



STANBURY
TRAFFIC PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

UPDATED TRAFFIC & PARKING IMPACT ASSESSMENT

**PROPOSED CO-LIVING DEVELOPMENT
67 PACIFIC PARADE
DEE WHY**

**PREPARED FOR BL 2093 PTY. LTD.
OUR REF: 20-176-4**



APRIL 2021

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1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by BL 2093 Pty. Ltd. to prepare an Updated 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).

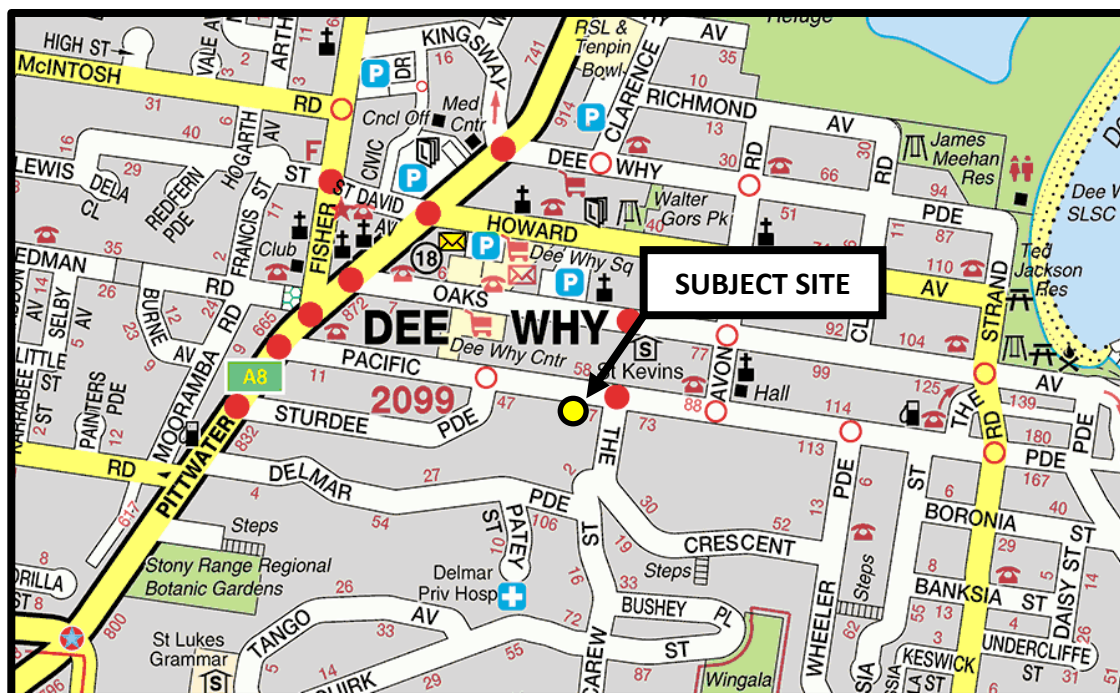
Architectural plans have been prepared by Benson McCormack Architecture and should be read in conjunction with this report, reduced copies of a selection of which are included as **Appendix 1** for reference.

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.

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 700m².

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 a common room.

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

The site is to be serviced by a mechanical stacker parking system located in the south-eastern corner of the site providing a capacity to accommodate 12 parked vehicles over three levels of parking. In addition, one disabled parking space is to be provided separate to the car stacking system.

Vehicular access to the on-site parking area is proposed via a single combined ingress / egress driveway linking to connect with Pacific Parade 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 6m 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 6m therefore exceeds 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 in combination, 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 the desirable provision of 55m specified by Figure 3.2 of 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 triangle free of obstructions to visibility adjacent to the western side 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 one disabled space);
- Five motorcycle parking spaces; and
- Six bicycle parking spaces.

3.2.1 Passenger Vehicle 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,*

On the basis of the development providing 25 micro apartmnets, a minimum of 12.5 (adopt 13) spaces are required to comply with Clause 29(2)(e)(ii) of the Affordable Housing SEPP.

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

It is acknowledged that in some circumstances, it may be desirable to provide a further parking space for the person employed in association with the development (being accommodated within the manager's residence). In this regard however, the SEPP staff parking rate as detailed within Clause 29(2)(e)(iii) of one space per employee is provided as a maximum. Accordingly, the non-provision of parking for the employee of the development, as proposed, is considered satisfactory.

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 along the western and eastern side of 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 to high, capacity exists, particularly during weekday business hours, 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 six bicycle and five motorcycle spaces within the on-site parking area therefore exceeds or 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 area is proposed via an internal roadway providing a width of 6m for approximately 7m within the property, prior to narrowing to a width of 3.6m for an approximate length of 10m and thence widening to 5.8m whereby it links with / forms the parking circulation aisle.

It is acknowledged that the narrow portion of the internal access roadway connecting to the parking area is not capable of accommodating two-way traffic movements simultaneously. This roadway however suitably accords 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 roadway 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 proposed 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 parking area, via the internal roadway. Whilst the access roadway allows for passing immediately within the site, a central section of the roadway provides a single lane between the passing area at the boundary and the parking aisle.

An internal traffic signal system is to be implemented within the internal access roadway to limit the direction of traffic flow within the narrow portion of the internal roadway to one-way at any given time.

The traffic signal system is to utilise red / green traffic lanterns located 6m within the property boundary and within the parking area facing the provided parking spaces. 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 area. Under this arrangement, when vehicles approach the site, they will be provided with a green display and move towards the parking area in an unimpeded fashion. An input is to be received by the operating system from radar detection units as the vehicle travels towards the parking area.

Motorists wishing to exit the parking area will activate the internal traffic signals via in-vehicle remotes (similar to a roller door remote) or a push button situated within the stair / lift lobby on the parking level. Residents (no internal visitor parking is proposed) who 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 area specifying that vehicles are to remain within the parking spaces until a green lantern is displayed to ensure there is no undesirable conflict within the narrow portion of the internal roadway.

Upon activation of the remote / push button, the operating system will then display a red to entering vehicles while the vehicle/s wishing to exit the parking area will remain red. The operating system will have recorded any vehicles already with the internal roadway via radar detection units and commenced a timer to allow a vehicle to complete its journey into the parking area. The display for the activated traffic signal within the parking area will then change from red

to green thereby allowing vehicles to safely exit the parking area and travel unimpeded towards the site access driveway. When the directional sensitive radar unit located before the narrow section of internal roadway is activated by the exiting vehicle/s, the system returns to the default position.

The indicative location of the lanterns, the entrance vehicle detector, stop line 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.

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 section of internal roadway servicing the development parking area is envisaged to be satisfactory.

3.3.3 Basement Parking Design

Passenger vehicles, upon entry to the site, will travel in a forward direction via the internal roadway to access the parking area, forming a continuation of the site access driveway. The parking area is proposed to comprise a single row of five 90-degree angled parking spaces, with four spaces being provided within a mechanical stacker parking system and one stand-alone disabled parking space. The parking spaces are situated adjacent to the eastern wall and are serviced by a parking circulation aisle which forms an extension of the internal access roadway.

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:

- Stacker parking space width = 2.5m;

- Disabled vehicular parking space width = 2.5m (with adjoining 2.4m wide shared area);
- 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 the parking spaces within the parking area. 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.

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.

3.3.3.1 Mechanical Parking System

General Description of Parking System

The parking area includes the implementation of a mechanical stacker parking system, providing a capacity to accommodate 12 parked vehicles over three levels of parking. The parking system comprises two adjacent double enclosed stacker spaces comprising four 90-degree angled parking spaces along the south-eastern wall of the basement parking area.

The stacker system is to be serviced by an adjoining 5.8m wide parking circulation / manoeuvring aisle, which will also double as a waiting / passing area if so required.

It is acknowledged that the proposed mechanical stacker parking system is to service a boarding house type development whereby users of the system are likely to be transient residents; however, it has been advised that the average length of stay for boarding house residents is approximately four months. Therefore, the users of the development are still considered to be everyday users that will be aware of the operation of the mechanical stacker system.

Notwithstanding the above, the requirement for a management plan detailing the operational requirements of the stacker system and the methods to be employed to educate incoming users of the necessary information and safety procedures could reasonably be imposed by Council as a condition of development consent.

Stacker Specifications

The mechanical stacker system is proposed to be the PARKLIFT 413 model provided by WOHR parking Systems. The following provides a summary of the stacker specifications, whilst a full data sheet provided by the manufacturer is provided within **Appendix 3**:

- Each parking bay to provide dimensions of 2.5m x 5.4m, being compliant with AS2890.1:2004 for residential parking;
- Each parking bay is to provide a clearance of 2.2m;
- The approximate speed of ascent / descent of the system is 0.06m/s; and
- Each parking bay provides a load capacity of two tonnes.

Stacker Entry Procedure

The car stacker system is to be located at-grade in passive / default mode. The entry procedure is described as follows:

- A vehicle enters the site in a forward direction via the access driveway situated on Pacific Parade and travels onto the internal roadway / parking circulation aisle forming an extension of the access driveway into the parking area;
- If required, a vehicle previously within the system can exit the at-grade stacker spaces clear of the abovementioned waiting vehicle and thence exit the site to Pacific Parade in a forward direction;
- The waiting vehicle within the parking circulation aisle will then manoeuvre to enter directly into one of the vacant at-grade stacker spaces;
- Passengers exit the vehicle and direct the system to dispatch the vehicle to its designated space via hand held or wall mounted remote.

Based on a maximum vertical span of 2.5m between ground floor level and the two levels of vehicle storage, the maximum wait time between calling for the vehicle dispatch / retrieval system and it being at ground level is estimated to be approximately 42 seconds, based on an indicative vertical stacker travel speed of 0.06m/s.

Stacker Exit Procedure

The exit procedure involves a motorist activating the vehicle dispatch / retrieval system via a hand held remote and / or an internal development wall mounted unit on approach to the garage. The system will then raise or lower the desired vehicle to the ground level garage position. Once the vehicle dispatch / retrieval system is situated at the ground floor the occupants can then load into the vehicle and it can be driven from the garage to the driveway in a simple forward direction.

The abovementioned entry and exit procedures are illustrated through a series of swept path plans prepared by this Practice, copies of which are contained within **Appendix 2** for reference. These swept paths illustrate that the following:

- All vehicles will enter and exit the site in a forward direction;
- A vehicle is capable of waiting within the parking aisle to allow a vehicle to exit; and
- A vehicle waiting to enter the stacking system can be wholly accommodated within the site before being required to stop.

Queuing Analysis

While it is acknowledged that the proposed internal circulation arrangements does not provide for a designated waiting bay within the parking circulation aisle, the previously presented swept path analysis (contained within **Appendix 2**) indicates that passing and waiting can be accommodated informally within the parking circulation aisle. Further, a formal passing bay is provided within the access roadway, immediately situated within the subject site. On this basis, the internal circulation arrangements provide capacity for up to three vehicles within the system (one within the access roadway immediately within the property, one within the parking aisle and one within the parking bays).

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 98th percentile queue under such conditions.'*

The potential for queueing has accordingly been investigated incorporating the following critical operational characteristics of the proposed development and the parking arrangements:

- The development is projected to generate up to 10 peak hour movements;
- The service rate is calculated based on the parking system's ascent / descent speed of 0.06m/s and an average span of 2.5m required to travel, therefore resulting in a service rate of 86 vehicle dispatch / retrieval movements per hour (3,600/41.67); however
- An additional 15 seconds has been applied to the service rate to account for the approximate time it takes for a vehicle to travel from the allocated waiting area / parking circulation aisle to a parking space or exit the parking space and the site; therefore, a service rate of 64 vehicles (3,600 /56.67) per hour has been applied.

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-in-first-out basis (FIFO) and a Poisson process for the arrival and service rates:

$$a = \text{arrival rate}$$

$$s = \text{service rate}$$

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

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

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

On this basis, the following analysis is provided:

- The average arrival rate is 10 vehicles every hour;
- The average service rate is 64 vehicles per hour;
- The utilisation rate is the arrival rate divided by the service rate is (10/64) or $p = 0.156$;
- The average number of vehicles in the queue is 0.028 vehicles $[E(m) = \frac{p}{(1-p)} - p]$;
- The probability of zero vehicles in the system: $(1-p)p^0 = 0.844$ (84.4%);
- The probability of one vehicle in the system: $(1-p)p^1 = 0.132$ (13.2%);
- The probability of two vehicles in the system: $(1-p)p^2 = 0.0205$ (2.05%); and

- The probability of three vehicles in the system: $(1 - p)p^3 = 0.0032$ (0.32%).

The provided capacity of the system of three vehicles is accordingly expected to accommodate the internal queuing requirements 99.68% of the time.

The queueing capacity of the development ingress, egress and parking arrangements therefore exceeds the minimum requirements of Clause 3.5 of AS2890.1:2004, which requires the 98th percentile queue to be contained within the subject site.

3.3.4.2 Single Open Adaptable Parking Space

In addition to the mechanical stacker system, the parking area is proposed to accommodate a single at-grade adaptable parking space, situated to the north of the mechanical stacker parking system.

3.3.4 Motorcycle Parking Design

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.

3.3.6 Bicycle Parking Design

Bicycle parking is proposed to be provided via the provision of six vertically staggered wall hung bicycle racks contained within a designated storage room situated the upper ground floor area, 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.

3.3.7 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 east-west 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 approximately a 13m 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 its 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 from 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 177 – Dee Why to Warringah Mall; and
- Route 177X – Dee Why to the City.

Both routes are serviced by stops situated on both sides of Pacific Parade, within 100m walking distance of the site.

Route 177 provides an hourly frequency during day time periods.

Route 177X provides a weekday commuter peak period service frequency of 20 minutes.

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 178 – Warringah Mall to Cromer Heights;
- Route 179 – Warringah Mall to Wheeler Heights;

- Route 180 – Warringah Mall Wynyard to Collaroy Plateau;
- Route 190 – Avalon Beach to the City;
- Route 199 – Manly to Palm Beach; and
- Route 160X – Chatswood to Dee Why (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 April 2021, 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. Co-living 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.

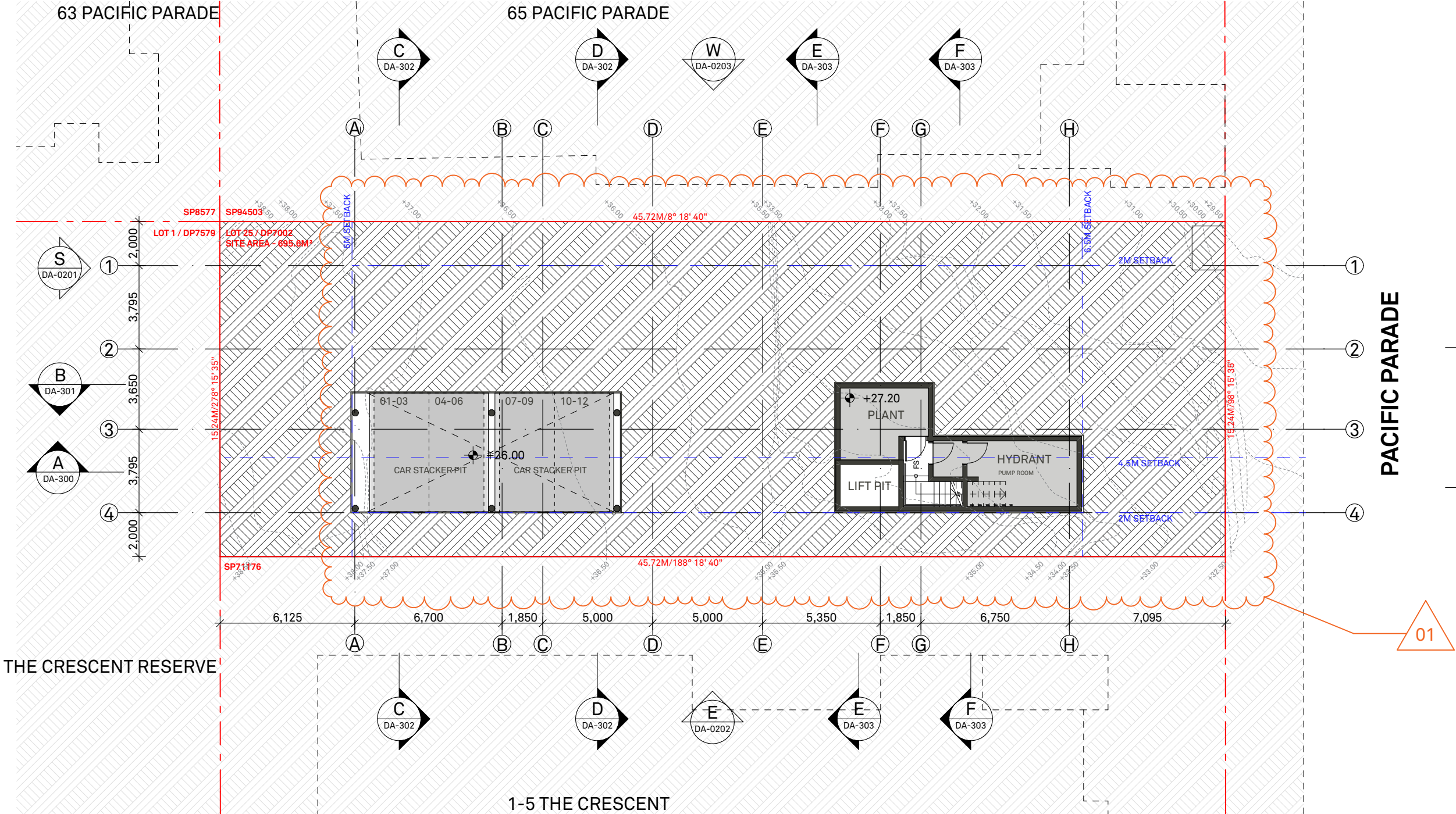
6. CONCLUSION

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 and a management plan governing the use and education of incoming residents with respect to the mechanical vehicle stacker system is expected to effectively facilitate safe and efficient 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.

APPENDIX 1



NORTHERN BEACHES COUNCIL

WARRINGAH LEP 2011

LAND ZONING	R3
MIN. LOT SIZE	NA
FSR	NA
HEIGHT OF BUILDING	11M (ZONE L)
LAND RESERVATION	NA
HERITAGE	NA
FLOOD	NA
ACID SULFATE	NA
KEY SITE	NA
BIODIVERSITY	NA
LANDSLIP RISK	AREA B

ROOM TABLE

	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		

CAR PARK

PARKING RATE

ARHSEPP RATE APPLIED: BOARDING HOUSE

0.5 SPACE PER MICRO APARTMENT DWELL

RESIDENTIAL: 25 ROOMS + 1 MANAGER

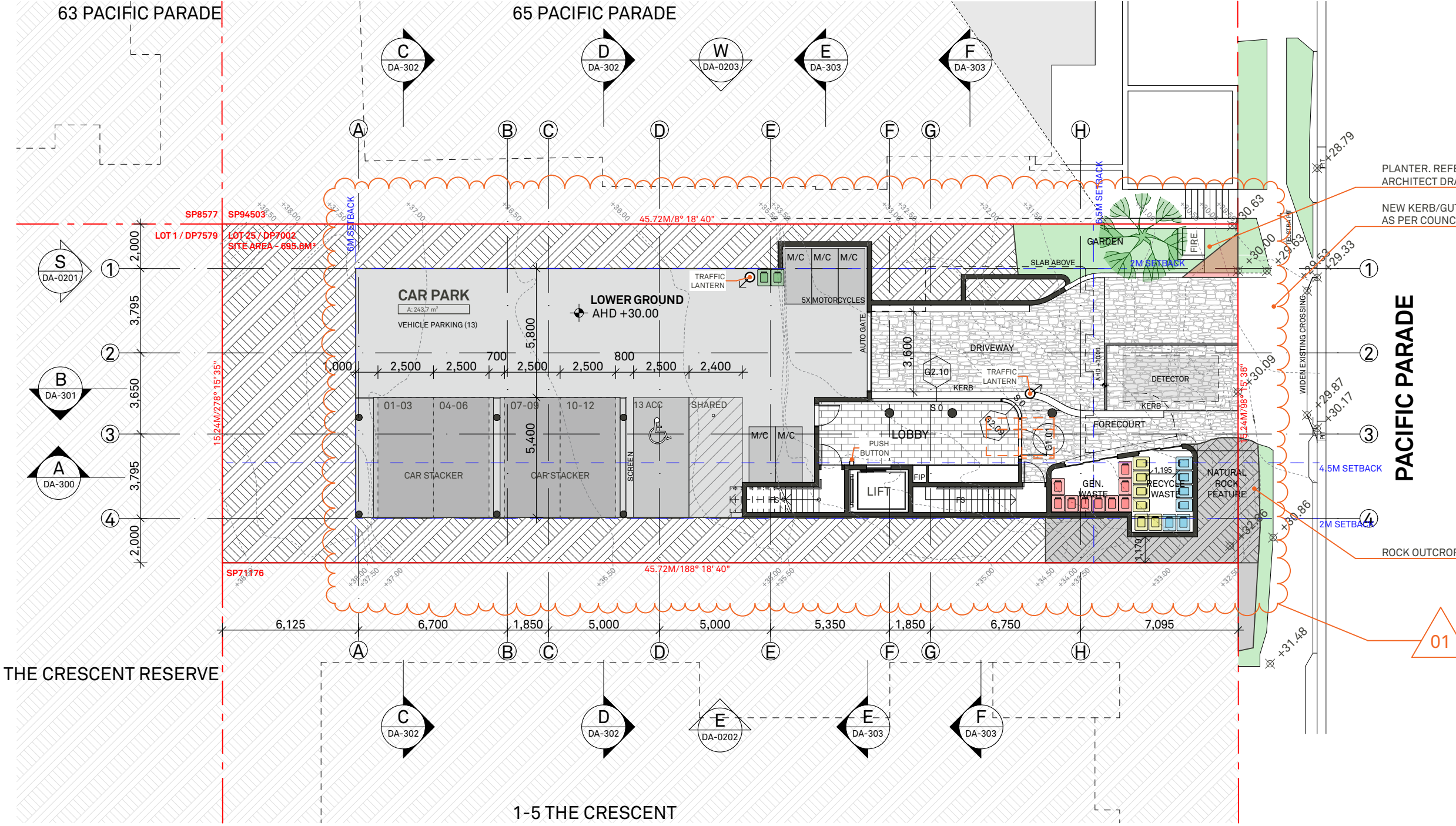
	REQUIRED	PROPOSED
Residential	13	13
Visitor	-	-
MOTORCYCLE	5	5
BICYCLE	5	6

TOTAL PARKING PROVIDED

13 (INCLUDING 1 ACCESSIBLE SPACE)

SUMMARY OF CHANGES

- 01 REMOVE VEHICULAR AND PEDESTRIAN ACCESS;
RELOCATE 7x CARS, 5x MOTORCYCLE AND 5x
BICYCLE SPACES; INSTALL CAR STACKERS ABOVE



NORTHERN BEACHES COUNCIL		
WARRINGAH LEP 2011		
LAND ZONING		R3
MIN. LOT SIZE		NA
FSR		NA
HEIGHT OF BUILDING		11M (ZONE L)
LAND RESERVATION		NA
HERITAGE		NA
FLOOD		NA
ACID SULFATE		NA
KEY SITE		NA
BIODIVERSITY		NA
LANDSLIP RISK		AREA B

ROOM TABLE		
	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		

CAR PARK		
PARKING RATE		
ARHSEPP RATE APPLIED: BOARDING HOUSE		
0.5 SPACE PER MICRO APARTMENT DWELI		
RESIDENTIAL: 25 ROOMS + 1 MANAGER		
	REQUIRED	PROPOSED
Residential	13	13
VEHICLE	Visitor	-
MOTORCYCLE		5
BICYCLE	Residential	5
		6
TOTAL PARKING PROVIDED		
13 (INCLUDING 1 ACCESSIBLE SPACE)		

WASTE MANAGEMENT		
25 UNITS + 1 MANAGER		
	REQUIRED	PROVIDED
	(Northern Beaches DCP)*	
GENERAL WASTE	Red	9
	Yellow	6
RECYCLING	Blue	6
	Green	2
VEGETATION		2
TOTAL	23	25

* Northern Beaches Waste Management Guidelines (for development in the area of WLEP2011 and WLEP 2000) - Appendix A

COLLECTION:
GENERAL WASTE - 1 x weekly
RECYCLING (YELLOW) - 1 x weekly
RECYCLING (BLUE) - 1 x weekly

SUMMARY OF CHANGES

- 01 REMOVE VEHICULAR ACCESS TO BASEMENT;
INSTALL CAR STACKING MECHANISM (12 CARS);
INSTALL INTERNAL TRAFFIC LIGHT SYSTEM;
PROVIDE 1x ACCESSIBLE CAR SPACE; 5x MOTORCYCLE SPACES; WIDEN VEHICULAR CROSSING;
INCREASE LANDSCAPING AREA AND INCREASE SOIL DEPTH IN SOME AREAS; REMOVE GARBAGE STORE AND REPLACE WITH HOLDING AREA

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REVISION		
Rev	Date	Description
01	25/11/2020	DA ISSUE 01
02	29/04/2021	DA ISSUE 02

LEGEND		COS Communal Open Space		GBC Garbage Room		POS Private Open Space	
A/C	Air Conditioning Unit	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ACC	Accessible	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
ADP	Adaptable	DP	Dryer	GFA	Gross Floor Area	SCR	Screen
AHD	Aust. Height Datum	DW	Down Pipe	GM	Gas Meter	SW	Sewer
B	Basement	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BAL	Balustrade	F	Fridge	LY	Laundry	SD	Study
BALC	Balcony	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BED	Bedroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
BT	Bathroom	FN	Finish floor level	MSB	Main Switch Board	SFL	Structural floor level
COL	Column	FS	Fence	NGL	Natural Ground Level	TOF	Top of Fence
COMM	Comms Room	FSR	Fire Stairs	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking


CLIENT
BL 2093 PTY LTD
PO BOX 1231
MANLY NSW 2095

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

DRAWING TITLE
GENERAL
ARRANGEMENT -
LOWER GROUND
PLAN

SCALE
1:200@A3
STATUS
DA
PROJECT No
2004A

APPROVED
GM
DRAWN BY
DB
DRAWING No
DA-0101
REV
02

NORTH

STUDIO 5, 505 BALMAIN RD
LILYFIELD NSW 2040
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RN: 7536

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E. enquiries@bensonmccormack.com
W. www.bensonmccormack.com

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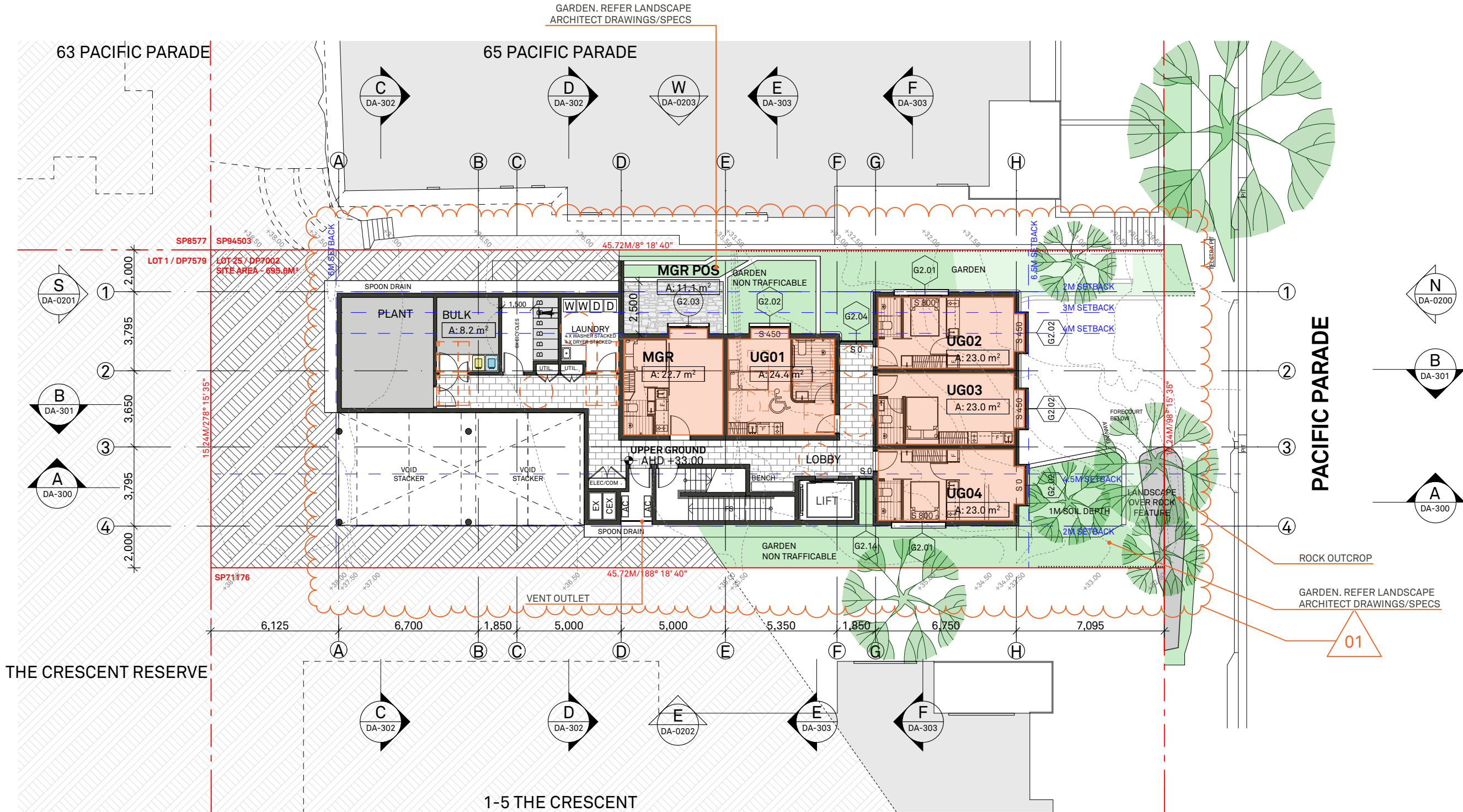
NORTHERN BEACHES COUNCIL

WARRINGAH LEP 2011

LAND ZONING	R3
MIN. LOT SIZE	NA
FSR	NA
HEIGHT OF BUILDING	11M (ZONE L)
LAND RESERVATION	NA
HERITAGE	NA
FLOOD	NA
ACID SULFATE	NA
KEY SITE	NA
BIODIVERSITY	NA
LANDSLIP RISK	AREA B

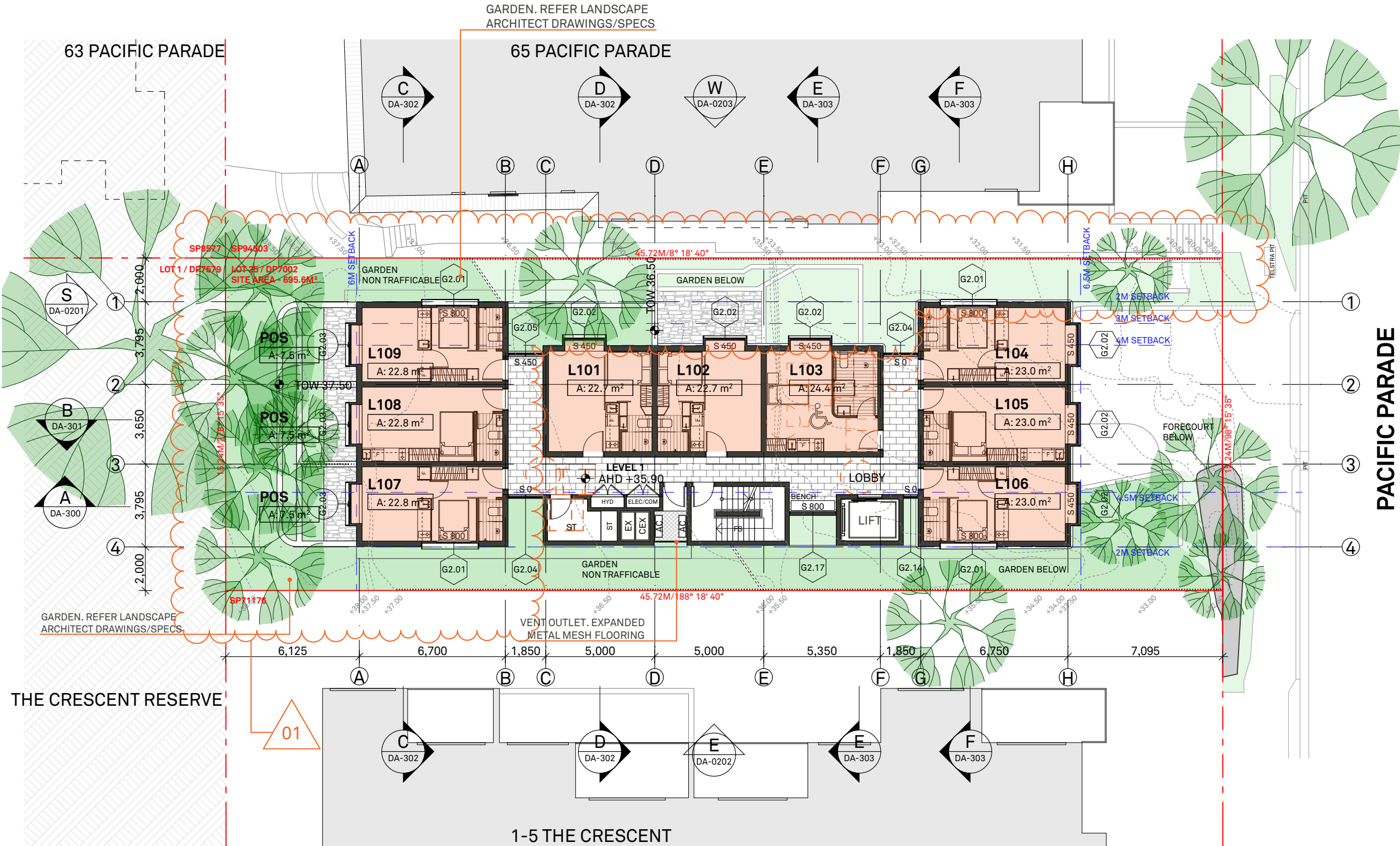
ROOM TABLE

	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		



SUMMARY OF CHANGES

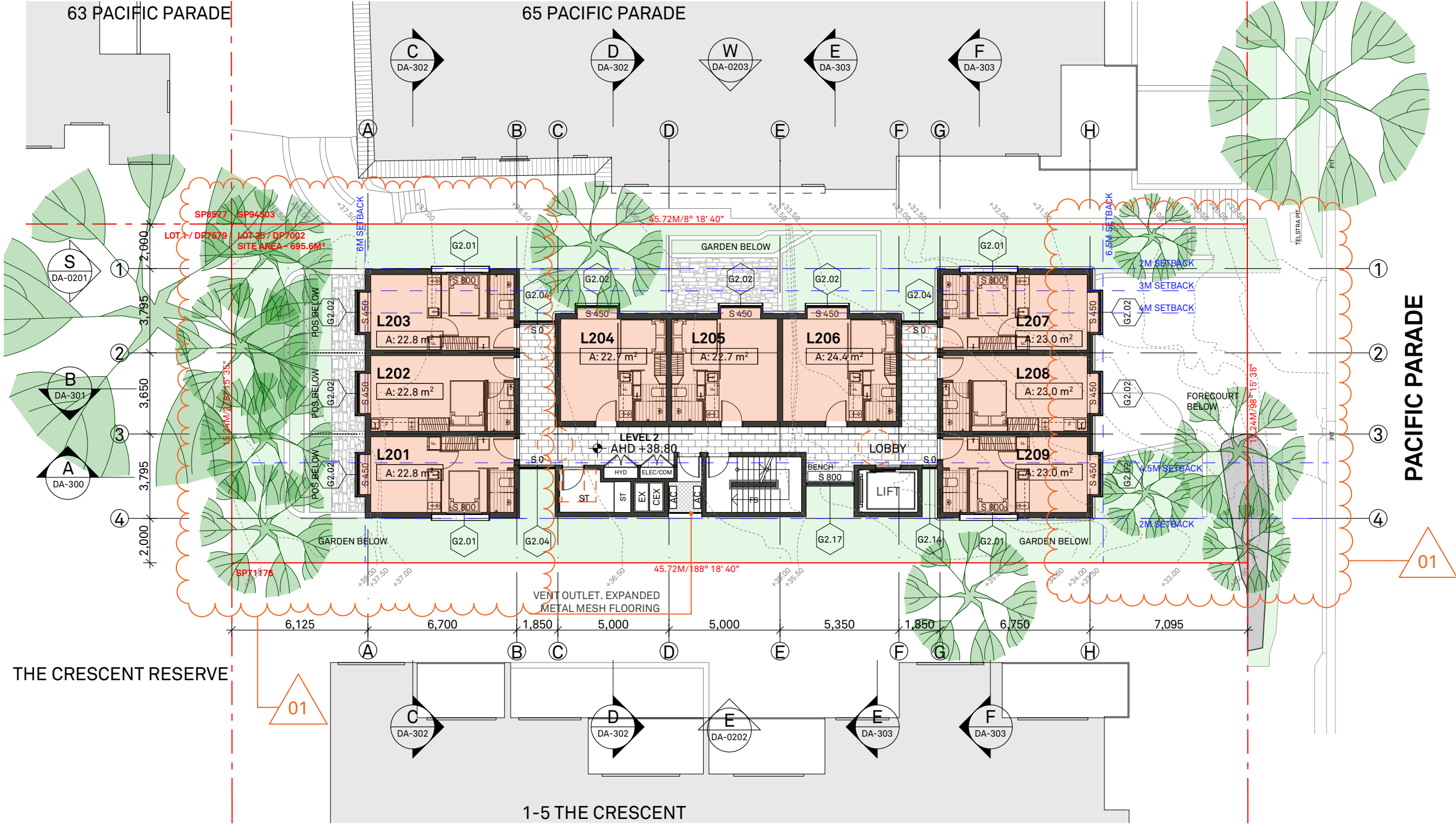
- 01 INSTALL CAR STACKING MECHANISM BELOW (VOID);
RELOCATE COMMON ROOM; REMOVE 1x ROOM; INSTALL
6x BICYCLE SPACES; RELOCATE LAUNDRY; INSTALL
GARBAGE AND BULK STORE WITH ADDITIONAL RECYCLING
BINS; REMOVE TRELLIS AND INCREASE AT-GRADE
LANDSCAPING AND SOIL DEPTH IN SOME AREAS;
RE-LABEL ROOM NAMES



NORTHERN BEACHES COUNCIL		
WARRINGAH LEP 2011		
LAND ZONING		R3
MIN. LOT SIZE		NA
FSR		NA
HEIGHT OF BUILDING		11M (ZONE L)
LAND RESERVATION		NA
HERITAGE		NA
FLOOD		NA
ACID SULFATE		NA
KEY SITE		NA
BIODIVERSITY		NA
LANDSLIP RISK		AREA B

ROOM TABLE	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		

SUMMARY OF CHANGES
01 RELOCATE COMMON ROOM; INSTALL 3x ADDITIONAL ROOMS; REPLACE COMMUNAL OPEN SPACE WITH PRIVATE OPEN SPACE.



NORTHERN BEACHES COUNCIL		
WARRINGAH LEP 2011		
LAND ZONING		R3
MIN. LOT SIZE		NA
FSR		NA
HEIGHT OF BUILDING		11M (ZONE L)
LAND RESERVATION		NA
HERITAGE		NA
FLOOD		NA
ACID SULFATE		NA
KEY SITE		NA
BIODIVERSITY		NA
LANDSLIP RISK		AREA B

ROOM TABLE	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		

SUMMARY OF CHANGES
01 SHOW PRIVATE OPEN SPACE BELOW;
SHOW AMENDED LANDSCAPED AREAS
BELOW.

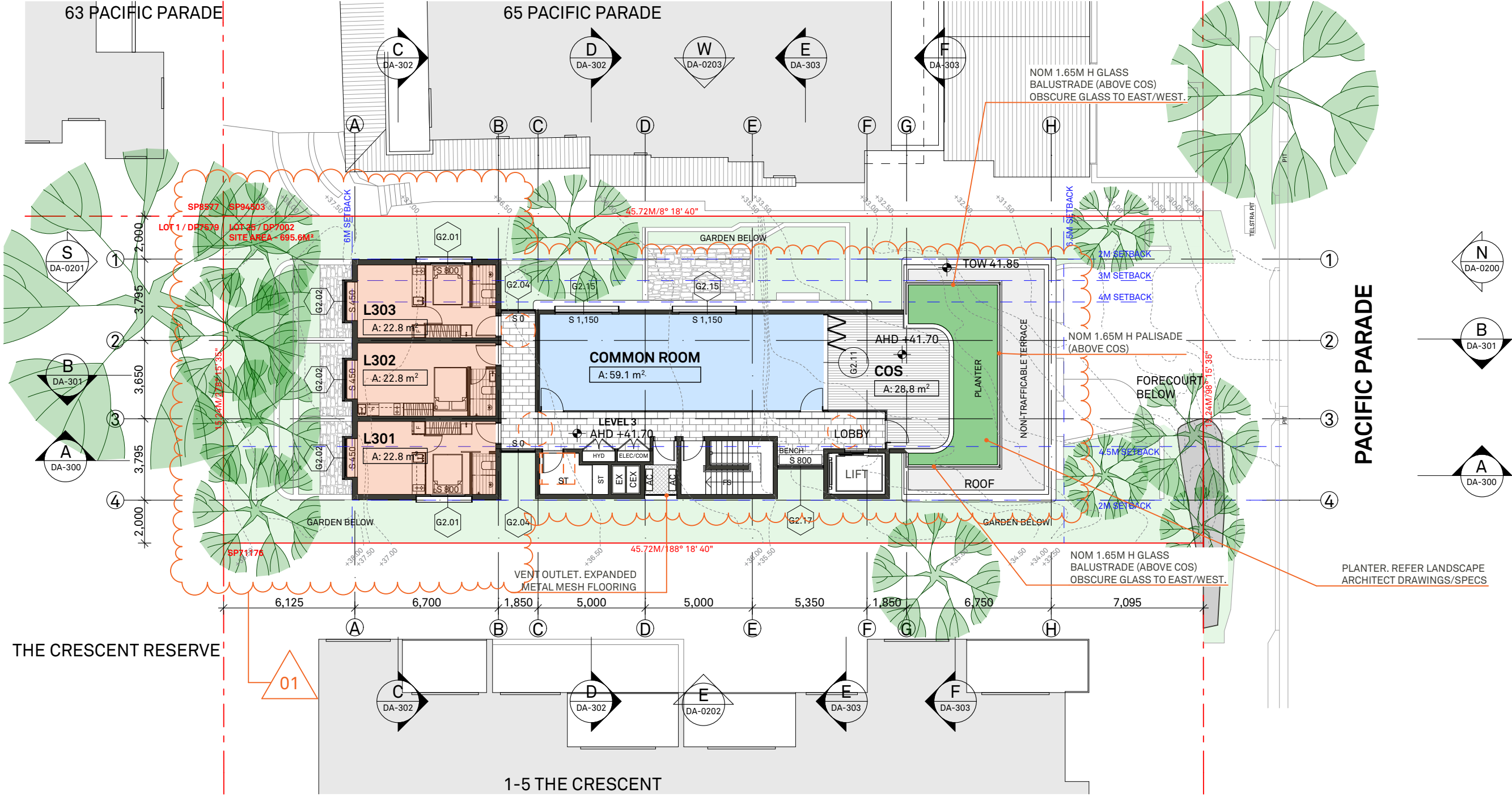
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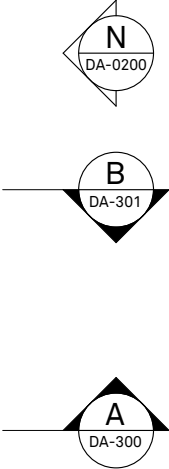
REVISION			LEGEND	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space	CLIENT	PROJECT DETAILS	DRAWING TITLE	SCALE	APPROVED	NORTH	STUDIO 5, 505 BALMAIN RD LILYFIELD NSW 2040 ABN: 76 129 130 285 RN: 7536
Rev	Date	Description														
01	25/11/2020	DA ISSUE 01	A/C	Accessible	Dining	GBR	Garbage Room	R	Robe	BL 2093 PTY LTD PO BOX 1231 MANLY NSW 2095	67 PP 67 Pacific Parade DEE WHY NSW 2099	GENERAL ARRANGEMENT - LEVEL 2 PLAN	1:200@A3	GM	NORTH	P. +61 2 9818 0777 F. +61 2 9818 0778 E. enquiries@bensonmccormack.com W. www.bensonmccormack.com
02	29/04/2021	DA ISSUE 02	ACC	Adaptable	Dryer	GBX	Garbage Exhaust	RWT	Rainwater Tank							
			ADP	Adaptable	Down Pipe	GBX	Gross Floor Area	SCR	Screen							
			AHD	Aust. Height Datum	Dishwasher	GFA	Gas Meter	SW	Sewer							
			B	Basement	Fridge	GM	Hydraulic Services	ST	Storage							
			BAL	Balustrade	Fire Extinguisher	M	Motorcycle Parking	SD	Study							
			BALC	Balcony	Finish floor level	MC	Main Switch Board	STP	Stormwater Pit							
			BED	Bedroom	Fence	MSB	Natural Ground Level	STW	Stormwater							
			BT	Bathroom	Fire Stairs	NGL	Onsite Detention Tank	SFL	Structural floor level							
			COL	Column	Floor Space Ratio	OSD	Pantry	TOF	Top of Fence							
			COMM	Comms Room	Gross Building Area	P		TOW	Top of Wall							

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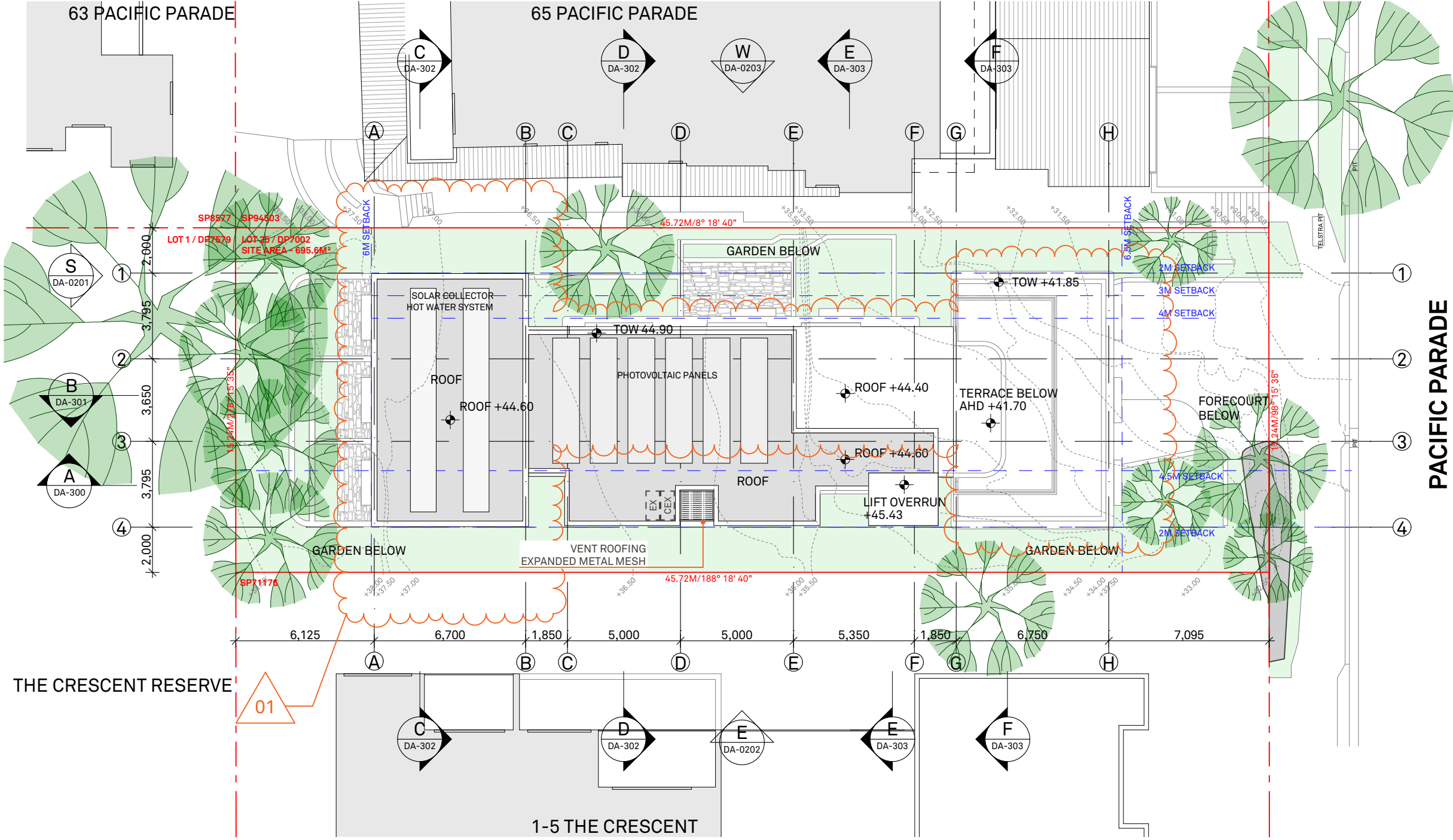
NORTHERN BEACHES COUNCIL		
WARRINGAH LEP 2011		
LAND ZONING		R3
MIN. LOT SIZE		NA
FSR		NA
HEIGHT OF BUILDING		11M (ZONE L)
LAND RESERVATION		NA
HERITAGE		NA
FLOOD		NA
ACID SULFATE		NA
KEY SITE		NA
BIODIVERSITY		NA
LANDSLIP RISK		AREA B

ROOM TABLE	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		



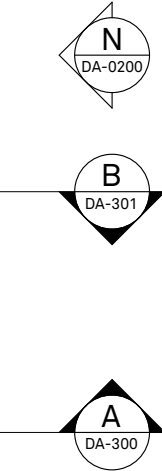
SUMMARY OF CHANGES

- 01 CONVERT ROOMS L301-303 FROM TYPE E TO TYPE B (REMOVE LOFT BEDROOMS ABOVE); REMOVE 2x ROOMS; REPLACE WITH LARGER COMMON ROOM; REDUCE AREA OF COMMUNAL OPEN SPACE; PROVIDE PRIVACY SCREENS TO COS



NORTHERN BEACHES COUNCIL		
WARRINGAH LEP 2011		
LAND ZONING		R3
MIN. LOT SIZE		NA
FSR		NA
HEIGHT OF BUILDING		11M (ZONE L)
LAND RESERVATION		NA
HERITAGE		NA
FLOOD		NA
ACID SULFATE		NA
KEY SITE		NA
BIODIVERSITY		NA
LANDSLIP RISK		AREA B

ROOM TABLE	PROPOSED	
	Room	Com. Room
LOWER GROUND	-	-
UPPER GROUND	5	-
LEVEL 01	9	-
LEVEL 02	9	-
LEVEL 03	3	1
LEVEL 04	-	-
TOTAL	26	1
26 (INCLUDING 2 ACCESSIBLE & MANAGER ROOMS)		



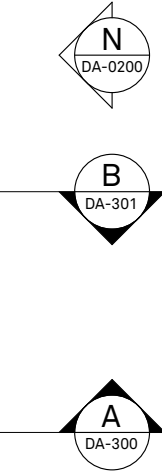
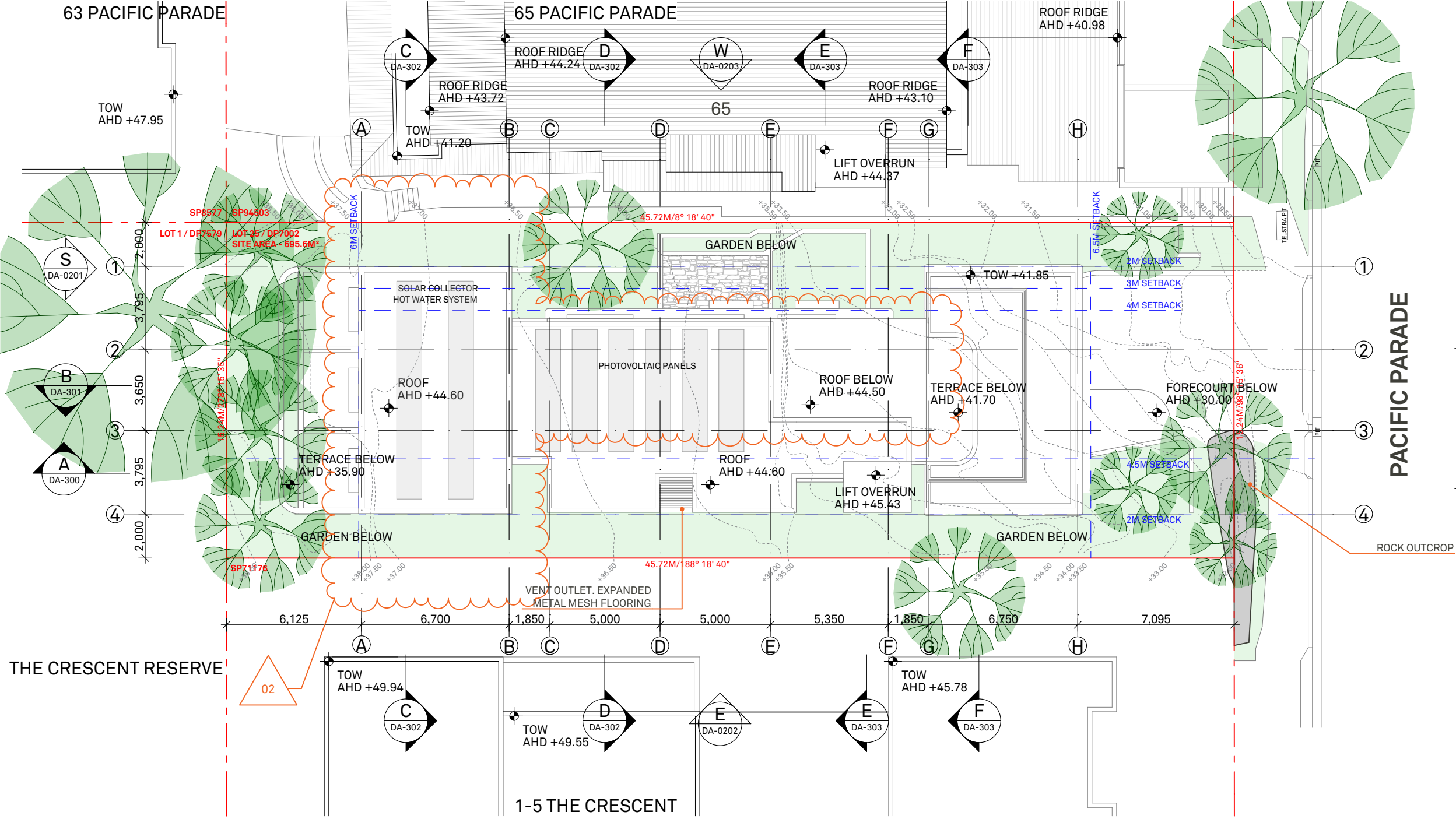
SUMMARY OF CHANGES

- 01 CONVERT ROOMS L301-303 FROM TYPE E TO TYPE B (REMOVE LOFT BEDROOMS); REDUCE OVERALL BUILDING HEIGHT; RELOCATE PV'S TO LOWER ROOF (SOUTHERN END)

NORTHERN BEACHES COUNCIL

WARRINGAH LEP 2011

LAND ZONING	R3
MIN. LOT SIZE	NA
FSR	NA
HEIGHT OF BUILDING	11M (ZONE L)
LAND RESERVATION	NA
HERITAGE	NA
FLOOD	NA
ACID SULFATE	NA
KEY SITE	NA
BIODIVERSITY	NA
LANDSLIP RISK	AREA B



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REVISION

Rev	Date	Description
01	25/11/2020	DA ISSUE 01
02	29/04/2021	DA ISSUE 02

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	DRY	Dryer	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DP	Down Pipe	GFA	Gross Floor Area	SCR	Screen
B	Basement	DW	Dishwasher	GM	Gas Meter	ST	Sewer Storage
BAL	Balustrade	F	Fridge	LY	Laundry	SD	Study
BALC	Balcony	FEX	Fire Extinguisher	M	Motorcycle Parking	STP	Stormwater Pit
BED	Bedroom	FFL	Finish floor level	MC	Main Switch Board	STW	Stormwater
BT	Bathroom	FN	Fence	MSB	Natural Ground Level	SFL	Structural floor level
COL	Column	FS	Fire Stairs	NGL	Onsite Detention Tank	TOF	Top of Fence
COMM	Comms Room	FSR	Floor Space Ratio	OSD	Pantry	TOW	Top of Wall
		GBA	Gross Building Area	P		VIS	Visitor Parking

CLIENT
BL 2093 PTY LTD
PO BOX 1231
MANLY NSW 2095

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

DRAWING TITLE
GENERAL ARRANGEMENT - SITE PLAN

SCALE
1:200@A3
STATUS
DA
PROJECT No
2004A

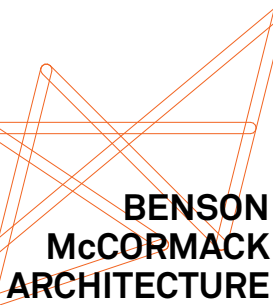
APPROVED
GM
DRAWN BY
DB
DRAWING No
DA-0107

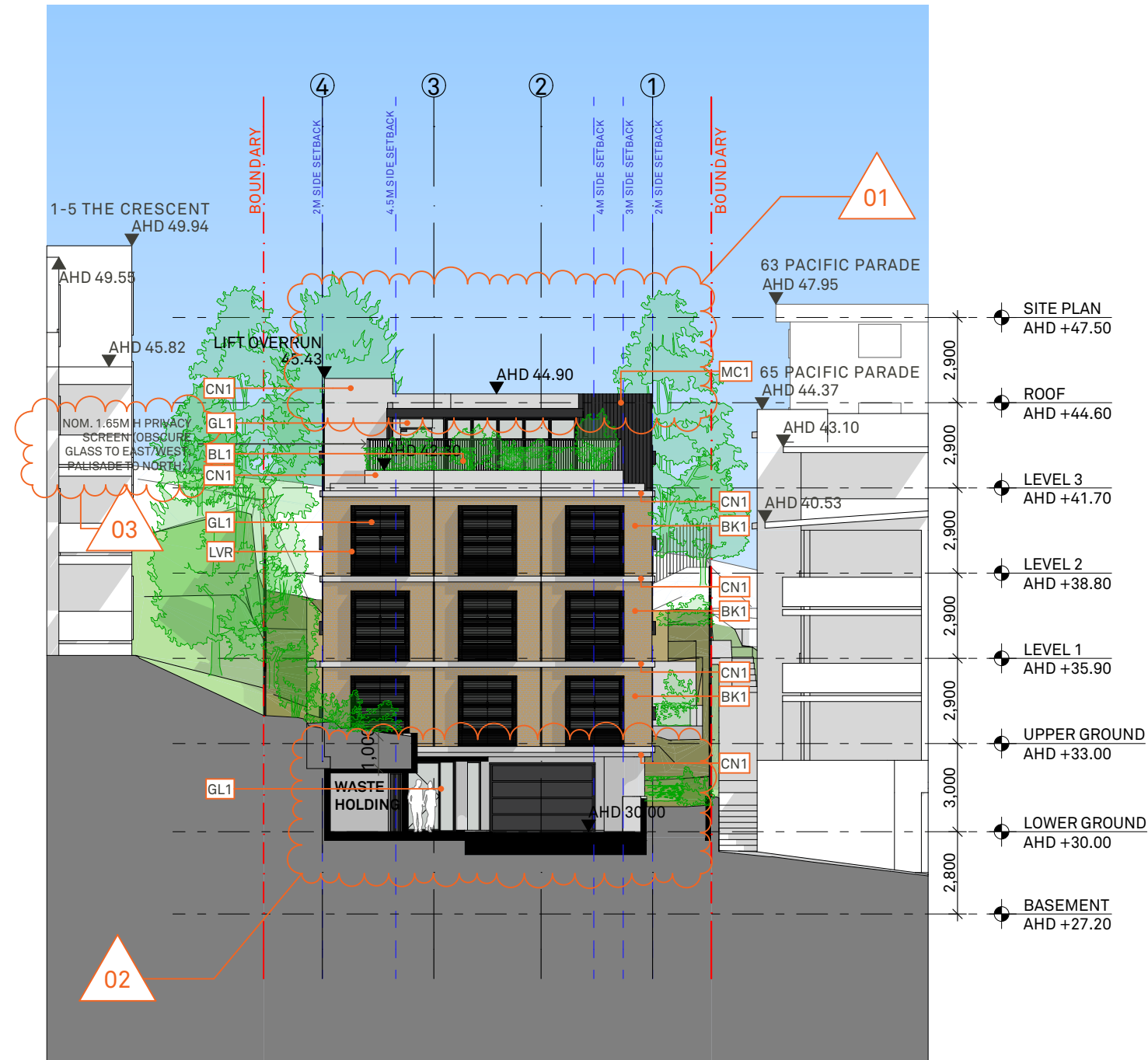
NORTH

REV
02

STUDIO 5, 505 BALMAIN RD
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1 NORTH ELEVATION
1:200

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: OBSCURE GLASS TO EAST/WEST; PALISADE TO NORTH

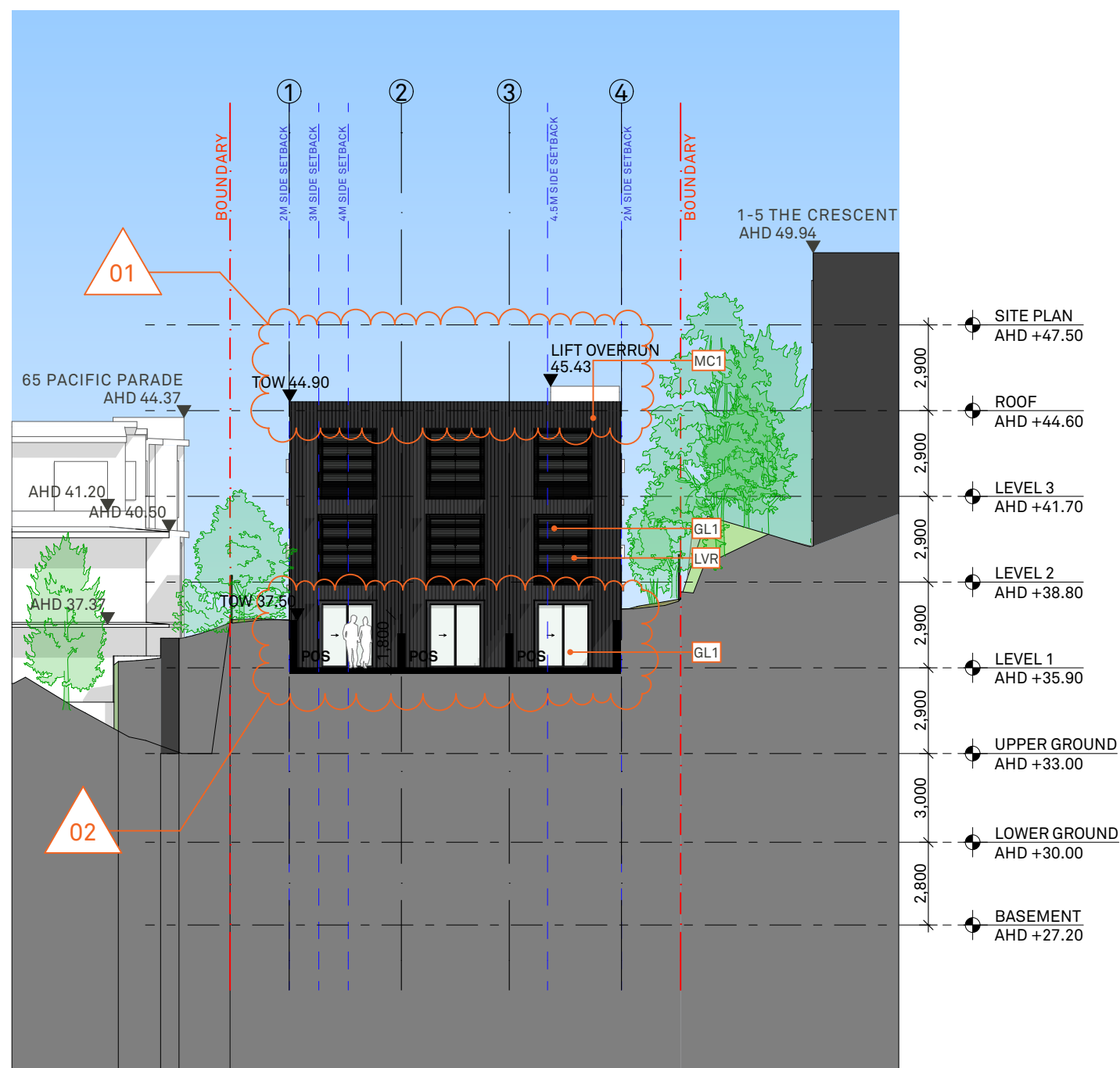


2 3D VIEW - NORTH ELEVATION

SUMMARY OF CHANGES

- 01 DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B
- 02 REPLACE GARBAGE STORE WITH HOLDING AREA; WIDEN DRIVEWAY; REDUCE GARAGE DOOR WIDTH; INCREASE LANDSCAPED AREA AT THE NW BOUNDARY; INCREASE SOIL DEPTH ABOVE WASTE ROOMS.
- 03 PRIVACY SCREEN TO COMMUNAL OPEN SPACE

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	Rev	Date															Description
	01	25/11/2020															DA ISSUE 01
	02	29/04/2021															DA ISSUE 02
	A/C																
	ACC																
	ADP																
	AHD																
	B																
	BAL																
	BALC																
	BED																
	BT																
	COL																
	COMM																



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
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GL1 - POWDERCOATED ALUM. FRAME & CLEAR GLAZING
GL2 - POWDERCOATED ALUM. FRAME & OBSCURE GLAZING
BL1 - BALUSTRADE: OBSCURE GLASS TO EAST/WEST; PALISADE TO NORTH



SUMMARY OF CHANGES

- 01** DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B
- 02** REPLACE COMMON ROOM AND COMMUNAL OPEN SPACE WITH 3x ROOMS AND PRIVATE OPEN SPACE

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REVISION		
Rev	Date	Description
01	25/11/2020	DA ISSUE 01
02	29/04/2021	DA ISSUE 02

LEGEND		POS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
A/C	Air Conditioning Unit	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ACC	Accessible	DR	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
ADP	Adaptable	DPY	Dryer	GFA	Gross Floor Area	SCR	Screen
AHD	Aust. Height Datum	DW	Down Pipe	GM	Gas Meter	SS	Sewer
B	Basement	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BAL	Balustrade	FEX	Fridge	LY	Laundry	SD	Study
BALC	Balcony	F	Fire Extinguisher	M	Meter Room	RCP	Stormwater Pit
BED	Bedroom	FNL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
BT	Bathroom	F	Fence	MSB	Main Switch Board	SFL	Structural floor level
C	Column	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
COMM	Comms Room	FSR	Fire Stairs Ratio	ONS	Onsite Detention Tank	W	Water
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

CLIENT
BL 2093 PTY LTD
PO BOX 1231
MANLY NSW 2095

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

DRAWING TITLE
ELEVATIONS - SOUTH
ELEVATION

SCALE
1:200@A3
STATUS
DA
PROJECT No
2004A

APPROVED
GM
DRAWN BY
DB
DRAWING No
DA-0201

NORTH

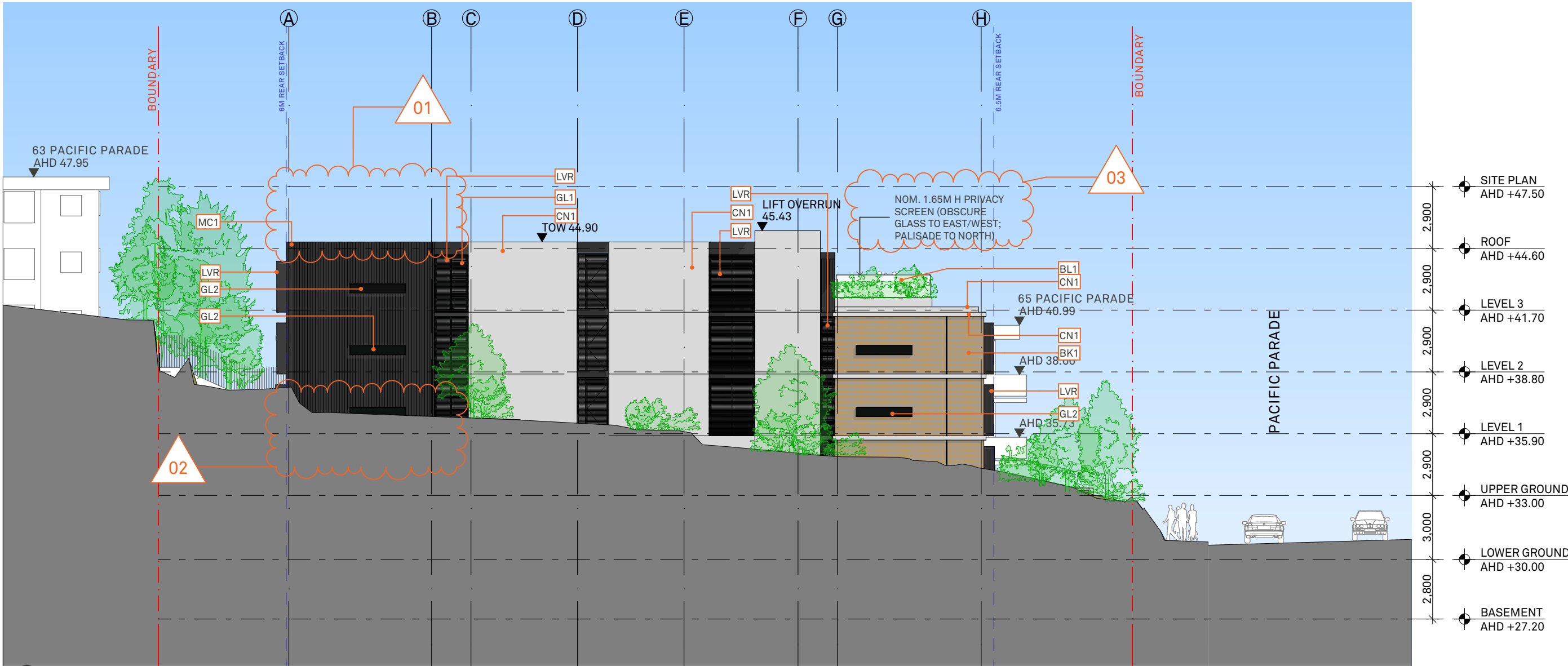
REV
02

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1 EAST ELEVATION
1:200



2 3D VIEW - EAST ELEVATION

SUMMARY OF CHANGES

- 01 DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B
- 02 REPLACE COMMON ROOM AND COMMUNAL OPEN SPACE WITH 3x ROOMS AND PRIVATE OPEN SPACE
- 03 REDUCE AREA OF COMMUNAL OPEN SPACE; PRIVACY SCREEN TO COMMUNAL OPEN SPACE

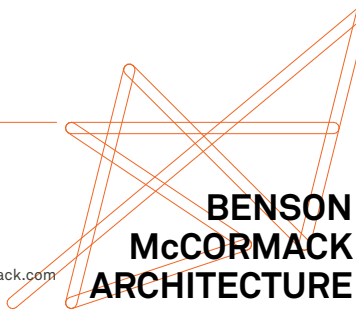
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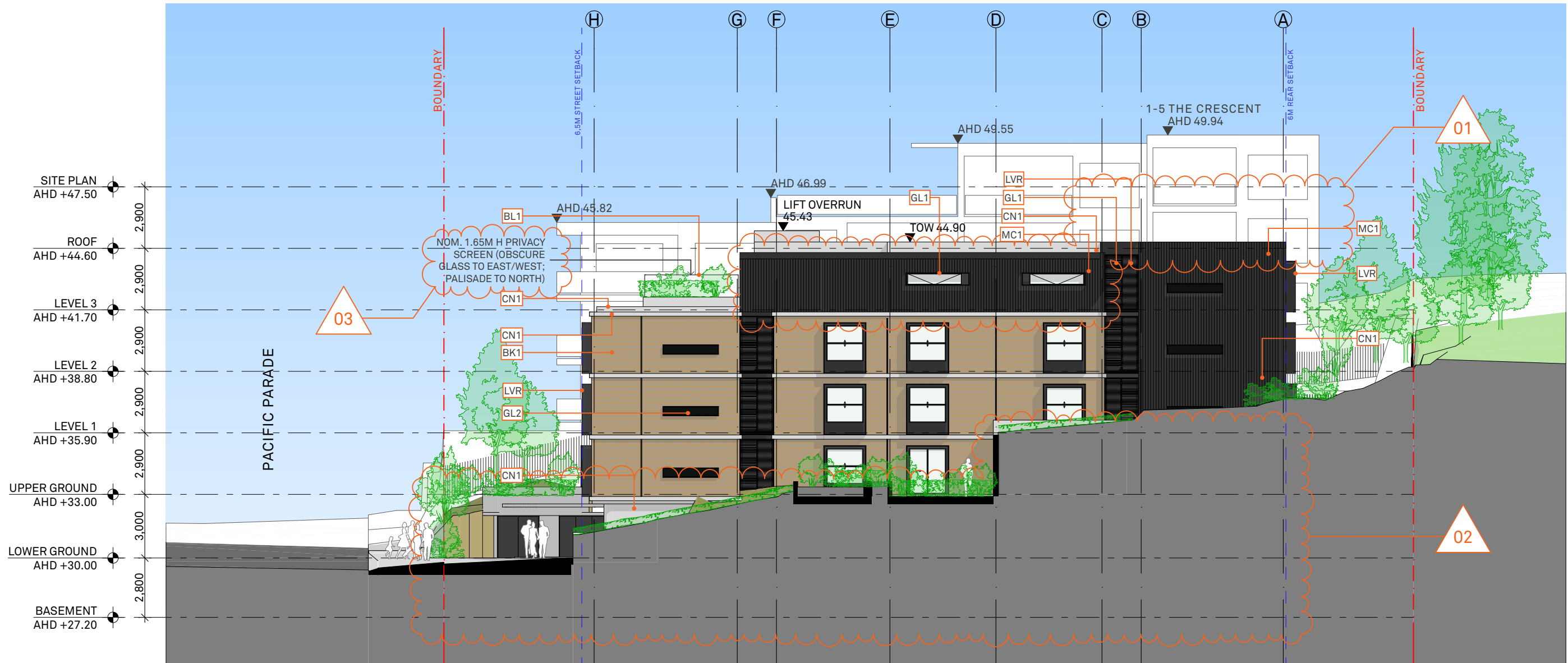
CN1 - OFF FORM CONCRETE NATURAL LIGHT COLOUR
BK1 - BRICK VENEER - LIGHT BEIGE COLOUR
MC1 - ANODISED ALUMINIUM CLADDING - DARK COLOUR
LVR - ANODISED ALUMINIUM BLINDS - DARK COLOUR
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GL1 - POWDERCOATED ALUM. FRAME & CLEAR GLAZING
GL2 - POWDERCOATED ALUM. FRAME & OBSCURE GLAZING
BL1 - BALUSTRADE: OBSCURE GLASS TO EAST/WEST; PALISADE TO NORTH

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										Rev	Date	Description	A/C Air Conditioning Unit	DRY Dining	GBR Garbage Room	RWT Rainwater Tank	BL 2093 PTY LTD			67 PP			ELEVATION - EAST			1:200@A3			GM																
										01	25/11/2020	DA ISSUE 01	ADP Adaptable	DP Down Pipe	GM Gas Meter	SCR Screen	PO BOX 1231			67 Pacific Parade			ELEVATION			STATUS			DRAWN BY																
										02	29/04/2021	DA ISSUE 02	AHD Aust. Height Datum	DW Dishwasher	LY Laundry	ST Study	MANLY NSW 2095			DEE WHY NSW 2099						DA			DB			P. + 61 2 9818 0777 F. + 61 2 9818 0778 E. enquiries@bensonmccormack.com W. www.bensonmccack.com													
													BAL Balustrade	FEX Fire Extinguisher	MC Motorcycle Parking	SD Stormwater Pit										PROJECT No			DRAWING No			REV													
													BALC Balcony	FFL Finish floor level	MSB Main Switch Board	STW Stormwater										2004A			DA-0202			02													
													BED Bedroom	FN Fence	NGL Natural Ground Level	SFL Structural floor level																													
													BT Bathroom	FSR Fire Stairs	OSD Onsite Detention Tank	TOF Top of Fence																													
													COL Column	FSR Fire Stairs Ratio	TOW Top of Wall	VIS Visitor Parking																													
													COMM Comms Room	GBA Gross Building Area	P Pantry	VIS Visitor Parking																													



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WEST ELEVATION
1:200



3D VIEW - WEST ELEVATION

SUMMARY OF CHANGES

- 01 DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B; REMOVE 2x ROOMS IN FAVOUR OF ENLARGED COMMON ROOM AND COMMUNAL OPEN SPACE
- 02 REMOVE BASEMENT FLOOR, LOWER LEVEL COMMON ROOM (LWR GRD); INSTALL CAR STACKERS
- 03 REDUCE AREA OF COMMUNAL OPEN SPACE; PRIVACY SCREEN TO COMMUNAL OPEN SPACE

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: OBSCURE GLASS TO EAST/WEST; PALISADE TO NORTH

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REVISION

Rev	Date	Description
01	25/11/2020	DA ISSUE 01
02	29/04/2021	DA ISSUE 02

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DP	Down Pipe	GFA	Gross Floor Area	SCR	Screen
B	Basement	DW	Dryer	GM	Gas Meter	ST	Sewer
BAL	Balustrade	FW	Fire Extinguisher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Finish floor level	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Fire Stairs	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Fire Stairs Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

CLIENT
BL 2093 PTY LTD
PO BOX 1231
MANLY NSW 2095

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

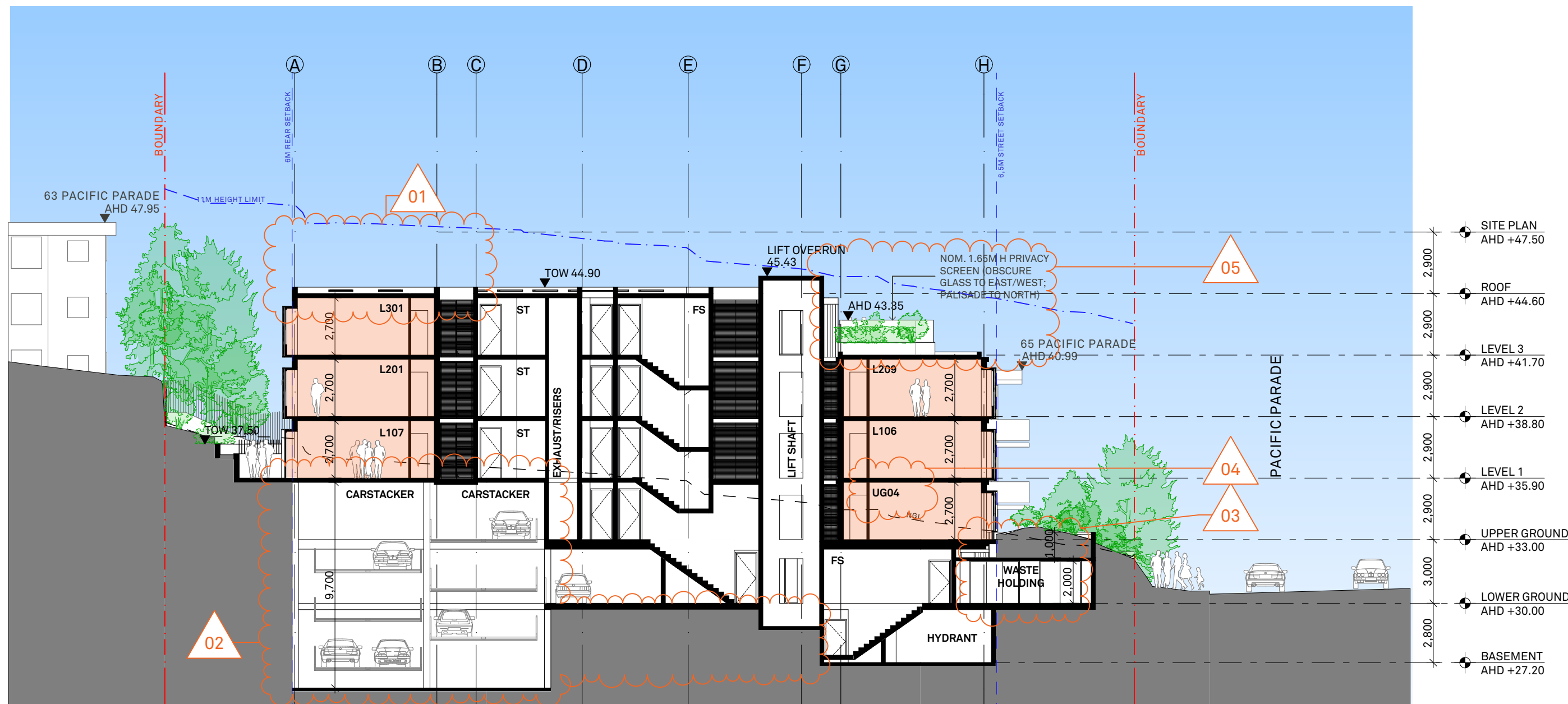
DRAWING TITLE
ELEVATION - WEST
ELEVATION

SCALE
1:200@A3
STATUS
DA
PROJECT No
2004A

APPROVED
GM
DRAWN BY
DB
DRAWING No
DA-0203
REV
02

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SUMMARY OF CHANGES

- 01 DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B
- 02 REMOVE BASEMENT FLOOR, LOWER LEVEL COMMON ROOM (LWR GRD); INSTALL CAR STACKERS
- 03 REPLACE GARBAGE ROOM WITH BIN HOLDING AREA; INCREASE SOIL DEPTH ABOVE WASTE ROOMS.
- 04 RE-LABEL ROOMS FROM UG05 TO UG04
- 05 REDUCE AREA OF COMMUNAL OPEN SPACE; PRIVACY SCREEN TO COMMUNAL OPEN SPACE

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REVISION		
Rev	Date	Description
01	25/11/2020	DA ISSUE 01
02	29/04/2021	DA ISSUE 02

LEGEND		COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
A/C	Air Conditioning Unit	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ACC	Accessible	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
ADP	Adaptable	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
AHD	Aust. Height Datum	DP	Down Pipe	GM	Gas Meter	SW	Sewer
B	Basement	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BAL	Balustrade	F	Fridge	LY	Laundry	SD	Study
BALC	Balcony	FEX	Fire Extinguisher	M	Motor Room	STP	Stormwater Pit
BED	Bedroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
BT	Bathroom	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COL	Column	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
COMM	Comms Room	FSR	Fire Stairs Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

CLIENT
BL 2093 PTY LTD
PO BOX 1231
MANLY NSW 2095

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

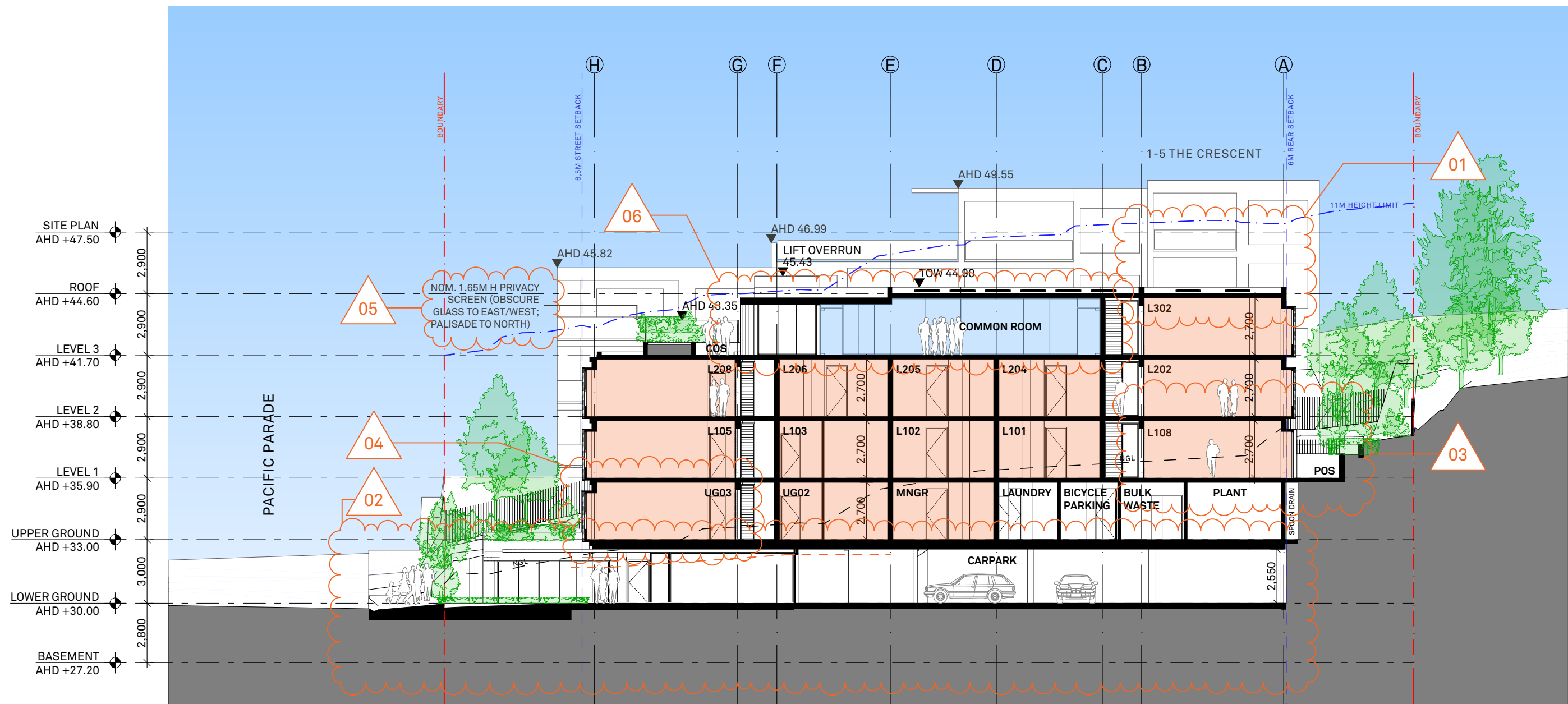
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PROJECT No
2004A

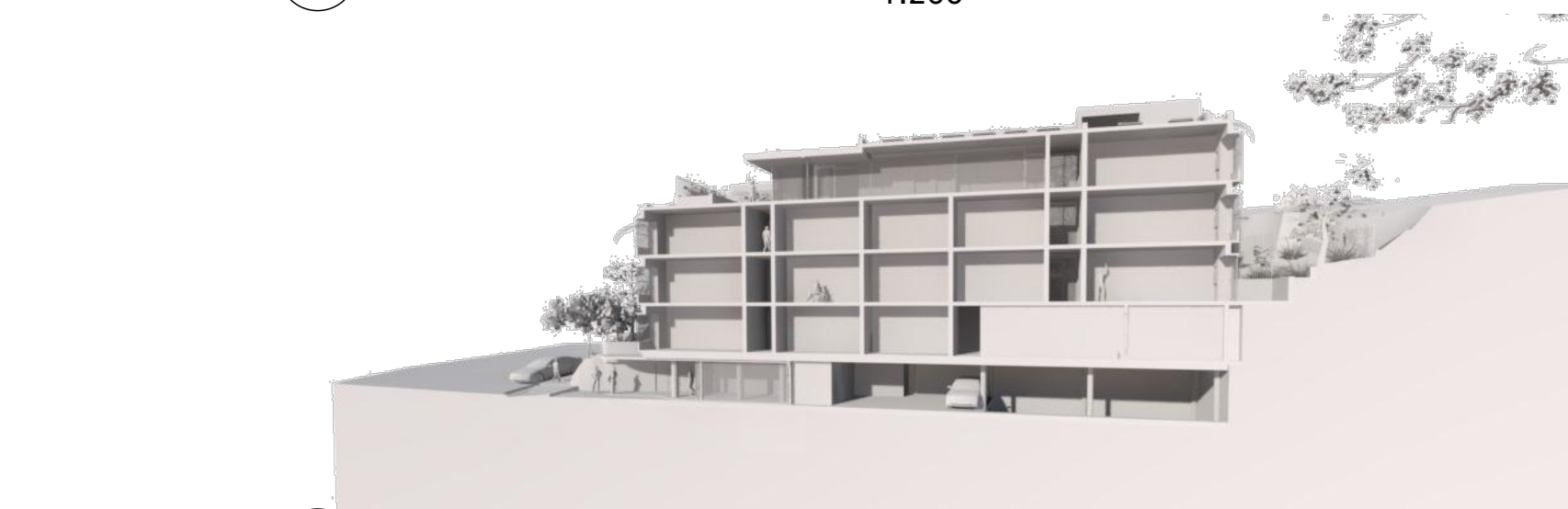
APPROVED
GM
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DB
DRAWING No
DA-300
REV
02

NORTH
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SECTION BB
1:200



SECTIONAL PERSPECTIVE

SUMMARY OF CHANGES

- 01 DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B
- 02 REMOVE BASEMENT FLOOR, LOWER LEVEL COMMON ROOM (LWR GRD); INSTALL CAR STACKERS
- 03 REPLACE COMMON ROOM WITH 3x ROOMS WITH ADJACENT PRIVATE OPEN SPACE
- 04 RE-LABEL ROOMS FROM UG04 TO UG03
- 05 PRIVACY SCREEN TO COMMUNAL OPEN SPACE
- 06 INCREASE SIZE OF COMMON ROOM; REDUCE AREA OF COMMUNAL OPEN SPACE

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REVISION

Rev	Date	Description
01	25/11/2020	DA ISSUE 01
02	29/04/2021	DA ISSUE 02

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	DP	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DW	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	FW	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	F	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	FEX	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FFL	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FN	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FS	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FSR	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		GBA	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
			Gross Building Area	P	Pantry	VIS	Visitor Parking

CLIENT
BL 2093 PTY LTD
PO BOX 1231
MANLY NSW 2095

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

DRAWING TITLE
SECTIONS - SECTION
BB

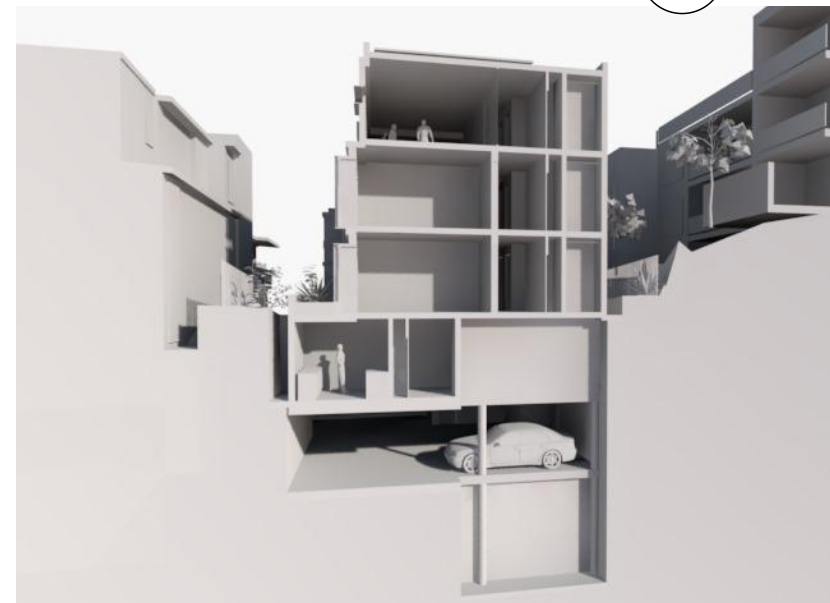
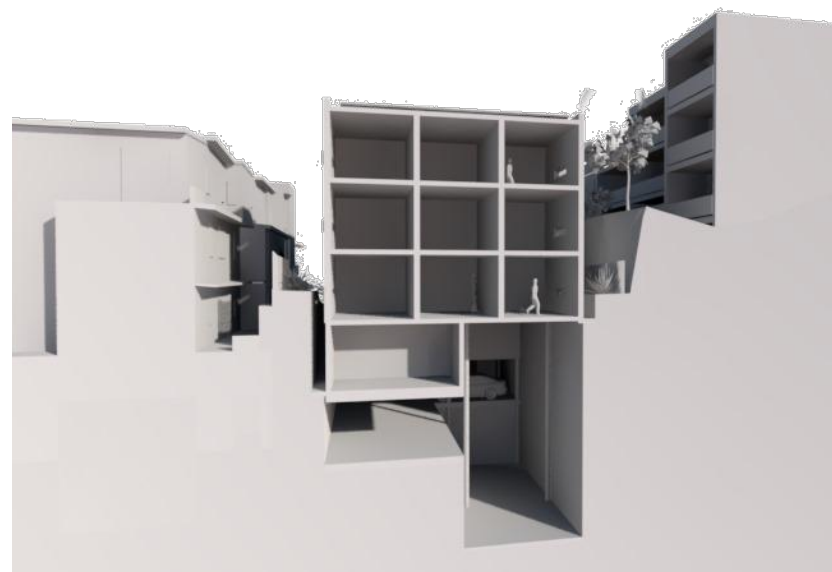
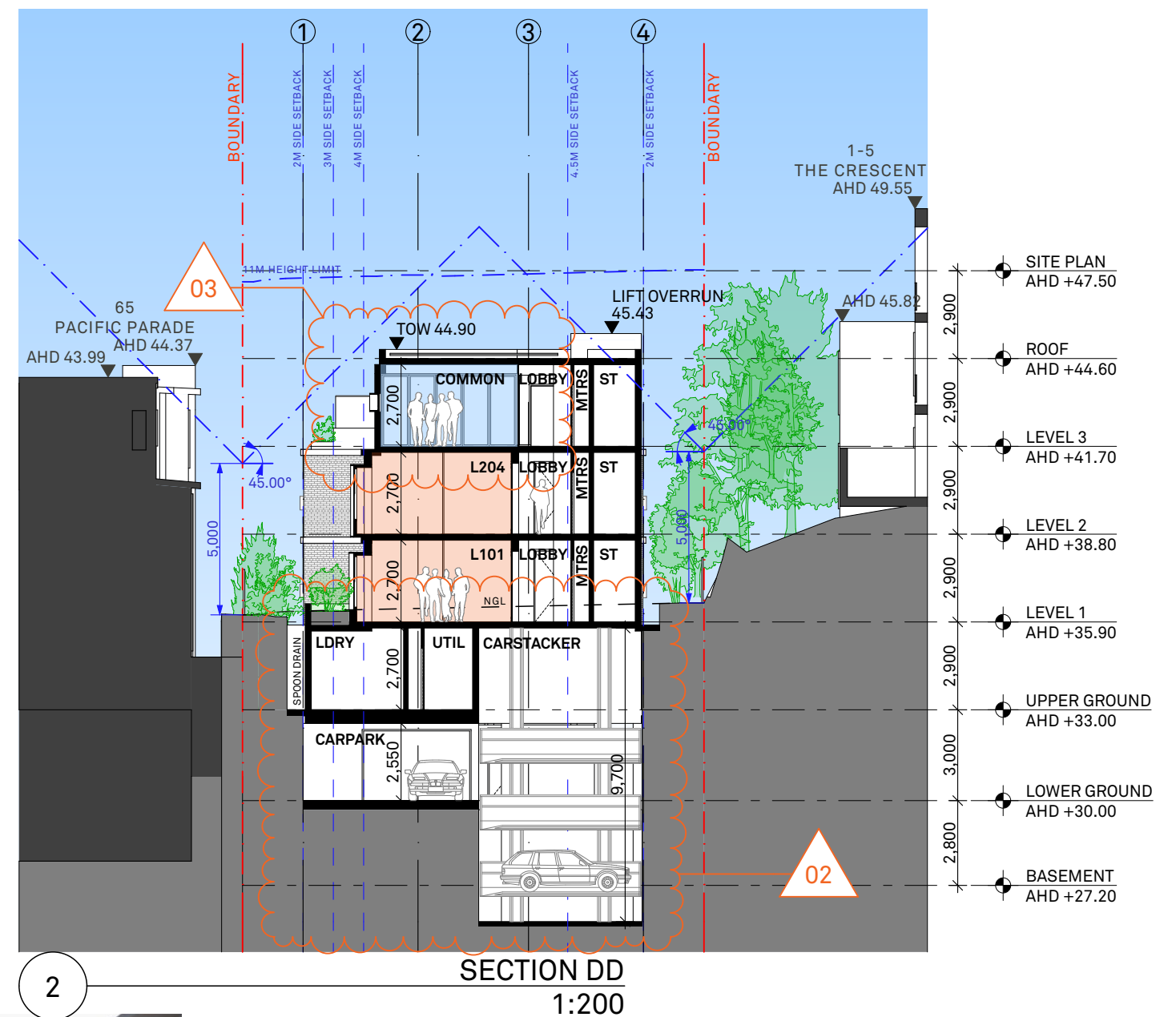
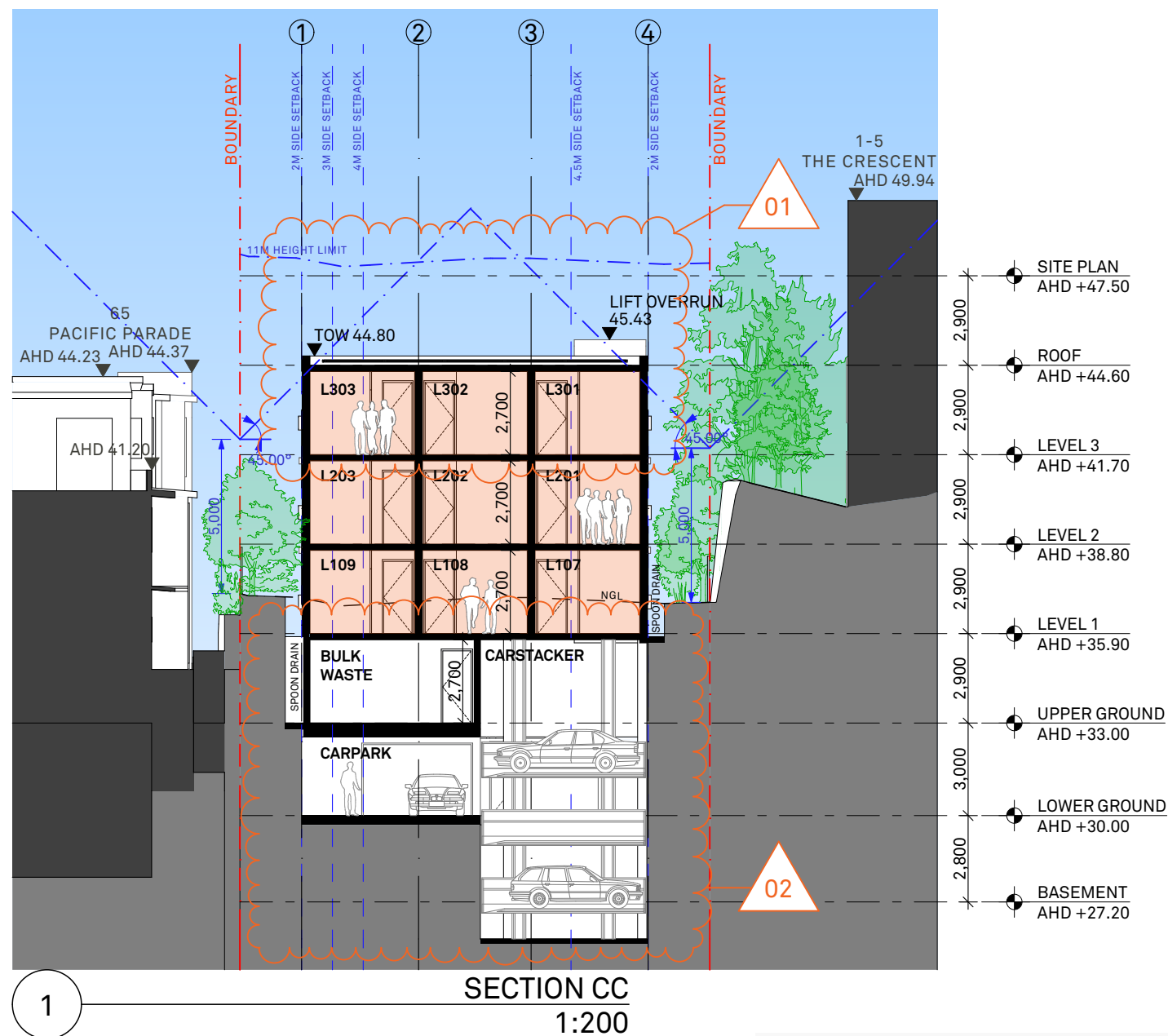
SCALE
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STATUS
DA
PROJECT No
2004A

APPROVED
GM
DRAWN BY
DB
DRAWING No
DA-301
REV
02

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RN: 7536

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- ## SUMMARY OF CHANGES
- 01 DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B
 - 02 REMOVE BASEMENT FLOOR, LOWER LEVEL COMMON ROOM (LWR GRD); INSTALL CAR STACKERS
 - 03 INCREASE SIZE OF COMMON ROOM AND COMMUNAL OPEN SPACE

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LEGEND		COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
A/C	Air Conditioning Unit	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ACC	Accessible	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
ADP	Adaptable	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
AHD	Aust. Height Datum	DP	Down Pipe	GM	Gas Meter	SSW	Sewer
BAL	Basement	DW	Dishwasher	LY	Laundry	ST	Storage
BAL	Balustrade	F	Frige	M	Meter Room	STD	Study
BALC	Balcony	FEX	Fire Extinguisher	M	Motorcycle Parking	TP	Termwater Pit
BED	Bedroom	FFL	Finish floor level	MSB	Main Switch Board	STW	Stormwater
BLT	Bathroom	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
CLD	Cloud	FST	Fire Stairs	NGL	Natural Ground Level	TOP	Top of Fence
COMM	Comms Room	FSR	Floor Sill Ratio	OSD	Onsite Detention Tank	TOW	Tow of Fence
		GSA	Gross Building Area	P	Patio	VIS	Visitor Parking

CLIENT	PROJECT DETAILS
BL 2093 PTY LTD	67 PP
PO BOX 1231	67 Pacific Parade
MANLY NSW 2095	DEE WHY NSW 2099

PROJECT DETAILS
67 PP
67 Pacific Parade
DEE WHY NSW 2099

DRAWING TITLE
SECTIONS -
SECTIONS CC/DD

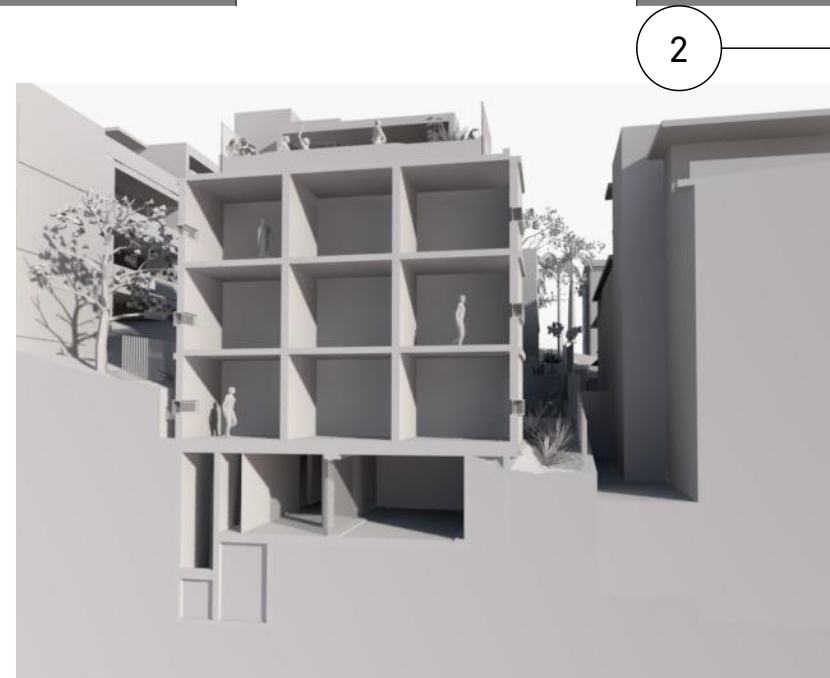
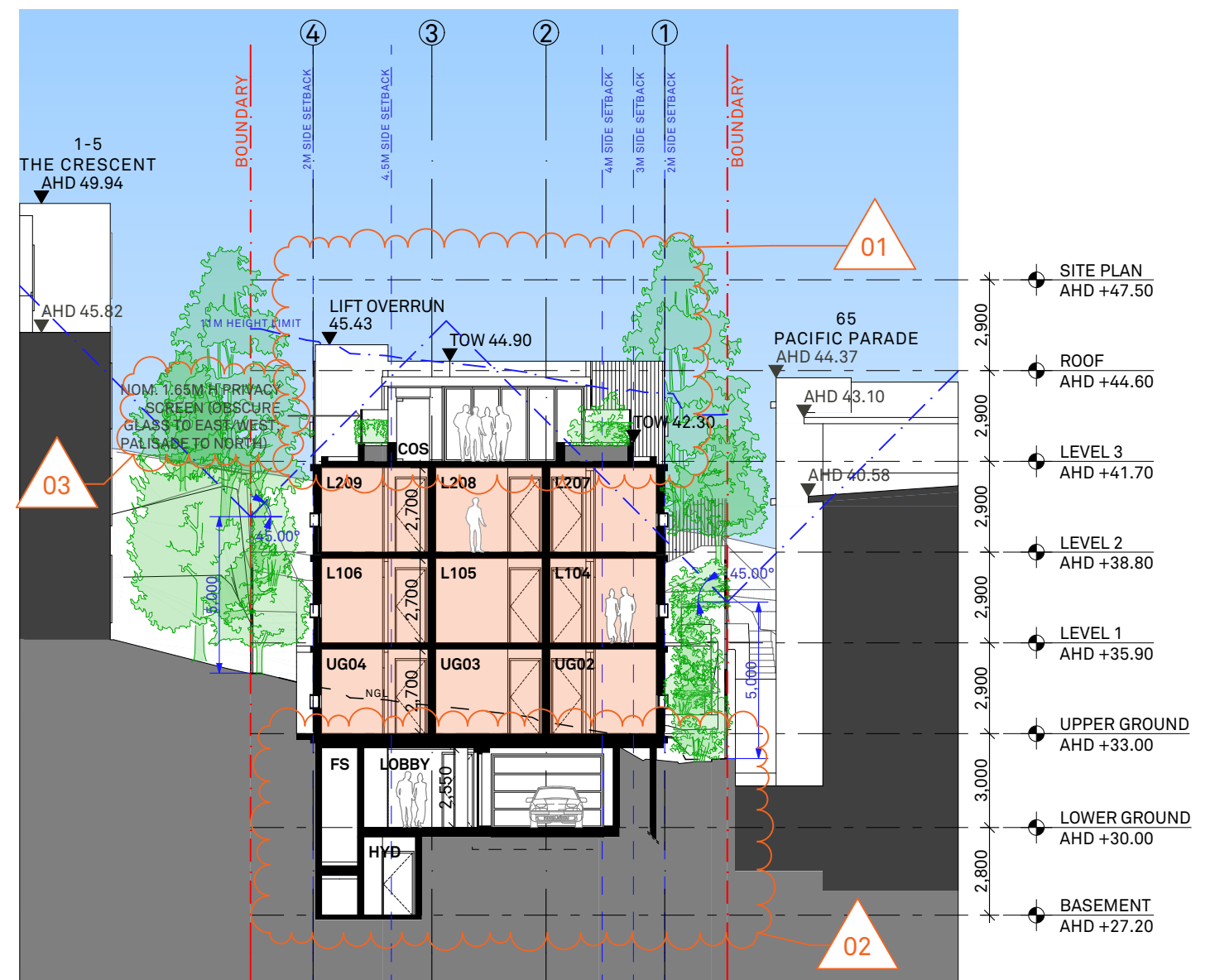
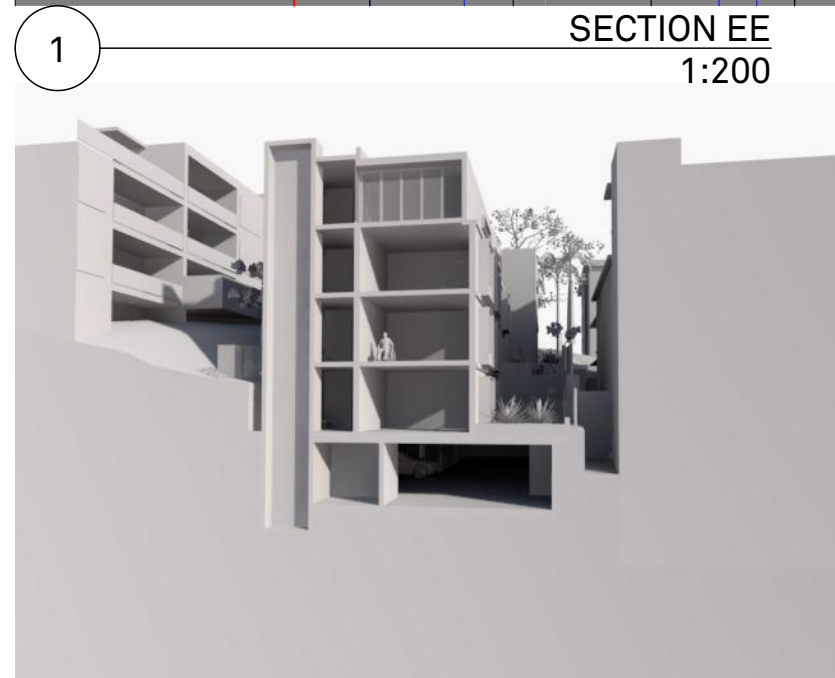
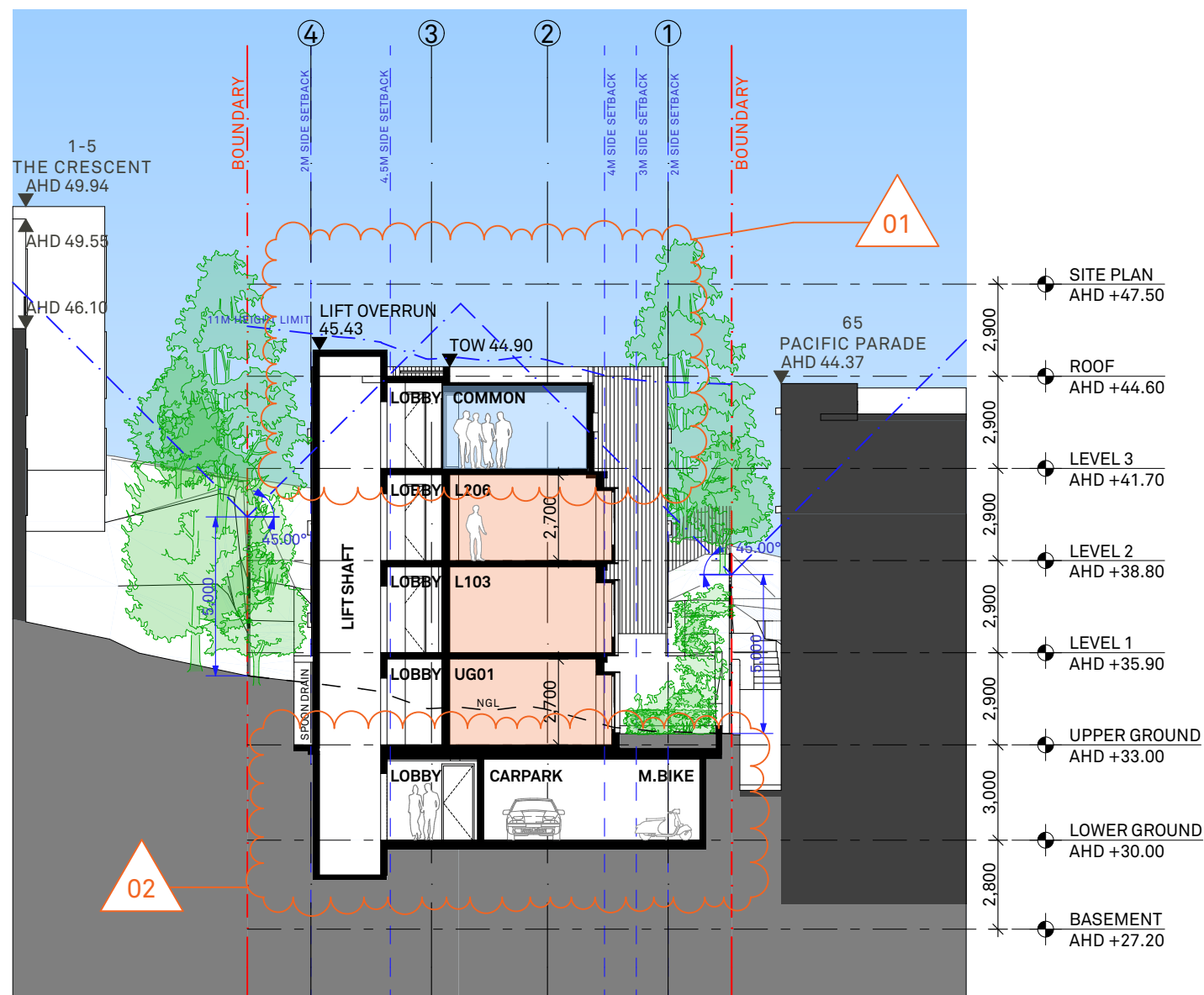
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STATUS	DRAWN BY	
DA	DB	
PROJECT No	DRAWING No	REV
2004A	DA-302	02

APPROVED	NORTH
GM	
DRAWN BY	
DB	
DRAWING No	REV
DA-302	02

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LILYFIELD NSW 2040
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The logo for Benson McCormack Architecture features the firm's name in a bold, black, sans-serif font, stacked in three lines: "BENSON", "McCORMACK", and "ARCHITECTURE". To the left of the text is a graphic element consisting of several thin, orange lines that intersect to form a series of overlapping triangles and polygons, creating a dynamic, geometric pattern.



SUMMARY OF CHANGES

- 01** DELETE LOFT BEDROOMS; REPLACE TYPE E ROOM WITH TYPE B. INCREASE SIZE OF COMMON ROOM AND COMMUNAL OPEN SPACE
- 02** REMOVE BASEMENT FLOOR, LOWER LEVEL COMMON ROOM (LWR GRD); INSTALL CAR STACKERS
- 03** PRIVACY SCREEN TO COMMUNAL OPEN SPACE

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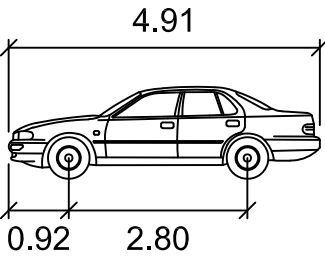
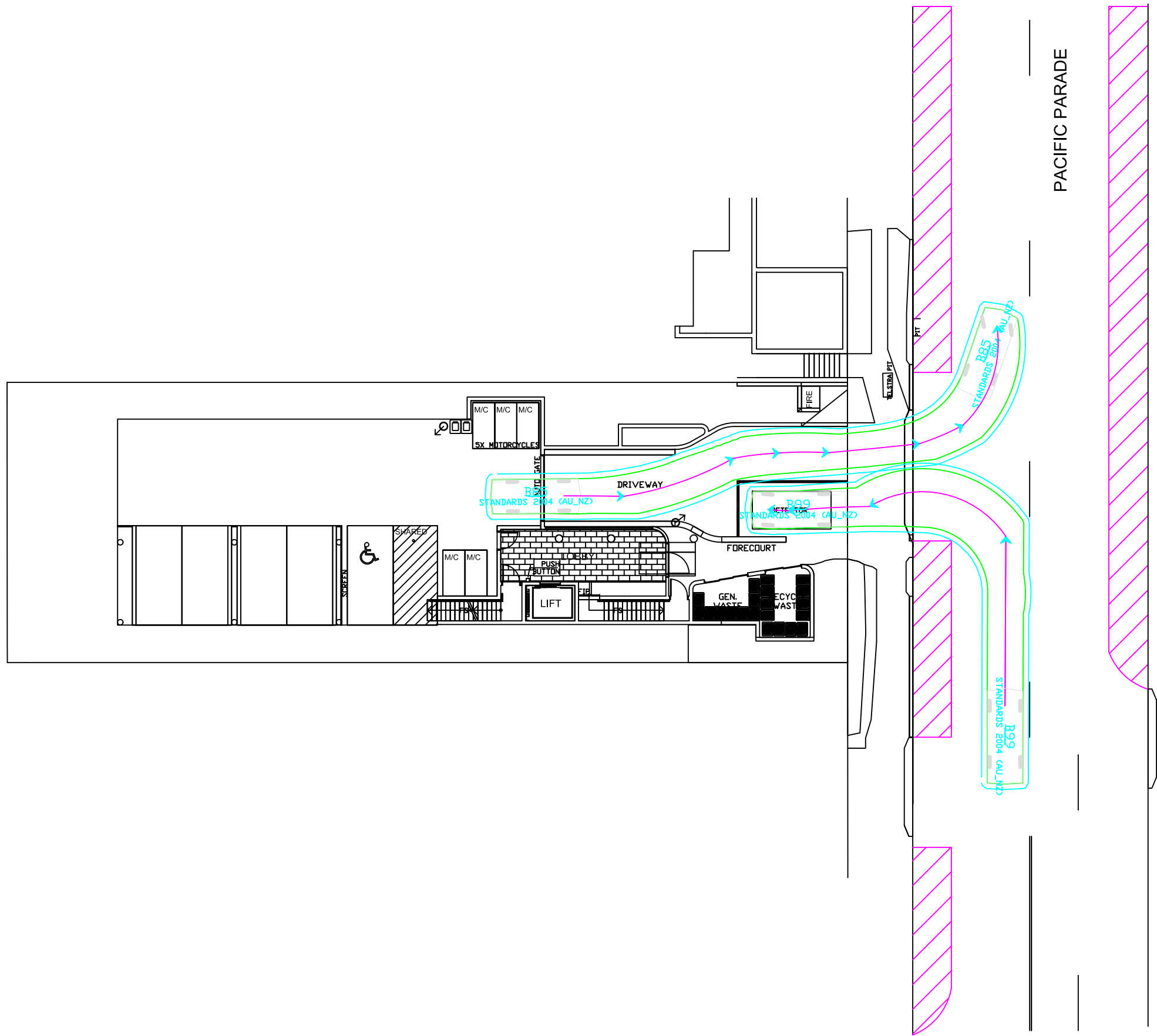
ALL WORKS TO COMPLY WITH THE BUILDING CODE OF AUSTRALIA(BCA) 2014 + AUSTRALIAN STANDARDS (AS) ** DIAL BEFORE YOU DIG**

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REVISION		
Rev	Date	Description
01	25/11/2020	
02	29/04/2021	DA ISSUE 02

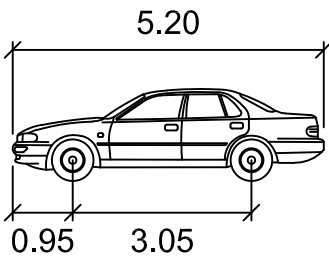
LEGEND		POS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
A/C	Air Conditioning Unit	D	Dining	GBR	Garbage Room	R	Robe
ACC	Accessible	DRY	Dryer	GBX	Garbage Exhaust	RWT	Rainwater Tank
ADP	Adaptable	GFA	Gross Floor Area	GFM	Gas Meter	SCN	Screen
AHD	Aust. Height Datum	DW	Dishwasher	HL	Hydraulic Services	ST	Storage
B	Basement	FEX	Fridge	LY	Laundry	SD	Study
BAL	Balustrade	F	Fire extinguisher	M	Meter Room	SFP	Stormwater Pit
BALC	Balcony	FFL	Finish floor level	MC	Motorcycle Parking	SFL	Stormwater
BED	Bedroom	FNL	Fence	MSB	Main Switch Board	STP	Structural floor level
BT	Bathroom	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
CL	Cladding	ONS	Onsite	OSD	Onsite Detention Tank	TOP	Top of Wall
COMM	Common Room	GBA	Gross Building Area	PABTY	Patio	VIS	Visitor Parking

APPENDIX 2



B85

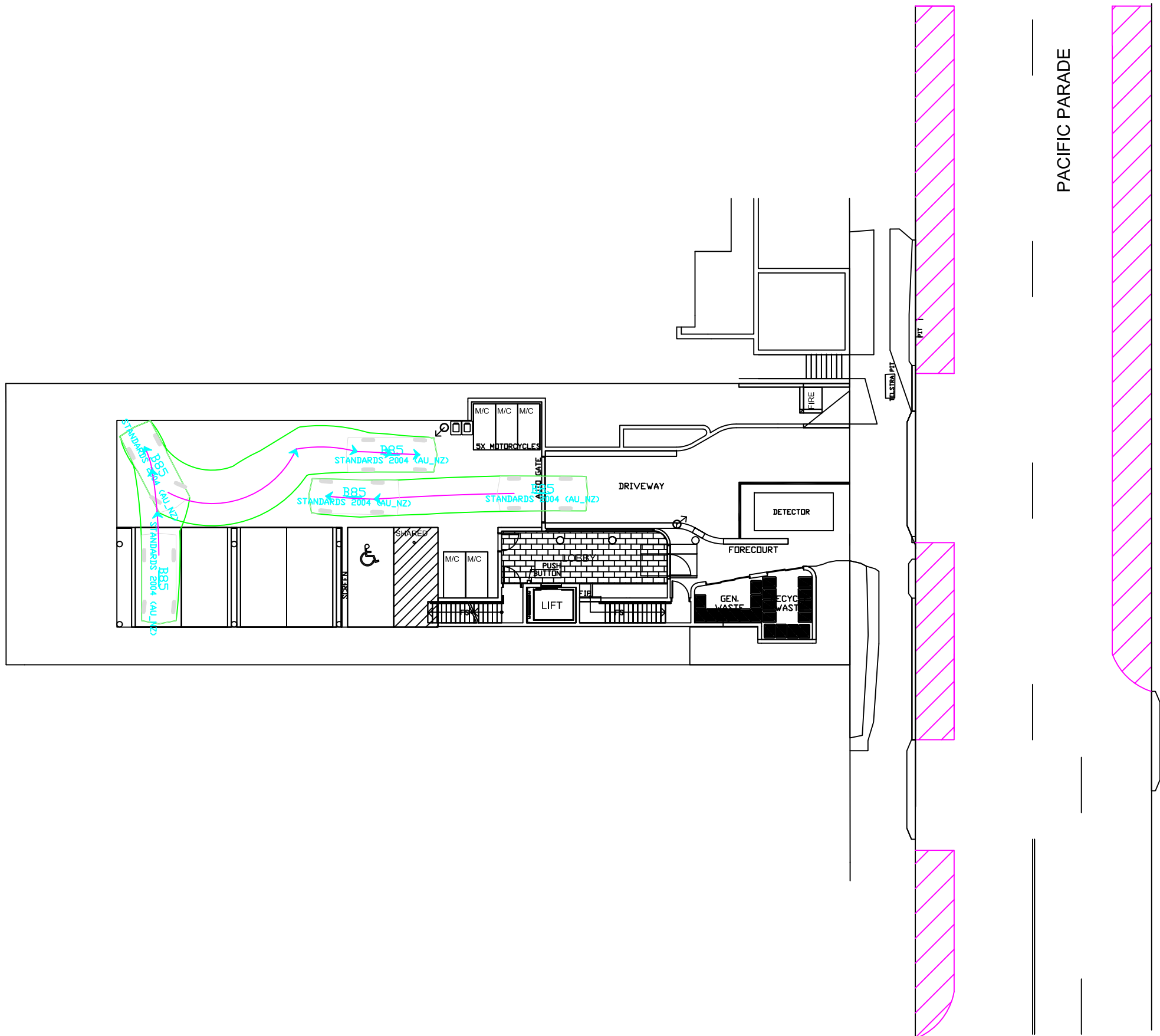
	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- MANOEUVRING CLEARANCE (300mm)
- POTENTIAL KERB-SIDE PARKING



B85

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

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- POTENTIAL KERB-SIDE PARKING



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PLANNING

TRAFFIC, PARKING & TRANSPORT CONSULTANTS

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EMAIL: info@stanburytraffic.com.au
WEBSITE: www.stanburytraffic.com.au

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STANBURY TRAFFIC PLANNING
PASSENGER VEHICLE SWEEP PATHS
INTERNAL PARKING SPACE AND PASSING MOVEMENTS
PROPOSED CO-LIVING DEVELOPMENT
67 PACIFIC PARADE, DEE WHY

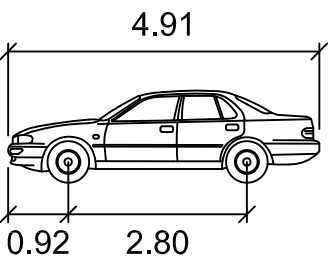
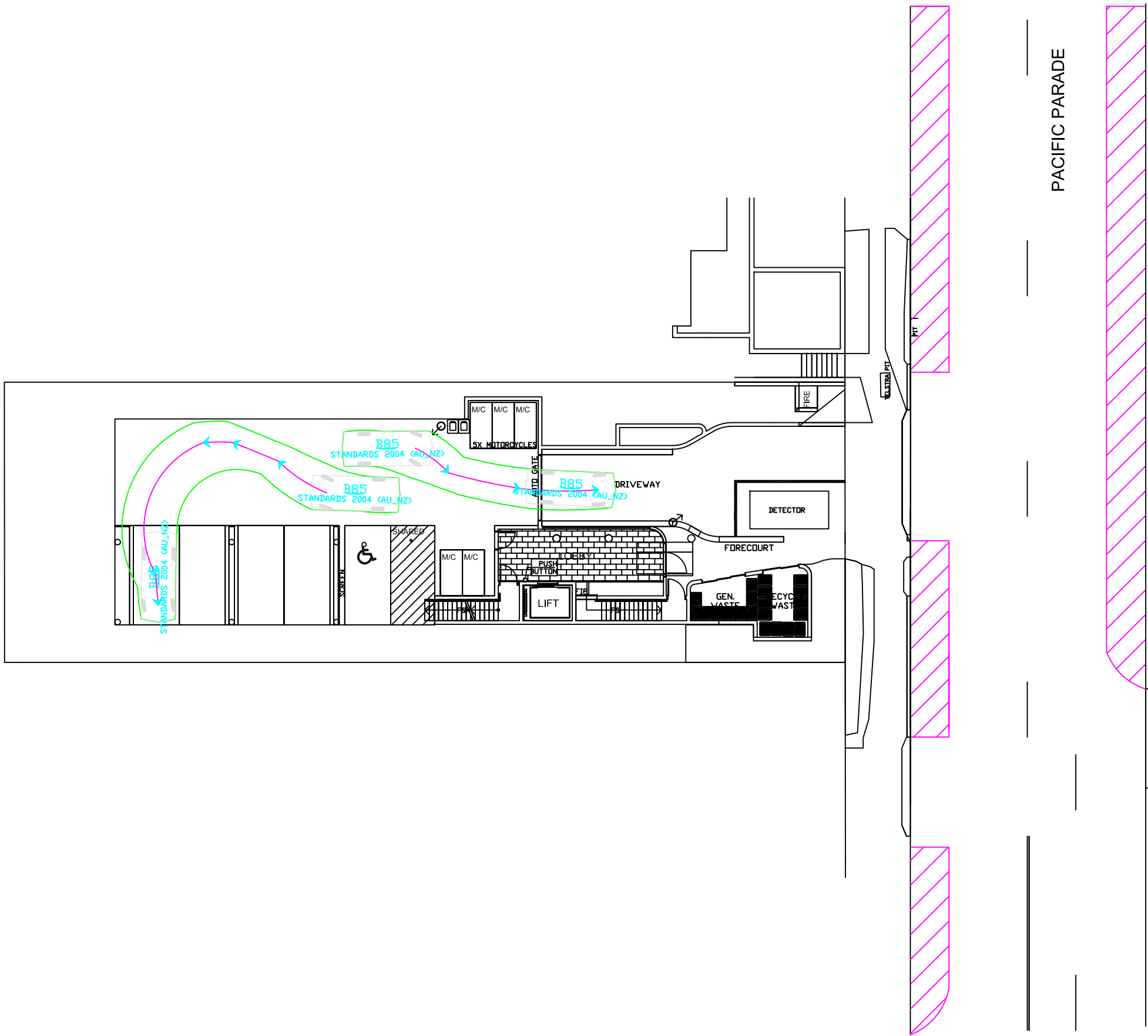
SCALE: 1:250 AT A3

FILE: 20-176

DATE: 29/04/2021

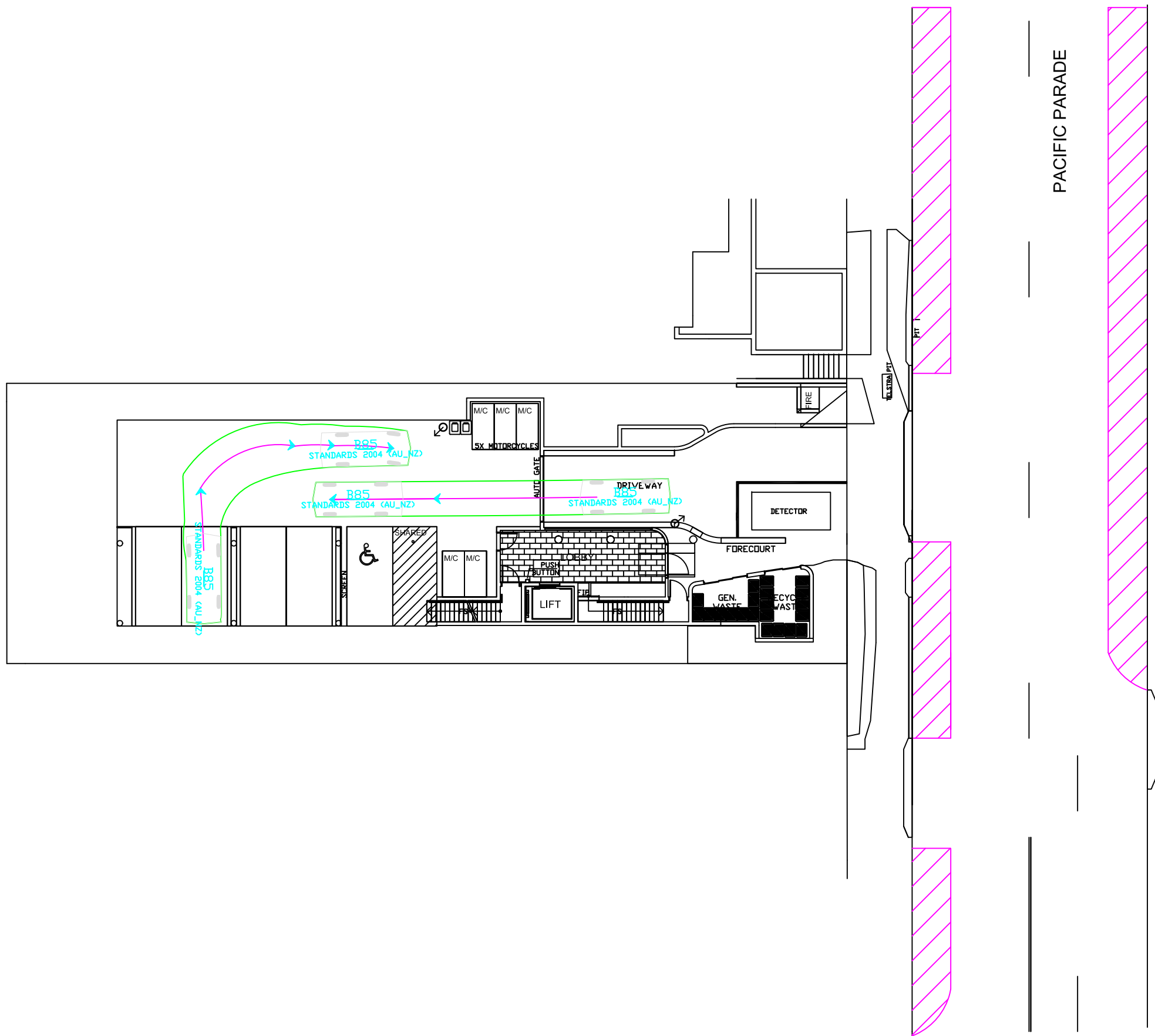
SUPERSEDES SHEET/ISSUE -

ISSUE
A
SHEET
2



B85	
	metres
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



B85

	metres
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



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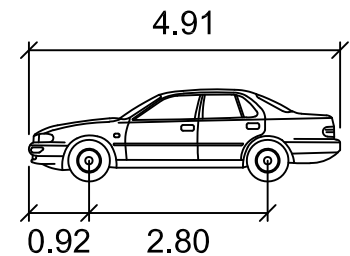
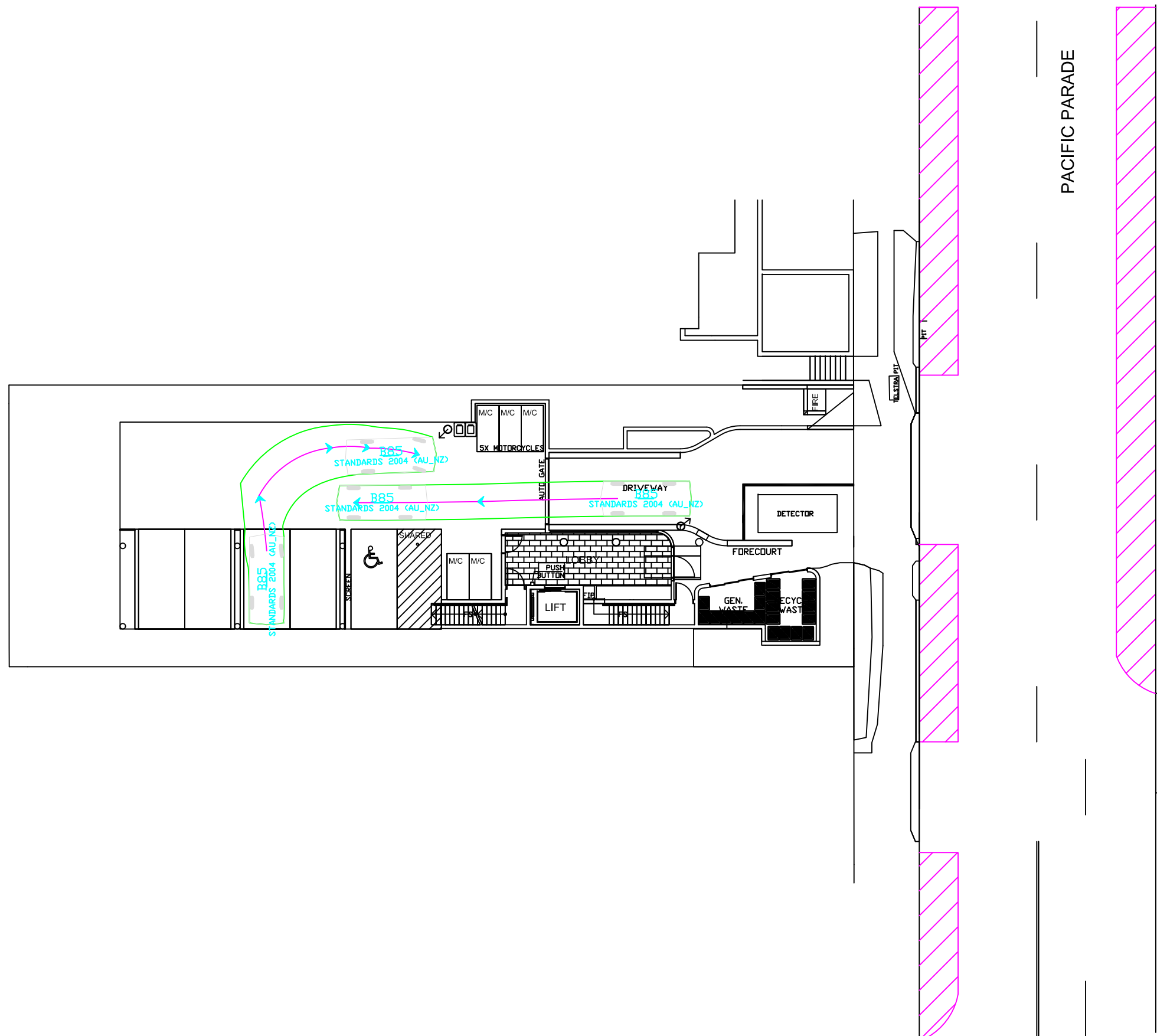
SCALE: 1:250 AT A3

FILE: 20-176

DATE: 29/04/2021

SUPERSEDES SHEET/ISSUE -

ISSUE
A
SHEET
4



B85

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

LEGEND

- VEHICLE BODY PATH (INCLUDING OVERHANG)
- POTENTIAL KERB-SIDE PARKING



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PASSENGER VEHICLE SWEEP PATHS
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PROPOSED CO-LIVING DEVELOPMENT
67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3

FILE: 20-176

DATE: 29/04/2021

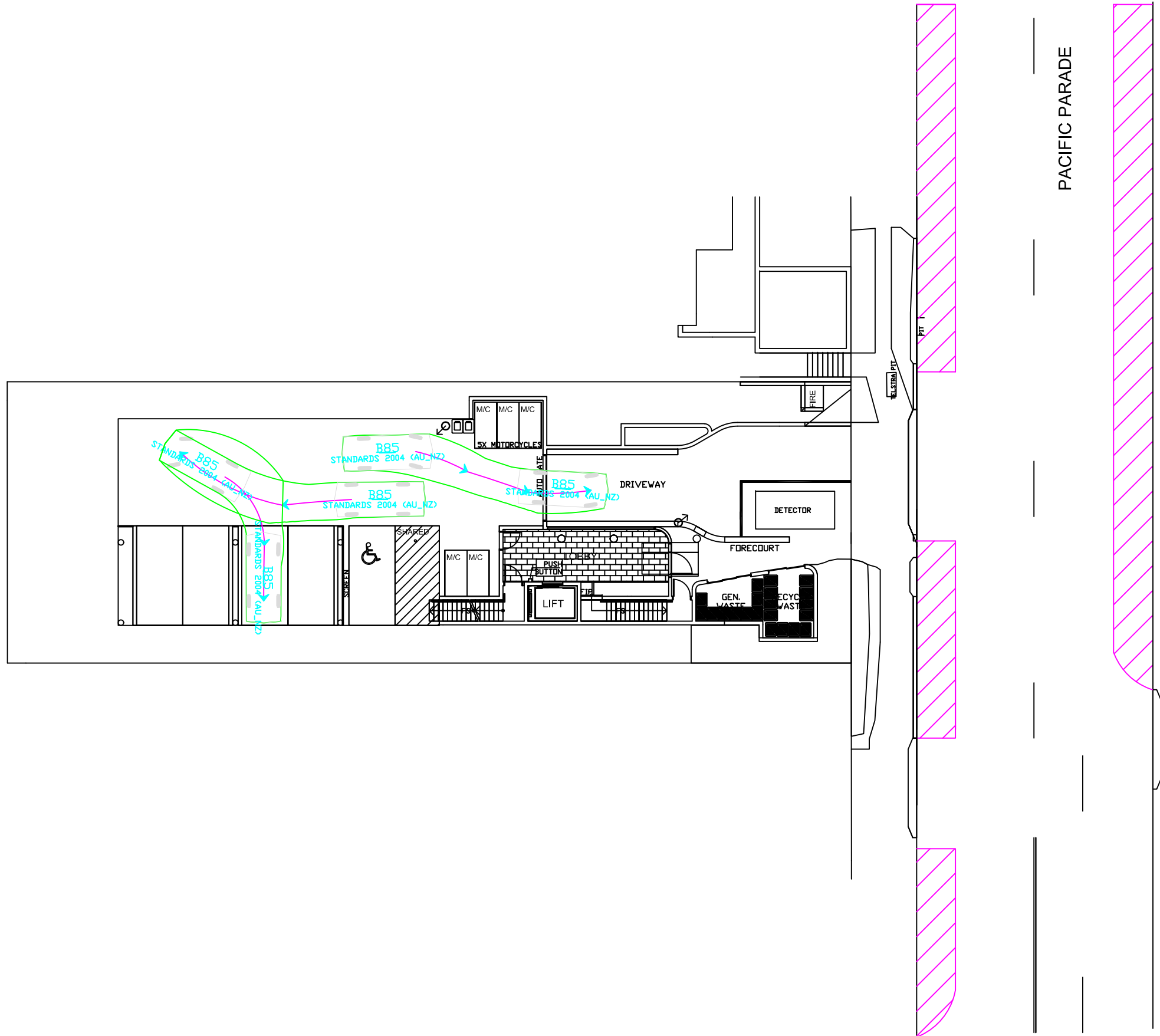
SUPERSEDES
SHEET/ISSUE -

ISSUE

A

SHEET

6



B85

	metres
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



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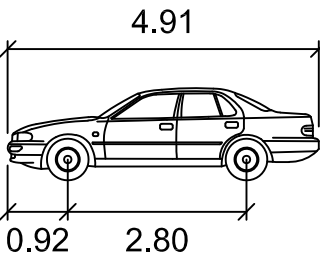
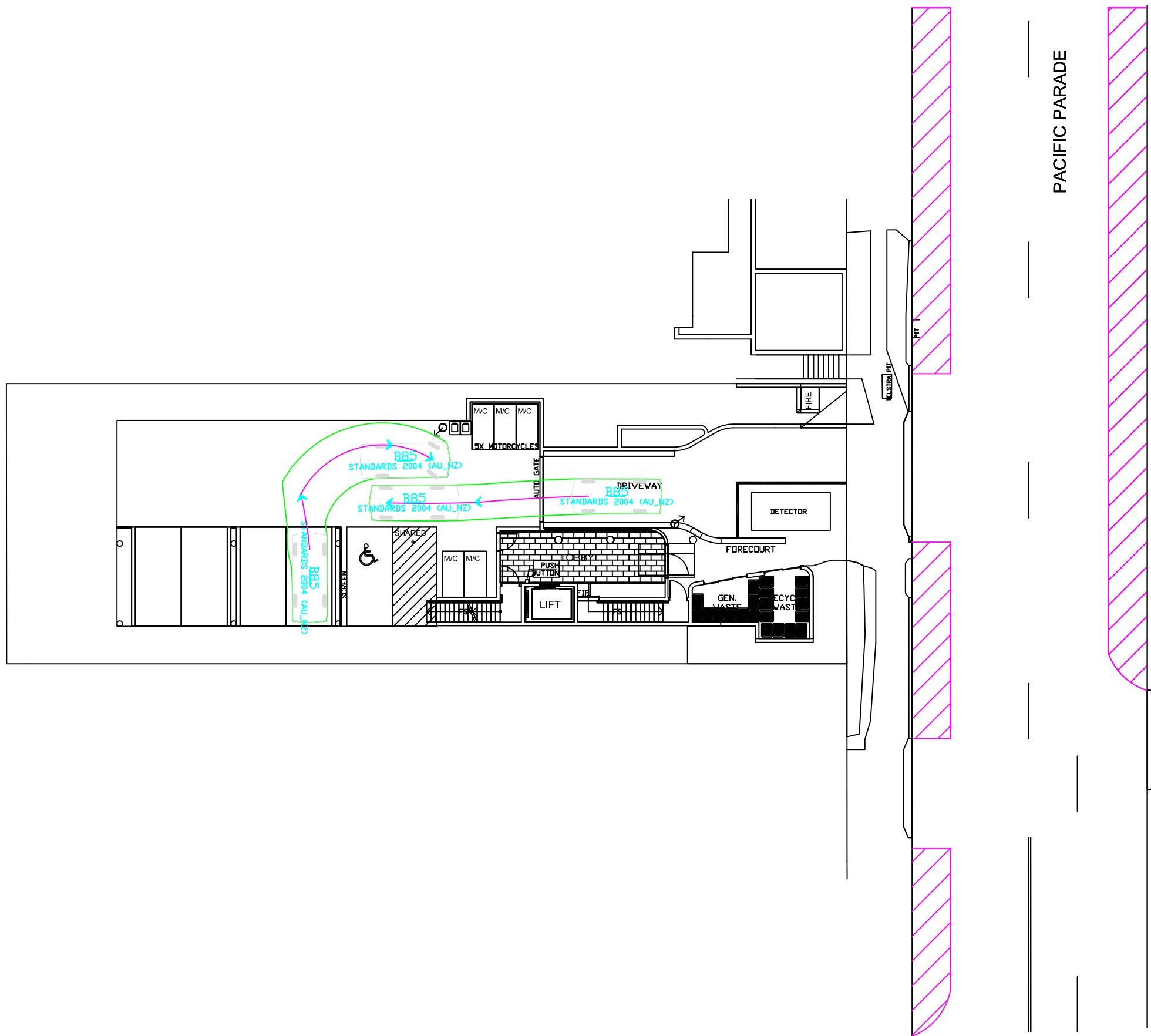
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FILE: 20-176

DATE: 29/04/2021

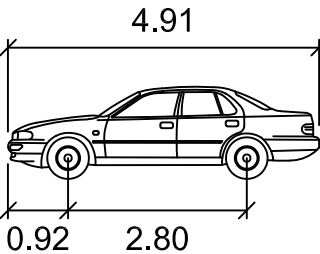
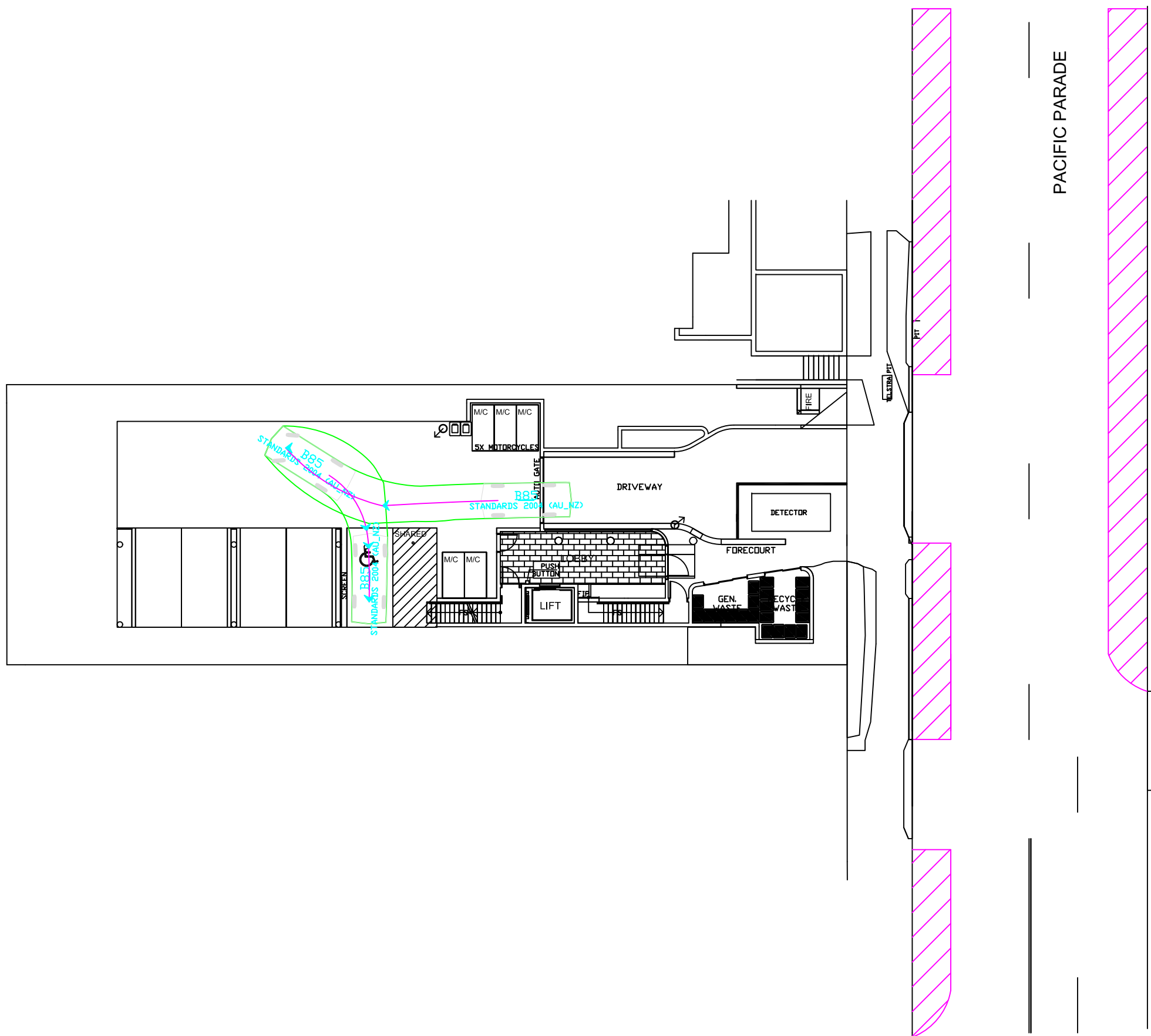
SUPERSEDES
SHEET/ISSUE -

ISSUE
A
SHEET
7



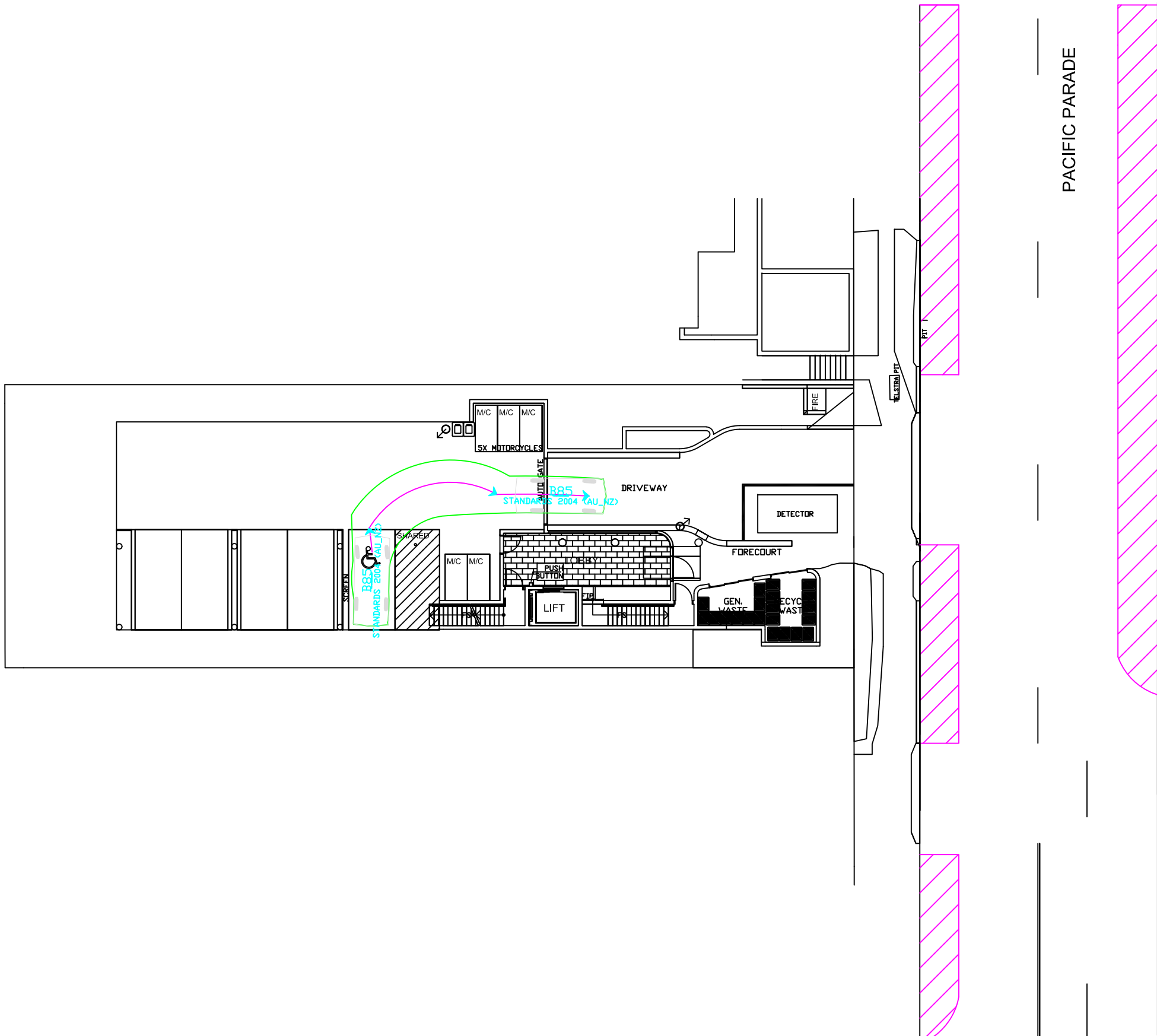
B85	
	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND	
	VEHICLE BODY PATH (INCLUDING OVERHANG)
	POTENTIAL KERB-SIDE PARKING



B85		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



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



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INTERNAL PARKING SPACE AND PASSING MOVEMENTS
PROPOSED CO-LIVING DEVELOPMENT
67 PACIFIC PARADE, DEE WHY

SCALE: 1:250 AT A3

FILE: 20-176

DATE: 29/04/2021

SUPERSEDES
SHEET/ISSUE -

ISSUE

A

SHEET

11

APPENDIX 3

Single unit = 3 cars
Double unit = 6 cars

Suitable for condominium
and office buildings.
For permanent use only!*

* In case of short time user
- only possible on upper platform
and only if technically adjusted,
ask WÖHR!
Or with attendant or valet parking all
levels are possible for short time user.

All platforms are in a horizontal
position to drive on.

The execution of the installation
can only be done with a roofing
provided from the customer
side or within a building.

Load per platform max. 2000 kg
(load per wheel max. 500 kg)

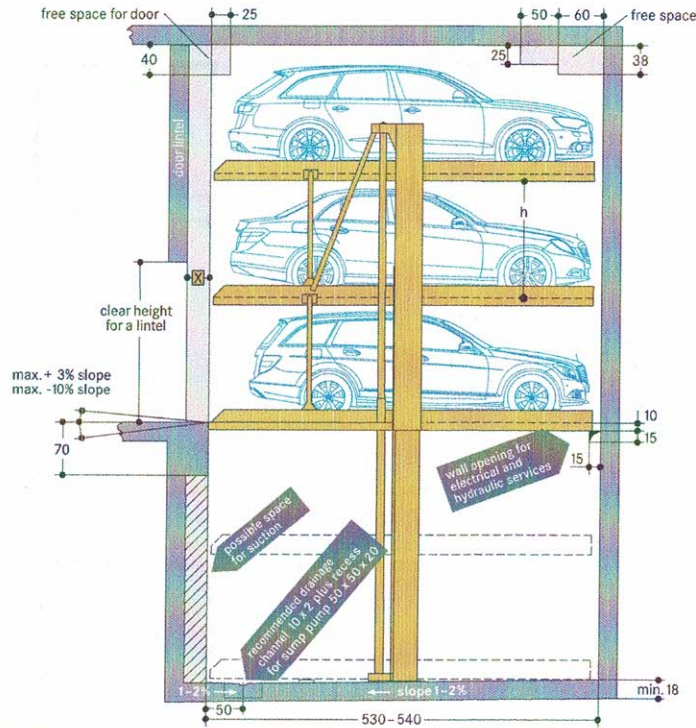
☒ = only applicable if
garage doors are
to be fitted

Roller doors:
☒ = 15

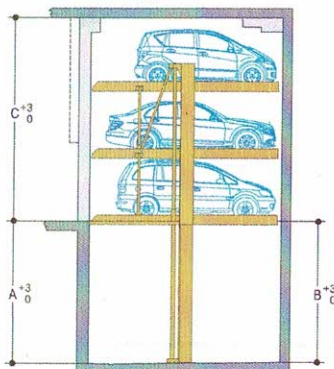
Sectional doors:
☒ = 25 (single doors)
☒ = 30 (double doors)

☒ = to be clarified with
door supplier

Dimensions in cm



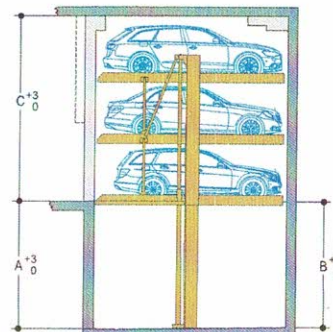
Standard type



	A	B	C	h	car height*
PARKLIFT 413-385/380:	385	380	555	180	175
PARKLIFT 413-375/370:	375	370	540	175	170

* upper level, entrance level and lower level for cars and station wagons

Compact type

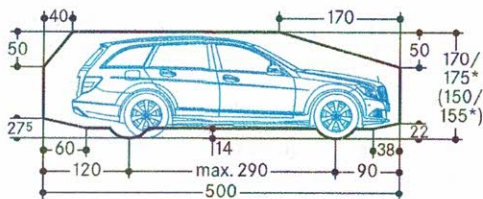


Please attend to
restricted car- and
platform distance
height!

	A	B	C	h	car height*
PARKLIFT 413-345/340:	345	340	495	160	155
PARKLIFT 413-335/330:	335	330	480	155	150

* upper level, entrance level and lower level for cars and station wagons

Clearance profile (car/station wagon)



*The total car height
includes roof rail
and antenna fixture
and must not exceed
the mentioned max.
height dimension.

Notes

1. Clear platform width of 250 cm for car widths of 190 cm (see width dimensions stated on page 2). For large touring sedans we recommend a clear platform width of at least 260-270 cm for single and 500 cm for double systems.
2. Due to recent increases in car length dimensions, and potential future developments, a pit length of 540 cm is advisable. This offers bigger safety distances also for future cars.
3. At the edge of the pit a 10cm wide, yellow-black marking according to ISO 3864 has to be provided by the purchaser (see "statics and construction requirements" on page 3).
4. It is not possible to have channels or undercuts and/or concrete haunches along the pit floor-to-wall joints. In the event that channels or undercuts are necessary, the system width needs to be reduced or the pit needs to be wider.
5. The manufacturer reserves the right to construction or model modifications and/or alterations. Furthermore, the right to any subsequent part modification and/or variations and amendments in procedures and standards due to technical and engineering progresses in the art or due to environmental regulation changes, are also hereby reserved.

■ Width dimensions · Underground garages

All dimensions shown are minimum. Construction tolerances must be taken into consideration.
All dimensions in cm.

The access to the Parklift is possible with max. 3% declination and max. 10% inclination.

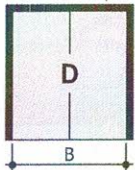
■ Wall to wall

Single unit (3 cars)



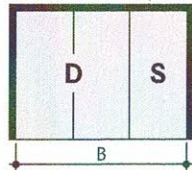
Space required B	gives clear platform width
270	230
280	240
290	250
300	260
310	270

Double unit (6 cars)



Space required B	gives clear platform width
500	460
520	480
540	500

Combinated unit (9 cars)



Space required B	gives clear platform width
765	460+230
795	480+240
825	500+250
835	500+260
845	500+270

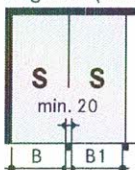
Wall openings required between partitions for electrical and hydraulic conduits must be provided where applicable. Wall openings may not be closed after installation.

The driving aisle width to be compliant with country regulations locally in force.

Other width combinations as well as smaller widths are possible.

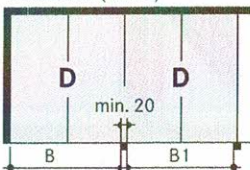
■ Pillars outside pit

Single unit (3 cars)



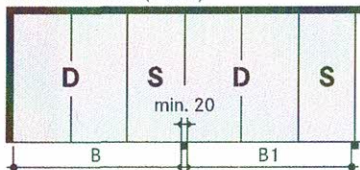
Space required wall-pillar B	Space required pillar-pillar B1	gives clear platform width
260	245	230
270	255	240
280	265	250
290	275	260
300	285	270

Double unit (6 cars)



Space required wall-pillar B	Space required pillar-pillar B1	gives clear platform width
490	475	460
510	495	480
530	515	500

Combinated unit (9 cars)



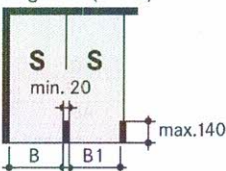
Space required wall-pillar B	Space required pillar-pillar B1	gives clear platform width
750	740	460+230
780	770	480+240
810	800	500+250
820	810	500+260
830	820	500+270

The driving aisle width to be compliant with country regulations locally in force.

Other width combinations as well as smaller widths are possible.

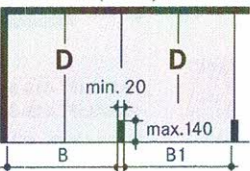
■ Pillars inside pit

Single unit (3 cars)



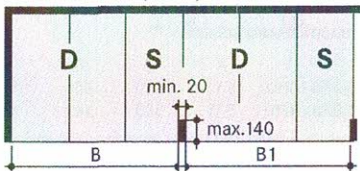
Space required wall-pillar B	Space required pillar-pillar B1	gives clear platform width
260	245	230
270	255	240
280	265	250
290	275	260
300	285	270

Double unit (6 cars)



Space required wall-pillar B	Space required pillar-pillar B1	gives clear platform width
490	475	460
510	495	480
530	515	500

Combinated unit (9 cars)



Space required wall-pillar B	Space required pillar-pillar B1	gives clear platform width
750	740	460+230
780	770	480+240
810	800	500+250
820	810	500+260
830	820	500+270

The driving aisle width to be compliant with country regulations locally in force.

Other width combinations as well as smaller widths are possible.

■ Important notes

If maximum platform widths are not installed, difficulties might arise when entering or exiting the cars on the parking units. This depends on the car type, the access and the individual driving behaviour.

For parking slots at edges or between walls, we recommend going for our maximum platform widths.

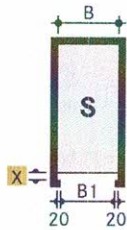
For cars wider than 190 cm, platform width of 270/500 cm is required to enter and exit the car at drivers-side.

Width dimensions · Garages with doors

All dimensions shown are minimum. Construction tolerances must be taken into consideration.
All dimensions in cm.

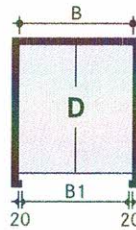
The access to the Parklift is possible with max. 3% declination and max. 10% inclination.

Single garages (3 cars)



Space required	B	B1	gives clear platform width
270	230	230	
280	240	240	
290	250	250	
300	260	260	
310	270	270	

Double garages (6 v)



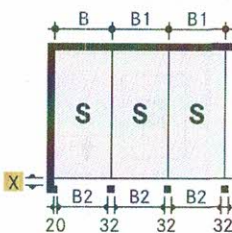
Space required	B	B1	gives clear platform width
500	460	460	
520	480	480	
540	500	500	

x = for doors. See page 1

Wall openings required between partitions for electrical and hydraulic conduits must be provided where applicable. Wall openings may not be closed after installation.

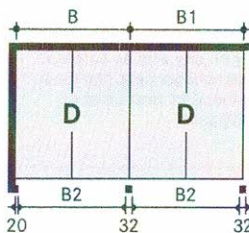
The driving aisle width to be compliant with country regulations locally in force.

Serial garages with single doors (3 cars)



Space required	B	B1	B2	gives clear platform width
266	262	230	230	
276	272	240	240	
286	282	250	250	
296	292	260	260	
306	302	270	270	

Serial garages with double doors (6 cars)

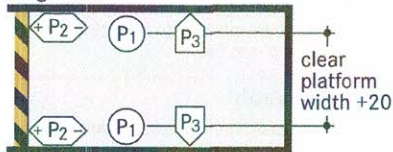


Space required	B	B1	B2	gives clear platform width
496	492	460	460	
516	512	480	480	
536	532	500	500	

The driving aisle width to be compliant with country regulations locally in force.

Statics and construction requirements

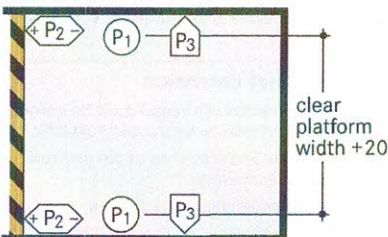
Single unit



Marking according to ISO 3864

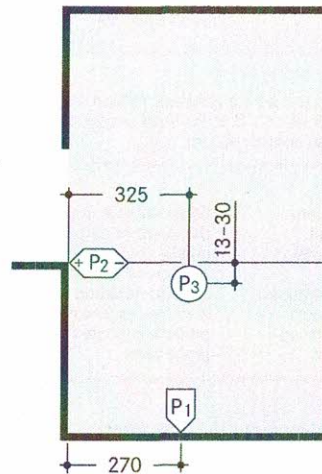
$$\begin{aligned} P1 &= +60 \text{ kN} * \\ P2 &= +9 \text{ kN} \\ P3 &= +3 \text{ kN} \end{aligned}$$

Double unit



$$\begin{aligned} P1 &= +100 \text{ kN} * \\ P2 &= +12 \text{ kN} \\ P3 &= +3 \text{ kN} \end{aligned}$$

*all static loadings include the weight of the car



Bearing loads are transmitted to the pit floor by base plates of approximately 700 cm², fixed by heavy duty anchor bolts to a depth of approximately 10–12 cm. Base plate thickness min. 18 cm. Concrete quality according to the static requirements of the building, but for the dowel fastening we require a concrete quality of min. C20/25. When fixing to waterproof concrete floors chemical anchors are employed (to be advised by WÖHR).

The walls of the pit must be formed of concrete and must be perfectly flat and vertical without any protrusions.

The specified lengths to the support points are mean values. Please contact us for exact positions for any variations on the standard units.

Hydraulic power pack

The location of the hydraulic power pack is determined according to your plan – space requirements are as follows:

Dimensions in cm	1 single unit or 1 double unit	2–5 single units or 2–3 double units
Length:	100	200
Height:	140	140
Depth:	30	30

Electrical datas

Item	Performance	Quantity	Designation	Position	Frequency
1	by customer	1 unit	electric meter	in the feed cable	
2	by customer	1 unit	fuse or automatic circuit breaker 3 x 25 A slow blow acc. to DIN VDE 0100 p. 430	in the feed cable	1 per power pack
3	by customer	as locally required	acc. to local power supply regulations 3 Ph + N + PE*	feed cable to main switch	1 per power pack
4	by customer	each 10 m	equipotential bonding safety lead-out connection	corner pit floor/ rear wall	
5	by customer	1 unit	equipotential bonding safety compliant to the DIN EN 60204 standard	from the lead-out connection to the system	1 per Parklift
6	by customer	1 unit	marked main switch, lockable to prevent unauthorized switching on	above operating device	1 per power pack
7	by customer	10 m	PVC control cable with marked strands and protective conductor 5 x 2,5 ²	from main switch to hydraulic power pack	1 per power pack

Items 8–14 are included in WÖHR's scope of delivery unless otherwise specified in the offer/order.

* DIN VDE 0100 part 410 + 430 (not under permanent load) 3PH+N+PE (three-phase current) Note: Where a door is used to close the garage, the manufacturer of the door must be consulted before the electric cable is laid.

The electrical components supplied by the manufacturer must be connected in accordance with the appropriate wiring diagram and local regulations. German VDE electrical requirements must be adhered to, in order to validate the TÜV tested circuit.

The electrical supply to the power pack(s) must be provided prior to or during installation to

enable our fitters to complete their work satisfactorily and to check the correct functioning of the units.

In compliance with the DIN EN 60204 standard provisions, all systems must be connected directly on site with an earthed equipotential bonding. The lead-out connection must be at a 10 m distance!

Noise protection

Basis is the German DIN 4109 "Noise protection in buildings".

With the following conditions required 30 dB (A) in rooms can be provided:

- noise protection package from our accessory
- insulation figure of the construction of min. $R_w = 57$ dB
- walls which are bordering the parking systems must be done as single wall and deflection resistant with min. $m^2 = 300$ kg/m²

- solid ceiling above the parking systems with min. $m^2 = 400$ kg/m²

At differing constructional conditions additional sound absorbing measures are to be provided by the customer.

The best results are reached by separated sole plates from the construction.

Increased noise protection:

If increased noise protection must be provided planning has to be confirmed on a project basis by WÖHR.

Temperature

The installation is designed to operate between +5°C and +40°C. Atmospheric Humidity: 50% at +40°C. If the local circumstances differ from the above please contact WÖHR.

Drainage

We recommend the provision of a drainage channel at the front of the pit which can either incorporate a pump sump 50 x 50 x 20 cm, or a connection into the storm water sewerage system via a petrol/oil interceptor. If the pump sump is not

accessible for manual drainage, the client must provide a pump on site to empty the pump sump. To prevent any possibility of contamination of the ground-water we recommend that the pit floor is coated with an oil proof paint.

Conformity test

All our systems are checked according to EC machinery directive 2006/42/EC and EN 14010.

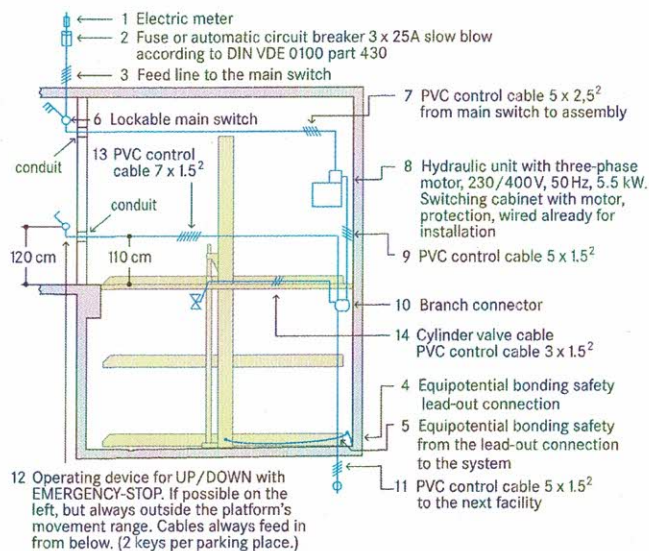
Illumination

Illumination has to be considered acc. to local requirements by client.

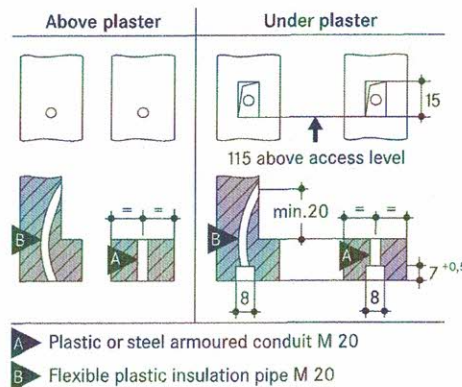
Free spaces

Special drawings for free spaces to accommodate air ducts or other pipes can be requested at WÖHR Agent!

Installation diagram



Recesses and conduits for rotary switches with rolling and sectional gates



Railings

The units need to be provided acc. EN ISO 13857 with safety railings if the gap between unit and wall exceeds 20 cm. If walkways are arranged directly to the side or behind the systems, railings have to be provided by client acc. to local requirements, height min. 200 cm – this is applicable during the construction phase too.

Parking place width

We recommend a clear platform width of at least 250 cm and/or of at least 500 cm for double systems.

Maintenance

WÖHR and our foreign partners have an assembly and customer network. Annual maintenance is performed at conclusion of a maintenance contract.

Protection against corrosion

Independent of a maintenance workings has to be carried out acc. to WÖHR Cleaning and Maintenance Instruction regularly.

Clean up galvanized parts and platforms of dirt and road salt as well as other pollution (corrosion danger)!

Pit must be always ventilated and deaired well.

Dimensions

All dimensions shown are minimum. Construction tolerances must be taken into consideration. All dimensions in cm.

Fire safety

Each and every fire safety requirement and all possible mandatory item(s) and equipment(s) (fire extinguishing systems and fire alarm systems, etc.) are to be provided by the customer.