812 Pittwater Road & 4 Delmar Parade, Dee Why

Traffic Impact Assessment

Prepared for:

Dee Why 3 Pty Ltd & Dee Why 4 Pty Ltd

6 December 2021

The Transport Planning Partnership

E: info@ttpp.net.au

812 Pittwater Road & 4 Delmar Parade, Dee Why

Traffic Impact Assessment

Client: Dee Why 3 Pty Ltd & Dee Why 4 Pty Ltd

Version: V03

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Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	16/09/21	Charbel Hanna	Oasika Faiz	Ken Hollyoak	-
V02	1/11/21	Charbel Hanna	Oasika Faiz	Ken Hollyoak	-
V03	26/11/21	Charbel Hanna	Oasika Faiz	Ken Hollyoak	Ken Hollyoak
V04	06/12/21	Charbel Hanna	Oasika Faiz	Ken Hollyoak	

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APPENDICES

1 Introduction

This traffic impact assessment (TIA) has been prepared for a proposed mixed-use development at 812 Pittwater Road & 4 Delmar Parade, Dee Why. The report is to be submitted to Northern Beaches Council (Council) for the purposes of a Development Application (DA) approval.

The proposal includes the,

- Demolition of existing buildings, tree removal and site clearing
- Construction of two new mixed-use buildings over a shared two-storey basement car park comprising:
  - 230 residential apartments
  - 439 m2 of commercial gross floor area on the ground floor and level 1

The development would be serviced by a ground level loading dock.

The Transport Planning Partnership (TTPP) Pty Ltd has prepared this traffic and parking impact assessment report on behalf of SPV relating to the proposed development application.

The remainder of the report is set out as follows:

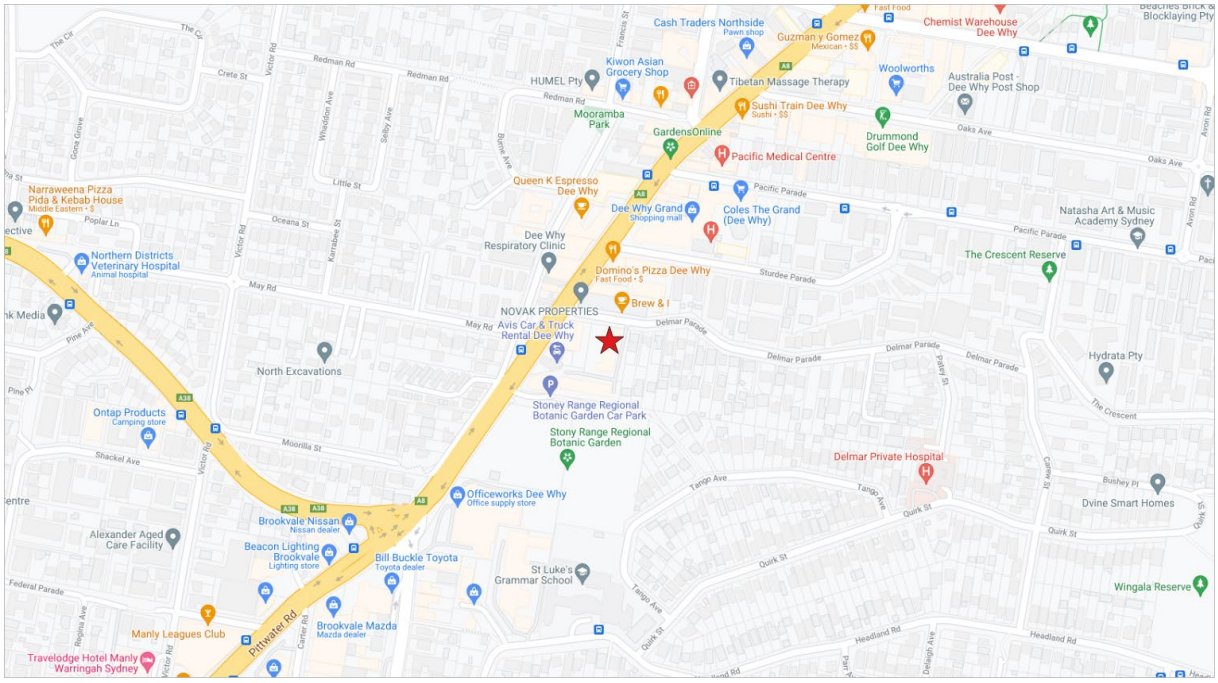
- Chapter 2 discusses the existing conditions including a description of the subject site
- Chapter 3 provides a brief description of the proposed development
- Chapter 4 assesses the proposed on-site parking provision and internal layout
- Chapter 5 examines the traffic generation and its impacts
- Chapter 6 provides a preliminary assessment of the construction traffic management measures
- Chapter 7 presents the conclusions of the assessment.

2 Existing Conditions

2.1 Site Location

The proposed development site is located at 812 Pittwater Road & 4 Delmar Parade, Dee Why. It is located within the Dee Why Town Centre as defined in the Warringah Local Environmental Plan and is zoned as a B4 Mixed Use Zone.

Figure 2.1: Site Location



Source: Google Maps

The site is currently occupied by a commercial development with at grade parking accessed off Delmar Parade.

2.2 Road Network

2.2.1 Pittwater Road

Pittwater Road is a two-way State Road with a dual carriageway (plus auxiliary turning lanes) and bus lane on both sides of the road.

Pittwater Road is the primary route along the Northern Beaches between Mona Vale and Brookvale and extends in a north-south direction.

On street parking is permitted along Pittwater Road outside of the bus lane operating hours which are:

- 6am – 10am Monday to Friday southbound
- 3pm – 7pm Monday to Friday northbound.

The posted speed limit along Pittwater Road is 60km/hr in the vicinity of the site.

There is a public car park off Pittwater Road immediately south of the site. The car park provides 26 car parking spaces including 1 accessible space. All spaces are signposted as 3P MON-FRI.

2.2.2 Delmar Parade

Delmar Parade is a local road and is aligned in east-west direction along the northern boundary of the site. It is a two-way, two lane road, on an approximately 12m wide carriageway within a 18m road reserve. Kerbside parking is permitted on both sides and is typically time restricted to two hours. It is sign posted with a 50km/h speed limit.

2.3 Public Transport

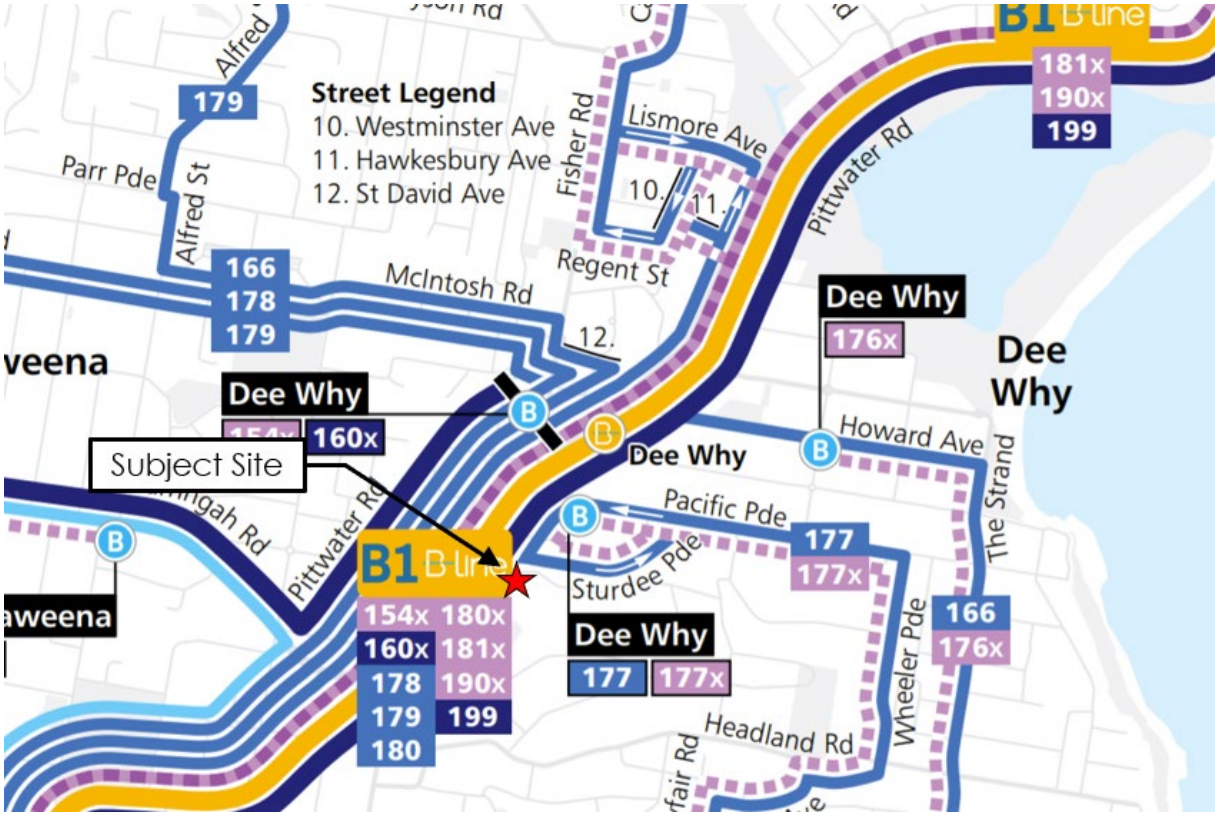
An extensive number of bus services are available in the vicinity of the site. The nearest bus stops are located 190m to the north along Pittwater Road.

Several bus services, including express services, operate from these stops and provide connections to all destinations north and south of Dee Why between Palm Beach and Manly and the Sydney CBD. Services typically operate at 15 to 30-minute intervals during the peak.

In addition to this, the B-Line services the bus stop located 500m north of the site on both sides of Pittwater Road. The B-Line is a frequent express service that provides connections between Mona Vale and Wynyard and operates between 4:30am until 12:30am. Service frequency on the B-line is typically two to 10 minutes.

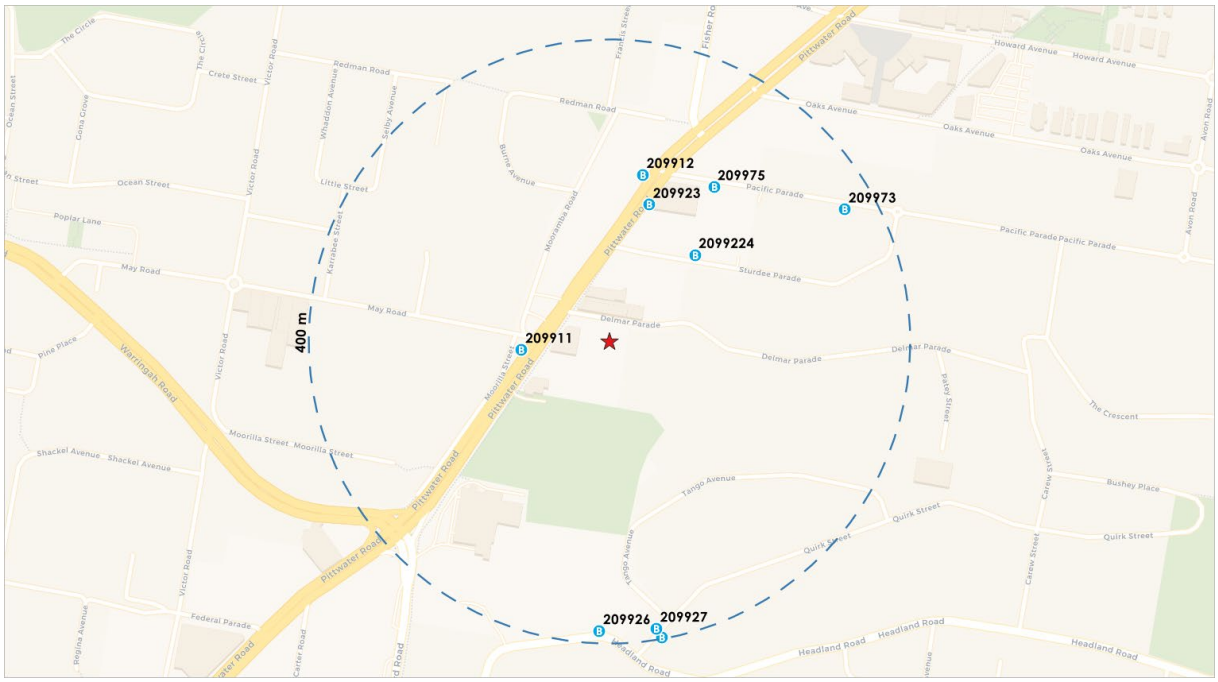
The bus network and bus stops within a 400-metre radius surrounding the site are shown in Figure 2.2 and Figure 2.3, with a summary of relevant routes provided in Table 2.1.

Figure 2.2: Bus Network Map



Source: transportnsw.info, accessed 16/09/21

Figure 2.3: Bus stops within a 400-metre radial distance of site



Base Map Source: Carto Voyager

Table 2.1: Weekday Bus Services

Route	Route Description	Stop ID	Number of services between 0700-0900	Number of services between 1600-1800
172X	City Wynyard to Warringah Mall via North Balgowlah (Express Service)	209926	2	0
173X	City Wynyard to Warringah Mall via Balgowlah Shops (Express Service)	209926	1	0
177	Warringah Mall to Dee Why	209973	0	2
177	Dee Why to Warringah Mall	2099224	0	2
177X	City Wynyard to Dee Why via Wingala (Express Service)	209975	0	2
177X	Dee Why to City Wynyard via Wingala (Express Service)	2099224	8	0
178	Cromer Heights to Warringah Mall	209923	7	6
178	Warringah Mall to Cromer Heights	209912	6	6
179	Warringah Mall to Wheeler Heights	209911	4	4
179	Wheeler Heights to Warringah Mall	209923	7	7
180	Warringah Mall to Collaroy Plateau	209912	6	6
180	Collaroy Plateau to Warringah Mall	209923	0	0
199	Manly to Palm Beach via Dee Why & Mona Vale	209912	21	24
199	Palm Beach to Manly via Mona Vale & Dee Why	209923	20	12

Source: General Transit Specification Feed, dataset dated 03/07/21

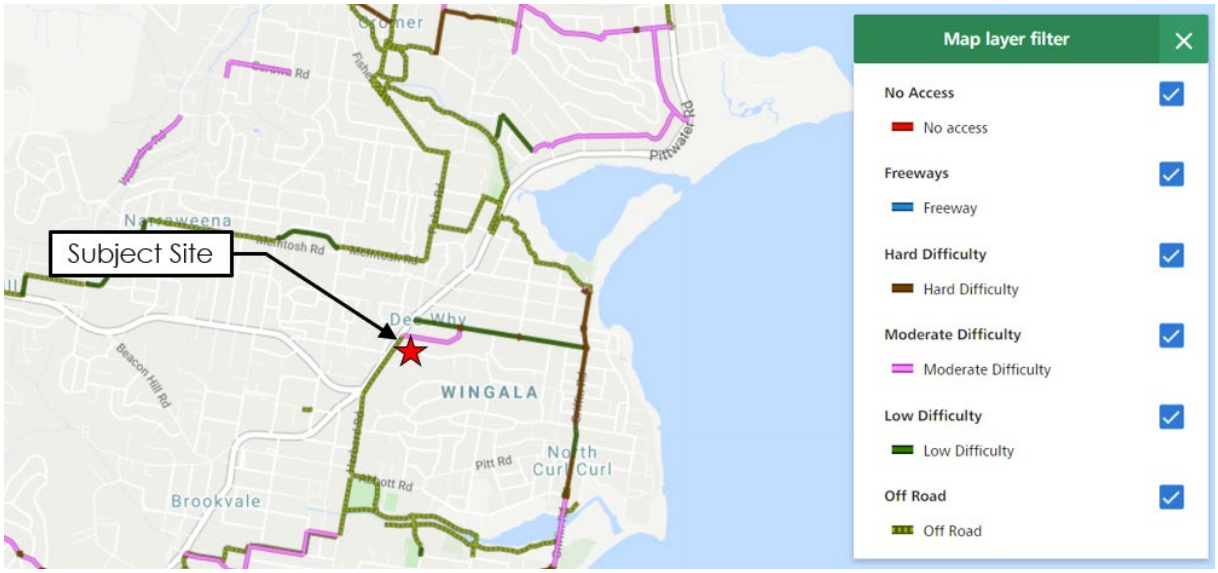
2.4 Pedestrian and Cycling Infrastructure

Pedestrian footpaths are generally provided on all surrounding streets to the subject site.

Formal pedestrian crossings are provided on Pittwater Road at its intersection with Sturdee Parade, approximately 100m north of the site.

The path fronting the subject site, along Pittwater Road is a Shared Path. The cycle routes in the vicinity of the site are illustrated in the Roads and Maritime Services Cycleway Finder as shown in Figure 2.4.

Figure 2.4: Cycling Network



Source: Roads and Maritime Services Cycleway Finder (last viewed 16/09/2021)

3 Proposed Development

3.1 Land Uses

The proposal includes a mixed-use development with 227m² of ground floor retail or commercial GFA below two residential towers with a total of 230 residential units. The development breakdown is presented in Table 3.1.

Table 3.1: Development Schedule

Land Use Type	Building A (4 Delmar Pde)	Building B (812 Pittwater Rd)	Total
Residential			
1-bedroom	42	53	95
2-bedroom	60	45	105
3-bedroom	21	9	30
Sub-Total	**123 units**	**107 units**	**230 units**
Commercial/ Retail	438.8 m²		**438.8 m² GFA**

The development is to be serviced by a ground level loading dock and a single two-storey basement car park, accessed off Delmar Parade. The car park is to accommodate 338 car parking spaces and 19 bicycle parking spaces.

The architectural layouts are provided in Appendix A.

3.2 Access and Loading Arrangements

Site access is provided off Delmar Parade via a two-way vehicular crossover, at the location of the eastern most access into the site. A loading dock is provided off the driveway, prior to the basement car park entry.

Alternative locations for the proposed access was investigated, however, a driveway at the eastern end of the property was selected as the optimum location as this would allow for the furthest possible distance from Pittwater Road. This minimises any potential conflict with vehicles queues along Delmar Parade, waiting to turn left into Pittwater Road, and any delays from vehicles seeking to turn right into the site and requiring to give way to opposing traffic.

The access accommodates two-way flow for cars accessing the basement car park, and one-way flow for Council's 10.5 m long garbage truck. Swept path analysis of the proposed car park and access is provided in Appendix B. For other loading requirements (e.g. commercial/retail tenant and removalists) will be restricted to vehicles up to an 8.8 m Medium Rigid Vehicle (MRV). Given the small size of the commercial/retail component, the

loading and serving vehicle generation of the site would be low and a waste vehicle is expected to be the largest vehicle to access the site. On this basis, the proposed MRV loading dock is sufficient to accommodate the development.

It's considered that the one-way flow for garbage trucks would be manageable noting that waste collection would occur outside of peak residential and road network traffic periods, and therefore, the likelihood of cars and waste vehicles coming into conflict would be low.

Nonetheless, traffic management measures would be implemented including a convex mirror and a flashing light at the top of the basement ramp. The flashing light would be triggered by the garage door opening and would allow entering trucks to be aware that a car is about to exit. The convex mirror would enable cars to be aware of a waste vehicle entering and would be expected to wait for the waste vehicle to enter the loading dock.

Vehicular access to the basement car park would be via a ramp with roller door controlled by a swipe card and intercom system. The intercom would be located on a central island with one-way aisles on either side.

4 Parking Assessment

4.1 Car Parking Assessment

Parking requirements for the subject site have been assessed against the Warringah Development Control Plan (DCP) 2011. The parking requirements relevant to the proposed development are summarised in Table 4.1.

Table 4.1: DCP Car Parking Assessment

Parking User	Size	Car Parking Rate	Parking Requirement
Residents			
1-bedroom	95	0.6 spaces per dwelling	57
2-bedroom	105	0.9 spaces per dwelling	95
3-bedroom	30	1.4 spaces per dwelling	42
Visitors	-	1 space per 5 units	46
Sub-Total	**230**		**240**
Commercial/ Retail	439 m^2	Commercial: 1 space per 40sqm Retail: 4.2 spaces per 100sqm	18
Total			**258**

Table 4.1 indicates that the proposed development is required to provide 258 car parking spaces, including 194 resident spaces, 46 residential visitor spaces and 18 retail spaces.

The development would provide 340 car parking spaces including 275 residential spaces, 46 residential visitor spaces and 19 commercial/retail spaces.

The DCP does not specify the above parking rates as a minimum nor a maximum requirement. However, it is noted that the DCP rates for residential development directly match the parking rates recommended by the Apartment Design Guidelines (i.e. from the Roads and Maritime *Guide to Traffic Generating Developments 2002* for a Metropolitan Sub-Regional Centre), which is a minimum requirement.

The parking provision exceeds the DCP requirement for residents. It is considered that this level of parking is acceptable with consideration for the minimum requirements of the Apartment Design Guidelines.

The tenant proposed for the commercial/ retail tenancy is not known at this stage as such, the higher of the commercial and retail parking rate is applied for this assessment. The site proposes 21 commercial/ retail spaces which exceeds the DCP requirement.

4.2 Accessible Parking

Warringah DCP does not provide car parking requirements for accessible spaces. However, it is proposed to provide 23 adaptable dwellings.

The Australian Standard for Adaptable Housing (AS4299) requires at least one accessible car parking space (3.8m wide) to be provided for each adaptable apartment. In addition, accessible car parking spaces provided in accordance with the design requirements set out in AS2890.6:2009 (i.e. 2.4m wide spaces plus 2.4m wide shared area) would also meet the intent of AS4299 in this regard.

The development includes 23 accessible spaces for residents which complies with the above requirement.

4.3 Bicycle Parking

The parking assessment based on the Councils DCP is summarised in Table 4.2.

Table 4.2: Bicycle Parking

Land Use	Size	DCP Bicycle Rate		Bicycle Parking Required	
		Employee/ Resident	Visitor	Employee/ Resident	Visitor
Residential	230 units	1 per dwelling	1 per 12 dwellings	230	19
Commercial/ Retail	439 m^2	1 per 200m^2	1 per 750m^2 over 1,000m^2	2	-
Total	**-**	**-**	**-**	**232**	**19**

The proposed development is required to provide 250 bicycle parking spaces including 230 spaces for residents, 2 space for employees and 19 spaces for residential visitors.

Residents are provided with private storage cages that are to be large enough to accommodate bike parking i.e., with a minimum dimension of 715mm wide and 1840mm long.

22 visitor bicycle parking racks are to be provided.

4.4 Car Share

The DCP requires a provision of 1 car space per 25 dwellings, with "each car share space replacing one regular car space". On this basis, the development with 230 units requires nine car share spaces.

Car share parking is not provided in the proposed development. Instead, it is proposed to provide additional parking for both residents and commercial tenancy, in place of the car share requirement.

The proposed car parking provision on-site exceeds the DCP parking requirement by 82 spaces. The additional parking provision would adequately accommodate the shortfall in car share spaces.

4.5 Car Park Layout and Access

The basement car park and associated access arrangements have been reviewed for compliance with Australian Standard design requirements, namely AS2890.1:2004, AS2890.2:2002, AS2890.3:2015 and AS2890.6:2009. The review included assessment of the following:

- access ramp into the basement car park
- car park circulation,
- parking space and aisle dimensions, and
- bicycle parking.

The review indicates the development is compliant with the Australian Standard AS2890.

The residential and employee car parking spaces are designed to comply with Australian Standard Class 1A parking facilities for residents and employees. Class 1A requires car spaces to have dimensions of 2.4m wide by 5.4m long with an aisle width of 5.8m.

The accessible car spaces have been designed in to include a 2.4m wide shared area adjacent to a 2.4m wide car space which accords with AS2890.6.

Swept path analysis of the proposed car park and access is provided in Appendix C.

Any minor non compliances are expected to be resolved prior to the Construction Certification application.

5 Traffic Assessment

The proposal includes the provision of 230 residential apartments and 434 m^2 of commercial floor area.

Traffic generation estimates for the proposed development have been sourced from the TfNSW (formerly Roads and Maritime Services) *Guide to Traffic Generating Developments* (TfNSW Guide) and the updated surveys as detailed in the Technical Direction 2013/04a.

The traffic generation assessment for the development is summarised in Table 5.1.

Table 5.1: Proposed Traffic Generation

Land Use	Size	Trip Rate (per unit/ 100m^2)		Trips (vehicle trips per hour)	
		AM	PM	AM	PM
Residential	230 units	0.19	0.15	44	35
Commercial	439 m^2	2.3	4.6	10	20
Total	-	-	-	**54**	**55**

Based on Table 5.1, the proposal would generate 54-55 vehicles per hour, which equates to one vehicle every minute which is considered to be a minor volume of traffic.

Nonetheless, the existing site is understood to contain approximately 4,000m^2 of commercial floor area.

Based on TfNSW traffic generation rates for commercial developments, that is 1.6 trips per 100m^2 floor area in the morning peak and 1.2 trips per 100m^2 floor area in the afternoon peak, the existing development is estimated to contain around 48-65 vehicles per hour.

Therefore, it is expected that the development would generate traffic generally in line with the existing site. On this basis, the proposed development would not result in any adverse traffic impacts on the surrounding road network.

6 Preliminary Construction Traffic Management Plan

6.1 Construction Activity

The development is to be constructed in two stages including;

- Stage 1 – 4 Delmar Parade
- Stage 2 – 812 Pittwater Road.

The staging and site plan is provided in Appendix C.

Each stage would be constructed in the following key phases:

- Excavation and site establishment
- Building structure construction
- Façade and internal fittings
- Public domain and landscaping works

A detailed Construction Traffic Management Plan is to be prepared prior to the commencement of the construction activities; however, a preliminary review of construction traffic management requirements is set out below.

6.2 Work Hours

The consent conditions would detail the permitted hours of construction work; however, it is anticipated that construction activities will be permitted during the following periods:

- Monday to Friday 7am to 5pm
- Saturdays 8am to 1pm
- Sundays and Public Holidays No work.
- In addition, demolition and excavation works are restricted to 8am to 5pm Mondays to Fridays.

Any works outside of the above listed hours will only occur with approval from the relevant authorities (i.e. Northern Beaches Council / Transport for New South Wales), prior to the commencement of any works. The Contractor will be responsible to liaise with Council to obtain all relevant permit approvals.

6.3 Construction Vehicle Type

Construction vehicles likely to be generated by the proposed construction activities include:

- 19m semi-trailer and 19.6m truck-and-dog trailer trucks for use during demolition and excavation works,
- 12.5m heavy rigid vehicles and concrete truck mixers for structural and finishing works, and
- Small rigid vehicles, vans and couriers for smaller deliveries as required.

It is expected that approximately 80 per cent of all construction vehicles would be heavy and medium rigid vehicles and approximately 20 per cent would be small rigid vehicles, vans and couriers.

The traffic generated by construction activities on the site is not known at this stage, however given the size of the proposed development, the construction traffic generation is expected to be low.

6.4 Vehicle Access

The site is to be accessed via two points:

- Delmar Parade, at the location of the proposed driveway for access to the Stage 1 site
- Stony Range Botanic Gardens Car Park for access to the Stage 2 site.

At this stage a works zone is not expected to be required. The extent of the work site shall generally be wholly contained within the site boundary, with minimal impact on the surrounding road network.

However, access to the development site off the Stony Range Car Park will require the removal of some 90-degree car parking spaces to accommodate a new access and driveway. Around 3-4 car spaces are expected to be affected at minimum, however, swept path analysis of the largest vehicle will need to be undertaken to confirm this.

6.5 Construction Vehicle Routes

Construction vehicles will have origins and destinations throughout Sydney. Dedicated construction vehicle routes have been developed to provide the shortest distances to/from the arterial road network, whilst minimising the impact of construction traffic on streets within the immediate vicinity of the site.

All truck drivers will be advised of the designated truck routes to/from the site and be required to adhere to the nominated routes.

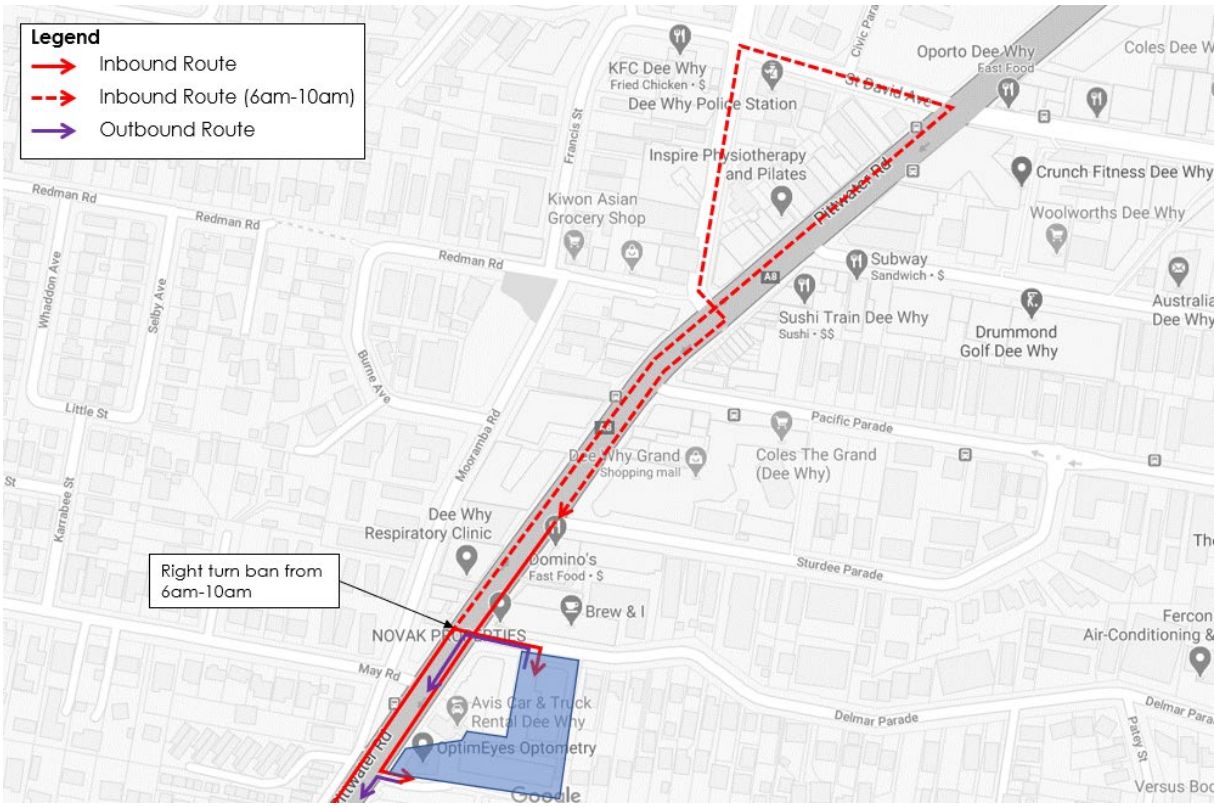
It is anticipated that construction vehicles travelling to/from the south would make use of the Sydney Harbour Bridge/ Cahill Expressway, Military Road, Spit Road, Manly Road, Burnt Bridge Creek Deviation, Condamine Street and Pittwater Road to access the site. Vehicles travelling from the north and the west would make use of Pittwater Road and Warringah Road, respectively.

No right turns are permitted from Pittwater Road to Delmar Parade between 6am and 10am. Drivers arriving from the south are to detour via St David Avenue and Fisher Road (turning right from Fisher Road to travel southbound along Pittwater Road)

Vehicle routes are shown in Figure 6.1.

Construction vehicles are to radio or call on approach to ensure adequate access to the site and/or works zone is made available.

Figure 6.1: Vehicle Routes



6.6 Worker Parking

On-site construction worker parking is not proposed due to the footprint size of the proposed development leaving no available space on site. All workers will be encouraged and expected to use public transport to travel to/from the site. This will be incorporated in the workers' induction program to ensure minimal parking impact on surrounding streets.

Taking the above into consideration, it is proposed to implement the following measures to encourage workers to use public transport:

- provide an on-site tool drop-off and storage facility to allow tradespeople to drop off and store their specific machinery for the project to prevent the need to drive equipment in everyday
- inform staff during the induction and regular management meetings that no car parking will be available for staff
- instruct staff to use public transport to access the site during the induction and regular management meetings, and
- display public transport timetable information at key locations within the work site and ensure that it is easily accessible by staff.

6.7 Worker Induction

All workers and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures.

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold RMS accreditation.

6.8 Traffic Control Plan

Notwithstanding the likely limited impacts of construction on traffic operation of the surrounding network, a Traffic Control Plan (TCP) will likely need to be prepared by and submitted to the Roads and Maritime Services and Northern Beaches Council to appropriately manage the use of the designated construction routes.

The TCP should also outline how potential construction vehicle manoeuvres could be accommodated in and out of the construction site and detailed location of temporary roadside signage.

6.9 Construction Traffic Management Plan

A Construction Traffic Management Plan (CTMP) would be required to be prepared and submitted to Northern Beaches Council and Transport for New South Wales for approval. The CTMP will provide further details on the construction activities and their impacts, if any.

7 Conclusion

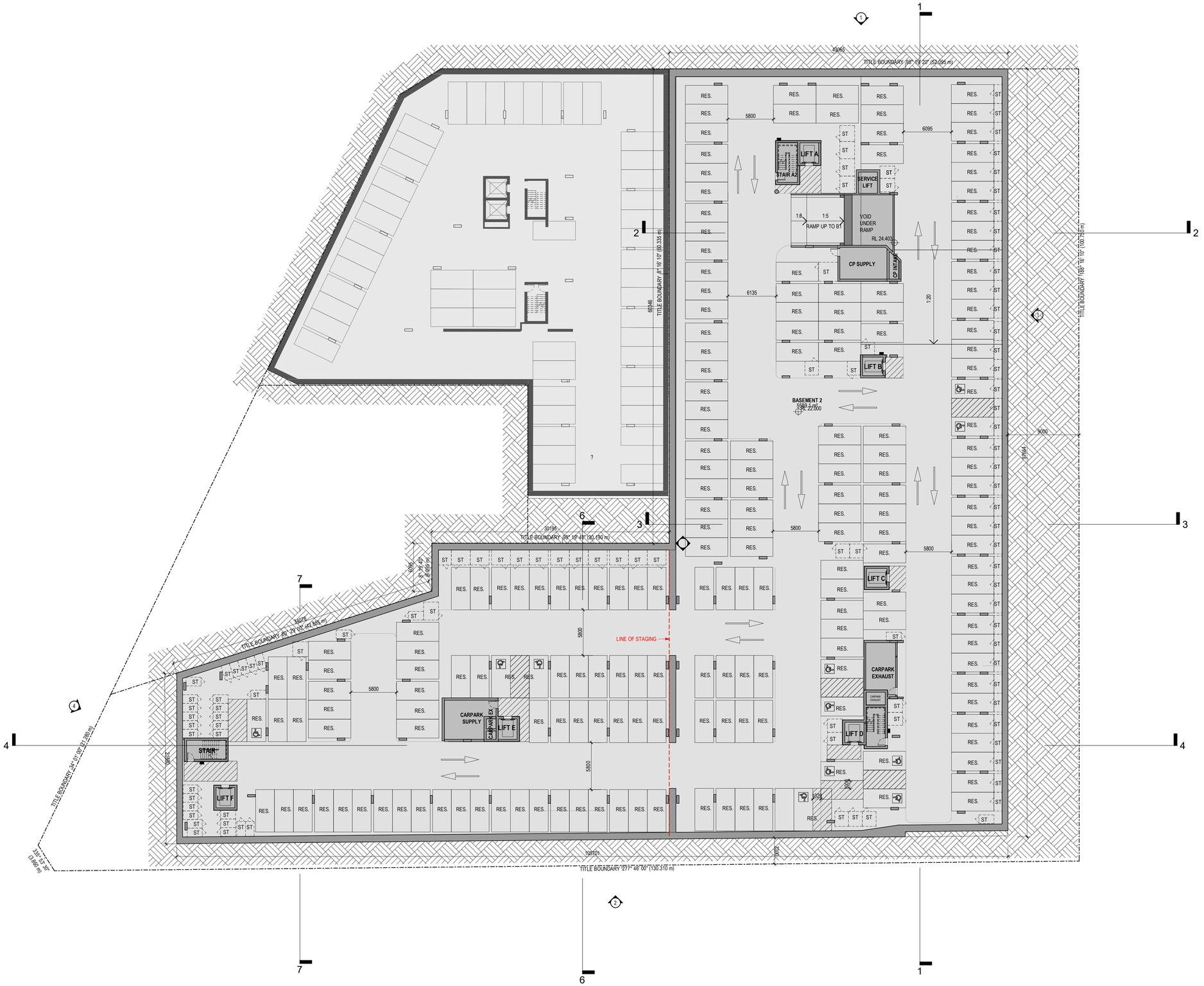
This traffic and parking impact assessment has been undertaken to assess the traffic implications of the proposed high-density residential development with commercial floor area at 812 Pittwater Road and 4 Delmar Parade, Dee Why. The key findings of the report are presented below.

- The proposed development includes a provision of 230 residential apartments and 438.8m^2 of commercial floor area.
- Vehicle access to the subject site would be provided via a single two-way driveway off Delmar Parade.
- Car parking and access has been designed in accordance with AS2890.1:2004. Accessible parking spaces have been designed to satisfy the requirements of AS2890.6:2009.
- The DCP requires the development to provide 258 spaces including 194 resident spaces, 46 residential visitor spaces, and 18 retail spaces.
- The proposed development would provide 340 parking spaces including 275 resident spaces, 46 residential visitor spaces and 19 commercial spaces. The proposed provision is considered satisfactory for the subject development.
- The DCP also requires a provision of 9 car share spaces, with one car share space replacing one standard car space. In place of car share, it is proposed to provide additional car parking on-site including a provision of 82 spaces above the DCP requirement.
- The proposed development would generate 54-55 vehicles per hour, which is a minor volume of traffic. Additionally, it is generally consistent with the estimated traffic generation of the existing site (48-65 vehicles per hour), therefore, the development would have a negligible impact on the surrounding roads.

Overall, there would be no adverse traffic implications resulting from the proposed development.

Appendix A

Proposed Architectural Plans



PRELIMINARY

Revisions				
	A	01.12.2021	FOR INFORMATION	JC

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Project: **4 Delmar Pde & 812 Pittwater Rd, Dee Why**
4 Delmar Pde & 812 Pittwater Rd, Dee Why

Drawing: **BASEMENT 2**

Project No: **221054**

Date: **01.12.2021**

Author: **BR**

Scale: @ A1 **1 : 250**

Drawing No.: **TP01.01 A**

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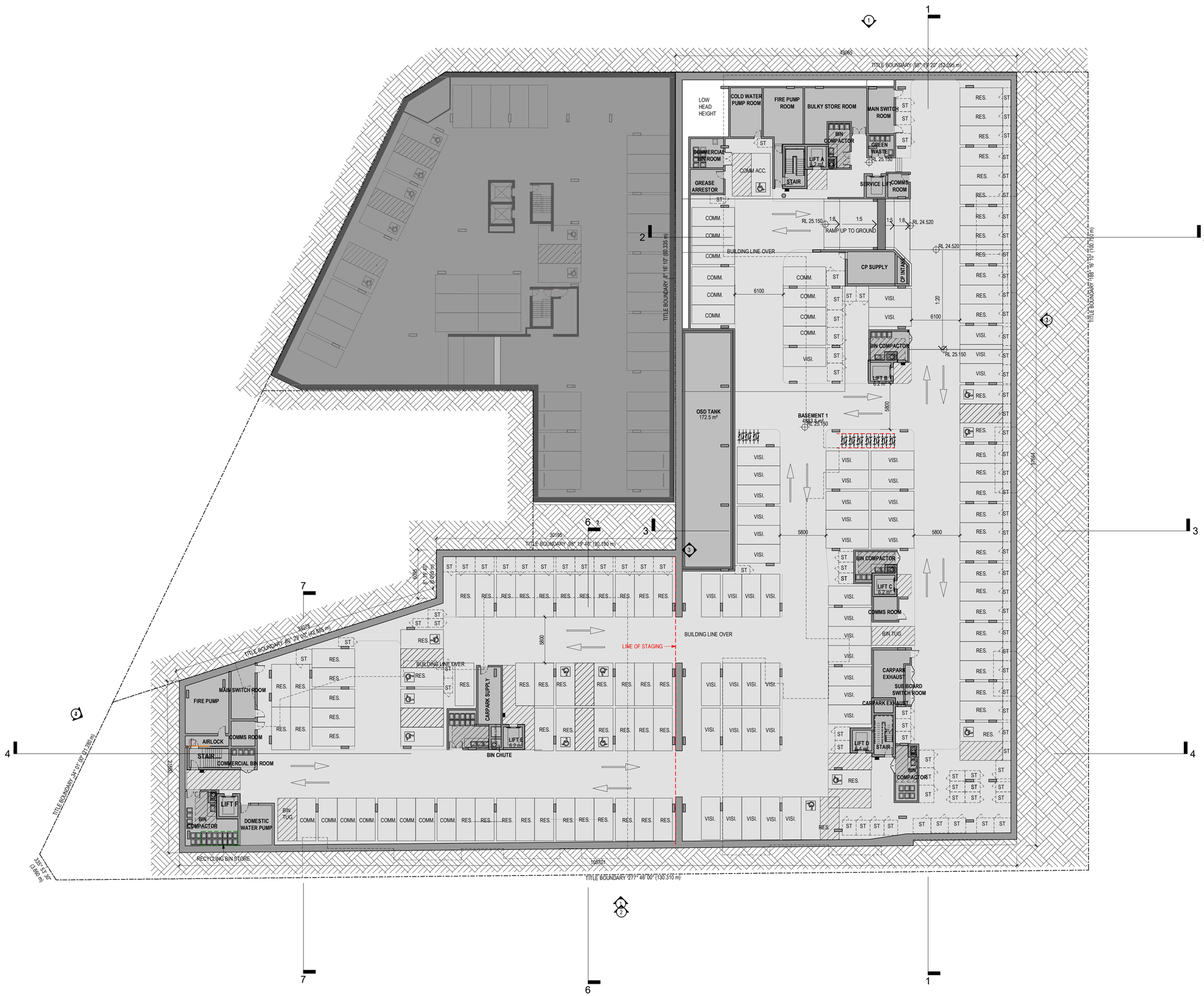

PRELIMINARY

Revisions				
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4 Delmar Pde & 812 Pittwater Rd, Dee Why

Drawing: **BASEMENT 1**

Project No: **221054** Date: **01.12.2021** Author: **BR** Scale: @ A1 **1 : 250** Drawing No.: **TP01.02 A**

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PRELIMINARY

Revisions			
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Project
4 Delmar Pde & 812 Pittwater Rd, Dee Why
4 Delmar Pde & 812 Pittwater Rd, Dee Why

Drawing
GROUND

Project No
221054

Date
01.12.2021

Author
DM

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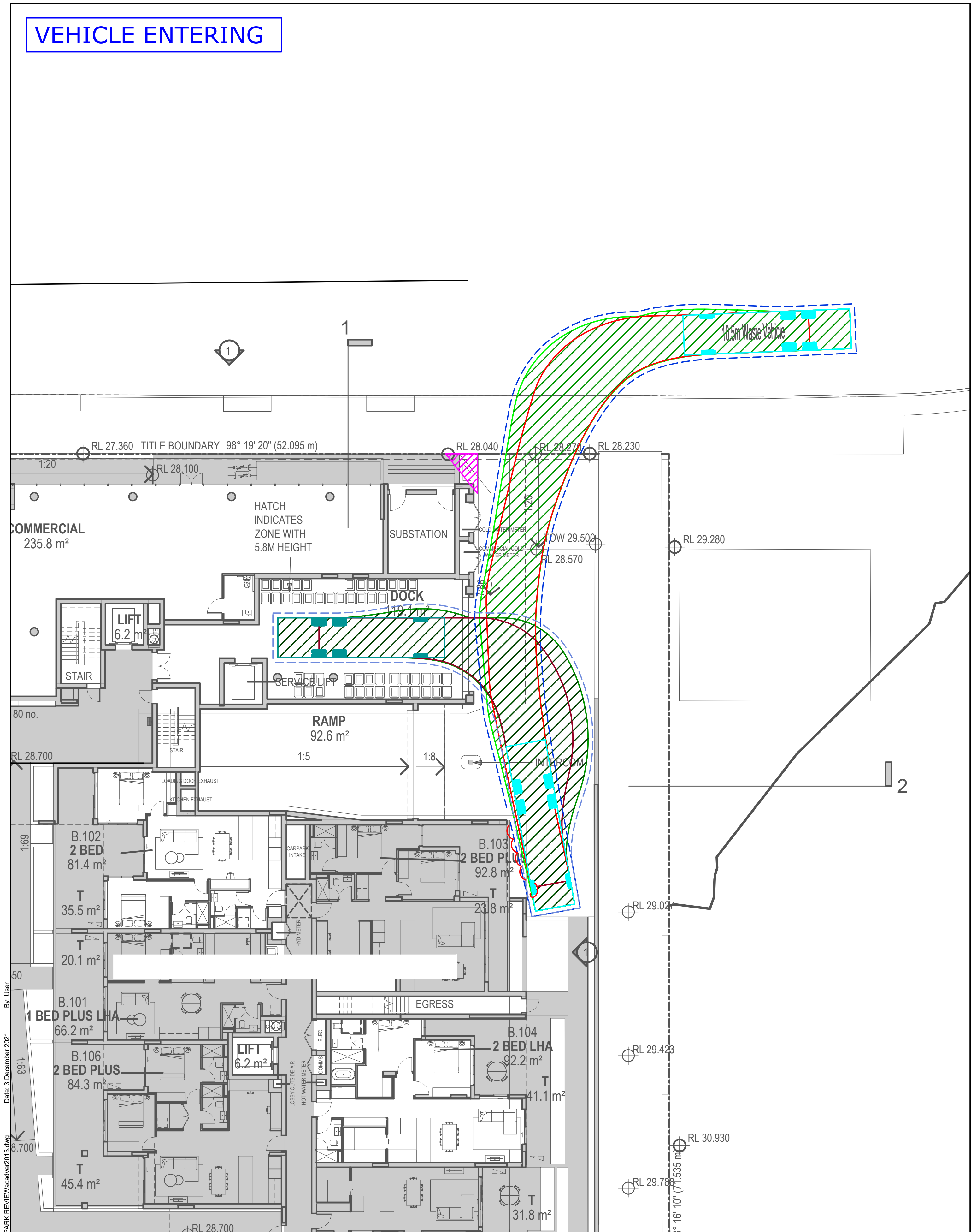
Appendix B

Swept Paths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10.5m Waste Vehicle
RL 27.360 TITLE BOUNDARY 98° 19' 20" (52.095 m)
RL 28.040
RL 28.270
RL 28.230
RL 28.100
1:20
COMMERCIAL
235.8 m²
HATCH
INDICATES
ZONE WITH
5.8M HEIGHT
SUBSTATION
TOW 29.500
RL 28.570
RL 29.280
DOCK
119.1 m²
LIFT
6.2 m²
STAIR
SERVICE LIFT
RAMP
92.6 m²
1:5
1:8
INTERCOM
RL 28.700
B.102
2 BED
81.4 m²
B.103
2 BED PLUS
92.8 m²
35.5 m²
23.8 m²
20.1 m²
RL 29.027
EGRESS
B.101
1 BED PLUS LHA
66.2 m²
B.104
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92.2 m²
B.106
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RL 30.930
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RL 29.788
RL 28.700
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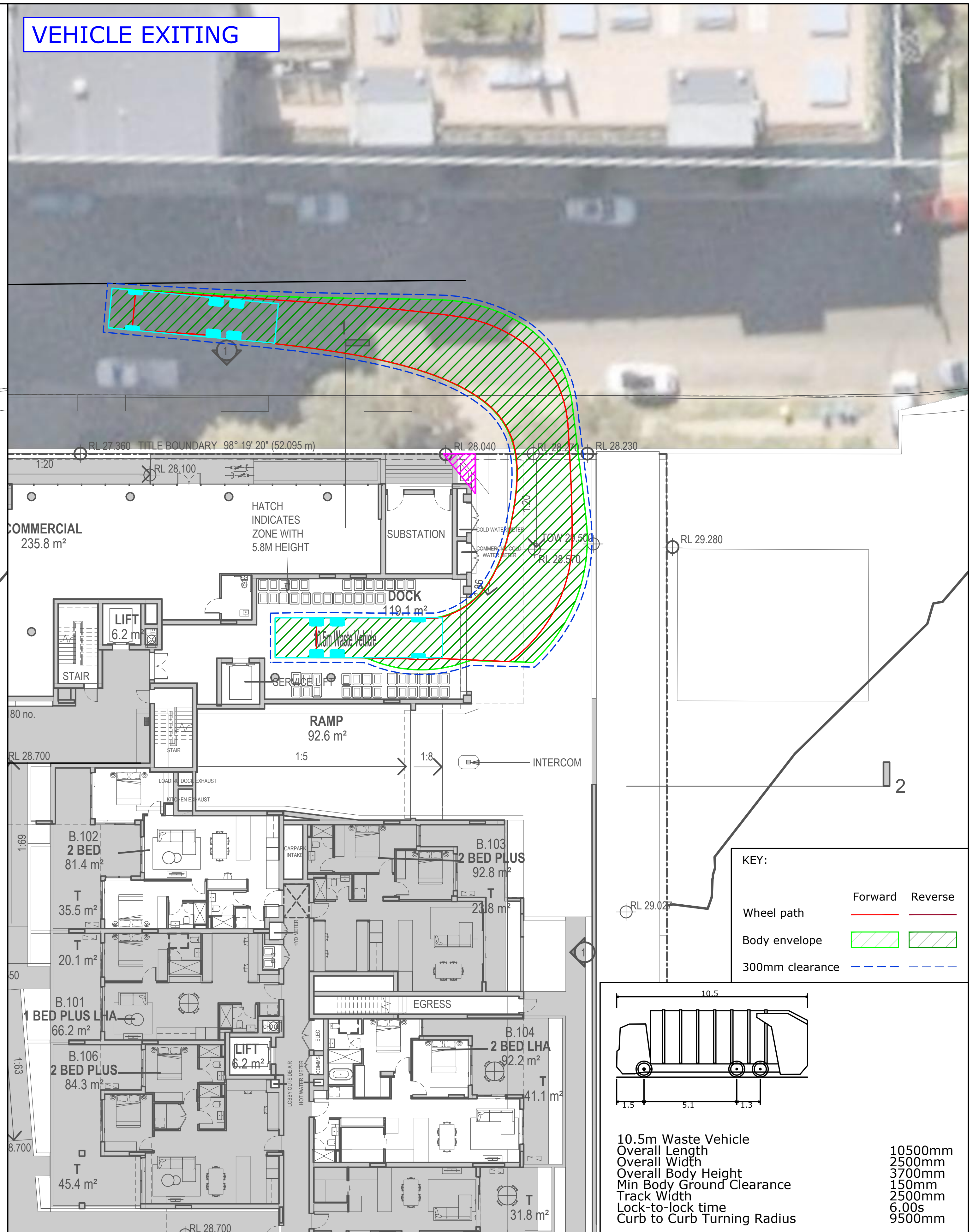
VEHICLE EXITING
10.5m Waste Vehicle
RL 27.360 TITLE BOUNDARY 98° 19' 20" (52.095 m)
RL 28.040
RL 28.230
RL 28.100
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EGRESS
B.101
1 BED PLUS LHA
66.2 m²
B.104
2 BED LHA
92.2 m²
B.106
2 BED PLUS
84.3 m²
45.4 m²
31.8 m²
RL 28.700
2
KEY:
Forward
Reverse
Wheel path
Body envelope
300mm clearance
10.5
1.5
5.1
1.3
10.5m Waste Vehicle
Overall Length 10500mm
Overall Width 2500mm
Overall Body Height 3700mm
Min Body Ground Clearance 150mm
Track Width 2500mm
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 9500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	KH	25/11/21

ttpp transport planning

PROJECT: 4 DELMAR PARADE, DEE WHY

TITLE: SWEPT PATH ANALYSIS - LOADING BAY 10.5m WASTE TRUCK

DWG No.: 21205CAD008 FIGURE 4

DATE STAMP: 25 NOVEMBER 2021

PROJECT No.: 21205

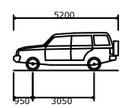
SCALE: 1:300 @A3

REV.: A

RL 27.500
RL 27.360 TITLE BOUNDARY 98° 19' 20" (52.095 m)
RL 28.040
RL 28.270
RL 28.230
RL 27.420
1:20
RL 28.100
BOOSTER
BOOSTER
COMMERCIAL
235.8 m²
HATCH
INDICATES
ZONE WITH
5.8M HEIGHT
SUBSTATION
COLD WATER METER
COMMERCIAL COLD WATER METER
1:20
TOW 29.500
RL 28.570
1:86
DOCK
119.1 m²
RL 29.280
LIFT
6.2 m²
STAIR
RL 27.980
SERVICE LIFT
RL 27.980
MAILBOXES 180 no.
RAMP
92.6 m²
1:5
1:5
STAIR
RL 28.700
INTERCOM
LOADING DOCK EXHAUST
KITCHEN EXHAUST
B.102
2 BED
81.4 m²
T
35.5 m²
T
20.1 m²
CARPARK INTAKE
B.103
2 BED PLUS
92.8 m²
T
23.8 m²
HYDMETER
1:20
1:69
RL 28.550
RL 29.027
2
1

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	KH	25/11/21

ttpp transport planning

PROJECT
4 DELMAR PARADE, DEE WHY

TITLE
SWEPT PATH ANALYSIS - GROUND LEVEL
AS2890.1 5.2m B99 VEHICLE

DWG No. 21205CAD008
FIGURE 5

DATE STAMP 25 NOVEMBER 2021

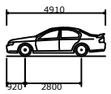
PROJECT No.	SCALE	REV.
21205	1:200 @A3	A

Filename: 21205CAD008-211203-CAR PARK REVIEWcadwr2013.dwg Date: 3 December 2021 By: User

LOW HEAD HEIGHT
COLD WATER PUMP ROOM
FIRE PUMP ROOM
BULKY STORE ROOM
MAIN SWITCH ROOM
BIN COMPACTOR
GREEN WASTE
RL 25.150
LIFT A 6.2 m²
COMMERCIAL BIN ROOM
COMM ACC.
GREASE ARRESTOR
STAIR
SERVICE LIFT
COMMS ROOM
RES.
COMM.
VISI.
ST
2.4M
RL 25.150
1:8
1:5
RL 24.520
RAMP UP TO GROUND
BUILDING LINE OVER
CP SUPPLY
CP INTAKE
6100
1:20
BIN COMPACTOR
RL 25.150
LIFT B 6.2 m²
OSD TANK 172.5 m²
BASEMENT 1
1853.5 m²
RL 25.150
SWEPT PATH ENCROACHES OPPOSING MOVEMENT.
TITLE BOUNDARY 188° 16' 10" (100.750 m)
TITLE BOUNDARY 8° 16' 10" (60.335 m)
97664
2

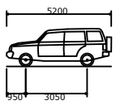
KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



B85 Vehicle (Realistic min radius) (2004)

Overall Length	4910mm
Overall Width	1870mm
Overall Body Height	1421mm
Min Body Ground Clearance	159mm
Track Width	1770mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5750mm



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	KH	25/11/21

ttpp transport planning

PROJECT
4 DELMAR PARADE, DEE WHY

TITLE
SWEPT PATH ANALYSIS - BASEMENT LEVEL 1
AS2890.1 5.2m B99 VEHICLE & 4.91m B85 VEHICLE

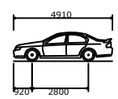
DWG No. 21205CAD008 FIGURE 6
DATE STAMP 25 NOVEMBER 2021
PROJECT No. 21205
SCALE 1:200 @A3
REV. A

Filename: 21205CAD008-211203-CAR PARK REVIEWacadver2013.dwg Date: 3 December 2021 By: User

RES.
ST
2.4M
5800
6095
LIFT A
STAIR A2
SERVICE LIFT
1:8
1:5
RAMP
VOID UNDER RAMP
RL 24.403
CP SUPPLY
CP INTAKE
LIFT B
6135
1200
9000
97664
60346
TITLE BOUNDARY 188° 16' 10" (100.750 m)
TITLE BOUNDARY 8° 16' 10" (60.335 m)
BASEMENT 2
SWEPT PATH ENCROACHES OPPOSING MOVEMENT.
1
2
?

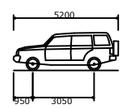
KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



B85 Vehicle (Realistic min radius) (2004)

Overall Length	4910mm
Overall Width	1870mm
Overall Body Height	1421mm
Min Body Ground Clearance	159mm
Track Width	1770mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	5750mm



B99 Vehicle (Realistic min radius) (2004)

Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	OF	KH	25/11/21

ttpp transport planning

PROJECT
4 DELMAR PARADE, DEE WHY

TITLE
SWEPT PATH ANALYSIS - BASEMENT LEVEL 2
AS2890.1 5.2m B99 VEHICLE & 4.91m B85 VEHICLE

DWG No. 21205CAD008
FIGURE 7

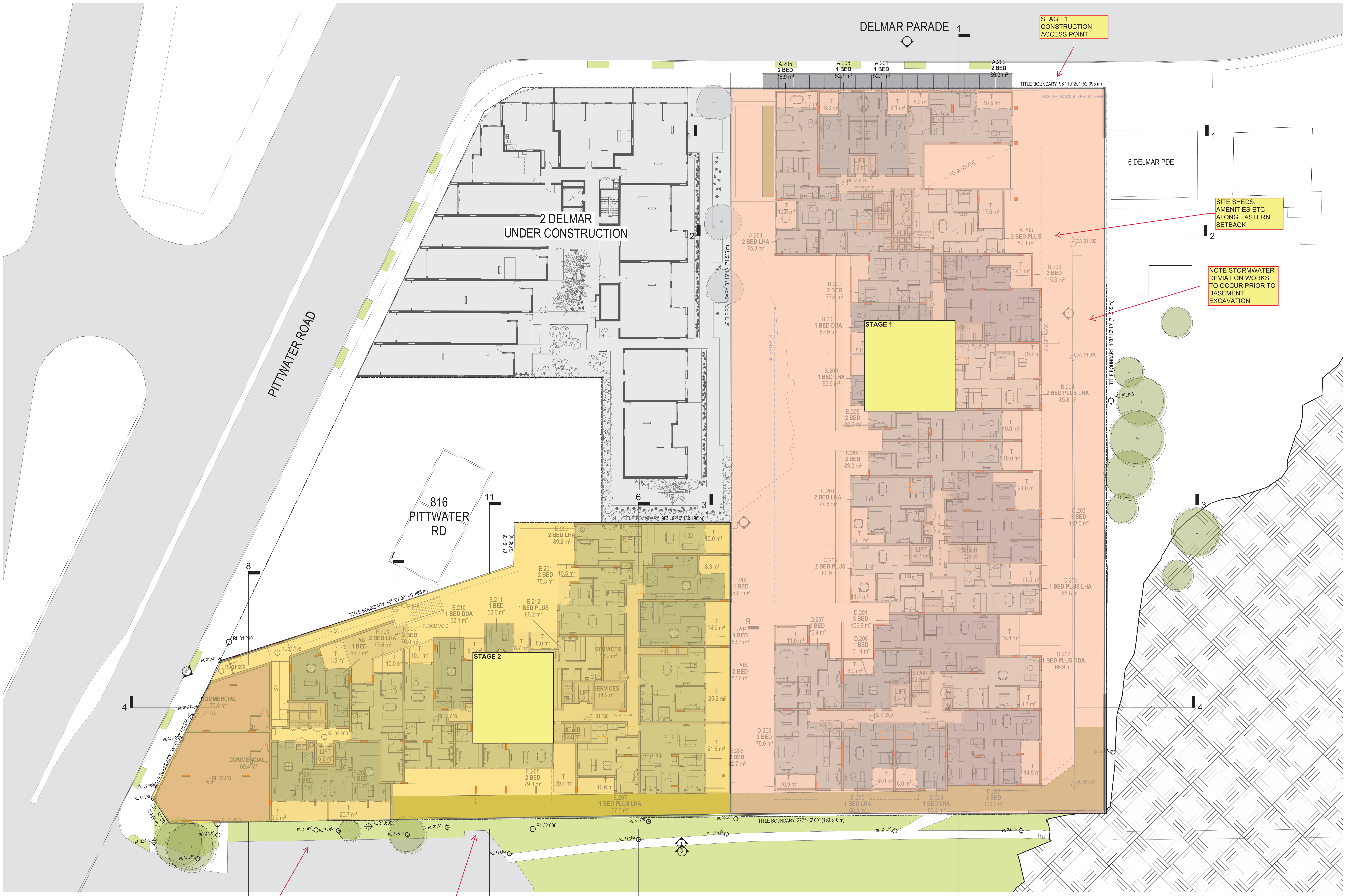
DATE STAMP
25 NOVEMBER 2021

PROJECT No.	SCALE	REV.
21205	1:200 @A3	A

Filename: 21205CAD08-211203-CAR PARK REVIEWcadver2013.dwg
Date: 3 December 2021
By: User

Appendix C

Preliminary Construction Staging and Site Plan



PRELIMINARY

ALTERNATIVE CONSTRUCTION ACCESS POINT

CONSTRUCTION ACCESS POINT

Revisions

P12	17.09.2021	FOR INFORMATION	JC
P13	21.09.2021	FOR INFORMATION	JC
P14	08.10.2021	FOR INFORMATION	JC
P15	11.10.2021	FOR COORDINATION	JC
P16	22.10.2021	FOR INFORMATION	JC

22/10/2021 12:07:56 AM

Project **4 Delmar Pde & 812 Pittwater Rd, Dee Why**
4 Delmar Pde & 812 Pittwater Rd, Dee Why

Drawing **LEVEL 1**

Project No **221054** Date **22.10.2021** Author **DM** Scale: @ A1 **1 : 250**

Drawing No. **TP01.04 P16**

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