



53 & 57 Bolong Road and 4 Beinda Street, Bomaderry Transport Impact Assessment

Prepared for:
Landcom

18 April 2024

The Transport Planning Partnership

53 & 57 Bolong Road and 4 Beinda Street, Bomaderry Transport Impact Assessment

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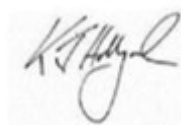
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Table of Contents

1	Introduction	1
1.1	Project Overview	1
1.2	Report Structure	1
1.3	References	1
2	Existing Conditions	2
2.1	Site Description	2
2.2	Surrounding Network	2
2.3	Public Transport	4
2.3.1	Train Services	4
2.3.2	Bus Services	4
2.4	Pedestrian and Cyclist Infrastructure	6
3	Proposed Development	7
4	Parking and Loading	8
4.1	Car Parking Provisions	8
4.1.1	Housing SEPP 2021	8
4.1.2	Adequacy of Provision	8
4.2	Electric Vehicle Provisions	9
4.3	Motorcycle Parking	9
4.4	Bicycle Parking	9
4.5	Loading and Servicing	10
4.6	Site Layout Review	10
5	Traffic Assessment	11
5.1	Traffic Generation	11
5.2	Traffic Impact	11
6	Conclusion	13

Tables

Table 2.1: Local Bus Services	5
Table 4.1: Housing SEPP Parking Requirements	8
Table 5.1: Traffic Generation	11

Figures

Figure 2.1: Site Location and Surrounds.....	2
Figure 2.2: Bolong Road looking west.....	3
Figure 2.3: Beinda Street looking south.....	3
Figure 2.4: Public Transport.....	4
Figure 2.5: Local Bus Network	5
Figure 2.6: Local Paths, Crossings and Cycle Network.....	6
Figure 3.1: Ground Floor and Car Park Layout	7

APPENDICES

- A. ARCHITECTURAL PLANS
- B. SWEPT PATH ANALYSIS
- C.

1 Introduction

1.1 Project Overview

A Development Application is to be submitted with Shoalhaven City Council (Council) for the construction of a proposed Build to Rent residential development comprising 60 dwellings at 53 and 57 Bolong Road and 4 Beinda Street, Bomaderry. The proposed Build to Rent development will be managed by a government agency or community housing provider.

Landcom engaged The Transport Planning Partnership (TPPP) to prepare a Transport Impact Assessment (TIA) to accompany the Development Application.

1.2 Report Structure

The remainder of this report is set out as follows:

- Chapter 2 discusses the existing conditions including a description of the subject site
- Chapter 3 provides a brief description of the proposed development
- Chapter 4 assesses the proposed on-site parking provisions and internal layout
- Chapter 5 examines the traffic generation and its impact
- Chapter 6 presents the conclusions of the assessment.

1.3 References

In preparing this report, reference has been made to the following:

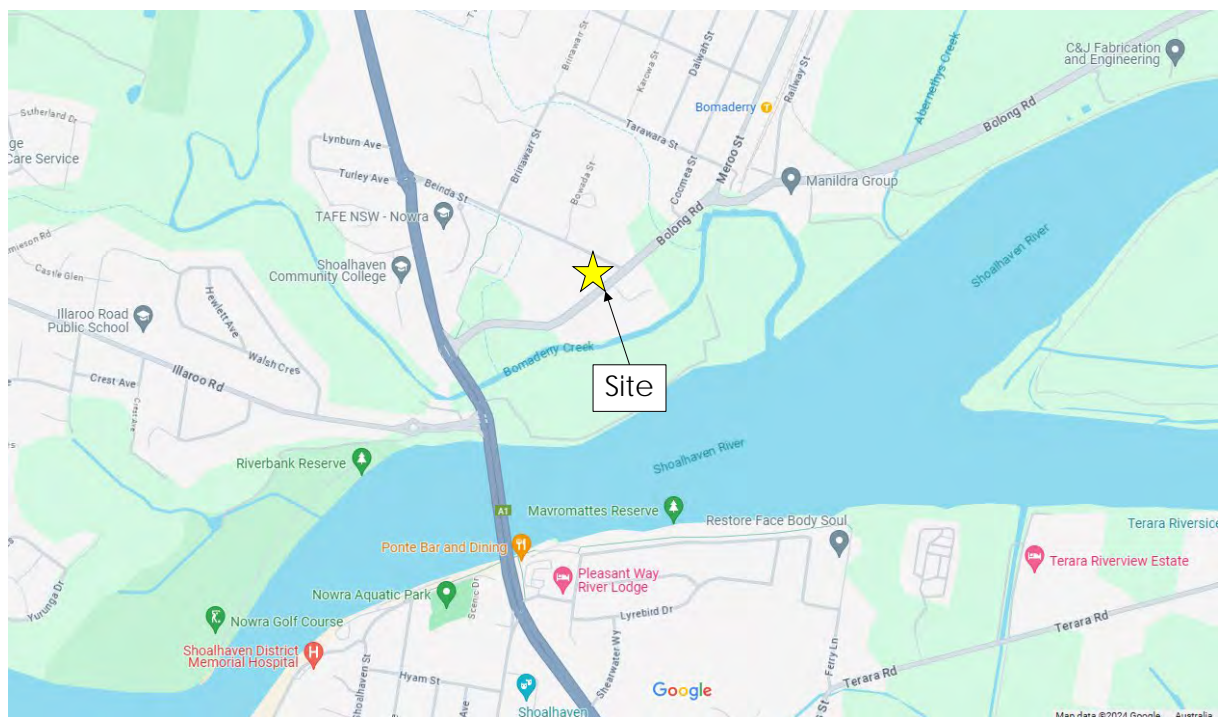
- Australian Standards AS2890 series for parking facilities
- Shoalhaven Local Environmental Plan 2014 (SLEP 2014)
- Shoalhaven Development Control Plan 2014 (SDCP 2014)
- NSW State Environmental Planning Policy (Housing) 2021 (SEPP Housing 2021)
- The Guide to Traffic Generating Developments, October 2002 (The Guide)
- The Guide to Traffic Generating Developments – Updated traffic surveys (TDT2013/04a)
- Architectural plans prepared for the development proposal
- Other documents as referenced in this report.

2 Existing Conditions

2.1 Site Description

The site is comprised of 53 and 57 Bolong Road and 4 Beinda Street, Bomaderry and is located within the Shoalhaven local government area. The site has a 57-metre frontage to Bolong Road to the south and a 130-metre frontage to Beinda Street to the north. There are currently two detached residential dwellings on the site. The surrounding land uses include low-density residential to the north and west, with commercial and industrial uses to the south and east. The site is located within 700 metres of Bomaderry town centre and Bomaderry Railway Station to the northeast, 700 metres of TAFE NSW – Nowra and Shoalhaven Community College, with Nowra Regional Centre located within 2 kilometres across the Shoalhaven River. The site location and its surrounds are shown in Figure 2.1.

Figure 2.1: Site Location and Surrounds



Base source: Google Maps (accessed 12/03/2024)

2.2 Surrounding Network

Bolong Road is a two-way regional road that connects Coolangatta, Shoalhaven Heads and Bolong to the east with Bomaderry and North Nowra to the west. It intersects with Princes Highway to the west that provides access to Nowra Regional Centre and the broader Shoalhaven and South Coast regions. Adjacent to the site, there is unrestricted kerbside parking provided on both sides of the road. Bolong Road, shown in Figure 2.2, has a speed limit of 60km/h.

Figure 2.2: Bolong Road looking west



Source: Google Streetview (accessed 12/03/2024)

Beinda Street is a two-way local road with collector road function connecting Bolong Road to Princes Highway. Beinda Street has formal kerb and gutter on both sides of the road for the first 65 metres from Bolong Road. Thereafter, no kerb and gutter are provided adjacent to the site, with the carriageway being narrower at eight metres wide compared to 10 metres for the first 65 metres. Adjacent to the site, there is unrestricted kerbside parking provided on both sides of the road. Beinda Street, shown in Figure 2.3, has a speed limit of 50km/h.

Figure 2.3: Beinda Street looking south

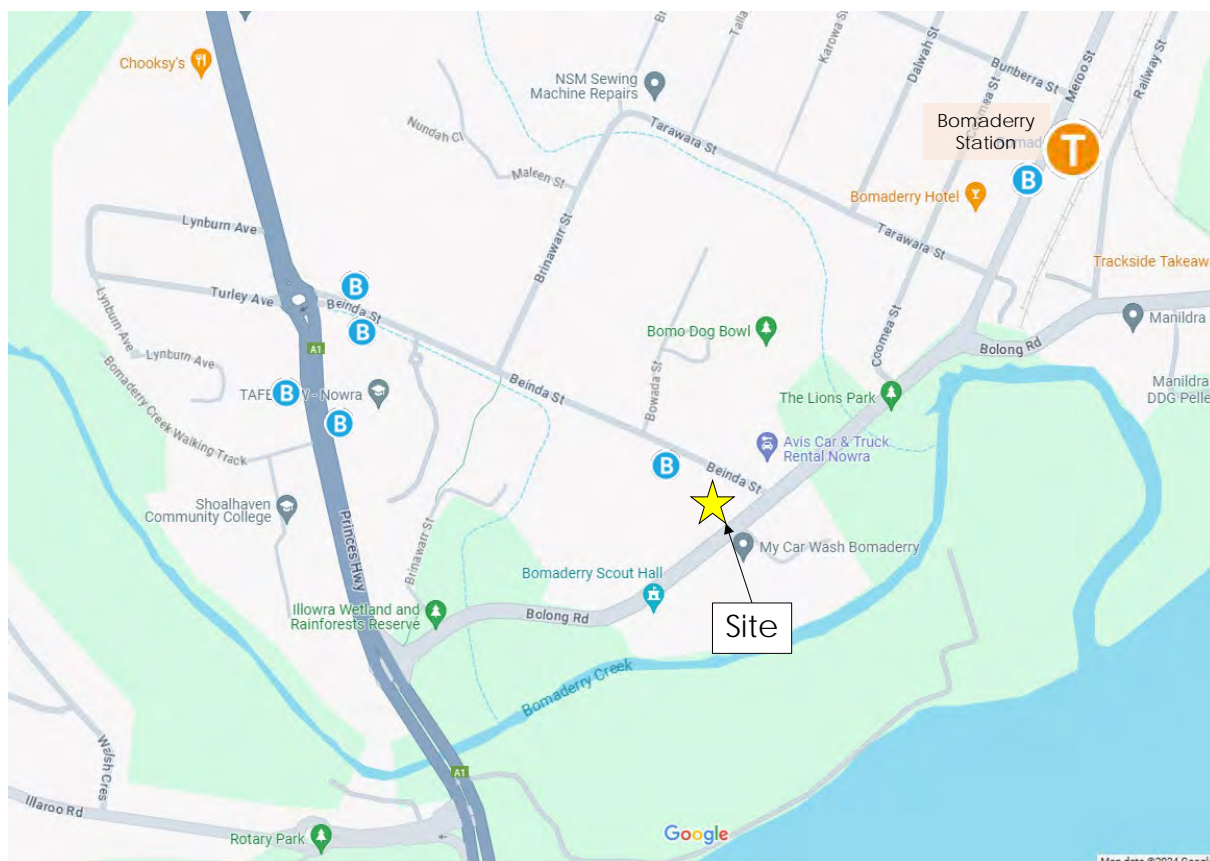


Source: Google Streetview (accessed 12/03/2024)

2.3 Public Transport

The location of nearby bus stops and the train station are shown in Figure 2.4.

Figure 2.4: Public Transport



Base source: Google Maps (accessed 12/03/2024)

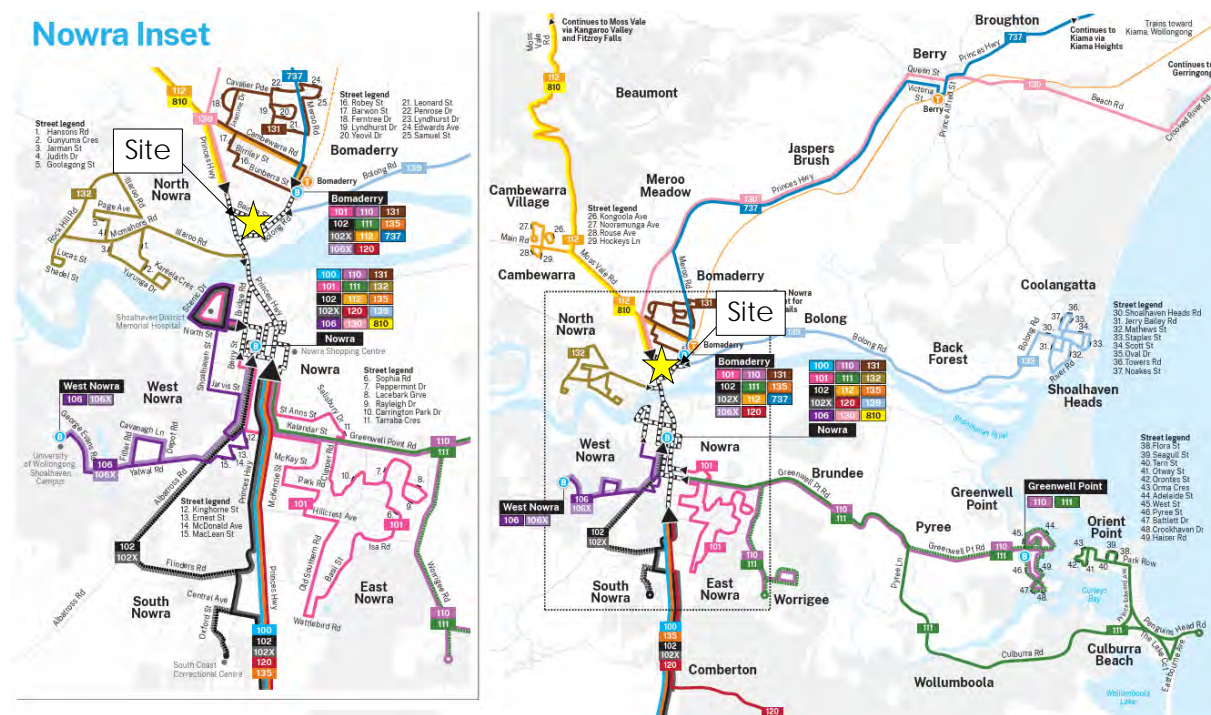
2.3.1 Train Services

Bomaderry Train Station is located within approximately 700m walking distance (10-minutes' walk) from the site. The train station is the last stop on the South Coast line with services operating to Kiama to the north, where connection services are provided towards the Sydney Metropolitan. Services are infrequent being every one to two hours.

2.3.2 Bus Services

The local bus network near the site is shown in Figure 2.5, with a description of the bus routes servicing nearby bus stops provided in Table 2.1.

Figure 2.5: Local Bus Network



Base source: <https://transportnsw.info/> (accessed 12/03/2024)

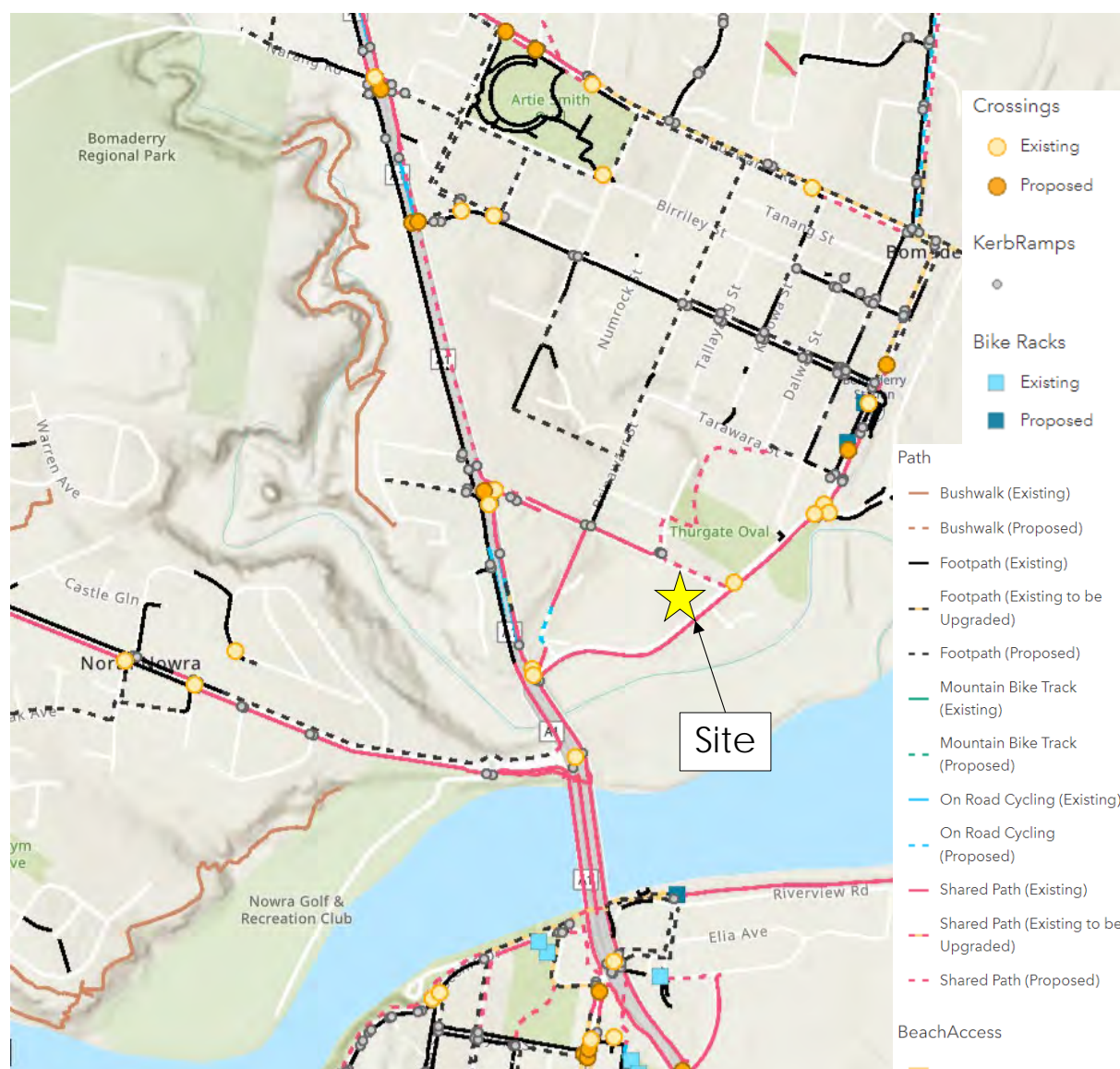
Table 2.1: Local Bus Services

Route Number	Description	Nearest Bus Stop
100	Bomaderry to Burrill Lake via Nowra & Ulladulla	Bomaderry Railway Station
101	Bomaderry to Worrigee via Nowra (Loop Service)	Bomaderry Railway Station
102	Bomaderry to Vincentia via Nowra & St Georges Basin (Loop Service)	Bomaderry Railway Station
102X	St Georges Basin to Bomaderry Station & Nowra via Sanctuary Point	Bomaderry Railway Station
106X	UOW Shoalhaven Campus to Bomaderry Station via Nowra	Bomaderry Railway Station
110	Bomaderry Station to Greenwell Point via Worrigee Road and Nowra	Bomaderry Railway Station
111	Bomaderry Station to Orient Point via Culburra Beach and Nowra	Bomaderry Railway Station
112	Nowra to Kangaroo Valley via Cambewarra and Bomaderry	Bomaderry Railway Station
120	Callala and Currarong to Nowra via Myola	Bomaderry Railway Station
130	Gerringong to Nowra via Gerroa, Berry & Nowra TAFE	Bomaderry Railway Station
131	Bomaderry to Nowra via Bomaderry Station (Loop Service)	Beinda Street, north of site
132	North Nowra to Nowra (Loop Service)	Bomaderry Railway Station
135	Berrara to Bomaderry Station via Sussex Inlet, Tomerong & Nowra	Beinda Street, north of site
139	Shoalhaven Heads to Nowra via Bomaderry Station	Bomaderry Railway Station
737	Bomaderry to Kiama Station via Gerringong Station and Berry	Bomaderry Railway Station
810	Moss Vale to Nowra via Fitzroy Falls and Kangaroo Valley	Princes Highway at Shoalhaven River Collage

2.4 Pedestrian and Cyclist Infrastructure

There is a shared path along the south side of Bolong Road linking Bomaderry to Nowra Regional Centre. There is also an incomplete shared path along Beinda Street between Princes Highway and Bowada Street, with Shoalhaven City Council's Pedestrian Access and Mobility Plan (PAMP) identifying the need to extend the shared path between Bowada Street and Bolong Road. Other existing and proposed footpaths, cycling routes and bike racks on nearby streets are shown in shown in Figure 2.6. The only formal pedestrian crossing facilities provided along Bolong Road between Princes Highway to the east and the roundabout at Meroo Street. There are opportunities for Council to extend the shared path (as shown on the PAMP) on Beinda Street and provide a designated pedestrian crossing facility on Bolong Road near Beinda Street.

Figure 2.6: Local Paths, Crossings and Cycle Network



Base source: Shoalhaven City Council (accessed 07/12/23)

3 Proposed Development

The proposed Build to Rent development includes 60 dwellings, with 20 per cent being affordable housing. The dwelling schedule set out below:

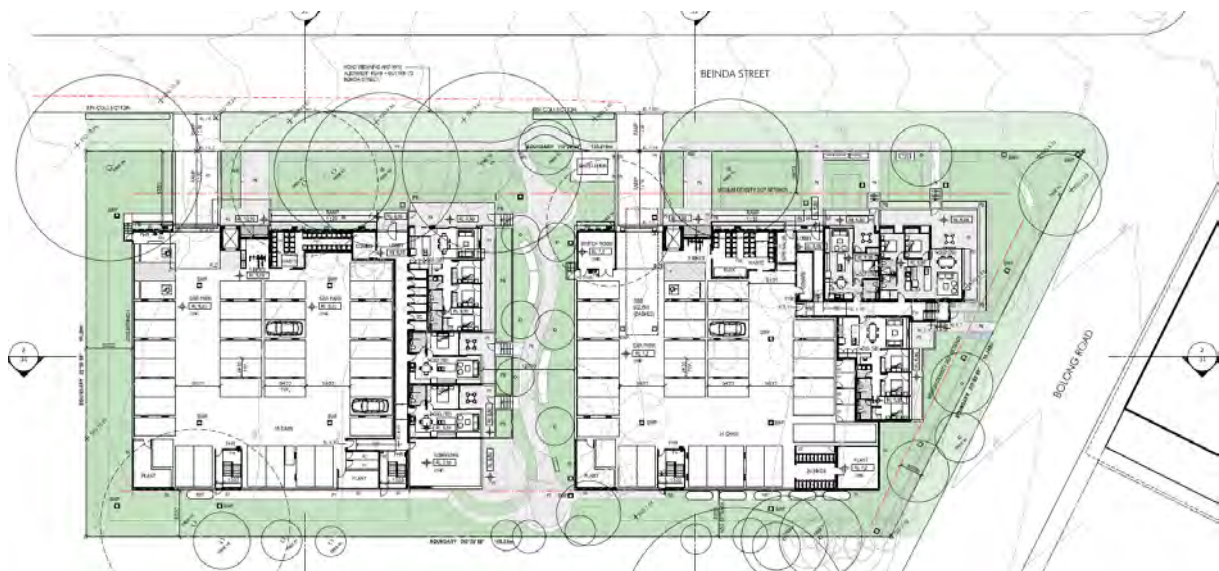
- Studio apartment – 8 units
- 1-bedroom apartment – 17 units (2 assumed to be affordable)
- 2-bedroom apartment – 19 units (9 assumed to be affordable)
- 2-bedroom terrace – 14 dwellings
- 3-bedroom apartment – 2 units (1 assumed to be affordable).

The mix of affordable housing is yet to be finalised and as such has been assumed for the purpose of this analysis. Three adaptable units will also be provided in the development.

Given the topography of the site, two separate residential buildings are proposed with individual undercroft car parking for a total of 70 vehicles. Vehicle access to each of the undercroft parking areas is proposed via Beinda Street.

The ground floor and car park layout are shown in Figure 3.1, with relevant architectural plans provided in Appendix A.

Figure 3.1: Ground Floor and Car Park Layout



Source: St. Clair Architecture, Drawing No. 23_01_DA_11 Revision A dated 12 April 2024

4 Parking and Loading

4.1 Car Parking Provisions

4.1.1 Housing SEPP 2021

The proposed Build to Rent development will be managed by a government agency or community housing provider. In addition, the site is located within 800 metres of both an E1 Local Centre and MU1 Mixed Use zone. Therefore, the development can be assessed against in-fill affordable housing requirements in the Housing SEPP 2021. The Housing SEPP 2021 provides minimum car parking rates for in-fill affordable housing developments, including minimum rates for dwellings within the development not used for affordable housing. It is noted that Housing SEPP 2021 does not provide parking requirements for visitors.

Table 4.1 sets out the parking requirement for the proposal adopting the applicable Housing SEPP 2021 parking rates.

Table 4.1: Housing SEPP Parking Requirements

Dwelling Size	Quantum	SEPP Parking Rate	SEPP Parking Requirement for the Proposed Development
Studio	8 units	0.5 space per unit	4
1-bedroom unit	15 units	0.5 space per unit	7.5
2-bedroom unit	10 units	1 space per unit	10
2-bedroom terrace	14 dwellings	1 space per dwelling	14
3-bedroom unit	1 unit	1.5 spaces per unit	1.5
Sub-Total			37
1-bedroom affordable unit	2 units	0.4 spaces per unit	1
2-bedroom affordable unit	9 units	0.5 spaces per unit	4.5
3-bedroom affordable unit	1 unit	1 space per unit	1
Sub-Total			6.5
Total			44

Table 4.1 suggests that a minimum of 44 car spaces are required to comply with Housing SEPP 2021 requirements across the two car parks. At least three car spaces are required to be accessible bays for the adaptable units with adjacent shared area provided.

4.1.2 Adequacy of Provision

A total of 70 car spaces are provided between the two car parks, therefore exceeds the minimum car parking requirements set out in the Housing SEPP 2021 for in-fill affordable housing developments, which is the primary planning policy applicable to this Build to Rent development.

It is proposed to allocate one space per Studio, 1- and 2-bedroom dwellings, two spaces per 3-bedroom dwellings with the remaining eight spaces for visitors. Even though not a Housing SEPP 2021 requirement, the proposed eight visitor spaces aides to reduce impact on on-street

parking whilst ensures that these spaces are not misused by residents should they be underutilised for most of the time.

Therefore, the proposed provision provides an appropriate balance, considering the minimum Housing SEPP 2021 requirement whilst ensuring each dwelling has at least one car space. The provision aides to encourage lower car ownership and higher use of alternate travel modes noting the sites proximity to Bomaderry Town Centre, Bomaderry Railway Station, TAFE campus and a range of recreational areas all within a walkable catchment; but also, Nowra Regional Centre which is in cycling distance. There is opportunity for travel demand management measures such as a car share scheme that provides residents a secondary vehicle for the occasional use that could be considered towards attracting a lower car ownership.

4.2 Electric Vehicle Provisions

Chapter G21 of SDCP 2014 states that *"electrical conduits for electric vehicle charging shall be installed for each dwelling where the development proposes three or more dwellings to facilitate cost effective installation at a later date"*. Such electrical conduit provisions for the 60 dwellings are proposed to be included in the car parks as part of the development proposal.

4.3 Motorcycle Parking

The SDCP 2014 does not provide specific rates for motorcycle parking provisions, however in Chapter G21 notes that *"redundant areas within car parks should be considered for motorcycle parking. A maximum of 2% of total car parking provision can be provided as motorcycle parking"*.

There is one motorcycle space proposed in building 2 (i.e. western building) given spatial constraints in the available car park footprints. Opportunity for additional motorcycle parking in the two buildings can be considered as part of design development prior to construction.

4.4 Bicycle Parking

Chapter G13 of SDCP 2021 requires secure undercover bicycle parking/ storage to be provided at a rate of one space per dwelling. On this basis, at least 60 secure undercover bicycle parking spaces and/ or storage is required across the two buildings.

Given spatial constraints in the available car park footprint, the proposal can provide bicycle parking/ storage for 46 bicycles across the two car parks, in the form of 32 bicycle racks and 14 storage cages suitable to store bicycles. Although less than one space per dwelling, the available bicycle parking is considered appropriate given the location of the development, whilst still encouraging uptake in cycling, whether for leisure or commuting. It provides a balanced approach has been provided to ensure that there are sufficient car parking spaces given the constrained car park footprint. Opportunity for more across the two buildings can be considered as part of design development prior to construction.

4.5 Loading and Servicing

The SDCP 2014 does not provide specific rates for loading and serving provisions, however, has performance criteria for all servicing to occur on-site and suitable areas to be provided for safe and efficient loading/ unloading of goods. The DCP notes that servicing areas should operate independently of other parking areas and any reversing manoeuvres across pedestrian desire lines should be avoided.

It is understood that there are several site constraints that limit the development opportunities of the site. Specifically, the site has a five-metre level difference between the southeast and northwest ends of the site, with undersurface material not feasible for extensive excavation. These constraints impact the ability to provide suitable, dedicated on-site servicing area(s) that would allow service vehicles to enter and exit the site in a forward direction without compromising on ground floor activation, open space/ deep soil and on-site parking areas.

With limited competing demands for on-street parking along Beinda Street, further aided by at least one car space per dwelling provided on-site along with some visitor parking, it is proposed that kerbside loading and servicing is provided for the development; and whether it is formalised via a signposted (and time-restricted) Loading Zones to be explored with Council. This would allow both bulky goods and waste bins to be directly transported between each building and the service vehicle which is considered appropriate given the medium scale of the development proposed (i.e. about 30 dwellings per building).

As mentioned, Beinda Street only has formal kerb and gutter on both sides of the road for the first 65 metres from Bolong Road. Thereafter, no kerb and gutter is provided adjacent to the site, with the carriageway being narrower at eight metres wide compared to 10 metres for the first 65 metres. The carriageway is proposed to be widened for the remainder of the site frontage to 10 metres with formal kerb and gutter provided. This will aid the proposed kerbside servicing of the site without having notable impact on traffic along Beinda Street.

4.6 Site Layout Review

The site layout has been designed in accordance with the requirements of AS2890.1, AS2890.2 and AS2890.6. The design includes compliance with the following requirements:

- Resident car parking is designed in accordance with AS2890.2 Class 1A parking facility, with a minimum dimension of 2.4 metre wide, 5.4 metre long and a minimum aisle width of 5.8 metre.
- Accessible parking spaces are designed in accordance with AS2890.6 with minimum dimensions of 2.4 metre wide and 5.4 metre long, with an adjoining shared area of the same dimensions.
- Minimum blind aisle extension of one metre beyond the last car space.

Swept path analysis has been completed to demonstrate that all relevant design vehicles can enter and exit the site in a forward direction. The swept path analysis is provided in Appendix A.

5 Traffic Assessment

5.1 Traffic Generation

Table 5.1 sets out the anticipated traffic generating characteristics of the proposal adopting rates for medium density residential flat buildings set out in TfNSW's Guide to Traffic Generating Developments 2002. These rates are considered appropriate when considering the proposed parking provision of at least one space per unit.

Table 5.1: Traffic Generation

Size	Yield	Traffic Generation Rate		Vehicle Trips	
		Peak Hour	Daily	Peak Hour	Daily
Up to 2 Bedroom	57 dwellings	0.4-0.5 per dwelling	4-5 per dwelling	23-29 trips	228-285 trips
3 Bedroom or more	3 dwellings	0.5-0.65 per dwelling	5-6.5 per dwelling	2 trips	15-20 trips
Total				25-31 trip	243-305 trips

Table 5.1 suggests that the proposal could generate around 30 vehicle trips in any peak hour and 300 vehicle trips daily.

The hourly vehicle trips equate to one two-way vehicle movement every two minutes between the two car park access points.

5.2 Traffic Impact

Historic traffic data was obtained from Council to understand baseline traffic conditions along Bolong Road and Beinda Street, with a summary of the two-way volumes below:

- Bolong Road
 - February 2023
 - 12,100 vehicles (average daily weekday traffic volume)
 - 1,000 vehicles (average weekday AM peak traffic volume)
 - 1,100 vehicles (average weekday PM peak traffic volume)
 - May 2021
 - 12,400 vehicles (average daily weekday traffic volume)
 - 940 vehicles (average weekday AM peak traffic volume)
 - 1,150 vehicles (average weekday PM peak traffic volume)
- Beinda Street
 - May 2021
 - 1,000 vehicles (average daily weekday traffic volume)
 - 130 vehicles (average weekday AM peak traffic volume)
 - 95 vehicles (average weekday PM peak traffic volume)

The historic data suggests that traffic volumes along Bolong Road have been consistent between 2021 and 2023, with limited seasonal fluctuation between February and May.

Beinda Street is a local road with collector function linking Bolong Road (an unclassified Regional Road) and Princes Highway (a State Road). Based on the TfNSW Guide 2002 environmental capacity goal for a collector road is 300 vehicle per hour with a maximum of 500 vehicle per hour, the observed peak hour traffic volumes of around 100 to 130 vehicles per hour are notably below these targets.

The observed volumes are also below the environmental goal (200 vehicles per hour) and maximum (300 vehicles per hour) for a local road. Even if any seasonal fluctuation is considered, say 20 to 30 percent to be conservative, noting no fluctuation was observed along Bolong Road, the potential traffic volumes along Beinda Street would remain below both the local and collector road targets.

On the above basis, the additional 30 vehicles per hour generated by the proposal is not expected to have any notable impact on the surrounding road network.

6 Conclusion

This report examines the traffic and parking implications of the proposed Build to Rent residential development comprising 60 dwellings at 53 & 57 Bolong Road and 4,8 Beinda Street, Bomaderry. The key findings of the assessment are presented below:

- The proposed car parking provision of 70 spaces exceeds the minimum car parking requirements set out in the Housing SEPP 2021 for in-fill affordable housing developments, which is the primary planning policy applicable to this Build to Rent development (44 spaces).
- The parking provision complies with the minimum Housing SEPP 2021 requirement, providing at least one car space per dwelling and some visitor parking, whilst encouraging lower car ownership and use of higher alternate travel modes.
- The provision of bicycle parking/ storage for 46 bicycles across the two car parks considered appropriate given the location of the development, whilst still encouraging uptake in cycling, whether for leisure or commuting.
- On-street loading and servicing is proposed for the development along Beinda Street given several site constraints that limit the development opportunities of the site for on-site facilities. The proposed carriageway widening to provide a consistent 10 metre width along the site frontage will aid the proposed kerbside servicing of the site without having any notable impact on traffic flows along Beinda Street.
- The site layout has been designed in accordance with the requirements of AS2890.1, AS2890.2 and AS2890.6.
- The proposal could generate between 25 to 31 vehicle trips per hour (two-way) during the weekday road network peak hours, or up to 305 vehicle trips daily.
- There will be adequate capacity in the surrounding road network to cater for the traffic generated by the proposal.

On this basis, this proposed Build to Rent residential development can be supported from a traffic and parking perspective.

Appendix A

Architectural Plans

DEVELOPMENT APPLICATION FOR BOMADERRY BTR AT:
53 & 57 BOLONG ROAD AND 4 BEINDA STREET
BOMADERRY NSW 2541



VIEW FROM BEINDA STREET (NORTH WEST)

DEVELOPMENT APPLICATION:

Architectural Drawing List

- DA 01 Site Analysis plan (NTS)
DA 02 Site & Roof plan (1:200 / 1:400)
- DA 11 Ground floor plan (1:200 / 1:400)
DA 12 Level 1 floor plan (1:200 / 1:400)
DA 13 Level 1 floor plan (1:200 / 1:400)
DA 14 Level 1 floor plan (1:200 / 1:400)
- DA 21 Elevations - Sheet 1 (1:200 / 1:400)
DA 22 Elevations - Sheet 2 (1:200 / 1:400)
- DA 31 Sections (1:200 / 1:400)
- DA 41 Calculations Summary
- DA 51 ADG Compliance Summary - Solar & Cross Ventilation
DA 52 ADG Compliance Summary - Storage
- DA 71 Shadow Diagrams - Sheet 1
DA 72 Shadow Diagrams - Sheet 2
DA 73 Views from Sun - Sheet 1
DA 74 Views from Sun - Sheet 2
- DA 81 Demolition Plan

REVISION SCHEDULE

Rev. Date Revision Notes

A 12/04/24 DEVELOPMENT APPLICATION

NOTES

THIS DRAWING IS PART OF A SET, AND SHOULD BE READ IN CONJUNCTION WITH ALL OTHER DOCUMENTS. VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING CONSTRUCTION OR FABRICATION. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR VERIFICATION.

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Project:
BOMADERRY BTR, 53 & 57 Bolong rd and
4 Beinda St, Bomaderry, NSW 2541

Client:



Drawing Name:
COVER SHEET

Job Number:
202312

Scale:

NTS

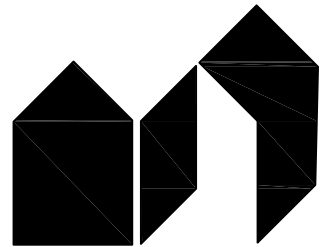
Plot Date:

12/04/2024

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DEVELOPMENT APPLICATION

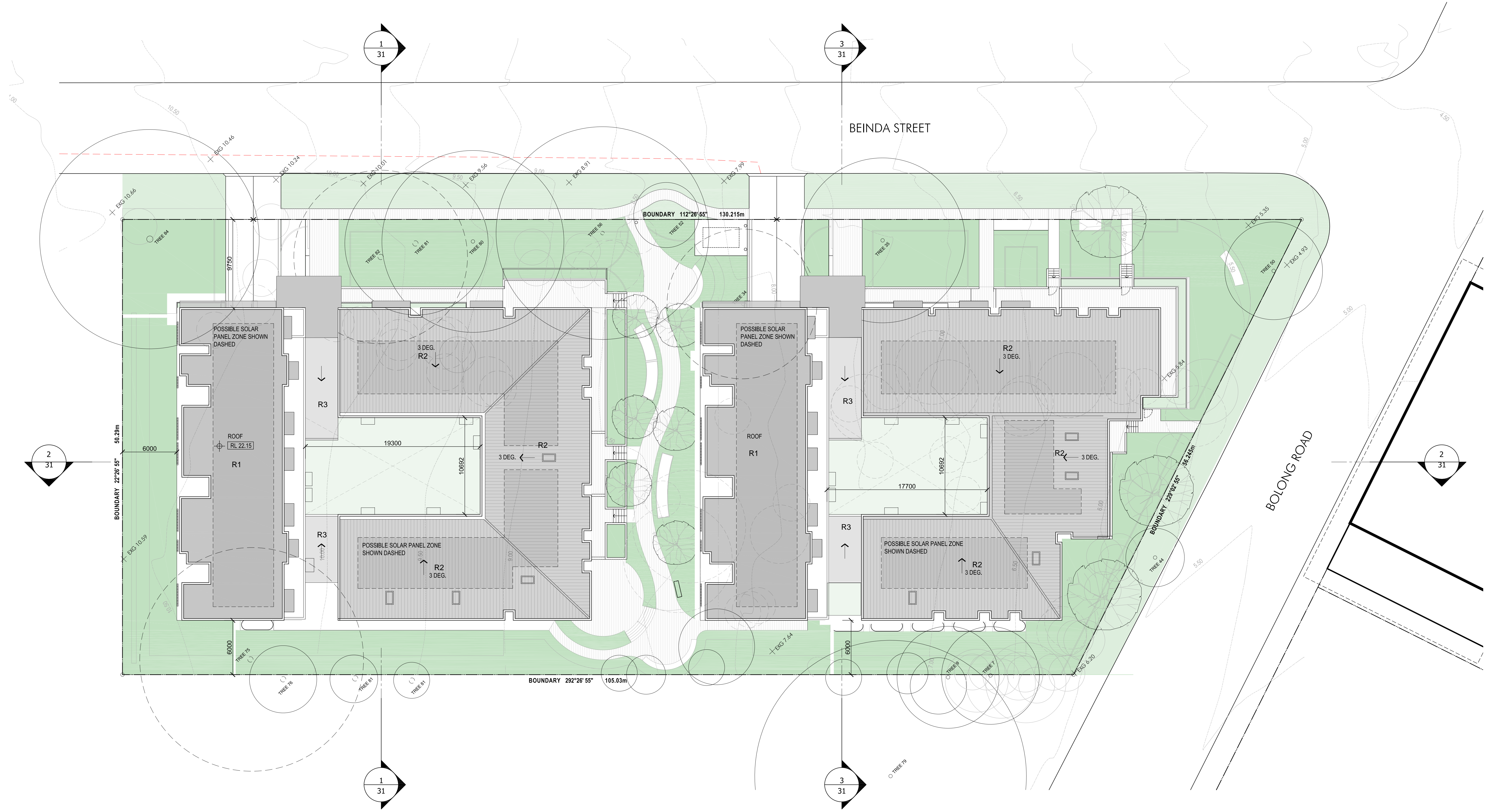
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SITE & ROOF PLAN
Scale 1:200 (A1) / 1:400 (A3)

REVISION SCHEDULE

Rev.	Date	Revision Notes
A	12/04/24	DEVELOPMENT APPLICATION

PROPOSED NEW TREE

TREES PROPOSED FOR RETENTION

TREES PROPOSED FOR REMOVAL

Project:
**BOMADERRY BTR, 53 & 57 Bolong rd and
4 Beinda St, Bomaderry, NSW 2541**

Client:
 LANDCOM

Drawing Name:
SITE & ROOF PLAN

Job Number:
202312

Scale:
1:200 @A1 / 1:400 @A3

Plot Date:
12/04/2024

Drawing Status:
DEVELOPMENT APPLICATION

Drawing No: **DA - 02** Revision: **A**

TN

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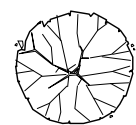


LEVEL 1 FLOOR PLAN
Scale 1:200 (A1) / 1:400 (A3)

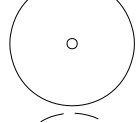
REVISION SCHEDULE

Rev. Date Revision Notes

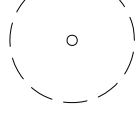
A 12/04/24 DEVELOPMENT APPLICATION



PROPOSED NEW TREE



TREES PROPOSED FOR RETENTION



TREES PROPOSED FOR REMOVAL

AFW ALUMINIUM FRAMED WINDOW
BG BOX GUTTER
BS BENCH SEAT
BOL BOLLARD
DP DOWNPIPE
FW FLOOR WASTE
GD GRATED DRAIN TO ENGINEERS DETAILS
MB MAILBOXES

O/F OVERFLOW (ROOF)
PB PLANTER BOX
PLD PANEL LIFT GARAGE DOOR
RL REDUCED LEVELS RELATIVE TO AHD
RWH RAINWATER HEAD
RWO RAIN WATER OUTLET
RWT RAIN WATER TANK
SC STORAGE CAGE
SK SKYLIGHT
SWP STORM WATER PIT

NOTE:

REFER TO EXTERNAL FINISHES SCHEDULE FOR SPECIFICATION DETAIL TO ALL FINISHES CODES INDICATED ON DRAWINGS

P1, P2, P3...
R1, R2...
S1, S2, S3...
W1, W2, W3...

PAVER TYPE
ROOF TYPE
SCREEN TYPE
WALL TYPE

Project:
BOMADERY BTR, 53 & 57 Bolong rd and
4 Beinda St, Bomaderry, NSW 2541

Client:



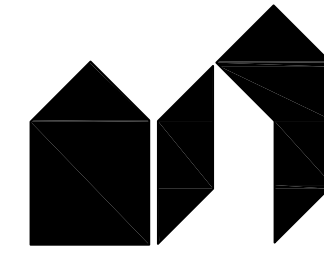
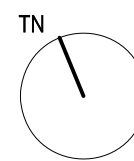
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LEVEL 1 FLOOR PLAN

Job Number:
202312
Scale:
1:200 @A1 / 1:400 @A3

Plot Date:
12/04/2024

Drawing Status:
DEVELOPMENT APPLICATION

Drawing No: DA - 12
Revision: A



St.Clair Architecture
136 Milton Rd, Crenshaw Point, NSW 2090
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Peter St.Clair NSW ARB 7325

Development Statistics	Existing Site Area	5,915 sq.m
	Permissible Height	11 m
	Permissible FSR	NA
	Permissible GFA *	NA

PROPOSED DEVELOPMENT MIX

<small>* gross floor area means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes— the area of a mezzanine, and habitable rooms in a basement or an attic, and any shop, auditorium, cinema, and the like, in a basement or attic; but excludes — any area for common vertical circulation, such as lifts and stairs, and any basement— storage, and vehicular access, loading areas, garbage and services, and plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and car parking to meet any requirements of the consent authority (including access to that car parking), and any space used for the loading or unloading of goods (including access to it), and terraces and balconies with outer walls less than 1.4 metres high, and voids above a floor at the level of a storey or storey above.</small>	Ground Floor	Parking (cars, bicycles) Residential lobbies (internal) Communal space (internal) Storage Service plant	Number of Dwellings: 60
	Level 1	Residential lobbies (external) Courtyards/communal open space (external)	
	Level 1-3	Residential Dwellings	
	Rooftop	Na	

COMMUNAL AMENITIES		Gross Floor Area (GFA)	Nett Lettable Area (NLA)
Ground Floor Communal	Internal communal space	60	54
TOTAL COMMUNAL AREA GFA *		60	
RESULTANT COMMUNAL NLA			54

RESIDENTIAL USE						Gross Floor Area *(GFA) measured	Nett Lettable Area (NLA) based on unit plans
APARTMENT LEVELS:	Ground	3 bed, 2 bed, 1 bed apartments				612	Refer Summary on following page
	Level 1	2 bed, 1 bed, studio apartments				1,681	
	Level 2	2 bed, 1 bed apartments				1,658	
	Level 3	2 bed apartments (upper levels of 2 storey apartments)				624	
TOTAL RESIDENTIAL GFA * (m2)						4,575	
TOTAL RESIDENTIAL DWELLINGS		Based on Summary next page					60
TOTAL RESIDENTIAL NSA/NLA (m2)		Based on Summary next page					4,239
Summary of Dwelling Numbers + Resultant Mix	Number		Mix	totals		92.5% efficiency DCP requirement	
	Studio	8	13.3%	13.3%			na
	1 Bed	17	28.3%	28.3%			na
	2 Bed	19	31.7%	55.0%			na
	2 Bed 2 storey	14	23.3%				na
	3 Bed	2	3.3%	3.3%			na
	TOTAL	60	100.0%			76 Av.Unit Size	

TOTAL DEVELOPMENT GFA * (m2)	4,635
RESULTANT Floor Space Ratio (FSR)	0.78



St. Clair Architecture

Bomaderry BTR/Floor area + unit mix + compliance summary

RESIDENTIAL SUMMARY OF UNIT TYPES AND NSA														Access		ADG Check				
Building	Level	Dwelling No.	Type	Internal Area		External Area			Unit Check					Adaptable (AS4299)	Livable (ABCB)	Storage (min 50% in unit)	2 hrs sun * (min 70%)	3 hrs sun * (min 3 hrs)	Vent (min 60%)	South (No sun)
				NSA	Comment	Balcony	Cy/Terrace	Roof Garden	Studio	1 Bed	2 Bed	2 Bed/2 storey	3 Bed							
1 (East)	Ground	1.G01	1 Bed (1B 01)	54		8	15			1				1	Yes	1	1	1	0	0
		1.G02	2 Bed (2B 02)	84		10	45				1			1	Yes	1	1	1	1	0
		1.G03	3 Bed (3B 01)	102		0	23						1	1	Yes	1	0	0	1	1
	Level 1	1.101	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		1.102	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		1.103	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		1.104	2 Bed (2B 02)	84		10					1			1	Yes	1	1	1	1	0
		1.105	Studio (Studio 01)	45		4			1					1	Yes	1	0	0	1	1
		1.106	1 Bed (1B 01)	58		16				1				1	Yes	1	0	0	1	0
		1.107	2 Bed (2B 02)	83		10					1			1	Yes	1	0	0	1	0
		1.108	2 Bed (2B 01)	84		10					1			1	Yes	1	0	0	1	0
		1.109	2 Bed (2B 03)	87		10					1			1	Yes	1	0	0	1	1
		1.11	Studio (Studio 01)	44		5			1					1	Yes	1	1	0	1	0
		1.111	Studio (Studio 01)	44		5			1					1	Yes	1	1	0	1	0
		1.112	Studio (Studio 01)	44		5			1					1	Yes	1	1	0	1	0
		1.113	2 Bed (2B 03)	87		10					1			1	Yes	1	1	1	1	0
	Level 2 (including both levels of 2 storey units entered at Level 2)	1.201	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		1.202	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		1.203	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		1.204	2 Bed (2B 02)	84		10					1			1	Yes	1	1	1	1	0
		1.205	Studio (Studio 01)	45		4			1					1	Yes	1	1	1	1	0
		1.206	1 Bed (1B 01)	58		16				1				1	Yes	1	1	1	1	0
		1.207	2 Bed (2B 02)	83		10					1			1	Yes	1	1	1	1	0
		1.208	2 Bed (2B 01)	84		10					1			1	Yes	1	1	1	1	0
		1.209	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		1.21	2 Bed/2 Storey (2B 05)	75		10						1			Yes	1	1	1	1	0
		1.211	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		1.212	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		1.213	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		1.214	2 Bed/2 Storey (2B 05)	75		10						1			Yes	1	1	1	1	0
		1.215	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
2 (West)	Ground	2.G01	3 Bed (3B 01)	100		0	55						1	1	Yes	1	1	1	1	0
		2.G02	1 Bed (1B 01)	53		8	11			1				1	Yes	1	0	0	0	0
		2.G03	1 Bed (1B 01)	53		8	11			1				1	Yes	1	0	0	0	0
	Level 1	2.101	2 Bed (2B 02)	84		10					1			1	Yes	1	1	1	1	0
		2.102	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		2.103	2 Bed (2B 02)	84		15					1			1	Yes	1	1	1	1	0
		2.104	2 Bed (2B 01)	84		10					1			1	Yes	1	0	0	1	0
		2.105	2 Bed (2B 02)	84		15					1			1	Yes	1	0	0	1	0
		2.106	1 Bed (1B 01)	53		10				1				1	Yes	1	0	0	1	0
		2.107	1 Bed (1B 01)	58		8				1				1	Yes	1	0	0	1	0
		2.108	2 Bed (2B 03)	87		10					1			1	Yes	1	0	0	1	1
		2.109	Studio (Studio 01)	45		5			1					1	Yes	1	1	1	1	0
		2.11	Studio (Studio 01)	45		5			1					1	Yes	1	1	1	1	0
		2.111	Studio (Studio 01)	45		5			1					1	Yes	1	1	1	1	0
		2.112	2 Bed (2B 03)	87		10					1			1	Yes	1	1	1	1	0
	Level 2 (including both levels of 2 storey units entered at Level 2)	2.201	2 Bed (2B 02)	84		10					1			1	Yes	1	1	1	1	0
		2.202	1 Bed (1B 01)	53		8				1				1	Yes	1	1	1	1	0
		2.203	2 Bed (2B 02)	84		15					1			1	Yes	1	1	1	1	0
		2.204	2 Bed (2B 01)	84		10					1			1	Yes	1	1	1	1	0
		2.205	2 Bed (2B 02)	84		15					1			1	Yes	1	1	1	1	0
		2.206	1 Bed (1B 01)	53		10				1				1	Yes	1	1	1	1	0
		2.207	1 Bed (1B 01)	58		8				1				1	Yes	1	1	1	1	0
		2.208	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		2.209	2 Bed/2 Storey (2B 05)	77		10						1			Yes	1	1	1	1	0
		2.21	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		2.211	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		2.212	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
		2.213	2 Bed/2 Storey (2B 05)	75		10						1			Yes	1	1	1	1	0
		2.214	2 Bed/2 Storey (2B 04)	85		10						1			Yes	1	1	1	1	0
TOTALS				13% Mix		Brief Range: 20-50%			8											
				28% Mix		Brief Range: Na				17										
				32% Mix		Brief Range: Na					19									
				23% Mix		Brief Range: Na						14					47	44	57	4
				3% Mix		Brief Range: Max 10%							2				Resultant %			
	TOTAL UNITS								60					3	46		78%	73%	95%	7%

Note 1 : Units 1.205 - 1.208 and 2.204 - 2.207 apply skylights for solar access to living rooms

Note 2 : Total unit numbers include 12 affordable housing dwellings (20%) - types and locations subject to future operator

TOTAL NETT SALEABLE/LETTABLE AREA (m2) - residential only		4239 m2
TOTAL NETT SALEABLE/LETTABLE AREA (m2) - residential + communal space (internal)		4293 m2
Plus External:	Balcony Areas (m2)	544 m2
	Terrace/courtyard (m2)	160 m2
	Roof Garden Areas (m2)	0 m2

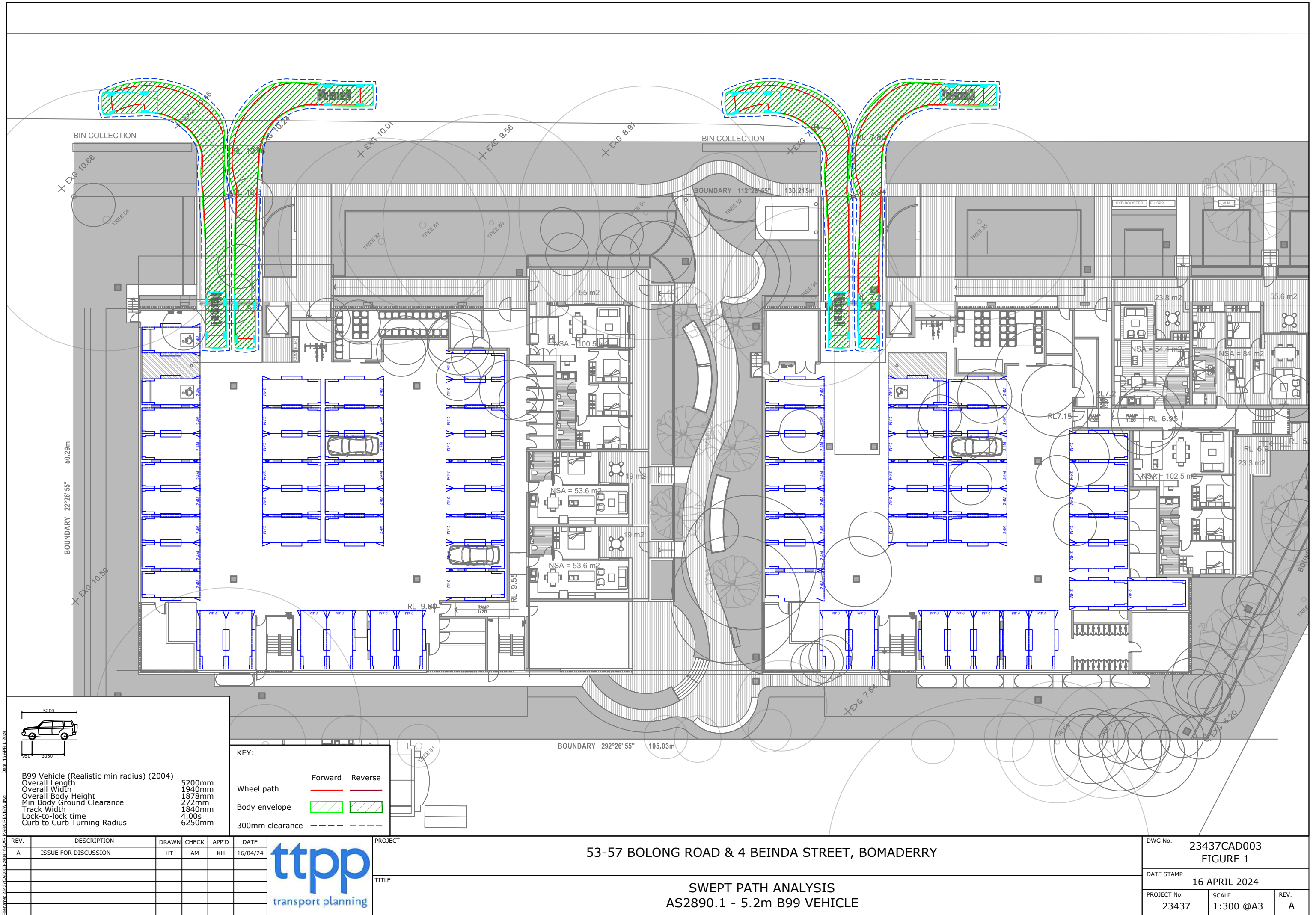
SUPPORTING REQUIREMENTS

CAR PARKING	Housing SEPP Infill Affordable Housing	Resultant Spaces	Proposed Spaces	70 spaces
	Studio	0.4/0.5	4.0	Building 1 - 34 spaces (including 1 accessible space)
	1 Bed	0.4/0.5	8.3	Building 2 - 36 spaces (including 2 x accessible spaces)
	2 Bed	0.5/1	28.5	
	3 Bed	1/1.5	2.5	
	Visitor	0	0.0	
	Total Resultant Spaces	43.3	70 (1.166 per dwelling)	

BICYCLE PARKING	DCP 2014 Rates	Resultant Spaces	Proposed Spaces	46 spaces
	Residents	1 per dwelling	12-18	Building 1 - 31 spaces
	Visitors	Na	3-6	Building 2 - 15 spaces
	Total Resultant Spaces	15-24	46	
MOTORCYCLE PARKING				1 spaces
	Residents	0	0	Building 1 - 0 spaces
	Visitors	0	0	Building 2 - 1 spaces
	Visitors	0	0	2
TOTAL BICYCLE AND MOTOR CYCLE PARKING				47 spaces

Appendix B

Swept Path Analysis



5200
1940
1878
272
1840
4.00s
6250

B99 Vehicle (Realistic min radius) (2004)
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock-to-lock time
Curb to Curb Turning Radius

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	HT	AM	KH	16/04/24



PROJECT	53-57 BOLONG ROAD & 4 BEINDA STREET, BOMADERRY
TITLE	SWEPT PATH ANALYSIS AS2890.1 - 5.2m B99 VEHICLE

DWG No.	23437CAD003
FIGURE 1	
DATE STAMP	16 APRIL 2024
PROJECT No.	23437
SCALE	1:300 @A3
REV.	A

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