



# TRAFFIC IMPACT ASSESSMENT

14 Claret Ash Avenue, South Bowenfels

**PREPARED FOR:**

Ledger Enterprises Pty Ltd

**REFERENCE:**

0971r01v02

**DATE:**

5/09/2024



# TRAFFIC IMPACT ASSESSMENT

Prepared for: Ledger Enterprises Pty Ltd

Reference: 0971r01v02

Date: 5/09/2024

*© 2023 PDC Consultants (Aust) Pty Limited. The concepts and information contained in this document are the property of PDC Consultants (Aust) Pty Ltd (PDC Consultants). PDC Consultants has prepared this document for the sole use of whom it was prepared for, for the express purpose agreed between, and in accordance with the provisions of the contract between the two parties. PDC Consultants accepts no liability or responsibility whatsoever to any third party use of or reliance upon this document. Some information used by PDC Consultants received by whom this document was prepared for, and third parties, may not have been verified. Use or copying of this document in whole or in part without the written permission of PDC Consultants constitutes an infringement of copyright.*

## Revision History

VERSION	DATE	PREPARED	REVIEWED	APPROVED	SIGNED
01	8/05/2024	Hanieh Kafili	Hayden Calvey	Paul Corbett	Original Signed
02	05/09/2024	Hanieh Kafili	Hayden Calvey	Hayden Calvey	

PDC Consultants

info@pdconsultants.com.au | www.pdconsultants.com.au

+61 2 7900 6514 | Level 14, 100 William Street, Woolloomooloo NSW 2011



## Table of Contents

1. Introduction	3
1.1. Overview	3
1.2. Structure of this Report	3
1.3. References	3
2. Existing Conditions	5
2.1. Location and Site	5
2.2. Road Network	5
2.3. Public and Active Transport	8
2.4. Existing Traffic Generation	8
3. Proposed Development	10
4. Parking Requirements	11
5. Proposed Road Network	12
5.1. Future Road Hierarchy	12
5.2. Typical Cross Sections	12
6. Traffic Impacts	13
6.1. Trip Generation and Distribution	13
7. Conclusion	14



## List of Figures

---

Figure 1: Site Plan	6
Figure 2: Location & Road Hierarchy Plan	7
Figure 3: Public & Active Transport Services	9

## List of Tables

---

Table 1: Bus Services	8
-----------------------	---

## Appendices

---

Appendix A	Subdivision Plan
------------	------------------



# 1. Introduction

---

## 1.1. Overview

PDC Consultants has been commissioned by Ledger Enterprises Pty Ltd to undertake a Traffic Impact Assessment (TIA) of a Development Application (DA) for a proposed residential subdivision at 14 Claret Ash Avenue, incorporating:

- 54 low density residential lots
- Vehicular connection to Claret Ash Avenue and Mumbinga Drive.
- Provision for future connection to Great Western Highway at the intersection with Col Drewe Drive.
- Internal roads providing access to lots.

The site is located within the Lithgow City Council local government area and has therefore been assessed in accordance with the Lithgow Local Environmental Plan 2014 and Development Control Plan 2021.

## 1.2. Structure of this Report

This report documents the findings of our investigations in relation to the anticipated traffic and parking impacts of the proposed development and should be read in the context of the Statement of Environmental Effects, prepared separately. The remainder of this report is structured as follows:

- Section 2: Describes the site and existing traffic and parking conditions in the locality.
- Section 3: Assesses the proposed future transport network conditions near the site.
- Section 4: Describes the proposed development.
- Section 5: Assesses the proposed parking requirements of the development.
- Section 6: Assesses the proposed road network conditions of the development.
- Section 7: Assesses the traffic impacts of the development.
- Section 8: Presents the overall study conclusions.

## 1.3. References

In preparing this report, reference has been made to the following guidelines / standards and reports:

- State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP T&I 2021).



- Lithgow Local Environmental Plan 2014 (LLEP)
- Lithgow City Council Development Control Plan 2013 (LDCP).
- Austroads Guide to Road Design Part 4: Intersections and Crossings – General (AGRD04-17).
- Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (AGRD04A-17).
- RMS Guide to Traffic Generating Development 2002 (RMS Guide).
- RMS Technical Direction TDT 2013/04a - Guide to Traffic Generating Developments (RMS Guide Update).

## 2. Existing Conditions

---

### 2.1. Location and Site

The subject site is located at 14 Claret Ash Avenue, being approximately 3.2 kilometres south of Lithgow Railway Station. More specifically, the site is located on the eastern side of Great Western highway and between Munbinga Drive on the north and Claret Ash Avenue on the south.

The site is rectangular in shape and covers a total area of approximately 24 hectares (ha). It has no street frontage. The proposed development incorporates internal roads to provide access to the residential dwellings. The site is bounded by Hassans Walls recreational area/ park to the south and east having a length of approximately 400 and 200 metres respectively. All other boundaries are neighbouring low density residential dwellings. The site is formally identified as Lot 1/DP933666 and Lot 24/DP1041700 and is currently unoccupied. The northern section of the land which the subdivision is proposed is situated within the Low Density Residential (R2) zone, while the southern portion lies within the Environmental Management (C3) zone.

### 2.2. Road Network

The existing road hierarchy near the site is shown by **Figure 1** and **Figure 2**, with the following roads considered noteworthy:

- **Great Western Highway:** a TfNSW classified highway (No. 05) that runs in a north-east / south-west alignment to the east of the subdivision. Near the site it comprises two lanes in each direction, with turn treatments provided at the intersection Robinia Drive and First Street and is subject to 70 km/h speed zoning restrictions.
- **Munbinga Drive:** a local road that runs in a north / south direction between its intersection with Lemnos Street to the north and the site boundary. It is subject to local road speed zoning of 50km/h with single lane of traffic in each direction.
- **Claret Ash Avenue:** a local road that generally runs in a north / south alignment between its intersection with Robinia Drive and the site boundary. It carries a single lane in each direction and is subject to 50 km/h speed zoning restrictions.



Figure 1: Site Plan

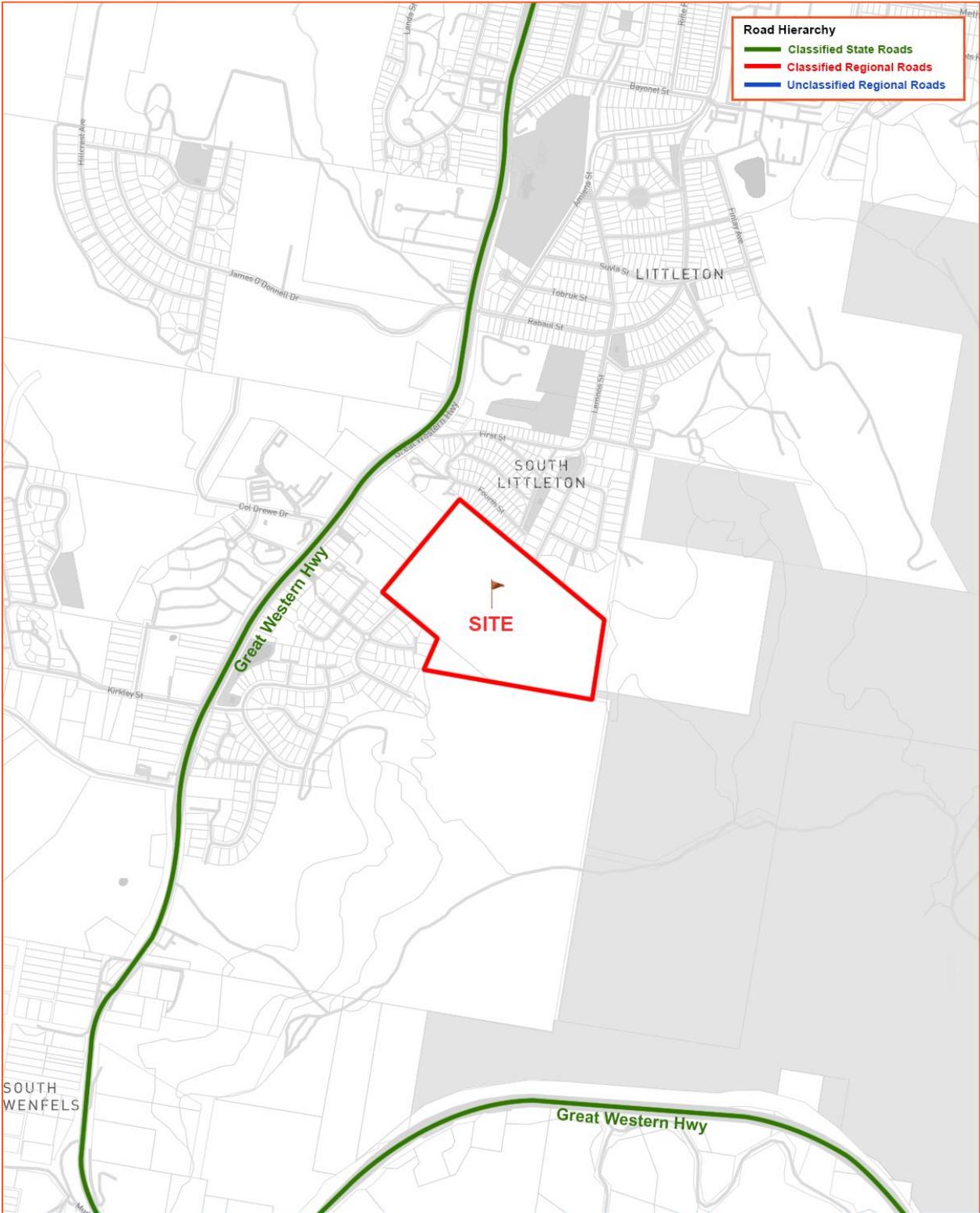


Figure 2: Location & Road Hierarchy Plan

## 2.3. Public and Active Transport

### 2.3.1. Bus Services

The Integrated Public Transport Service Planning Guidelines, Rural and Regional NSW, states that the walking catchment for regional bus services includes all areas within an 800 metre radius of a bus stop.

There is currently a single bus service operating near the site or within the walking catchment, with the closest being route no.100 as shown in **Figure 3** and summarised in **Table 1**, which is within 400 metres of the site.

**Table 1: Bus Services**

ROUTE NO.	ROUTE (TO / FROM)	ROUTE DESCRIPTION	AVERAGE HEADWAY
100	Lithgow to Littleton (loop service)	Via Lithgow Hospital, South Bowenfels, Kirkley Gardens	Weekdays: 60 minutes Saturdays: 3 services

### 2.3.2. Cycle Network

**Figure 3** shows that the site has limited access to the local bicycle network with minimal cycle paths provided in the vicinity of the site.

## 2.4. Existing Traffic Generation

The site is currently unoccupied hence it generates zero traffic to the Claret Ash Avenue to the south and Minbinga Drive to the north.

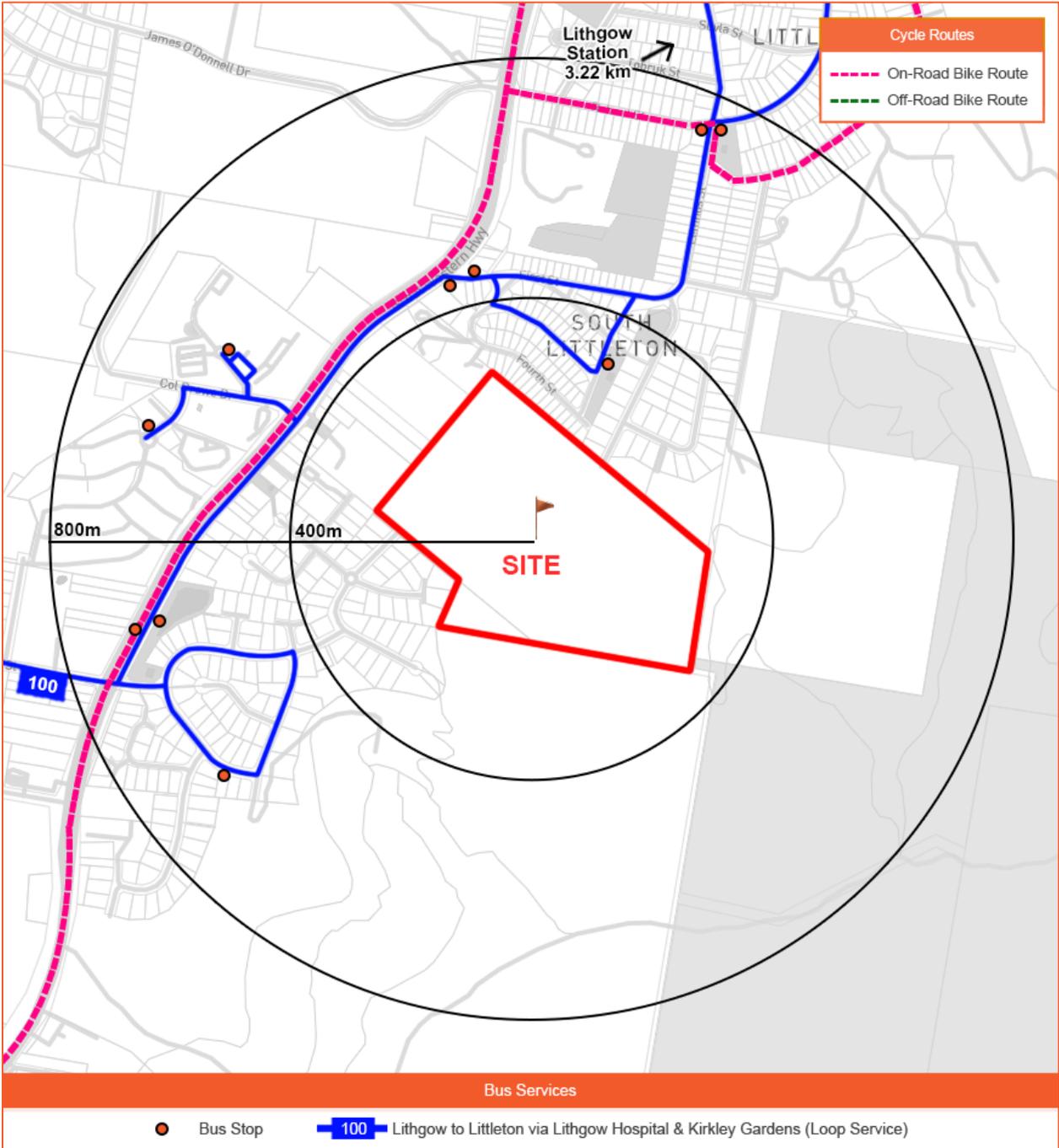


Figure 3: Public & Active Transport Services



### 3. Proposed Development

---

A detailed description of the proposed development for residential subdivision for which approval is sought comprises:

- 54 low density residential lots
- Vehicular connection to Claret Ash Avenue and Munbinga Drive.
- Provision for future connection to Great Western Highway at the intersection with Col Drewe Drive.
- Internal roads providing access to lots.

The traffic implications arising from the proposed development are discussed in Section 6. A copy of the subdivision plan is provided as **Appendix A**.



## 4. Parking Requirements

---

The subject DA proposes subdivision works only; any and all future development on the subdivided lots would be subject to future DA or Complying Development Certificate (CDC) applications during which the relevant parking requirements would be assessed. No on-site parking within the lots is proposed as part of this DA. Nevertheless, for completeness, consideration is given to the proposed land uses below.

Chapter 2 Clause 5.5 of LDCP requires that residential dwellings provide car parking at:

- *For single dwelling houses two car spaces (one of which is covered).*

The proposed residential lots within the subdivision will meet the LDCP car parking requirements, ensuring satisfactory on-site provision is made with no reliance upon on-street car parking. Car parking will be accessed via residential local streets.

As such, car parking provision throughout the subdivision is expected to be plentiful and capable of accommodating demands generated by residents.



## 5. Proposed Road Network

---

### 5.1. Future Road Hierarchy

A new road network internal to 14 Claret Ash Avenue is proposed to serve the entire development, including the subdivision, and provide access to the broader road network. Road design will be generally in accordance with the descriptions and standards outlined in Clause 5.5.1 of LDCP and the requirements of Planning for Bushfire Protection 2019 (PBP 2019).

The subdivision proposes internal street passing in an east / west alignment through the subdivision. All other roads within the subdivision are proposed as a variety of classifications befitting their intended purpose, being residential collector streets, residential local streets or minor access streets with cul-de-sacs.

### 5.2. Typical Cross Sections

The proposed local roads will connect to the new internal road network with Claret Ash Avenue to the south and Munbinga Drive to the north. Upon completion of the proposal, residents of the subdivision will be able to access the existing road network via Claret Ash Avenue and Munbinga Drive.

All intersections within the subdivision are expected to comprise priority sign-controlled intersections, given the relatively low traffic volumes each will accommodate. All residential and minor access streets within the subdivision would be expected to be subject to 50 km/h posted speed restrictions. Turning head cul-de-sacs will be designed in accordance with Council's and RFS requirements.

## 6. Traffic Impacts

---

### 6.1. Trip Generation and Distribution

The proposed development has 54 residential lots categorised as low-density residential area by the RMS Guide Update with a traffic generation rate of 0.71 vehicle trips per hour during the weekday AM peak and 0.78 vehicle trips per hour during the weekday PM peak. Adopting this rate results in the following estimated traffic generation during AM and PM peak hours:

- 38 vehicle trips /hr (30 in, 8 out), during the AM peak period.
- 42 vehicle trips/hr (8 in, 34 out), during the PM peak period.

The above assumes a 20% inbound and 80% outbound distribution during the AM peak period noting that residents would typically depart the site for work in the morning, and vice versa for the weekday PM peak period.

Assuming an even distribution across local roads, it's anticipated that up to some 20 vehicles will traverse Claret Ash Avenue to the south, with another approximately 20 cars taking Munbinga Drive to the north. This equates to approximately one vehicle traveling on each of the northern and southern local roads every 3 minutes, thus exerting minimal impact on local road saturation. Additionally, it's noteworthy that the site lies within a 400-metre radius of the Great Western Highway. This proximity means that the existing traffic from surrounding residential areas will flow through local roads to access the highway, effectively dispersing the traffic load.

The RMS guidelines states *“connective road system serving as many as 1200 households with good access to a sub arterial road system may contain residential streets all with a flow of less than 1000 vpd, and internal collector roads with less than 2000 vpd.”* Therefore, the traffic distributed to the Claret Ash Avenue and Munbinga Drive will be below the above indicative threshold and no modifications to the road networks are deemed necessary.

Furthermore, it is understood that TfNSW have not objected to future upgrading the existing intersection of Col Drewe Drive / Great Western Highway in close proximity of the site. Based on the existing road reserve boundaries, this upgrade would provide a four-way intersection. The proposal allows for a future connection through Lot 7 DP 776529 to this intersection upgrade. Such a connection will improve accessibility and traffic flow.



## 7. Conclusion

---

In summary:

- PDC Consultants has been commissioned by Ledger Enterprises Pty Ltd to undertake a traffic impact assessment for a proposed residential subdivision of 54 residential lots.
- The subject subdivision gains access to the existing local road network via a proposed internal road network to the north at Munbinga Drive and to the south at Claret Ash Avenue. The subdivision will be served by a network of local residential and collector streets, providing access between residential lots, local centres, and the broader road network.
- Forecast traffic generation is estimated as 38 vehicle trips in the weekday AM peak hour and 42 vehicle trips during the weekday PM peak hour.
- Traffic generation and impacts arising from the subdivision have been assessed and are expected to be minimal, in the context of the route choices available and future external road network upgrades (delivered by others).

It is therefore concluded that the proposed subdivision is supportable on traffic planning grounds.



## Appendix A

**LOOK UP AND LIVE**

OVERHEAD POWER LINES IN VICINITY OF WORKS.

ENSURE ALL POWER LINES ARE CLEARLY MARKED WITH ORANGE WEATHERPROOF TAPE OR RIBBON

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE NSW WORK COVER 'WORK NEAR OVERHEAD POWER LINES CODE OF PRACTICE 2006'

<http://www.workcover.nsw.gov.au/health-and-safety/industry-safety/electrical-and-power/power-lines/publications/work-near-overhead-power-lines-code-of-practice-2006>

# Grandview Stage 3

## Lot 1 DP933666 & Lot 24 DP1041700

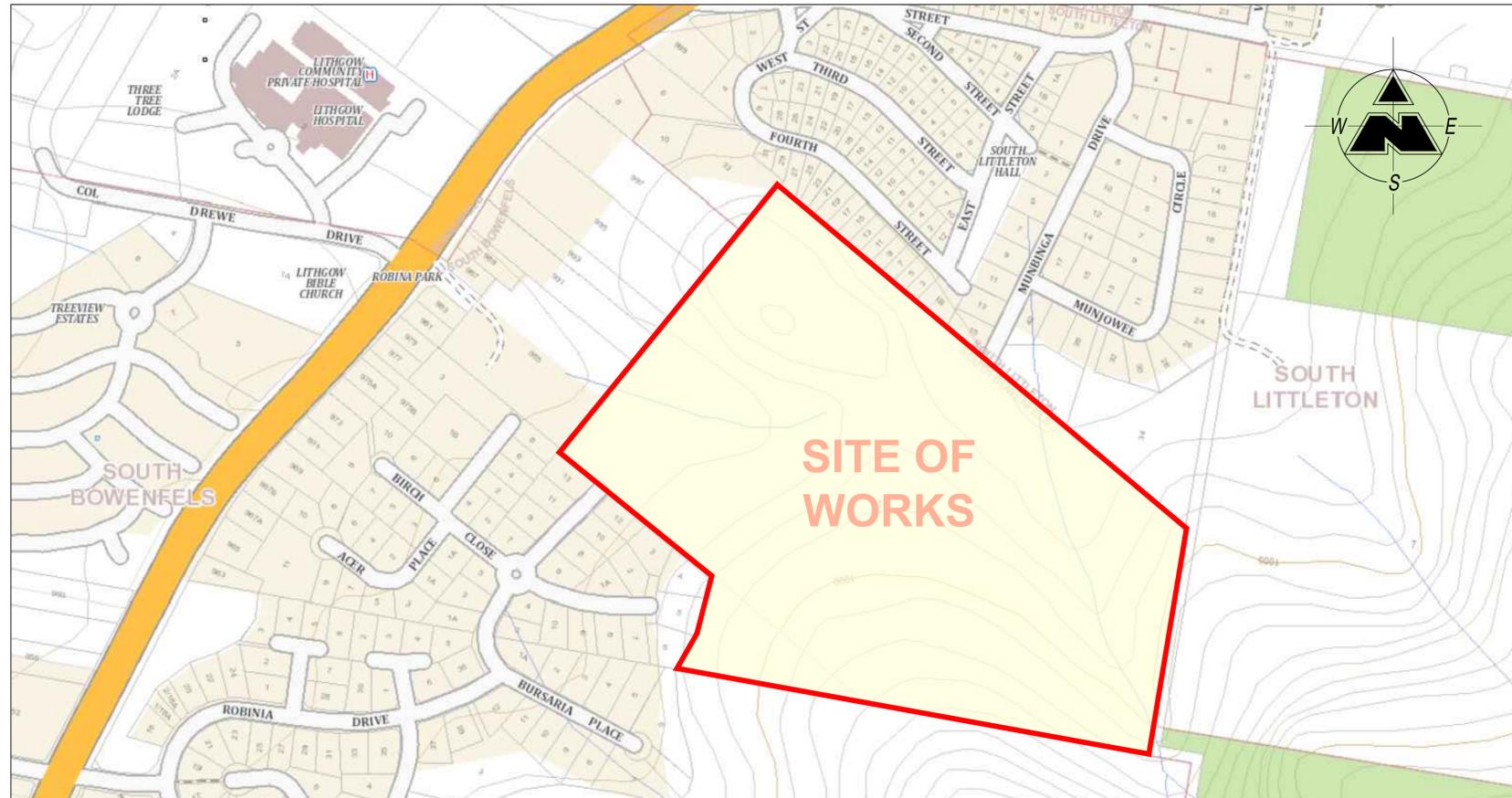
### Claret Ash Avenue

### South Bowenfels, NSW 2790

THERE MAY BE EXISTING SERVICES WITHIN THE WORKS AREA THAT ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS TO LOCATE ALL SERVICES PRIOR TO THE COMMENCEMENT OF WORKS.



**FOR**  
**Ledger Enterprises Pty Ltd**  
**Lithgow City Council**  
**Development Consent Number: N/A**



LOCALITY PLAN  
N.T.S.

DRAWING INDEX

Dwg No.	Title
G01	COVER SHEET
G02	GENERAL ARRANGEMENT PLAN
R01	ROAD LAYOUT INDEX PLAN
R02	CLARET ASH AVENUE - PRELIMINARY PLAN
R03	CLARET ASH AVENUE - PRELIMINARY LONGITUDINAL SECTION
R04-R07	CLARET ASH AVENUE - PRELIMINARY CROSS SECTIONS
R08	ROADS 02 & 03 - PRELIMINARY PLAN & LONGITUDINAL SECTION
R09-R10	ROADS 02 & 03 - PRELIMINARY CROSS SECTIONS
R11	ROAD 04 - PRELIMINARY PLAN & LONGITUDINAL SECTION
R12-R13	ROAD 04 - PRELIMINARY CROSS SECTIONS
R14	ROAD 05 - PRELIMINARY PLAN & LONGITUDINAL SECTION
R15	ROAD 05 - PRELIMINARY CROSS SECTIONS
R16	MUNBINGA DRIVE - PRELIMINARY PLAN & LONGITUDINAL SECTION
R17	MUNBINGA DRIVE - PRELIMINARY CROSS SECTIONS
SW01	PRELIMINARY STORMWATER LAYOUT PLAN
SW02-SW06	PRELIMINARY STORMWATER DRAINAGE LONGITUDINAL SECTIONS
SS01	PRELIMINARY SEWER LAYOUT PLAN
SS02-SS07	PRELIMINARY SEWER LONGITUDINAL SECTIONS
W01	PRELIMINARY WATERMAIN LAYOUT PLAN

For DA Approval

Amend	Date	Description	By
C	26/08/24	Bldg Envelopes altered to suit APZ	GBL
B	13/08/24	Minor alteration to Lot 51	GBL
A	26/07/24	Original Issue	GBL

Approved for Construction:

Garth Dean  
B.E. GDSTT FIEAust CPEng NER  
APEC Engineer IntPE (Aus) RBP  
(VicNT)

This drawing and the information shown hereon is the property of Calare Civil Pty Limited and may not be used for any other purpose than that for which this drawing is supplied. Any other use, copying or reproduction of all or any part of this drawing is prohibited without the written consent of Calare Civil Pty Limited.

Drawn:	GBL	Plot File:	2020.0047-Civil-P4.PDF
Designed:	GBL	Plot Date:	27/08/2024 11:18:30
Checked:	TM	File Name:	
Scale (A1):	AS SHOWN	...	2020.0047-Civil-P4.dwg
Date:	July 2024		

Grandview Stage 3  
Lot 1 DP933666 & Lot 24 DP1041700  
Claret Ash Avenue  
South Bowenfels, NSW 2790

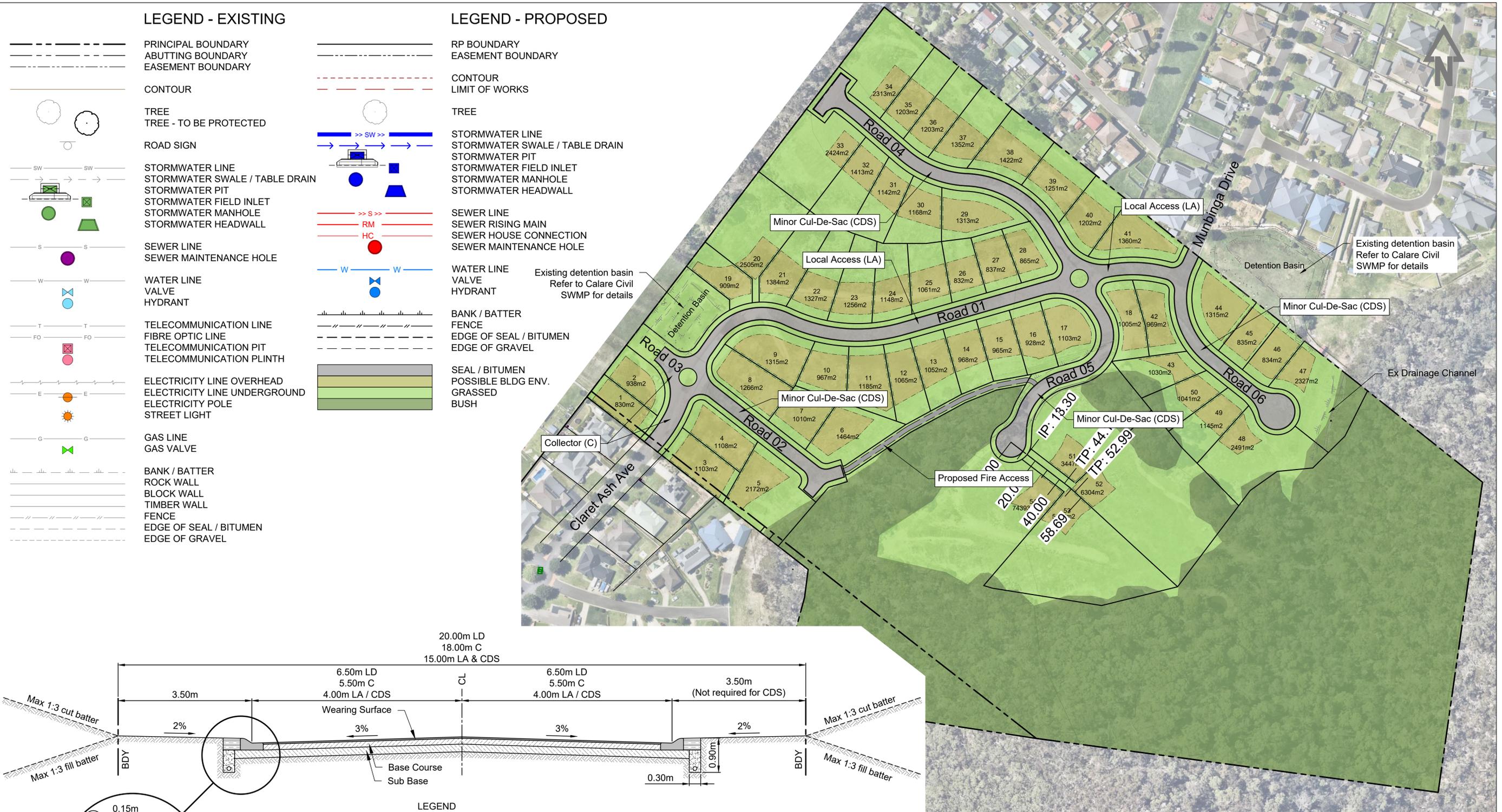
COVER SHEET

Ledger Enterprises Pty Ltd

**CALARE CIVIL**  
CONSULTING ENGINEERS

170 RANKIN STREET,  
BATHURST, N.S.W. 2795  
Tel: (02) 63323343 Fax: (02) 63318210

Job No.	2020.0047
DWG. No.	G01
Issue	C
No. in set	33

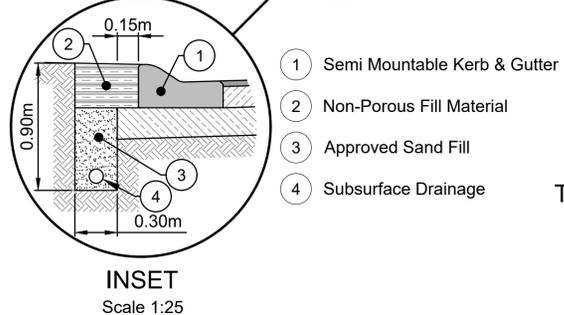
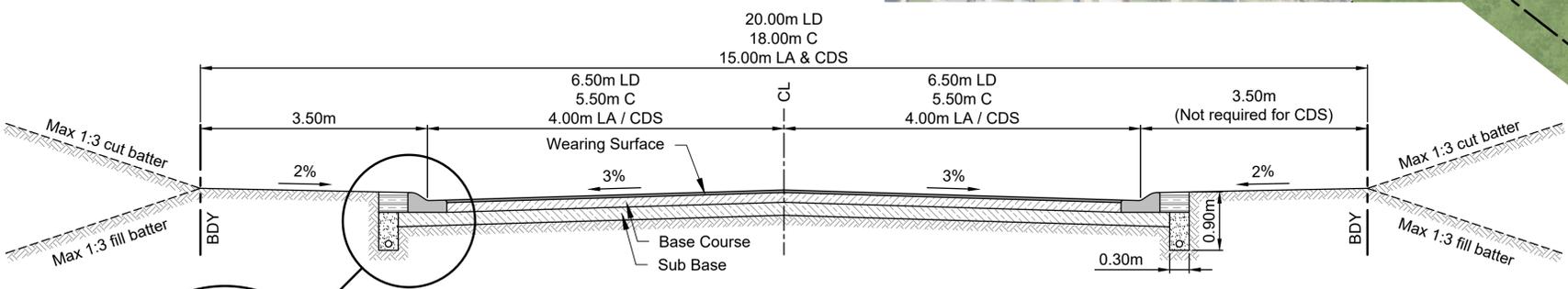


**LEGEND - EXISTING**

**LEGEND - PROPOSED**

- PRINCIPAL BOUNDARY
- - - ABUTTING BOUNDARY
- . - . EASEMENT BOUNDARY
- CONTOUR
- TREE
- TREE - TO BE PROTECTED
- ROAD SIGN
- SW --- STORMWATER LINE
- SW --- STORMWATER SWALE / TABLE DRAIN
- SW --- STORMWATER PIT
- SW --- STORMWATER FIELD INLET
- SW --- STORMWATER MANHOLE
- SW --- STORMWATER HEADWALL
- S --- SEWER LINE
- S --- SEWER MAINTENANCE HOLE
- W --- WATER LINE
- W --- VALVE
- W --- HYDRANT
- T --- TELECOMMUNICATION LINE
- FO --- FIBRE OPTIC LINE
- T --- TELECOMMUNICATION PIT
- T --- TELECOMMUNICATION PLINTH
- E --- ELECTRICITY LINE OVERHEAD
- E --- ELECTRICITY LINE UNDERGROUND
- E --- ELECTRICITY POLE
- E --- STREET LIGHT
- G --- GAS LINE
- G --- GAS VALVE
- BANK / BATTER
- ROCK WALL
- BLOCK WALL
- TIMBER WALL
- FENCE
- EDGE OF SEAL / BITUMEN
- EDGE OF GRAVEL

- RP BOUNDARY
- - - EASEMENT BOUNDARY
- - - CONTOUR
- - - LIMIT OF WORKS
- TREE
- SW --- STORMWATER LINE
- SW --- STORMWATER SWALE / TABLE DRAIN
- SW --- STORMWATER PIT
- SW --- STORMWATER FIELD INLET
- SW --- STORMWATER MANHOLE
- SW --- STORMWATER HEADWALL
- S --- SEWER LINE
- S --- SEWER RISING MAIN
- S --- SEWER HOUSE CONNECTION
- S --- SEWER MAINTENANCE HOLE
- W --- WATER LINE
- W --- VALVE
- W --- HYDRANT
- BANK / BATTER
- FENCE
- EDGE OF SEAL / BITUMEN
- EDGE OF GRAVEL
- SEAL / BITUMEN
- POSSIBLE BLDG ENV.
- GRASSED
- BUSH



- LEGEND**
- LD = Local Distributor
  - C = Collector
  - LD = Local Access
  - CDS = Minor Cul-De-Sac

**LITHGOW CITY COUNCIL  
TYPICAL ROAD CROSS SECTION**  
Scale 1:50 (Collector Road)

**For DA Approval**

Amend	Date	Description	By
C	26/08/24	Bldg Envelopes altered to suit APZ	
B	13/08/24	Minor alteration to Lot 51	GBL
A	26/07/24	Original Issue	GBL

Approved for Construction:

Garth Dean  
B.E. GDSTT FIEAust CPEng NER  
APEC Engineer IntPE (Aus) RBP  
(VicNT)

This drawing and the information shown hereon is the property of Calare Civil Pty Limited and may not be used for any other purpose than that for which this drawing is supplied. Any other use, copying or reproduction of all or any part of this drawing is prohibited without the written consent of Calare Civil Pty Limited.

Drawn: GBL  
Designed: GBL  
Checked: TM  
Scale (A1): 1:1250  
Date: July 2024

Plot File: 2020.0047-Civil-P4.PDF  
Plot Date: 27/08/2024 11:18:36  
File Name: ...2020.0047-Civil-P4.dwg

**Grandview Stage 3**  
Lot 1 DP933666 & Lot 24 DP1041700  
Claret Ash Avenue  
South Bowenfels, NSW 2790

**GENERAL ARRANGEMENT PLAN**

Ledger Enterprises Pty Ltd

**CALARE CIVIL**  
CONSULTING ENGINEERS

170 RANKIN STREET,  
BATHURST, N.S.W. 2795  
Tel: (02) 63323343 Fax: (02) 63318210

Job No.  
**2020.0047**

DWG. No. **G02** Issue **C**

No. in set **33**

**PDC CONSULTANTS**  
+61 2 7900 6514 | [pdcconsultants.com.au](http://pdcconsultants.com.au)