

**“AUSTRAL TOBRUK”**  
**PROPOSED ILU DEVELOPMENT**  
**120 TENTH AVENUE, AUSTRAL**  
***Assessment of Traffic and  
Parking Implications***

May 2019  
(Rev D)

Reference 15286

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## 1. INTRODUCTION

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This report has been prepared for RSL Life Care to accompany revised plans for a Development Application to Liverpool City Council for a proposed Independent Living Unit development on the “Austral Tobruk” site on 120 Tenth Avenue at Austral (Figure 1).

The Austral and Leppington North area is a large new urban precinct which will benefit from good transport services (focused on the new Leppington Railway Station) as well as large open space areas, retail and educational facilities. The precinct will also have ready access to the arterial road system and the major regional facilities available in Liverpool CBD.

The Austral Tobruk site is located in the central part of the precinct, just to the north of Bringelly Road and the Railway Station, with frontages to the southern side of Tenth Avenue and the western side of Edmondson Avenue. There are existing RACF and ILU buildings with community facilities on the site and a previous consent was granted for residential apartment (Senior Housing) development on the southern part.

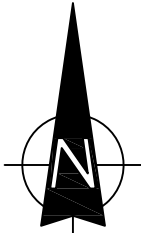
The proposed new ILU development involves 8 buildings with 145 apartments and basement car parking with landscaped surrounds and a pedestrian/vehicle access network.

The purpose of this report is to:

- \* describe the site and the proposed development
- \* describe the existing and future road network and traffic circumstances
- \* assess the adequacy of the proposed parking provision
- \* assess the potential traffic implications of development
- \* assess the appropriateness of the proposed access, internal circulation and servicing arrangements



**LEGEND**



**LOCATION**

**FIG 1**



## **2. PROPOSED DEVELOPMENT SCHEME**

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### **2.1 SITE, CONTEXT AND EXISTING USE**

The total Austral Tobruk site (Figure 2) is a consolidation of Lots 1 & 2 in DP 1146302 located to the north of Bringelly Road. The proposed development will occupy the largely vacant southern part of the site while the central and western part was partly excavated for the previously approved development. The existing development on the northern part comprises:

- RACF building on the western part
- ILU apartment buildings on the eastern part with community facilities
- Vehicle accesses on the Tenth Avenue frontage

The surrounding development comprises:

- the Primary School on the eastern side of Edmondson Avenue opposite the site
- the Austral Neighbourhood Centre including an IGA Supermarket on the northern side of Tenth Avenue
- the adjoining Church which has frontages to Edmondson Avenue and Tenth Avenue
- the rural residential properties which adjoin to the west and south





LEGEND



LOCATION

FIG 2



## **2.2 PRECINCT PLANNING**

The Austral and Leppington North Precinct has been master planned to:

- create a primarily residential neighbourhood providing for some 17,500 homes
- reduce environmental impact and facilitate greater social interaction
- provide a mix of housing types and active streets
- provide open space amenity with 135.4ha of parkland
- focus on Leppington major centre, Austral local centre and 3 neighbourhood centres
- provide 2 high schools and 5 primary schools
- ensure to full advantage is made of the proposed rail and bus services as well as cyclist and pedestrian networks

The Indicative Layout Plan for Austral and Leppington North which is reproduced in Section 4 illustrates the envisaged broad development outcome along with the land uses, density ramps, open space, transport linkages and location of community facilities and schools.

## **2.3 APPROVED DEVELOPMENT**

Consent was previously granted for a development scheme on the site comprising a total of 127 residential apartments (81 x 2 Bed and 46 x 3 Bed). Work was substantially Senior Housing Units on this project with excavation for basement carparking however work was suspended.

Details of the approved development are provided on the plans reproduced in Appendix A.

## **2.4 PROPOSED DEVELOPMENT**

It is proposed to extend the existing excavated basement areas and construct 8 new buildings comprising:

- 145 x two bed apartments
- Shared pedestrian/vehicle access corridor
- Basement and at-grade parking for residents, visitors and service vehicles
- Vehicle access connecting to Edmondson Avenue and the existing access road connecting to Tenth Avenue

The development will provide for the proposed widening of Edmondson Avenue, and the central median island to be provided in conjunction with that widening will restrict vehicle access on Edmondson Avenue to left turn IN/OUT. It is understood that Council has received funding for the design and construction of the proposed roadworks along Edmondson Avenue.

Details of the proposed development are provided on the revised plans prepared by AJ+C which accompany the Development Application and are reproduced in part in Appendix B.

### 3. EXISTING ROAD NETWORK AND TRAFFIC CONDITIONS

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#### 3.1 ROAD NETWORK

The existing road network serving the site (Figure 3) comprises:

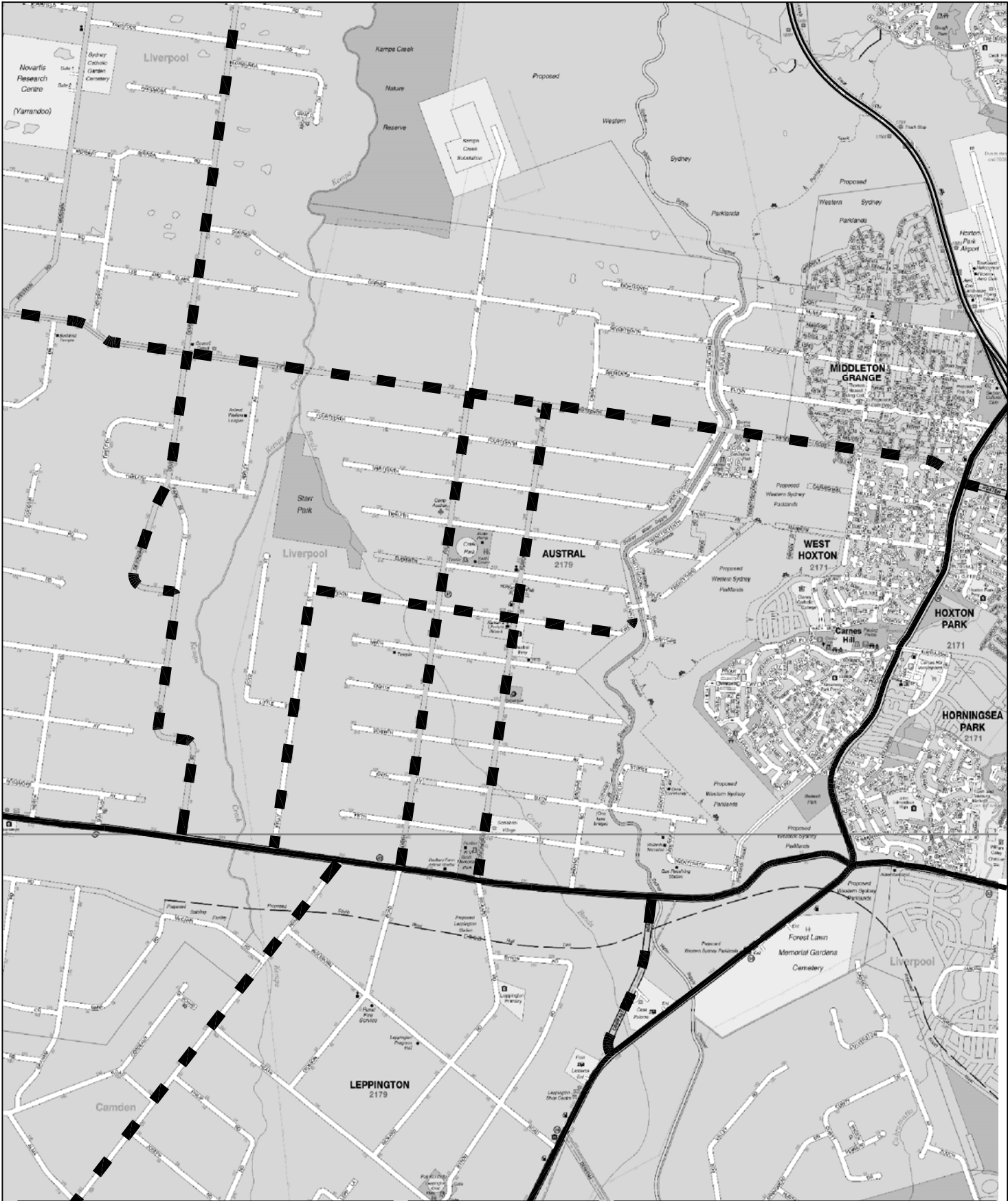
- \* *Camden Valley Way* – a State Road and arterial route which connects between the Hume Highway at Casula and Camden
- \* *Cowpasture Road* – a State Road and arterial route which connects between the Horsley Drive at Bossley Park and Camden Valley Way at Horningsea Park
- \* *Bringelly Road* – a State Road and subarterial route which connects between Cowpasture Road/Camden Valley Way at Horningsea Park and The Northern Road at Bringelly
- \* *Cowpasture Road (South)* – a State Road and collector route which connects between Camden Valley Way and Bringelly Road
- \* *Edmondson Avenue* – a collector road connecting between Bringelly Road and Fifteenth Avenue
- \* *Tenth Avenue* – a minor collector road connecting across Edmondson Road between Kelly Street and Twentyninth Avenue

Edmondson Road is some 12.8m wide with one travel lane and one parking lane in each direction while Tenth Avenue has a 2 lane rural pavement largely without kerb and gutter or footways.

#### 3.2 TRAFFIC CONTROLS

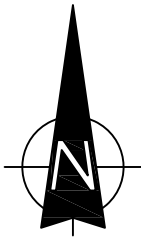
The limited existing traffic controls on the road network (Figure 4) comprise:

- \* the 60 kmph speed limit on Edmondson Avenue at Tenth Avenue with a 40 kmph school speed limit in the vicinity of the Primary School (opposite the site)



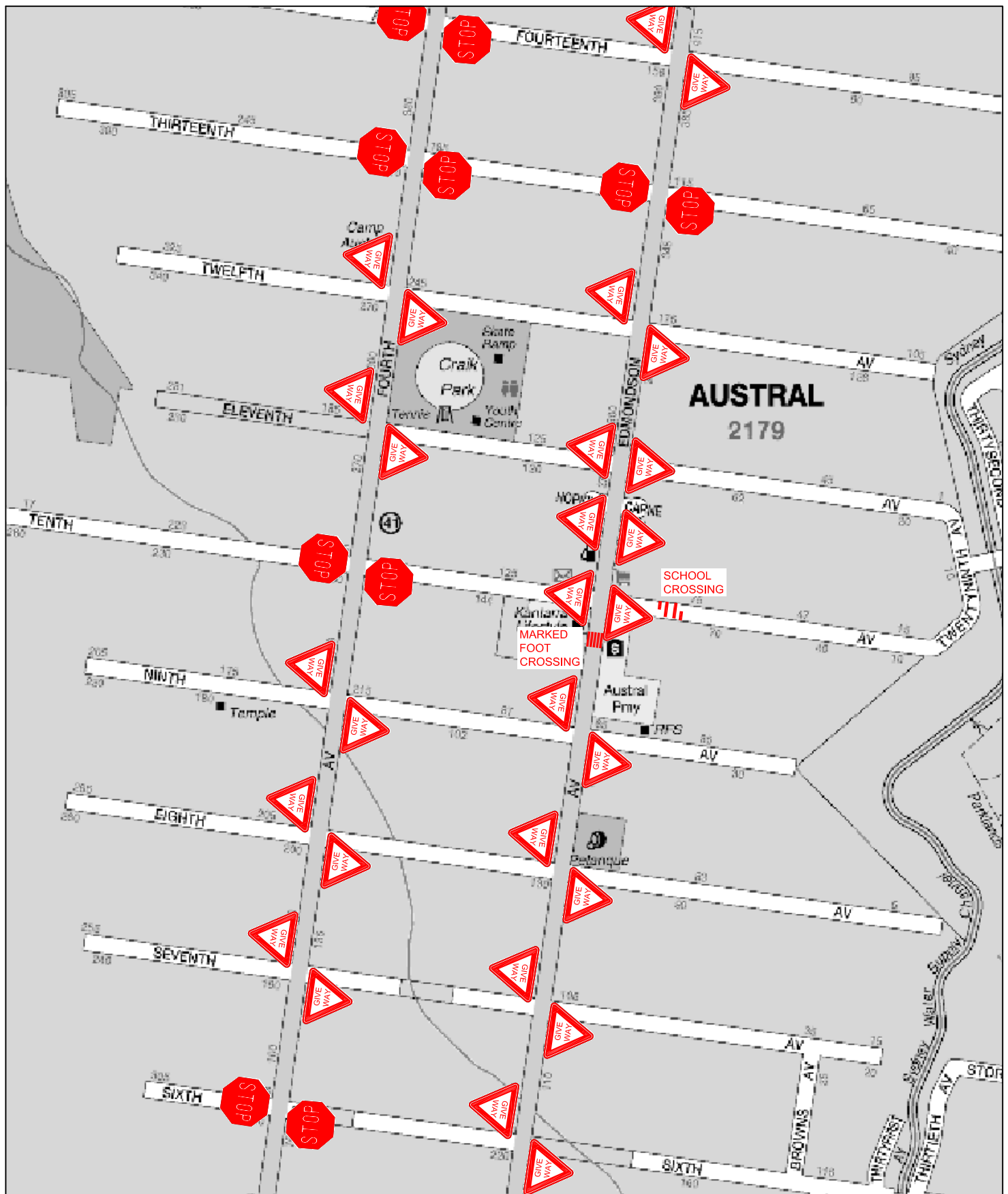
**LEGEND**

- ARTERIAL**
- SUB-ARTERIAL**
- COLLECTOR**






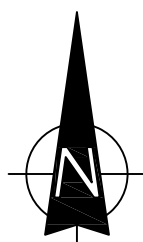
**ROAD NETWORK**

**FIG 3**



## LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT
-  STOP SIGN
-  GIVE WAY SIGN



## TRAFFIC CONTROLS

**FIG 4**

- \* the “Wombat” style marked footcrossing in Edmondson Avenue at the School frontage and “school crossing” on the Tenth Avenue frontage
- \* the 70 kmph speed restriction on Bringelly Road east of Cowpasture Road (South) and 80 kmph to the west
- \* the part time BUS ZONE and NO PARKING school start/finish times on Edmondson Avenue
- \* the GIVE WAY and STOP sign controls on the ‘side streets’ of intersections along Edmondson Avenue and Fourth Avenue
- \* the small central median islands and adjacent kerbside lane islands in Edmondson Avenue at Tenth Avenue and the southern side of the school frontage

### **3.3 TRAFFIC CONDITIONS**

The existing traffic volumes on Bringelly Road to the west of Camden Valley Way are as follows:

<b>AADT</b>	<b>AM Peak</b>	<b>PM Peak</b>
9,090	700	800

The existing traffic flows on Edmondson Avenue and Tenth Avenue during the morning and afternoon peak periods are as follows:

	<b>AM</b>	<b>PM</b>
Edmondson Avenue		
Northbound	285	185
Southbound	170	250
Tenth Avenue		
Eastbound	110	70
Westbound	65	125



The operational performance of intersections in the vicinity of the site during the morning and afternoon peak periods is quite satisfactory at the present time without any undue queuing or congestion. There is some heightened localised activity in the vicinity of the Primary School during 'set-down/pick-up' times just before and after school hours.

### **3.4 TRANSPORT SERVICES**

Bus services are provided by Interline Route 855 which runs along Edmondson Avenue connecting between Liverpool and Leppington Railway Stations where access is provided to the Metropolitan Transport Network (see details overleaf).



### Bus route

 Bus route    
  Occasional journey    
  Train line/station  
 Bus route number    
  Bus terminus

## It's easy to plan your trip



**On the web**  
transportsw.info



**Questions and feedback**  
Phone 131 500  
TTY 1800 637 500

## **4. FUTURE ROAD NETWORK, TRAFFIC AND TRANSPORT CIRCUMSTANCES**

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### **ROAD NETWORK**

Details of the planned road system for the Austral-Leppington North Precinct are provided on the diagrams overleaf together with details of the planned street types.

Particular features of this planning are:

- the principal arterial routes of Camden Valley Way and Bringelly Road
- the Transit Boulevards on Fifteenth Avenue and Edmondson Avenue
- the Collector Roads including Fourth Avenue and Tenth Avenue

The design provisions for Edmondson Avenue at the site frontage require road widening to provide for BUS LANE, bus stop bays and a central median island.

### **TRAFFIC CONTROLS**

The provision of traffic signals is proposed at:

- the intersection of Edmondson Avenue and Tenth Avenue
- the intersections Bringelly Road and Fifteenth Avenue with Edmondson Avenue

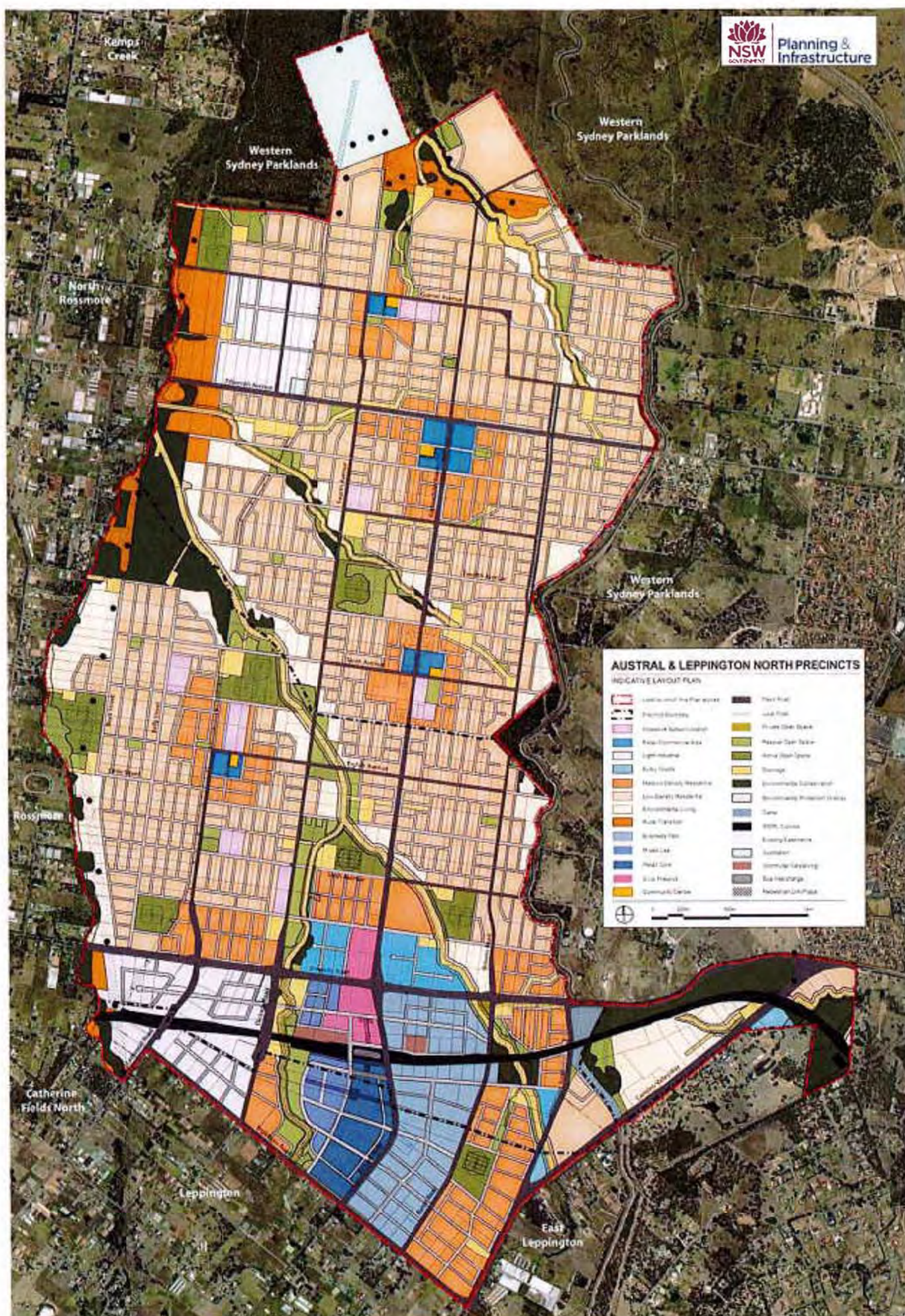
It is presumed that these pedestrian facilities which exist on Edmondson Avenue and Tenth Avenue will be replaced by the new intersection traffic signals.

### **TRANSPORT SERVICES**

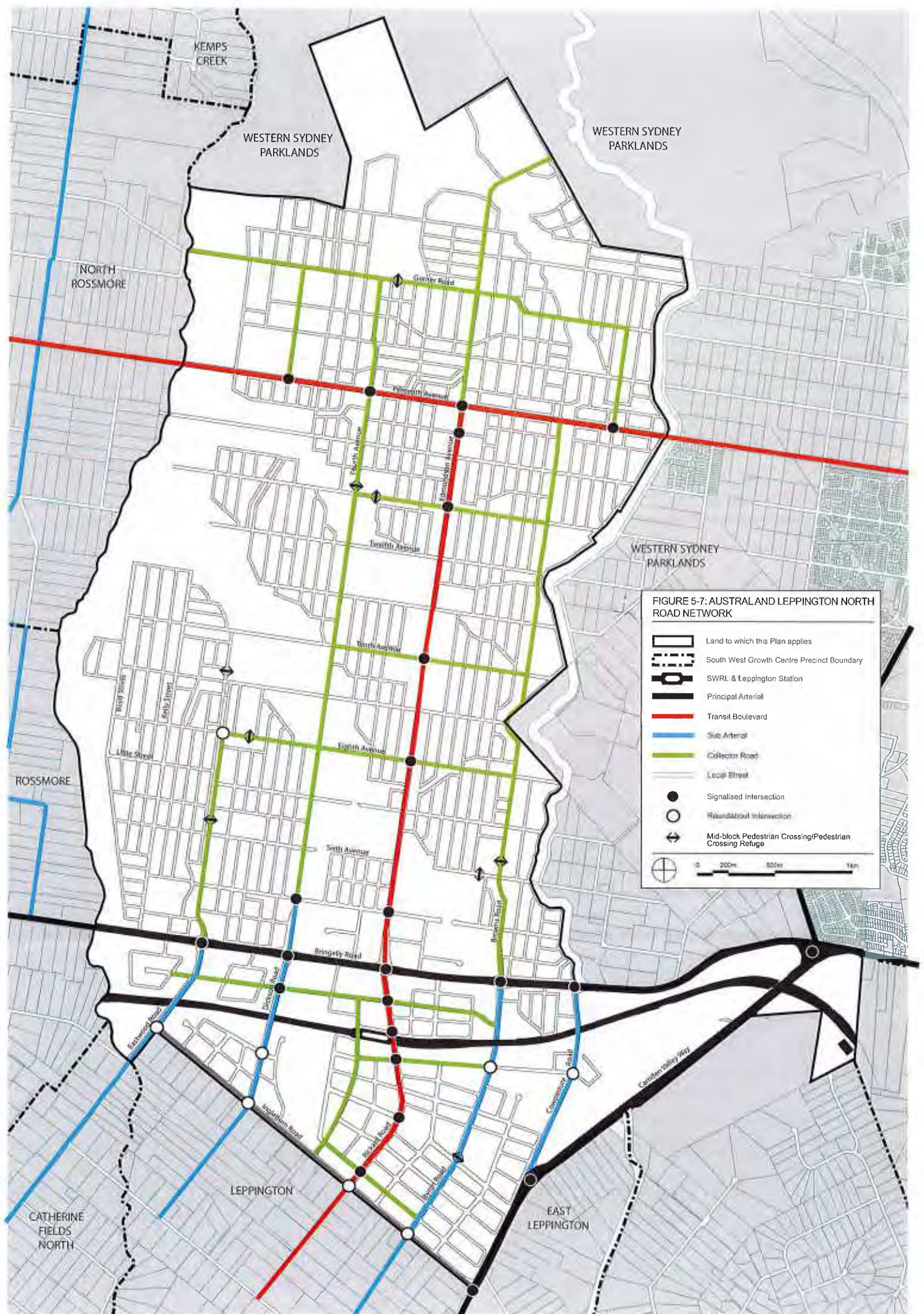
Details of the planned bus services are provided on the diagram overleaf with the principal features being:

- the bus priority corridor along Edmondson Avenue
- the bus routes connecting along Fourth Avenue and Eighth Avenue





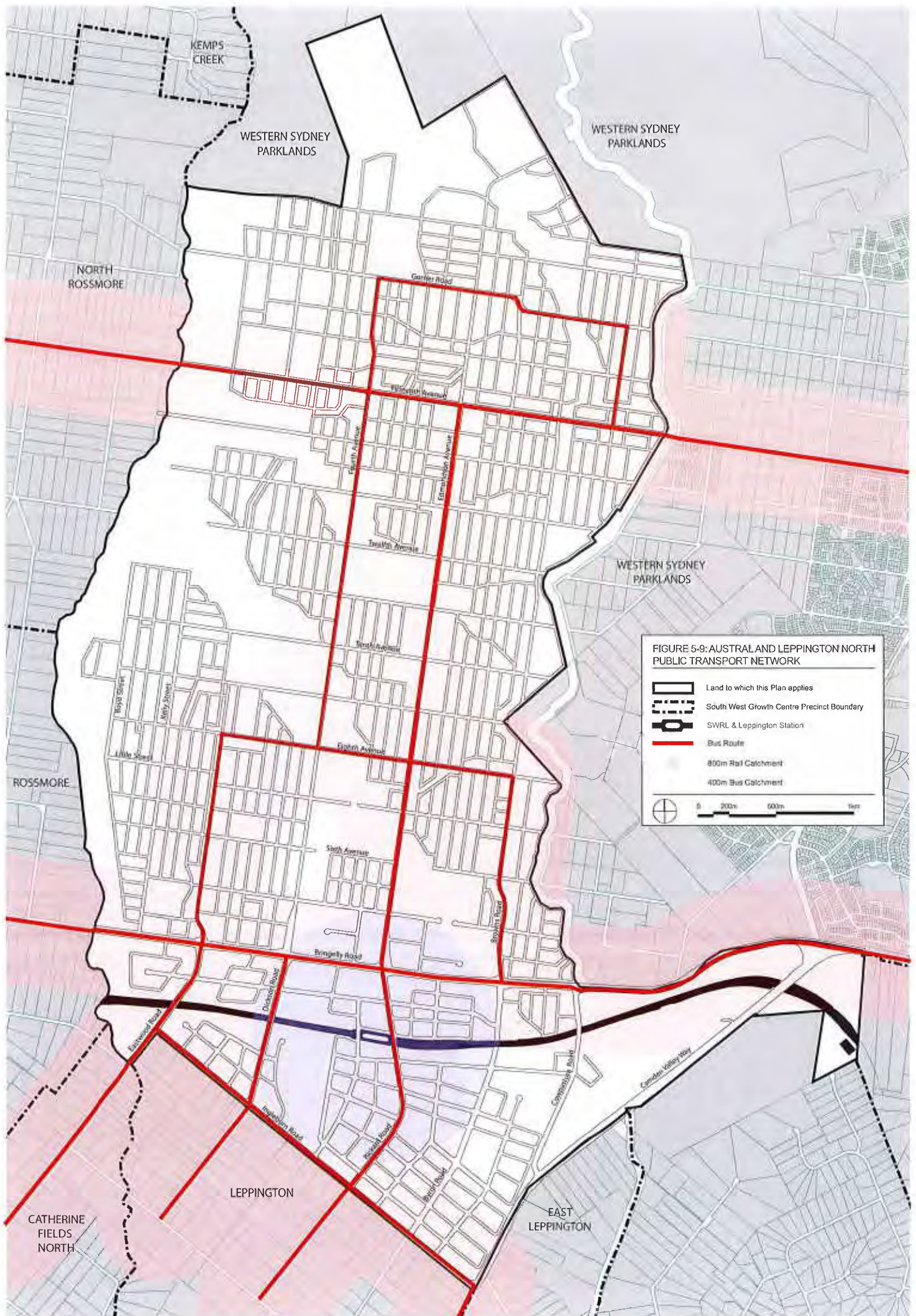




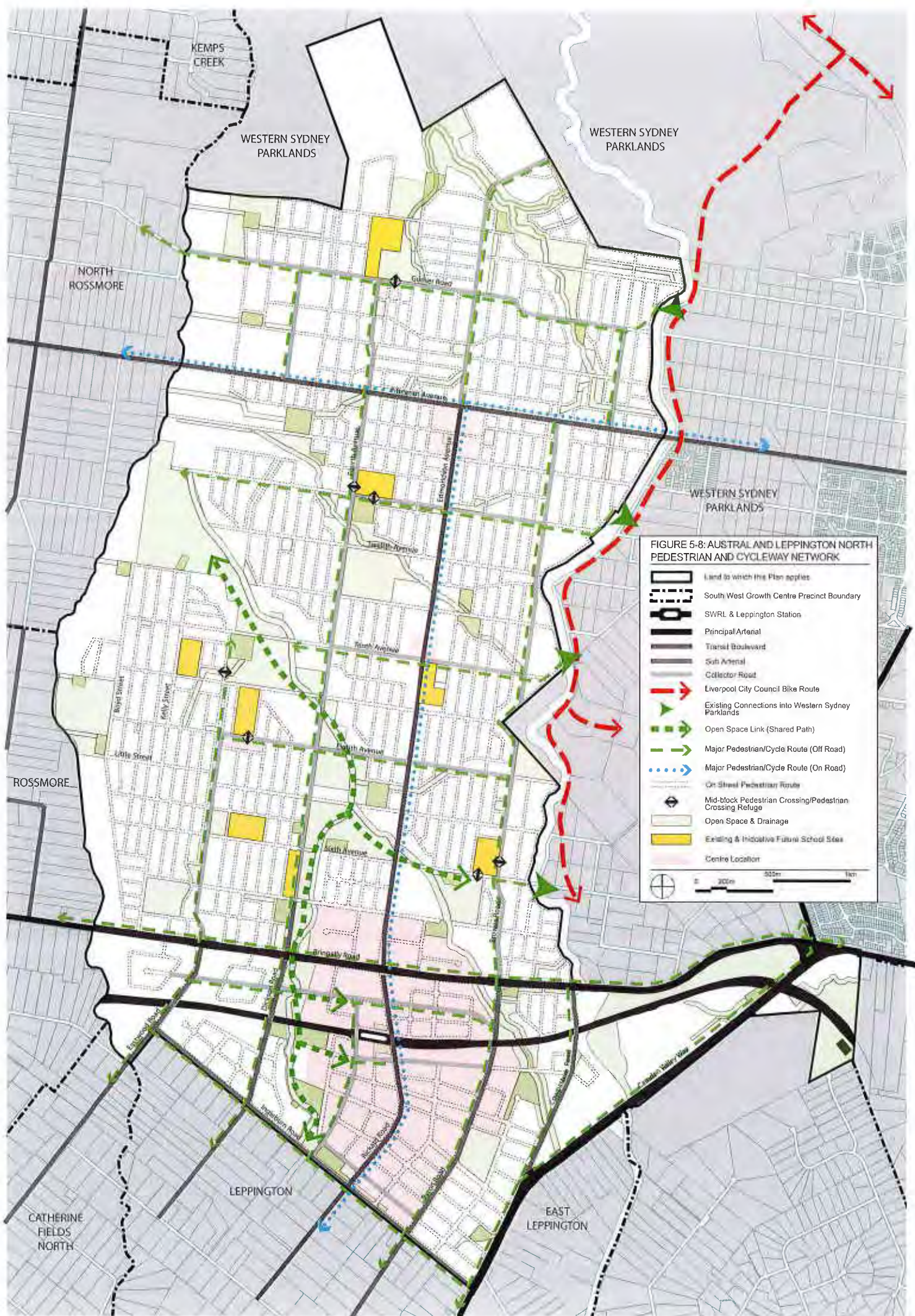
## **BICYCLE AND PEDESTRIAN NETWORK**

Details of the planned bicycle and pedestrian network are provided on the diagram overleaf. There will be dedicated on-street bicycle lanes along Edmondson Avenue and a shared off-street path along the Tenth Avenue east-west route.











## 5. ACCESS AND TRAFFIC

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### ACCESS

It is highly desirable to have both pedestrian and vehicle access to Edmondson Avenue due to the flexibility that this will provide and to avoid a concentration of vehicle movements onto the existing access on Tenth Avenue.

The proposed provision of traffic signals at the Tenth Avenue intersection will replace the existing pedestrian crossing and will also result in some change to the kerbside parking arrangements as it would seem to be undesirable to retain school set-down/pick-up provisions on the western side of the road (as exist) with these future changed circumstances.

The proposed access connection on Edmondson Road will:

- be located on a straight and level section of road and will have appropriate sight distances
- be well removed from the Tenth Avenue intersection
- be restricted to left turn IN/OUT by the proposed central median island

## TRAFFIC

The RMS Technical Direction TDT 2013-4b indicates a weekday peak generation for Housing for Seniors of 0.40vtp, however this is for the “site peak” and not the AM or PM road network peaks. It is also an average of numerous types of aged care accommodation (some being high care with significant staffing) and an average of Metropolitan and Non Metropolitan sites.

In reality the RMS data is not entirely relevant to the proposed development, however if the details are extracted for the Network Peak for the Metropolitan Area sites the average traffic generation is 0.26 vtp per dwelling. Application of this to the proposed 145 ILU's indicates a generation of some 40vtp with the assessed distribution as follows:

AM		PM	
IN	OUT	IN	OUT
15	25	25	15

It is apparent that a minor proportion of these movements could choose to access via the Tenth Avenue driveway while the others will be spread to the north and south on Edmondson Avenue although the majority will be to/from the north.

Access movements on Edmondson Avenue will be limited to left turn IN/OUT while the provision of traffic signals at the Edmondson Avenue and Tenth Avenue intersection will assist the access movements occurring at that intersection.

It is apparent that the traffic generation of the proposed development will be of a “low order” and will not result in any adverse traffic implications.

## 6. PARKING

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The SEPP (Housing for Seniors or People with a Disability) 2004 specifies the following minimum parking provision for “Self Contained Dwellings (ILU’s)”:

1.0 space for each 5 dwellings for development by a Social Housing Provider

It is proposed to provide 145 parking spaces in the basements for residents (i.e. 1 space for each apartment) as well as 30 spaces for visitors (i.e. 1 space per 5 apartments). It is also proposed to provide 26 bicycle spaces. It is apparent that the proposed parking provision will be quite adequate and appropriate and there will be an appropriate quantum of accessible spaces for residents and visitors.

## **7. INTERNAL CIRCULATION, SERVICING AND BUS STOP**

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### **INTERNAL CIRCULATION**

The design of the access, circulation and car parking areas will comply with the requirements of AS2890.1 and 6 particularly in terms of bays, grades, aisles, headroom and manoeuvring area. It is noted that there will be downward grades towards the frontage footways and this will obviate any issue in relation to sighting of pedestrians.

### **SERVICING**

Refuse will be collected by a small contract truck, however a turning path assessment for a 11.0m truck turning as required along the driveway is provided in Appendix C. Small service vehicles (e.g. service personnel) will be able to park in the visitor spaces while any occasional delivery truck requirements will be satisfied by use of the loading bays or temporary standing on the access road system.

### **BUS STOP**

Provision has been made for a bus stop with shelter to be provided on the Edmondson Avenue site frontage just to the south of the proposed access driveway. The proposed bus stop will be suitably located and will provide for suitable sight distances as well as pedestrian access.

## **8. CONCLUSION**

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The proposed Austral Tobruk Independent Living development at Austral will provide much needed accommodation in a peaceful environment. Assessment of the proposal has concluded that:

- \* the provisions for vehicle access and servicing will be satisfactory and appropriate
- \* there will be no adverse traffic implications
- \* the proposed parking provision will be quite adequate and will comply with the SEPP criteria

## **APPENDIX A**

### **APPROVED PLANS**

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ISSUE	DATE	REVISION
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Project

**AUSTRAL TOBRUK**

Project Address

120 TENTH AVENUE,  
AUSTRAL NSW 2171

Drawing

**STAGE 2  
SITE FEASIBILITY**

PROJECT #	CLA2015-0136	REV	DWG #
DATE	May 2015		
SCALE @ A1	NTS		
DRAWN	MT		

**FS01**



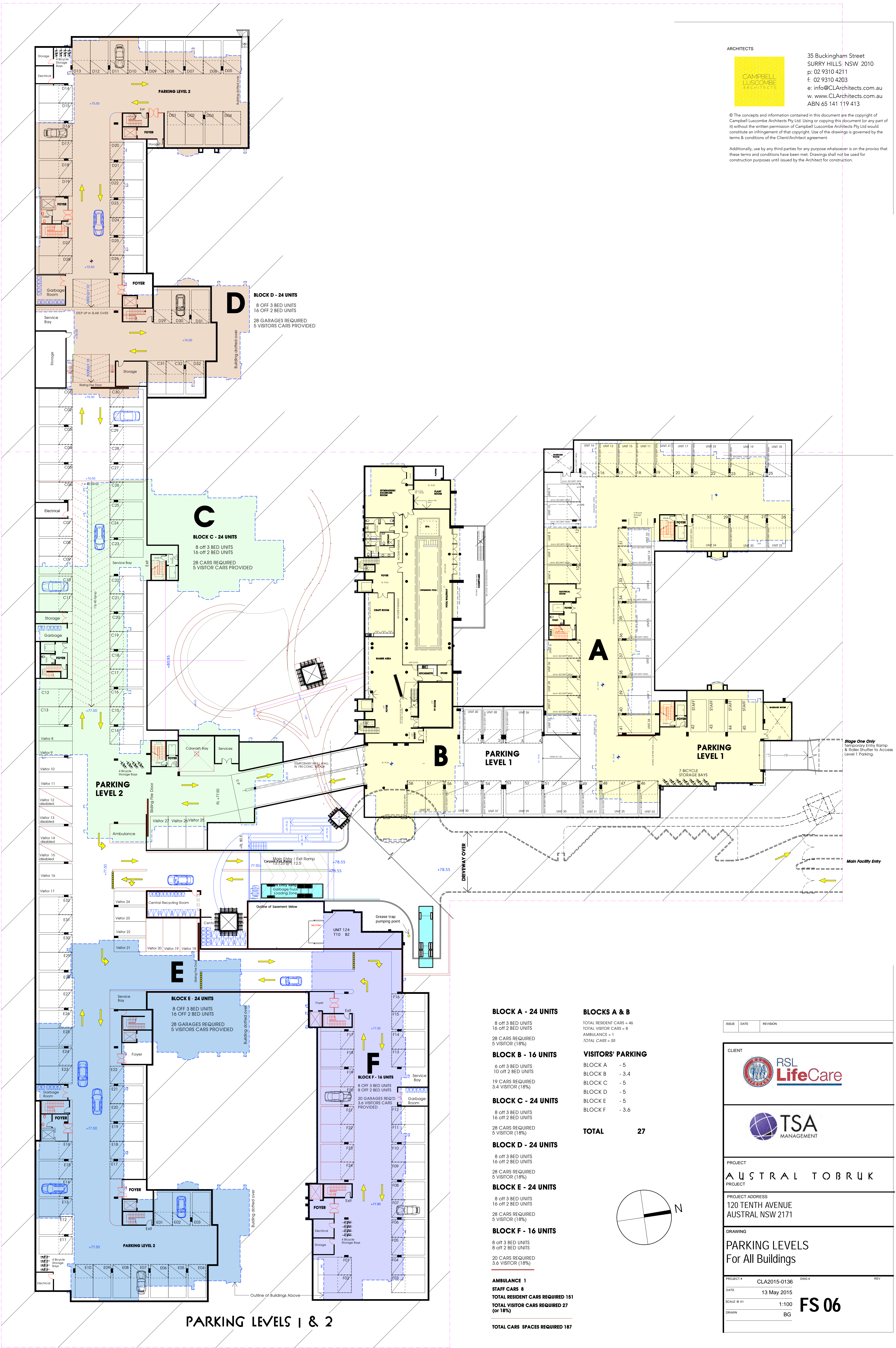
ARCHITECTS



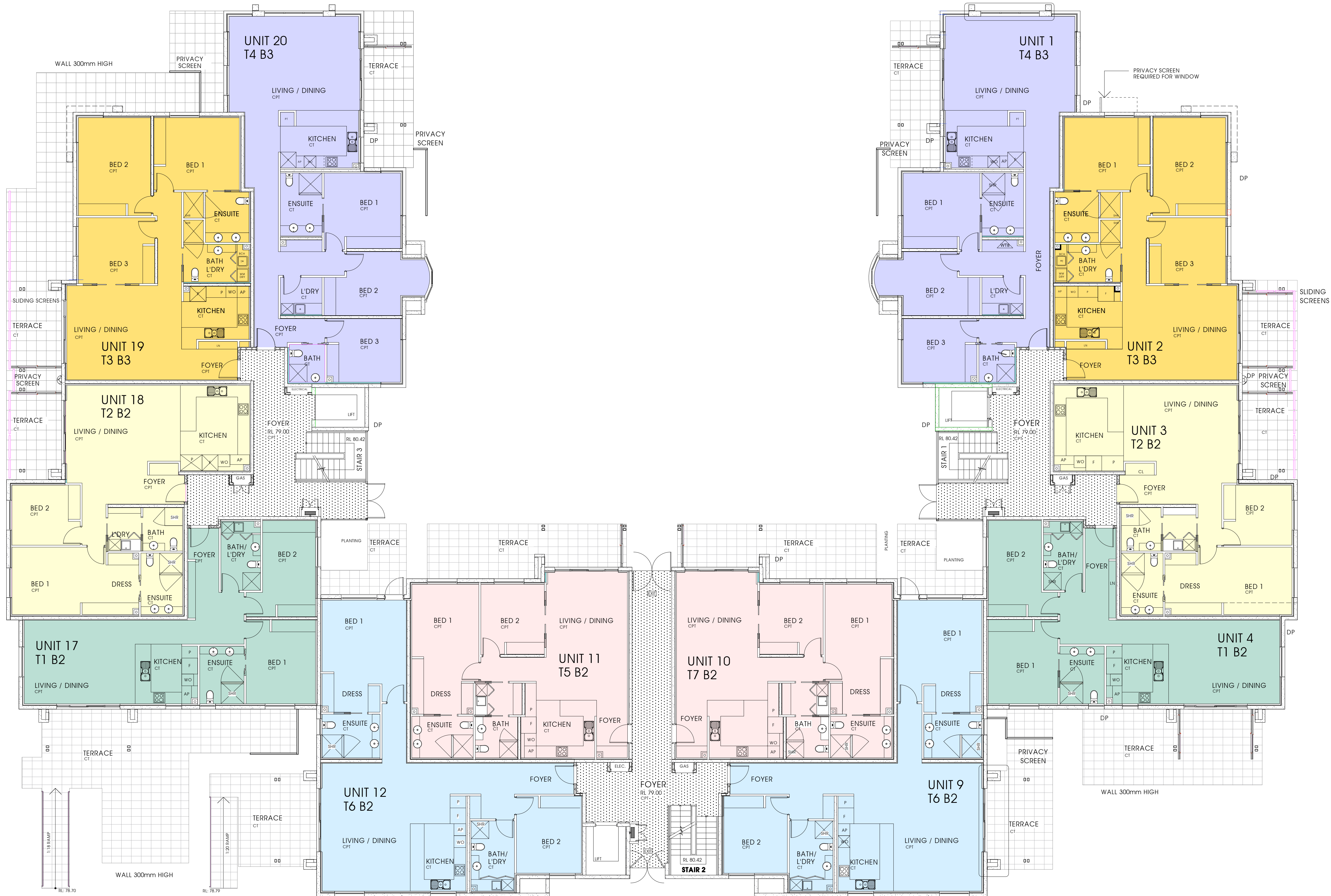
35 Buckingham Street  
SURRY HILLS NSW 2010  
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 **GROUND FLOOR PLAN  
LEVEL 2 BUILDING C & D**

ARCHITECTS




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ISSUE	DATE	REVISION





PROJECT

A U S T R A L T O B R U K

PROJECT ADDRESS

120 TENTH AVENUE  
AUSTRAL NSW 2171

DRAWING

GROUND FLOOR - Level 2  
Building A

PROJECT #	CLA2015-0136	DWG #		REV	
DATE	13 May 2015				
SCALE @ A1	1:100				
DRAWN	bg				

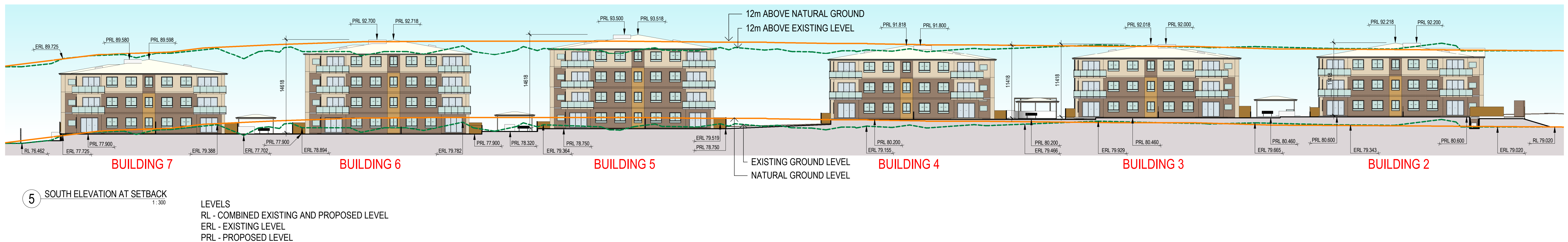
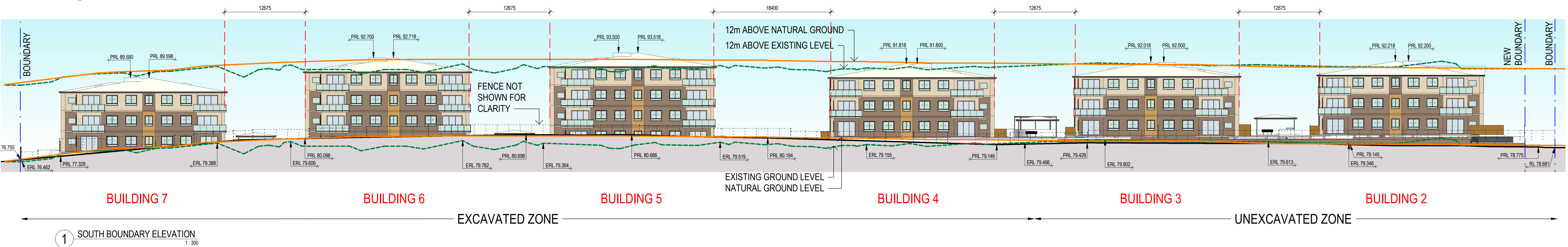
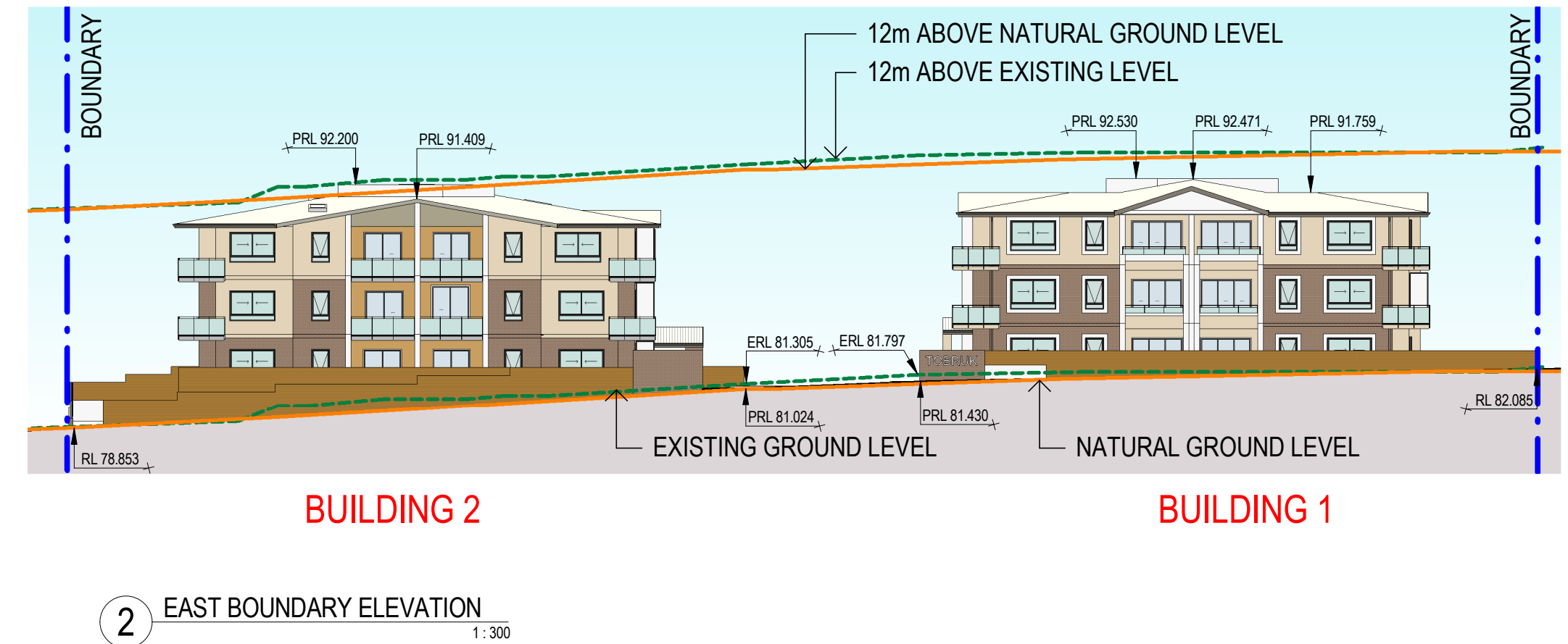
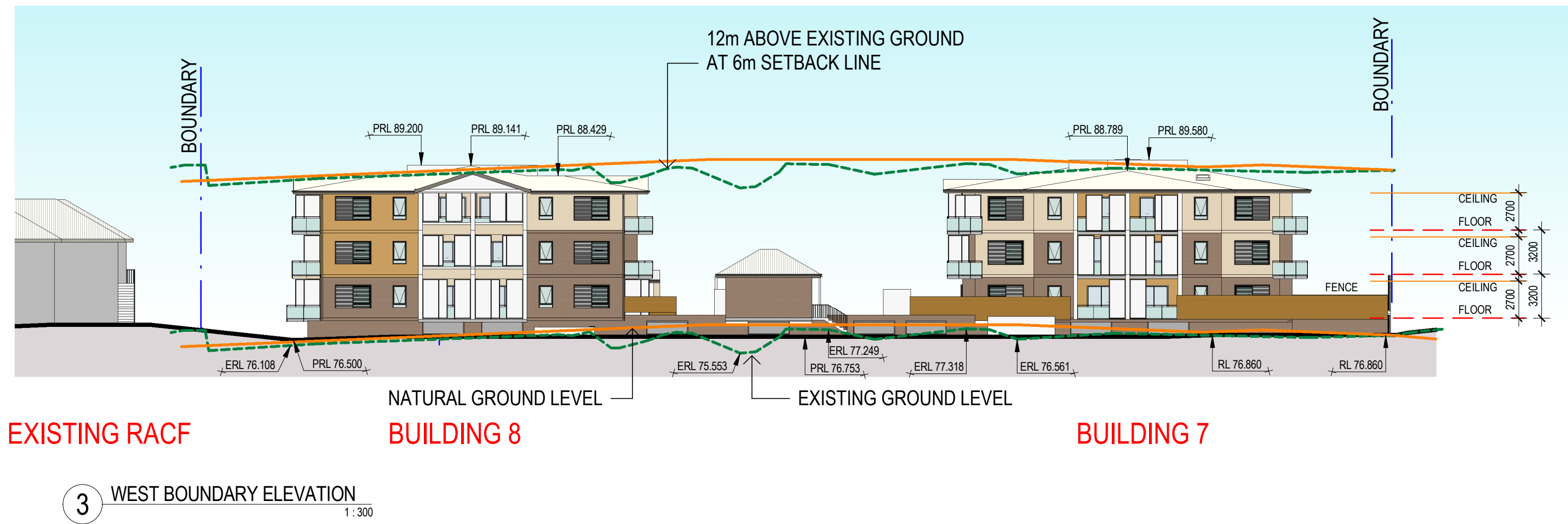
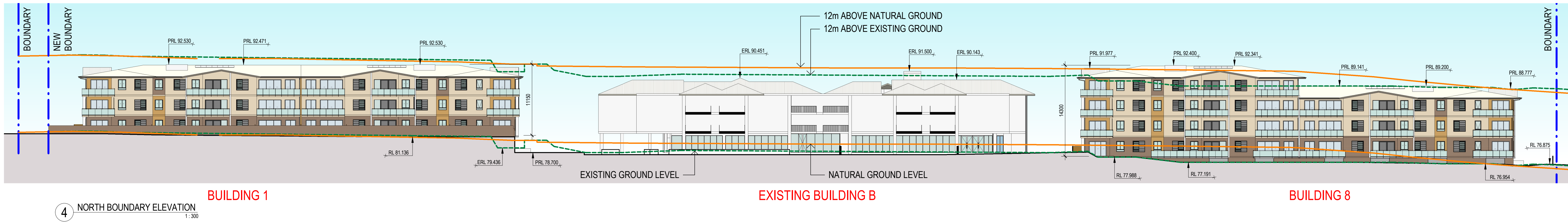
FS 02

## **APPENDIX B**

### **DEVELOPMENT PLANS**

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3 SECTION THROUGH BUILDING 1 AND 3  
1:300



4 SECTION THROUGH BUILDING 8 AND 6  
1:300



EASEMENT FOR UNDERGROUND CABLES 1.0m WIDE (DP1139459)  
EASEMENT FOR PADMOUNT SUBSTATION 2.75  
m WIDE SHOWN RED DOTTED (DP113959)  
RESTRICTION ON THE USE OF LAND (DP 1139459)  
ELECTRICITY SUBSTATION

TENTH AVENUE

EXISTING ACCESS

BOUNDARY 58.795

LEGEND

- EXISTING ROAD
- NEW FOOTPATH AND ROAD
- EXISTING LANDSCAPE
- EXISTING FOOTPATH
- NEW ROAD PITUMEN
- EXISTING BUILDINGS

STAGE 2

EXISTING BUILDING RACF

STAGE 1

EXISTING BUILDING A RL 79.0

BCA - BUILDING A  
BUILDING 1

FLOOR LEVEL 81.430

BOUNDARY 80.16

NEW KERB LINE  
EXISTING KERB LINE  
NEW BOUNDARY  
EXISTING BOUNDARY

TREES TO BE REMOVED

- COURTYARD
- PLANTING ZONE
- PATHWAY / SEATING

TREES TO BE REMOVED

NEW CROSS-OVER

NEW BOUNDARY FOR  
ROAD WIDENING

NEW BUS STOP BY COUNCIL

SEE LANDSCAPE DRAWINGS  
FOR VERGE DETAIL

DRAINAGE EASEMENT 1.83 m WIDE

NEW KERB LINE  
EXISTING KERB LINE

BCA - BUILDING C

BOUNDARY 241.09

BCA - BUILDING B

BUILDING 2

FLOOR LEVEL 80.800

BUILDING 7

FLOOR LEVEL 78.100

BUILDING 6

FLOOR LEVEL 78.100

BUILDING 5

FLOOR LEVEL 78.900

BUILDING 4

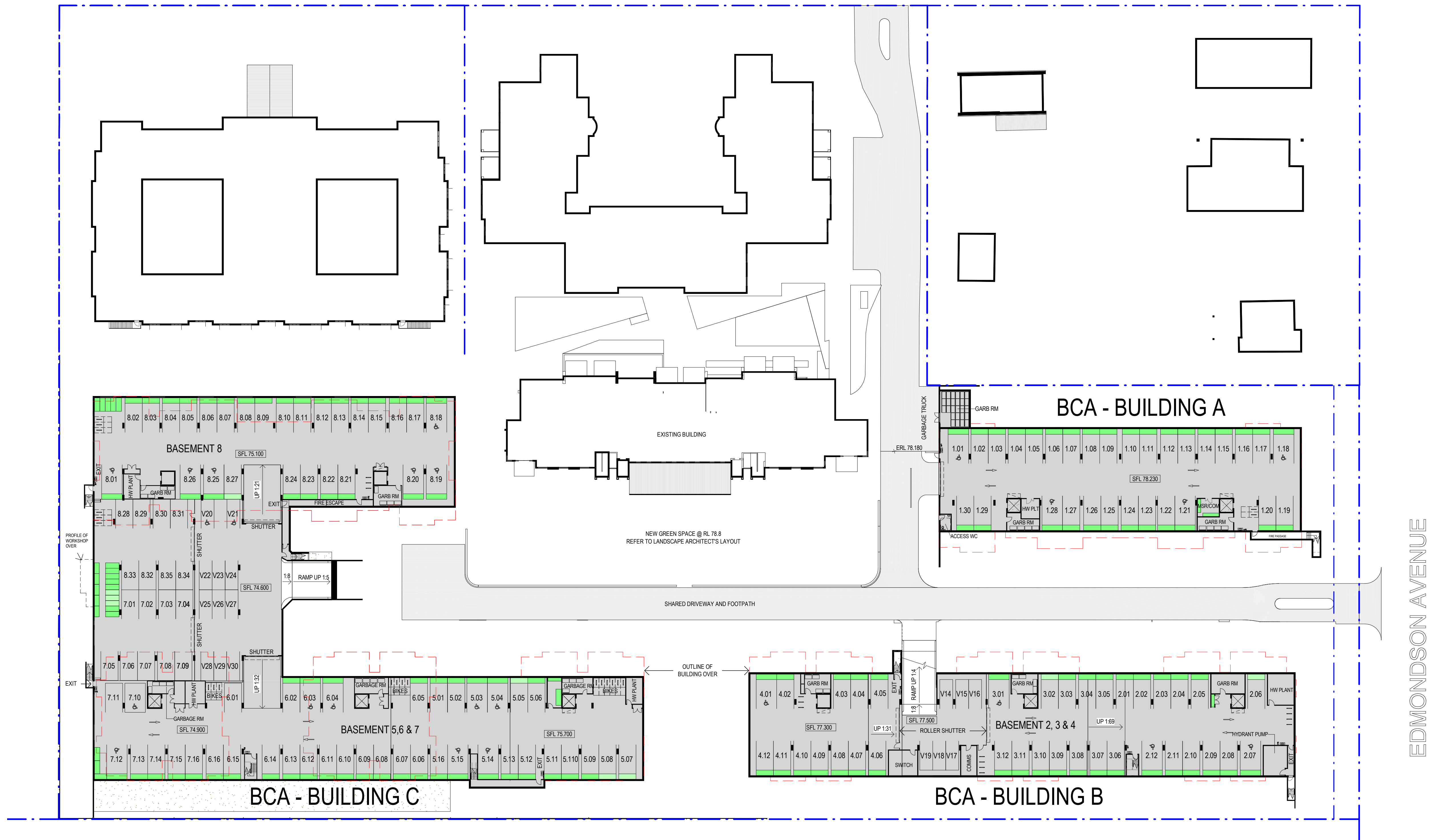
FLOOR LEVEL 80.400

BUILDING 3

FLOOR LEVEL 80.600



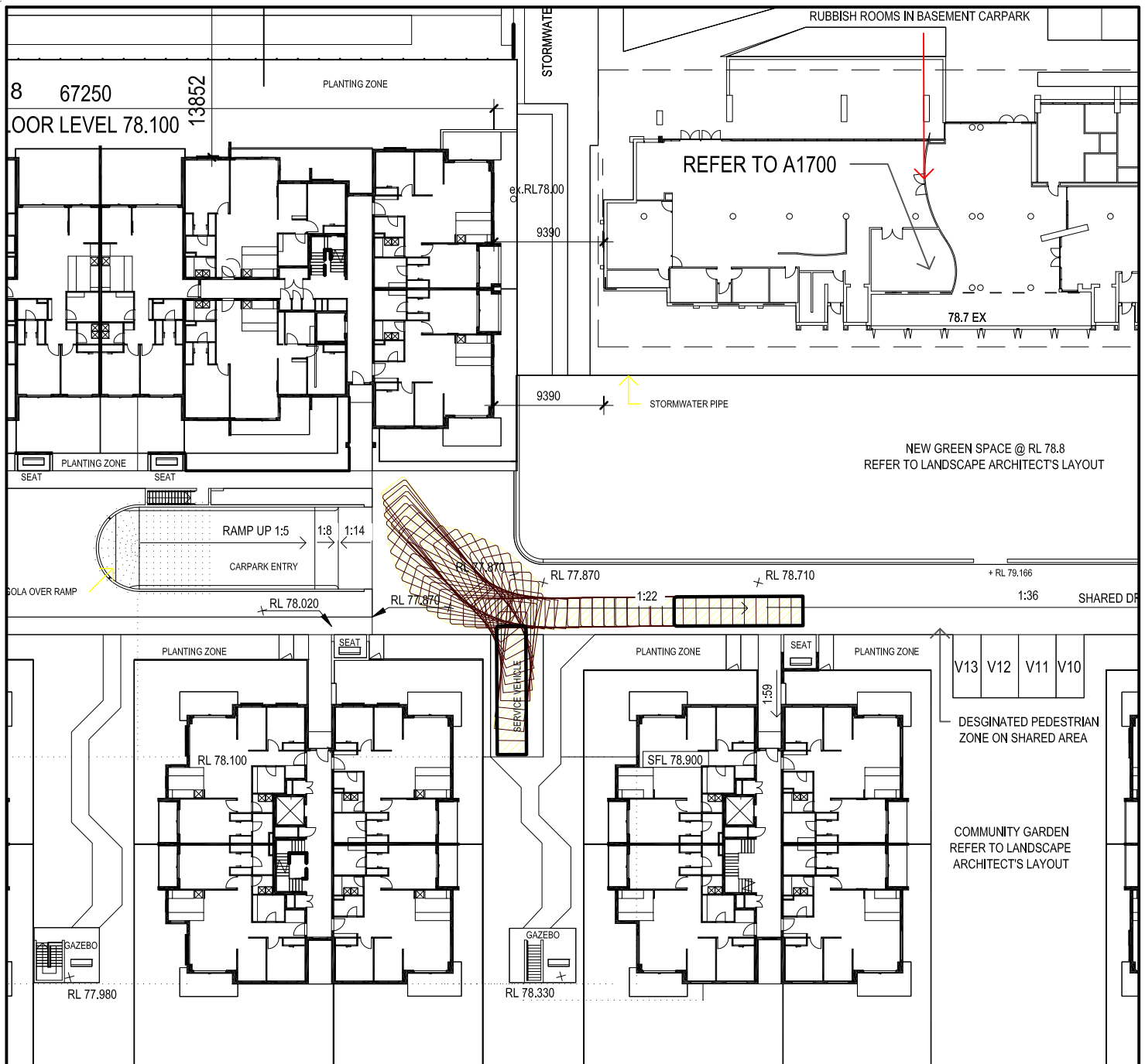
TENTH AVENUE



## **APPENDIX C**

### **TURNING PATH ASSESSMENT**

---



BCA - BUILDING C

BOUNDARY 241.09

BUILDING 6

BUILDING 5

12700

25700

12700

25700

18400

FLOOR LEVEL 78.100

FLOOR LEVEL 78.900

## LEGEND

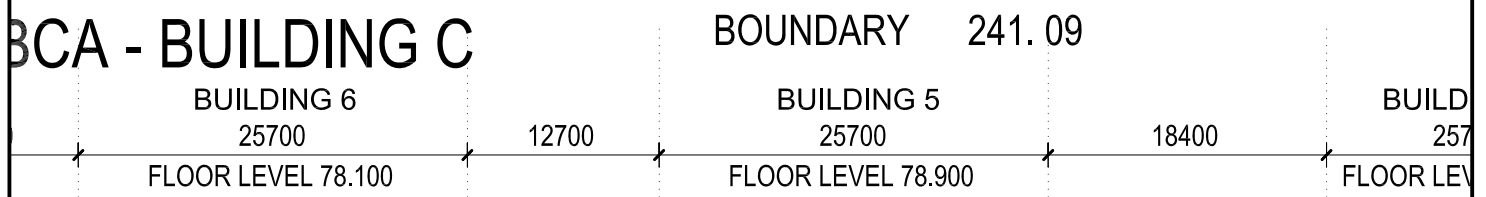
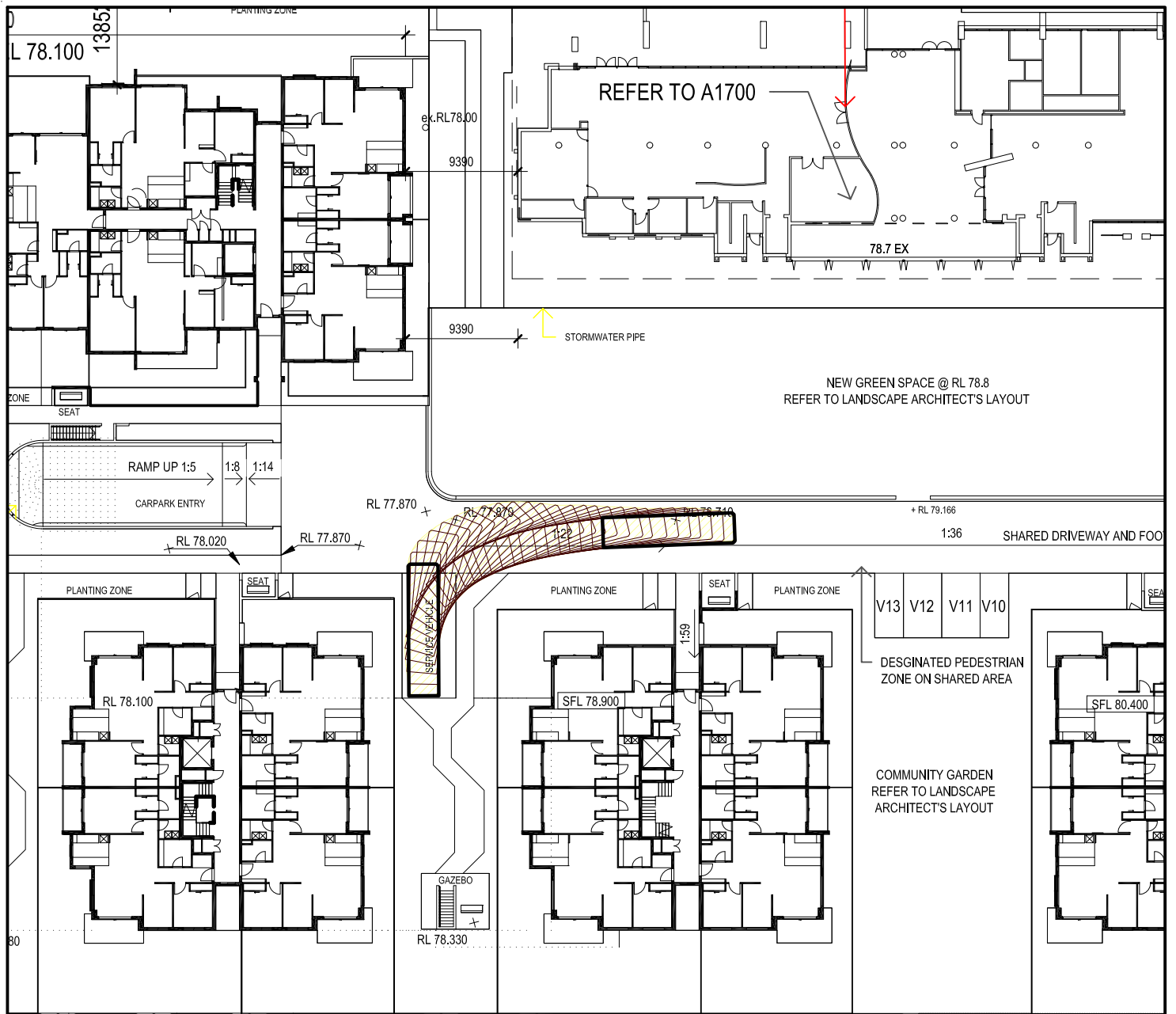
This drawing has been prepared using vehicle modelling computer software AutoTrack V9.21 in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS  
OF AN 11m RIGID  
VEHICLE ENTERING THE SITE**

**SP 1**





## LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V9.21 in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS  
OF AN 11m RIGID  
VEHICLE EXITING THE SITE**

**SP 2**

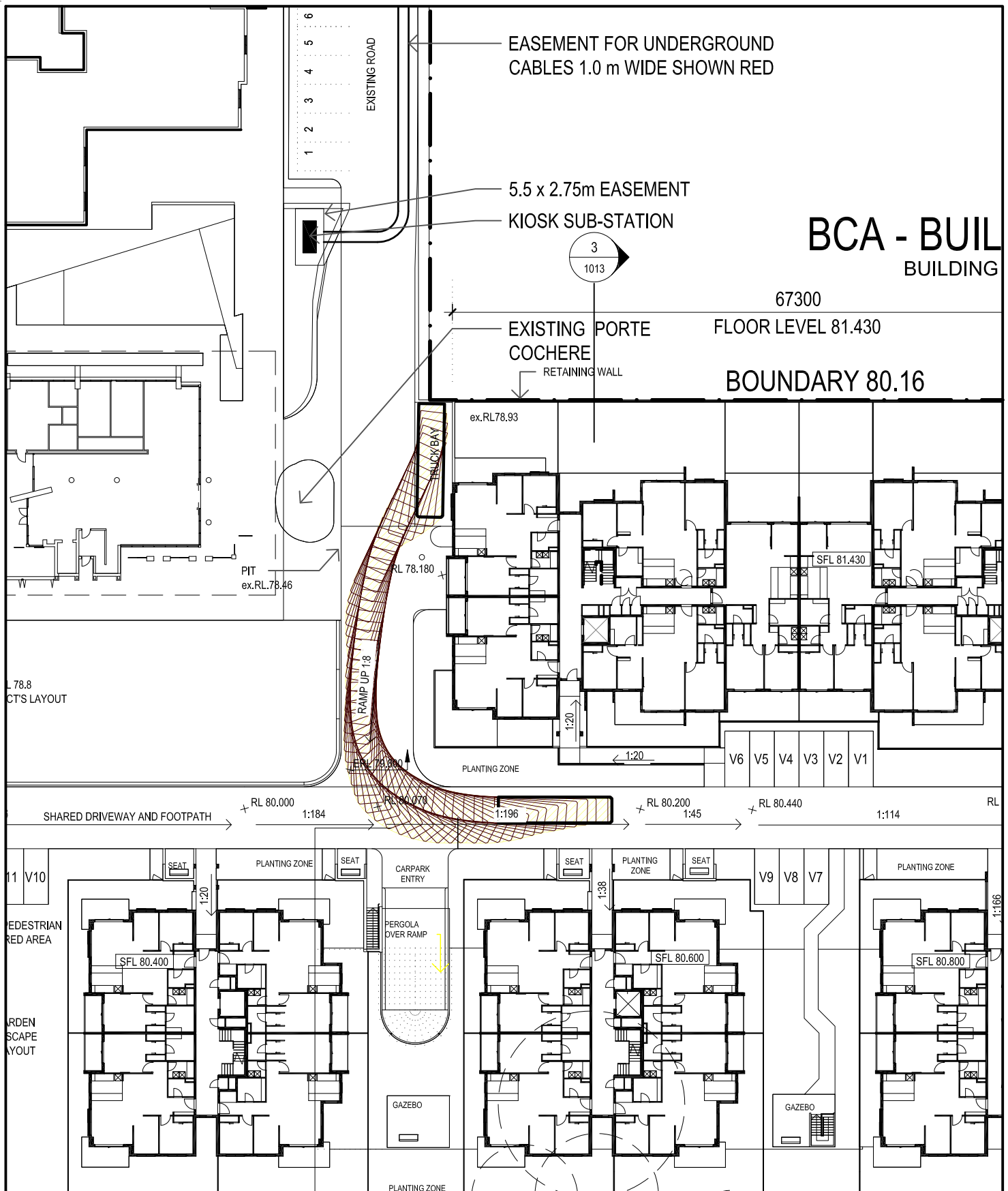
The site plan illustrates the proposed development, including buildings, parking, and landscaping. Key features include:

- Buildings:** Building A (RL 79.0) and Building B (RL 78.8) are shown. Building A is a large structure on the left, and Building B is a smaller structure on the right. Building C is also indicated.
- Parking:** 8 carspaces for visitors are shown. A kiosk sub-station is located near the carspaces.
- Landscaping:** A new green space is proposed at RL 78.8, adjacent to the landscape architect's layout.
- Infrastructure:** A stormwater pipe is shown running along the top edge. A shared driveway and footpath is located at the bottom.
- Boundaries:** Boundary 8 is shown, separating the development from the adjacent property.
- Levels:** Various levels are indicated, including RL 79.0, RL 78.8, RL 78.46, RL 78.180, RL 79.800, RL 80.000, RL 80.070, RL 80.200, and RL 80.440.
- Other Features:** A retaining wall is shown near the kiosk sub-station. A planting zone is indicated near the bottom right. A bus stop is located near the top right.

This drawing has been prepared using vehicle modelling computer software AutoTrack V9.21 in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



## SP 3



## LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V9.21 in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS  
OF AN 11m RIGID  
VEHICLE EXITING THE SITE**

**SP 4**