

# **TRAFFIC & PARKING IMPACT ASSESSMENT**

# PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE DEE WHY

PREPARED FOR BL 2093 PTY. LTD.
OUR REF: 20-176-2



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# **APPENDICES**

- 1. Architectural Plans
- 2. Swept Path Plans

## 1. INTRODUCTION

#### 1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by BL 2093 Pty. Ltd. to prepare a Traffic & Parking Impact Assessment to accompany a Development Application to be lodged with Northern Beaches Council. The Development Application seeks consent for demolition of existing site structures and construction of a co-living development comprising 25 micro apartments in conjunction with a manager's residence at 67 Pacific Parade, Dee Why (hereafter referred to as the 'subject site'). The development is to be provided in accordance with *State Environmental Planning Policy (Affordable Rental Housing) 2009*.

The aim of this assessment is to investigate and report upon the potential traffic and parking consequences of the development application and to recommend appropriate ameliorative measures where required. This report provides the following scope of assessment:

- Section 1 provides a summary of the site location, details, existing and surrounding land-uses;
- Section 2 describes the proposed development;
- Section 3 assesses the adequacy of the proposed site access arrangements, parking provision, internal circulation and servicing arrangements with reference to relevant Council, Transport for NSW (TfNSW, formerly Roads & Maritime Services), Australian Standard and State Environmental Planning Policy specifications;
- Section 4 assesses the existing traffic, parking and transport conditions surrounding and servicing the subject development site including a description of the surrounding road network, traffic demands, operational performance and available public transport infrastructure; and
- Section 5 estimates the traffic generating ability of the proposed development and assesses the ability or otherwise of the surrounding road network to be capable of accommodating the altered demand in a safe and efficient manner.

The report has been prepared pursuant to State Environmental Planning Policy (Infrastructure) 2007. The application is not of sufficient scale to be referred to TfNSW under this Instrument.

#### 1.2 Reference Documents

Reference is made to the following documents throughout this report:

- State Environmental Planning Policy (Affordable Rental Housing) 2009 (hereafter referred to as the 'Affordable Housing SEPP');
- TfNSW's Guide to Traffic Generating Developments;

- Northern Beaches Council's Warringah Development Control Plan 2011 (WDCP 2011);
- Australian Standard for Parking Facilities Part 1: Off-Street Car Parking (AS2890.1:2004);
- Australian Standard for Parking Facilities Part 3: Bicycle Parking Facilities (AS2890.3:2015); and
- Australian Standard for Parking Facilities Part 6: Off-Street Parking for People with Disabilities (AS2890.6:2009).

Architectural plans have been prepared by Benson McCormack Architecture and should be read in conjunction with this report, reduced copies of a selection of which are included as **Appendix 1** for reference.

#### 1.3 Site Details

#### 1.3.1 Site Location

The subject site is situated on the southern side of Pacific Parade, approximately 40m west of The Crescent, Dee Why. The site location is illustrated below and overleaf within a local and aerial context by Figure 1 and Figure 2, respectively.

KINGS HIGH ST-MCINTOSH RICHMOND James Dee V Walter PDE SLSC **SUBJECT SITE** Kevins STURDEE PDE BORONIA Steps CRESCENT Stony Range Regional Botanic Gardens Steps Delmar BANKSIA BUSHEY St Lukes UNDERCLIFFE KESWICK Wingala

FIGURE 1 SITE LOCATION WITHIN A LOCAL CONTEXT

Source: UBD's Australian City Streets - Version 8



# FIGURE 2 SITE LOCATION WITHIN AN AERIAL CONTEXT

Source: Google Earth (accessed 16/9/2020)

#### 1.3.2 Site Description

The subject site provides a real property address of Lot 25 within DP 7002 and a street address of 67 Pacific Parade, Dee Why.

The allotment provides a predominantly rectangular shaped parcel of land with an approximate frontage of 15m to Pacific Parade, extending to the south approximately 46m, resulting in a site area in the order of 700m<sup>2</sup>.

#### 1.3.3 Existing Site Use

The subject site currently contains a single storey dwelling located within the southern portion of the allotment. The existing dwelling is currently serviced by a single combined ingress / egress driveway connecting with Pacific Parade in the north-western corner of the site.

#### 1.3.4 Surrounding Uses

The site is adjoined by a residential apartment building to the east, situated on the south-western corner of the junction of Pacific Parade and The Crescent, providing vehicular access to / from Pacific Parade.

A residential apartment building also occupies land to the west, fronting and being serviced by Pacific Parade.

The Crescent Reserve is situated to the south, containing a small children's playground.

A series of residential apartment buildings occupy land to the north, on the opposite side of and being serviced by Pacific Parade.

## 2. PROPOSED DEVELOPMENT

#### 2.1 Built Form

The subject application seeks Council's approval for demolition of the existing site structure and construction of a co-living development comprising 25 micro apartments, a manager's residence and two common rooms.

The development is proposed to be contained within a part four / part five storey building, situated approximately central to the site.

The development is to be serviced by two levels of parking, containing the following:

- 13 passenger vehicle parking spaces (including two disabled spaces);
- Five motorcycle parking spaces; and
- Five bicycle parking spaces.

Vehicular access to the on-site parking areas is proposed via two separate but adjacent internal roadway / ramps running adjacent to the western site boundary, linking to connect with Pacific Parade via a single combined ingress / egress driveway situated in the north-western corner of the site.

Pedestrian access is proposed via a pedestrian walkway connecting with the southern Pacific Parade footway, to the east and separate from the abovementioned vehicular access driveway.

## 3. SITE ACCESS & INTERNAL CIRCULATION

#### 3.1 Access Arrangements

#### 3.1.1 Passenger Vehicle Access

Vehicular access between the development and Pacific Parade is proposed to be provided via a 4m wide combined ingress / egress driveway located within the north-western corner of the site.

AS2890.1:2004 provides driveway design specifications based on the proposed primary land use, the functional order of the access road and the number of spaces the driveway is to serve. Tables 3.1 and 3.2 of AS2890.1:2004 specify that, at minimum, a Category 1 type driveway is required, providing a combined ingress / egress driveway width of between 3m and 5.5m based on the functional order of Pacific Parade, the land-use proposed and the passenger vehicle parking provision within the parking area of 13 spaces. The proposed combined ingress / egress driveway width of 4m therefore complies with the minimum AS2890.1-2004 specifications and accordingly is considered to be satisfactory.

Swept path plans have been prepared in order to demonstrate the ability of passenger vehicles to enter and exit the site, copies of which are included as **Appendix 2**.

The access driveway location results in acceptable sight distance conditions both east and west of the subject site. Sight distance between the approaching public road traffic flow and the driveway location is approximately 65m and 160m to the east and west respectively, satisfying desirable specifications provided by AS2890.1:2004 for a frontage road with a posted speed limit of 40km/h.

Sight distance between vehicles exiting the site and pedestrians within the southern Pacific Parade footpath is also proposed to be assisted by the following:

- The provision of an appropriate triangles free of obstructions to visibility adjacent to both sides of the driveway at the property boundary in accordance with Figure 3.3 of AS2890.1:2004; and
- The provision of a maximum grade of 1:20 within 6m of the property boundary for exiting vehicles, in accordance with the intent of Clause 3.3 (a) of AS2890.1:2004.

The proposed site access driveway design is therefore considered to be satisfactory.

#### 3.1.2 Pedestrian Access

Pedestrian connectivity is proposed to be provided via a separate walkway to the east of the vehicular access driveway and connecting with the southern Pacific Parade footpath. The walkway leads to a forecourt that is situated at the main door to the lobby.

#### 3.2 Parking Provision

The development is proposed to provide the following parking provision:

- 13 passenger vehicle parking spaces (including two disabled spaces);
- Five motorcycle parking spaces; and
- Five bicycle parking spaces.

#### 3.2.1 Passenger Vehicular Parking

The Affordable Housing SEPP provides state wide relevant parking requirements for boarding houses, relevant to the proposed co-living development. Clause 29(2) of the Affordable Housing SEPP states the following with respect to car parking:

A consent authority must not refuse consent to development to which this Division applies on any of the following grounds:

- (e) Parking if:
- (iia) in the case of development not carried out by or on behalf of a social housing provider—at least 0.5 parking spaces are provided for each boarding room, and
- (iii) in the case of any development—not more than 1 parking space is provided for each person employed in connection with the development and who is resident on site,

Notwithstanding the above, Clause 30(1) of the Affordable Housing SEPP further states:

(e) if the boarding house has capacity to accommodate 20 or more lodgers, a boarding room or on site dwelling will be provided for a boarding house manager

The following parking rates from Clause 29(2)(e) therefore apply:

#### **Resident Parking**

25 micro apartments @ 0.5 spaces per apartment = 12.5 (adopt 13) spaces minimum

#### Staff Parking

One manager = up to 1 space

A consenting authority accordingly cannot refuse consent to the proposed development on the grounds of car parking as 13 parking spaces are provided.

Whilst it is acknowledged that it is desirable to provide a further parking space for the person employed in association with the development (being accommodated within the manager's residence), the SEPP staff parking rate of one space per employee is provided as a maximum and accordingly, Council can consider the non-provision of parking for employees of the development, as proposed.

It is possible that the development may accordingly generate demand for up to one on-street parking space as no on-site parking is proposed for the manager. Observations have indicated the following unrestricted public parking infrastructure within the immediate vicinity of the subject site:

- There is capacity to accommodate up to 14 and 12 passenger vehicles along the southern and northern sides of Pacific Parade within 50m walking distance of the subject site; and
- There is capacity to accommodate 12 and 11 passenger vehicles within The Crescent between Pacific Parade and Carew Street (within 150m walking distance of the subject site).

Recent observations have indicated that whilst demand for parking within Pacific Parade and The Crescent in the immediate vicinity of the site is moderate, capacity exists to accommodate minor levels of additional demand if so required. The surrounding on-street infrastructure is therefore considered to be capable of accommodating any potential minor increase in parking demand associated with the development, should it occur, without unreasonably impacting surrounding residential amenity.

#### 3.2.2 Motorcycle and Bicycle Parking

Clause 30(1) of the Affordable Housing SEPP states:

(h) At least one parking space will be provided for a bicycle, and one will be provided for a motorcycle, for every 5 boarding rooms

The following parking rates from clause 30(1) therefore apply:

25 micro apartments / 5 = 5 spaces

The proposed provision of five bicycle and five motorcycle spaces within the onsite parking area therefore accords with the abovementioned minimum Affordable Housing SEPP requirements and accordingly, are considered to be satisfactory.

#### 3.3 Internal Circulation and Manoeuvrability

#### 3.3.1 Site Access and Internal Roadway Width

Connectivity between the site access driveway and the car parking areas is proposed via a roadway running along the western site boundary. This roadway is to provide a width of 4m at the property boundary, prior to widening to 7.4m at a position measured 6m inside the property, thence directly connecting with separate but adjacent 3.6m wide access ramps, providing access to the lower ground and basement parking levels.

It is acknowledged that the access driveway and the single lane ramps connecting to the parking areas are not capable of accommodating two-way traffic movements simultaneously. These roadways however suitably accord with Clause 3.2.2 of AS2890.1:2004, which allows for a minimum two-way driveway and connecting roadway width of 3m, where the two directional traffic volume is less than 30 movements per hour.

Section 5.1 of this report presents that the access driveway could be expected to accommodate in the order of 10 peak hour vehicle movements based on a total development yield of 25 micro apartments, being significantly less than the abovementioned maximum of 30 movements. Accordingly, the width of the access driveway and connecting roadways is only required to accord with the one-way traffic requirements as specified within Clause 2.5.2 (a) (i) of AS2890.1:2004, which requires a minimum roadway width of 3m. Compliance with this Clause is achieved.

Notwithstanding the above, an internal traffic signal management system has been implemented in order to manage / govern the inbound and outbound traffic movements. The following subsection provides operational details of the internal traffic signal management system.

#### 3.3.2 Internal Access Ramp Management

Upon entry to the site via Pacific Parade, vehicles are to proceed in a forward direction to access the lower ground level parking area or the basement parking area, via the adjacent but separate access ramps. These ramps are proposed to provide a single lane of traffic, connecting directly with the parking circulation aisles within the parking areas.

An internal traffic signal system is to be implemented within both parking areas to limit the direction of traffic flow between both internal ramps and the access driveway to one-way at any given time.

The traffic signal system is to utilise red / green traffic lanterns located at the access driveway and within the parking levels. The default position will display a green to the movement for entering vehicles from Pacific Parade and a red display for vehicles exiting the parking areas. Under this arrangement, when vehicles approach the site, they will be provided with a green display and move towards the parking areas in an unimpeded fashion. An input is to be received by the operating system from radar direction units as the vehicle travels towards the parking levels.

Motorists wishing to exit the parking levels will activate the internal traffic signals via in-vehicle remotes (similar to a roller door remote) or push buttons situated within the within the parking level lift lobbies. Residents (no internal visitor parking is proposed) whom do not hold an in-vehicle remote for any reason will be required to utilise this push button system to activate the traffic signals and thence exit the site. Signage will be provided within the parking levels specifying that vehicles are not to exit car spaces until a green lantern is displayed within the parking level to ensure there is no undesirable conflict within the parking level circulation aisles.

Upon activation of the remote / push button, the operating system will then display a red to the site entrance lantern while the vehicle/s wishing to exit the parking area will remain red. The operating system will have recorded any vehicles already in internal access roadways / ramps via radar detection units and commenced a timer to allow a vehicle to complete its journey into the parking area/s. The display for the activated traffic signal within the specific parking level will then change from red to green thereby allowing vehicles to safely exit the parking space within the parking level and travel unimpeded towards the site access driveway. When the directional sensitive radar unit located at the driveway is activated by the exiting vehicle/s, the system returns to the default position.

The indicative location of the lanterns and push button are illustrated on the architectural plans. Notwithstanding this, the specific details of the internal traffic signal system are typically specified by traffic signal contractors at construction certificate stage, complete with a management plan, including measures to be implemented during malfunctions or blackouts.

In regard to the above, traffic signal systems such as that described above are typically fitted with a battery powered back up system to ensure that they continue to operate during power black outs. It is further understood that traffic signal systems such as that proposed tend to be very reliable and rarely malfunction. However, in the event of a malfunction occurring, the manufacturer provides a maintenance crew which is on call 24 hours per day, which will be dispatched to the site immediately. Further, the system incorporates a computer which in most cases can self-diagnose a problem and inform service personnel who can often fix the issue remotely via the internet.

The requirement for detailed design of the traffic signal system, including operational management measures to be implemented, could reasonably be imposed by Council as a condition of development consent.

This Practice notes that internal development traffic signal systems have been successfully implemented within numerous similarly sized private residential developments throughout the Sydney metropolitan area.

Incorporating such an internal traffic signal system, the proposed single lane vehicular ramps servicing the development parking levels are envisaged to be satisfactory.

#### 3.3.3 Waiting Bay and Queue Assessment

While it is acknowledged that the proposed development access arrangement does not provide for an on-site passing or waiting bay within the access driveway, Clause 3.5 of AS2890.1:2004 specifies that 'when determining the amount of vehicle storage required, queue lengths shall be calculated by applying conventional queuing theory to estimated mean arrival rates during normal peak periods, and mean service rates under continuous demand, determined as closely as possible from observing the operation of similar facilities. The storage area shall be designed to accommodate the 98<sup>th</sup> percentile queue under such conditions.'

The potential for queueing has accordingly been investigated in order to assess the suitability or otherwise for the non-provision an on-site waiting / passing bay. This analysis incorporates the following critical operational characteristics of the proposed development and the parking arrangements:

- The development is projected to generate up to 10 peak hour vehicle movements (see Section 5 of this report); and
- 30 seconds has been allocated for the time it takes for a vehicle to travel from the access driveway connecting with Pacific Parade to either parking area, and vice versa.

On the basis of the above critical system characteristics, the following queueing analysis is provided in accordance with standard (M/M/1) procedures, a first-infirst-out basis (FIFO) and a Poisson process for the arrival and service rates:

$$a = arrival rate$$

$$s = service rate$$

$$p = utilisation \ rate \ (\frac{a}{s})$$

$$E(m) = Mean number of vehicles in queue \left(\frac{p}{1-p}\right) - p$$

 $P(n) = Discrete \ probability \ of \ n \ vehicles \ within \ the \ system \ (1-p)p^n$ 

On this basis, the following analysis is provided:

- The average arrival rate is 10 vehicles every hour;
- The average service rate is 120 vehicles per hour;
- The utilisation rate is the arrival rate divided by the service rate is (10/120) or p = 0.083;
- The average number of vehicles in the queue is 0.0075 vehicles  $[E(m) = \frac{p}{(1-p)} p]$ ;
- The probability of zero vehicles in the system:  $(1-p)p^0 = 0.917(91.7\%)$ ;
- The probability of one vehicle in the system:  $(1-p)p^1 = 0.076$  (7.6%); and
- The probability of two vehicles in the system:  $(1-p)p^2 = 0.0063$  (0.63%).

Due to the nature of the proposed site access arrangement, the system allows for one vehicle to be entering or exiting the system without the presence of a queue. Therefore, a queue outside of the subject property or within either parking areas will only form when there are two or more vehicles in the system.

queue.

This scenario has been calculated to occur 0.63% of the time during weekday commuter peak hours according the above analysis. The proposed system operation is therefore capable of accommodating in excess of the 99<sup>th</sup> percentile

The queueing capacity of the development ingress, egress and parking arrangements therefore complies with Clause 3.5 of AS2890.1:2004, which requires the 98<sup>th</sup> percentile queue to be contained within the subject site. The proposed development accordingly does not require the implementation of a waiting / passing bay under the provisions of AS2890.1:2004 and is therefore considered satisfactory.

#### 3.3.4 Basement Access Roadway / Ramp Grades

The access roadway / ramp providing connectivity between the driveway and the basement and lower ground level access ramps is proposed to provide a 1:20 grade for the first 6m inside the property boundary.

The basement parking level access ramp abutting the western site boundary is to provide the following ramp profile:

- 1:8 downgrade for a 2m section;
- 1:5 downgrade for the next 8.5m; and
- 1:8 downgrade for the next 2m on approach to the basement level.

The lower ground parking level access ramp adjacent to the basement level access ramp is to provide the following ramp profile:

- A flat grade for a 2m section; and
- 1:14 upgrade for the next 8.4m section.

The above grade profiles comply with the relevant maximum grade and change in grade requirements of AS2890.1:2004 and are accordingly expected to be capable of accommodating passenger vehicles without conflicts.

#### 3.3.5 Basement Parking Design

Passenger vehicles, upon entry to the site, will travel in a forward direction to access either the lower ground level or basement level parking areas, accessed via separate but adjacent internal ramps, forming a continuation of the site access driveway. The lower ground level parking area and the basement level parking area are proposed to comprise a single row of six and seven 90 degree angled parking spaces, respectively. The parking spaces within both levels are situated adjacent to the eastern wall and are serviced by a circulation aisle situated adjacent to the western wall, which form an extension of the access roadway / ramps connecting to each level.

The passenger vehicle parking areas have been designed to accord with the minimum requirements of AS2890.1:2004 and AS2890.6:2009, providing the following base dimensions:

- Standard parking space width = 2.5m;
- Disabled vehicular parking space width = 2.5m (with adjoining 2.5m wide shared area);
- Additional vehicular space width where parking spaces adjoins an obstruction = 0.3m;
- Standard and disabled 90 degree parking space length = 5.4m;
- Parking aisle extension past dead end 90-degree parking bays = 1.0m;
- Headroom = 2.2m; and
- Headroom above disabled parking spaces and adjoining shared areas = 2.5m.

A 5.8m wide parking aisle services both areas of parking. It is acknowledged that AS2890.1:2004 states that a parking aisle bounded by one row of parking and a wall such as that proposed, requires an aisle width of 6.1m. However, the parking aisle width provided is considered to be appropriate due to the provision of 2.5m wide parking spaces, exceeding the minimum provision of 2.4m specified by AS2890.1:2004, to aid in proficient manoeuvrability into and out of parking spaces. In order to further demonstrate the suitability of the abovementioned arrangement and internal passenger vehicle manoeuvrability throughout the internal circulation areas, this Practice has prepared a number of swept path plans which are included as **Appendix 2**. The turning paths provided on the plans have been generated using Autoturn software and derived from B85 and B99 vehicle specifications provided within AS2890.1:2004.

The swept path plans illustrate that passenger vehicles can generally manoeuvre throughout the parking areas with a reasonable level of safety and efficiency. It is however acknowledged that a minor level of additional manoeuvring is required to access the southernmost (end) parking space on each parking level in a forward direction. This is a common scenario within small blind aisles. It is reiterated, in this regard, that the parking space dimensions comply with AS2890.1:2004.

Further, it should be acknowledged that Section B4.4 of AS2890.1:2004 states the following with regard to the use of templates to assess vehicle manoeuvring:

'Constant radius swept turning paths, based on the design vehicle's minimum turning circle are not suitable for determining the aisle width needed for manoeuvring into and out of parking spaces. Drivers can manoeuvre vehicles within smaller spaces than swept turning paths would suggest.'

It would therefore appear that whilst the turning paths provided within AS2890.1:2004 can be utilised to provide a 'general indication' of the suitability

or otherwise of internal parking and manoeuvring areas, vehicles can generally manoeuvre more efficiently than the paths indicate. In consideration of this and the above discussion, the proposed internal passenger vehicle circulation arrangements are considered to be satisfactory.

#### 3.3.6 Motorcycle Parking Area

Five motorcycle parking spaces have been provided with the following dimensions in accordance with the relevant requirements of AS2890.1:2004:

- Motorcycle parking space width = 1.2m; and
- Motorcycle parking space length = 2.5m.

#### 3.3.7 Bicycle Parking Area

Bicycle parking is proposed to be provided via the provision of five vertically staggered wall hung bicycle racks providing the following minimum dimensions in accordance with the relevant requirements of AS2890.3:2015:

- Parking rack depth / length = 1.2m;
- Rack separation = 0.5m; and
- Adjoining manoeuvring aisle = 1.5m.

#### 3.3.8 Site Servicing

The subject development is anticipated to generate the requirement for regular waste collection vehicle servicing. Garbage bins are proposed to be contained within a dedicated storage room situated within the north-eastern corner of the lower ground level. These bins are to be transported to the adjoining Pacific Parade Street frontage for collection in a similar manner to other properties in the subject vicinity.

Given the nature of the development, micro apartments are generally provided furnished to tenants. Thus, it is anticipated there will not be a regular requirement for large removalist vehicles to access the site, as tenants moving in and out of the accommodation will do so using utilities and vans capable of utilising regular car spaces provided on site.

## 4. EXISTING TRAFFIC CONDITIONS

#### 4.1 Surrounding Road Network

The following provides a description of the local road network surrounding the subject site:

 Pacific Parade performs a minor collector road function, providing an eastwest connection between Dee Why Beach in the east and Pittwater Road in the west. At its western extremity, Pacific Parade intersects with Pittwater Road under traffic signal control.

In the vicinity of the site, Pacific Parade provides a 12m wide pavement, providing one through lane of vehicular traffic, plus a designated bicycle lane in each direction, in conjunction with unlimited parallel parking along both kerb alignments. Traffic flow is governed by a local area speed limit of 40km/h.

West of the subject site, Pacific Parade intersects with Sturdee Parade under single lane circulating roundabout control. To the east of the site, Pacific Parade intersects with The Crescent under traffic signal control. Further east, Pacific Parade intersects with Avon Road and Griffin Road, each junction being governed by single lane circulating roundabout control.

 The Crescent performs a local access function under the care and control of Northern Beaches Council. It provides an access function between primarily residential abutting development and Pacific Parade in the north, with which it intersects under traffic signal control with all movements permitted.

To the south of Pacific Parade, The Crescent provides a 9m wide pavement with one lane of traffic in each direction, in conjunction with parallel parking along both kerb alignments. The Crescent is governed by a local area speed limit of 50km/hour.

The Crescent extends to the south approximately 75m from Pacific Parade, prior to forming a T-junction with Carew Street, under 'Give Way' control. This T-junction operates in a somewhat non-standard arrangement whereby turning movements between the northern approach of The Crescent and Carew Street are provided with priority. A short raised concrete central median is provided within Carew Street to the west of this junction to provide appropriate junction channelisation and reinforce the abovementioned non-standard priority arrangement.

The Crescent continues to the south-east to link with Wheeler Parade, with which it intersects under major / minor priority control with Sheeler Parade forming the priority route.

 Carew Street provides a local function under the care and control of Northern Beaches Council. With The Crescent, Carew Street provides a north-south connection between Pacific Parade in the north and Headland Road in the south.

Carew Street provides a 10m wide pavement with one through lane of traffic in each direction, in conjunction with parallel parking along both kerb alignments. Carew Street is governed by a local area speed limit of 50km/hour.

Pittwater Road performs an arterial road function under the care and control
of TfNSW. Pittwater Road provides a connection between North Manly at it
southern end, and Church Point in the north. Pittwater Road performs the
main road function along the coast of the northern beaches suburbs,
connecting the suburbs of Manly, Brookvale, Dee Why, Collaroy, Narrabeen,
Mona Vale and Church Point.

In the vicinity of Dee Why, Pittwater Road provides a 25m wide carriageway with three lanes of traffic in each direction separated by a raised central median. Traffic is governed by a sign posted speed limit of 60km/hour. In the vicinity of the junction with Pacific Parade, the western kerbside lane of Pittwater Road provides sign-posted bus lane / clear way conditions during Monday to Friday, 3pm to 7pm. 1 hour time limited parking is permitted in sign-posted sections between Monday to Friday 8:30am – 3pm and 8:30am – 12:30pm Saturdays. Unrestricted kerbside parking is permitted at other times. In a similar manner to that described above, the eastern kerbside lane of Pittwater Road provides sign-posted bus lane / clear way conditions during Monday to Friday, 6am – 10am.

Pittwater Road intersects with Pacific Parade under traffic signal control, with all movements permitted, with the exception of right turn movements from Pittwater Road. Right turn access to the Dee Why precinct form the northbound Pittwater Road carriageway is facilitated at the signalised junction of Pittwater Road and Sturdee Parade, to the south.

#### 4.2 Existing Traffic Volumes

Staff of Stanbury Traffic Planning have undertaken observations of traffic demands within Pacific Parade and The Crescent in the vicinity of the site in order to accurately ascertain the traffic demands.

The above observations have indicated the following, during the morning weekday peak periods:

- Pacific Parade accommodates approximate directional traffic demands between 300 – 450 vehicles per hour; and
- The Crescent accommodates directional traffic demands between 200 250 vehicles per hour.

#### 4.3 Existing Road Network Operation

Reference is made to TfNSW's *Guide to Traffic Generating Developments* in order to undertake an assessment of the operational performance of the surrounding local road network. This publication indicates the following:

- A single lane of traffic accommodating up to peak hour traffic demands between 300 – 450 vehicles as observed within Pacific Parade provides a level of service 'B' / 'C', representing stable flow but where drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream.
- A single lane of traffic accommodating peak hour traffic demands between 200 – 250 vehicles as observed within The Crescent, provides a level of service 'B', indicating stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream.

The signalised and roundabout junction controls governed Pacific Parade's intersections with The Crescent and Sturdee Parade, respectively, notably punctuate directional traffic flows within Pacific Parade, thereby allowing for regular and extended gaps, facilitating opportunities for turning movements to and from abutting development.

#### 4.4 Public Transport

#### 4.4.1 Buses

State Transit provides the following bus services immediately adjacent to the subject site within Pacific Parade:

- Route 177X Dee Why to City Wynyard (Express Service)
- Route 159 Dee Why to Manly

Both routes are serviced by stops situated on both sides of Pacific Parade, within 100m walking distance of the site. Route 177X provides a weekday commuter peak period service frequency of 20 minutes. Route 159 provides a service requirement of 60 minutes between the hours of 9am and 4pm, Monday to Friday and 8am and 6pm on weekends.

In addition, a large number of bus services operate along Pittwater Road, with the closest stop being located approximately 470m west of the subject site. Services include but are not limited to:

- Route 151 City QVB to Mona Vale
- Route 158 Manly to Collaroy Plateau via Cromer
- Route 169 Manly to City Wynyard via Narraweena
- Route 178 City Wynyard to Cromer Heights

- Route 180 City Wynyard to Collaroy Plateau
- Route 185 Warringah Mall to Mona Vale via Warriewood
- Route 188 City QVB to Avalon Beach
- Route 199 Manly to Palm Beach
- Route 160X Chatswood to Mona Vale (Express Service)

These services combine to provide an approximate frequency of 5 minutes during most periods of the week.

Whilst the above bus service information is correct as at September 2020, it is understood current service frequencies may have been reduced in light of current COVID-19 travel restrictions. It is therefore anticipated that public transport services in the vicinity of the site may increase as COVID-19 restrictions ease.

#### 4.4.2 Pedestrians

Pedestrians are provided with the following access and mobility infrastructure within the immediate vicinity of the subject site:

- Footpaths are provided along both sides of all immediately surrounding local streets, including Pacific Parade, The Crescent and Sturdee Parade;
- Signalised pedestrian crossings are provided over Pacific Parade, east and west of the junction of Pacific Parade and The Crescent;
- Pedestrian refuges are provided over the eastern and southern approaches of the junction of Pacific Parade and Sturdee Parade;
- A marked pedestrian crossing is provided over Pacific Parade, approximately 35m west of its intersection with Sturdee Parade;
- Signalised pedestrian crossings are provided over the eastern and southern approaches at the junction of Pacific Parade and Pittwater Road; and
- Pedestrian refuges are provided over the northern, eastern and western approaches at the junction of Pacific Parade and Avon Road.

#### 4.4.3 Cyclists

Cyclists are provided with the following infrastructure in the vicinity of the site:

 Marked on-road bicycle lanes are provided adjacent to the northern and southern kerb side parking lanes along Pacific Parade from Sturdee Parade to Griffin Road;

- Sturdee Parade is a marked on-road bicycle route between Pacific Parade and Pittwater Road, with dedicated lanes being provided where the pavement width allows;
- An off-road cycle route is provided along the eastern side of Pittwater Road between Delmar Parade and Harbord Road; and
- An off-road cycle route is provided along the eastern side of Harbord Road from Pittwater Road to Miles Street.

The above cycle routes form part of a regional connection between Dee Why and Manly.

## 5. PROJECTED TRAFFIC CONDITIONS

#### 5.1 Traffic Generation

Traffic generation rates for various land-uses have been established through extensive surveys undertaken throughout NSW and published within TfNSW's *Guide to Traffic Generating Developments* and the more recently released *Technical Direction TDT 203/04a*.

TfNSW's *Guide to Traffic Generating Developments* does not provide generation rates for co living developments. The most consistent use assessed by TfNSW is that of motels, for which it provides the following peak hour traffic generation rate:

#### 0.4 trips per room

It could be expected that the subject development would generate slightly less traffic than a motel, as motels are generally vehicle-based developments. Coliving developments, as demonstrated by the aims and objectives of the Affordable Housing SEPP, provide residential accommodation for low income earners. Accordingly, vehicle ownership would not be common amongst the occupants of the development, with a much stronger reliance on cheaper public transport options.

Notwithstanding the above, based on the provision of 25 micro apartments, the subject development is projected to generate up to 10 peak hour trips.

#### 5.2 Traffic Impacts

The development has been projected to generate in the order of 10 vehicle movements to and from the subject site during peak hours.

These vehicle movements are primarily likely to comprise egress movements during the morning peak period and ingress movements during the evening peak period, associated with normal journey to and from work patterns of residential development.

The abovementioned peak hour traffic generation equates to one vehicle movement every six minutes during commuter peaks. Such a level of additional traffic is not projected to, in itself, result in any unreasonable impact on the existing operational performance of the surrounding local road network. The previous assessment contained within this report has revealed that traffic demands within the surrounding local road network are reasonably low and accordingly motorists are provided with a good level of service with spare capacity.

Whilst it is acknowledged that traffic demands within the surrounding regional and arterial road network are more considerable, the presence of positive intersection control at and nearby the precinct access points provide motorists with safe and efficient means with which to access and exit the subject precinct.

In consideration of the above, the impact of the development is most likely to be a result of the safety and efficiency with which motorists are capable of entering and exiting the development. The reasonably low traffic demands within Pacific Parade with the reasonable sight distance provisions between the frontage road and the driveway location is such that it is envisaged that motorists will be capable of entering and exiting the site in a safe and efficient manner.

#### 5.3 Transport Impacts

The subject site is located within close walking distance of bus services operating along Pacific Parade. It is accordingly expected that a proportion of the future occupants of the development will utilise the surrounding public transport infrastructure to access destinations throughout the Sydney metropolitan area. The capacity of the existing public transport system is however not envisaged to be measurably affected by any additional demand associated with the development, given its limited scale.

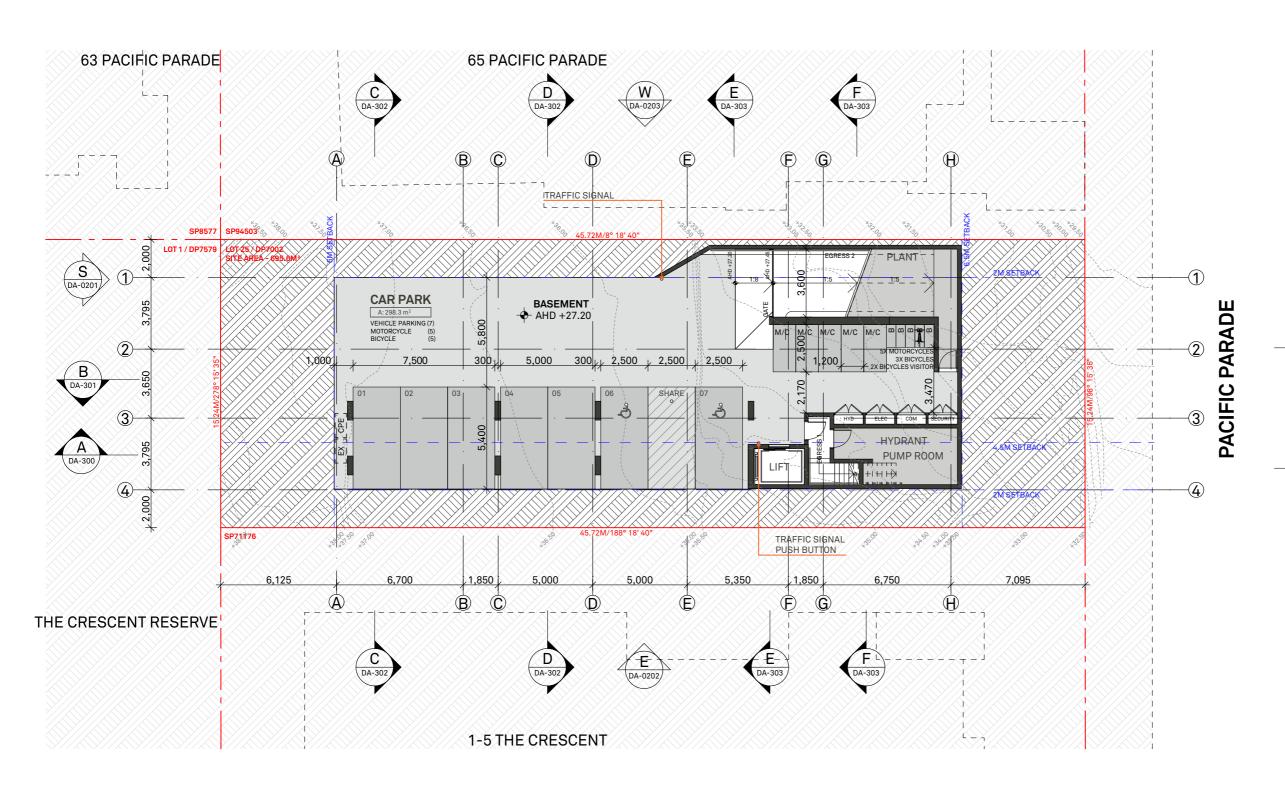
## 6. CONCLUSION

This report assesses the potential traffic and parking implications associated with a co-living development containing 25 micro apartments and one manager's residence at 67 Pacific Parade, Dee Why. Based on this assessment, the following conclusions are now made:

- The proposed site access arrangements are projected to result in motorists being capable of entering and exiting the subject site in a safe and efficient manner;
- The proposed off-street vehicular parking provision complies with the minimum requirements specified by the Affordable Housing SEPP;
- The proposed off-street bicycle and motorcycle parking provision complies with or exceeds the relevant requirements of the Affordable Housing SEPP;
- The implementation of the proposed internal traffic signal management system is expected to effectively facilitate safe and efficient site access and internal passenger vehicle circulation arrangements;
- The surrounding road network operates with a reasonable level of service during peak periods;
- The subject development has been projected to generate up to 10 peak hour vehicle trips to and from the subject site; and
- It is considered that the adjoining road network is capable of accommodating the traffic projected to be generated by the subject development.

It is considered, based on the contents of this report and the conclusions contained herein, there are no traffic or parking related issues that should prevent approval of the subject application. This action is therefore recommended to Council.





#### NORTHERN BEACHES COUNCIL

WARRINGAH LEP 2011

LAND ZONING	R
MIN. LOT SIZE	N/
FSR	N.A
HEIGHT OF BUILDING	11M (ZONE L
LAND RESERVATION	N/
HERITAGE	N/
FLOOD	N/-
ACID SULFATE	N.A
KEY SITE	N/-
BIODIVERSITY	N.A
LANDSLIP RISK	AREA E

PARKING RATE

ARHSEPP RATE APPLIED: BOARDING HOUSE

0,5 SPACE PER MICRO APPARTMENT DWELLING

#### CAR PARK

RESIDENTIAL: 25 ROOMS + 1 MANAGER REQUIRED PROPOSED

		Residential	13	13
	VEHICLE	Visitor	-	-
	MOTORCYCLE		5	5
)	BICYCLE	Residential	3	3
'		Visitor	2	2

TOTAL CARPARK PROVIDED





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Date

Description DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Garbage Room R
Garbage Room R
Gross Floor Area SCR
Gas Meter
Hydraulic Services ST
Laundry STP
Motorcycle Parking STW
Main Switch Board
Natural Ground Level TopOnsite Detention Tank TOW
Pantry

Private Open Space CLIENT Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

PROJECT DETAILS BL 2093 PTY LTD 67 PP PO BOX 1231 MANLY NSW 2095

DRAWING TITLE GENERAL 67 Pacific Parade ARRANGEMENT -DEE WHY NSW 2099 BASEMENT PLAN SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0100

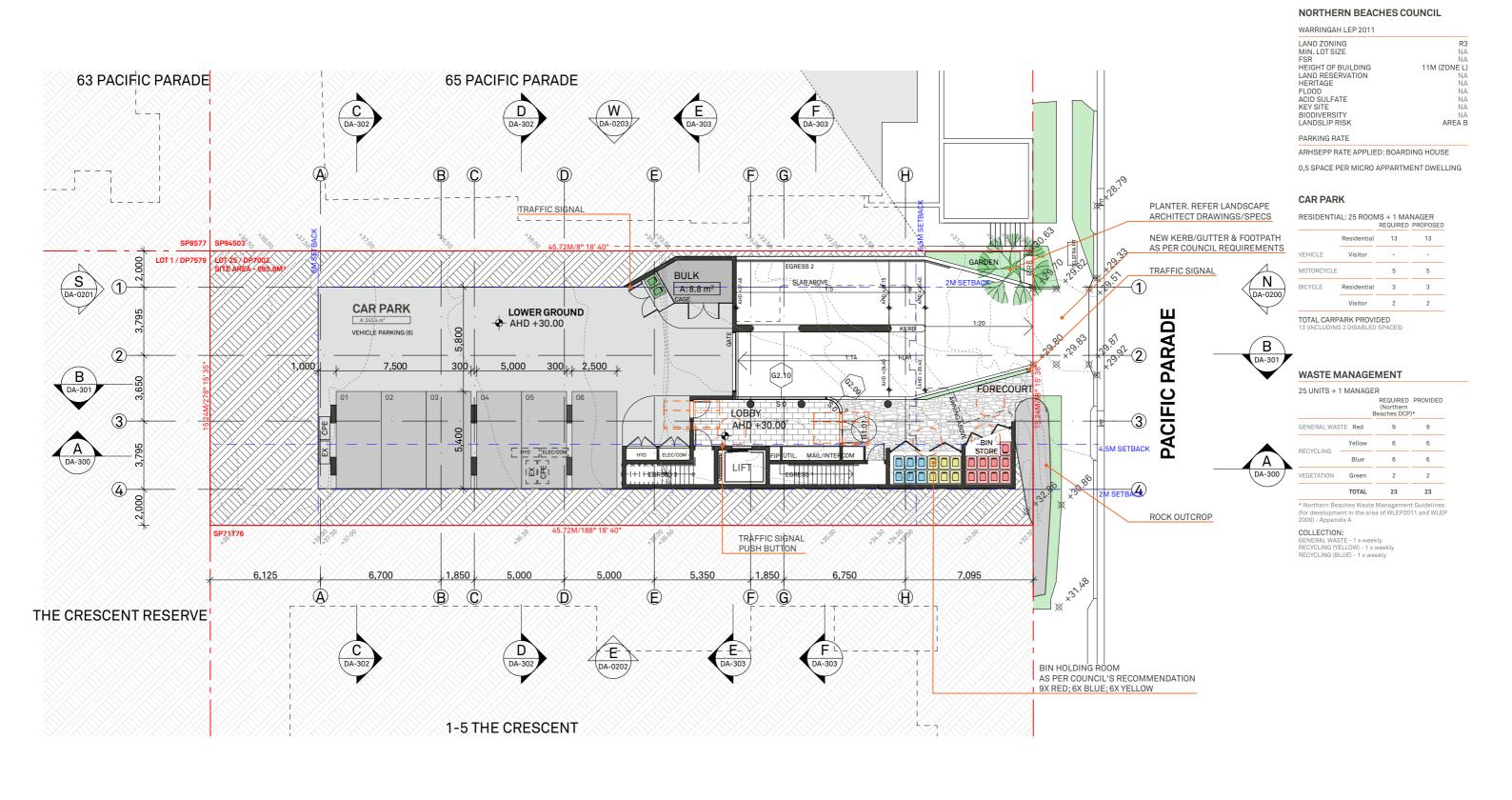
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Description Date DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LOWER GROUND

DRAWING TITLE GENERAL ARRANGEMENT -PLAN

SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0101

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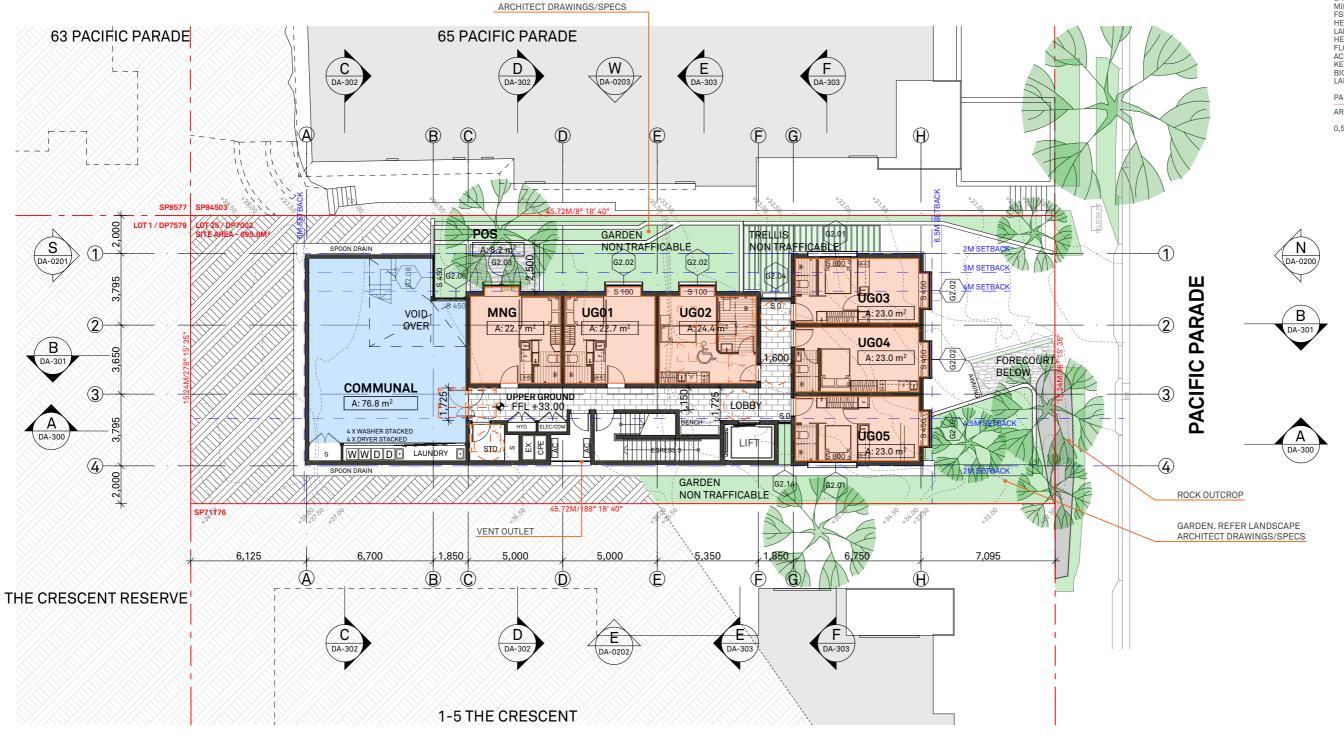
# NORTHERN BEACHES COUNCIL

WARRINGAH LEP 2011 LAND ZONING MIN. LOT SIZE FSR NA 11M (ZONE L) NA NA NA NA NA AREA B HEIGHT OF BUILDING LAND RESERVATION HERITAGE FLOOD ACID SULFATE KEY SITE BIODIVERSITY LANDSLIP RISK

PARKING RATE

ARHSEPP RATE APPLIED: BOARDING HOUSE

0,5 SPACE PER MICRO APPARTMENT DWELLING



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Description Date DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Garbage Room
Garbage Exhaust
Gross Floor Area
Gas Meter
Hydraulic Services
Laundry
Meter Room
Main Switch Board
Natural Ground Level
Onsite Detention Tank
VIS

GARDEN. REFER LANDSCAPE

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 UPPER GROUND

DRAWING TITLE GENERAL ARRANGEMENT -PLAN

SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

2004A

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DA-0102

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285



#### NORTHERN BEACHES COUNCIL WARRINGAH LEP 2011 LAND ZONING MIN. LOT SIZE FSR GARDEN. REFER LANDSCAPE ARCHITECT DRAWINGS/SPECS NA 11M (ZONE L) NA NA NA NA NA AREA B HEIGHT OF BUILDING LAND RESERVATION HERITAGE 63 PACIFIC PARADE 65 PACIFIC PARADE FLOOD ACID SULFATE KEY SITE BIODIVERSITY LANDSLIP RISK C DA-302 D PARKING RATE ARHSEPP RATE APPLIED: BOARDING HOUSE 0,5 SPACE PER MICRO APPARTMENT DWELLING $\widehat{\mathbb{H}}$ (C) (E) (F) (G) LOT 1/1 G2.01 GARDEN GARDEN BELOW NON TRAFFICABLE G2.02 G2.02 PACIFIC PARADE cos E104 A: 32.8 m<sup>2</sup> L103 VOID L101 ..A: 23.0 m² A: 24.4 A: 22.7 m<sup>2</sup> A: 22.7 m<sup>2</sup> L105 A: 23.0 m<sup>2</sup> FORECOURT BELOW **COMMUNAL** LEVEL 1 FFL +35.90 A: 58.4 m<sup>2</sup> L106 LOBBY **⊟**A: 23.0 m² S 1,150 2,000 GARDEN G2.17 G2.14 62.01 GARDEN BELOW G2.15 G2.04 G2.16 NON TRAFFICABLE ROCK OUTCROP GARDEN. REFER LANDSCAPE VENT OUTLET. EXPANDED ARCHITECT DRAWINGS/SPECS METAL MESH FLOORING 6,700 1,850 5,000 5,350 1,850 7,095 6,125 5,000 $\langle \hat{\mathbf{G}} \rangle$ (B) **D** (E) (F) $\widehat{\mathbb{H}}$ THE CRESCENT RESERVE E



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Description Date DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

1-5 THE CRESCENT

H LY M MC MSB NGL OSD

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

DA-0202/

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LEVEL 1 PLAN

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DB PROJECT No DRAWING No

DA-0103

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ABN: 76 129 130 285



#### NORTHERN BEACHES COUNCIL





PARKING RATE

ARHSEPP RATE APPLIED: BOARDING HOUSE

0,5 SPACE PER MICRO APPARTMENT DWELLING



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Date Description DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LEVEL 2 PLAN MANLY NSW 2095

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No

DA-0104

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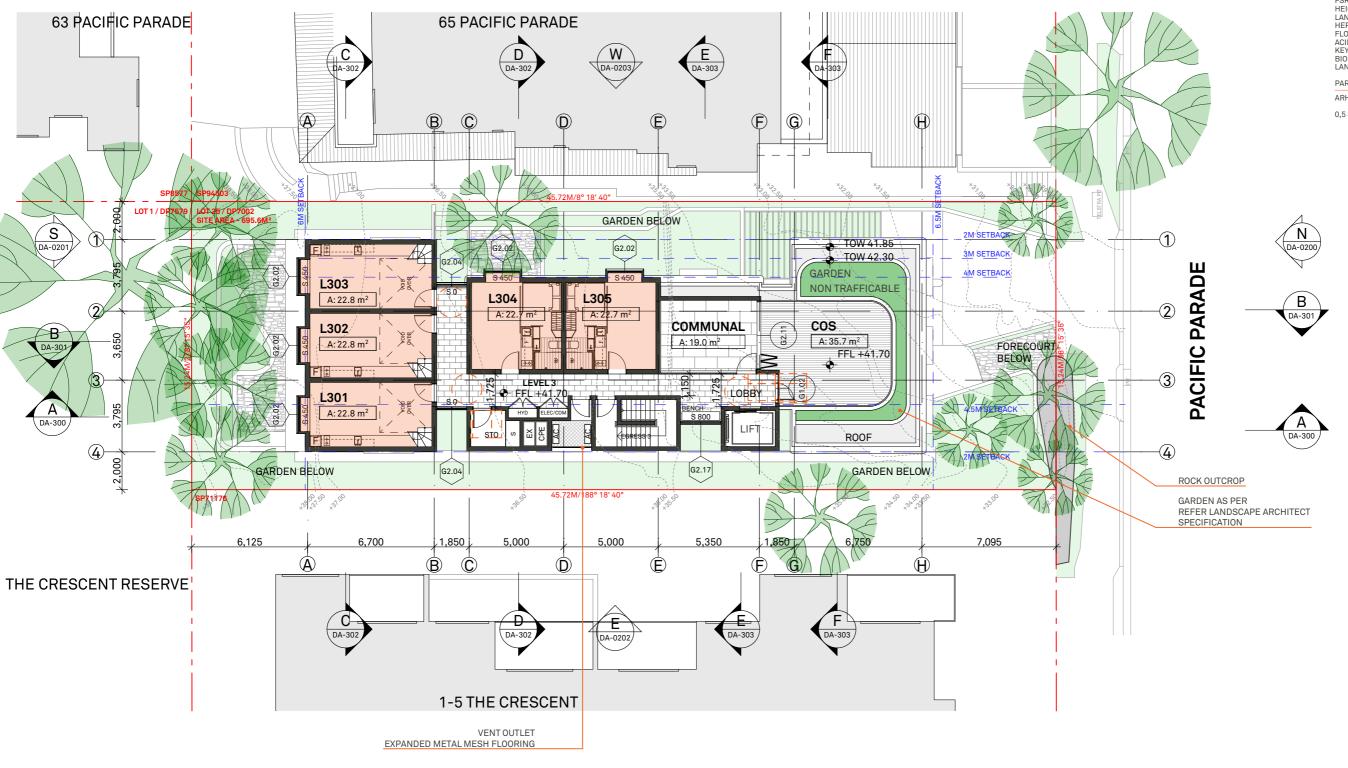




PARKING RATE

ARHSEPP RATE APPLIED: BOARDING HOUSE

0,5 SPACE PER MICRO APPARTMENT DWELLING



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Description Date DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099 LEVEL 3 PLAN

DRAWING TITLE GENERAL ARRANGEMENT - SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DB PROJECT No DRAWING No

DA-0105

DA

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#### WARRINGAH LEP 2011 LAND ZONING MIN. LOT SIZE FSR PHOTOVOLTAIC PANELS AS PER BASIX SPECIFICATION HEIGHT OF BUILDING LAND RESERVATION HERITAGE 63 PACIFIC PARADE **65 PACIFIC PARADE** FLOOD ACID SULFATE KEY SITE BIODIVERSITY LANDSLIP RISK <u>D</u> E PARKING RATE ARHSEPP RATE APPLIED: BOARDING HOUSE 0,5 SPACE PER MICRO APPARTMENT DWELLING (B) (C) (E) E **G** LOT 1 / [ GARDEN BELOW TOW AHD +41.85 3M SETBACK PACIFIC PARADE TOW AHD +42.30 4M SETBACK ROOF +44.50 TERRACE BELOW FORECOURT A: 12.9 m<sup>2</sup> AHD +41.70 BELOW ROOF +44,60 £301 ROOF LIFT OVERRUN A: 12.9 m<sup>2</sup> IXI'S +45.43 CARDEN BELOW GARDEN BELOW ROCK OUTCROP 6,700 1,850 5,000 5,000 5,350 1,850 7,095 6,125 $\hat{\mathbf{G}}$ (B) (D) (E) (F) $\widehat{\mathbb{H}}$ THE CRESCENT RESERVE DA-0202/ 1-5 THE CRESCENT VENT ROOFING EXPANDED METAL MESH

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Description Date DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stornwater Pit Stornwater Structural floor level Top of Fence Top of Wall Visitor Parking

PROJECT DETAILS BL 2093 PTY LTD 67 PP PO BOX 1231 67 Pacific Parade MANLY NSW 2095

DRAWING TITLE GENERAL ARRANGEMENT -DEE WHY NSW 2099 LEVEL 4 PLAN (MEZZ)

SCALE 1:200@A3 STATUS DA PROJECT No

2004A

APPROVED GM DRAWN BY DB DRAWING No REV

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DA-0106

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NORTHERN BEACHES COUNCIL

NA 11M (ZONE L) NA NA NA NA NA AREA B

#### WARRINGAH LEP 2011 LAND ZONING MIN. LOT SIZE FSR PHOTOVOLTAIC PANELS AS PER BASIX SPECIFICATION SOLAR COLLECTOR PANELS AS PER BASIX SPECIFICATION HEIGHT OF BUILDING LAND RESERVATION HERITAGE 63 PACIFIC PARADE 65 PACIFIC PARADE **ROOF RIDGE** AHD +40.98 FLOOD ACID SULFATE KEY SITE BIODIVERSITY LANDSLIP RISK C DA-302 ROOF RIDGE D Έ AHD +44.24 \ DA-302 ROOF RIDGE ROOF RIDGE PARKING RATE AHD +43.72 AHD +43.10 ARHSEPP RATE APPLIED: BOARDING HOUSE 65 AHD +47.95 0,5 SPACE PER MICRO APPARTMENT DWELLING $\widehat{\mathbb{H}}$ **G** TOW AHD +41.20 LIFT OVERRUN AHD +44.37 LOT 1/I GARDEN BELOW TOW AHD +41.85 3M SETBACK SOLAR COLLECTOR PACIFIC PARADE HOT WATER SYSTEM 4M SETBACK AHD +42.30 PHOTOVOLTAIC PANELS ROOF ROOF BELOW AHD +47.50 TERRACE BELOW FORECOURT BELOW AHD +44.50 AHD +41.70 AHQ +30.00 TERRACE BELOW AHD +35.90 LIFT OVERRUN AHD +45.43 ROOF BELOW AHD +44.60 GARDEN BELOW GARDEN BELOW ROCK OUTCROP 6,700 1,850 5,000 5,000 5,350 1,850 7,095 6,125 (G) $\bigcirc$ (B) (D) (E) $\widehat{\mathbb{H}}$ THE CRESCENT RESERVE TOW AHD +49.94 AHD +45.78 D E E TOW \ AHD +49.55 DA-302 DA-0202/ 1-5 THE CRESCENT VENT ROOFING EXPANDED METAL MESH

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Description Date DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FS FSR GBA

H LY M MC MSB NGL OSD

Private Open Space CLIENT Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stornwater Pit Stornwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS DRAWING TITLE GENERAL 67 PP ARRANGEMENT -67 Pacific Parade DEE WHY NSW 2099 ROOF PLAN

SCALE 1:200@A3 STATUS DA

2004A

APPROVED GM DRAWN BY DB PROJECT No DRAWING No

DA-0107

REV

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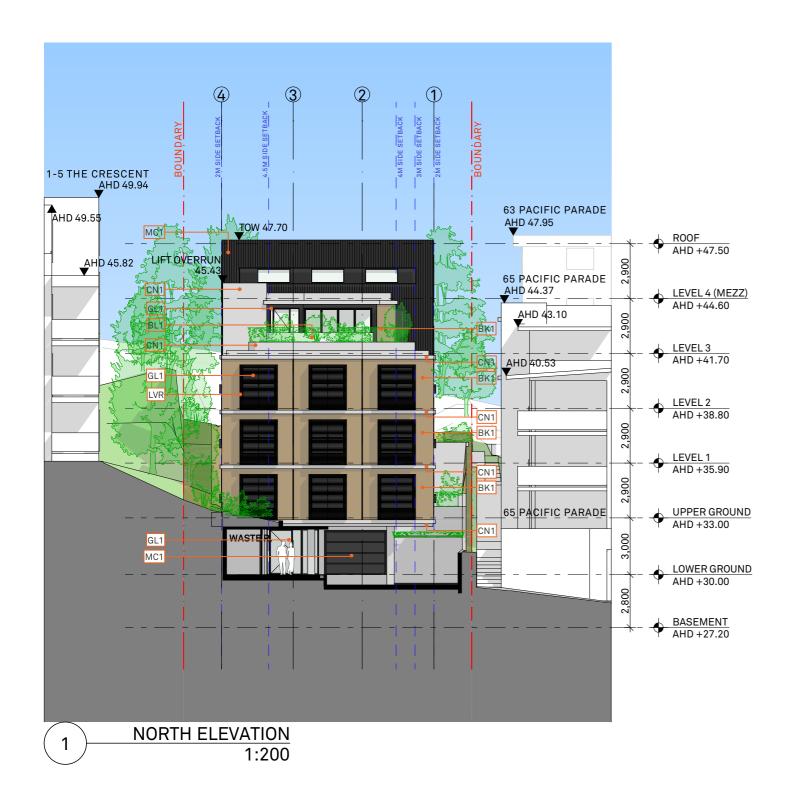
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NORTHERN BEACHES COUNCIL

NA 11M (ZONE L) NA NA NA NA NA AREA B



5.36 BK C WAS 3D VIEW - NORTH ELEVATION 2

**FINISHES LEGEND:** 

CN1 - OFF FORM CONCRETE NATURAL LIGHT COLOUR

BK1 - BRICK VENEER - LIGHT BEIGE COLOUR MC1 - ANODISED ALUMINIUM CLADDING - DARK COLOUR

LVR - ANODISED ALUMINIUM BLINDS - DARK COLOUR STN - STONE CLADDING SAND STONE

GL1 - POWDERCOATED ALUM. FRAME & CLEAR GLAZING

GL2 - POWDERCOATED ALUM, FRAME & OBSCURE GLAZING BL1 - BALUSTRADE CLEAR GLAZING FRAMELESS

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STANDARDS (AS) \*\* DIAL BEFORE YOU DIG\*\*
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Date

LEGEND

COS CEX D DRY DP DW F FEX FFL FN FS GBA

Private Open Space CLIENT Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099

ELEVATION

DRAWING TITLE ELEVATIONS - NORTH 1:200@A3

SCALE DA

STATUS PROJECT No

2004A

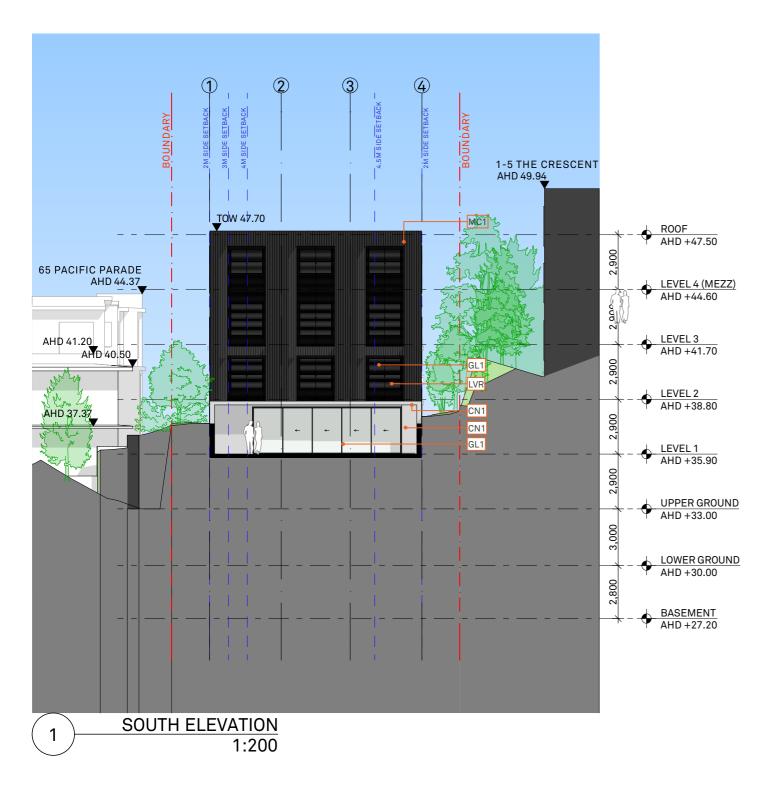
APPROVED GM DRAWN BY DB DRAWING No

01

DA-0200

STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285





**VIEW 3D - SOUTH ELEVATION** 2

#### **FINISHES LEGEND:**

CN1 - OFF FORM CONCRETE NATURAL LIGHT COLOUR

BK1 - BRICK VENEER - LIGHT BEIGE COLOUR MC1 - ANODISED ALUMINIUM CLADDING - DARK COLOUR

LVR - ANODISED ALUMINIUM BLINDS - DARK COLOUR STN - STONE CLADDING SAND STONE

GL1 - POWDERCOATED ALUM. FRAME & CLEAR GLAZING

GL2 - POWDERCOATED ALUM, FRAME & OBSCURE GLAZING BL1 - BALUSTRADE CLEAR GLAZING FRAMELESS

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Date

Description 24/11/2020 DA ISSUE 01

LEGEND

COS CEX D DRY DP DW F FEX FFL FN FS GBA

Garbage Chute
Garbage Room
R
Garbage Exhaust
RWT
Gross Floor Area
Gas Meter
Hydraulic Services
Laundry
Meter Room
Motorcycle Parking
Main Switch Board
Natural Ground Level
Onsite Detention Tank
TOW
Pantry

Private Open Space CLIENT Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

BL 2093 PTY LTD 67 PP PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 Pacific Parade DEE WHY NSW 2099

DRAWING TITLE ELEVATIONS - SOUTH 1:200@A3 ELEVATION

SCALE APPROVED GM STATUS DRAWN BY DA DB PROJECT No DRAWING No REV

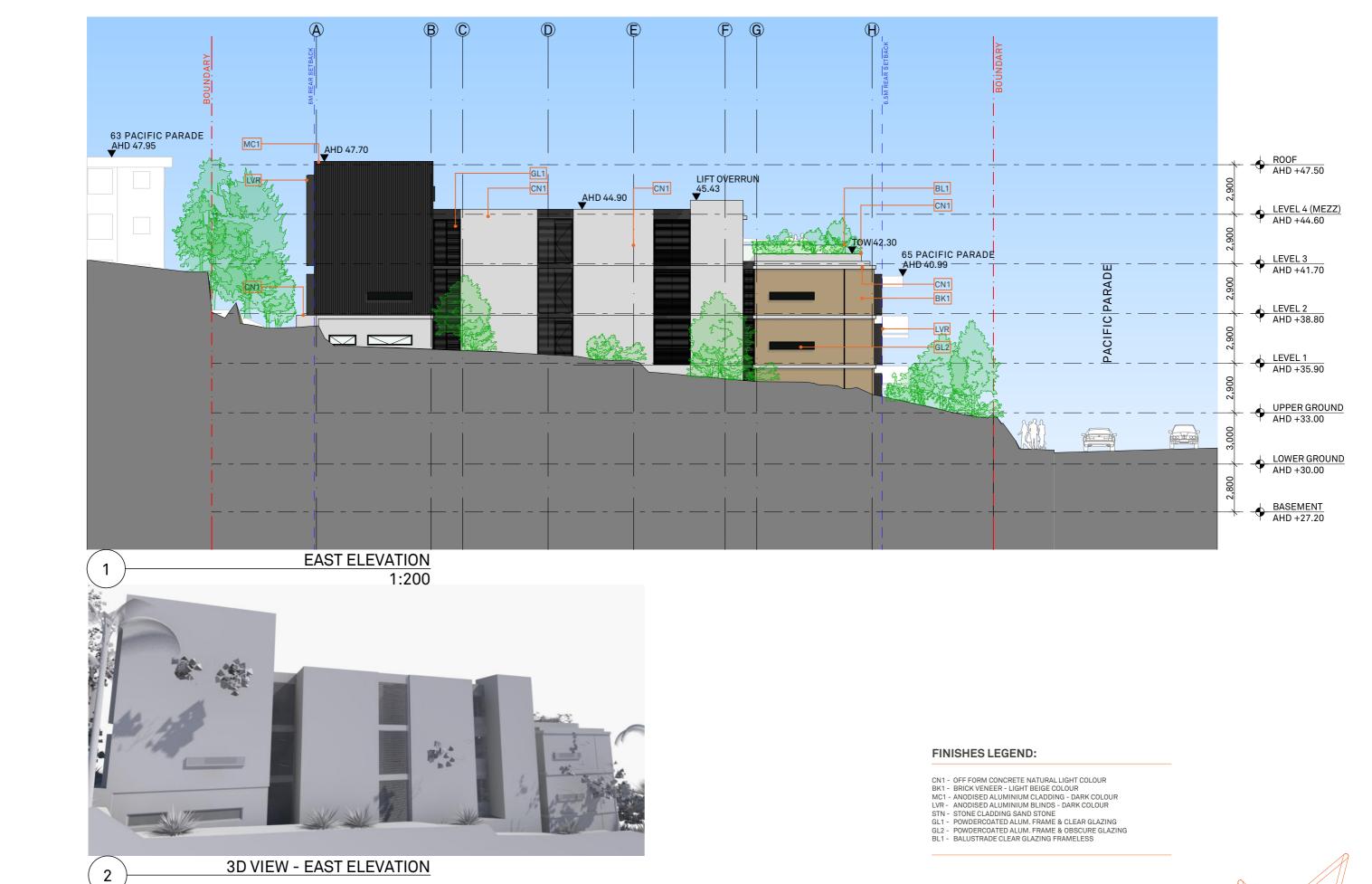
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Date Description

Air Conditioning Unit D
Accessible DRY
Adaptable DP
Aust. Height Datum
Basement F
Balustrade FEX
Balcony FFL
Bedroom FN
Bathroom FS
Column FSR
M Comms Room GBA LEGEND

Communal Open Space GBC
Carpark Exhaust GBR
Dining GBX
Dryer GFA
Down Pipe GM
Dishwasher H
Fridge LY
Fire Extinguisher
Fine Extinguisher
Fence MSB
Fire Stairs NGL
Floor Space Ratio OSD
Gross Building Area

Garbage Chute
Garbage Room
R
Garbage Exhaust
RWT
Gross Floor Area
Gas Meter
Hydraulic Services
Laundry
Meter Room
Motorcycle Parking
Main Switch Board
Natural Ground Level
Onsite Detention Tank
TOW
Pantry

Private Open Space CLIENT Private Open Space Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

PO BOX 1231

PROJECT DETAILS BL 2093 PTY LTD 67 PP 67 Pacific Parade MANLY NSW 2095 DEE WHY NSW 2099

DRAWING TITLE ELEVATION - EAST ELEVATION

SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DA DB PROJECT No DRAWING No REV

DA-0202

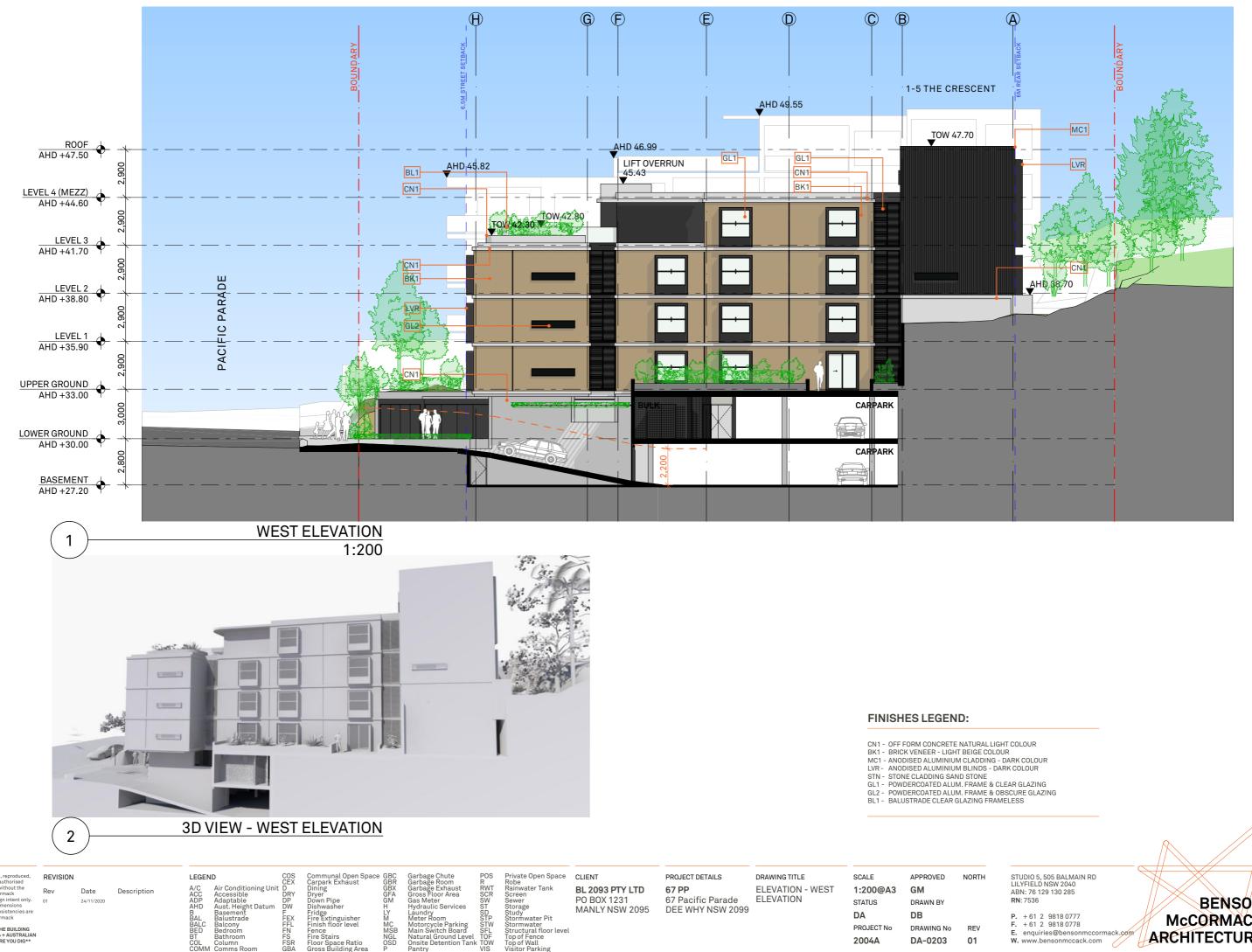
01

2004A

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ALL WORKS TO COMPLY WITH THE BUILDING
CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN
STANDARDS (AS) \*\* DIAL BEFORE YOU DIG\*\*
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Description Date

Communal Open Space GBC
Carpark Exhaust GBR
Dining GBX
Dryer GFA
Down Pipe GM
Dishwasher H
Fridge LY
Fire Extinguisher
Fine Extinguisher
Fence MSB
Fire Stairs NGL
Floor Space Ratio OSD
Gross Building Area

Garbage Chute POS
Garbage Room R
Garbage Exhaust RWT
Gross Floor Area SCR
Gas Meter SW
Hydraulic Services ST
Laundry SD
Meter Room STP
Motorcycle Parking STW
Main Switch Board Natural Ground Level TOF
Onsite Detention Tank TOW
Pantry

Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater
Structural floor level
Top of Fence
Top of Wall
Visitor Parking

BL 2093 PTY LTD 67 PP PO BOX 1231 MANLY NSW 2095

67 Pacific Parade DEE WHY NSW 2099

ELEVATION - WEST ELEVATION

DA

PROJECT No

2004A

1:200@A3 GM STATUS DRAWN BY DB

DRAWING No

DA-0203

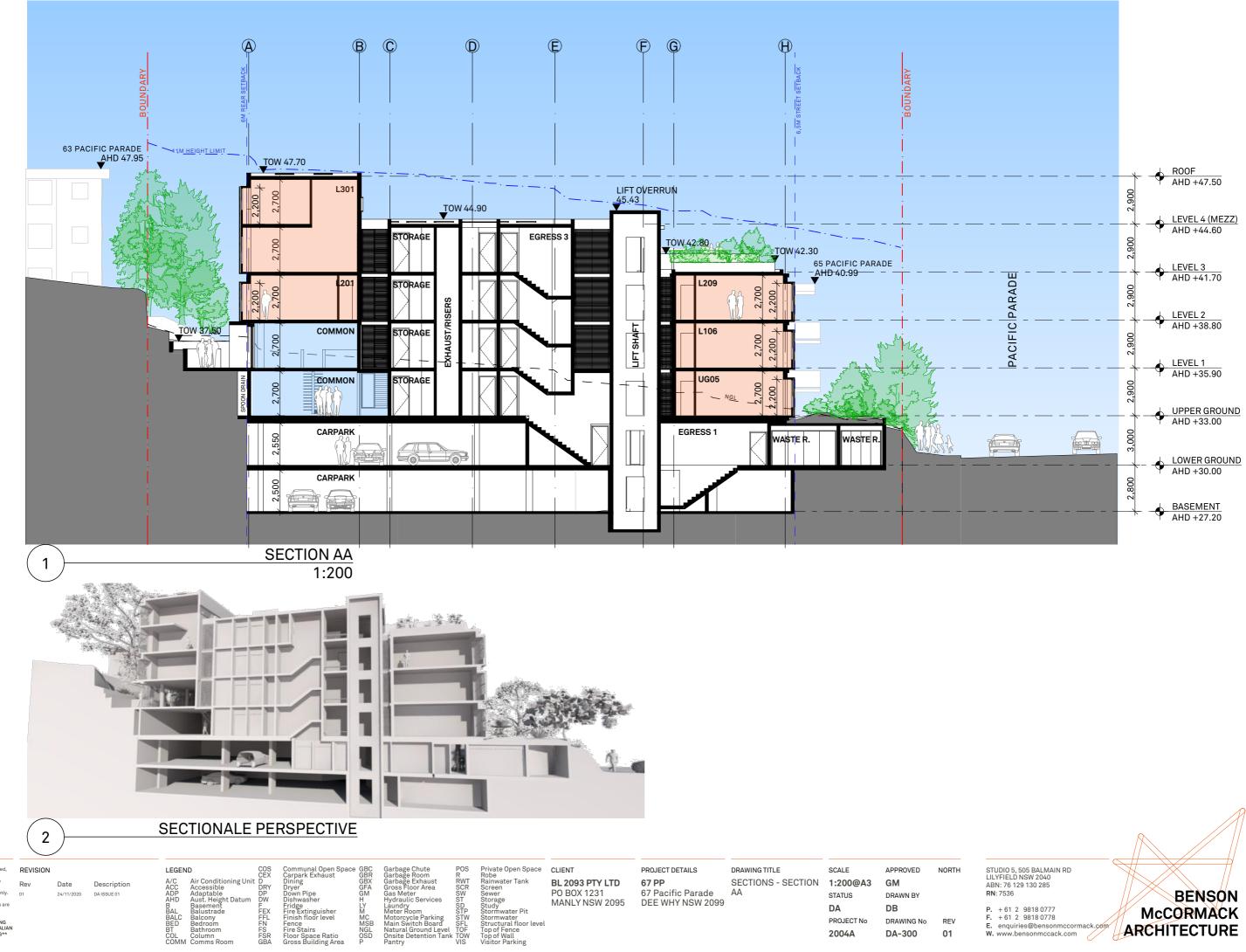
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STANDARDS (AS) \*\* DIAL BEFORE YOU DIG\*\*
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Garbage Chute
Garbage Room
R
Garbage Exhaust
RWT
Gross Floor Area
Gas Meter
Hydraulic Services
Laundry
Meter Room
Motorcycle Parking
Main Switch Board
Natural Ground Level
Onsite Detention Tank
TOW
Pantry

Private Open Space
Robe
Rainwater Tank
Screen
Sewer
Storage
Study
Stormwater Pit
Stormwater Structural floor level
Top of Fence
Top of Wall
Visitor Parking

MANLY NSW 2095 DEE WHY NSW 2099

DA PROJECT No

2004A

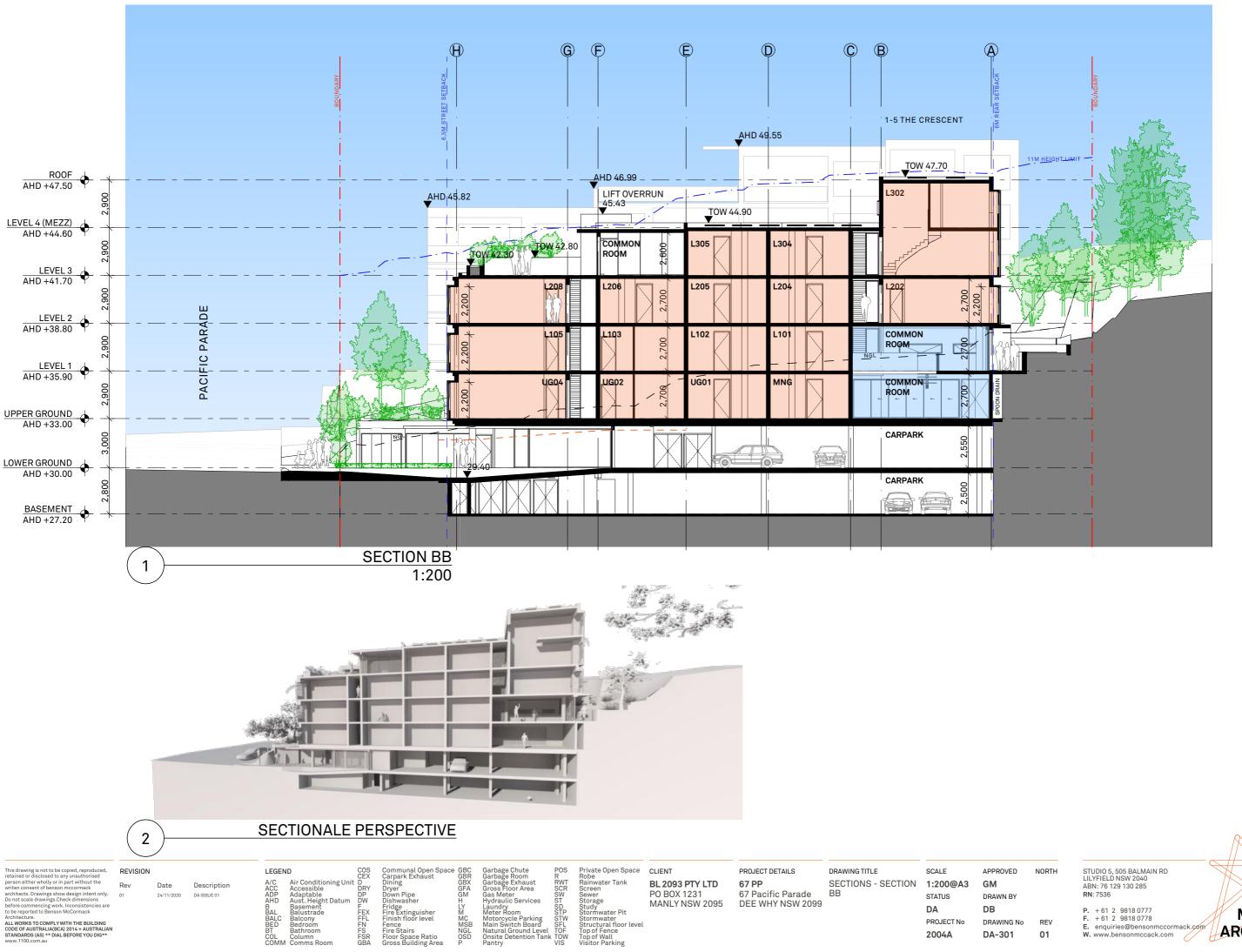
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DA-300

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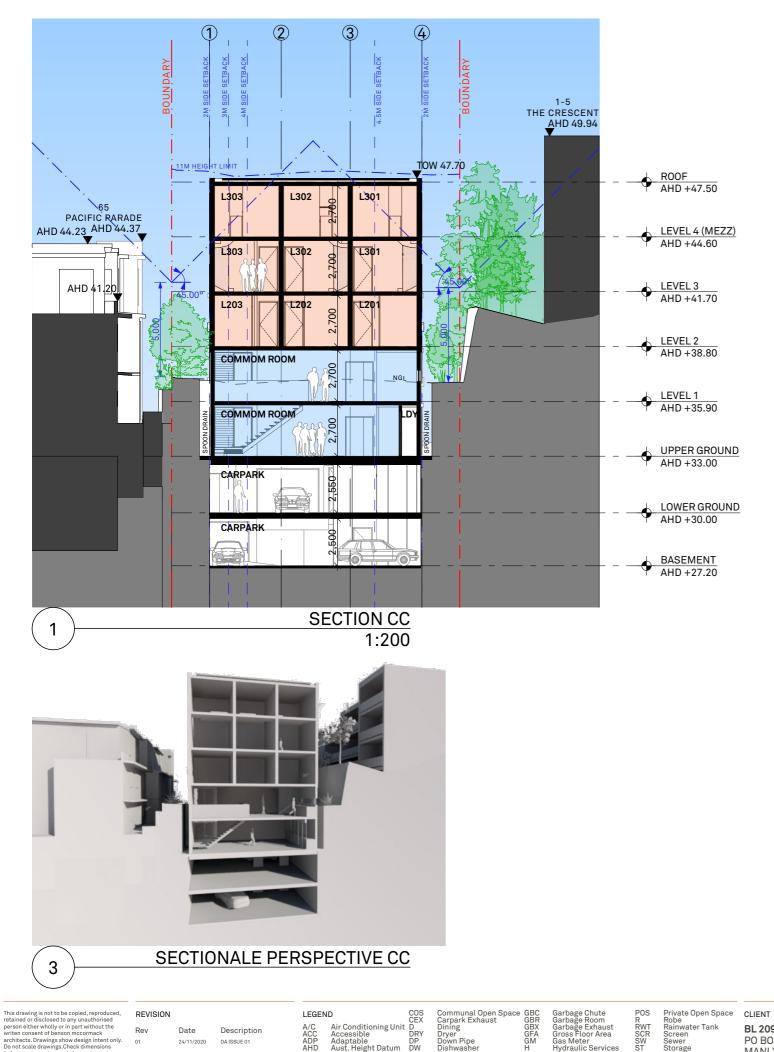
Architecture.
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01

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1-5 THE CRESCENT AHD 49.55 ROOF AHD +47.50 LIFT OVERRUN AHD 45.82 65 45.43 TOW 44.90 PACIFIC PARADE AHD 43.99 AHD 44.37 LEVEL 4 (MEZZ)
AHD +44.60 L304 TOW 42.30 LEVEL 3 AHD +41.70 L204 LOBBY & STO LEVEL 2
AHD +38.80 **∟овв**у № ѕто L101 LEVEL 1
AHD +35.90 MNG LOBBY STO UPPER GROUND AHD +33.00 CARPARK LOWER GROUND AHD +30.00 BASEMENT AHD +27.20 SECTION DD 2 1:200

SECTIONALE PERSPECTIVE DD 4

Architecture.
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24/11/2020 DA ISSUE 01

Air Conditioning Unit D
Accessible DRY
Adaptable DP
Aust. Height Datum
Basement F
Balustrade FEX
Balcony FFL
Bedroom FN
Bathroom FS
Column FSR
M Comms Room GBA

Fridge
Fire Extinguisher
Finish floor level
Fence
Fire Stairs
Floor Space Ratio
Gross Building Area

Garbage Chute
Garbage Room
R
Garbage Exhaust
RWT
Gross Floor Area
Gas Meter
Hydraulic Services
Laundry
Meter Room
Motorcycle Parking
Main Switch Board
Natural Ground Level
Onsite Detention Tank
TOW
Pantry

Private Open Space Robe Rainwater Tank Screen Sewer Storage Study Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099

DRAWING TITLE SECTIONS -SECTIONS CC/DD

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DA-302

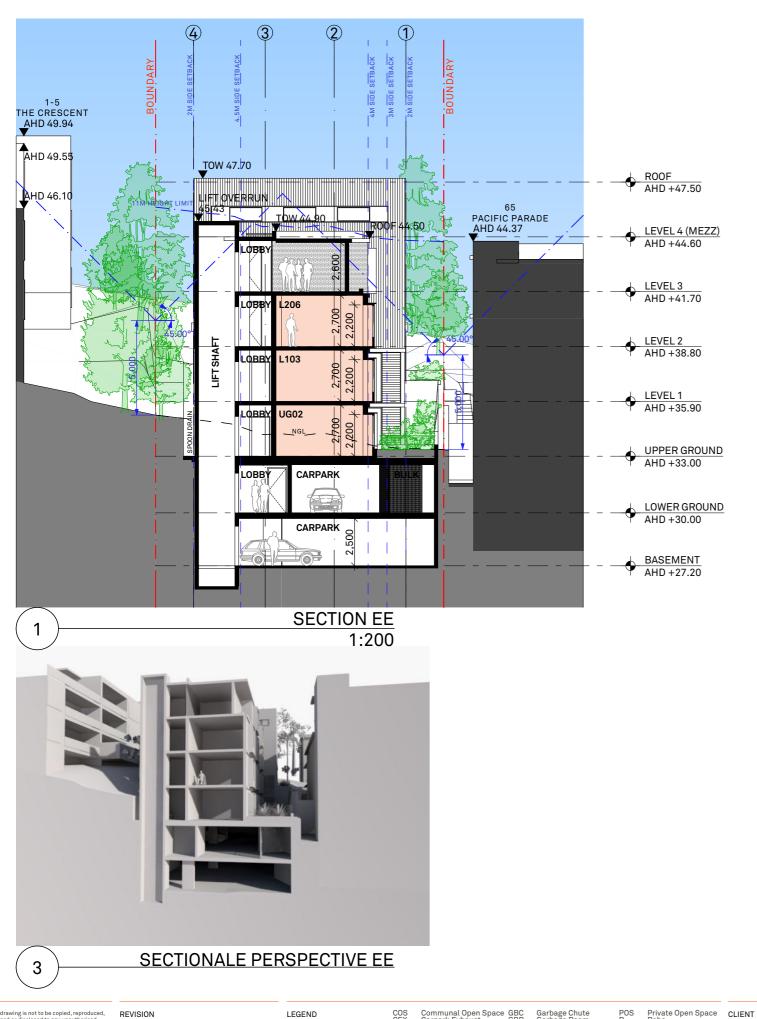
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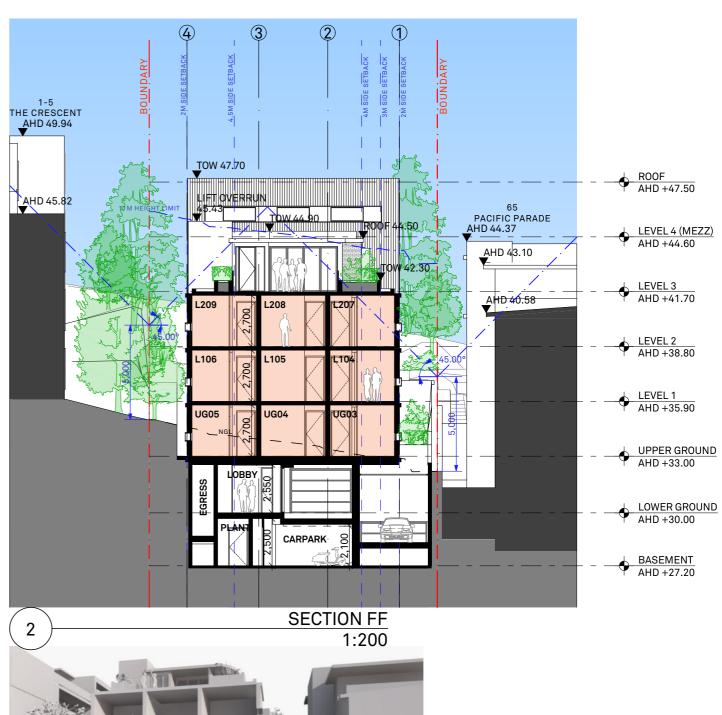
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SECTIONALE PERSPECTIVE FF

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Date Description Air Conditioning Unit D
Accessible DRY
Adaptable DP
Aust. Height Datum
Basement F
Balustrade FEX
Balcony FFL
Bedroom FN
Bathroom FS
Column FSR
M Comms Room GBA

Private Open Space Robe Rainwater Tank Screen Sewer Storage Study Stormwater Pit Stormwater Structural floor level Top of Fence Top of Wall Visitor Parking

BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095

PROJECT DETAILS 67 PP 67 Pacific Parade DEE WHY NSW 2099

4

DRAWING TITLE SECTIONS -SECTIONS EE/FF

SCALE APPROVED 1:200@A3 GM STATUS DRAWN BY DB DA PROJECT No DRAWING No

DA-303

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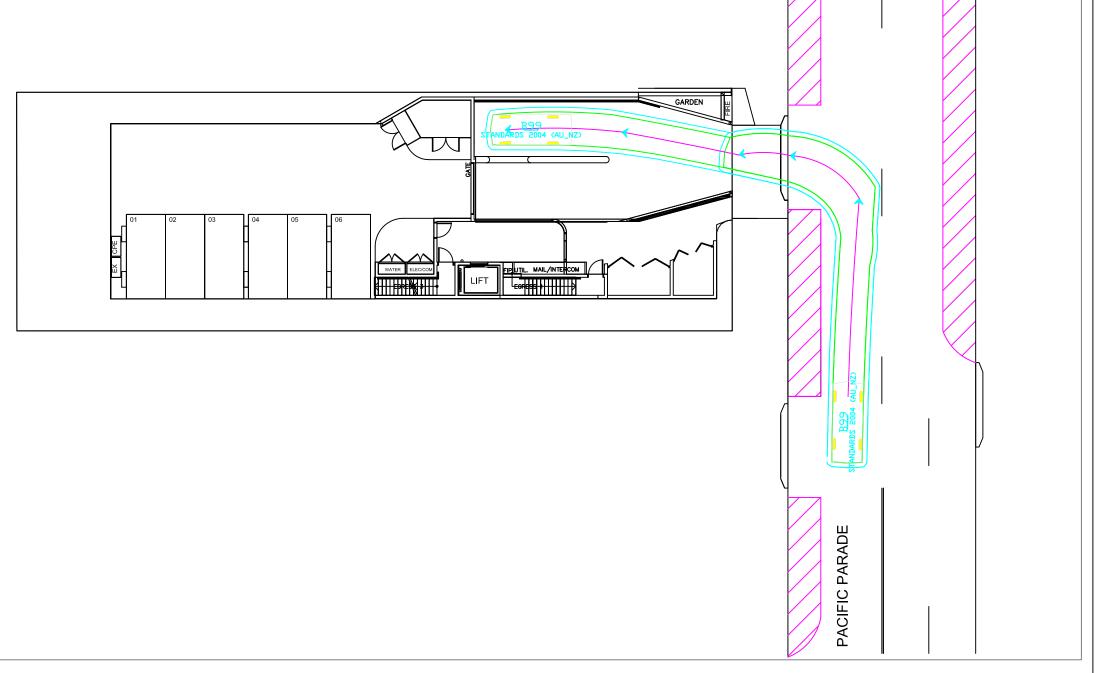
DEE WHY NSW 2099

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**McCORMACK** STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 **ARCHITECTURE** ABN: 76 129 130 285









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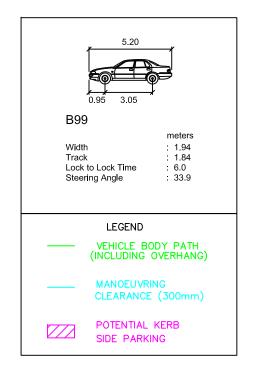
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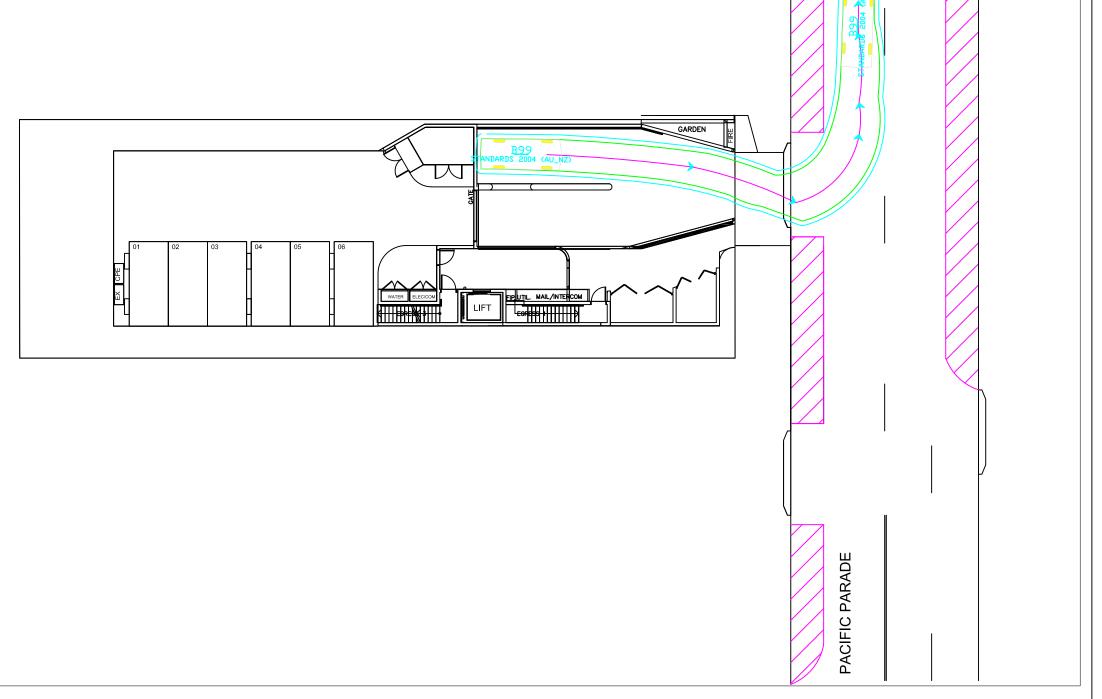
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 The Swept Paths provided on this plan have been generated utilising autoturn pro version 10 in conjunction with 899 passenger vehicle manoeuvring specifications in accordance with the australian standard for parking facilities part 1: OFF-Street Car Parking (AS2890.1: 2004).

## STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS SITE INGRESS TO BASEMENT INTERNAL RAMP MOVEMENT PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
		SHEET
DATE: 5/11/20		1







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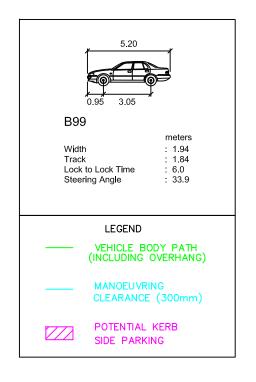
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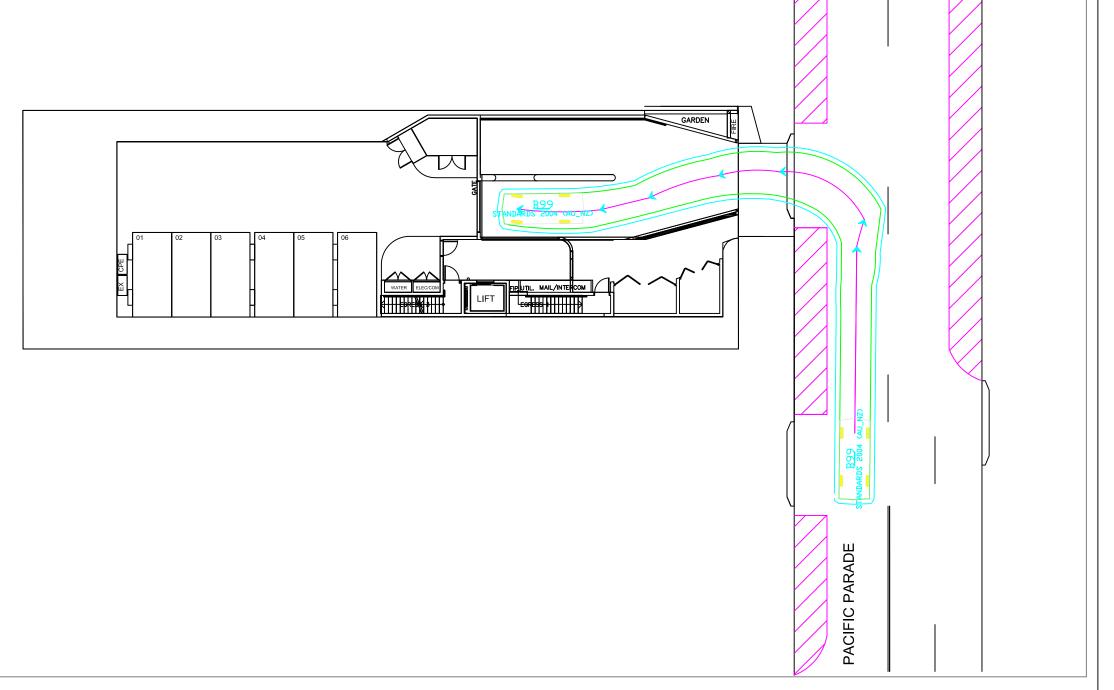
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# STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS SITE EGRESS FROM BASEMENT INTERNAL RAMP MOVEMENT PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	Α
DATE: 5/11/20		SHEET 2







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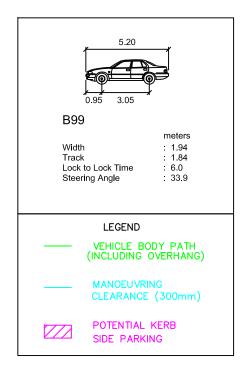
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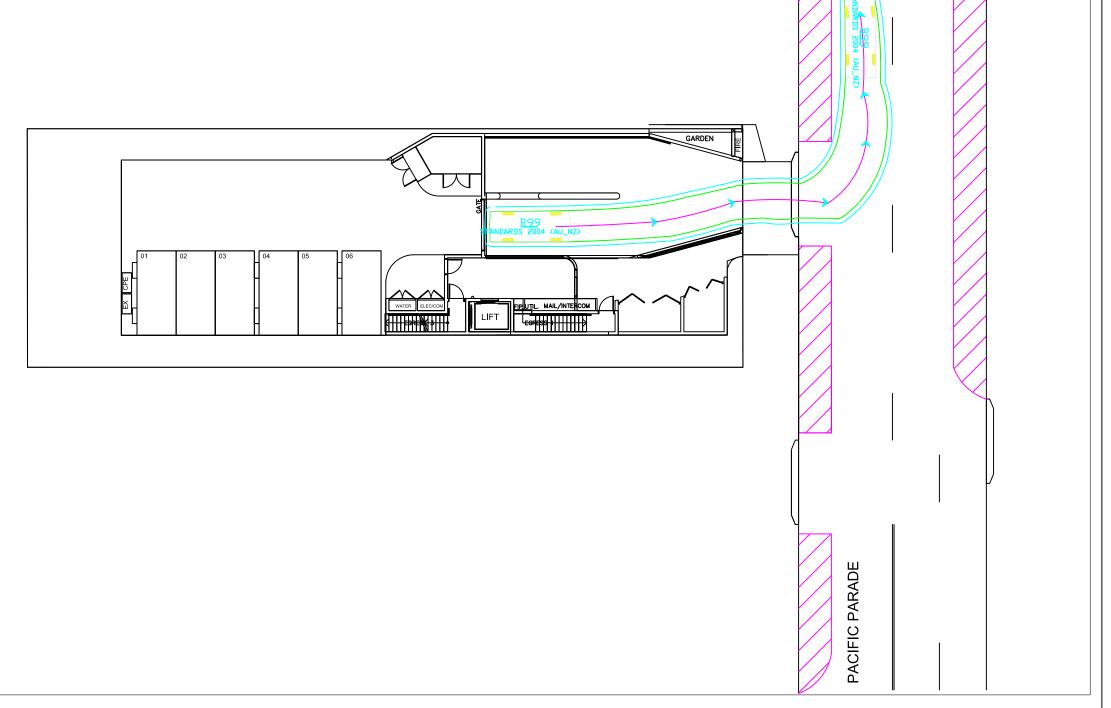
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## STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS SITE INGRESS TO LOWER GROUND INTERNAL RAMP MOVEMENT PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	Α
DATE: 5/11/20		SHEET 3







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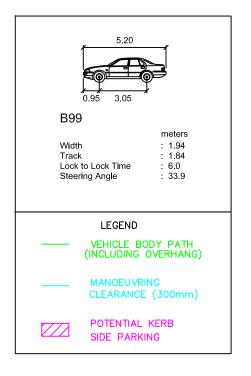
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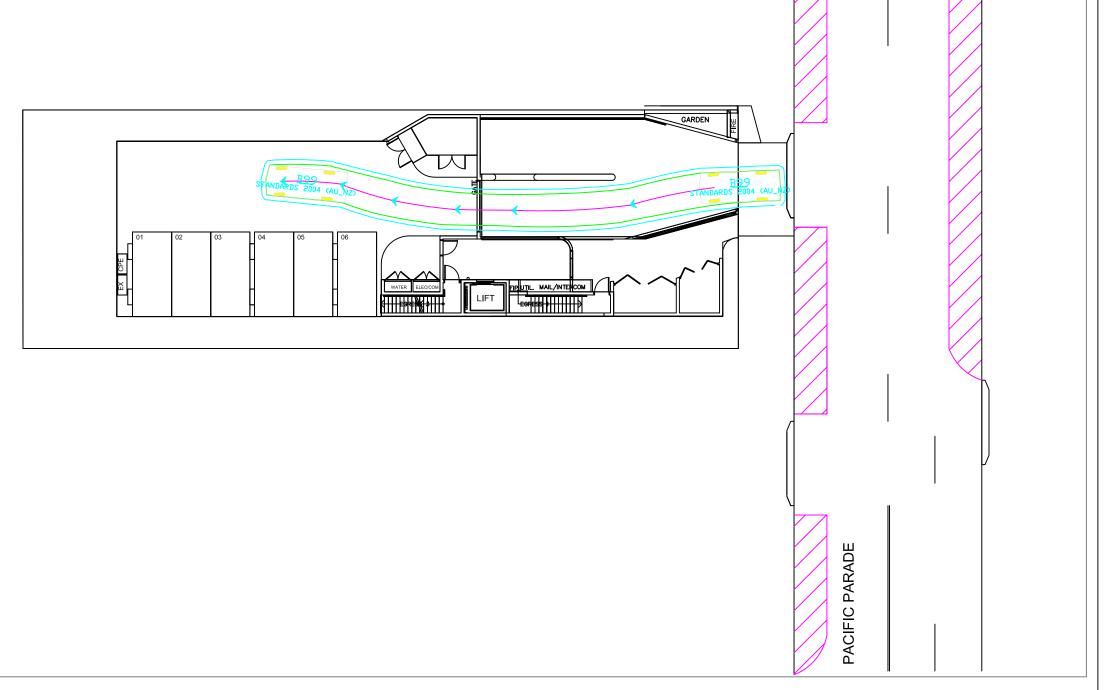
## STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

SITE EGRESS FROM LOWER GROUND INTERNAL RAMP MOVEMENT
PROPOSED CO-LIVING DEVELOPMENT
67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
DATE: 5/11/20		знеет <b>4</b>







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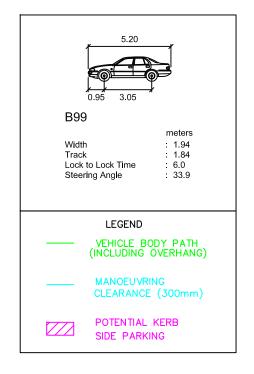
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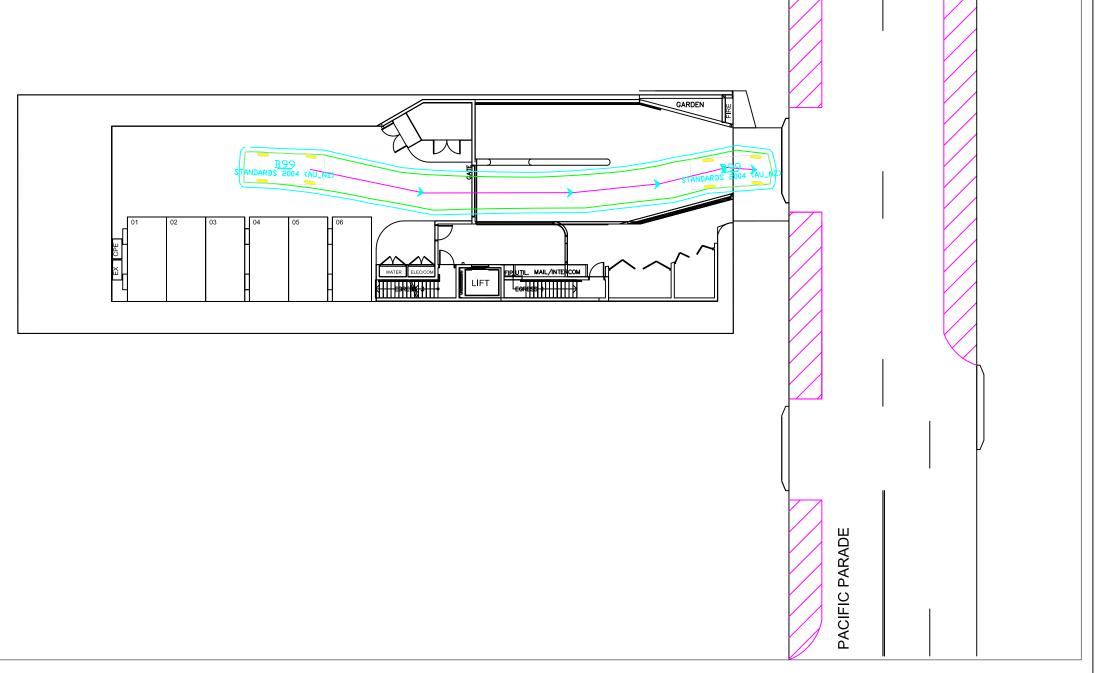
STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL CIRCULATION MANOEUVRING - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT

67 PACIFIC PARADE, DEE WHY

CALE: 1:250 AT A3		ISSUE
ILE: 20-176	SUPERSEDES SHEET/ISSUE	A
ATE: 5/11/20		SHEET 5







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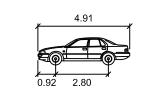
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## STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

INTERNAL CIRCULATION MANOEUVRING - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

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FILE: 20-176	SUPERSEDES SHEET/ISSUE	Α
DATE: 5/11/20		SHEET 6



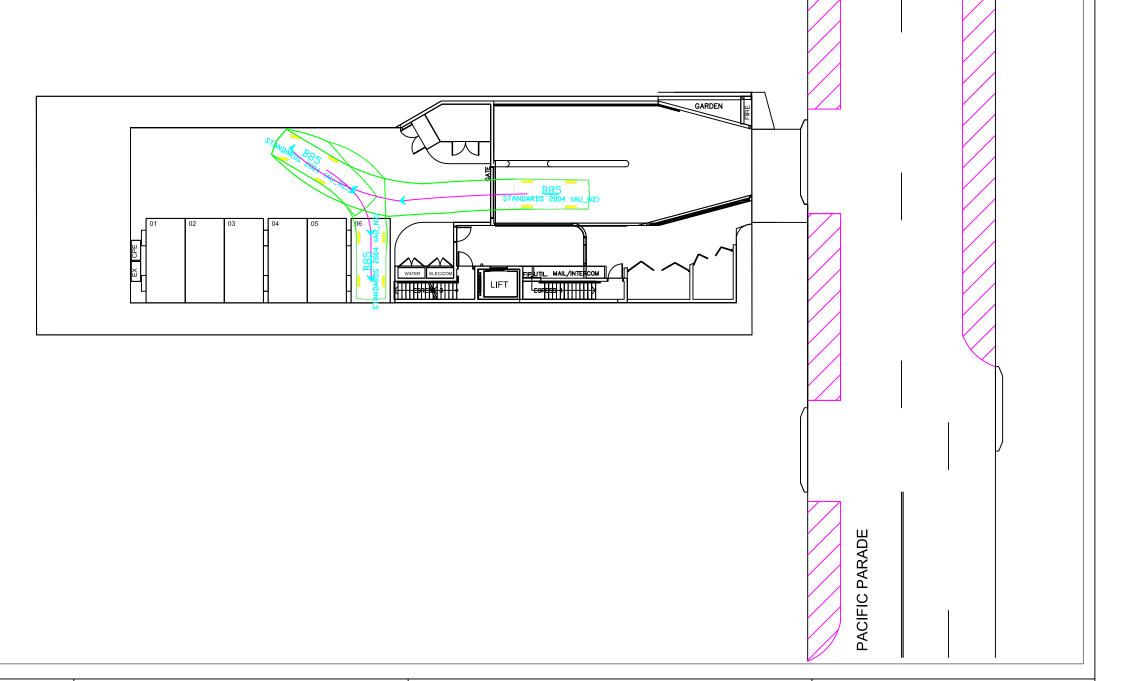
B85

meters Width 1.87 Track 1.77 Lock to Lock Time 6.0 Steering Angle

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

POTENTIAL KERB SIDE PARKING





STANBURY TRAFFIC PLANNING

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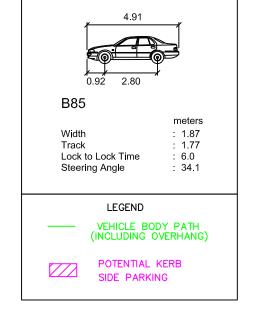
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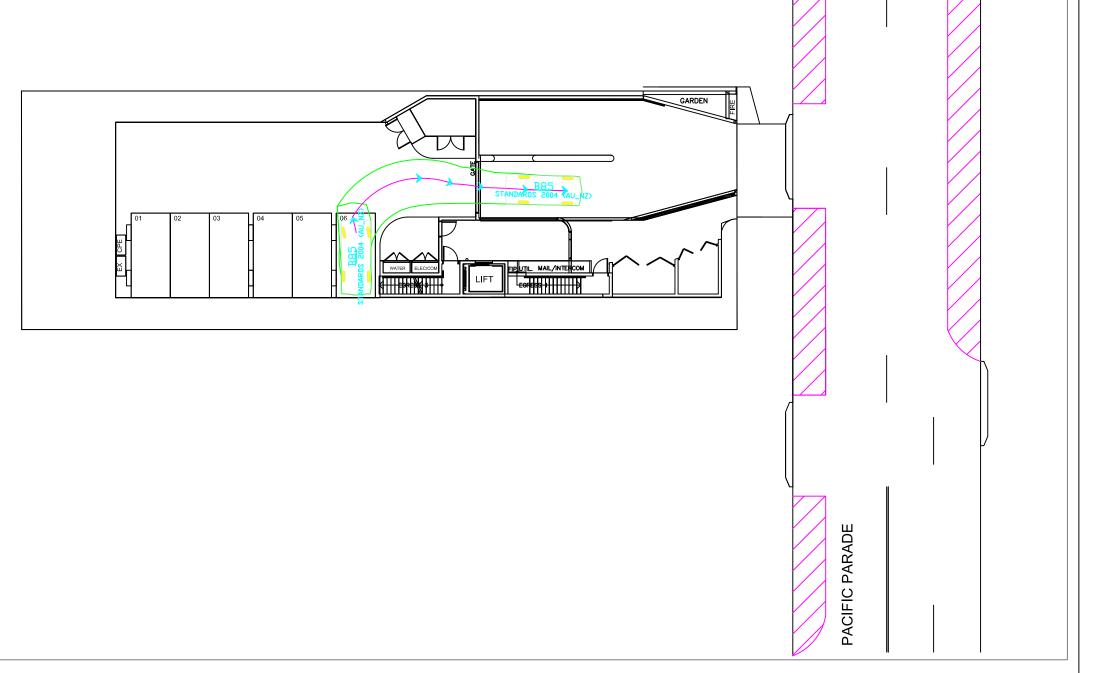
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#### STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE INGRESS - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE A
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
DATE: 5/11/20		SHEET 7







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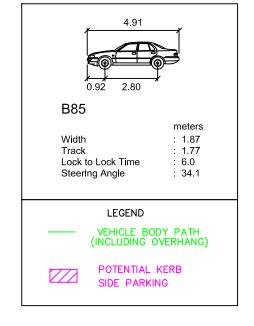
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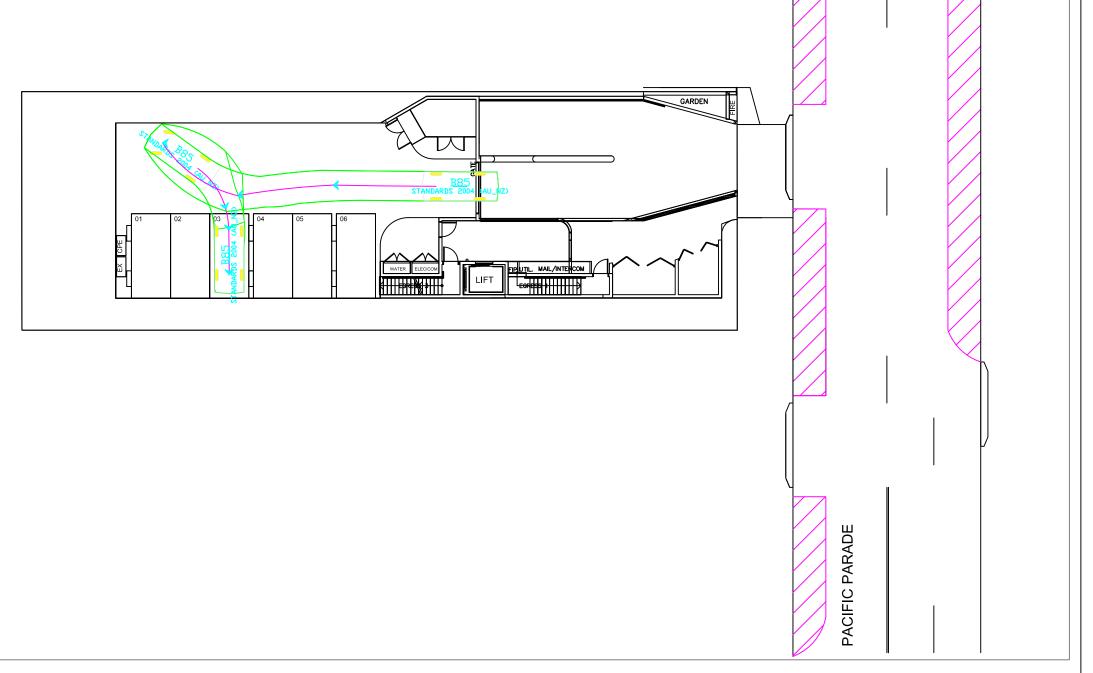
STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

INTERNAL PARKING SPACE EGRESS - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
ILE: 20-176	SUPERSEDES SHEET/ISSUE	A
DATE: 5/11/20		SHEET 8







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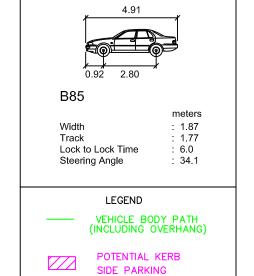
WEBSITE: www.stanburytraffic.com.au

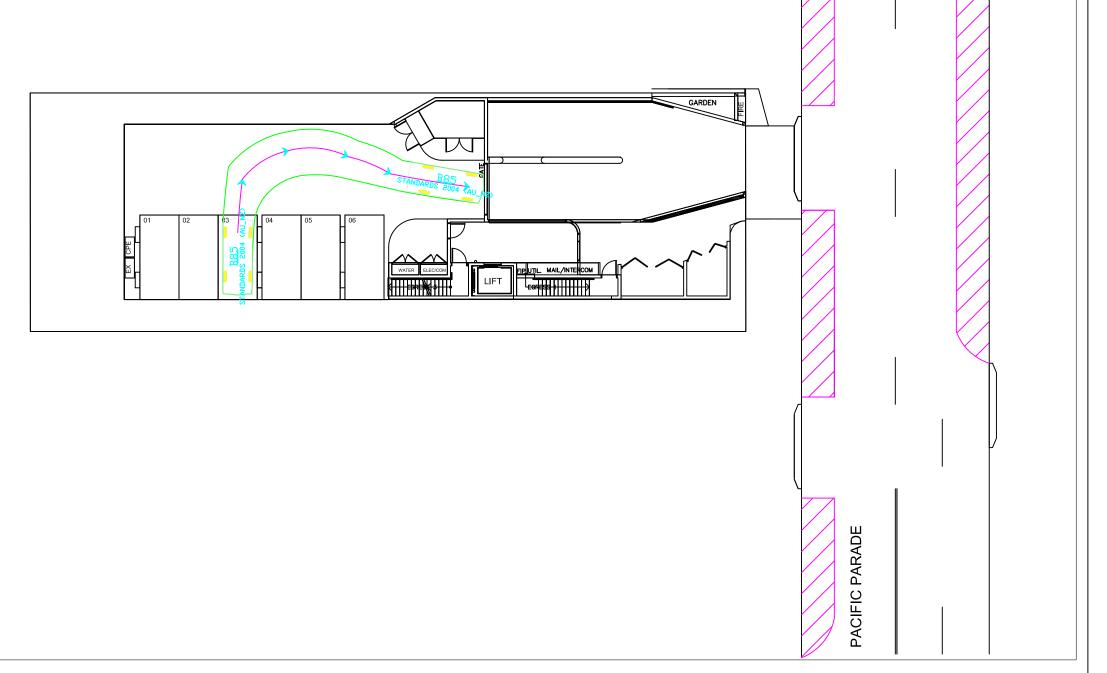
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# STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE INGRESS - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
DATE: 5/11/20		SHEET







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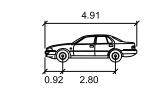
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# STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE EGRESS - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

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FILE: 20-176	SUPERSEDES SHEET/ISSUE	7 A
DATE: 5/11/20	·	SHEET 10



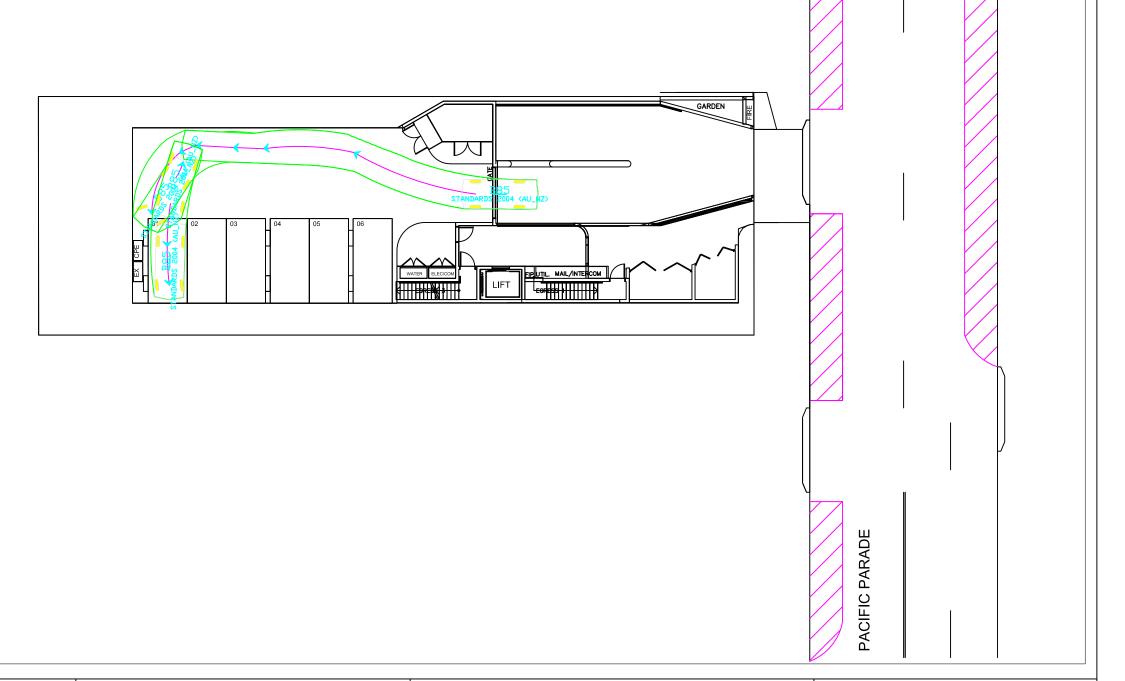
#### B85

meters Width 1.87 Track 1.77 Lock to Lock Time 6.0 Steering Angle 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

POTENTIAL KERB SIDE PARKING





STANBURY TRAFFIC PLANNING

ADDRESS: 302/166 GLEBE POINT RD, GLEBE

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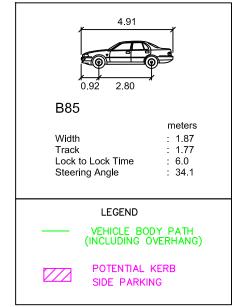
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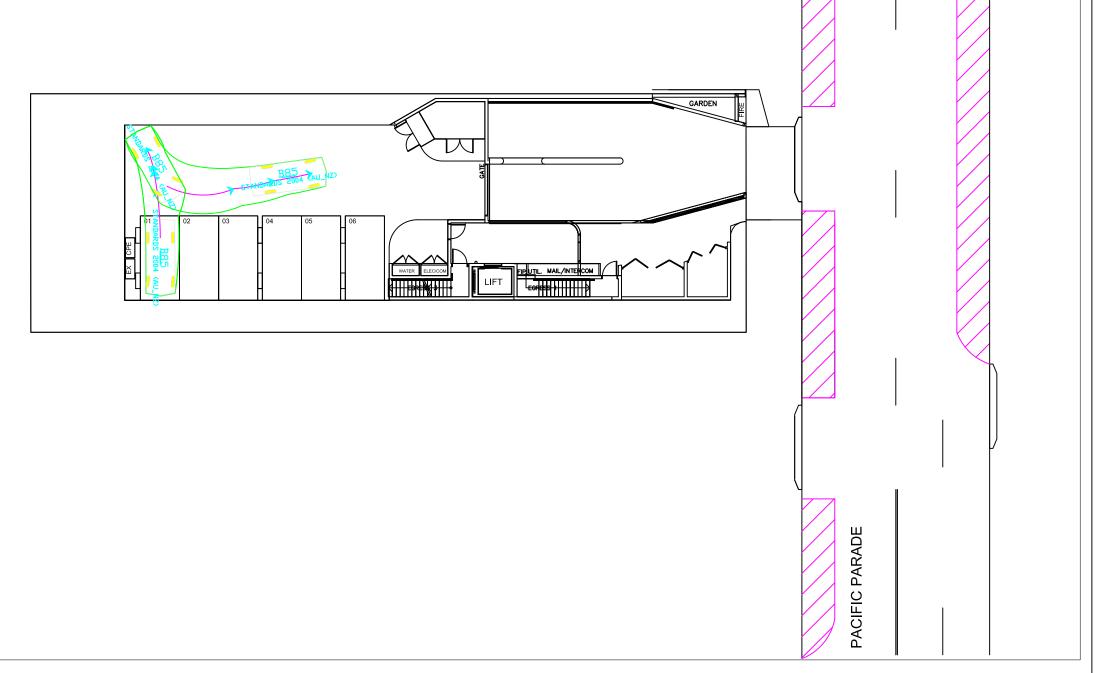
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#### STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE INGRESS - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
DATE: 5/11/20		SHEET 11







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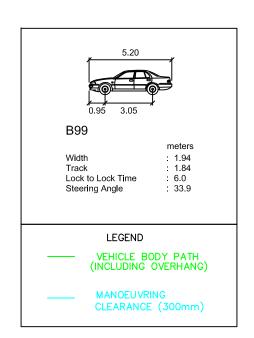
WEBSITE: www.stanburytraffic.com.au

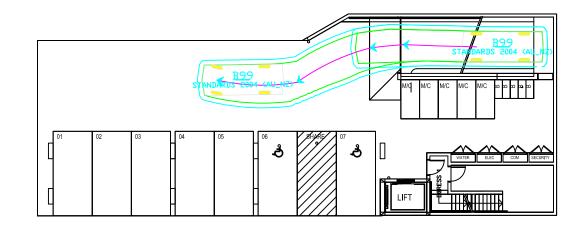
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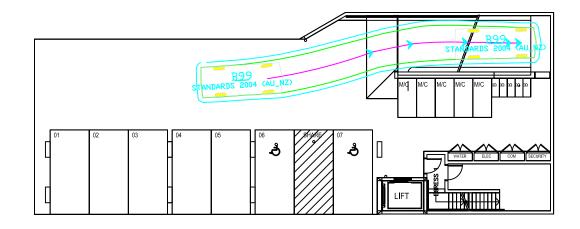
## STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE EGRESS - LOWER GROUND LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	7 A
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EGRESS



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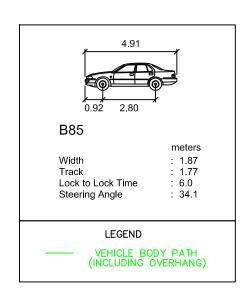
WEBSITE: www.stanburytraffic.com.au

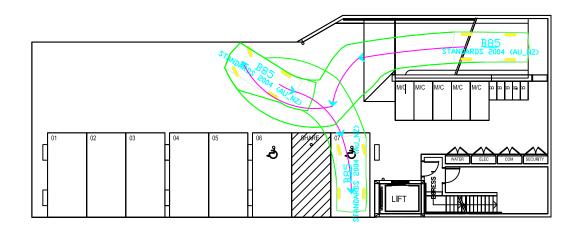
This plan is based on architectural plans prepared by benson mccormack architecture.
 The Swept Paths provided on this plan have been generated utilising autoturn pro version 10 in conjunction with 899 passenger vehicle manoeuvring specifications in accordance with the australian standard for parking facilities part 1: off-street car parking (As2890.1:2004).

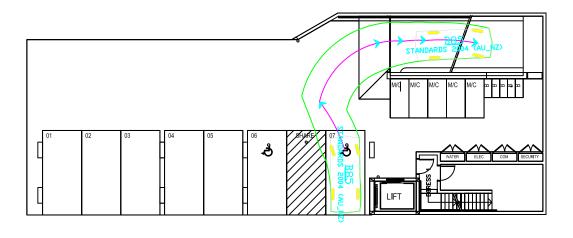
STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS INTERNAL CIRCULATION MANOEUVRING - BASEMENT LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

CALE: 1:250 AT A3		ISSUE
ILE: 20-176	SUPERSEDES SHEET/ISSUE	Α
PATE: 5/11/20		SHEET 13







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0410 561 848 info@stanburytraffic.com.au

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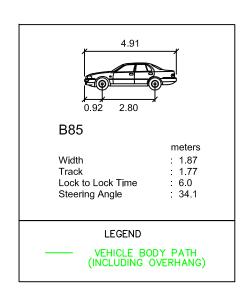
This plan is based on architectural plans prepared by Benson McCormack architecture.
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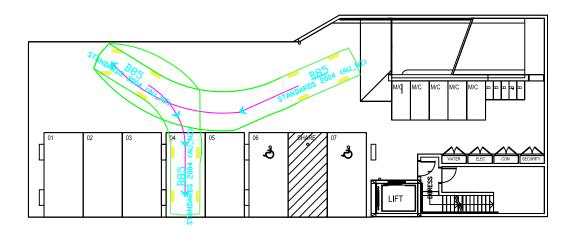
STANBURY TRAFFIC PLANNING

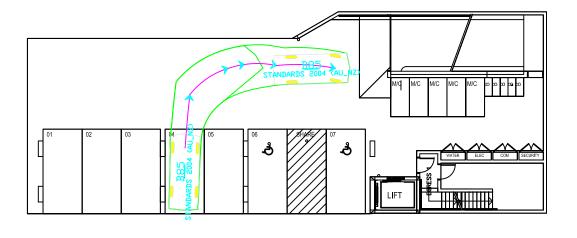
PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE MANOEUVRING - BASEMENT LEVEL

PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
		SHEET
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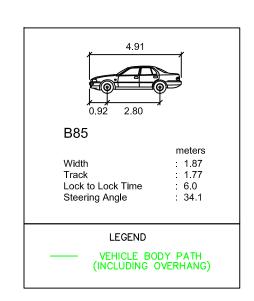
This plan is based on architectural plans prepared by Benson McCormack architecture.
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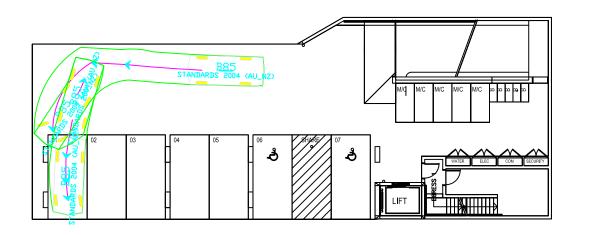
STANBURY TRAFFIC PLANNING

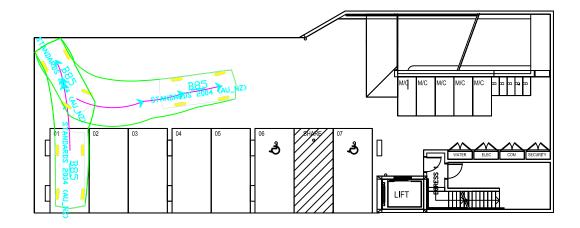
PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE MANOEUVRING - BASEMENT LEVEL

PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

CALE:	1:250 AT A3		ISSUE
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info@stanburytraffic.com.au WEBSITE: www.stanburytraffic.com.au NOTES:

This plan is based on architectural plans prepared by benson McCormack architecture.
 The Swept Paths provided on this plan have been generated utilising autoturn pro version 10 in Conjunction with B85 passenger vehicle manoeuvring specifications in accordance with the Australian Standard for Parking Facilities Part 1: OFF—Street Car Parking (As2890.1:2004).

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PASSENGER VEHICLE SWEPT PATHS INTERNAL PARKING SPACE MANOEUVRING - BASEMENT LEVEL PROPOSED CO-LIVING DEVELOPMENT 67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3		ISSUE
FILE: 20-176	SUPERSEDES SHEET/ISSUE	A
DATE: 5/11/20		SHEET 16