppression; this is according to combinations of air temperature, relative humidity, wind speed, and both the long and short-term effects of drought. For the Method 2 calculation, the adjacent forest vegetation was classed as Dry Tasmanian Forest.

Because of the size and zoning of the proposed lots, the new lots will be managed as low threat vegetation. Because of this, the adjacent vegetation and slope is shown for the entire development as one, rather than for individual lots (see Table 3-1). Existing vegetation within the subdivision has been assessed as grassland but will be required to be managed in a low fuel state when the subdivision occurs.

Table 3-1: Vegetation and slope assessments from development site boundary

	NORTH	EAST	SOUTHEAST	SOUTHWEST	WEST
Slope	Upslope	Upslope 2º	Downslope 2°	Downslope >0-5°	Flat
Vegetation Type	Low Threat	Dry Tasmania Forest	Dry Tasmania Forest	Low threat	Low Threat
Distance to Bushfire-Prone Vegetation	NA	0m	0m	NA	NA

The Method 2 calculation demonstrates that based on the characteristics of adjacent land (southeast: Dry Tasmanian Forest, a downslope of 2º, and an FDI of 50. East: Dry Tasmanian Forest, a upslope of 2º, and an FDI of 50), the level of exposure to an approaching fire in the forest vegetation does not exceed a radiant heat flux of 19 kWm^{-1} if the defined setbacks are put in place. The Method 2 calculation has identified reduced setback requirements from the adjacent forest vegetation, compared to the predefined setbacks provided by the Method 1 calculation. See Section 4.2 for further information regarding setback requirements.

4 Bushfire protection measures

4.1 BAL REQUIREMENTS FOR CONSTRUCTION

The BAL ratings applied are in accordance with the Australian Standard AS3959-2018, *Construction of Buildings in Bushfire Prone Areas*. It is a minimum requirement that any habitable building or building within 6m of a habitable building be constructed to the BAL ratings specified in this document.

Table 4-1: BAL levels

BUSHFIRE ATTACK LEVEL (BAL)	PREDICTED BUSHFIRE ATTACK & EXPOSURE LEVEL
BAL-Low	Insufficient risk to warrant specific construction requirements.
BAL-12.5	Ember attack, radiant heat below 12.5kW/m².
BAL-19	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 12.5-19kW/m².
BAL-29	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 19-29kW/m².
BAL-40	Increasing ember attack and burning debris ignited by windborne embers together with increasing heat flux between 29-40kW/m².
BAL-FZ	Direct exposure to flames radiant heat and embers from the fire front.

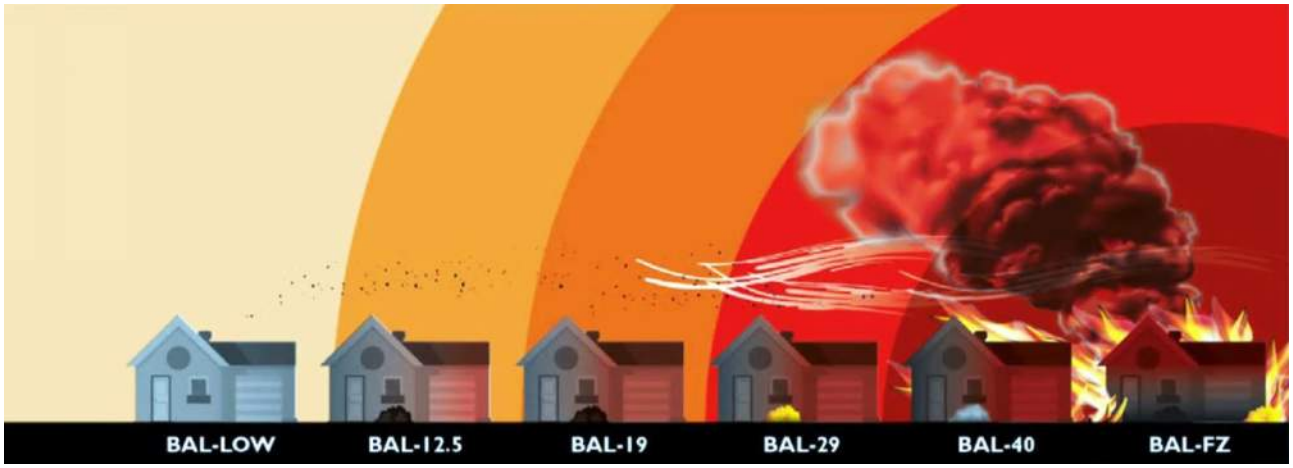


Figure 4-1: BAL diagram

The applicable BAL ratings, and therefore the minimum construction requirement, for the future proposed dwellings (or extensions to existing dwellings) within the subdivision are **BAL 19** & **BAL 12.5.**

A Class 10a structure (such as a shed or carport) can be constructed outside of the defined BAL building areas and without out a BAL rating if it is greater than 6m from any habitable buildings and associated buildings (within 6m) on a lot.

4.2 HAZARD MANAGEMENT AREA

Hazard management areas (HMA) are the areas between a habitable building, associated buildings (within 6m), and bushfire-prone vegetation which provide access to a fire front for firefighting. The HMA must be maintained in a low fuel state at all times.

At the time of the site visit, the subject title was classed as grassland. Before the subdivision is sealed, this vegetation must be managed in a low fuel state (grass maintained below 100mm). This will ensure that there are no setback requirements from undeveloped lots within the subdivision. This means the entirety of the development area is the Hazard Management Area for all lots. Maintaining the HMA is the responsibility of the proponent until each Lot is sold. The responsibility then passes to the lot owner.

Setback distances to bushfire-prone vegetation for the specified BAL Ratings (BAL 19 &12.5) have been calculated based on the vegetation that will exist after development and management of land within the subdivision and have also considered slope gradients. For Method 1 calculated setbacks, distances are in accordance with AS 3959-2018 Table 2.6. Method 2 calculations are based on the calculations shown in Appendix 4.

Where no setback is required for bushfire protection, other Planning Scheme setbacks may need to be applied.

Table 4-2: BAL setbacks from AS3959 (Method 1 & Method 2 Setbacks)

BAL	SETBACK	FOREST METHOD 1	FOREST METHOD 2
BAL 19	Upslope and flat	23m	15m
	Downslope 2°	27m	17.5m
BAL 12.5	Upslope and flat	32m	Not calculated
	Downslope >0-5°	38m	Not calculated

The HMA setbacks calculated via Method 2 have been used for Lots 5, 9, & 10. Method 1 setback requirements have been used for all remaining lots. To minimise the no build area on Lots 7, 9, & 10, agreements have been entered into with the landowners of adjacent titles CT 35391/2 (176b Freshwater Point Rd) & CT 186003/36 (148 Freshwater Point Rd) for an adjacent 10m wide strip of land to be managed in a low fuel state. These are to be located as follows:

- CT 35391/1 – 10m wide strip of land to be maintained along this title's western boundary where it is adjacent to the proposed Lot 10. This strip will be managed by the owner of Lot 10.
- CT 186003/36 – 10m wide strip of land to be maintained along this title's northern boundary where it is adjacent to Lot 10, as well as the most western 6.5m section of Lot 5's boundary (total 50m length). The owner of CT 186003/36 has agreed to maintain this strip.

See Figure 4-2 for the strips of land to be managed. The adjacent landholders have entered into agreements for the these strips to be managed as per above. These agreements can be provided to Council and/or the TFS upon request.

The HMA requirements for each new lot are identified in Table 4-3. HMAs and associated BAL building areas are shown in Figure 4-2. Figure 4-2 also shows the identified BAL requirements for the recent subdivision to the south. As per the BHMP for this adjacent site, all land, except for the identified retained vegetation area, is required to be managed in a low fuel state (see Figure A3-3).

Table 4-3: Hazard management area requirements and setbacks for future dwellings

LOT	BAL	HMA REQUIREMENTS
1	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
2	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
3-6	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
7	19	Entire lot is to be managed in a low fuel state 7.5m wide by 14m long setback from the most south eastern corner for future dwellings 10m wide & 6.5m long strip of land to the south east on CT 186003/36 is to be managed in a low fuel state as part of the HMA. This to be managed by the owner of CT 186003/36
8	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
9	19	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
10	19	Entire lot is to be managed in a low fuel state 7.5m setback from southern boundary for future dwellings 5m setback from eastern boundary for future dwellings 10m wide strip of land to the east, on CT 35391/2, is to be managed in a low fuel state as part of the HMA. This is to be managed by the owner of Lot 10 10m wide strip of land to the south, on CT 186003/36, is to be managed in a low fuel state as part of the HMA. This is to be managed by the owner of CT 186003/36

Figure 4-2: BAL 19 & BAL 12.5 construction areas

The Hazard Management Area must be kept in a low fuel condition, which is defined as:

- Lawns maintained to a height of <100mm
- Occasional trees with no canopy connection
- Trees must not overhang the dwelling
- Remove tree branches that are <2m above the ground
- Minimise fuel on the ground.

As bushfire-prone lots the following landscaping advice is applicable:

- Maintain a clear area of low-cut lawn or pavement adjacent to the house
- Keep areas under fences, fence posts, gates, and trees raked and cleared of fuel
- Utilise non-combustible fencing and retaining walls
- Break up the canopy of trees and shrubs with defined garden beds

- Organic mulch should not be used in bushfire-prone areas and non-flammable material should be used as ground cover e.g., scoria, pebbles, recycled crushed bricks
- Plant trees and shrubs where there is a wind break in the direction from which fires are likely to approach.

Maintenance schedule for Hazard Management Area:

- Cut lawns to less than 100mm and maintain
- Prune larger trees to establish and maintain horizontal and vertical canopy separation
- Minimise storage of flammable liquids
- Maintain road access to the dwelling and water connection point
- Remove fallen limbs, leaf, & bark, including from roofs, gutters, and around buildings.

4.3 ACCESS

Unless the development standards in the zone require a higher standard, the following applies to all roads within the proposed subdivision:

a) Two-wheel drive, all-weather construction
b) Load capacity of at least 20t, including bridges and culverts
c) Minimum carriageway width is 7m for a through road, or 5.5m for a dead-end or cul-de-sac
d) Minimum vertical clearance of 4m
e) Minimum horizontal clearance of 2m from edge of the carriage way
f) Cross falls of less than 3^{o} (1:20 or 5%)
g) Maximum gradient of 15^{o} (1:3.5 or 28%) for sealed roads, and 10^{o} (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 carriageway length 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 AS1743–2001 Road Signs Specifications*.

There is sufficient area within the proposed roadway corridor to provide roads to the above standards. The roadway will be an extension of a proposed roadway for the second stage of a subdivision located on 176 Freshwater Point Rd (to the west).

The proposed cul-de-sac for the new roadway will be partially located in the north western corner of the adjacent title to the west (CT 35391/2, 176b Freshwater Point Rd). See Figure 4-3.

If access to a future dwelling on any lot is proposed to be >30m, it must be constructed to the following standards:

a) All-weather construction
b) Load capacity of at least 20 tonnes, including for bridges and culverts
c) Minimum carriageway width of 4m
d) Minimum vertical clearance of 4m
e) Minimum horizontal clearance of 0.5m
f) Cross falls of <3°
g) Dips <7°
h) Curves with a minimum inner radius of 10m

i) Maximum gradient of 15° for sealed roads and 10° for unsealed road; and

j) Terminate with a turning area for fire appliances provided by one of the following

   i. A turning circle with a minimum outer radius of 10m

   ii. A property access encircling the building; or

   iii. A hammerhead “T” or “Y” turning 4m wide and 8m long.

The final location of dwellings on the lots will determine if the above access requirements are needed, however, it is considered likely that at the least lots 2, 7, & 10 will have an access length of >30m.

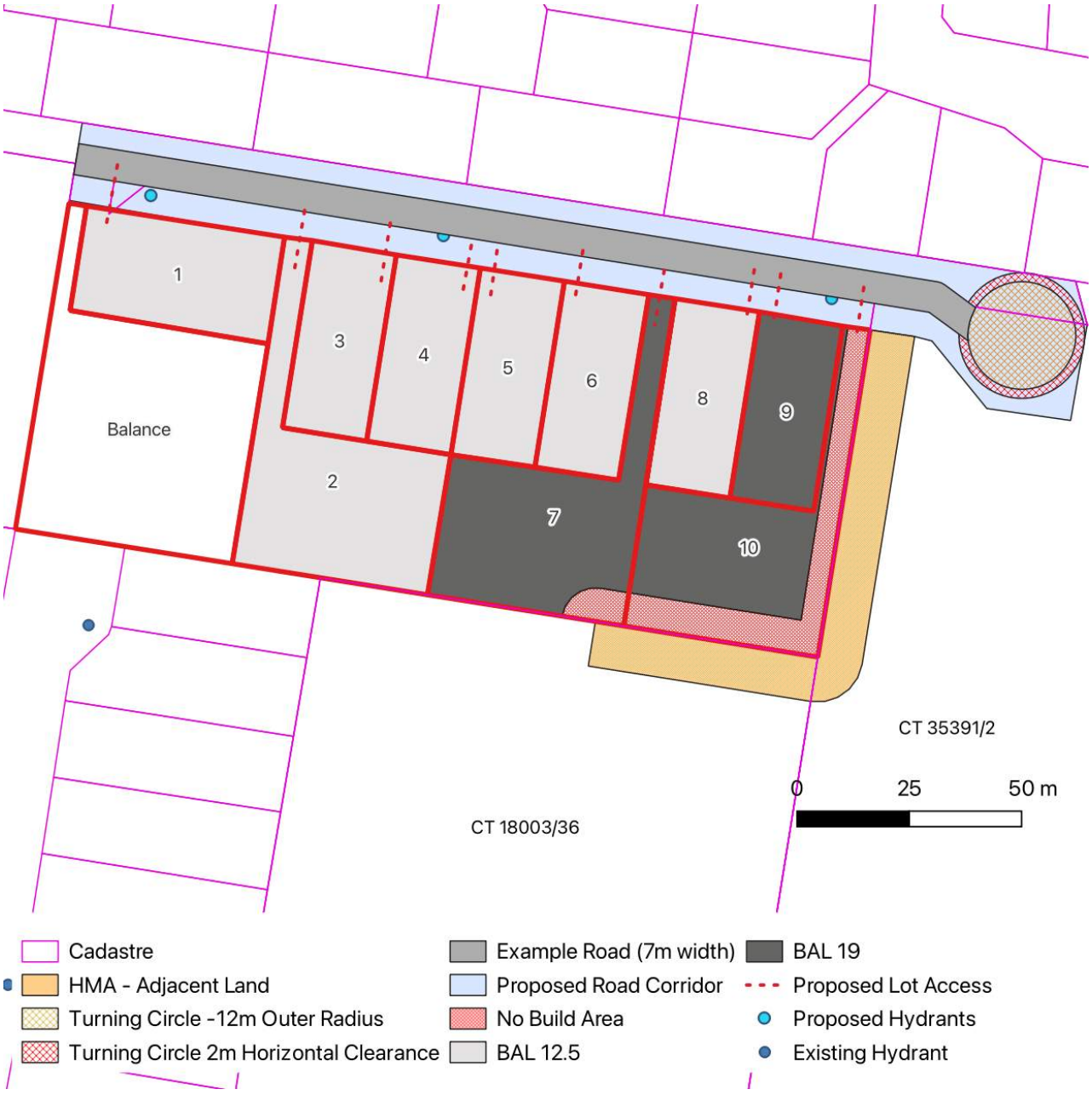


Figure 4-3: Access and water requirements

4.4 WATER SUPPLY

The lots are required to be connected to a reticulated water supply as part of the Planning Scheme requirements for the General Residential zone. As part of this installation, fire hydrants must be installed that are within 120m as the hose lays of all areas of each lot. See (Figure 4-3) for proposed locations of hydrants. These may be moved at the discretion of the developer, as long as they are still within 120m as the hose lays of the entire building area of each lot.

5 Statutory compliance

The applicable bushfire requirements are specified in the *Bushfire-Prone Areas Code* of the *Tasmanian Planning Scheme – West Tamar.*

Table 5-1: Compliance schedule

C13.6 DEVELOPMENT STANDARDS	ACCEPTABLE SOLUTION	COMPLIANCE
C13.6.1 Provision of Hazard Management Area	A1.a	▪ The balance area is exempt as it is associated with a recently approved subdivision (PA2024254). It has not been considered as part of this assessment.
	A1.b	▪ BAL 19 & BAL 12.5 Setback Standards (AS 3959-2018) from future dwellings (or extensions) and associated buildings. ▪ The Bushfire Hazard Management Plan (BHMP) and this compliance schedule must be attached to future subdivision titles to show the available building areas and HMA requirements.
	P1	▪ As per Method 2 calculations, there is a reduced setback requirement from adjacent forest vegetation (when compared to Method 1) on Lots 5, 9, & 10 to achieve a BAL 19 building area. Setback to the east is reduced from 23m to 15m. Setback to the south is reduced from 27m to 17.5m. ▪ An agreement must be entered into with the landholder of CT 35391/2 for a 10m wide strip of land adjacent to the boundary of Lot 10 to be managed in a Low Fuel State as part of the development's HMA. The agreement must be a legal agreement, such as an agreement under Section 71 of the Land Use Planning & Approval Act, a Vegetation Easement on the Title, or a Deed of Maintenance, and must be in place before the subdivision is sealed. This strip is to be maintained by the future owner of Lot 10. ▪ An agreement must be entered into with the landholder of CT 186003/36 for a 10m wide strip of land adjacent to the boundary of Lot 10 and the most eastern 6.5m of Lot 5 (total length 50m) to be managed in a Low Fuel State as part of the development's HMA. The agreement must be a legal agreement, such as an agreement under Section 71 of the Land Use Planning & Approval Act, a Vegetation Easement on the Title, or a Deed of Maintenance, and must be in place before the subdivision is sealed. This strip is to be maintained by the owner of CT 186003/36.
C13.6.2 Public and firefighting access	A1.a	▪ The balance area is exempt as it is associated with a recently approved subdivision (PA2024254). It has not been considered as part of this assessment.
	A1.b	▪ Compliant with Element B of Table C13.2 where lot access is greater than 30m ▪ The roads must be compliant with Table C13.1 ▪ The existing access to the dwelling on Lot 1 is compliant with access requirements.
C13.6.3. Provisions for water supply for firefighting	A1.a	▪ The balance area is exempt as it is associated with a recently approved subdivision (PA2024254). It has not been considered as part of this assessment.
	A1.b	▪ Reticulated water supply to be installed as part of the subdivision development that is compliant with Table C13.4.

6 Conclusions

The area is mapped as bushfire-prone under the *Tasmanian Planning Scheme – West Tamar*. There is sufficient area on the subject land and adjacent titles to provide the proposed lots with sufficient area to allow for future construction of dwellings and associated buildings (within 6m) to BAL 19 or BAL 12.5 standards. All land within the subdivision area (Lots 1-10) must be managed in a low fuel state before the subdivision plan is sealed and then be managed in perpetuity. The vegetation must be managed and maintained by the developer in the first instance and then by lot owners as each lot is sold. Agreements must be entered into with the adjacent landowners to the east and south east to enable the management of 10m wide vegetation strips on these titles to assist with providing adequate hazard management areas for the proposed building areas on Lots 7, 9, & 10.

All roads within the subdivision must be constructed to the standards set out in Table C13.1 of the *Bushfire-Prone Area Code* of the Planning Scheme. Where access to a lot is greater than 30m, it must be constructed to the standards set out in Element B of Table C13.2 of the *Bushfire-Prone Area Code* of the Planning Scheme.

A reticulated water supply that is compliant with all elements of Table C13.4 of the *Bushfire-Prone Area Code* of the Planning Scheme must be installed to service each lot as part of the development of the subdivision.

7 References

West Tamar Council (2013). *Tasmanian Planning Scheme – West Tamar.*

Standards Australia (2009). *AS 3959-2018 Construction of Buildings in Bushfire-Prone Areas.*

Appendix 1: Photos

All photos taken by Michael Tempest on 29/03/2023 or 17/10/2023.

Figure A1-1: Forest vegetation to the east on 176b Freshwater Point Rd

Figure A1-2: Forest vegetation to the southeast on 148 Freshwater Point Rd (CT186003/36)

Figure A1-3: View south of land that has been cleared for development on 148 Freshwater Point Rd. This land must be managed as low threat vegetation

Figure A1-4: Low threat vegetation to the west on 176 Freshwater Point Rd

Figure A1-5: View north from southern boundary of the subject site

Figure A1-6: Existing access road that will be upgraded to comply with bushfire standards

Figure A1-7: Existing dwelling on balance land that is associated with an approved subdivision

Appendix 2: Maps

Figure A2-1: Location

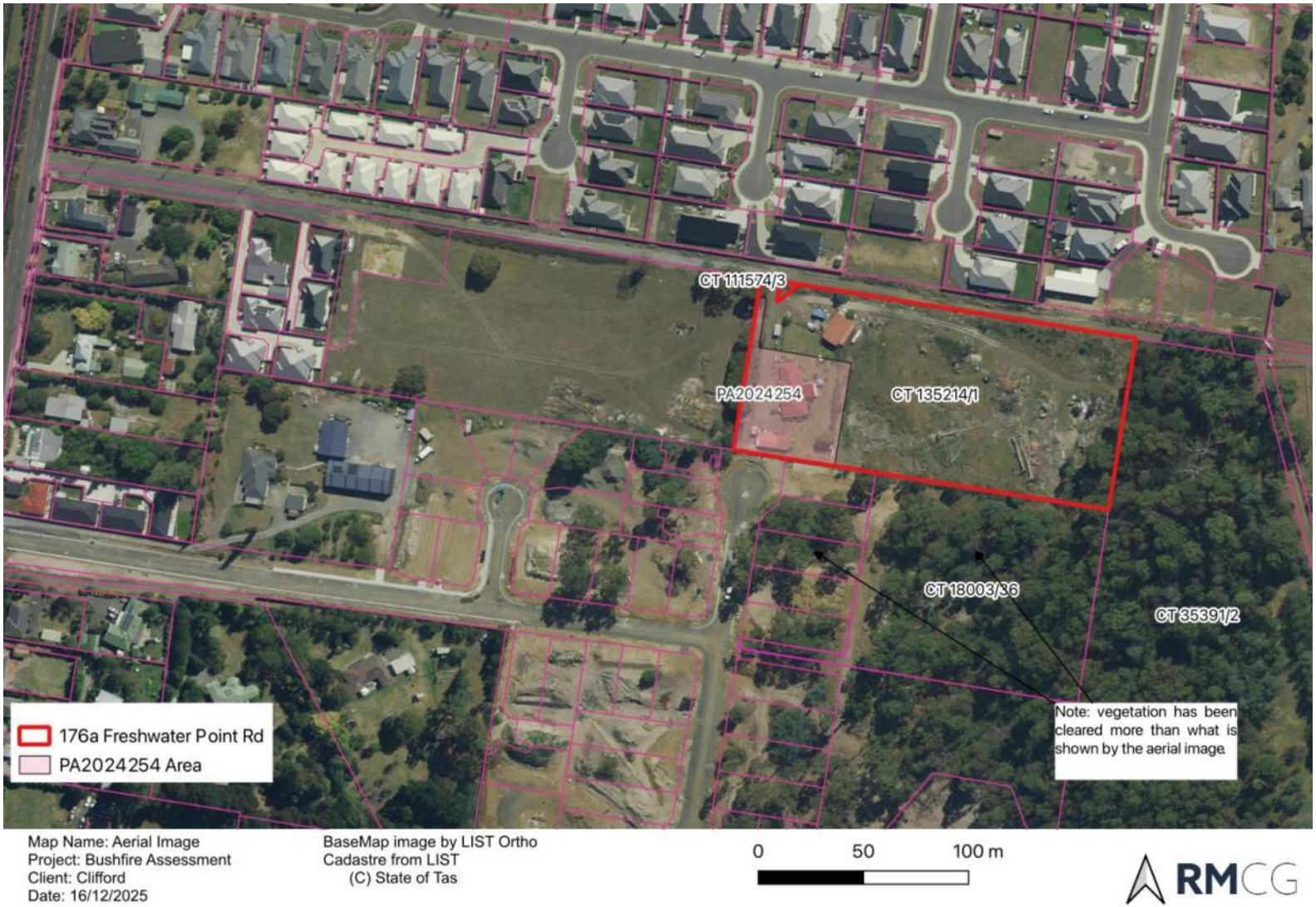


Figure A2-2: Aerial image

Appendix 3: Site plans

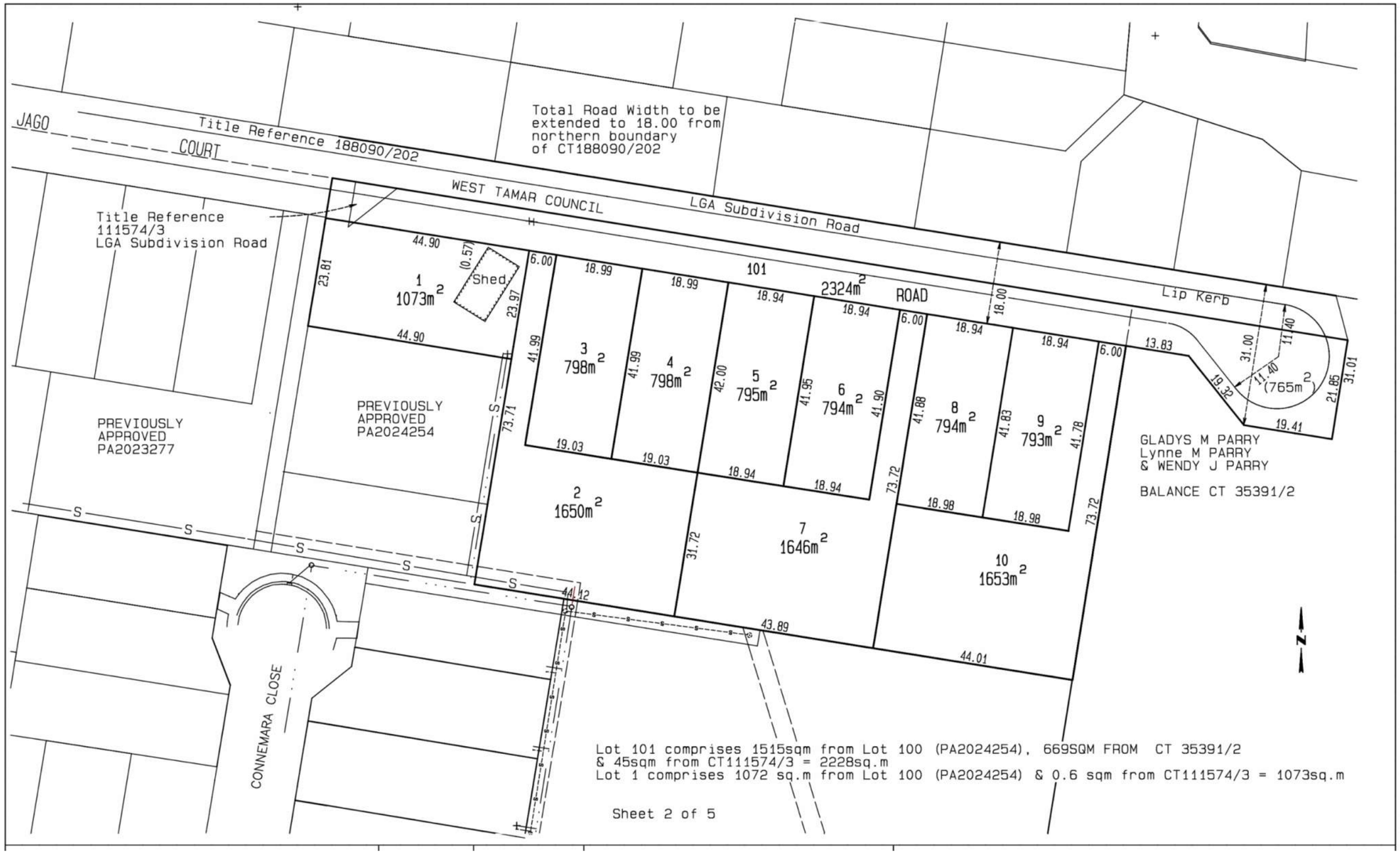


Figure A3-1: Site plan for proposed subdivision

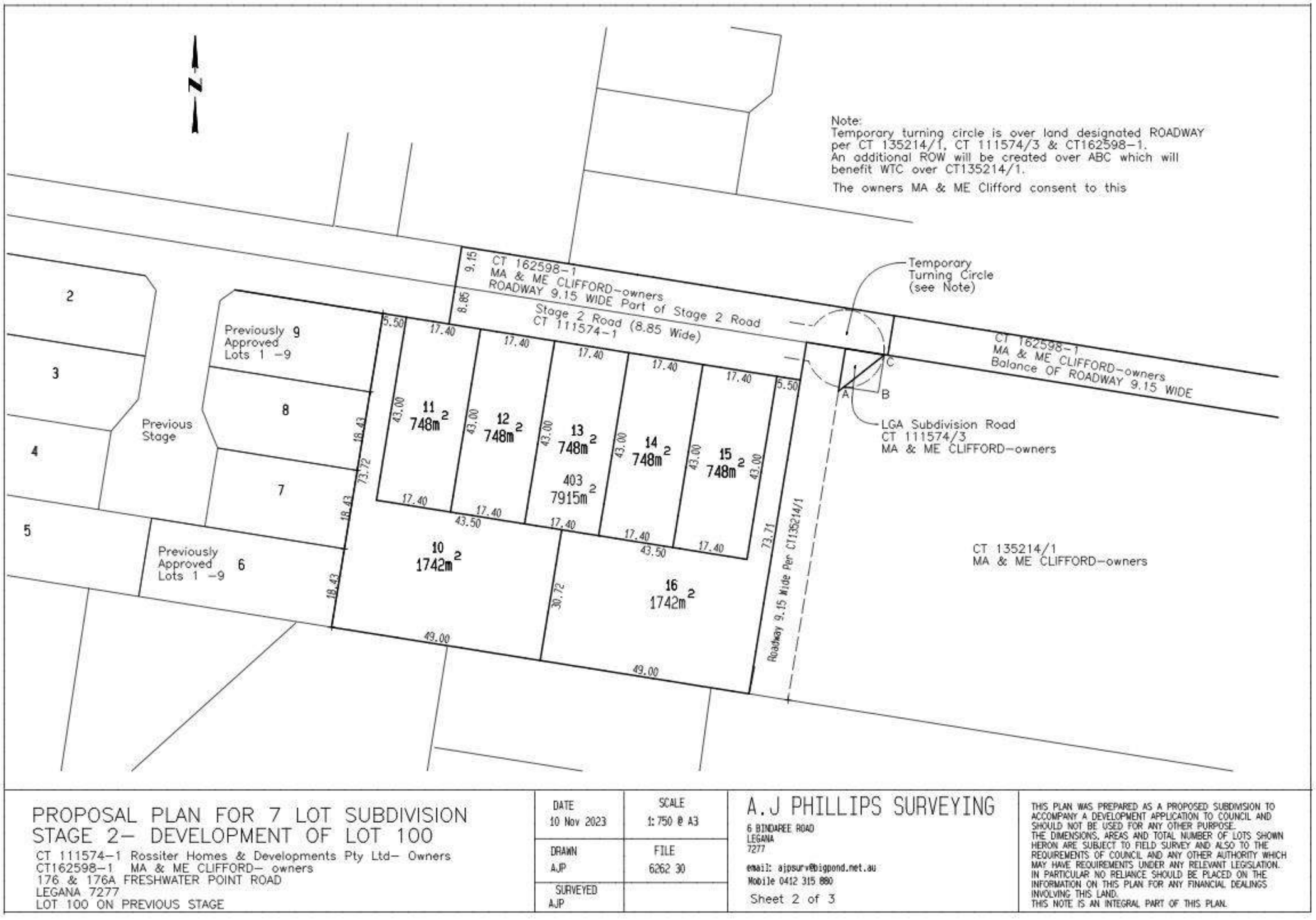


Figure A3-2: Site Plan for the proposed Stage 2 subdivision (lots 10-16) on 176 Freshwater Point Rd. Note the temporary turning circle proposed to be located on the subject site.

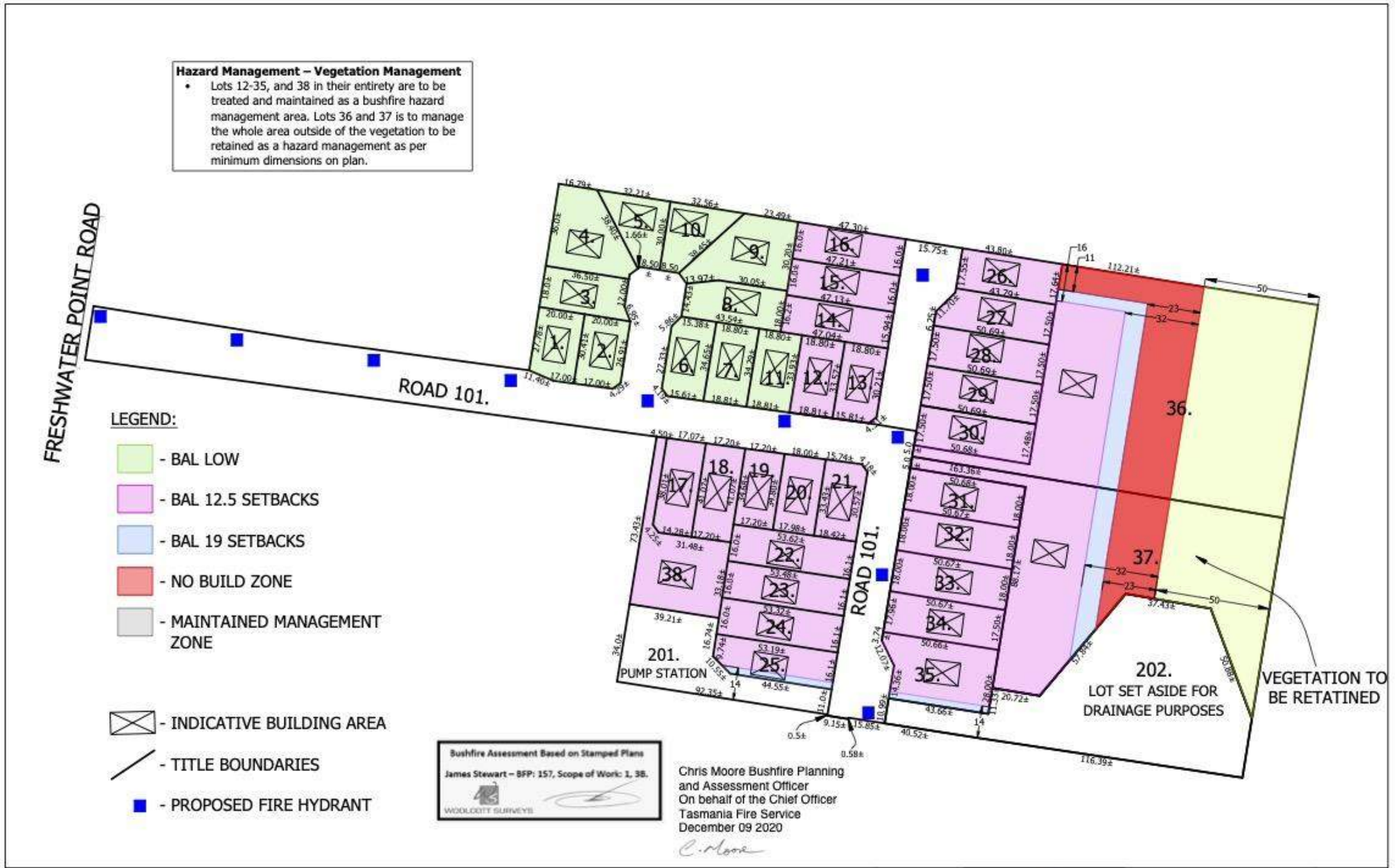


Figure A3-3: BHMP for recently established subdivision to the south of the subject site. Lot 36 is now known as CT 186003/36

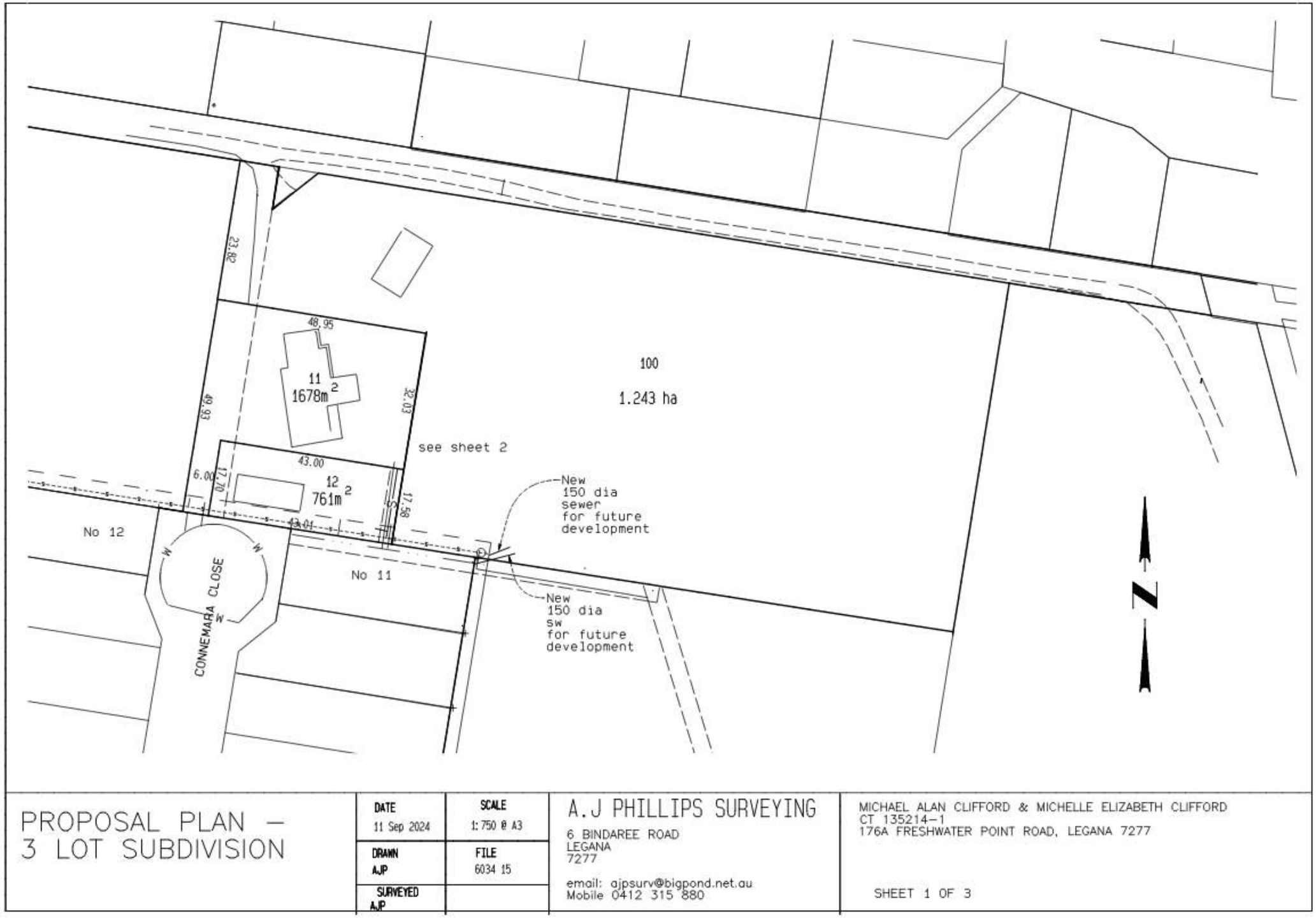


Figure A3-4: Site plan for approved subdivision (PA2023277), Lot 100 is the subject site for the proposed 10-lot subdivision

Appendix 4: Bushfire hazard management plan

Bushfire Hazard Management Plan: 176a Freshwater Point Rd, Legana (CT 135214/1, CT 111574/3 & CT 162598/1, PID 3155681)

1.0 HAZARD MANAGEMENT AREA

Hazard management areas (HMA) include the areas to protect the buildings as well as the access and water supplies. Vegetation in the hazard management area is to be managed and maintained in a minimum fuel condition. See the table below for HMA requirements on each lot. Refer to the Bushfire Hazard Management Area section of the Bushfire Hazard Management Report for Hazard Management Area minimum fuel requirements. Refer to Table 5-1 of the Bushfire Hazard Management Report for HMA requirements. The figure to the right shows the area to be managed as the HMA for each lot.

HMA Maintenance Schedule:

- Remove fallen limbs and leaf and bark litter, including from roofs, gutters, and around buildings
- Cut grass to less than 100mm and maintain
- Prune larger trees to establish and maintain horizontal and vertical canopy separation
- Maintain road access to the building and water connection point.

2.0 ACCESS

Refer to Table 5-1 of the Bushfire Hazard Management Report where proposed site access is described. The proposed access will support firefighter access to buildings and water points.

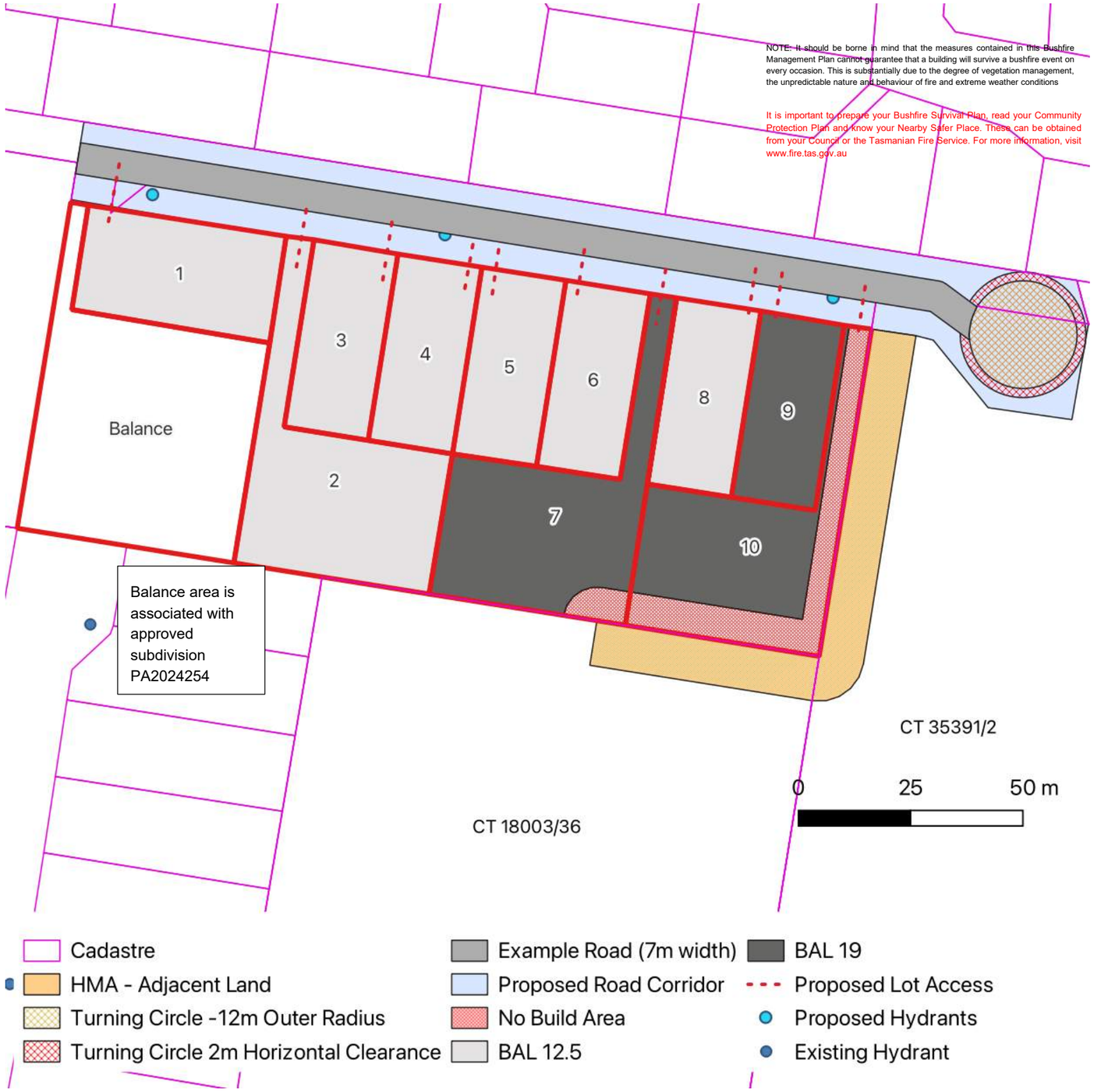
3.0 WATER SUPPLY

Refer to Table 5-1 of the Bushfire Hazard Management Report for water supply requirements. The map to the right shows potential locations of water supply for each lot. These locations can be altered at the proponent's discretion, as long as the final location is still complaint with Table 5-1.

4.0 CONSTRUCTION: BAL 12.5 & BAL 19

Buildings in Bushfire-Prone Areas are to be built in accordance with the Building Code of Australia and Australian Standard AS5939-2018.

LOT	BAL	HMA REQUIREMENTS
1	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
2	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
3-6	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
7	19	Entire lot is to be managed in a low fuel state 7.5m wide by 14m long setback from the most south eastern corner for future dwellings 10m wide & 6.5m long strip of land to the south east on CT 186003/36 is to be managed in a low fuel state as part of the HMA. This to be managed by the owner of CT 186003/36
8	12.5	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
9	19	Entire lot is to be managed in a low fuel state No setback requirements for future dwellings
10	19	Entire lot is to be managed in a low fuel state 7.5m setback from southern boundary for future dwellings 5m setback from eastern boundary for future dwellings 10m wide strip of land to the east, on CT 35391/2, is to be managed in a low fuel state as part of the HMA. This is to be managed by the owner of Lot 10 10m wide strip of land to the south, on CT 186003/36, is to be managed in a low fuel state as part of the HMA. This is to be managed by the owner of CT 186003/36



- The Subdivision is a 10-Lot Subdivision from 3 existing titles as described on the Site Plan. See Appendix 3 of the Bushfire Report for the Site Plan.
- This BHMP must be read in conjunction with the Bushfire Hazard Management Report: 176a Freshwater Point Rd, Legana, Michael Tempest, 17 December 2025.
- This BHMP has been prepared to satisfy the requirements of the *Bushfire-Prone Areas Code* of the *Tasmanian Planning Scheme – West Tamar.*

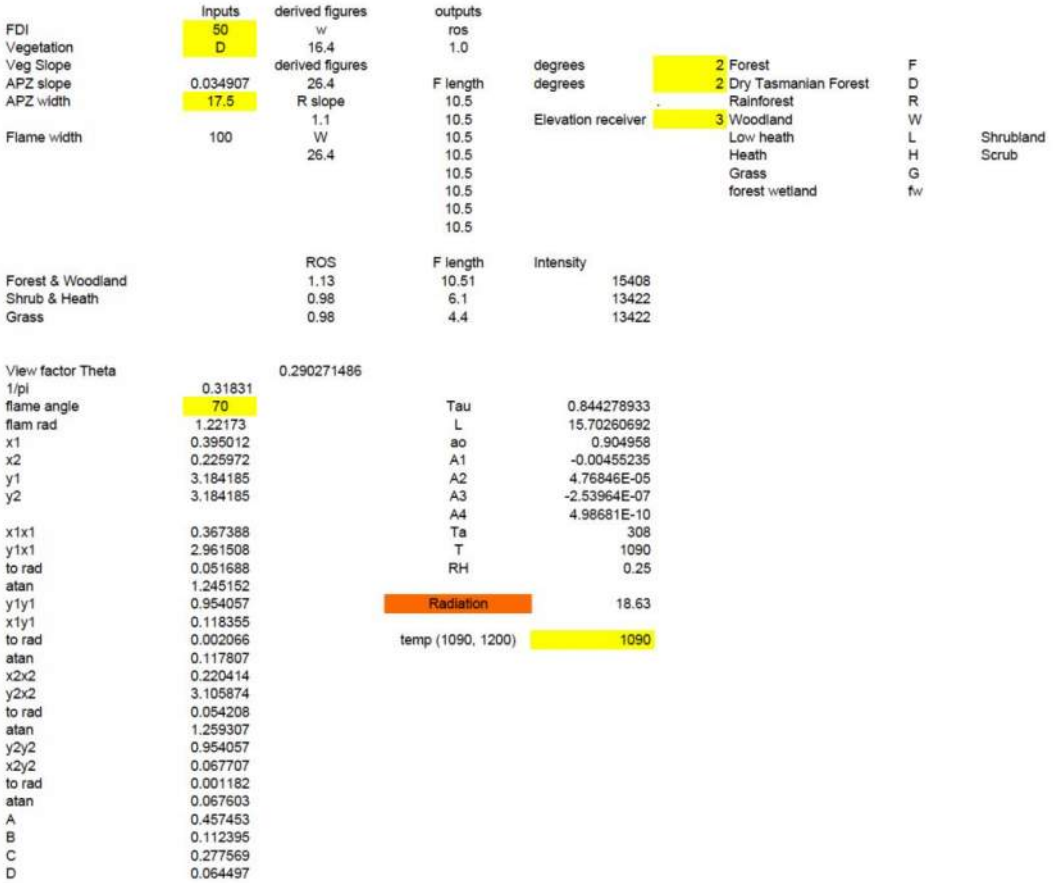
Michael Tempest
Accreditation: BFP – 153 : 1, 2, 3A, 3B, 3C
Plan No: MT24/136S Date 17/12/2025

Appendix 5: Method 2 calculations

Figures A4-1 and A4-2 contain the Method 2 calculations used to determine an appropriate setback from the eastern and south eastern boundary of the proposed development. The Method 2 calculations have been completed and provided by Roger Fenwick, BFP-162.

	Inputs	derived figures	outputs					
FDI	50	w	ros					
Vegetation	D	16.4	1.0					
Veg Slope		derived figures		degrees	-2	Forest	F	
APZ slope	-0.03491	26.4	F length	degrees	-2	Dry Tasmanian Forest	D	
APZ width	15	R slope	8.7			Rainforest	R	
		0.9	8.7	Elevation receiver	3	Woodland	W	
Flame width	100	W	8.7			Low heath	L	Shrubland
		26.4	8.7			Heath	H	Scrub
			8.7			Grass	G	
			8.7			forest wetland	fw	
			8.7					
			8.7					
		ROS	F length	Intensity				
Forest & Woodland		0.86	8.74	11692				
Shrub & Heath		0.98	6.1	13422				
Grass		0.98	4.4	13422				
View factor Theta		0.286622421						
1/pi	0.31831							
flame angle	70		Tau	0.85156499				
flam rad	1.22173		L	13.5054494				
x1	0.428604		ao	0.904958				
x2	0.187212		A1	-0.00455235				
y1	3.702209		A2	4.76846E-05				
y2	3.702209		A3	-2.53964E-07				
			A4	4.98681E-10				
x1x1	0.393945		Ta	308				
y1x1	3.402827		T	1090				
to rad	0.059391		RH	0.25				
atan	1.28497							
y1y1	0.965403		Radiation	18.56				
x1y1	0.111764							
to rad	0.001951		temp (1090, 1200)	1090				
atan	0.111303							
x2x2	0.184015							
y2x2	3.638988							
to rad	0.063512							
atan	1.302615							
y2y2	0.965403							
x2y2	0.048818							
to rad	0.000852							
atan	0.048779							
A	0.506207							
B	0.107452							
C	0.2397							
D	0.047092							

Figure A5-1: Method 2 calculation from vegetation to the east of the proposed development



	Inputs	derived figures	outputs				
FDI	50	w	ros				
Vegetation	D	16.4	1.0				
Veg Slope		derived figures		degrees	2	Forest	F
APZ slope	0.034907	26.4	F length	degrees	2	Dry Tasmanian Forest	D
APZ width	17.5	R slope	10.5			Rainforest	R
		1.1	10.5	Elevation receiver	3	Woodland	W
Flame width	100	W	10.5			Low heath	L
		26.4	10.5			Heath	H
			10.5			Grass	G
			10.5			forest wetland	fw
			10.5				
			10.5				

		ROS	F length	Intensity
Forest & Woodland		1.13	10.51	15408
Shrub & Heath		0.98	6.1	13422
Grass		0.98	4.4	13422

View factor Theta		0.290271486		
1/pi	0.31831			
flame angle	70		Tau	0.844278933
flam rad	1.22173		L	15.70260692
x1	0.395012		ao	0.904958
x2	0.225972		A1	-0.00455235
y1	3.184185		A2	4.76846E-05
y2	3.184185		A3	-2.53964E-07
			A4	4.98681E-10
x1x1	0.367388		Ta	308
y1x1	2.961508		T	1090
to rad	0.051688		RH	0.25
atan	1.245152			
y1y1	0.954057		Radiation	18.63
x1y1	0.118355			
to rad	0.002066		temp (1090, 1200)	1090
atan	0.117807			
x2x2	0.220414			
y2x2	3.105874			
to rad	0.054208			
atan	1.259307			
y2y2	0.954057			
x2y2	0.067707			
to rad	0.001182			
atan	0.067603			
A	0.457453			
B	0.112395			
C	0.277569			
D	0.064497			

Figure A5-2: Method 2 calculation from vegetation to the south east of the proposed development

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: Michael Clifford *Owner /Agent*

176a Freshwater Point Rd *Address*

Legana, TAS 7277 *Suburb/postcode*

Qualified person details:

Qualified person: Michael Tempest

Address: Level 2, 102-104 Cameron Street

Launceston TAS

Phone No: 0467 452 155

Fax No: n/a

Licence No: BFP - 153

Email address: michaelt@rmcg.com.au

Qualifications and Insurance details: Accredited to report on bushfire hazards under the *Fire Service 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: 176a Freshwater Point Rd

Legana 7277

Lot No: 1-10

Certificate of title No: 135214/1 111574/3

The assessable item related to this certificate: Bushfire hazard management plan for proposed class 1a building.

(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 items, at any stage, as part of – *(tick one)*

(x) 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 Management Report: 176a Freshwater Point Rd, M. Tempest, V1, 17/12/2025 Bushfire Hazard Management Plan: 176a Freshwater Point Rd, M. Tempest, V1, 17/12/2025
Relevant calculations:	AS 3959:2018 - Method 1 BAL assessment. AS 3959:2018 - Method 2 BAL assessment. Completed by Roger Fenwick, accredited person (BFP-162)
References:	AS 3959:2018 Construction of Buildings in Bushfire Prone Areas Director's Determination – Bushfire Hazard Areas v1.2

Substance of Certificate: (what it is that is being certified)

- The proposed building work – if designed and constructed in accordance with the bushfire hazard management plan referred to in this certificate – will comply with the applicable Deemed-to-Satisfy requirements of the Director's Determination – Bushfire Hazard Areas v1.2.
- The applicable Bushfire Attack Level (BAL) determined using AS 3959:2018 for design and construction are BAL 12.5 and BAL 19.

Scope and/or Limitations

Scope:

The scope of this certification is limited to compliance with the requirements of the Director's Determination – Bushfire Hazard Areas v1.2.

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.
4. The effectiveness of the measures prescribed in the bushfire hazard management plan and supporting report are dependent on their correct implementation and maintenance for the life of the development.
5. No guarantee can be provided that the building work will survive every bushfire event.

I certify the matters described in this certificate.

	Signed:	*Certificate No:*	*Date:*
Qualified person:		MT24/136S	17/12/2025

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:	176a Freshwater Point Rd, Legana
Certificate of Title / PID:	**PID 3155681 CT135214/1 & CT 135214/1.**

2. Proposed Use or Development

Description of proposed Use and Development:	10 Lot subdivision
Applicable Planning Scheme:	Tasmanian Planning Scheme – West Tamar

3. Documents relied upon

This certificate relates to the following documents:

Title	Author	Date	Version
Bushfire Hazard Report: 176a Freshwater Point Rd	M. Tempest, RMCG	17/12/25	1
Bushfire Hazard Management Plan: 176a Freshwater Point Rd	M. Tempest, RMCG	17/12/25	1

[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
☒	E1.6.1 A1 (b) / C13.6.1 A1(b)	Provides BAL-19 for all lots (including any lot designated as 'balance')
☐	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. A proposal cannot be certified as compliant with P1.***
☒	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

☒	**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
☐	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:	Michael Tempest	**Phone No:**	0467 452 155
Postal Address:	Level 2, 102-104 Cameron Street Launceston TAS 7250	**Email Address:**	michaelt@rmcg.com.au
Accreditation No:	BFP – 153	**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: Michael Tempest **Date:** 17/12/2025

Certificate Number: MT24/136S

(for Practitioner Use only)

This report has been prepared by:

RM Consulting Group Pty Ltd trading as RMCG

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Key RMCG contact

Michael Tempest

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Document review and authorisation

Project Number: #2200

Doc Version	Final/Draft	Date	Author	Project Director review	BST QA review	Release approved by	Issued to
1.0	Consultation Draft	25/01/2024	M. Tempest	A. Ketelaar	B. Gravenor	A. Ketelaar	M. Clifford & TFS
1.0	Final	17/12/2025	M. Tempest		L. McKenzie	M. Tempest	M. Clifford