

Proposed Mixed Use Development

**17-23 Hope Street,
Penrith**

TRAFFIC AND PARKING ASSESSMENT REPORT

1 September 2021

Ref 21374



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1. INTRODUCTION

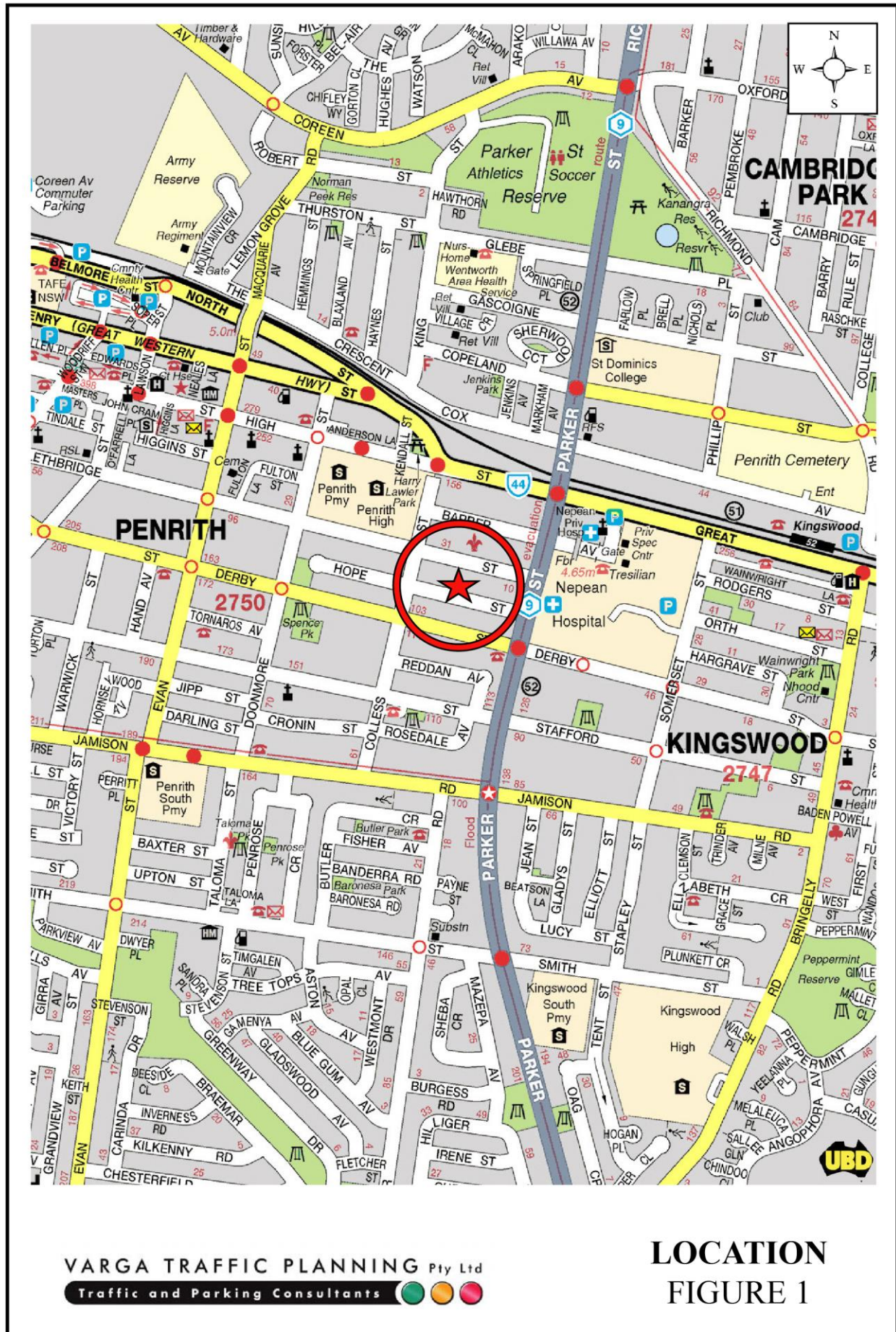
This report has been prepared to accompany a development application to Council for a mixed use development proposal to be located at 17-23 Hope Street, Penrith (Figures 1 and 2).

The proposed development involves the demolition of the four existing dwelling houses on the site to facilitate the construction of a new mixed use residential/medical/retail development.

Off-street parking is to be provided in new two-level basement parking area, in accordance with Council requirements. Vehicular access to the basement parking area is to be provided via a new driveway located off Hope Street.

The purpose of this report is to assess the traffic and parking implications of the development proposal and to that end this report:

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site
- reviews the public transport services available in the vicinity of the site
- estimates the traffic generation potential of the development proposal
- assesses the traffic implications of the development proposal in terms of road network capacity
- reviews the geometric design features of the proposed parking and loading facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street parking and loading provided on the site.





2. PROPOSED DEVELOPMENT

Site

The subject site is located on the northern side of Hope Street, approximately midway in between Parker Street and Colless Street. The site has a street frontage approximately 61m in length to Hope Street and occupies an area of approximately 2,440m².

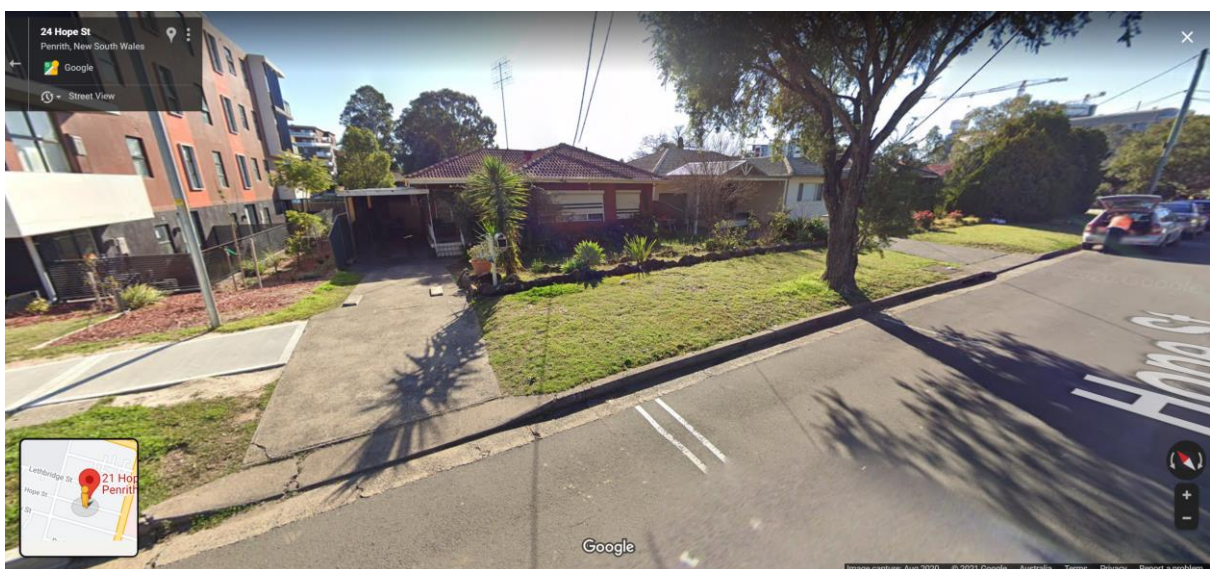
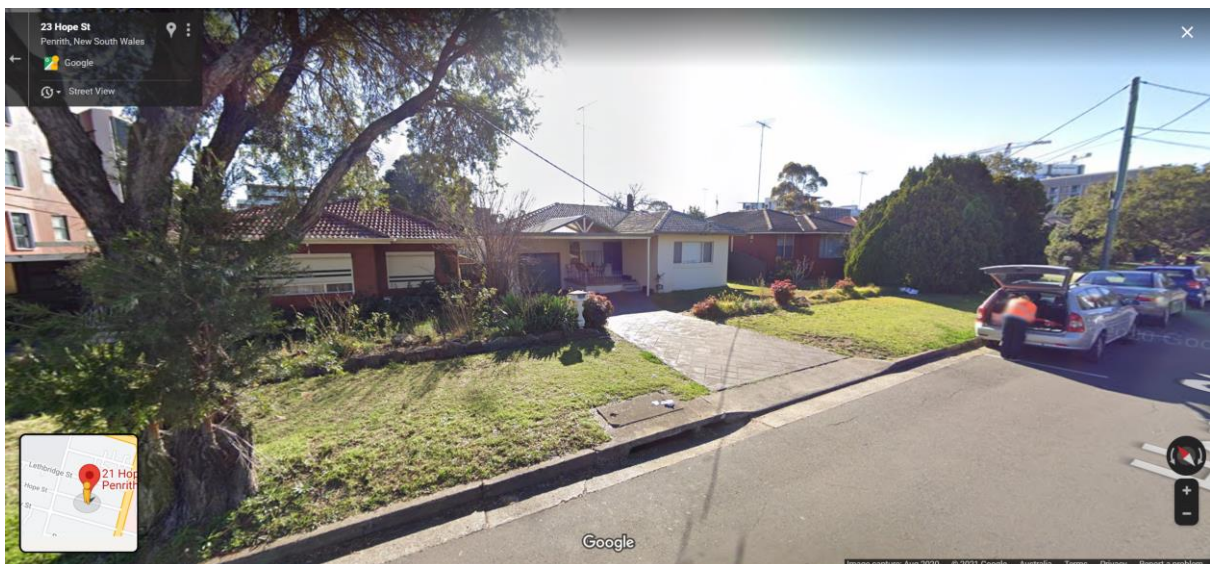
The site is located approximately 1.4km walking distance to/from Kingswood railway station, and approximately 2km walking distance to/from Penrith railway station and the heart of Penrith town centre.

A recent aerial image of the site and its surroundings is reproduced below.



The subject site is currently occupied by four dwelling houses, all with off-street parking. Vehicular access to the respective sites is provided off Hope Street.

Streetview images at Hope Street site frontage are reproduced on the following pages.



Proposed Development

The proposed development involves the demolition of the four existing dwelling houses on the site to facilitate the construction of a new mixed use residential/medical/retail development.

A total of 50 residential apartments are proposed in the new building as follows:

1 bedroom apartments:	9
2 bedroom apartments:	36
3 bedroom apartments:	5
TOTAL APARTMENTS:	50

A medical tenancy is also proposed on the western corner of the ground floor level fronting Hope Street, with a floor area of 199m². The indicative staff comprise 2 health care professionals and 1 support staff.

A neighbourhood shop is also proposed on the eastern corner of the ground floor level fronting Hope Street, with a floor area of 120m².

Off-street parking is proposed for a total of 76 cars, comprising 55 residential spaces, 10 visitor spaces (including a shared car wash bay), 7 medical spaces, 4 retail spaces, in a new two-level basement parking area, in accordance with Council's requirements. Vehicular access to the parking facilities is to be provided via a new entry/exit driveway located towards the eastern end of the Hope Street site frontage.

Loading/servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including Council's 10.5m long garbage truck, with a dedicated loading area to be located in the north-eastern corner of the site. The proposed loading area includes a turntable, thereby allowing all trucks to enter and exit the site in a forward direction at all times. Vehicular access to the loading area is to be provided via a new entry/exit driveway located at the eastern end of the Hope Street site frontage, adjacent to the abovementioned driveway.

Plans of the proposed development have been prepared by *Urban Link* and are reproduced in Appendix A.

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

Great Western Highway is classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking Parramatta to Emu Plains. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island and turning bays provided at key locations.

Parker Street/The Northern Road are also classified by the RMS as a *State Roads* and provide the key north-south road link in the area, linking Bligh Park to Narellan. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island and turning bays provided at key locations.

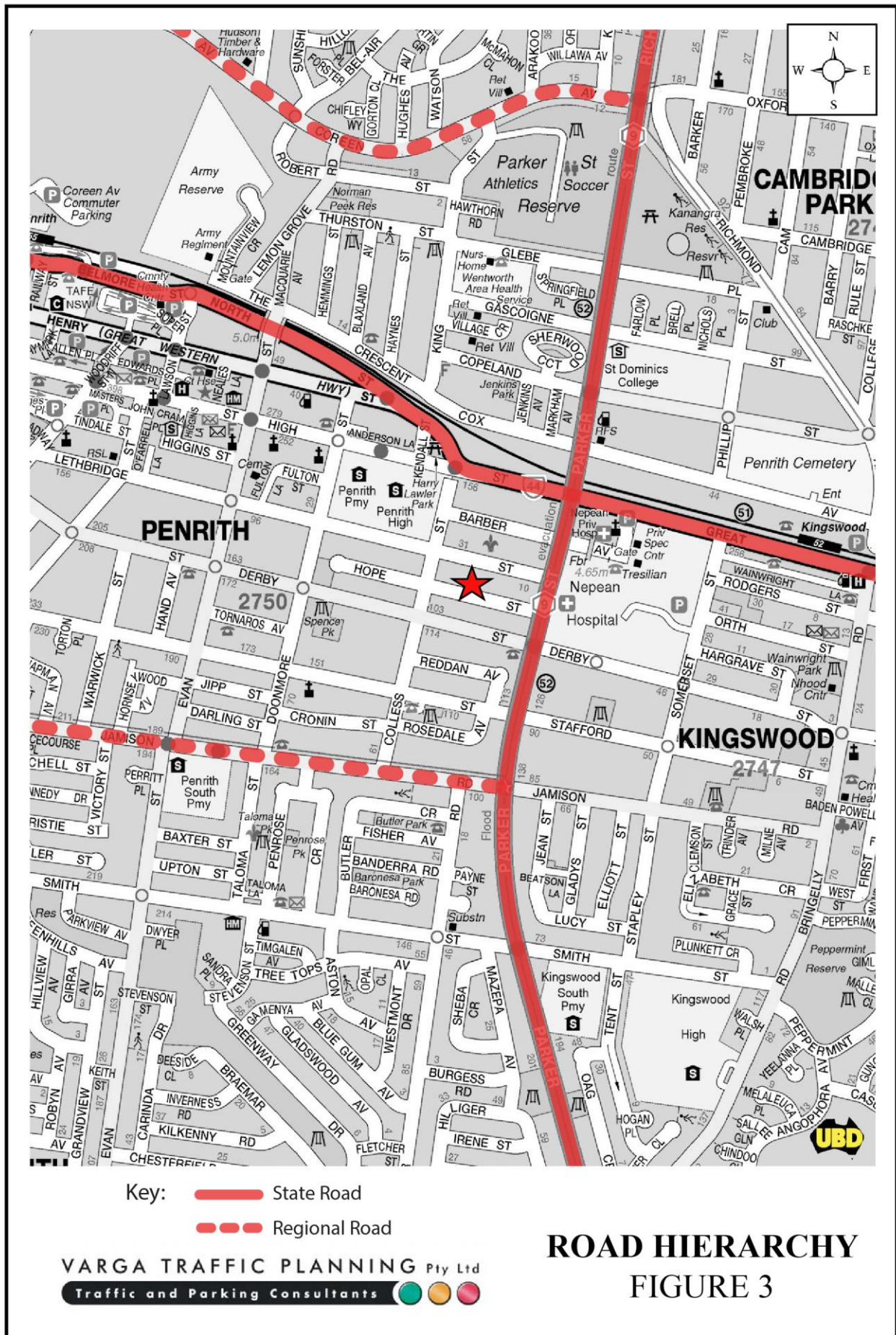
Jamison Road (west of Parker Street) is classified by the RMS as a *Regional Road* and provides a secondary east-west road link through the local area between Parker Street and Mulgoa Road. It typically carries two traffic lanes in each direction in the vicinity of the site with kerbside parking permitted at selected locations.

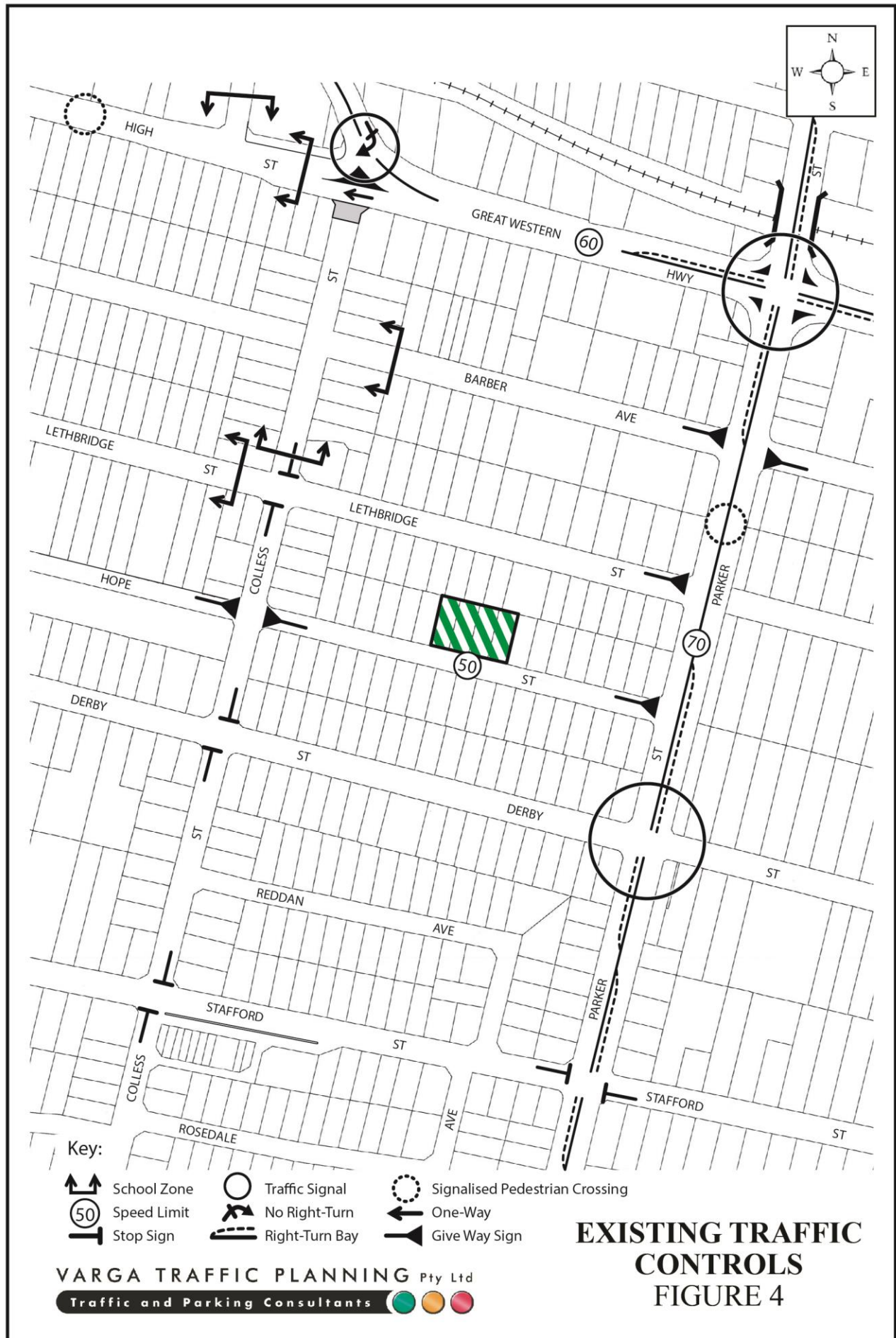
Hope Street is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of the road, subject to signposted restrictions.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 70 km/h SPEED LIMIT which applies to Parker Street





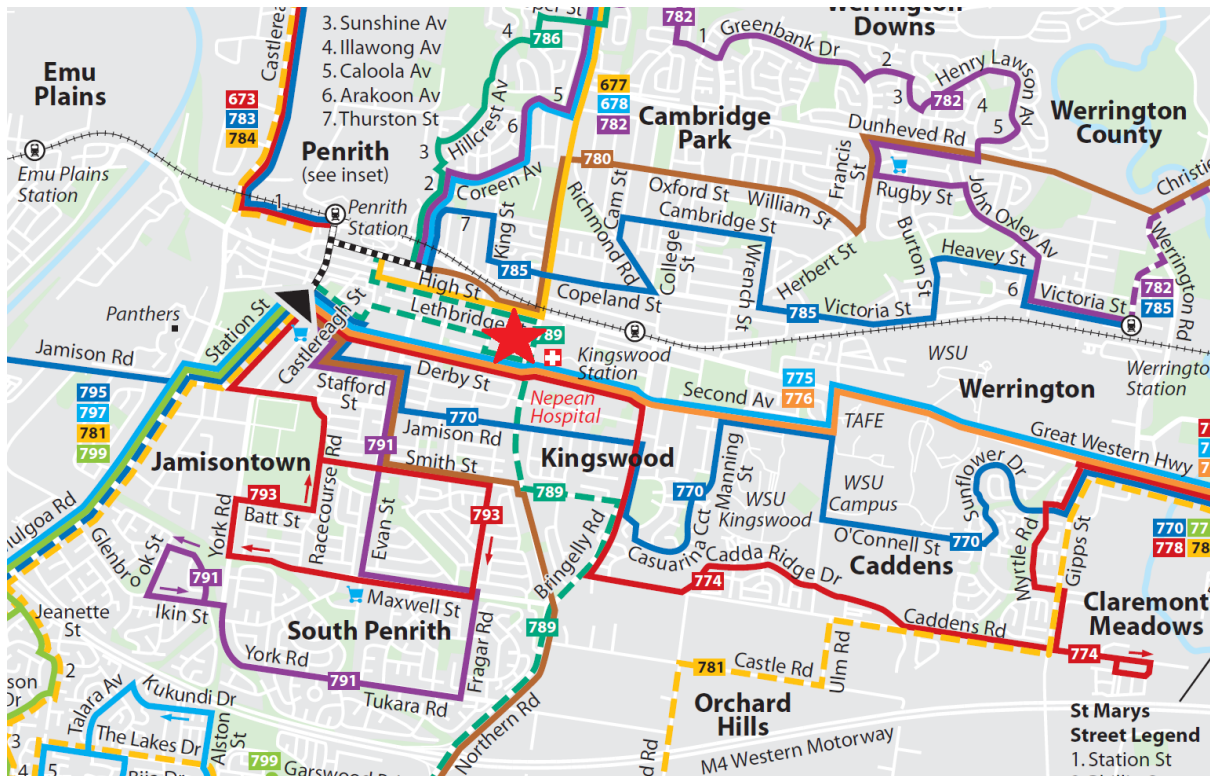
- a 60 km/h SPEED LIMIT which applies to High Street and the Great Western Highway within the vicinity of the site
- a 50 km/h SPEED LIMIT which applies to Hope Street and all other local roads in the area
- a 40 km/h SCHOOL SPEED ZONE which applies within the vicinity of Penrith Public School and Penrith High School
- GIVE WAY SIGNS in Hope Street where it intersects with Parker Street and Colless Street
- TRAFFIC SIGNALS in Parker Street where it intersects with the Great Western Highway and Derby Street
- a CENTRAL MEDIAN ISLAND in Parker Street which precludes right turn movements into and out of Hope Street.

Existing Public Transport

The existing public transport services available in the vicinity of the site are illustrated on the following page. There are 6 bus services which operate within the vicinity of the site, comprising:

- Route 677: Richmond to Penrith via Londonderry
- Route 774: Mount Druitt to Penrith via Nepean Hospital
- Route 775: Mount Druitt to Penrith via Erskine Park
- Route 776: Mount Druitt to Penrith via St Clair
- Route 780: Mount Druitt to Penrith via Ropes Crossing
- Route 789: Luddenham to Penrith

Kingswood railway station is located approximately 1.4km walking distance east of the site and Penrith railway station is located approximately 2km walking distance north-west of the site. Both situated on the T1 Western Line, operating between Emu Plains to the City.



Projected Traffic Generation

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network.

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction (TDT 2013/04a)* document.

The *TDT 2013/04a* document states that it replaces those sections of the RMS *Guidelines* indicated, and must be followed when RMS is undertaking trip generation and/or parking demand assessments.

The RMS *Guidelines* and the updated TDT 2013/04a are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the residential development proposal:

High Density Residential Flat Dwellings

AM: 0.19 peak hour vehicle trips per unit

PM: 0.15 peak hour vehicle trips per unit

The RMS *Guidelines* also make the following observation in respect of high density residential flat buildings:

Definition

A *high density residential flat building* refers to a building containing 20 or more dwellings. This does not include aged or disabled persons housing. *High density residential flat buildings* are usually more than 5 levels, have basement level car parking and are located in close proximity to public transport services. The building may contain a component of commercial use.

Factors

The above rates include visitors, staff, service/delivery and on-street movements such as taxis and pick-up/set-down activities.

However, the RMS *Guidelines* and the *TDI 2013/04a* does not nominate a traffic generation rate for specialised medical clinics, referring only to conventional *extended hours* medical centres, or for small, local shops, referring only to major regional shopping centres incorporating supermarkets and department stores. For the purposes of this assessment, the traffic generation rate nominated in the *TDI 2013/04a* for “office blocks” has been adopted in respect of the medical and retail components of the development proposal.

Office Blocks

AM Peak – 1.6 peak hour vehicle trips per 100m² GFA

PM Peak – 1.2 peak hour vehicle trips per 100m² GFA

Application of the above traffic generation rates to the various components of the development proposal yields a traffic generation potential of approximately 15 vehicle trips per hour (vph) during the weekday AM peak period and approximately 11 vph during the weekday PM peak period, as set out on the following page:

Projected Future Traffic Generation Potential

	AM	PM
Residential (50 apartments):	9.5 vph	7.5 vph
Medical tenancy (199m ²):	3.2 vph	2.4 vph
Neighbourhood Shop (120m ²):	1.9 vph	1.4 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	14.6 vph	11.3 vph

That projected future level of traffic generation potential should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the existing uses of the site, in order to determine the *nett increase (or decrease)* in traffic generation potential expected to occur as a consequence of the current development proposal.

The *TDT 2013/04a* nominates the following traffic generation rates which are applicable to the existing development:

Low Density Residential Dwellings

AM: 0.95 peak hour vehicle trips per dwelling

PM: 0.99 peak hour vehicle trips per dwelling

Application of the above traffic generation rates to the four existing dwelling houses on the site yields a traffic generation potential of approximately 4 vph during both the AM and PM commuter peak periods.

Accordingly, it is likely that the proposed development will result in a *nett increase* in the traffic generation potential of the site of approximately 11 vph during the AM commuter peak period and approximately 7 vph during the PM commuter peak period, as set out below:

**Projected Nett Increase in Peak Hour Traffic Generation Potential
of the site as a consequence of the development proposal**

	AM	PM
Projected Future Traffic Generation Potential:	14.6 vph	11.3 vph
Less Existing Traffic Generation Potential:	-3.8 vph	-4.0 vph
NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:	10.8 vph	7.3 vph

In any event, that projected level of traffic generation potential of the site as a consequence of the development proposal is minimal, consistent with the zoning objectives of the site and will clearly not have any unacceptable traffic implications in terms of road network capacity.

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

Given the residential nature of Hope Street and the surrounding area, there are generally no kerbside parking restrictions which apply in the vicinity of the site, including along the site frontage. Excluding the small section directly outside of 25-31 Hope Street which is ‘No Parking – Waste Collection and Removalist Vehicles Excepted.’

Off-Street Parking Provisions

The off-street car parking requirements applicable to the development proposal are specified in *Penrith Development Control Plan 2014, C10 Transport Access and Parking* document in the following terms:

Residential Flat Buildings

1 bedroom apartment:	1 space per dwelling
2 bedroom apartment:	1 space per dwelling
3 bedroom apartment:	2 spaces per dwelling
Visitors:	1 space per 5 dwellings
Service Bay:	1 space for every 40 dwellings
Carwash Bay:	1 space for every 50 dwellings

Medical Centres

3 spaces per health care professional practising at any one time, *plus*
1 space per receptionist/support staff

Neighbourhood Shops

1 space per 30m²

Application of the above parking requirements to the various components outlined in the development proposal yields an off-street parking requirement of 73 parking spaces as set out on the following page:

Residents (50 apartments):	55 spaces
Visitors:	10 spaces
Medical Centre (1 health care professional + 1 support staff):	4 spaces
Neighbourhood Shop (120m ²):	4 spaces
TOTAL:	73 spaces

The proposed development makes provision for a total of 76 off-street car parking spaces, comprising 55 residential spaces, 10 visitor spaces (including a shared car was bay), 7 medical centre spaces and 4 retail spaces, thereby satisfying Council's *DCP 2014* parking requirements.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 1 - Off-Street Car Parking AS2890.1:2004* in respect of parking bay dimensions, ramp grades and aisle widths.

Driver Sight Distance/Visibility

The driver sight distance/visibility requirements applicable to the proposed vehicular access driveway have been designed to comply with *Figure 3.2 – Sight Distance requirements at Access Driveways* and also *Figure 3.3 – Minimum Sight Lines for Pedestrian Safety* in *AS2890.1*.

In this regard, 2.5m x 2.0m visibility splays are provided on the exit side of the site entry/exit basement driveway towards the eastern end of the front boundary, and on the entry and exit side of the service driveway at the eastern end of the front boundary.

Loading/Servicing Provisions

The proposed new mixed-use building is expected to be serviced by a variety of commercial vehicles up to and including Council's 10.5m long garbage truck. A loading area to be located in the north-eastern corner of the site, designed with a mechanical turntable. The manoeuvring area has been designed to accommodate the swept turning path requirements of these 10.5m long rigid trucks, allowing them to enter and exit the site in a forward direction at all times, as reproduced in Appendix B.

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in both Council's *DCP 2014* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.

APPENDIX A

ARCHITECTURAL PLANS



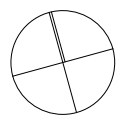
SK01 DEVELOPMENT APPLICATION	27.07.2021	GJ
Rev Description	Date	App'd

Project
17 - 23 Hope St Penrith MIXED USE
MULTI RESIDENTIAL
17-23 Hope St
Sydney NSW 2750 Australia

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 2 9745 2014
Nominated Architects:
Ziad Boumalhem Reg no 8008
Youssef El Khawaja Reg no 8933

Drawing Title
FLOOR PLANS
BASEMENT 02

Scale 1:100 @A1 Sheet Size	Project Number 2021-011	Drawing Number DA-101	Revision SK01
Status DEVELOPMENT APPLICATION			







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Notes:
1. CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK OR PREPARING SHOP DRAWINGS.
2. DO NOT SCALE DRAWINGS.
3. CONTRACTOR TO CHECK UNDERGROUND SERVICES BEFORE COMMENCING WORKS BY CONTACTING DIAL BEFORE YOU DIG. IF DIAL BEFORE YOU DIG INFORMATION IS PROVIDED WITH THIS DOCUMENTATION IT SHALL BE ASSUMED NOT TO BE CURRENT AND CONTRACTOR SHALL MAKE THEIR OWN ENQUIRES.

DA-303

SK01 DEVELOPMENT APPLICATION

Rev Description Date App'd

Project
17 - 23 Hope St Penrith MIXED USE
MULTI RESIDENTIAL
17-23 Hope St
Sydney NSW 2750 Australia

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 2 9745 2014
Nominated Architects:
Ziad Bourneham Reg no 8008
Youssef El Khawaja Reg no 8933

Drawing Title
FLOOR PLANS
GROUND FLOOR PLAN

Scale
1:100 @A1 Sheet Size

Project Number
2021-011

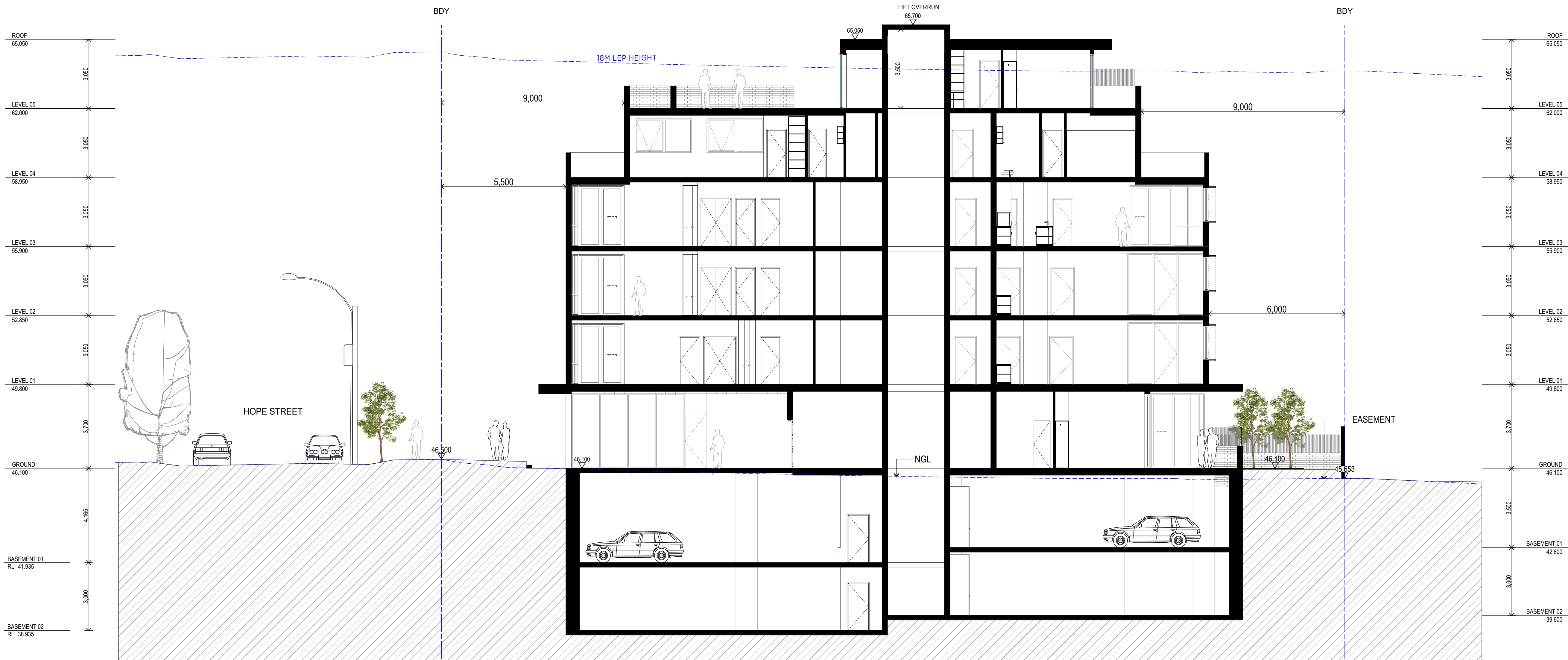
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DA-103

Revision
SK01

Status
DEVELOPMENT APPLICATION

2021-11-23 Hope St Penrith NSW 2750

Notes
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SK01 DEVELOPMENT APPLICATION	27.07.2021	GJ
Rev Description	Date	App'd

Project
17 - 23 Hope St Penrith MIXED USE
MULTI RESIDENTIAL
17-23 Hope St
Penrith NSW Australia

URBAN LINK
Business Address: Level 10, 11-15 Deane Street, Burwood NSW 2134
Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 2 9745 2014
Nominated Architects:
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Youssef El Khawaja Reg no 8933

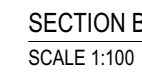
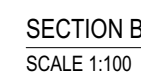
Drawing Title
SECTIONS
SECTION A

Scale
1:100 @A1 Sheet Size

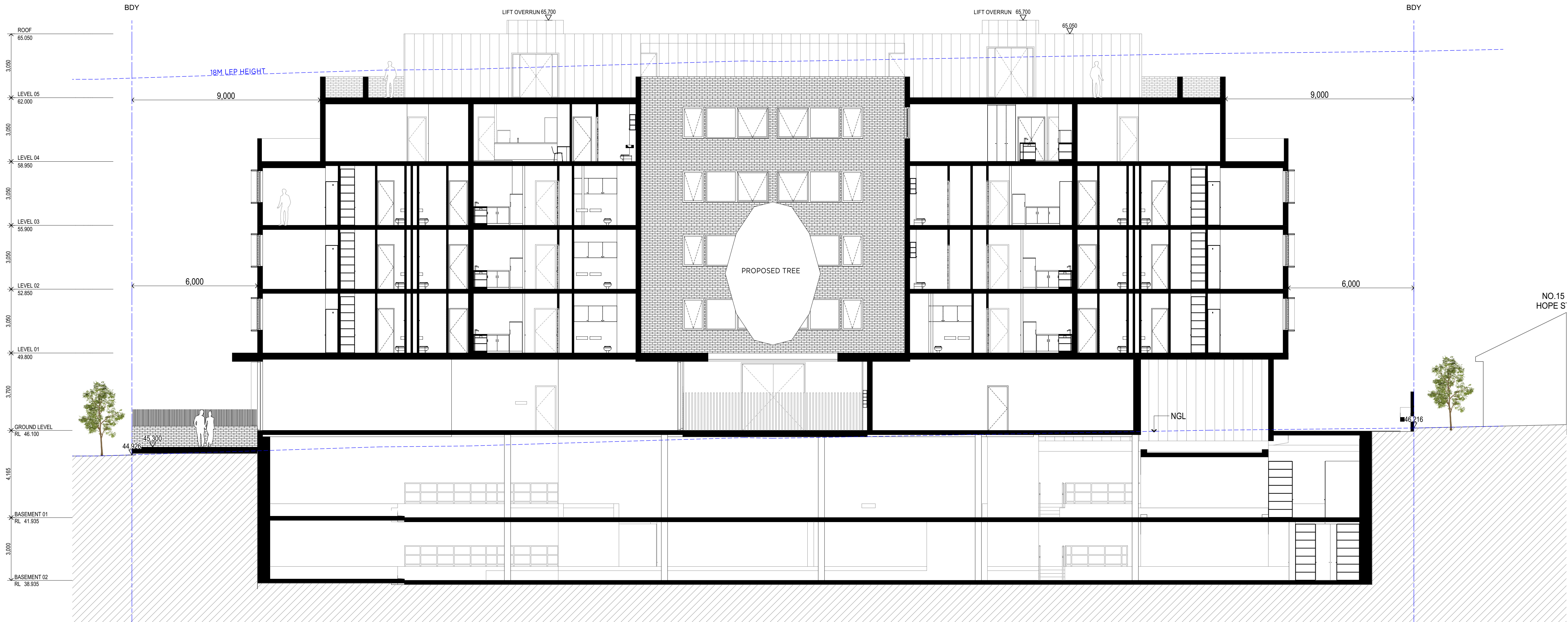
Project Number 2021-011	Drawing Number DA-301	Revision SK01
Status DEVELOPMENT APPLICATION		

SK01 DEVELOPMENT APPLICATION	27.07.2021	GJ
Rev Description	Date	App'd
Project		
17 - 23 Hope St Penrith		
MIXED USE		
MULTI RESIDENTIAL		
17-23 Hope St		
Penrith NSW Australia		

Drawing Title
SECTIONS
SECTION B & D



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Rev	Description	Date	App'd
SK01	DEVELOPMENT APPLICATION	27.07.2021	GJ

Project
17 - 23 Hope St Penrith MIXED USE
MULTI RESIDENTIAL
17-23 Hope St
Penrith NSW Australia

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Postal Address: PO BOX 2223 Burwood North NSW 2134
Phone Number: +61 2 9745 2014
Nominated Architects:
Ziad Boumalhem Reg no 8008
Youssef El Khawaja Reg no 8933

Drawing Title
SECTIONS
SECTION C

Scale
1:100 @A1 Sheet Size

Project Number	Drawing Number	Revision
2021-011	DA-303	SK01
Status		
DEVELOPMENT APPLICATION		

APPENDIX B

SWEPT TURN PATHS

DP 31239

CLAD
GARAGE
METAL
ROOF

GUT RL: 49.59

PORCH

NEIGHBOURHOOD SHOP
120 m²

45.100

BOOSTER

SHOP ENTRY

VEHICULAR ENTRY

RL 4675
TRUCK ENTRY

CONCRETE

DISCUSSION

DRIVEWAY

VEHICLE

VEHICLE

GROSSING

11/11/2016

1000

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— 1 553

1983
 2089
 2094

Australia

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NT

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09/2021

SHOWING TITLE
10.5m Penrith Garbage Truck
Entry Swept Turning Paths

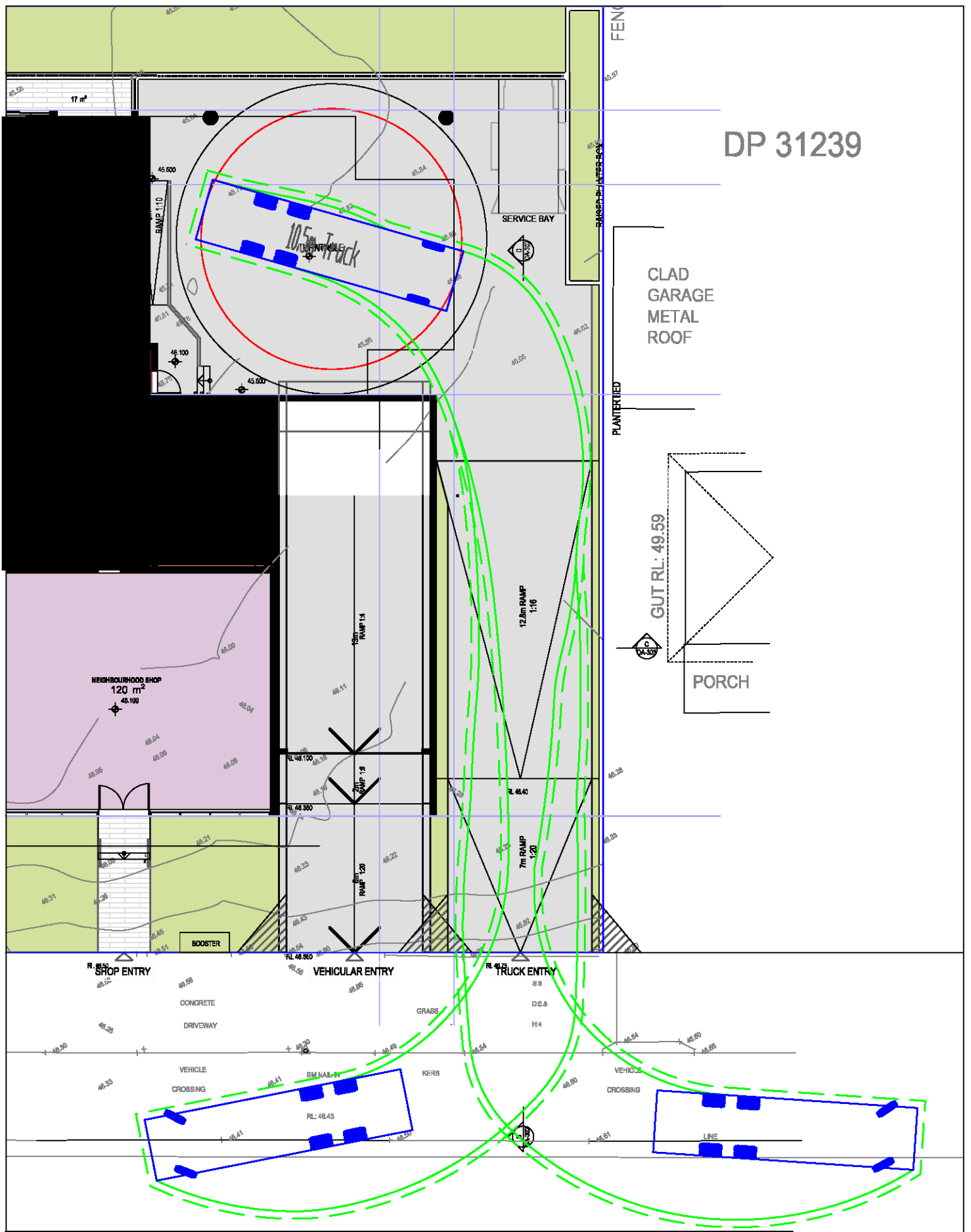
**17-23 Hope Street,
Perth**

1200 R A4

PROJECT #
21374
REVIEWER
RV

DATE DRAWN
2021-9-1
PREPARED
TN

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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 20 Young Street
 Neutral Bay, NSW 2088

Phone +61 2 9804 5224
 PO Box 1100
 Neutral Bay, NSW 2088
 www.vargatraffic.com.au
 Sydney, Australia

PROJECT
MIXED USE DEVELOPMENT

DRAWING TITLE
10.5m Penrith Garbage Truck
Exit Swept Turning Paths

ADDRESS
 17-23 Hope Street,
 Penrith

PROJECT NO.
 21374

REVIEWED
 RV

DATE DRAWN
 2021-9-1

PREPARED
 TN

1:200 @ A4

VARGA TRAFFIC PLANNING Pty Ltd
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