

Proposed Mixed-Use Development

**648-652 Princes Highway & 1-3 Ashton Street,
Rockdale**

TRAFFIC AND PARKING ASSESSMENT REPORT

26 June 2018

Ref 18321

TABLE OF CONTENTS

1. INTRODUCTION	1
2. PROPOSED DEVELOPMENT	4
3. TRAFFIC ASSESSMENT	12
4. PARKING ASSESSMENT	19

LIST OF ILLUSTRATIONS

Figure 1	Location
Figure 2	Site
Figure 3	Road Hierarchy
Figure 4	Existing Traffic Controls
Figure 5	Existing Public Transport
Figure 6	Existing Parking Restrictions

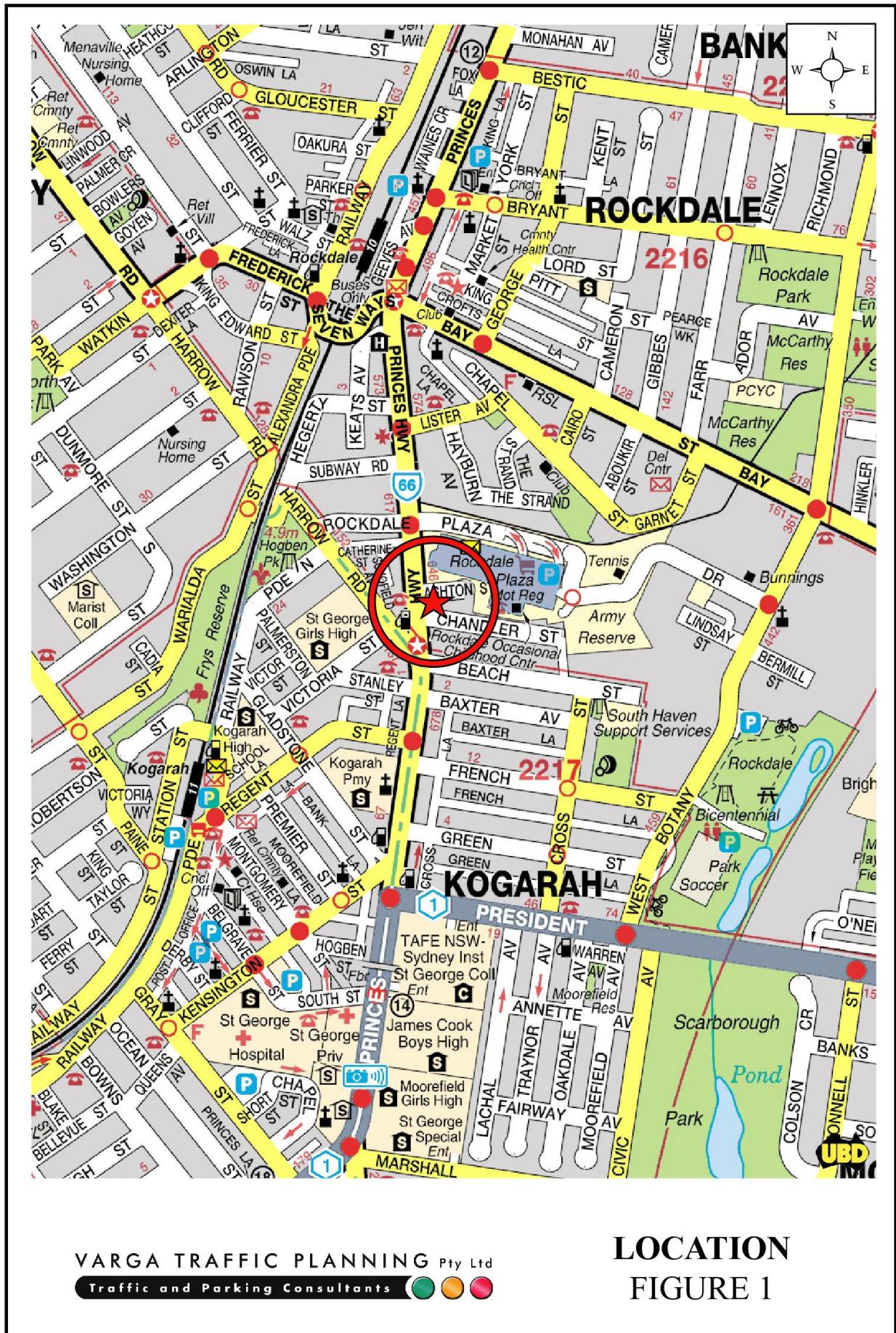
1. INTRODUCTION

This report has been prepared to accompany a development application to Bayside Council for a mixed-use development proposal to be located at 648-652 Princes Highway & 1-3 Ashton Street, Rockdale (Figures 1 and 2).

The proposed development will involve the demolition of the existing dwelling houses on the site to facilitate the construction of a new residential apartment building with a ground floor retail / commercial component. Car parking is to be provided in a new two-level basement car parking area in accordance with Council requirements.

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, and the traffic conditions on that road network
- 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 car parking facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street car parking provided on the site.





SITE
FIGURE 2

2. PROPOSED DEVELOPMENT

Site

The subject site is located some 700 metres southeast of the Rockdale Train Station, bounded by Princes Highway to the west, Ashton Street to the north, Chandler Street to the south and residential flat buildings to the east.

The site has street frontages approximately 28m in length to the Princes Highway, 59m in length to Ashton Street and 62m in length to Chandler Street. The site occupies an area of 2,236m².

The subject site is currently occupied by five single-storey dwelling houses with detached garage buildings. Off-street parking is provided for the two corner dwellings via separate driveways in Ashton Street and Chandler Street, whilst the two dwelling houses fronting Ashton Street have separate driveways located at the rear in Chandler Street.

Proposed Development

The proposed development will involve the demolition of the five existing dwelling houses on the site to facilitate the construction of a new mixed-use development.

A total of 61 residential apartments are proposed in the new development as follows:

1 bedroom apartments:	14
2 bedroom apartments:	43
3 bedroom apartments:	4
TOTAL APARTMENTS:	61

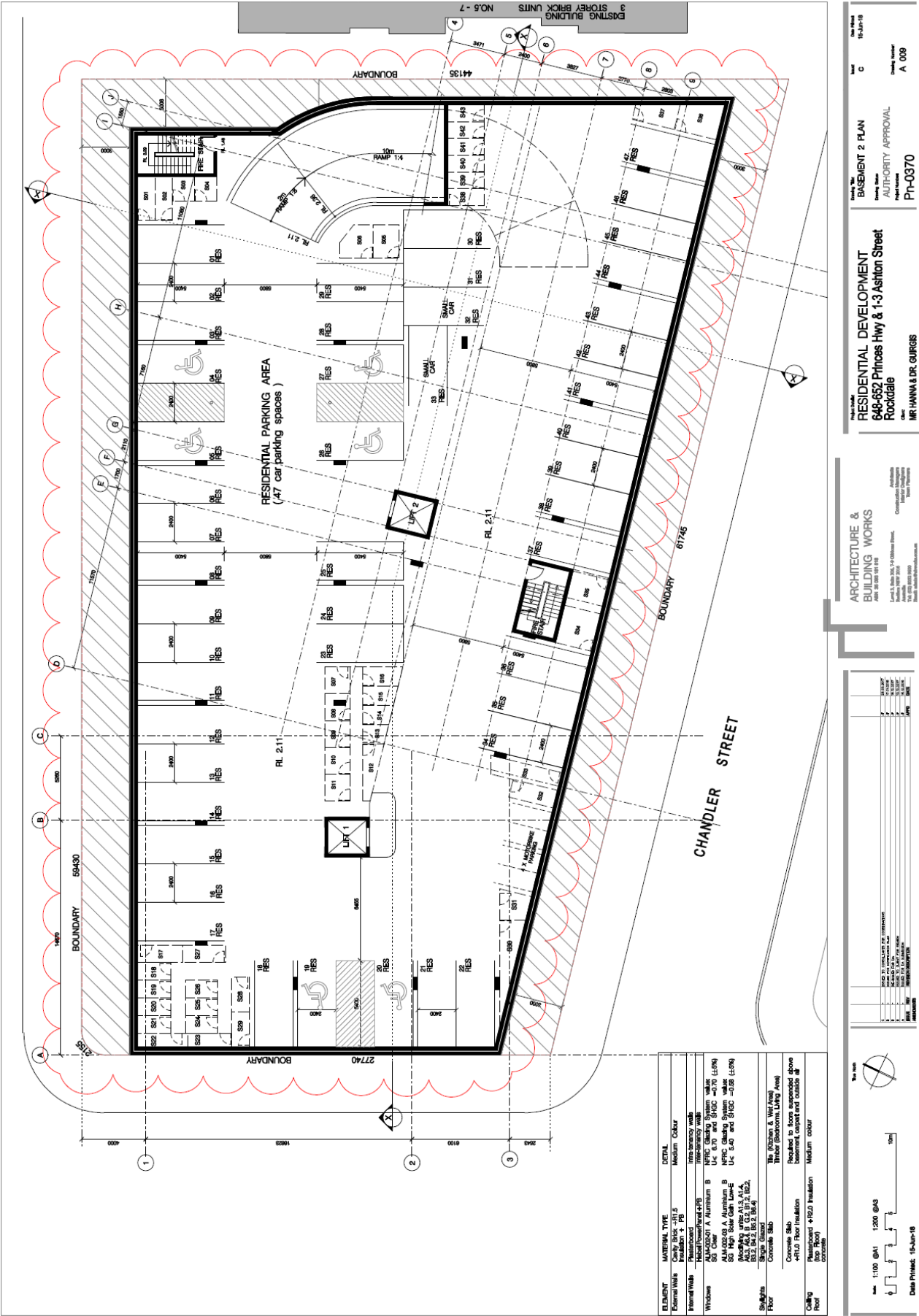
A commercial / retail component is also proposed on the ground floor level comprising a cumulative commercial floor area of 82m² and a cumulative retail floor area of 191m².

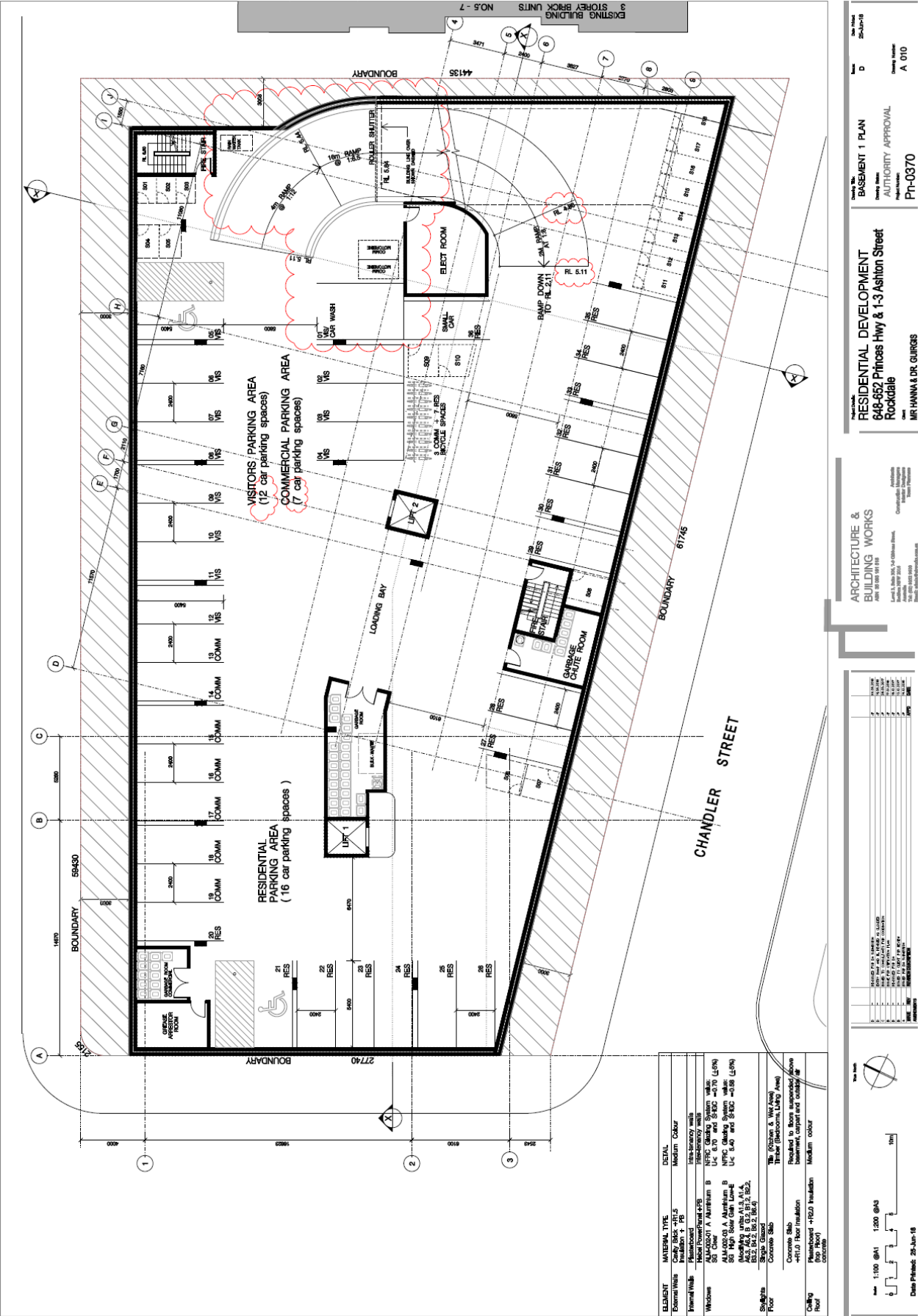
Off-street car parking is proposed for a total of 66 cars in a new two-level basement car parking area in accordance with Council's requirements. Vehicular access to the car parking

facilities is to be provided via a new entry/exit driveway located at the eastern end of the Chandler Street site frontage.

Loading / Servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including 6.4m long Small Rigid Vehicles (SRV trucks). A dedicated service area is proposed on the upper basement level; vehicular access to the service facility will be provided via the abovementioned site access driveway.

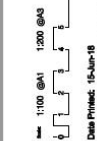
Plans of the proposed development have been prepared by *Architecture & Building Works* and are reproduced in the following pages.











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.

The Princes Highway is classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking the Newtown to Heathcote and beyond. It typically carries three traffic lanes in each direction in the vicinity of the site, with turning lanes provided at key locations.

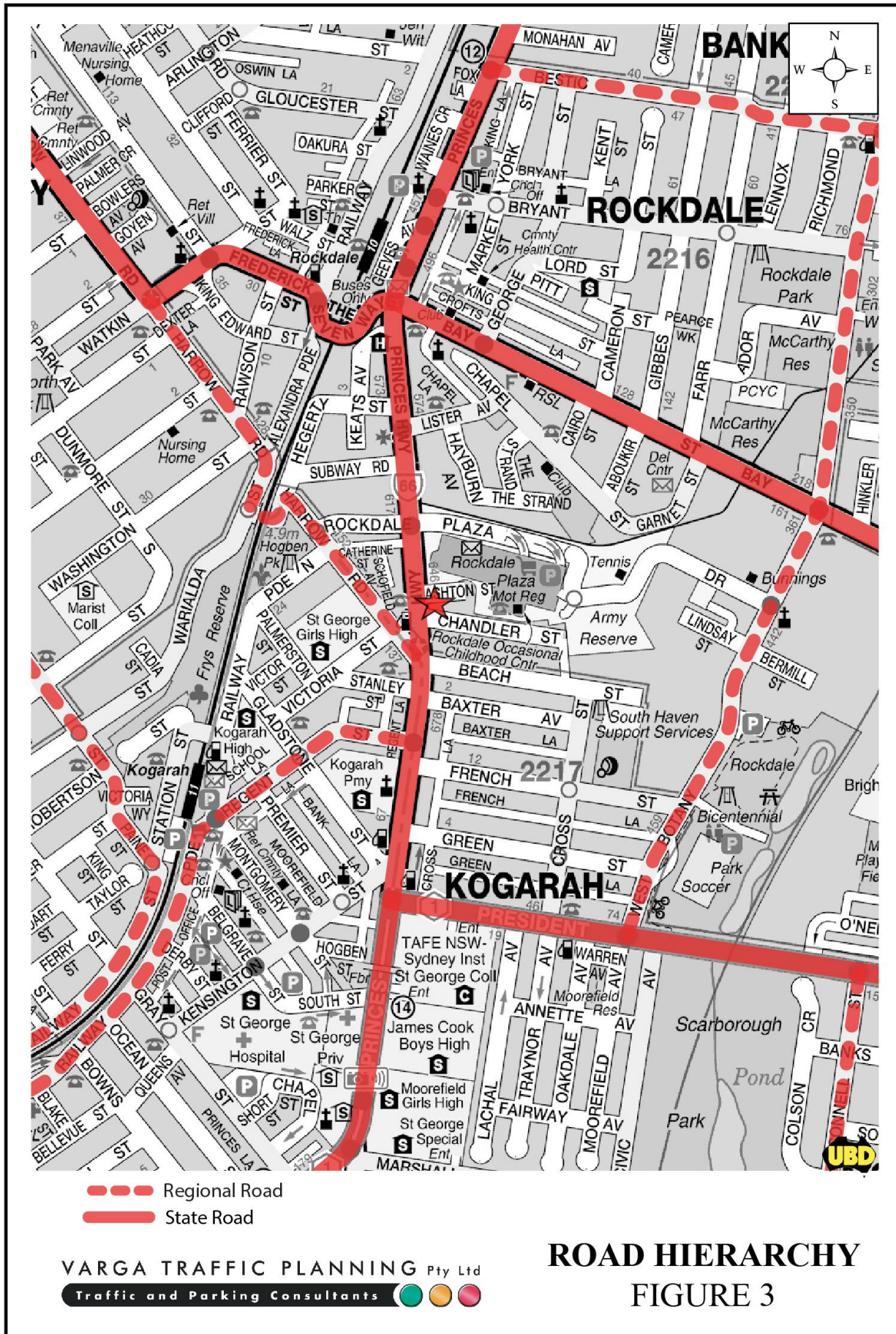
Bay Street is also classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking the Princes Highway to the Grand Parade. It also typically carries two traffic lanes in each direction in the vicinity of the site, with kerbside parking generally permitted outside of commuter peak periods.

Ashton Street and Chandler Street are local, unclassified roads which are primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of both roads.

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 60 km/h SPEED LIMIT which applies to the Princes Highway
- a 50 km/h SPEED LIMIT which applies to Ashton Street, Chandler Street all other local roads in the area
- TRAFFIC SIGNALS in the Princes Highway where it intersects with Rockdale Plaza Drive and also Harrow Road





- a CENTRAL MEDIAN ISLAND in the Princes Highway which precludes right-turn movements into and out of Ashton Street and Chandler Street.

Existing Public Transport Services

The existing public transport services available in the vicinity of the subject site are illustrated on Figure 5.

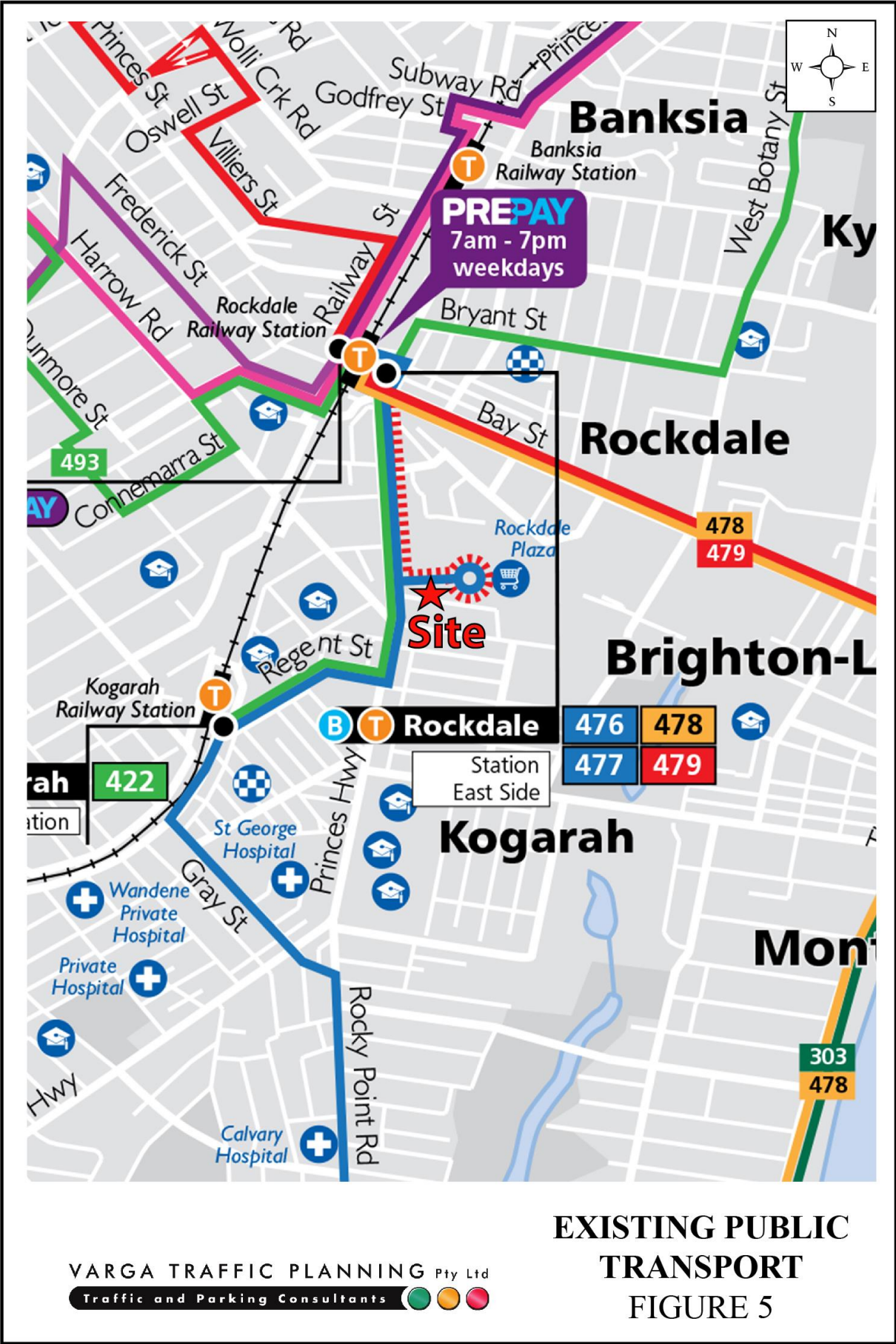
Rockdale Railway Station and Kogarah Railway Station are located within approximately 700 & 800 metres walking distance to / from the site respectively. These stations are servicing the T4 Eastern Suburbs & Illawarra Line, operating between Waterfall or Cronulla to Bondi Junction via the Sydney CBD. Train services typically arrive / depart the station at less than 10-minute intervals throughout the day.

Several bus services are also available on Princes Highway with bus stops in both directions accessible within an approximate 200 metres walking distance to / from the site. These services include; route 422 (Kogarah to Central Pitt Street), route 476 (Rockdale to Dolls Point - Loop Service), route 477 (Miranda to Rockdale) and route 479 (Rockdale to Kyeemagh - Loop Service).

On the above basis, it is clear that the site has excellent connectivity to existing public transport services and is ideally located to encourage the greater use of active and sustainable modes of transport.

Projected Traffic Generation

The traffic implications of a development proposal primarily concern the effects of the *additional* traffic flows generated as a result of the development and its impact on the operational performance of the adjacent road network during the morning and afternoon commuter peak periods.



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 – Land Use Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction* (TDT 2013/04a) document.

The RMS *Technical Direction* document specifies that it replaces those sections of the RMS *Guidelines* indicated, and must be followed when RMS is undertaken trip generation and / or parking demand assessments.

The RMS *Guidelines* and *Technical Direction* are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the 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

Commercial

AM: 1.6 peak hour vehicle trips per 100m² GFA

PM: 1.2 peak hour vehicle trips per 100m² GFA

However, neither the RMS *Guidelines* nor the *Technical Direction* nominate a traffic generation rate for small, local shops. For the purpose of this assessment therefore, the traffic generation rate for *commercial premises* nominated above has been adopted in respect of the general retail component of the development.

Application of the above traffic generation rates and assumptions to the various components of the development proposal yields a traffic generation potential of approximately 16 vehicle trips per hour (vph) during the AM peak hour and 13 vph during the PM peak hour, as set out below:

Projected Future Traffic Generation Potential		
	AM	PM
Residential (61 apartments):	11.6 vph	9.2 vph
Commercial (82m ²):	1.3 vph	1.0 vph
Retail (191m ²):	3.1 vph	2.3 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	16.0 vph	12.5 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 development proposal.

The RMS *Technical Direction* 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 existing 5 dwelling houses on the site yields a traffic generation potential of approximately 5 vph during both the AM and PM peak hour.

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 peak hour and 8 vph during the PM peak hour 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:	16.0 vph	12.5 vph
Less Existing Traffic Generation Potential:	-4.8 vph	-5.0 vph
NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:	11.2 vph	7.5 vph

That projected nett increase in traffic activity as a consequence of the development proposal is minimal, is 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

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 6 and comprise:

- CLEARWAY restrictions along both sides of the Princes Highway during commuter peak periods
- NO STOPPING / NO PARKING restrictions along both sides of the Princes Highway in the vicinity of the site at all other times including along the site frontage
- generally UNRESTRICTED kerbside parking along both sides of Ashton Street, Chandler Street and throughout the local area
- BUS ZONES at regular intervals along both sides of the Princes Highway.

Off-Street Parking Provisions

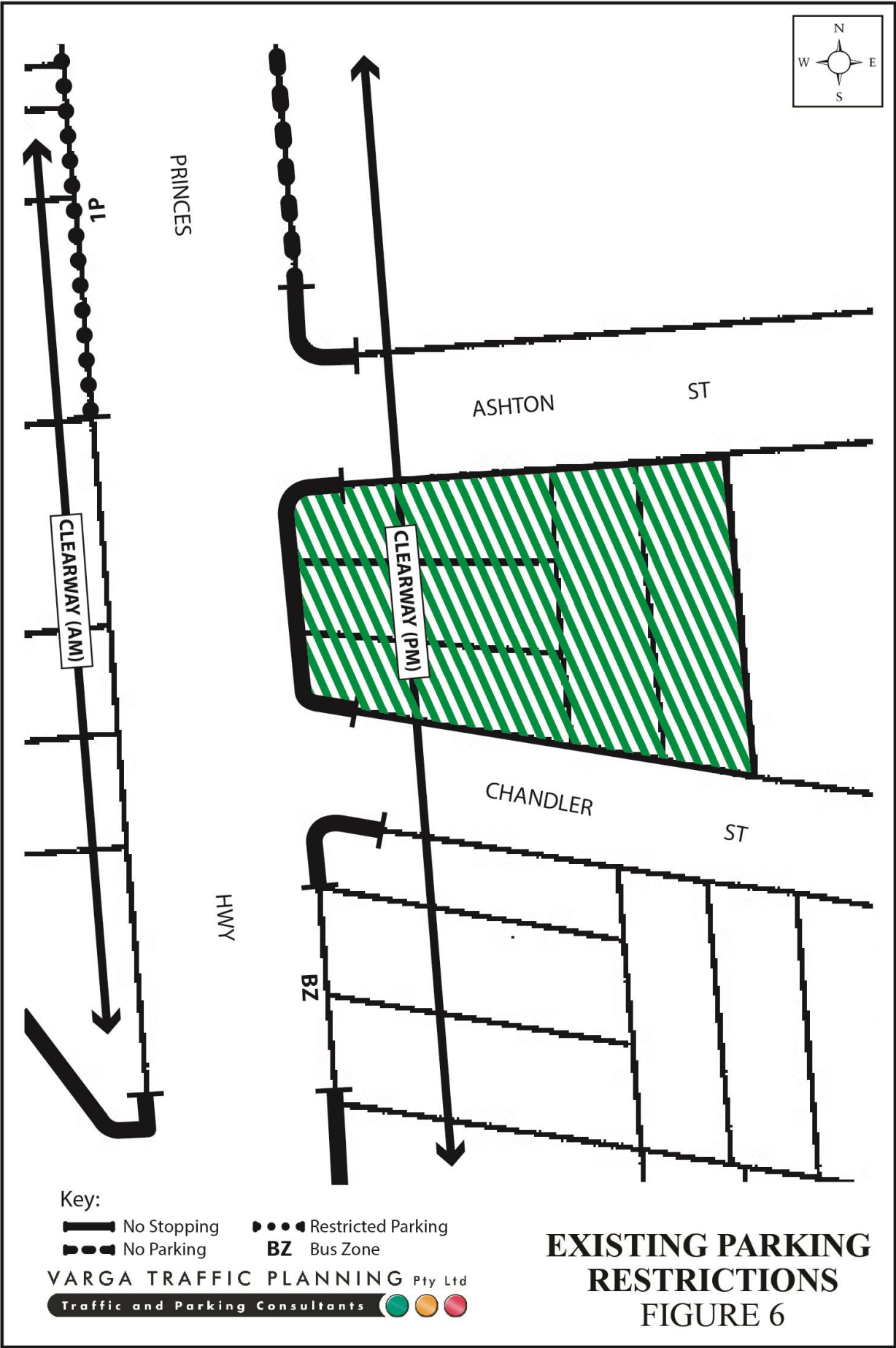
The off-street car parking requirements applicable to the development proposal are specified in the *Rockdale Development Control Plan 2011, Section 4.6 - Car Parking, Access and Movement* document in the following terms:

Residential Flat Buildings

Studio units:	1 space per unit
1 bedroom units:	1 space per unit
2 bedroom units:	1 space per unit
3 bedroom or more units:	2 spaces per unit
Visitors:	1 space per 5 units

*For buildings with 5 dwellings or more, at least one visitor car parking space is to be equipped with car wash facilities which has a cold water tap and is connected to the sewer system.

Retail and Commercial Premises:	1 space per 40m ² GFA
--	----------------------------------



Application of the above parking requirements to the various components of the development proposal yields an off-street car parking requirement of 84 car spaces as set out below:

DCP Parking Requirements

Residential (61 apartments):	65.0 spaces
Visitors:	12.2 spaces
Commercial (82m ²):	2.1 spaces
Retail (191m ²):	4.8 spaces
TOTAL:	84.1 spaces

Notwithstanding, the subject site is located within 800 metres of two railway stations in the Sydney metropolitan area, and therefore the residential component of the development is also subject to the parking requirements specified in the *State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development (Amendment No 3), 2015* in the following terms:

30 Standards that cannot be used to refuse development consent or modification of development consent

(1) If an application for the modification of a development consent or a development application for the carrying out of development to which this Policy applies satisfies the following design criteria, the consent authority must not refuse the application because of those matters:

- a) if the car parking for the building will be equal to, or greater than, the recommended minimum amount of car parking specified in Part 3J of the Apartment Design Guide.

Reference is therefore made to the *Apartment Design Guide 2015, Section 3J – Bicycle and Car Parking* document which nominates the following car parking requirements:

Objective 3J-1

Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas

For development in the following locations:

- on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or

- on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre

the minimum car parking requirements for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less.

The car parking needs for a development must be provided off street.

Comparison therefore needs to be drawn between the off-street car parking requirements for residential flat buildings outlined in the *Rockdale DCP 2011* and also the *RMS Guidelines* to determine the *lesser* requirement. The relevant car parking rates outlined in the *RMS Guidelines* are reproduced below:

RMS Guidelines - High Density Residential Flat Buildings in Metropolitan Sub-Regional Centres

0.6 spaces per 1 bedroom unit

0.9 spaces per 2 bedroom unit

1.4 spaces per 3 bedroom unit

1 space per 5 units for visitor parking

Accordingly, the minimum off-street car parking requirement applicable to the residential component of the development proposal is 65 spaces comprising 53 resident spaces and 12 visitor spaces as set out below:

	Rockdale DCP 2011	RMS Guidelines
Residents:	65.0 spaces	52.7 spaces
Visitors:	12.2 spaces	12.2 spaces
Total:	77.2 spaces	64.9 spaces

Lesser Car Parking Requirement: 52 spaces

The total minimum off-street car parking provision applicable to the site is therefore 7 commercial / retail car spaces in accordance with Council DCP requirements plus 65 resident / visitor spaces in accordance with *SEPP 65* requirements.

The proposed development makes provision for a total of 63 resident spaces, 12 visitor spaces (one of which will be equipped with car wash facilities) and 7 commercial / retail spaces, thereby satisfying both Council and *SEPP 65* 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* and *Parking Facilities Part 6 - Off-Street Parking for People with Disabilities AS2890.6-2009* in respect of parking bay dimensions, ramp gradients and aisle widths.

Off-Street Motorcycle Parking Provisions

The off-street motorcycle parking requirements applicable to the development proposal are specified in *Rockdale DCP 2011, Section 4.6 - Car Parking, Access and Movement* in the following terms:

Residential Flat Buildings

1 space per 15 dwellings

Retail and Commercial

1 space per 20 car spaces

Application of the above motorcycle parking rates to the 61 residential apartments and 7 commercial / retail car spaces yields an off-street motorcycle parking requirement of 4 spaces.

The proposed development makes provision for a total of 6 motorcycle spaces within the basement car parking areas, thereby satisfying Council's motorcycle parking requirements.

Off-Street Bicycle Parking Provision

The off-street bicycle parking requirements applicable to the development proposal are specified in *Rockdale DCP 2011, Section 4.6 - Car Parking, Access and Movement* in the following terms:

Residential Flat Buildings

1 space per 10 dwellings

Retail and Commercial

1 space per 200m² GFA with 15% to be accessible by visitors

Application of the above bicycle parking rates to the residential and commercial components of the development proposal yields an off-street bicycle parking requirement of 8 spaces.

The proposed development makes provision for a total of 10 bicycle spaces in the basement car parking area, thereby satisfying Council's bicycle parking requirements.

Loading / Servicing Provisions

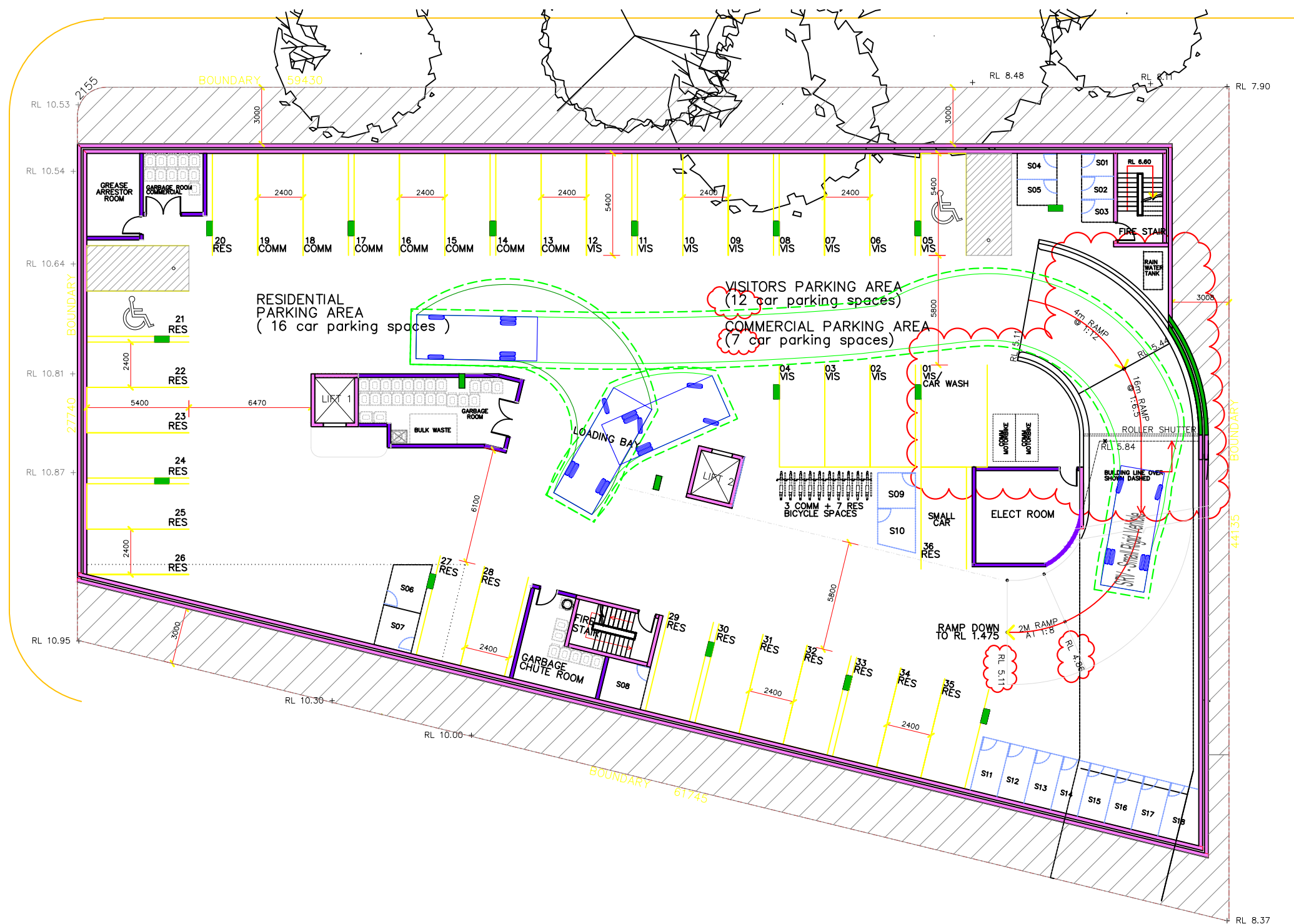
Loading / servicing for the proposed development is expected to be undertaken by a variety of commercial vehicles up to and including 6.4 metres long SRV trucks.

A dedicated service area is to be provided on the upper basement level. The manoeuvring areas has been designed to allow these SRV trucks to enter and exit the site whilst travelling in forward gear at all times, as demonstrated by the attached *swept turning path* diagrams.

The geometric design layout of the proposed loading / servicing area has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 2 – Off-Street Commercial Vehicle Facilities AS2890.2* in respect of loading dock dimensions and service area requirements for 6.4m SRV trucks.

Conclusion

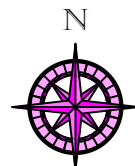
In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in Council's *DCP* and *SEPP 65* as well as the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.



VARGA TRAFFIC PLANNING Pty Ltd
 ABN 88 071 762 537
 Suite 6, Level 1
 20 Young Street
 Neutral Bay, NSW 2089

Phone +61 2 9904 3224
 PO Box 1868
 Neutral Bay, NSW 2089
 www.vargatrafic.com.au
 Sydney, Australia

PROJECT
 RESIDENTIAL DEVELOPMENT



DRAWING TITLE
 TURNING PATHS 180620

ADDRESS
 648-652 Princes Highway
 1-3 Ashton Street
 ROCKDALE

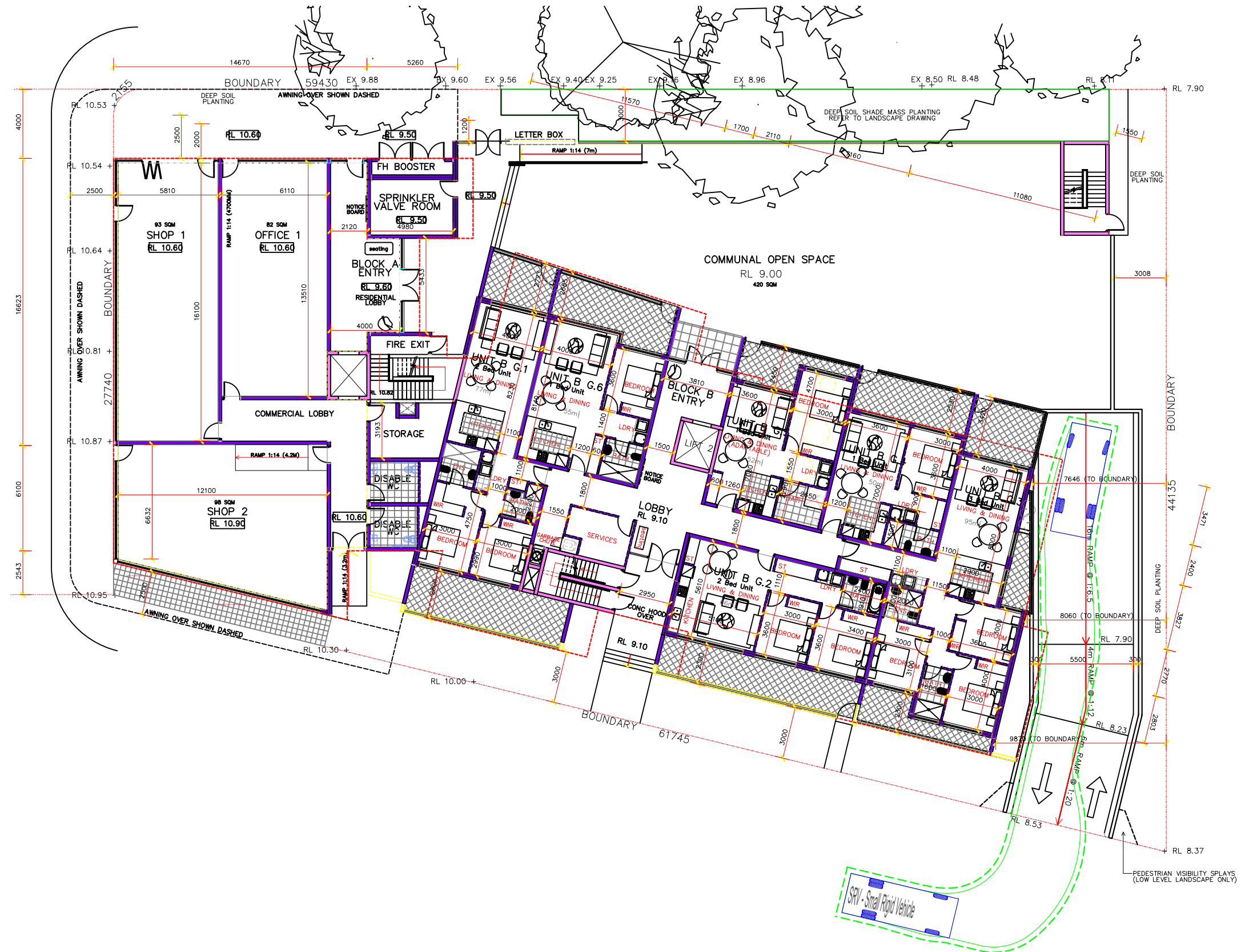
PROJECT NO.
 18321
 REVIEWED
 RV

1:250 @ A3

DATE DRAWN
 2018-6-11
 PREPARED
 TY

VARGA TRAFFIC PLANNING Pty Ltd
 Transport, Traffic and Parking Consultants

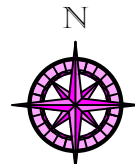




VARGA TRAFFIC PLANNING Pty Ltd
ABN 88 071 762 537
Suite 6, Level 1
20 Young Street
Neutral Bay, NSW 2089

Phone +61 2 9904 3224
PO Box 1868
Neutral Bay, NSW 2089
www.vargatrafic.com.au
Sydney, Australia

PROJECT
RESIDENTIAL DEVELOPMENT



DRAWING TITLE
TURNING PATHS 180620

ADDRESS
648-652 Princes Highway
1-3 Ashton Street
ROCKDALE

PROJECT NO.
18321
REVIEWED
RV

1:250 @ A3

DATE DRAWN
2018-6-11
PREPARED
TY

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



