STANBURY
TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

PARKING & TRAFFIC IMPACT ASSESSMENT

PROPOSED CHILD CARE CENTRE DEVELOPMENT
78 – 80A BENAROON ROAD
LAKEMBA

PREPARED FOR ALI TALEB
OUR REF: 22-217-2

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401/380 Harris Street,
Pyrmont NSW 2009

info@stanburytraffic.com.au
www.stanburytraffic.com.au

ph : 02 8971 8314
abn : 23 613 111 916

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1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by Ali Taleb to prepare a Parking & Traffic Impact Assessment to accompany a Development Application to be lodged with Canterbury Bankstown Council. The Development Application seeks consent for the demolition of two existing residences at 78 – 80A Benaroon Road, Lakemba (hereafter referred to as the 'subject site'), and the construction of a purpose-built child care centre.

The child care centre is proposed to be capable of accommodating up to 72 children and be serviced by a single level of basement parking, providing a total of 13 off-street car parking spaces. Vehicular connectivity between Benaroon Road and the basement parking area is proposed via a combined ingress / egress driveway situated approximately within the south-eastern corner of the site.

The aim of this assessment is to investigate and report upon the potential parking and traffic 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, internal circulation and servicing arrangements with reference to relevant Council, Transport for New South Wales (TfNSW) and Australian Standard 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 projected 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 Environment Planning Policy (Transport & Infrastructure) 2021.

1.2 Reference Documents

Reference is made to the following documents throughout this report:

- Australian Standard for *Parking Facilities Part 1: Off-Street Car Parking* (AS2890.1:2004);
- Australian Standard for *Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities* (AS2890.2:2018);
- Australian Standard for *Parking Facilities Part 3: Bicycle Parking (*AS2890.3:2015);
- Australian Standard for *Parking Facilities Part 6: Off-Street Parking for People with Disabilities* (AS2890.6:2009);
- NSW Government's *Children (Education and Care Services) Supplementary Provisions Regulation 2012*;
- NSW Government's *Child Care Planning Guideline*;
- Canterbury Bankstown Council's *Canterbury Development Control Plan 2012* (CDCP 2012); and
- TfNSW's *Guide to Traffic Generating Developments*.

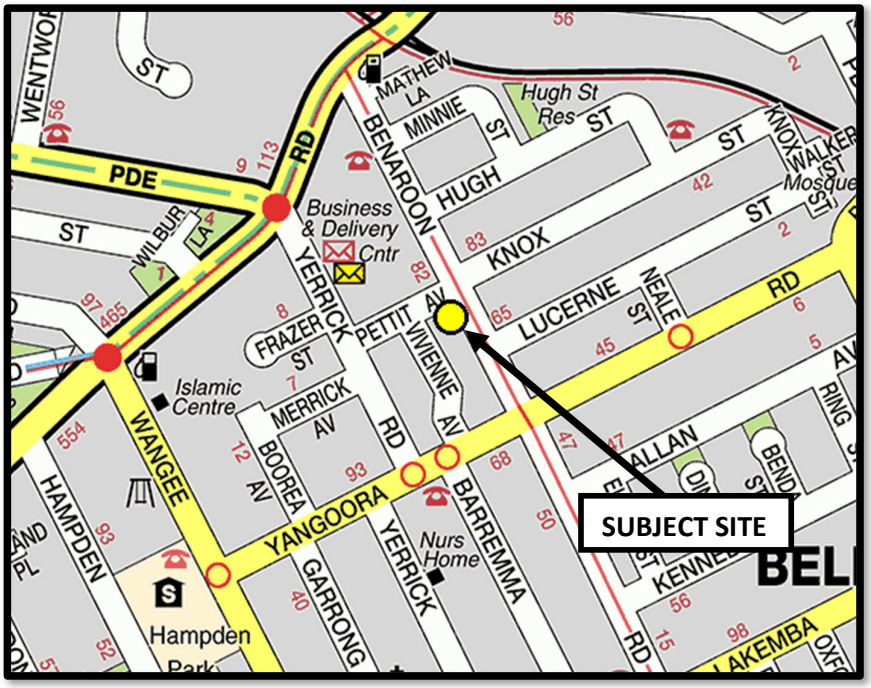
Architectural plans have been prepared by ArtMade Architects and should be read in conjunction with this report, reduced copies of which are included as **Appendix 1** for reference.

1.3 Site Details

1.3.1 Site Location

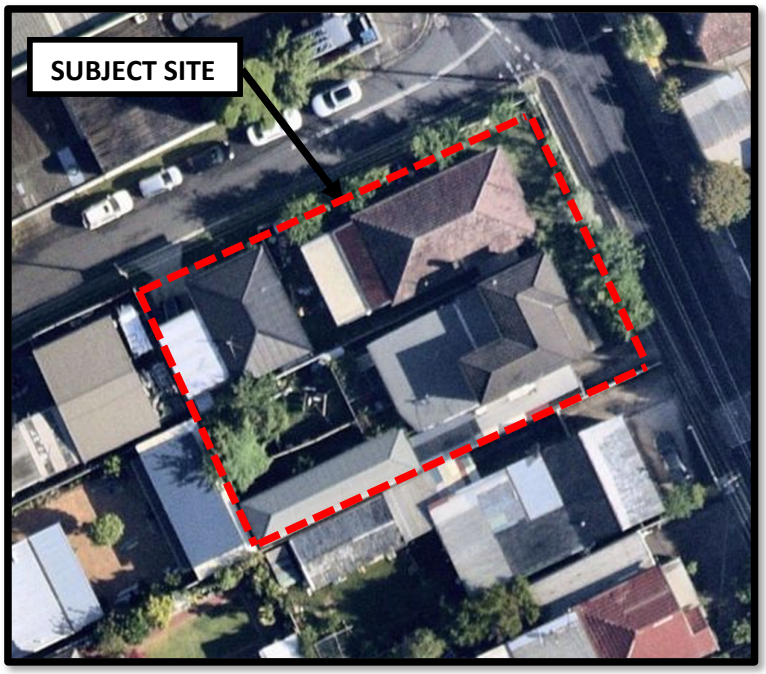
The subject site is located on the south-western corner of the junction of Benaroon Road and Pettit Avenue, Lakemba. The site location is illustrated overleaf within a local and aerial context by **Figure 1** and **Figure 2**, respectively.

FIGURE 1
SITE LOCATION WITHIN A LOCAL CONTEXT



Source: UBD Australian City Streets – Version 8

FIGURE 2
SITE LOCATION WITHIN AN AERIAL CONTEXT



Source: Nearmap (image date: 20/11/2022)

1.3.2 Site Description

The subject site provides a real property description of Lot 1 and 2 within DP 12508, providing a street address of 78 – 80A Benaroon Road, Lakemba. The site forms a rectangular shaped parcel of land providing an approximate frontage of 24.7m to Benaroon Road and 39m to Pettit Avenue, providing a total site area in the order of 985.2m^2.

1.3.3 Existing Site Use

The subject site currently contains two detached residential dwellings and associated outbuildings. Vehicular connectivity to 78 Benaroon Road is provided via a combined ingress / egress driveway connecting with Benaroon Road, situated in the south-eastern corner of the site. Vehicular connectivity to 80A Benaroon Road is provided via a combined ingress / egress driveway connecting with Pettit Avenue, situated in the north-western corner of the site.

1.3.4 Surrounding Uses

The subject site is surrounded by the following land-uses:

- A series of commercial and industrial buildings occupy land to the north of the site, on the opposite side of Pettit Avenue;
- The site is immediately adjoined by residential dwellings to the west and south, similar to that which currently occupies the subject site;
- Similar residential dwellings occupy land to the east and opposite side of Benaroon Road; and
- T2 Railway line is situated approximately 450m to the north of the site.

2. PROPOSED DEVELOPMENT

2.1 Built Form

The Development Application seeks consent for the demolition of the existing detached residential dwellings and the construction of a purpose-built child care centre capable of accommodating up to 72 children.

The child care centre is proposed to be contained within a two-storey building occupying the majority of the site, above one level of basement parking containing a total of 13 passenger vehicle parking spaces and eight bicycle parking spaces.

The ground floor of the child care centre building is proposed to contain two separate indoor playrooms, one large outdoor play areas, an entrance lobby / reception area, a kitchen, an office room, a staff room and ancillary amenities.

The first floor of the child care centre building is proposed to contain three indoor playrooms, a large outdoor play area and ancillary amenities.

Vehicular access between Benaroon Road and the basement parking area is provided via a combined ingress / egress driveway situated within the south-eastern corner of the site.

Pedestrian access is proposed via a pedestrian path connecting with the western Benaroon Road footpath, to the north and separate from the abovementioned vehicular access driveways.

2.2 Proposed Operation

The child care centre is proposed to accommodate up to 72 children as follows:

- 12 children aged between zero and two years of age;
- 20 children aged between two and three years of age; and
- 40 children aged between three and five years of age.

The centre is required to employ a minimum of 11 teaching staff in accordance with the current NSW Government's *Children (Education and Care Services) Supplementary Provisions Regulation 2012* requirements, as follows:

- Three staff associated with the children aged between zero and two years of age;
- Four staff associated with the children aged between two and three years of age; and
- Four staff associated with the children aged between three and five years of age.

Further to the above, the centre is expected to accommodate a centre manager and a cook, resulting in a total of 13 staff being on-site at any one time.

The centre is proposed to operate between 7:00am and 6:00pm Monday to Friday.

3. SITE ACCESS & INTERNAL CIRCULATION

3.1 Access Arrangements

3.1.1 Vehicular Access

Vehicular access to the basement parking area is proposed to be facilitated via a 6.1m wide combined ingress / egress driveway connecting with Benaroon Road approximately within the south-eastern 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 local (non-arterial) functional order of Benaroon Road, the proposed child care centre land-use and the passenger vehicle parking provision the driveway is to service of less than 25 spaces. The proposed 6.1m wide combined ingress / egress driveway 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, copies of which are included as **Appendix 2**. These swept paths also indicate that all vehicles are able to enter and exit the site in a forward direction.

The safety and efficiency of access / egress movements are also proposed to be assisted by the following:

- The provision of a relatively level (1:20) grade within the first 6m of the egress driveway inside the property boundary;
- No obstructions to visibility adjacent to the egress (northern) side of the driveway facilitating appropriate sight distance between exiting motorists and potential pedestrians travelling along the western Benaroon Road footpath; and
- The reasonably consistent horizontal and vertical alignment of Benaroon Road in the immediate vicinity of the subject site resulting in satisfactory sight distance between the frontage road and the proposed site access driveways, based on the prevailing 50km/h speed limit.

3.1.1.1 Recommended No Stopping Restriction

To ensure that vehicles are able to exit the site in a safe and efficient manner it is recommended that a 'No-Stopping' parking restrictions are applied western Benaroon Road for the full frontage of the site. The swept path plans contained within **Appendix 2** assume that these parking restrictions are applied.

Assessment of the impact of the recommended parking restrictions on public parking supply and demand is provided in Sections 4 and 5 of this report.

3.1.2 External Pedestrian Access

Pedestrian access is proposed via a pedestrian path connecting with the western Benaroon Road footpath, separate and to the north of the abovementioned vehicular access driveways and providing access to the entry foyer of the child care centre building.

3.2 Passenger Vehicle Parking

The following subsections describe the relevant considerations with respect to passenger vehicle parking provision.

3.2.1 Parking Provision

The development is proposed to be serviced by 13 on-site passenger vehicle parking spaces (including one disabled spaces).

NSW Government's *Child Care Planning Guideline* specifies that parking should be provided in accordance with CDCP 2012, which provides the following minimum vehicular parking rates for child care centres:

1 space per 2 staff
Minimum 2 spaces per child care centre

Further to the above, CDCP 2012 specifies the following:

Suitably signposted parking is to be provided on the street immediately in front of the centre, and on the same side of the street as the centre, for the dropping off and picking up of children. This may require the identification and signposting of 10 minute time restricted parking for 2 hours during peak periods (7:00-9:00am and 4:00-6:00pm).

The number of drop off/pick up spaces is to be in accordance with the following table

Number of children	*Number of drop off/pick up spaces to be provided*
Up to 16	*1*
17-30	*2*
31-40	*3*

Application of the abovementioned CDCP 2012 staff parking rate to the proposed centre staffing requirement of 13 employees results in a minimum passenger vehicle parking requirement of 6.5 (adopt 7) parking spaces.

Further, extrapolation of the abovementioned CDCP 2012 drop off/pick up parking requirements to the proposed centre capacity of 72 children results in a requirement for 5.4 (adopt 6) parking spaces, being calculated as 72 / 40 multiplied by 3.

3.2.2 Passenger Vehicle Parking Allocation

The on-site passenger vehicle parking spaces are proposed to be allocated as follows:

- 7 staff parking spaces; and
- 6 visitor / parent / guardian parking spaces (including one disabled spaces).

The following sub-sections of this report provide assessment of the suitability or otherwise of the proposed parking provision and allocation.

3.2.2.1 Staff Parking

It has been presented that the centre is understood to be required to accommodate up to 13 staff on-site any one time. The provision of 7 parking spaces, representing more than one space per two staff members, is compliant with the relevant CDCP 2012 requirements and accordingly, is considered to be satisfactory.

3.2.2.2 Parent / Guardian Parking

To undertake an assessment of the suitability of the proposed visitor parking provision of six spaces, reference is made to the TfNSW's *Guide to Traffic Generating Developments*. This publication specifies that the average length of stay of parents / guardians when setting-down / picking-up children at child care centres is 6.8 minutes. On the basis of all children being set-down and picked-up with an even distribution over a period of two hours (say, 7:00am – 9:00am and 4:00pm – 6:00pm), the arrival rate of parents / guardians will be one parent / guardian every 1.7 minutes (120 minutes / 72 children).

The above length of stay and arrival rate results in an average of 4 (6.8/1.7) parents / guardians being on-site at any time during the peak set-down / pick-up periods. The average parent / guardian parking demand during peak pick-up / set-down periods is therefore projected to be four spaces.

However, it should be noted that the above analysis represents an absolute worst-case scenario for the following reasons:

- It assumes that all parents / guardians will drive their children to and from the centre, when the TfNSW's survey suggest 93% of children are driven to and from centres;
- It assumes a zero-sibling rate, when our experience suggests a sibling rate of at least 10% commonly prevails;
- It assumes a 100% attendance rate, when our experiences suggest a maximum of 90% is more likely; and
- It assumes that all children will be set-down and picked-up within a two-hour period, when children can be set-down / picked-up at any time during the operational hours.

The above analysis, indicating an instantaneous parent / guardian parking demand of four spaces has however been retained to account for variations in average demand associated with short term peak influxes of parents / guardians during set-down / pick-up periods. In consideration of this and the above discussion, the proposed parent / guardian parking allocation of six spaces is readily capable of accommodating peak operational demand.

3.2.2.3 Neighbourhood Parking Policy

The previous analysis concludes that the on-site parking provision and allocation is appropriate in accordance with the locally sensitive parking requirements and the projected operational characteristics of the site. In this regard, it is not expected that the proposed development will result in any unreasonable impacts on surrounding amenity.

Notwithstanding the above, it is desirable that the child care centre formulate and implement a Neighbourhood Parking Policy, which provides a series of operational initiatives with the objective of minimising the potential impacts of the development on the adjoining public parking infrastructure and thus the surrounding residential amenity. This Policy should include, but not be limited to, the following:

- Staff members who drive to the site are to occupy designated on-site staff parking spaces, in preference to parking on-street; and

- Parent / visitors who drive to the site are to occupy designated on-site visitor parking spaces, in preference to parking on-street.

The Neighbourhood Parking Policy should be provided to all staff and parents / guardians at the time of employment and enrollment, respectively.

If considered necessary, the requirement for a Neighbourhood Parking Policy could reasonably be imposed by Council as a condition of development consent.

3.3 Bicycle Parking

Four bicycle parking spaces are proposed within the western portion of the basement parking area.

CDCP 2012 specifies that bicycle parking is to be provided at a rate of 1 space per four staff. Application of the bicycle parking rate to the proposed development requiring 13 staff results in a required bicycle parking provision of 3.25 (adopt 4) spaces.

The provision of four off-street bicycle parking spaces therefore complies with the minimum requirements of the CDCP 2012 and is therefore considered satisfactory.

3.4 Motorcycle Parking

CDCP 2012 does not specify a motorcycle parking requirement for child care centres; therefore, the non-provision of off-street motorcycle parking is considered satisfactory.

3.5 Site Servicing

The child care centre is likely to necessitate regular servicing with respect to the collection of refuse. Refuse is proposed to be stored within a dedicated bin storage room located within the south-western portion of the basement parking area. Waste collection is proposed to occur informally within the parking aisle within the western portion of the basement in close proximity to the waste storage room. Waste collection activities are proposed to occur outside peak child set-down / pick-up hours (between 10:00am and 2:00pm). It is accordingly considered that the temporary accommodation of the waste collection vehicle within the parking circulation aisle is considered appropriate.

This Practice has been advised that the development is proposed to be serviced by a private refuse collection contractor, which utilises the Waste Wise Mini Rear Loading vehicle, the specifications for which are contained within **Appendix 3**. These specifications indicate that the waste collection vehicle provides operational requirements similar to a Small Rigid Vehicle (SRV) specified by AS2890.2:2018, with the exception of the following:

- It can negotiate an internal basement clearance of 2.2m (thereby negating the Standard requirement to provide an internal clearance of 3.5m);
- It can negotiate a maximum grade of 1:4.6 (thereby negating the Standard requirement to provide a maximum grade of 1:6.5); and
- It can negotiate a maximum change in grade of 1:6.7 over 2m of travel (thereby negating the Standard requirement to provide a maximum change in grade of 1:12 over 4m of travel).

In order to demonstrate the ability of the waste collection vehicle to manoeuvre within the site, a series of swept paths and clearance assessment plans have been prepared by this Practice demonstrating the abovementioned vehicle entering the car park, manoeuvring to collect waste and exiting the site, copies of which are contained within **Appendix 4**. The turning paths and clearance plans provided on the plans have been generated utilising Autoturn software and the Waste-Wise Mini Rear Loader specifications.

The swept path plans illustrate the following:

- A waste collection vehicle is capable of entering the parking area via a forward left turn movement from Benaroon Road without encroachment driveway extents or internal development obstructions;

- The waste collection vehicle is thence capable of performing a single reverse movement within the parking circulation aisle without encroachment on internal development obstructions and/or any visitor or staff parking spaces;

- The waste collection vehicle is capable of exiting the basement car park in a forward direction prior to performing a left turn movement onto Benaroon Road without encroachment on internal development obstructions, driveway extents, or opposing public road traffic lanes; and

- The waste collection vehicle is capable of negotiating the proposed basement access ramp without conflicts with the ramp surface profile or overhead obstructions.

The proposed site layout as it relates to waste collection vehicle manoeuvrability is considered satisfactory.

Whilst it is acknowledged that the waste collection activity is to briefly accommodate the parking circulation aisle, it is proposed that waste collection activity is to occur between 10:00am – 2:00pm, outside of peak pick-up / set-down periods. Therefore, waste collection activity is not envisaged to affect parking safety and amenity of the child care centre.

Minor deliveries associated with the centre operation are expected to be undertaken by vans and utilities. Such servicing activities are proposed to be accommodated within single visitor passenger vehicle parking spaces located within the on-site car park. These activities are also to be undertaken between 10:00am and 2:00pm, thereby being outside the peak child set-down / pick-up periods of the centre.

3.6 Internal Circulation and Manoeuvrability

The basement parking area contains three standard 90-degree angled parking rows in conjunction with two parallel parking spaces, being serviced by a single circulating adjacent parking aisle, forming an extension of the site access driveway and connecting ramp.

The parking area and connecting access roadway / ramp has generally been designed to accord with the minimum requirements of AS2890.1:2004, AS2890.3:2015 and AS2890.6:2009 providing the following minimum dimensions:

- 90-degree staff vehicle parking space width = 2.4m;

- Parallel staff vehicle parking space width = 2.1m;

- 90-degree visitor vehicle parking space width = 2.6m;

- 90-degree disabled visitor vehicle parking space width = 2.4m (with adjoining 2.4m wide shared area);

- Vertically staggered wall hung and horizontal bicycle parking space width = 0.5m;
- 90-degree and open ended parallel passenger vehicle parking space length = 5.4m;
- Vertically staggered wall hung bicycle parking space depth = 1.2m;
- Vehicular parking aisle width = 6.4m;
- Bicycle parking aisle width = 7.1m;
- Minimum clearance = 2.2m;
- Clearance above disabled vehicle parking space = 2.5m;
- Minimum two-way roadway width = 5.5m;
- Maximum grade = 1:4.6;
- Maximum grade within 6m of the property boundary for exiting traffic = 1:20; and
- Maximum change in grade = 1:8.

Safe and efficient internal manoeuvring and parking space accessibility is anticipated to result, taking into consideration the above compliance with the relevant AS2890.1:2004, AS2890.3:2015 and AS2890.6:2009 specifications.

In order to demonstrate the internal passenger vehicle manoeuvrability within the vicinity of these areas and generally throughout the overall parking area, assuming that the above design recommendations have been incorporated, 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 B99 and B85 vehicle specifications provided within AS2890.1:2004.

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. Notwithstanding this, the swept path plans illustrate that passenger vehicles can manoeuvre throughout

the basement parking area and enter and exit the most difficult passenger vehicle parking spaces.

It is acknowledged that the basement parking area forms dead-end parking aisle. The alignment of the internal circulation aisle however allows for motorists to undertake a three-point turn within the central portion of the basement parking area and exit the site in a forward direction in the unlikely event that all internal parking spaces are occupied. Such internal turnaround movements are demonstrated by the swept path plans contained within **Appendix 2**.

In consideration of the abovementioned compliance of the development design with the relevant requirements of the Australian Standards, the proposed internal passenger vehicle circulation arrangements are considered to be satisfactory.

3.7 Internal Pedestrian Circulation

External pedestrian access between the building and the western Benaroon Road footpath is proposed via a pedestrian walkway, located separately and to the north of the abovementioned vehicular access driveway. This pedestrian walkway provides connectivity to the entrance lobby of the child care centre building.

Further to the above, pedestrian connectivity between the basement parking area and the building is proposed via pedestrian pathways provided adjacent to visitor parking spaces that provide pedestrian access to the lift and staircase in the south-eastern corner of the basement, clear of the vehicular circulation areas. Further, a marked pedestrian crossing is provided over the basement parking aisle, whereby pedestrians may cross the vehicular circulation aisle.

3.8 Child Care Planning Guideline Compliance

Tables 1, 2 and **3** in the following pages, with reference to the information contained within this report, describe the compliance of the proposed development with respect to Considerations 36, 37 and 38 of NSWs' *Child Care Planning Guideline*.

TABLE 1 CHILD CARE PLANNING GUIDELINE – CONSIDERATIONS 35	
Consideration 35. The following design solutions may be incorporated into a development to help provide a safe pedestrian environment:	
Consideration requirements	**Response / Section of Report**
● *Separate pedestrian access from the car park to the facility*	As shown in **Appendix 1**, separated pedestrian access is provided to the facility via a pedestrian pathway within the basement car park which leads to the building entrance.
● *Defined pedestrian crossings included within large car parking areas*	As shown in **Appendix 1**, a defined pedestrian crossing is provided within the basement parking aisle where the pedestrian desire line encroaches over the parking aisle.
● *Separate pedestrian and vehicle entries from the street for parents, children and visitors*	As shown in **Appendix 1**, separated pedestrian access is provided to the facility, located to the north of the vehicular access driveway connecting to the western Benaroon Road footpath.
● *Pedestrian paths that enable two prams to pass each other*	A minimum 1.0m wide pedestrian walkway is provided between each visitor parking space and the pedestrian entrance to the building. Research and experience suggest that the average pram width is approximately 500mm. Therefore, in most instances the 1.0m wide pedestrian path will safely accommodate the passing of two prams. However, when this is not possible it is considered that courtesy conditions will prevail and there are localised areas of path widening allowing parents / visitors to negotiate the pedestrian walkways within the parking area safely and efficiently.
● *Delivery and loading areas located away from the main pedestrian access to the building and in clearly designated, separate facilities*	Section 3.5 describes that deliveries and loading is to occur from within visitor parking spaces. Deliveries are to occur outside of peak set-down / pick-up hours therefore not impacting pedestrian movements.
● *Minimise number of locations where pedestrians and vehicles cross each other*	Section 3.6 describes an internal pedestrian circulation system that minimises pedestrian and vehicle crossing each other.
● *In commercial or industrial zones and mixed-use developments the path of travel from the car parking to the centre entrance physically separated from any truck circulation or parking areas*	Not applicable as the subject site is in a residential zone.
● *Vehicles can enter and leave the site in a forward direction*	As shown in the swept path assessment in **Appendix 2**, all vehicles are capable of entering and exiting the site in a forward direction and are to do so at all times.
● *Clear sightlines are maintained for drivers to child pedestrians, particularly at crossing locations*	Section 3.1.1 states that the vehicular ingress and egress point has clear sightlines for pedestrians and vehicles.

TABLE 2 CHILD CARE PLANNING GUIDELINE – CONSIDERATION 36	
Consideration 36. Mixed use developments should include:	
Consideration requirements	**Response / Section of Report**
● *Driveway access, manoeuvring areas and parking areas for the facility that are separate to parking and manoeuvring areas used by trucks*	Servicing is proposed to occur from visitor spaces. It is understood that an operational management plan will be formulated which includes site specific operational management initiatives to ensure that the abovementioned servicing activities do not result in any unreasonable impacts on the overall level of safety and efficiency of the experience of centre users. The requirement for the operational management plan could reasonably be imposed by Council as a condition of consent.
● *Drop off and pick up zones that are exclusively available for use during the facility's operating hours with spaces clearly marked accordingly, close to the main entrance and preferably at the same floor level. Alternatively, direct access should avoid crossing driveways or manoeuvring areas used by vehicles accessing other parts of the site*	All drop off and pick up spaces are located on the basement level are marked on the plans as close to the building entrance as possible.
● *Parking that is separate from other uses, located and grouped together and conveniently located near the entrance or access point to the facility*	As above, all visitor and staff spaces are grouped together. This arrangement is considered satisfactory.

TABLE 3 CHILD CARE PLANNING GUIDELINE – CONSIDERATION 37	
Consideration 37. Car parking design should:	
Consideration requirements	**Response / Section of Report**
● *Include a child safe fence to separate car parking areas from the building entrance and play areas*	As shown on the development plans in **Appendix 1**, parking is contained within the basement, being adequately separated from child activity areas.
● *Provide clearly marked accessible parking as close as possible to the primary entrance to the building in accordance with appropriate Australian Standards*	As shown on the development plans in **Appendix 1**, one accessible parking space is proposed within the parking area in the immediate vicinity of the building entry.
● *Include wheelchair and pram accessible parking*	As shown on the development plans in **Appendix 1**, one accessible parking space is proposed within the parking area in the immediate vicinity of the building entry. All other visitor spaces are capable of being used by parents with prams.

4. EXISTING TRAFFIC CONDITIONS

4.1 Surrounding Road Network

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

- **Benaroon Road** performs a local access road function under the care and control of Canterbury Bankstown Council providing a north-south alignment between Punchbowl Road in the north and Lakemba Street in the south.

  In the immediate vicinity of the site (between Pettit Avenue and Yangoora Road), Benaroon Road provides an approximate pavement width of 6.5m facilitating one through lane of traffic in each direction in conjunction with unrestricted parallel parking along both kerb alignments. When parallel parking occurs along both kerb alignments, the somewhat limited Benaroon Road pavement width requires two-way traffic to occur under courtesy conditions. The reasonably low demand for on-street parking (further presented in Section 4.4) however ensures that two-way traffic flow generally occurs in an unimpeded fashion. This portion of Benaroon Road is governed by a sign-posted speed limit of 50km/h, being supported by a series of speed humps with an advisory speed of 20km/h and a 3-tonne load limit.

  To the north of the site, (between Punchbowl Road and Pettit Avenue), Benaroon Road provides a pavement width of 10m, whereby two-way traffic flow occurs without being impeded by the presence of kerb-side parallel parking. This portion of Benaroon Road is also governed by a sign-posted speed limit of 50km/h, being supported by a series of speed humps with an advisory speed of 20km/h.

  Benaroon Road forms a T-junction with Punchbowl Road to the north, operating under major / minor priority control with Punchbowl Road performing the priority route. Turning movements to Benaroon Road are assisted by dedicated left and right turn bays, however right turn movements from Benaroon are prohibited.

  Benaroon Road forms a T-junction with Pettit Avenue adjacent to the site, operating under 'Stop' traffic signage control with Benaroon Road performing the priority route.

  Between Punchbowl Road and Yangoora Road, Benaroon Road also forms a series of T-junctions (Minnie Street, Hugh Street, Knox Street, Lucerne Street, Allan Avenue and Kennedy Avenue), operating under major / minor priority control with Benaroon Road performing the priority route in each instance.

  To the south, Benaroon Road forms an intersection with Yangoora Road operating under 'Stop' traffic signage control with Yangoora Road performing the priority route.

  Further to the south, Benaroon Road forms a T-junction with Lakemba Street operating under one lane circulating roundabout control.

- **Pettit Avenue** performs a local access road function under the care and control of Canterbury Bankstown Council providing an east-west align between Benaroon Road in the east and Yerrick Road in the west.

  Pettit Avenue provides an approximate pavement width of 6.5m, facilitating one through lane of traffic in each direction in conjunction with unrestricted parallel parking along the northern kerb alignment. 'No Stopping' parking restrictions apply along the southern kerb alignment. When parallel parking occurs along the northern kerb alignment, the somewhat limited Pettit Avenue pavement width requires two-way traffic to occur under courtesy conditions.

  Traffic flow within Pettit Avenue is governed by a local area speed limit of 50km/h.

  Pettit Avenue forms T-junctions with Benaroon Road and Yerrick Road, operating under major/minor priority control, with Benaroon Road and Yerrick Road performing the priority routes in both instances.

  Pettit Avenue also forms a T-junction with Vivienne Avenue operating under major / minor priority control, with Pettit Avenue performing the priority route.

- **Yangoora Road** performs a collector road function under the care and control of Canterbury Bankstown Council providing an east-west alignment between Burwood Road in the east and Wangee Road in the west.

  Yangoora Road primarily provides an 13m wide pavement facilitating one through lane of traffic in each direction and marked parallel parking along both kerb alignments. Traffic flow within Yangoora Road is governed by a sign posted speed limit of 50km/h; however, a 40km/h school zone speed limit applies towards the junction with Burwood Road during prescribed school start / finish times associated with Belmore Boys High School.

- **Punchbowl Road** performs a State Road function operating under the care and control of TfNSW providing north-east to south-west alignment between Georges River Road / Coronation Parade in the north-east and Canterbury Road in the south-west.

  Punchbowl Road provides a four-to-six-lane carriageway providing two-to-three lanes of traffic in each direction separated by a raised median. Clearway parking restrictions apply along both kerb alignments from 6:00am – 10:00am and 3:00pm – 7:00pm in conjunction with 'No Stopping' restrictions.

  Punchbowl Road is governed by the sign posted speed limit of 60km/h.

4.2 Existing Traffic Volumes

Traffic demand surveys have been commissioned of the junction at Benaroon Road and Pettit Avenue immediately north-east of the site, in order to accurately ascertain existing traffic demands within the immediate precinct.

Surveys were undertaken between 7:00am – 9:00am and 4:00pm – 6:00pm on Tuesday the 29th of November, 2022.

Figure 3 overleaf provides a summary of the surveyed peak hour intervals of traffic flows at the subject intersection including a morning peak hour which has been identified as 8:00am — 9:00am (AM Peak) and 5:00pm – 6:00pm (PM Peak), whilst full details are contained within **Appendix 5**.

FIGURE 3
EXISTING WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF BENAROON ROAD AND PETTIT AVENUE

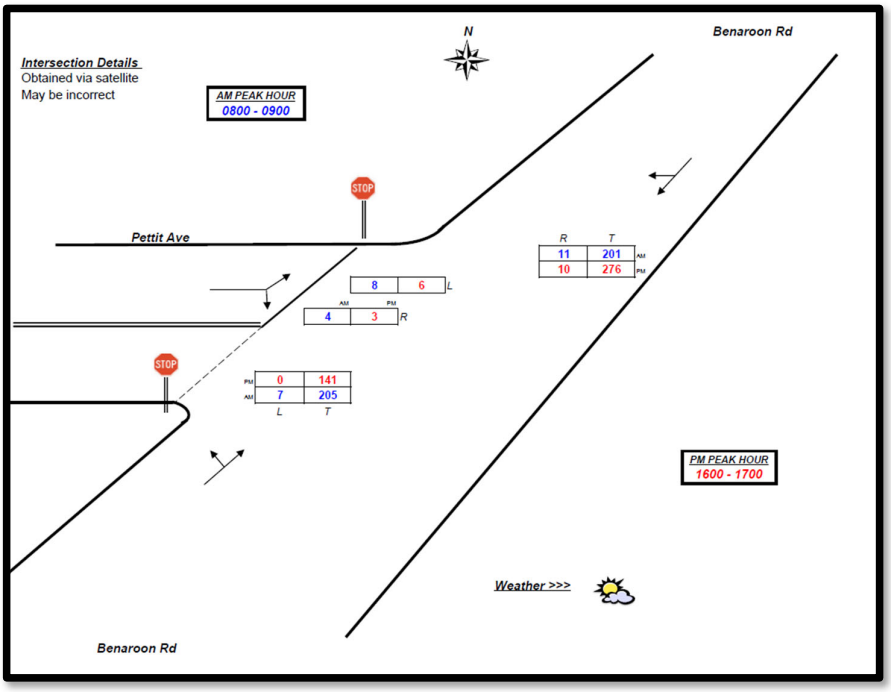


Figure 3 indicates the following:

- Benaroon Road accommodates directional traffic demands between 200 – 220 vehicles per hour during the weekday morning peak hour;
- Benaroon Road accommodates directional traffic demands between 150 – 300 vehicles per hour during the weekday evening peak hour; and
- Pettit Avenue accommodates direction traffic demands less than 20 vehicles per hour during both weekday morning and evening peak hours.

4.3 Existing Road Network Operation

4.3.1 Intersection Performance

The surveyed intersection has been analysed utilising the SIDRA computer intersection analysis program in order to objectively assess the operation of the nearby public road network.

SIDRA is a computerised traffic arrangement program which, when volume and geometrical configurations of an intersection are imputed, provides an objective assessment of the operation efficiency under varying types of control (i.e. signs, signal and roundabouts). Key indicators of SIDRA include level of service where results are placed on a continuum from A to F, with A providing the greatest intersection efficiency and therefore being the most desirable by TfNSW.

SIDRA uses detailed analytical traffic models coupled with an iterative approximation method to provide estimates of the abovementioned key indicators of capacity and performance statistics. Other key indicators provided by SIDRA are average vehicle delay, the number of stops per hour and the degree of saturation. Degree of saturation is the ratio of the arrival rate of vehicles to the capacity of the approach. Degree of saturation is a useful and professionally accepted measure of intersection performance.

SIDRA provides analysis of the operating conditions that can be compared to the performance criteria set out in **Table 4** below (being Transport for NSW method calculation of Level of Service).

TABLE 4
LEVEL OF SERVICE CRITERIA FOR PRIORITY AND PRIORITY CONTROLLED INTERSECTIONS

Level of Service	Average Delay per Vehicle (secs/veh)	Expected Delay
A	Less than 14	Good
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Near capacity
E	57 to 70	At capacity and requires other control mode
F	> 70	Unsatisfactory and requires other control mode

The existing conditions have been modelled utilising the peak hour traffic volumes presented within **Figures 3.**

Table 5 provided overleaf provide a summary of the SIDRA output data whilst more detailed summaries are included as **Appendix 6**.

TABLE 5 SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR PERFORMANCE JUNCTION OF BENAROON ROAD AND PETTIT AVENUE		
	AM PEAK (8:00AM-9:00AM)	**PM PEAK (5:00PM-6:00PM)**
Benaroon Road South Approach		
Delay (seconds / vehicle)	5.5	5.5
95th Percentile Queue (m)	0.0	0.0
Degree of Saturation	0.12	0.08
Level of Service	A	A
Benaroon Road North Approach		
Delay (seconds / vehicle)	6.3	6.0
95th Percentile Queue (m)	0.6	0.6
Degree of Saturation	0.11	0.14
Level of Service	A	A
Pettit Avenue Approach		
Delay (seconds / vehicle)	9.6	9.7
95th Percentile Queue (m)	0.3	0.2
Degree of Saturation	0.01	0.01
Level of Service	A	A
Total Intersection		
Delay (seconds / vehicle)	9.6	9.7
95th Percentile Queue (m)	0.6	0.6
Degree of Saturation	0.12	0.14
Level of Service	A	A

Table 5 indicates that the junction of Benaroon Road and Pettit Avenue provides all movements with a level of service 'A' during peak periods, representing good operation, with spare capacity.

4.3.2 Benaroon Road

4.3.2.1 Level of Service

Reference is made to TfNSW's *Guide to Traffic Generating Developments* to undertake an assessment of the operational performance of Benaroon Road in the immediate vicinity of the subject site. **Table 6** below provides the level of service assigned to peak hour directional traffic flow within Benaroon Road (adjacent to the site) based on the abovementioned traffic surveys and criteria specified within the *Guide to Traffic Generating Developments*.

TABLE 6 BENAROON ROAD DIRECTIONAL TRAFFIC FLOW (ADJACENT TO THE SITE) LEVEL OF SERVICE		
	AM PEAK (8:00AM-9:00AM)	**PM PEAK (5:00PM-6:00PM)**
Northbound Traffic Flow		
Volume	212	141
Level of Service	B	A
Southbound Traffic Flow		
Volume	205	279
Level of Service	B	B

Table 6 indicates that both northbound and southbound Benaroon Road traffic flow is provided with a level of service A to B during weekday commuter peak periods, representing free to stable flow where motorists generally have freedom to select their desired speed and to manoeuvre within the traffic stream with some restriction.

4.3.2.2 Environmental Capacity

It is considered pertinent to provide an assessment of the traffic flow within Benaroon Road with respect to environmental capacity. To undertake such an assessment, the functional order of the local roads is required to be defined.

Benaroon Road has previously been presented to perform a local access road function. In this regard, traffic within the surrounding local roads are primarily limited to the traffic generated by the abutting residential development.

TfNSW's *Guide to Traffic Generating Developments* specifies that local roads typically provide a maximum environmental capacity of 300 vehicles per hour. The prevailing peak hour traffic demands within Benaroon Road, being less than 300 vehicles during weekday peak hours are within the abovementioned maximum environmental capacity.

4.4 On-Street Parking Demand and Capacity

4.4.1 Weekday Commuter Peak Periods

Parking demand surveys of the unrestricted on-street parking within Benaroon Road between Pettit Avenue and Yangoora Road, and Pettit Avenue between Benaroon Road and Yerrick Road were commissioned in order to ascertain the existing demand within the surrounding public parking infrastructure.

Surveys were undertaken between 7:00am – 9:00am and 4:00pm – 6:00pm on Tuesday the 29th of November, 2022.

Table 7 overleaf provides a summary of the survey results, whilst full details are contained within **Appendix 7**.

TABLE 7 UNRESTRICTED ON-STREET PARKING DEMAND SURVEY BENAROON ROAD (BETWEEN PETTIT AVENUE AND YANGOORA ROAD)			
Time	**East Side** **Capacity = 18**	**West Side** **Capacity = 12**	**Total spaces occupied / Spaces available** **Total Capacity = 30**
MORNING PERIOD			
7:00am	0	0	0 / 30
7:15am	0	0	0 / 30
7:30am	0	0	0 / 30
7:45am	0	0	0 / 30
8:00am	0	0	0 / 30
8:15am	0	0	0 / 30
8:30am	0	0	0 / 30
8:45am	0	0	0 / 30
9:00am	0	0	0 / 30
AFTERNOON PERIOD			
4:00pm	0	0	0 / 30
4:15pm	0	0	0 / 30
4:30pm	0	0	0 / 30
4:45pm	0	0	0 / 30
5:00pm	0	0	0 / 30
5:15pm	0	0	0 / 30
5:30pm	0	0	0 / 30
5:45pm	0	0	0 / 30
6:00pm	0	0	0 / 30
UNRESTRICTED ON-STREET PARKING DEMAND SURVEY PETTIT AVENUE (BETWEEN BENAROON ROAD AND YERRICK ROAD)			
Time	**North Side** **Capacity = 17**	**South Side** **(No Stopping)** **Capacity = 0**	**Total spaces occupied / Spaces available** **Total Capacity = 30**
MORNING PERIOD			
7:00am	16	0	16 / 1
7:15am	16	0	16 / 1
7:30am	16	0	16 / 1
7:45am	17	0	17 / 0
8:00am	17	0	17 / 0
8:15am	17	0	17 / 0
8:30am	17	0	17 / 0
8:45am	17	0	17 / 0
9:00am	17	0	17 / 0
AFTERNOON PERIOD			
4:00pm	17	0	17 / 0
4:15pm	16	0	16 / 1
4:30pm	16	0	16 / 1
4:45pm	15	0	15 / 2
5:00pm	14	0	14 / 3
5:15pm	15	0	15 / 2
5:30pm	15	0	15 / 2
5:45pm	16	0	16 / 1
6:00pm	16	0	16 / 1

Table 7 illustrates the following:

- Parking demand within Benaroon Road is negligible during weekday commuter peak periods; and
- Parking demand within Pettit Avenue is generally high.

4.4.2 Historical Aerial Survey

To ensure that the implementation of the recommended 'No Stopping' zone along the western Benaroon Road alignment will not negatively impact the amenity of the surrounding community, this Practice has reviewed historical aerial imagery from Nearmap.com.au in order to determine the parking supply on the eastern kerb alignment between the site access and Pettit Avenue can accommodate the lost of parking on the western kerb alignment.

Table 1 below provides a summary of the survey results.

TABLE 1: UNRESTRICTED ON-STREET PARKING DEMAND SURVEY FLOWERDALE ROAD BETWEEN THE SITE AND PETTIT AVENUE			
Time	**Date**	**Vehicles Parked along Eastern Kerb** **Capacity = 2**	**Spaces available**
9:23am	Friday 28/10/2022	0	2
11:06am	Tuesday 4/10/2022	0	2
11:48am	Tuesday 2/08/2022	0	2
10:53am	Wednesday 11/08/2021	0	2
12:16pm	Tuesday 17/05/2022	0	2
12:48pm	Thursday 17/02/2022	0	2
9:20am	Tuesday 21/12/2021	0	2
9:49am	Monday 25/10/2021	0	2
8:52am	Wednesday 6/10/2021	0	2
10:55am	Wednesday 11/08/2021	0	2

Table 1 illustrates that there is significant capacity to accommodate a reduction in the kerb-side parking supply on the eastern side of Benaroon Road in the vicinity of the site.

Therefore, it is considered that the recommended 'No Stopping' restrictions along the western kerb alignment of Benaroon Road are unlikely to result in an adverse effect on the public parking infrastructure in the vicinity of the site.

4.5 Sustainable Transport

4.5.1 Buses

Bus Route 450 provides service between Strathfield and Hurstville and operates along Benaroon Road, Yangoora Road and Yerrick Road in the immediate vicinity of the site.

Route 450 provides a bus stop at approximately 200m walking distance to the south of the site providing a service frequency of approximately 15 minutes on weekday peak hours, approximately 30 minutes on weekday business hours and Saturdays and an hourly service on Sundays and public holidays.

4.5.2 Heavy Rail

The site is located approximately 1.4km walking distance to the north of Lakemba Railway Station.

Lakemba Railway Station provides access to train services which operate along the T3 (Bankstown) Line.

The T3 Line provides regular services between Liverpool and the City, with connectivity to the wider Sydney metropolitan area provided at interchanges at Liverpool, Lidcombe, Cabramatta, Birrong, Sydenham and the City.

4.5.3 Pedestrians / Cyclists

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

- Footpaths are provided on both sides of Benaroon Road and Yangoora Road; and
- An on-road marked cycleway is provided adjacent to the northern Yangoora Road parking lane.

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*. This publication specifies the following traffic generation rates for child care centres:

0.8 vehicle trips per child during the morning commuter peak hour
0.7 vehicle trips per child during the evening commuter peak hour

Application of the above traffic generation rates to the proposed capacity of 72 children, the child care centre results in an estimated development traffic generation of approximately 58 vehicle trips per hour during the morning peak and 51 vehicle trips per hour during the evening peak.

5.2 Traffic Distribution

The development-generated trips are likely to be evenly distributed between inbound and outbound movements associated with the setting down and picking up of children during the morning and evening peak periods, respectively. The development is therefore projected to generate 29 ingress and 29 egress movements during the morning peak hour and 25 ingress and 26 egress movements during the evening peak hour.

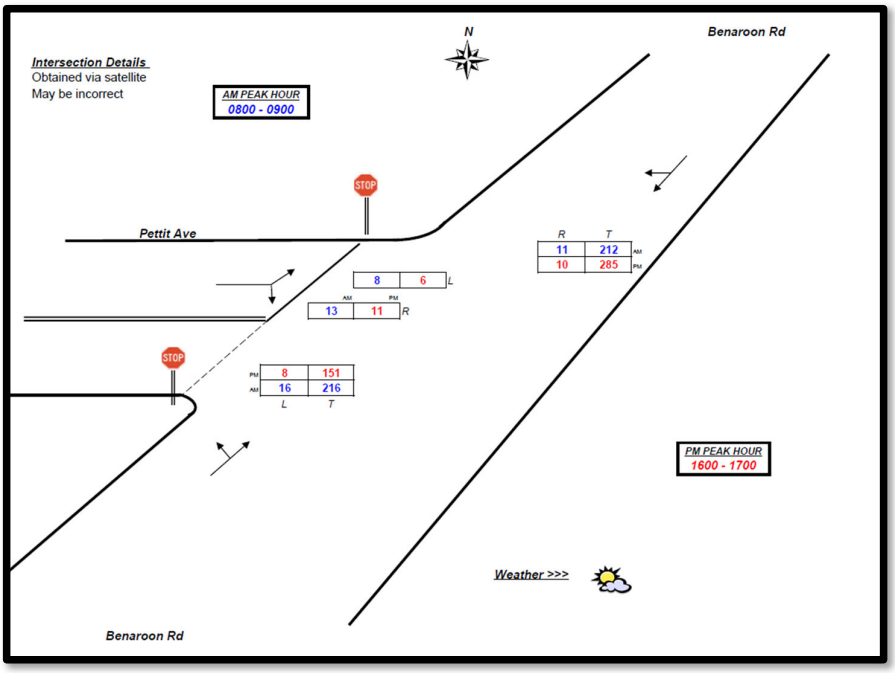
For the purposes of this assessment, it has been assumed that the ingress and egress trips have been assigned with a proportional distribution to the existing traffic volumes throughout the possible approaches to the site. Further, development generated traffic has been assigned as follows:

- 40% to / from the north via Benaroon Road;
- 30% to / from the south via Benaroon Road; and
- 30% to / from the west via Pettit Avenue.

5.3 Projected Traffic Volumes

The projected peak hour traffic volumes at the surveyed intersections have been formulated by adding the abovementioned traffic generation and trip assignment to the existing demands presented within **Figure 3**. **Figure 4** provided overleaf provides an estimation of the future traffic demands at the nearby public road intersection.

FIGURE 4
PROJECTED WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF BENAROON ROAD AND PETTIT AVENUE



5.4 Traffic Impacts

5.4.1 Intersection Performance

The junction of Benaroon Road and Pettit Avenue has been modelled in order to estimate the likely impact on traffic safety and efficiency utilising the projected traffic volumes illustrated within **Figures 4**. A summary of the most pertinent results is indicated within **Tables 8** overleaf whilst more detailed summaries are provided within **Appendix 8**.

TABLE 8 SIDRA OUTPUT – EXISTING AND PROJECTED WEEKDAY PEAK HOUR PERFORMANCE JUNCTION OF BENAROON ROAD AND PETTIT AVENUE				
	Existing		Projected	
	AM	PM	AM	PM
Benaroon Road South Approach				
Delay (seconds / vehicle)	5.5	5.5	5.5	5.5
95th Percentile Queue (m)	0.0	0.0	0.0	0.0
Degree of Saturation	0.12	0.08	0.13	0.09
Level of Service	A	A	A	A
Benaroon Road North Approach				
Delay (seconds / vehicle)	6.3	6.0	6.4	6.1
95th Percentile Queue (m)	0.6	0.6	0.7	0.6
Degree of Saturation	0.11	0.14	0.11	0.15
Level of Service	A	A	A	A
Pettit Avenue Approach				
Delay (seconds / vehicle)	9.6	9.7	9.8	9.9
95th Percentile Queue (m)	0.3	0.2	0.6	0.5
Degree of Saturation	0.01	0.01	0.03	0.02
Level of Service	A	A	A	A
Total Intersection				
Delay (seconds / vehicle)	9.6	9.7	9.8	9.9
95th Percentile Queue (m)	0.6	0.6	0.7	0.6
Degree of Saturation	0.12	0.14	0.13	0.15
Level of Service	A	A	A	A

Table 8 indicates that the additional traffic generated by the proposed development is not projected to result in significant impacts on the existing operational performance of the junction of Benaroon Road and Pettit Avenue. Whilst it is expected that the additional traffic will result in some minor increases to the average vehicle delay and the degree of saturation, the overall level of service during the morning and afternoon period is projected to remain a 'A', representing good operation.

5.4.2 Surrounding Road Network

The development has been projected to generate up to 58 vehicle movements per hour during commuter peak periods. This equates to less than one additional vehicle movement every minute during commuter peaks, which is not projected to, in itself, result in any unreasonable impacts on the existing operational performance of the surrounding local road network. In this regard, traffic demands within Benaroon Road and Pettit Avenue are expected to continue to be within the maximum environmental capacity of less than 300 vehicles during weekday commuter peaks for local roads.

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 low traffic demands within Benaroon Road in conjunction with the acceptable sight distance provisions between the 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.

5.5 Parking Impacts

The proposed development provides an off-street parking provision which complies with the requirements of CDCP 2012. It is accordingly not expected that the development will result in unreasonable impacts on surrounding public road parking supply / capacity, particularly with the appropriate implementation of a Neighbourhood Parking Policy discussed within Section 3.2.2.4 of this report. A parking demand survey contained within Section 4.4, demonstrates that there is ample on-street parking supply on Benaroon Road adjacent to the site.

5.6 Transport Impacts

The subject site is located within reasonably close walking distance to a bus service operating along Benaroon Road and rail services operating out of Lakemba Railway Station. It is accordingly expected that a portion of the future site visitors and staff 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 parking and traffic implications associated with a proposed child care centre at 78 – 80A Benaroon Road, Lakemba. Based on this assessment, the following conclusions are now made:

- The 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 parking provision accords with the minimum requirements of CDCP 2012, thereby indicating that there should not be any increased on-street parking demand as a result of the development;

- The internal passenger vehicle circulation arrangements are envisaged to provide for safe and efficient internal manoeuvring;

- The surrounding road network operates with a reasonable level of service during peak periods;

- The subject development has been projected to generate up to 58 vehicle movements to and from the site during weekday peak hours; and

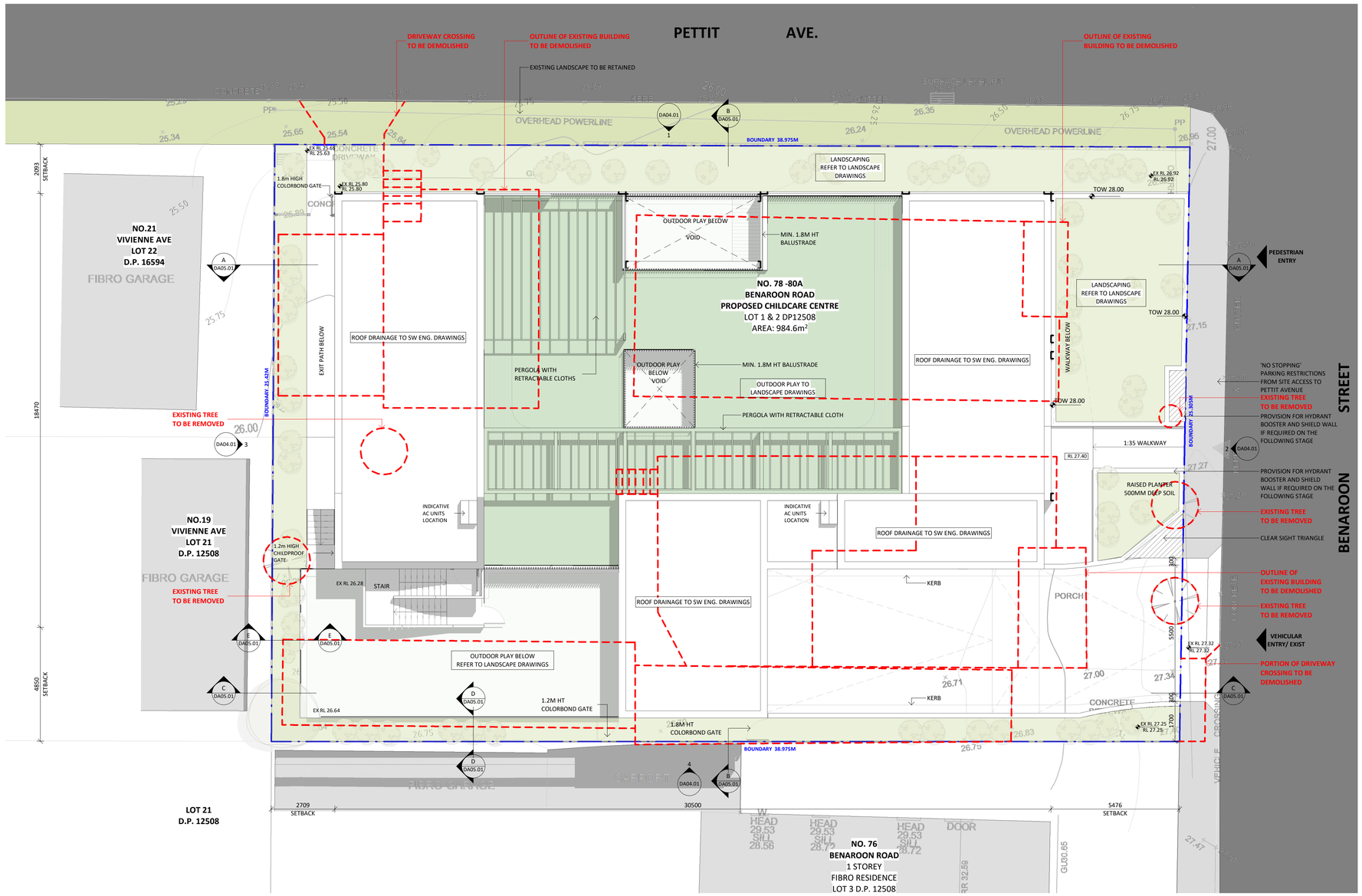
- The surrounding road network is considered to be capable of accommodating the additional traffic projected to be generated by the subject development.

Based on the contents of this report, the following recommendation is provided:

- 'No Stopping' restrictions are recommended to be provided along the western Benaroon Road kerb alignment for the site frontage to ensure that vehicles will have the ability to safely and efficiently exit the site to the north.

Incorporating the abovementioned recommendation, there are no parking or traffic related issues that should prevent approval of the subject application. This action is therefore recommended to Council.

APPENDIX 1



1 SITE PLAN / DEMOLITION
1 : 100

0 1 2 3 4 5
1 : 100

ABBREVIATIONS

ENG.	- ENGINEER
ESL	- EXISTING SLAB LEVEL
EXT	- EXTERIOR
FFL	- FINISH FLOOR LEVEL
F.	- FIXED
FSL	- FINISH SURFACE LEVEL
GL	- GROUND LINE
GLZ	- GLAZING
EX.GL	- EXISTING GROUND LINE
REQ.	- REQUIREMENTS
XX.XX	- PROPOSED LEVEL
XX.XX	- EXISTING LEVEL
XX.XX	- SPOT LEVEL (PLAN)
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LANDSCAPE LEGEND

- EXISTING TREE / TREE TO BE RETAINED
- TREE TO BE REMOVED
- NEW TREE
- LANDSCAPING / BUFFER
- TURF
- EXTERNAL FLOOR FINISH
- LINE OF STRUCTURAL ROOT ZONE (SRZ)
- LINE OF TREE EXCLUSION ZONE (TEZ)
- LINE OF TREE PROTECTION ZONE (TPZ)

NOTE: REFER TO ARBORIST REPORT FOR FURTHER DETAILS

GENERAL NOTES

- ALL EXISTING BUILDING ELEMENTS TO BE CHECKED ON SITE U.N.O
- DEMOLITION TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND TO BE CARRIED OUT BY A LICENCED CONTRACTOR U. N.O
- REFER TO SW DRAWINGS FOR DRAINAGE DESIGN.
- REFER TO LANDSCAPE DRAWINGS FOR LANDSCAPE DESIGN.
- KITCHEN AREA TO BE ACCORDANCE WITH NSW AS4674, FOOD ACT 2003, FOOD REGULATION 2015 AND FOOD STANDARD CODES 3.2.2 AND 3.2.3.

A	28/03/23	ISSUED FOR DEVELOPMENT APPLICATION
ISSUE	DATE	DESCRIPTION

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTIC	DAY DESIGN
WASTE	DICKENS SOLUTIONS
LANDSCAPE	GREENSCAPE
QS	QPC&C
TRAFFIC	STANBURY TRAFFIC
SURVEY	MASRI SURVEY GROUP
STORMWATER	HORIZON ENGINEERS

NOTES
- Any Discrepancies MUST be reported to the Architect.
- All work to Conform to relevant Australian Standards & Codes as applicable.
- This drawing is copyrighted© and must NOT be copied or reused without authority from ArtMade Architects
- Contractors to check all dimensions on site prior to commencing Construction.
- Do not scale from this drawing, use given written dimensions
- Drawing not for construction purposes

INTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ.VOL	VOL
INT ST 1	12	2.40 m³	5.40 m³
INT ST 2	20	4.00 m³	5.00 m³
INT ST 3	20	4.00 m³	14.50 m³
INT ST 4	10	2.00 m³	3.35 m³
INT ST 5	10	2.00 m³	8.45 m³
TOTAL	72	14.40 m³	36.75 m³

EXTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ.VOL	VOL
EXT ST 1	42	12.60 m³	15.25 m³
EXT ST 2	30	9.00 m³	11.35 m³
TOTAL	72	21.60 m³	26.60 m³

INDOOR PLAYROOM SCHEDULE					
ROOM	AGE	NO. CHLDRN	NO. STAFF	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
PLAYROOM 1	AGE - 0-2	12	3	39 m²	47.30 m²
PLAYROOM 2	AGE 2-3	20	4	65 m²	70.15 m²
PLAYROOM 3	AGE 3-5	20	2	65 m²	71.55 m²
PLAYROOM 4	AGE 3-5	10	1	32.5 m²	37.05 m²
PLAYROOM 5	AGE 3-5	10	1	32.5 m²	32.95 m²
TOTAL		72	11	234 m²	259.00 m²

OUTDOOR PLAY AREA SCHEDULE				
AREA	AGE	NO. CHLDRN	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
OUTDOOR PLAY AREA 1	AGE - 2-5	30	210 m²	210.25 m²
OUTDOOR PLAY AREA 2	AGE 0-2	12	84 m²	85.00 m²
OUTDOOR PLAY AREA 3	AGE 3-5	30	210 m²	216.25 m²
TOTAL		72	504 m²	511.45 m²

PARKING SCHEDULE (1 SPACE PER 2 STAFF 7 VISITOR SPACES)	
PARKING	NO. SPACES
ACCESSIBLE	1
STAFF	7
VISITOR	5
TOTAL	13

NOT FOR CONSTRUCTION

CLIENT
MR. MUHAMMAD & ALI TALEB

ARCHITECT
ArtMade Architects
|S16/50 Holt St, Surry Hills NSW 2010
|P: 02 8760 9300 |hello@artmade.com.au | www.artmade.com.au

PROJECT
CHILDCARE CENTRE

PROJECT ADDRESS
78-80A BENAROON ROAD, LAKEMBA

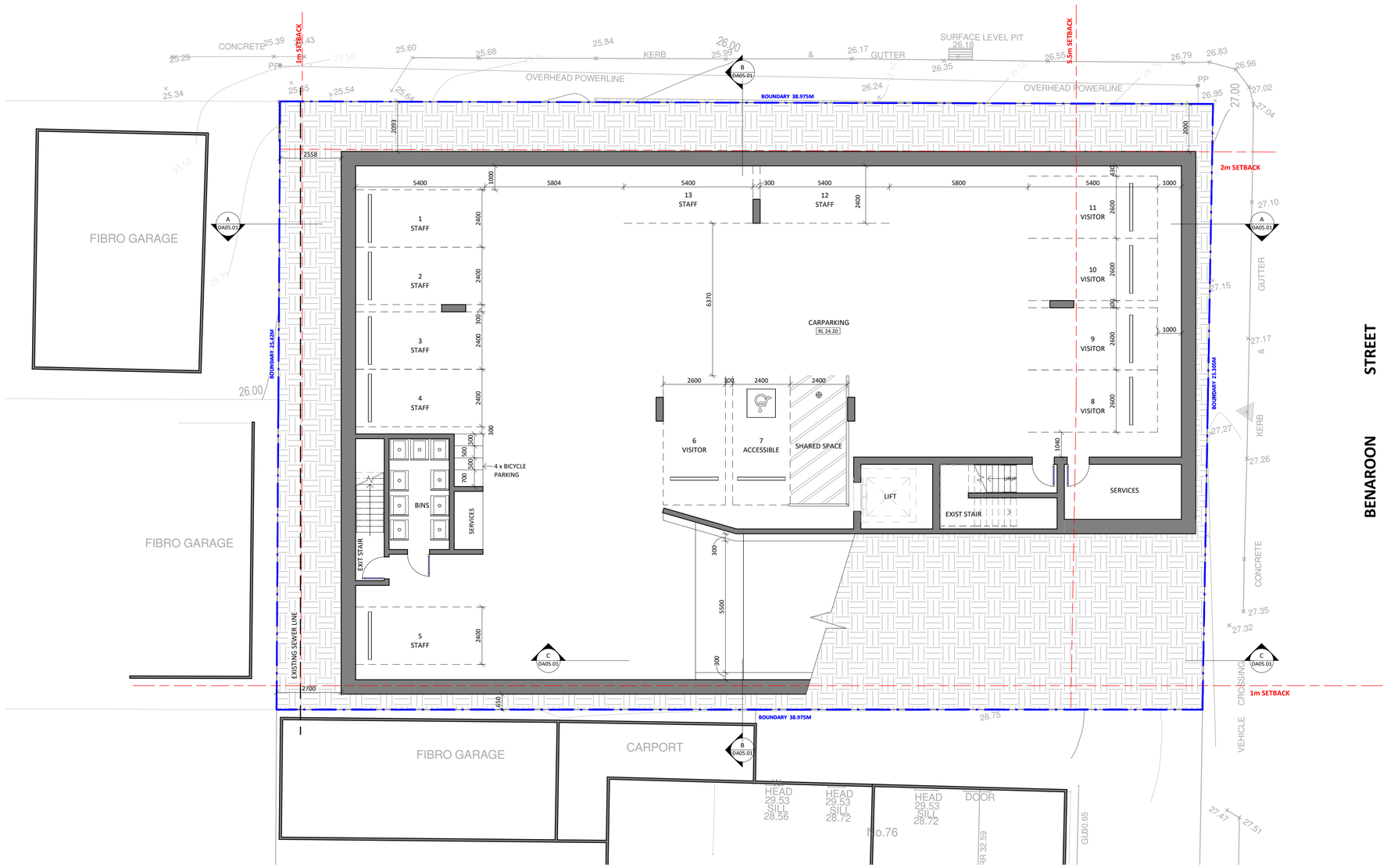
SHEET NAME
SITE PLAN / DEMOLITION

ISSUED FOR DEVELOPMENT APPLICATION

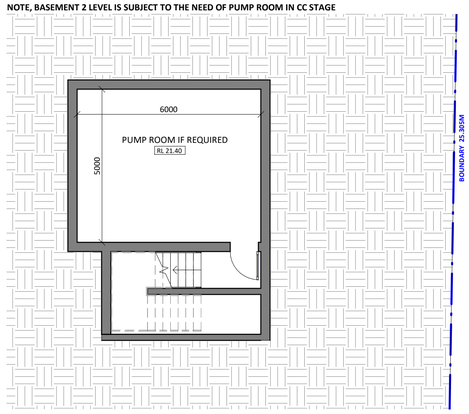
Project number	Sheet No.	Issue	Phase
23695	DA02.01	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY

Drawn By	Checked By	Date
KZ/MS	AS/SS	28/03/23



1 BASEMENT FLOOR PLAN
1 : 100



NOTE, BASEMENT 2 LEVEL IS SUBJECT TO THE NEED OF PUMP ROOM IN CC STAGE

2 BASEMENT FLOOR LEVEL 2
1 : 100

0 1 2 3 4 5
1 : 100

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NAME	NO. CHLDRN	REQ.VOL	VOL
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INT ST 3	20	4.00 m³	14.50 m³
INT ST 4	10	2.00 m³	3.35 m³
INT ST 5	10	2.00 m³	8.45 m³
TOTAL	72	14.40 m³	36.75 m³

EXTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ.VOL	VOL
EXT ST 1	42	12.60 m³	15.25 m³
EXT ST 2	30	9.00 m³	11.35 m³
TOTAL	72	21.60 m³	26.60 m³

INDOOR PLAYROOM SCHEDULE					
ROOM	AGE	NO. CHLDRN	NO. STAFF	UNENCUMBERED REQ.AREA	UNENCUMBERED AREA
PLAYROOM 1	AGE - 0-2	12	3	39 m²	47.30 m²
PLAYROOM 2	AGE 2-3	20	4	65 m²	70.15 m²
PLAYROOM 3	AGE 3-5	20	2	65 m²	71.55 m²
PLAYROOM 4	AGE 3-5	10	1	32.5 m²	37.05 m²
PLAYROOM 5	AGE 3-5	10	1	32.5 m²	32.95 m²
TOTAL		72	11	234 m²	259.00 m²

OUTDOOR PLAY AREA SCHEDULE				
AREA	AGE	NO. CHLDRN	UNENCUMBERED REQ.AREA	UNENCUMBERED AREA
OUTDOOR PLAY AREA 1	AGE - 2-5	30	210 m²	210.25 m²
OUTDOOR PLAY AREA 2	AGE 0-2	12	84 m²	85.00 m²
OUTDOOR PLAY AREA 3	AGE 3-5	30	210 m²	216.25 m²
TOTAL		72	504 m²	511.45 m²

PARKING SCHEDULE (1 SPACE PER 2 STAFF 7 VISITOR SPACES)	
PARKING	NO. SPACES
ACCESSIBLE	1
STAFF	7
VISITOR	5
TOTAL	13

NOT FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION
A	28/03/23	ISSUED FOR DEVELOPMENT APPLICATION

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTIC	DAY DESIGN
WASTE	DICKENS SOLUTIONS
LANDSCAPE	GREENSCAPE
QS	QPC&C
TRAFFIC	STANBURY TRAFFIC
SURVEY	MASRI SURVEY GROUP
STORMWATER	HORIZON ENGINEERS

NOTES

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CLIENT

MR. MUHAMMAD & ALI TALEB

ARCHITECT

ArtMade Architects
|S16/50 Holt St, Surry Hills NSW 2010
|P: 02 8760 9300 |hello@artmade.com.au | www.artmade.com.au

PROJECT

CHILDCARE CENTRE

PROJECT ADDRESS

78-80A BENAROON ROAD, LAKEMBA

SHEET NAME

BASEMENT FLOOR PLAN

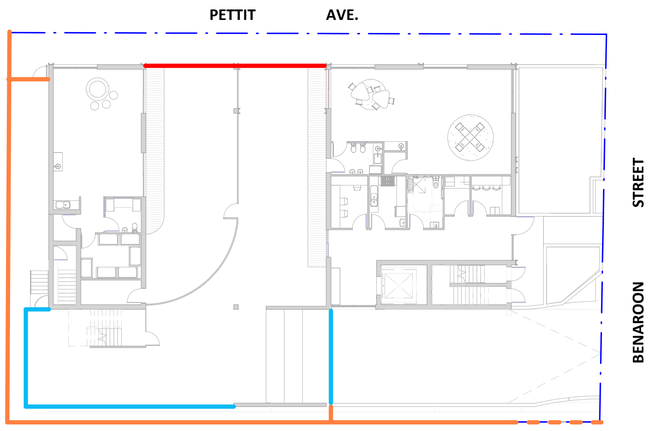
ISSUED FOR DEVELOPMENT APPLICATION

Project number	Sheet No.	Issue	Phase
23695	DA03.01	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY

Drawn By	Checked By	Date
KZ/MS	AS/SS	28/03/23

1 GROUND FLOOR PLAN
1 : 100



2 GROUND FLOOR FENCE / BARRIER DIAGRAM
1 : 200

FENCE / BALUSTRADE LEGEND

- 1.8M HT COLORBOND BOUNDARY FENCE
  REFER TO FENCE DETAILS- TYPE 3 (SHEET NO. A05.01)
- 1.2M HT COLORBOND FENCE
- 2.1M HT ACOUSTIC BARRIER
- 1.8M HT BALUSTRADE / ACOUSTIC BARRIER
  REFER TO FENCE DETAILS- TYPE 1 (SHEET NO.)

NOTE:
- ALL ACOUSTIC BARRIERS IN ACCORDANCE WITH ACOUSTIC REPORT.
- REFER TO SHEET A05.01 FOR FENCE DETAILS.

1 : 100

ABBREVIATIONS

ENG.	- ENGINEER
ESL	- EXISTING SLAB LEVEL
EXT	- EXTERIOR
FFL	- FINISH FLOOR LEVEL
F.	- FIXED
FSL	- FINISH SURFACE LEVEL
GL	- GROUND LINE
GLZ	- GLAZING
EX.GL	- EXISTING GROUND LINE
REQ.	- REQUIREMENTS
XX.XX	- PROPOSED LEVEL
XX.XX	- EXISTING LEVEL
XX.XX	- SPOT LEVEL (PLAN)
XX.XX	- SPOT LEVEL (ELEVATION)

LANDSCAPE LEGEND

- EXISTING TREE / TREE TO BE RETAINED
- TREE TO BE REMOVED
- NEW TREE
- LANDSCAPING / BUFFER
- TURF
- EXTERNAL FLOOR FINISH
- LINE OF STRUCTURAL ROOT ZONE (SRZ)
- LINE OF TREE EXCLUSION ZONE (TEZ)
- LINE OF TREE PROTECTION ZONE (TPZ)

NOTE: REFER TO ARBORIST REPORT FOR FURTHER DETAILS

GENERAL NOTES

- ALL EXISTING BUILDING ELEMENTS TO BE CHECKED ON SITE U.N.O
- DEMOLITION TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND TO BE CARRIED OUT BY A LICENCED CONTRACTOR U. N.O
- REFER TO SW DRAWINGS FOR DRAINAGE DESIGN.
- REFER TO LANDSCAPE DRAWINGS FOR LANDSCAPE DESIGN.
- KITCHEN AREA TO BE ACCORDANCE WITH NSW AS4674, FOOD ACT 2003, FOOD REGULATION 2015 AND FOOD STANDARD CODES 3.2.2 AND 3.2.3.

A	28/03/23	ISSUED FOR DEVELOPMENT APPLICATION
ISSUE	DATE	DESCRIPTION

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTIC	DAY DESIGN
WASTE	DICKENS SOLUTIONS
LANDSCAPE	GREENSCAPE
QS	QPC&C
TRAFFIC	STANBURY TRAFFIC
SURVEY	MASRI SURVEY GROUP
STORMWATER	HORIZON ENGINEERS

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INTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
INT ST 1	12	2.40 m³	5.40 m³
INT ST 2	20	4.00 m³	5.00 m³
INT ST 3	20	4.00 m³	14.50 m³
INT ST 4	10	2.00 m³	3.35 m³
INT ST 5	10	2.00 m³	8.45 m³
TOTAL	72	14.40 m³	36.75 m³

EXTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
EXT ST 1	42	12.60 m³	15.25 m³
EXT ST 2	30	9.00 m³	11.35 m³
TOTAL	72	21.60 m³	26.60 m³

INDOOR PLAYROOM SCHEDULE					
ROOM	AGE	NO. CHLDRN	NO. STAFF	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
PLAYROOM 1	AGE - 0-2	12	3	39 m²	47.30 m²
PLAYROOM 2	AGE 2-3	20	4	65 m²	70.15 m²
PLAYROOM 3	AGE 3-5	20	2	65 m²	71.55 m²
PLAYROOM 4	AGE 3-5	10	1	32.5 m²	37.05 m²
PLAYROOM 5	AGE 3-5	10	1	32.5 m²	32.95 m²
TOTAL		72	11	234 m²	259.00 m²

OUTDOOR PLAY AREA SCHEDULE				
AREA	AGE	NO. CHLDRN	UNENCUMBERED REQ AREA	UNENCUMBERED AREA
OUTDOOR PLAY AREA 1	AGE - 2-5	30	210 m²	210.25 m²
OUTDOOR PLAY AREA 2	AGE 0-2	12	84 m²	85.00 m²
OUTDOOR PLAY AREA 3	AGE 3-5	30	210 m²	216.25 m²
TOTAL		72	504 m²	511.45 m²

PARKING SCHEDULE (1 SPACE PER 2 STAFF 7 VISITOR SPACES)	
PARKING	NO. SPACES
ACCESSIBLE	1
STAFF	7
VISITOR	5
TOTAL	13

NOT FOR CONSTRUCTION

CLIENT
MR. MUHAMMAD & ALI TALEB

ARCHITECT
ArtMade Architects
|S16/50 Holt St, Surry Hills NSW 2010
|P: 02 8760 9300 |hello@artmade.com.au | www.artmade.com.au

PROJECT
CHILDCARE CENTRE

PROJECT ADDRESS
78-80A BENAROON ROAD, LAKEMBA

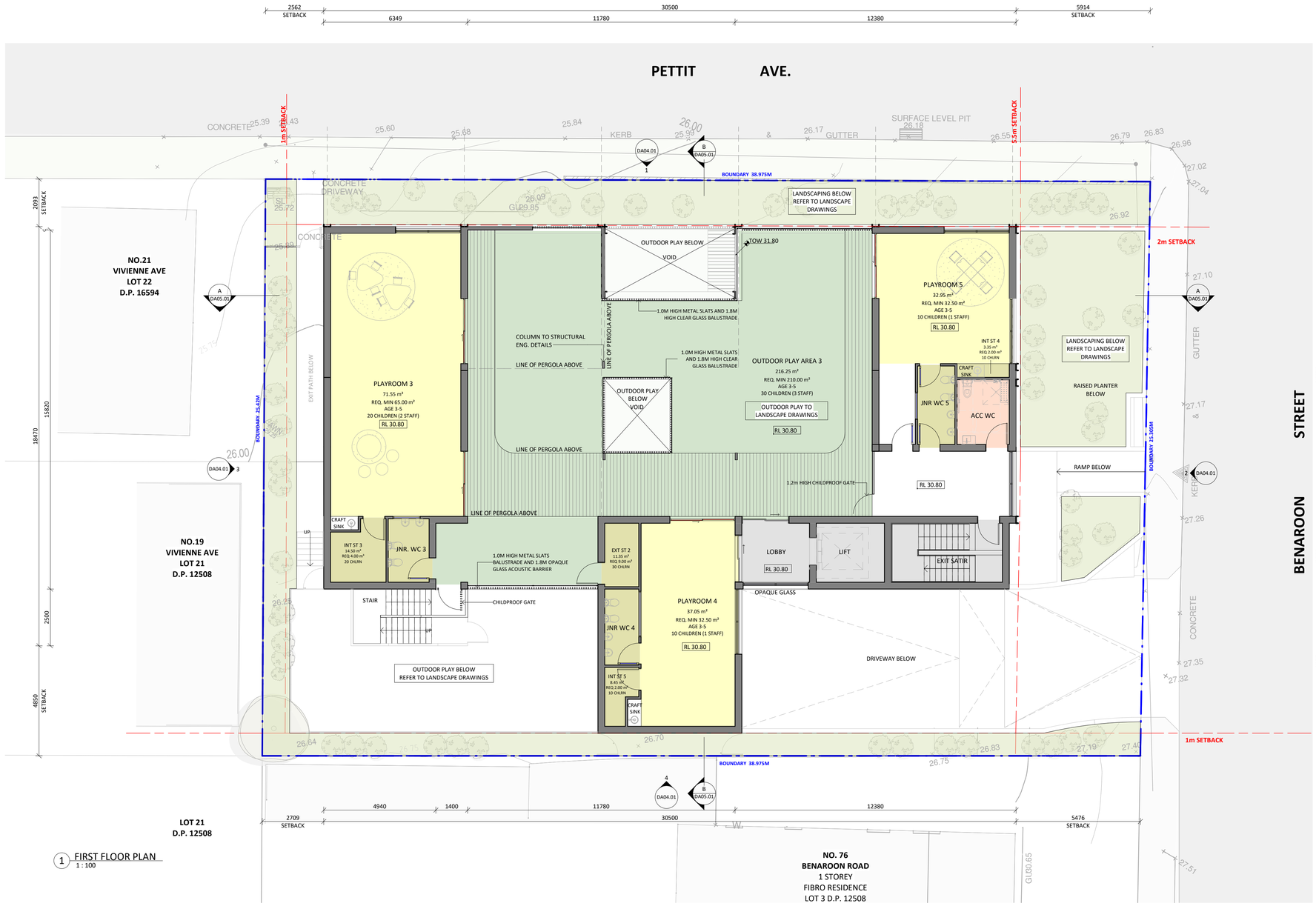
SHEET NAME
GROUND FLOOR PLAN

ISSUED FOR DEVELOPMENT APPLICATION

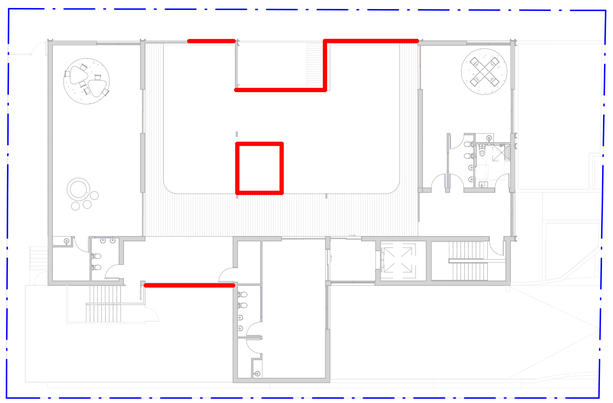
Project number	Sheet No.	Issue	Phase
23695	DA03.02	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY

Drawn By	Checked By	Date
KZ/MS	AS/SS	28/03/23



1 FIRST FLOOR PLAN
1 : 100



2 FIRST FLOOR FENCE / BARRIER DIAGRAM
1 : 200

FENCE / BALUSTRADE LEGEND

- 1.8M HT COLORBOND BOUNDARY FENCE
  REFER TO FENCE DETAILS- TYPE 3 (SHEET NO. A05.01)
- 1.2M HT COLORBOND FENCE
- 2.1M HT ACOUSTIC BARRIER
- 1.8M HT BALUSTRADE / ACOUSTIC BARRIER
  REFER TO FENCE DETAILS- TYPE 1 (SHEET NO.)

NOTE:
- ALL ACOUSTIC BARRIERS IN ACCORDANCE WITH ACOUSTIC REPORT.
- REFER TO SHEET A05.01 FOR FENCE DETAILS.

1 : 100

ABBREVIATIONS

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ESL	- EXISTING SLAB LEVEL
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XX.XX	- SPOT LEVEL (ELEVATION)

LANDSCAPE LEGEND

- EXISTING TREE / TREE TO BE RETAINED
- TREE TO BE REMOVED
- NEW TREE
- LANDSCAPING / BUFFER
- TURF
- EXTERNAL FLOOR FINISH
- LINE OF STRUCTURAL ROOT ZONE (SRZ)
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NAME	NO. CHLDRN	REQ VOL	VOL
INT ST 1	12	2.40 m³	5.40 m³
INT ST 2	20	4.00 m³	5.00 m³
INT ST 3	20	4.00 m³	14.50 m³
INT ST 4	10	2.00 m³	3.35 m³
INT ST 5	10	2.00 m³	8.45 m³
TOTAL	72	14.40 m³	36.75 m³

EXTERNAL STORAGE SCHEDULE			
NAME	NO. CHLDRN	REQ VOL	VOL
EXT ST 1	42	12.60 m³	15.25 m³
EXT ST 2	30	9.00 m³	11.35 m³
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PLAYROOM 4	AGE 3-5	10	1	32.5 m²	37.05 m²
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ACCESSIBLE	1
STAFF	7
VISITOR	5
TOTAL	13

NOT FOR CONSTRUCTION

ISSUE	DATE	DESCRIPTION
A	28/03/23	ISSUED FOR DEVELOPMENT APPLICATION

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTIC	DAY DESIGN
WASTE	DICKENS SOLUTIONS
LANDSCAPE	GREENSCAPE
QS	OPCAC
TRAFFIC	STANBURY TRAFFIC
SURVEY	MASRI SURVEY GROUP
STORMWATER	HORIZON ENGINEERS

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ARCHITECT

ArtMade Architects
| 516/50 Holt St, Surry Hills NSW 2010
| P: 02 8760 9300 | hello@artmade.com.au | www.artmade.com.au

PROJECT

CHILDCARE CENTRE

PROJECT ADDRESS

78-80A BENAROON ROAD, LAKEMBA

SHEET NAME

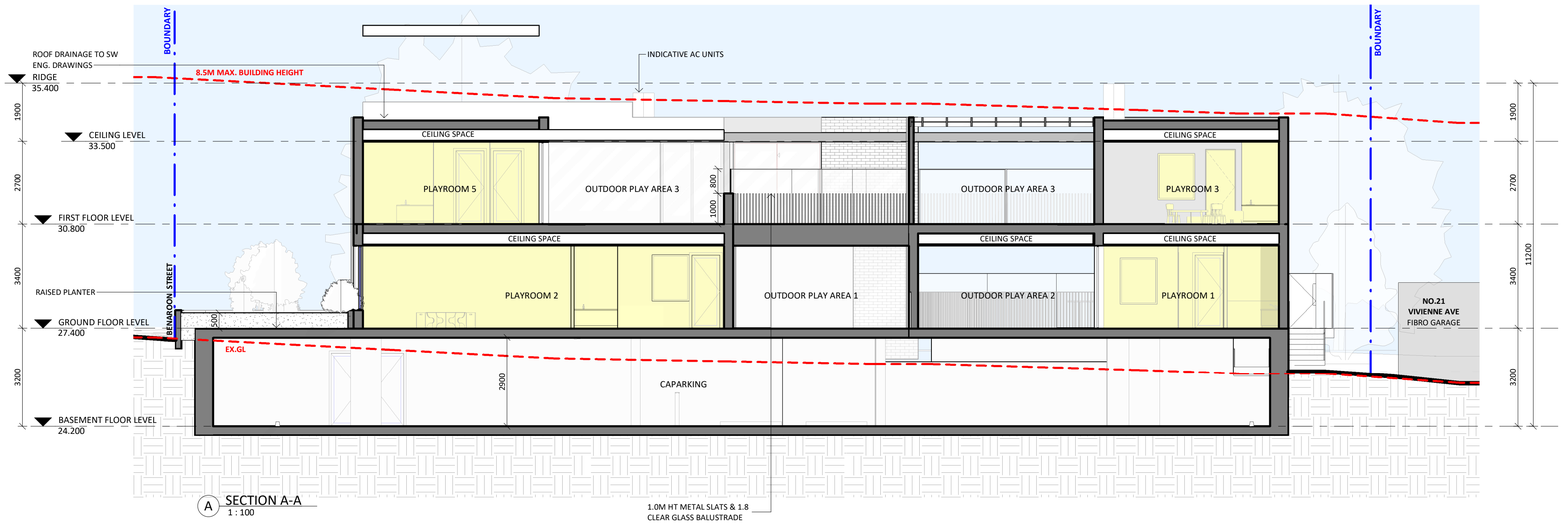
FIRST FLOOR PLAN

ISSUE FOR DEVELOPMENT APPLICATION

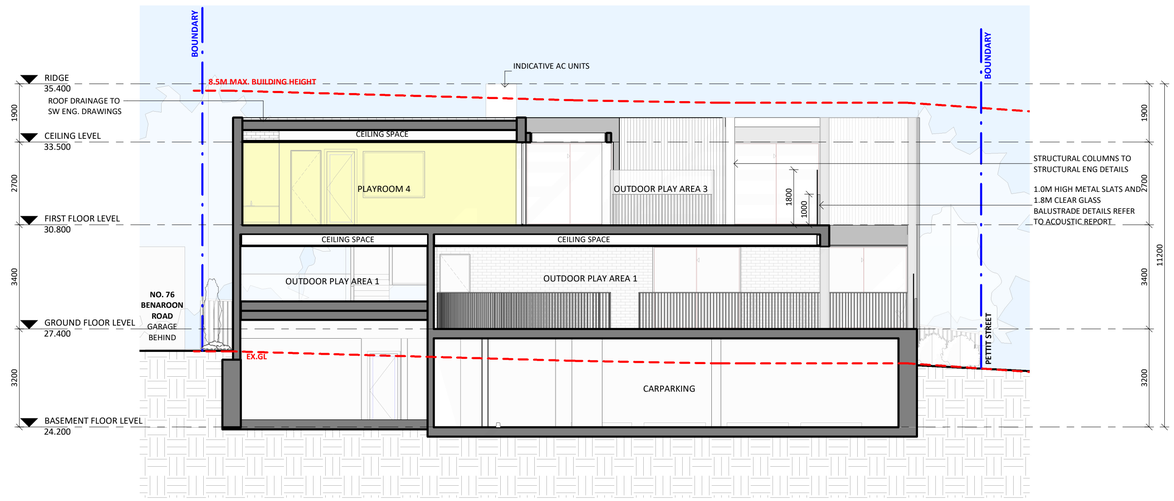
Project number	Sheet No.	Issue	Phase
23695	DA03.03	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY

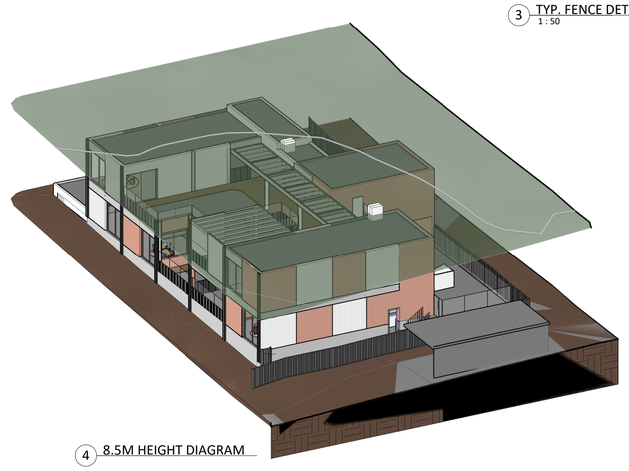
Drawn By	Checked By	Date
KZ/MS	AS/SS	28/03/23



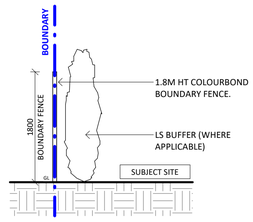
A SECTION A-A
1 : 100



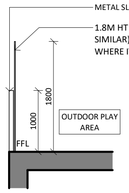
B SECTION B-B
1 : 100



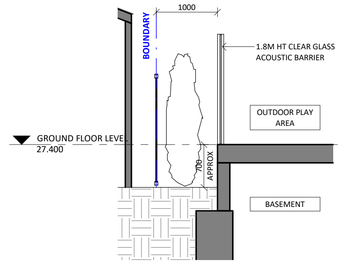
4 8.5M HEIGHT DIAGRAM



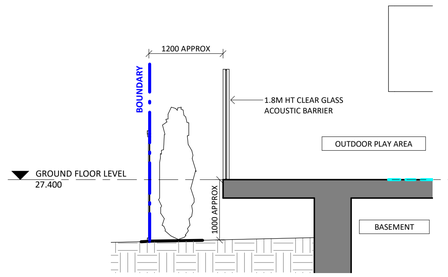
3 TYP. FENCE DETAILS - TYPE 3
1 : 50



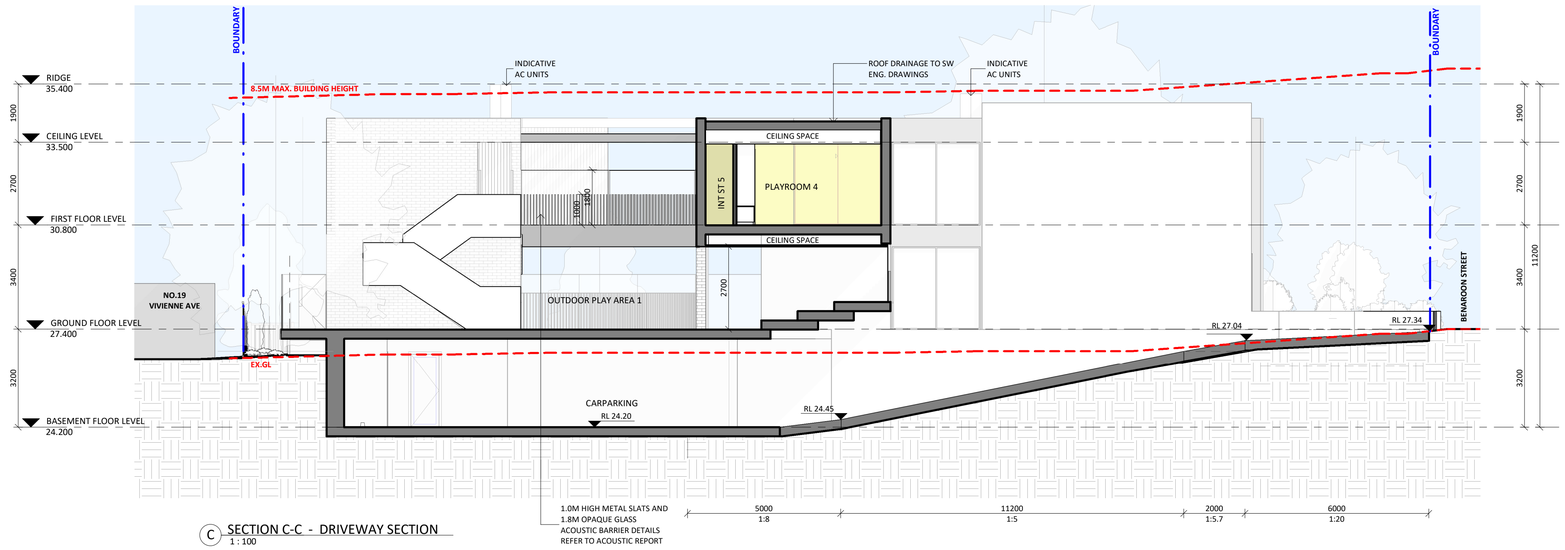
1 TYP. FENCE DETAILS - TYPE 1
1 : 50



D SECTION D-D
1 : 50



E SECTION E-E
1 : 50



C SECTION C-C - DRIVEWAY SECTION
1 : 100

0 1 2 3 4 5
1 : 100

EXTERNAL FINISHES

BK-01	BRICK AUSTRAL BRICK COLOUR: GIPPS OR SIMILAR
CB-01	GARAGE DOOR COLORBOND COLOUR: WOODLAND GREY OR SIMILAR
CB-02	ROOF,GUTTER, DOWNPIPES COLORBOND COLOUR: DUNE OR SIMILAR
CL-01	CLADDING COLOUR: PALE EUCALYPT OR SIMILAR
PT-01	RENDER & PAINT DULUX COLOUR: WOODLAND GREY OR SIMILAR
PT-02	CEMENT RENDER DULUX COLOUR: SHALE GREY OR SIMILAR
PC-01	ALUMINIUM WINDOW, DOOR FRAMES & COLUMNS DURALLOY POWDERCOAT COLOUR: WOODLAND GREY OR SIMILAR
TB-01	TIMBER DECKING INNOWOOD COLOUR: WESTERN RED CEDAR OR SIMILAR

ISSUE	DATE	DESCRIPTION
A	28/03/23	ISSUED FOR DEVELOPMENT APPLICATION

ASSOCIATED CONSULTANTS

PLANNER	AVENUE TOWN PLANNING
ACCESS	ERGON CONSULTING
ACOUSTIC	DAY DESIGN
WASTE	DICKENS SOLUTIONS
LANDSCAPE	GREENSCAPE
QS	QPC&C
TRAFFIC	STANBURY TRAFFIC
SURVEY	MASRI SURVEY GROUP
STORMWATER	HORIZON ENGINEERS

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ARCHITECT

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PROJECT

CHILDCARE CENTRE

PROJECT ADDRESS

78-80A BENAROON ROAD, LAKEMBA

SHEET NAME

SECTIONS & EXTERNAL FINISHES

ISSUED FOR DEVELOPMENT APPLICATION

Project number	Sheet No.	Issue	Phase
23695	DA05.01	A	DA

Sheet Size	Scale	L.G.A.
A1	As indicated	CANTERBURY

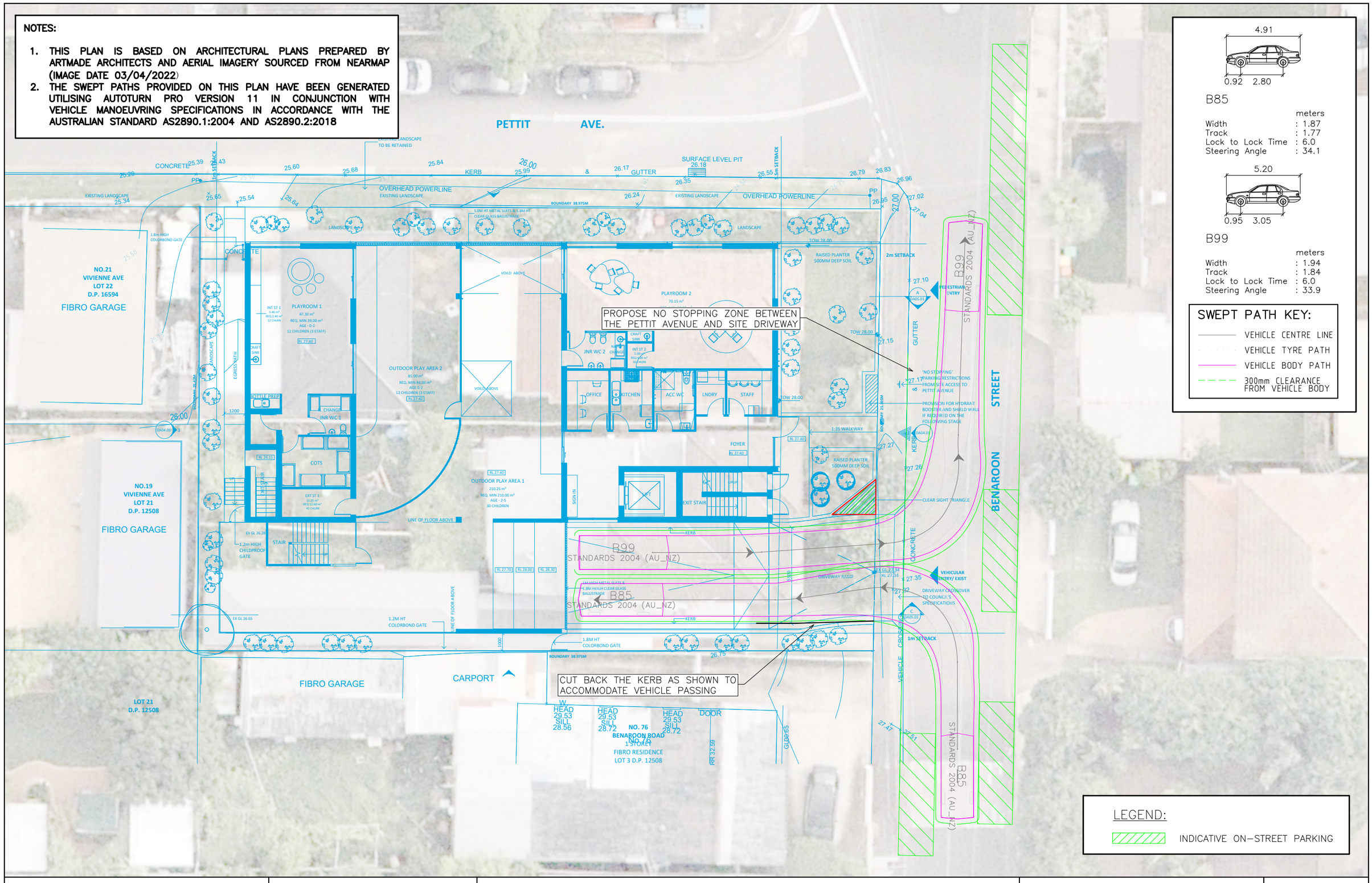
Drawn By	Checked By	Date
KZ/MS	AS/SS	28/03/23

NOT FOR CONSTRUCTION

APPENDIX 2

NOTES:

1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY ARTMADE ARCHITECTS AND AERIAL IMAGERY SOURCED FROM NEARMAP (IMAGE DATE 03/04/2022)
2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 11 IN CONJUNCTION WITH VEHICLE MANOEUVRING SPECIFICATIONS IN ACCORDANCE WITH THE AUSTRALIAN STANDARD AS2890.1:2004 AND AS2890.2:2018



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

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

LEGEND:

INDICATIVE ON-STREET PARKING

STANBURY TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

ADDRESS: 401/380 HARRIS ST, PYRMONT
PH: (02) 8971 8314
EMAIL: info@stanburytraffic.com.au
WEBSITE: www.stanburytraffic.com.au

STANBURY TRAFFIC PLANNING

78-80A BENAROON ROAD, LAKEMBA
CAR PARK COMPLIANCE REVIEW
SWEPT PATH ASSESSMENT
GROUND

SCALE 0 2.0 4.0	1:200@A3	CREATED BY Y.H
DRAWING NO.	22-217-01-V3	APPROVED BY M.S
DATE	28 March 2023	SHEET 01 / 09

NOTES:

1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY ARTMADE ARCHITECTS AND AERIAL IMAGERY SOURCED FROM NEARMAP (IMAGE DATE 03/04/2022)
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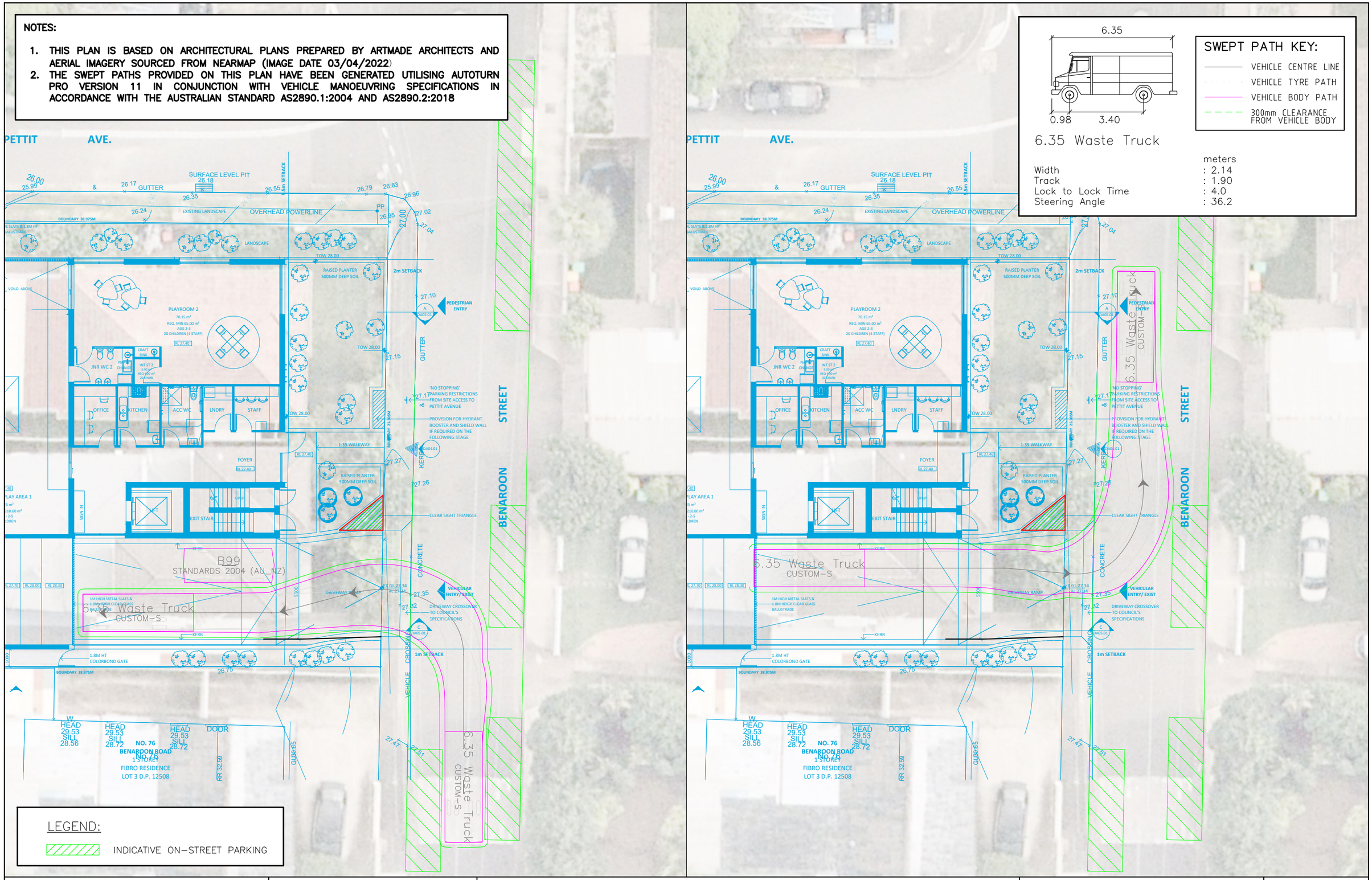

6.35 Waste Truck

	meters
Width	: 2.14
Track	: 1.90
Lock to Lock Time	: 4.0
Steering Angle	: 36.2

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

LEGEND:

INDICATIVE ON-STREET PARKING

STANBURY TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

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STANBURY TRAFFIC PLANNING

78-80A BENAROON ROAD, LAKEMBA
CAR PARK COMPLIANCE REVIEW
SWEPT PATH ASSESSMENT
GROUND

SCALE 0 2.0 4.0	1:200@A3	CREATED BY Y.H
DRAWING NO.	22-217-01-V3	APPROVED BY M.S
DATE	28 March 2023	SHEET 02 / 09

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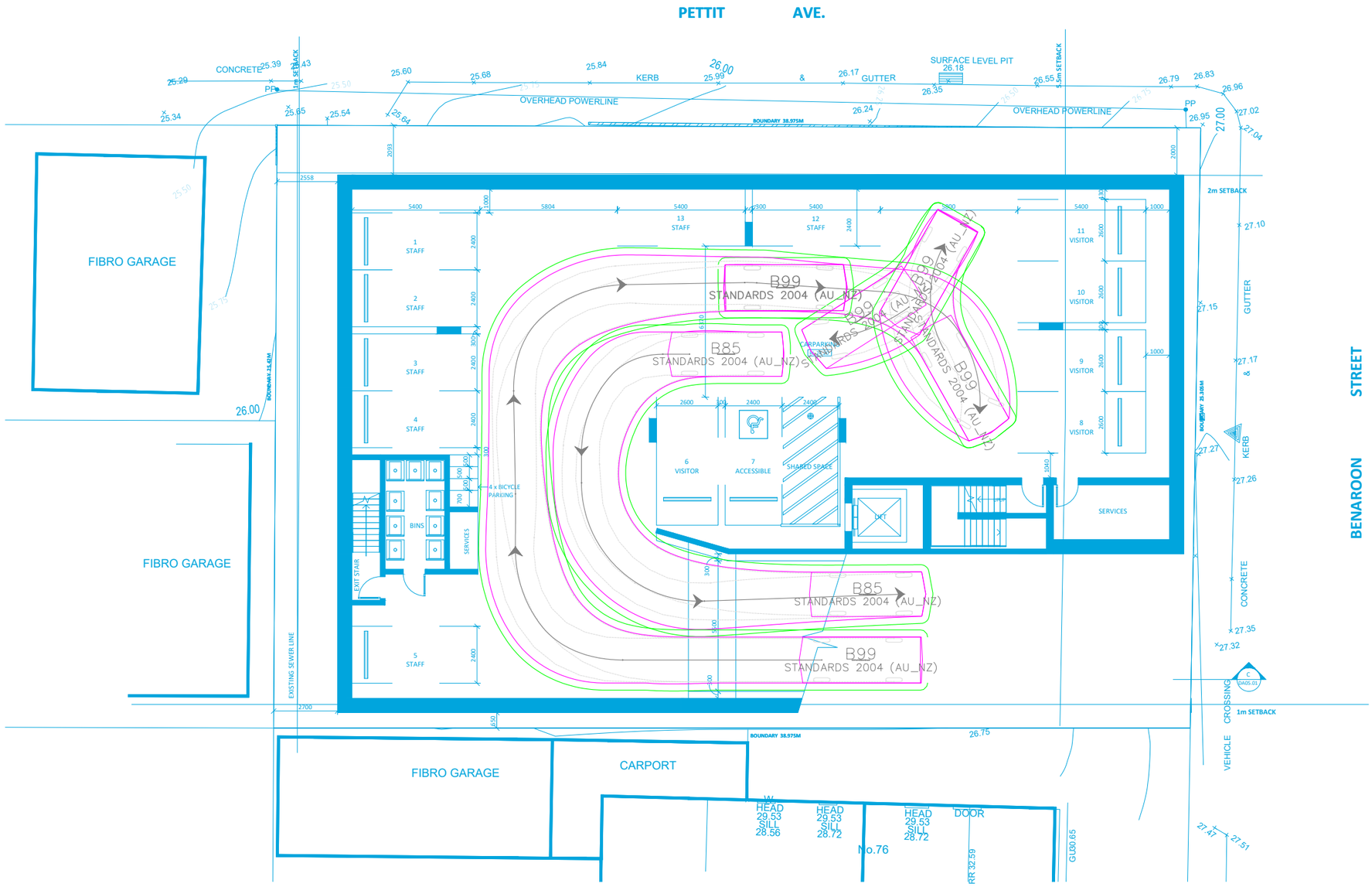
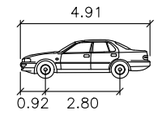
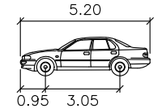




B85

	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

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

STANBURY TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

ADDRESS: 401/380 HARRIS ST, PYRMONT
PH: (02) 8971 8314
EMAIL: info@stanburytraffic.com.au
WEBSITE: www.stanburytraffic.com.au

STANBURY TRAFFIC PLANNING

78–80A BENAROON ROAD, LAKEMBA
CAR PARK COMPLIANCE REVIEW
SWEPT PATH ASSESSMENT
BASEMENT

SCALE	0 2.0 4.0 1:200@A3	CREATED BY	Y.H
DRAWING NO.	22–217–01–V3	APPROVED BY	M.S
DATE	28 March 2023	SHEET	03 / 09

NOTES:

1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY ARTMADE ARCHITECTS AND AERIAL IMAGERY SOURCED FROM NEARMAP (IMAGE DATE 03/04/2022)
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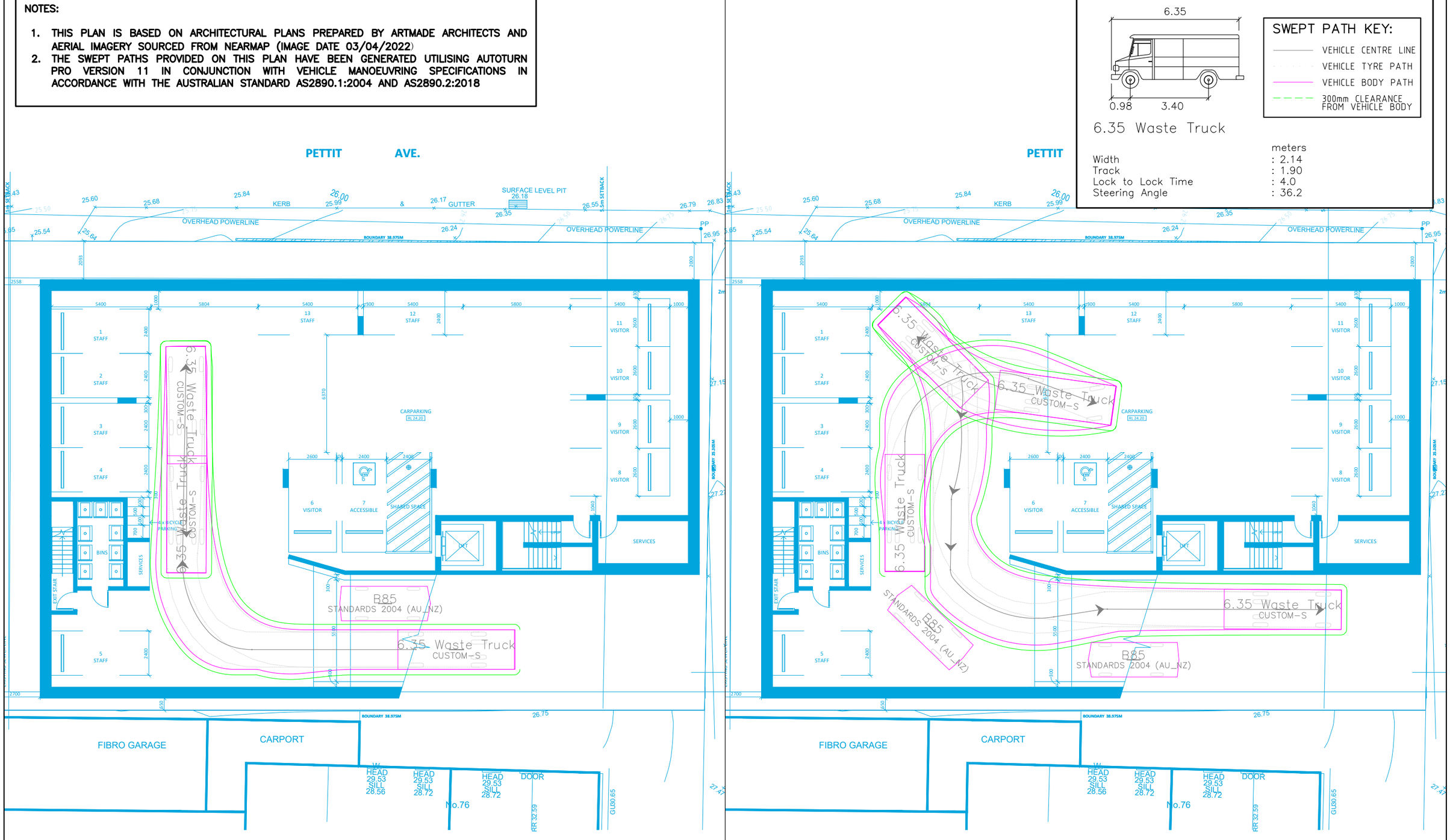

STANBURY TRAFFIC PLANNING TRAFFIC, PARKING & TRANSPORT CONSULTANTS	ADDRESS: 401/380 HARRIS ST, PYRMONT PH: (02) 8971 8314 EMAIL: info@stanburytraffic.com.au WEBSITE: www.stanburytraffic.com.au	STANBURY TRAFFIC PLANNING 78–80A BENAROON ROAD, LAKEMBA CAR PARK COMPLIANCE REVIEW SWEPT PATH ASSESSMENT BASEMENT	SCALE 0 2.0 4.0 1:200@A3 DRAWING NO. 22–217–01–V3 DATE 28 March 2023	CREATED BY Y.H APPROVED BY M.S SHEET 04 / 09

NOTES:

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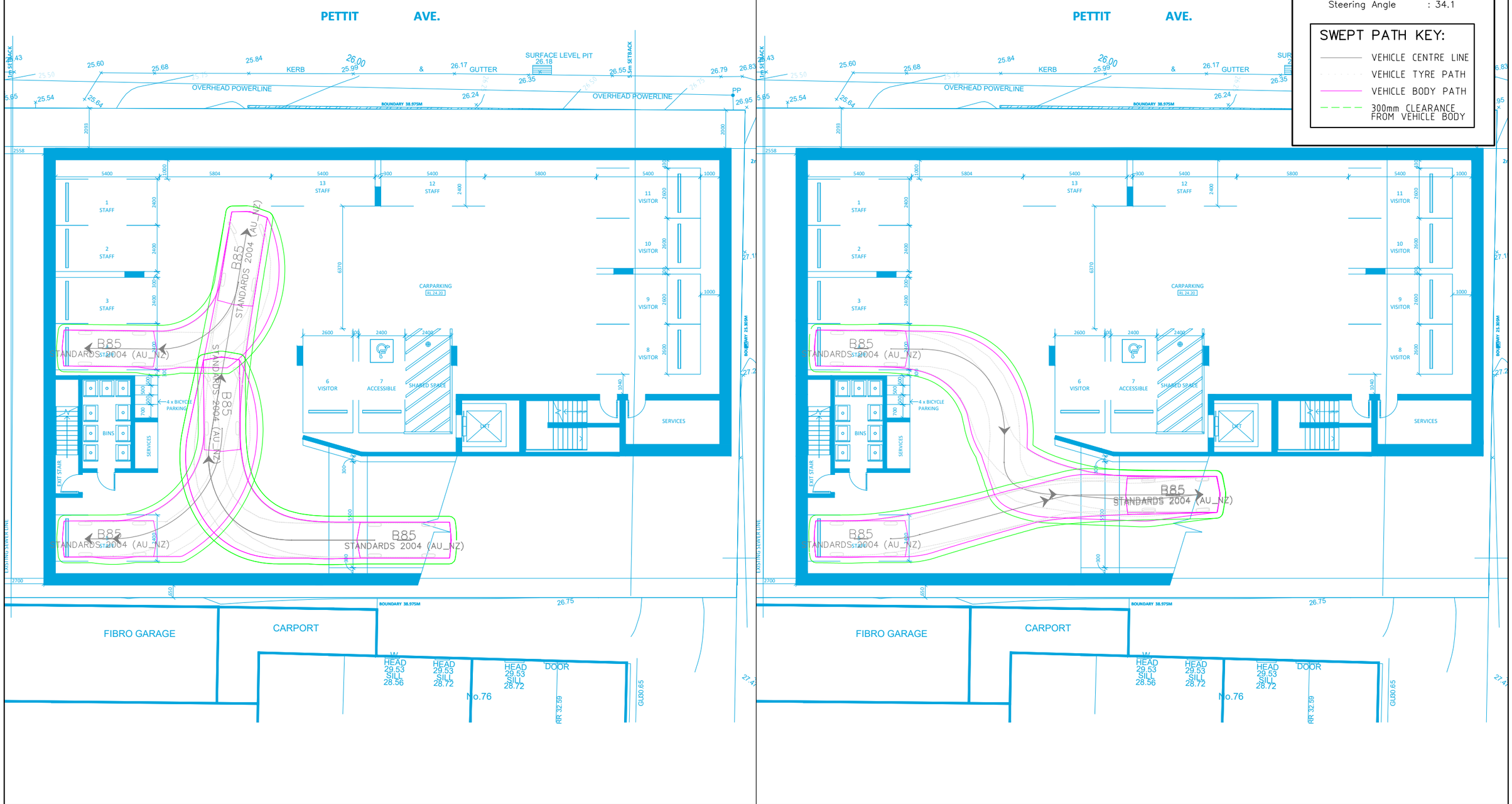

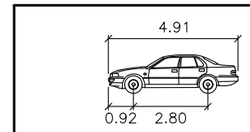

B85

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

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
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- 300mm CLEARANCE FROM VEHICLE BODY

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STANBURY TRAFFIC PLANNING

78–80A BENAROON ROAD, LAKEMBA
CAR PARK COMPLIANCE REVIEW
SWEPT PATH ASSESSMENT
BASEMENT

SCALE 0 2.0 4.0	1:200@A3	CREATED BY Y.H
DRAWING NO.	22–217–01–V3	APPROVED BY M.S
DATE	28 March 2023	SHEET 05 / 09

NOTES:

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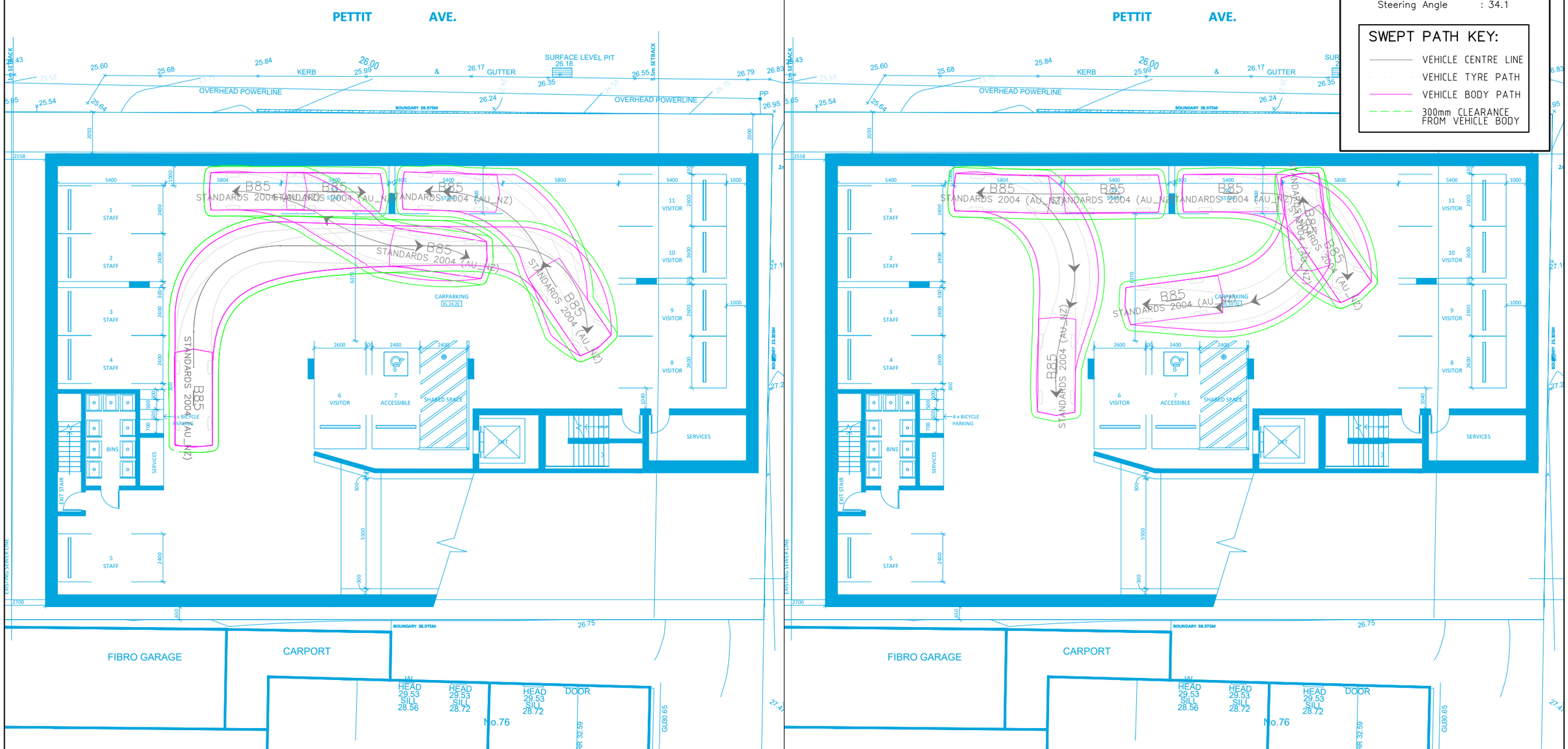

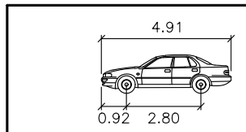

B85

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

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CAR PARK COMPLIANCE REVIEW
SWEPT PATH ASSESSMENT
BASEMENT

SCALE 0 2.0 4.0	1:200@A3	CREATED BY Y.H
DRAWING NO.	22–217–01–V3	APPROVED BY M.S
DATE	28 March 2023	SHEET 06 / 09

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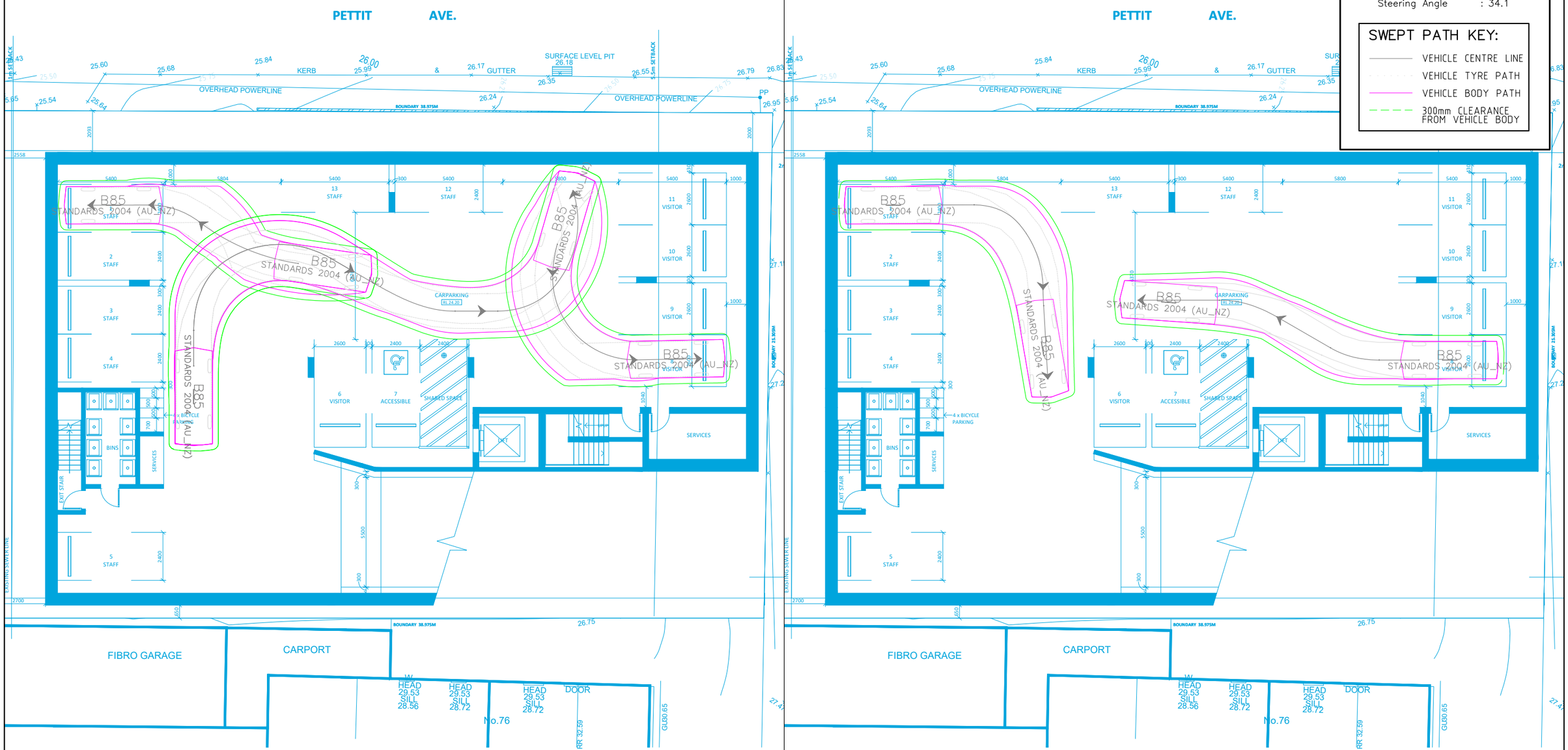

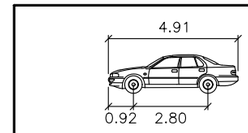

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	meters
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DATE	28 March 2023	SHEET 07 / 09

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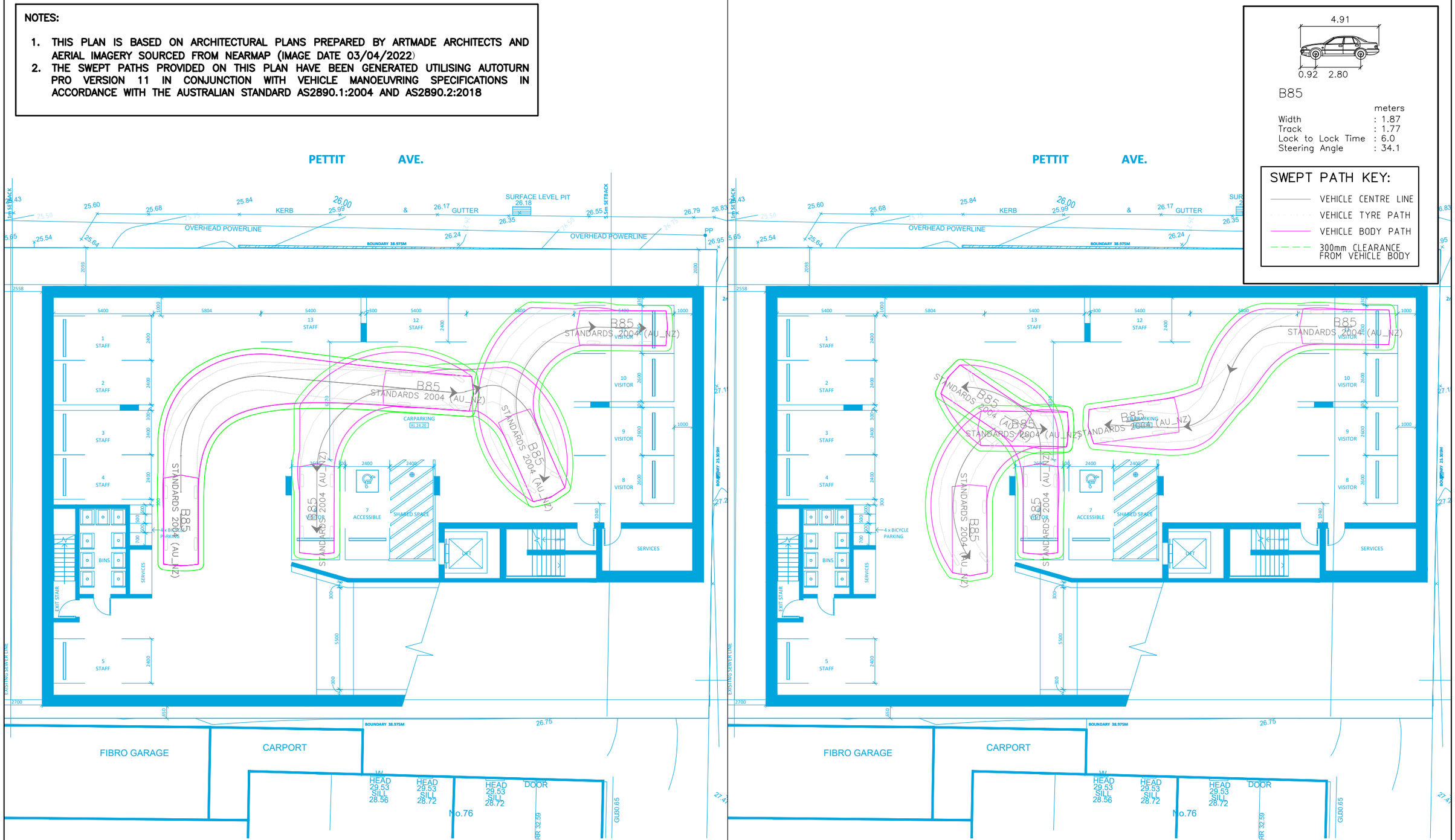

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STANBURY TRAFFIC PLANNING

78–80A BENAROON ROAD, LAKEMBA
CAR PARK COMPLIANCE REVIEW
SWEPT PATH ASSESSMENT
BASEMENT

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DATE	28 March 2023	SHEET 08 / 09

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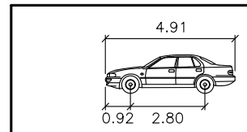

B85

	meters
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Track	: 1.77
Lock to Lock Time	: 6.0
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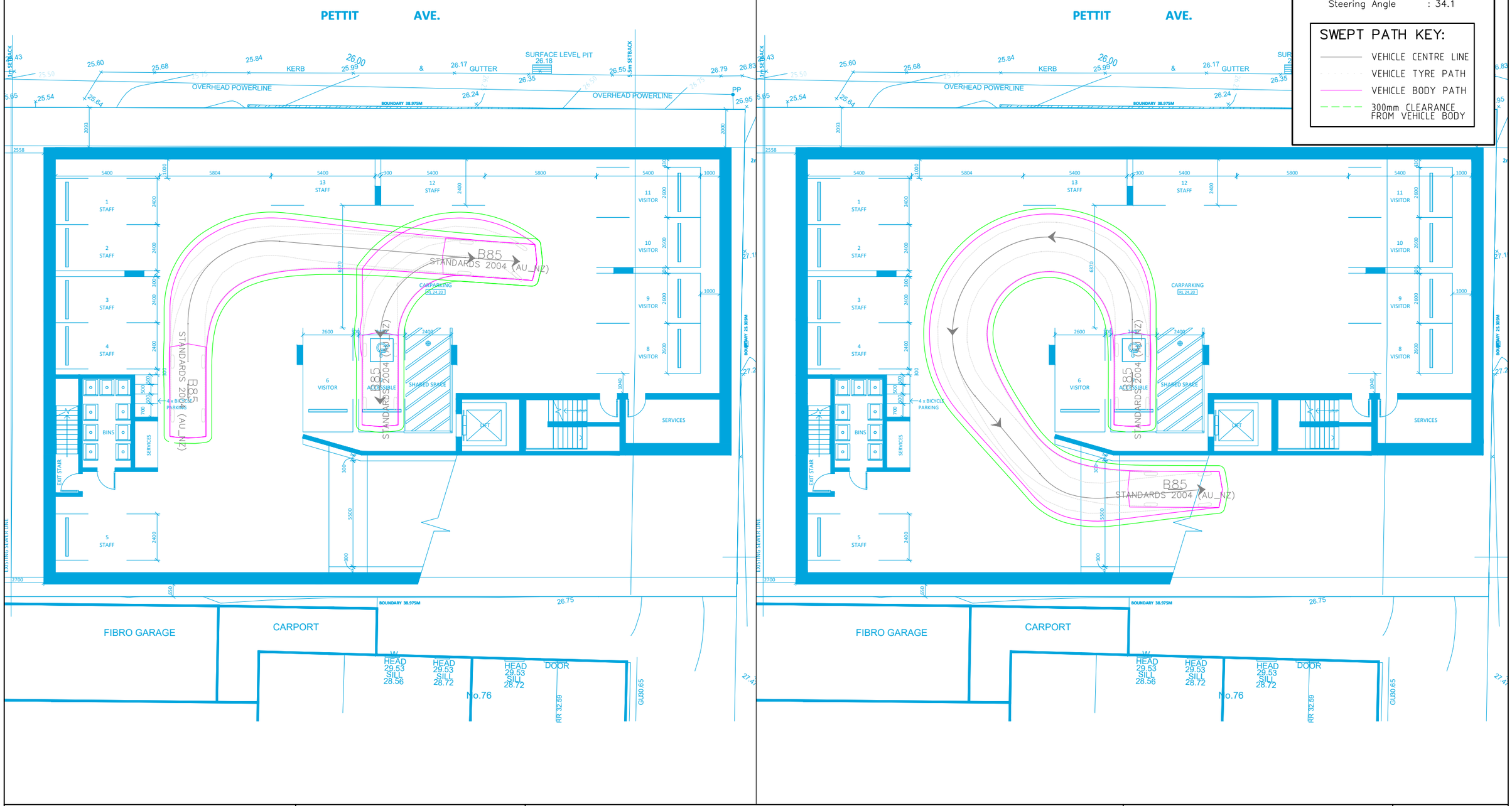

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BASEMENT

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DRAWING NO.	22–217–01–V3	APPROVED BY M.S
DATE	28 March 2023	SHEET 09 / 09

APPENDIX 3

WASTEWISE environmental®

Introducing the

WASTE WISE MINI

REAR LOADER

Waste Wise Environmental introduced the first MINI rear loader vehicle into Australia in September 2011.

The success of the MINI rear loader has been well documented over the first 12 months of service. The ability to manoeuvre in confined areas within basement car parks, where bin rooms are located, and laneways where other vehicles find difficulty in reversing is unique, but achievable for this compact unit.

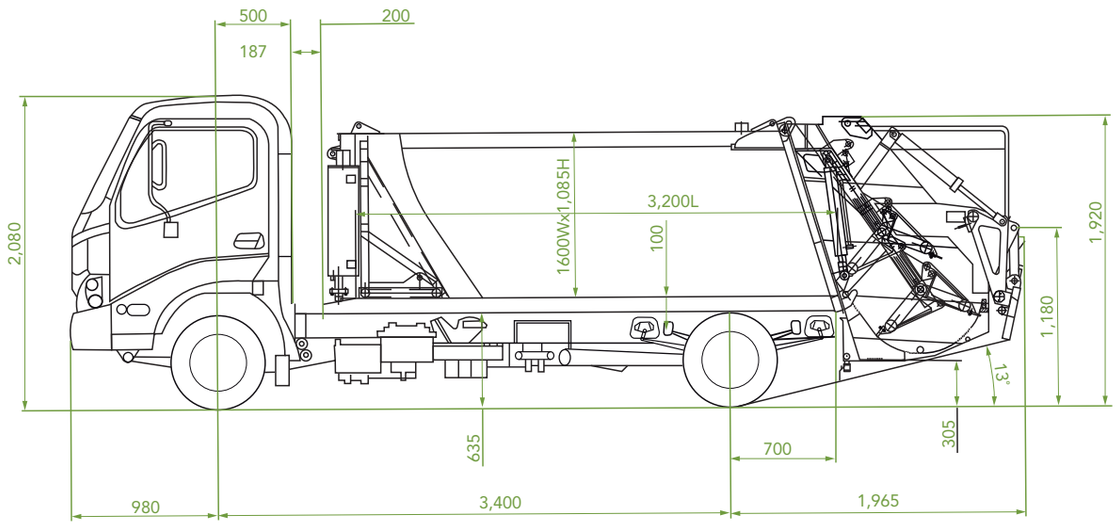
With an overall height of just 2.08 metres and length of 6.40 metres, this vehicle can enter most car parks, going down three (3) basement levels or climbing up eight (8) car park levels to empty MGB 240 litre & MGB 660 litre bins within its own height capacity.

MGB 1100 litre bins will be lifted higher than the vehicle and generally find a spot within the complex to do so.

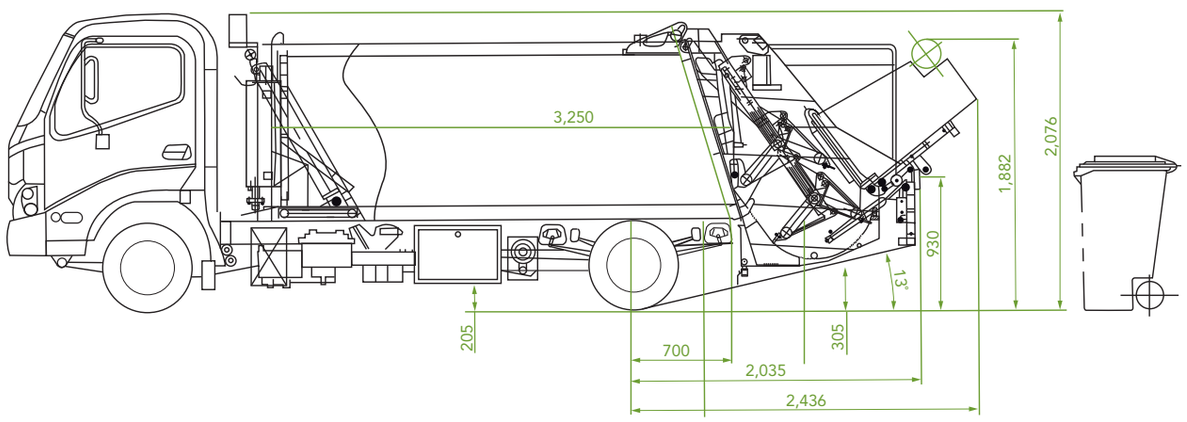
The MINI rear loader is valuable to all: architects, developers, owners corporations (space saving and cost saving) and councils (no bins at kerbside affecting the streetscape).

The Waste Wise Environmental fleet of MINI'S has successfully demonstrated its ability as the most valuable & versatile MINI rear loader on the road today. Not only in confined areas, but also under standard rear loader conditions at street level.

Vehicle Dimensions



Truck Bin Lift Capabilities

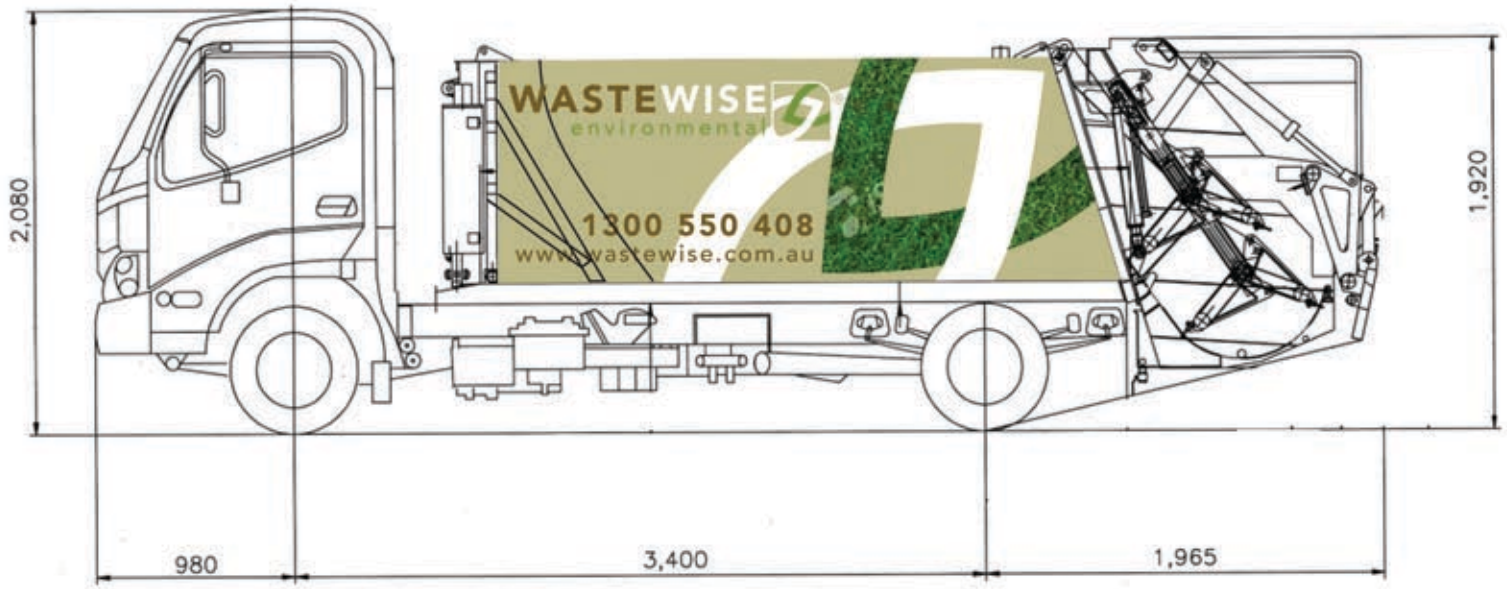


PO Box 117 Reservoir VIC 3073
T 03 9359 1555 **F** 03 9359 2544
info@wastewise.com.au
www.wastewise.com.au

WASTEWISE® environmental

WASTEWISE® environmental

ABN: 99 129 898 371 ACN: 129 898 371



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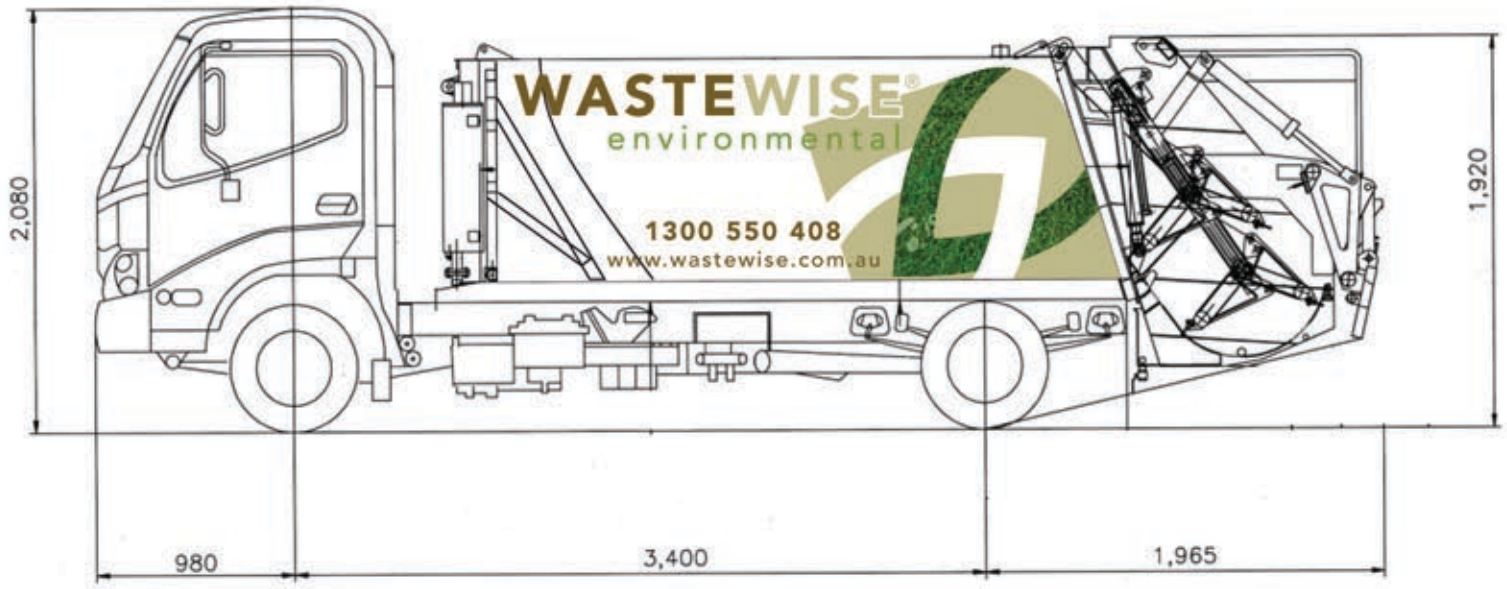
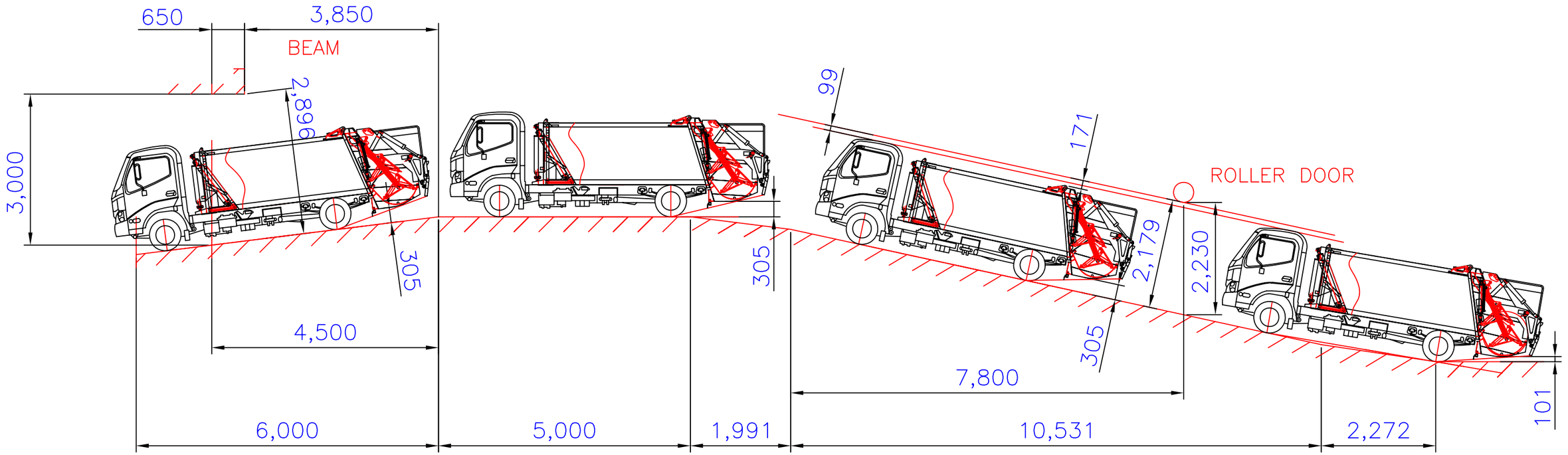


2.

PO Box 117 Reservoir VIC 3073 T 1300 550 408 T 03 9359 1555 F 03 9359 2544
info@wastewise.com.au www.wastewise.com.au

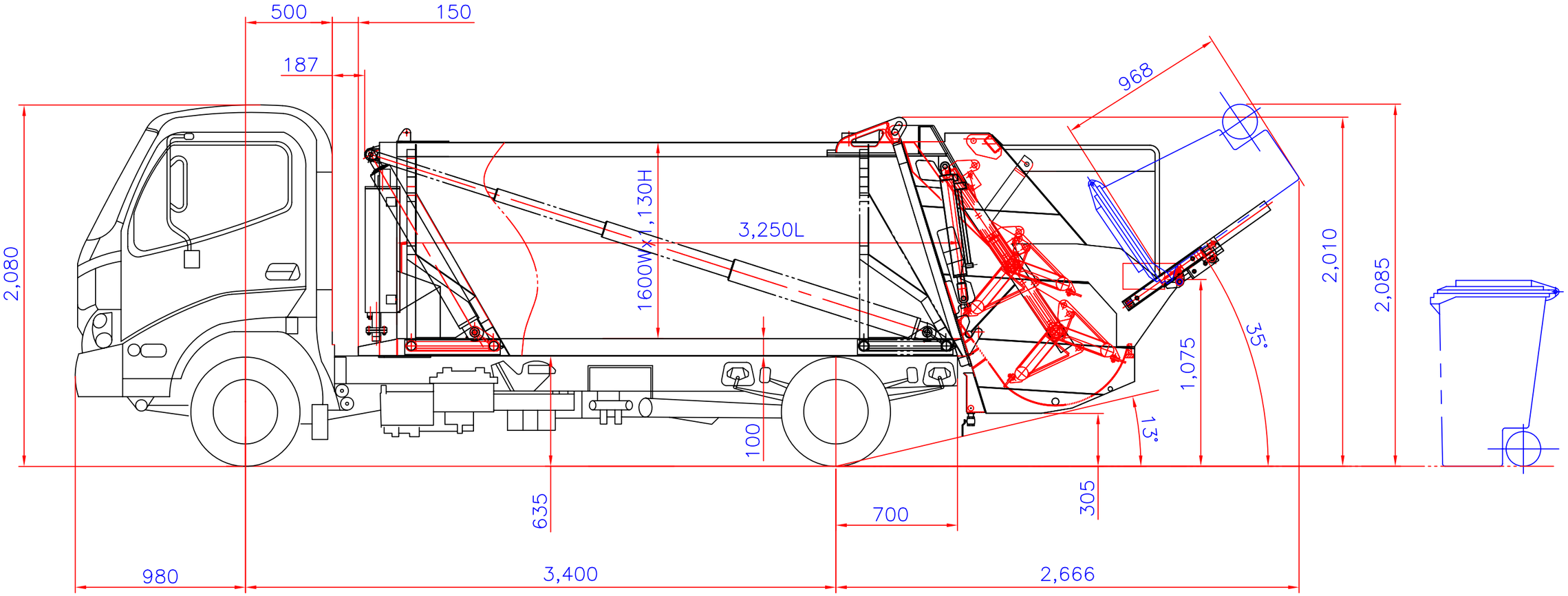
APPENDIX 4



GARWOOD INTERNATIONAL PTY.LTD

B HINO 300 614 3400WB 5M^3

DATE: MAY-30-2011



GARWOOD INTERNATIONAL PTY.LTD

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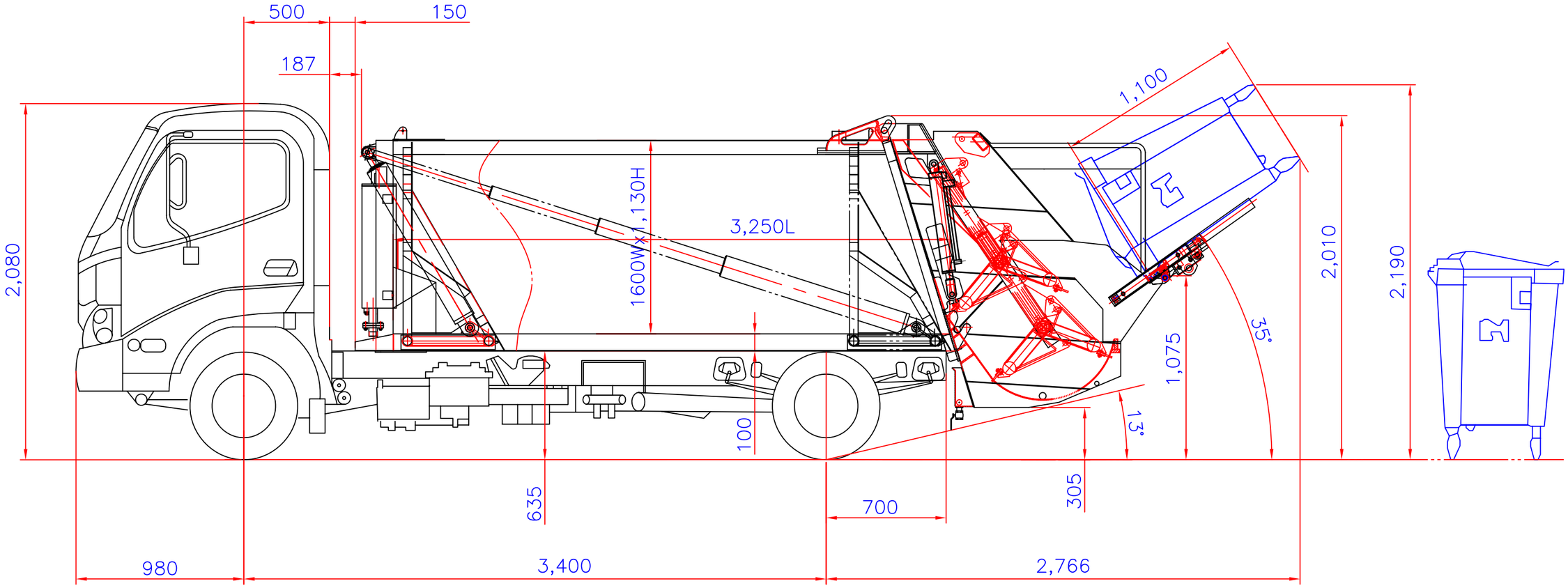
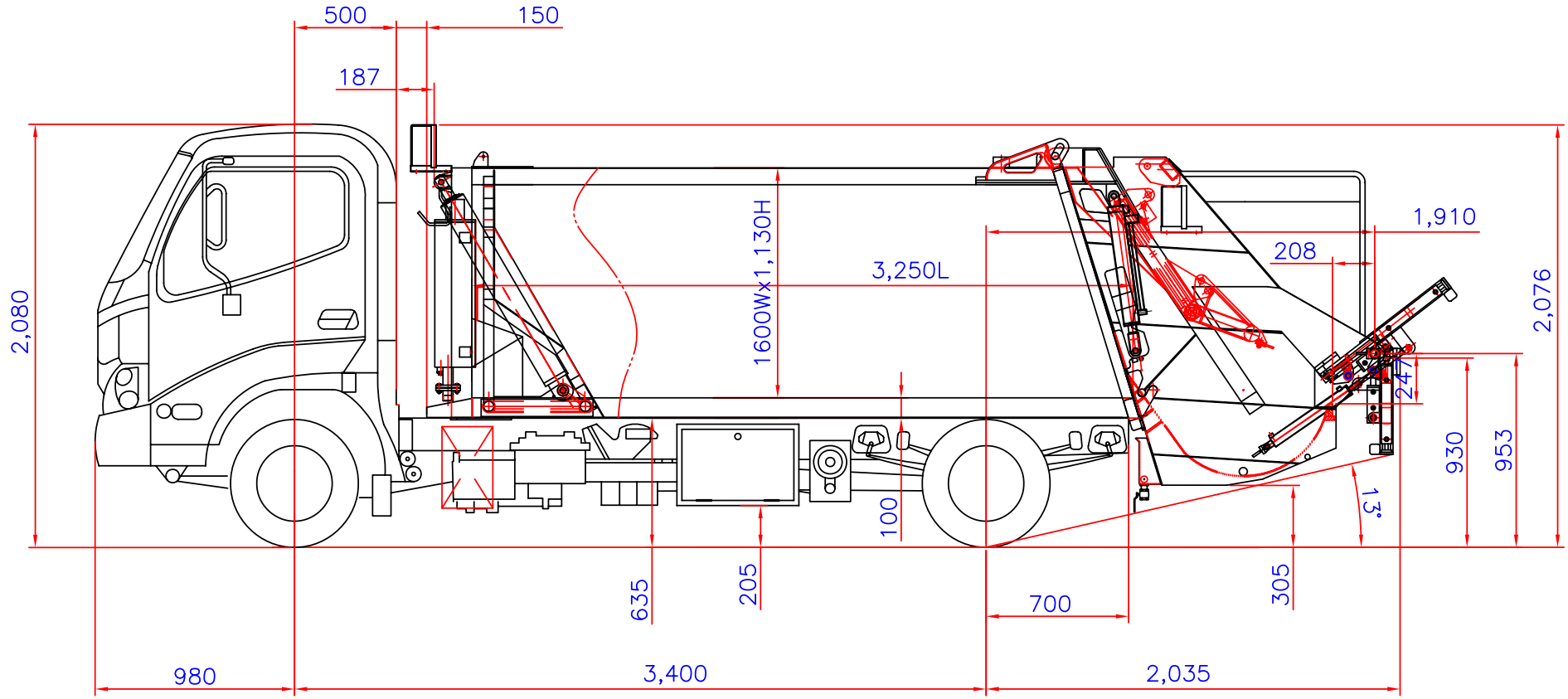


GARWOOD INTERNATIONAL PTY.LTD

B HINO 300 614 3400WB 5M^3

DATE: JUN–30–2011



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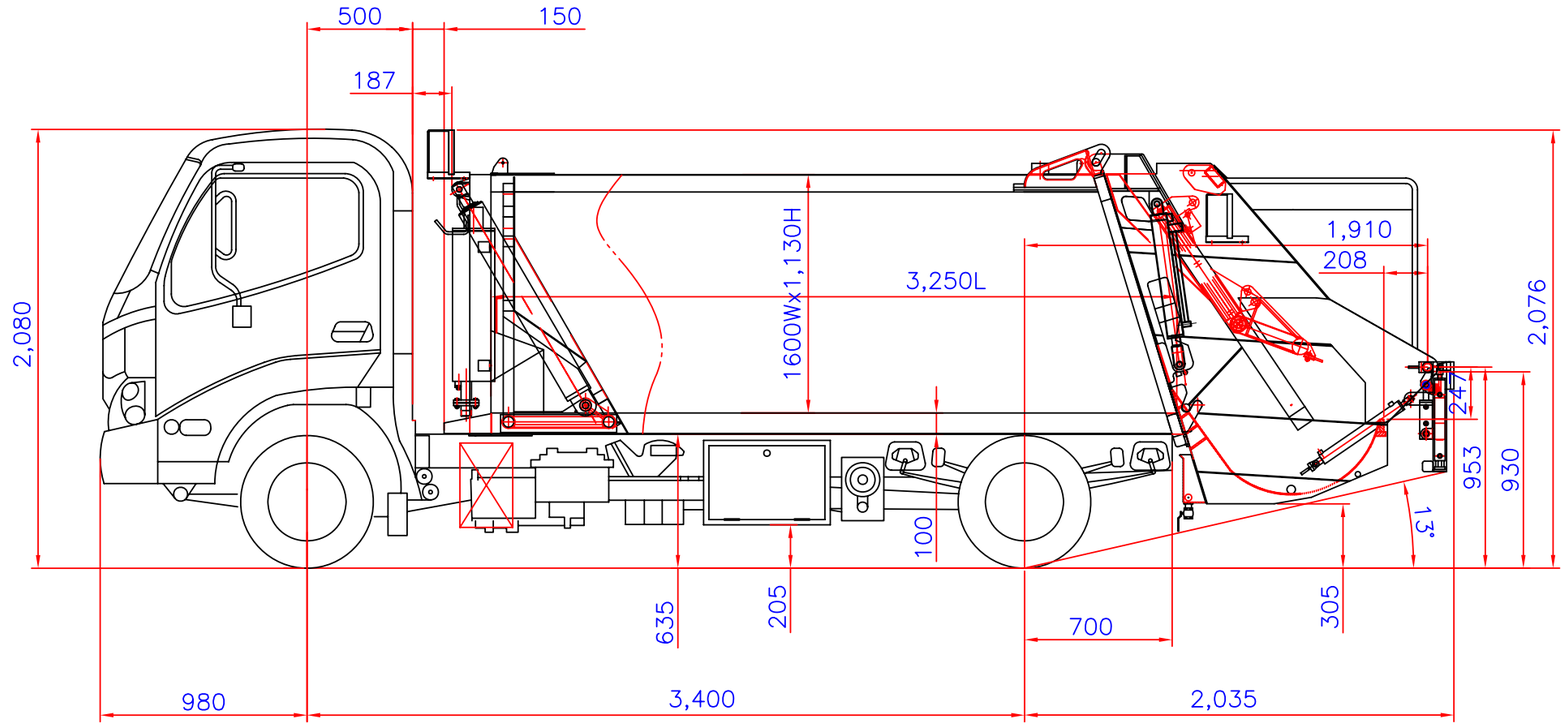
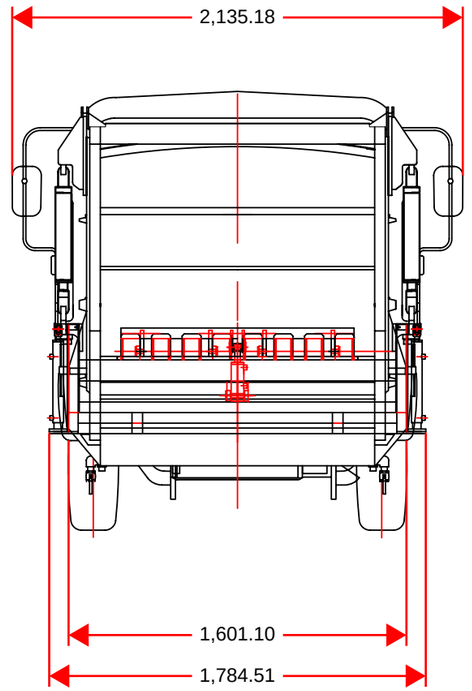
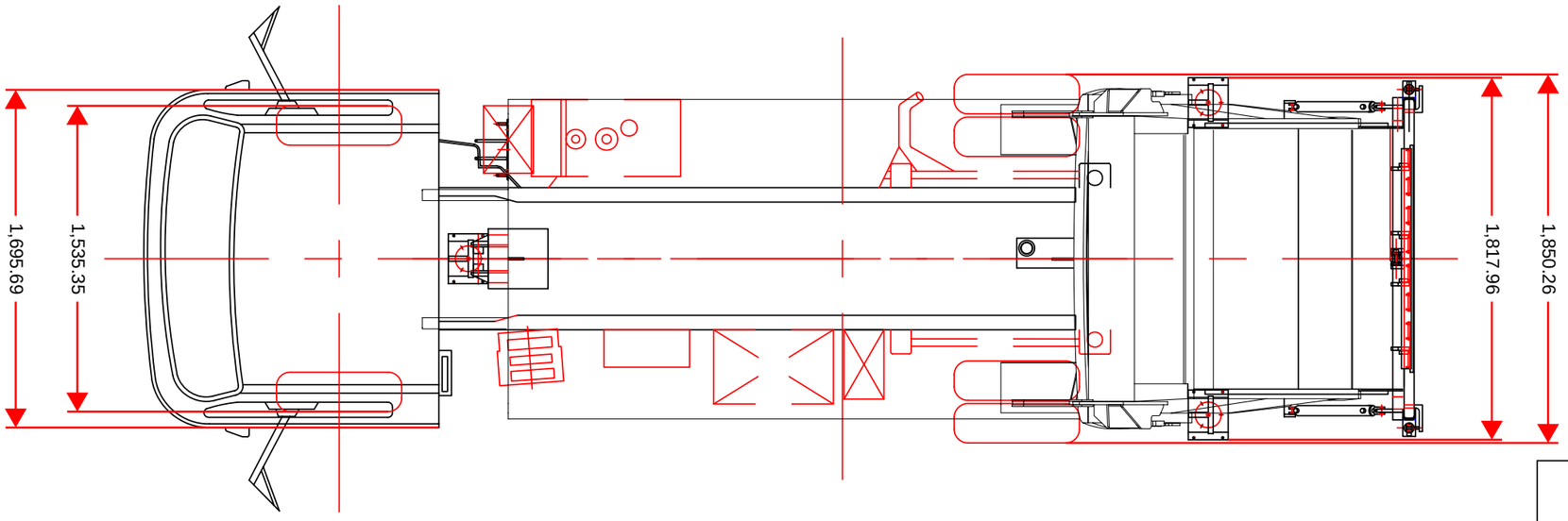
B HINO 300 614 3400WB 5M^3	
	DATE: JUL-07-2011







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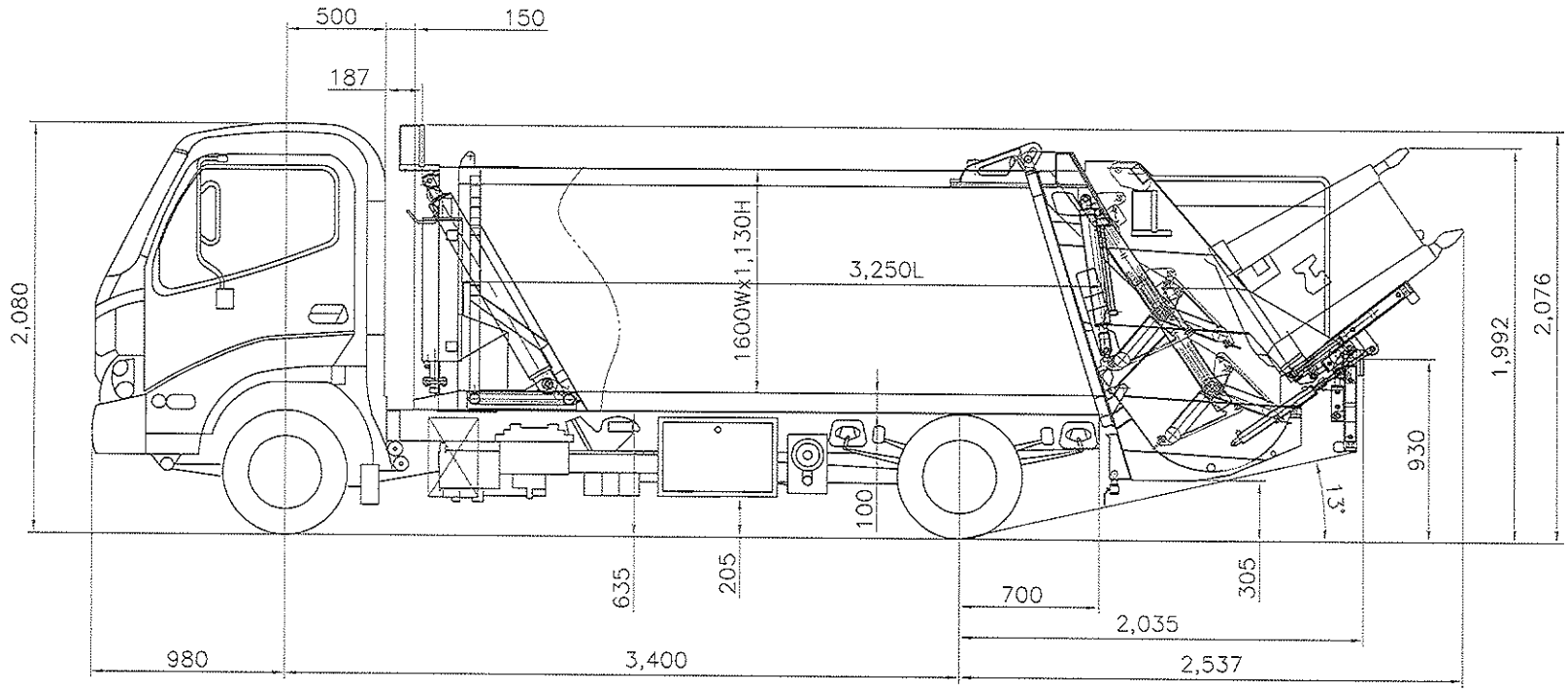
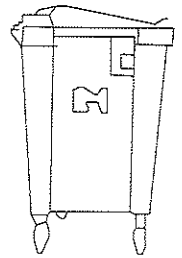




GARWOOD INTERNATIONAL PTY.LTD		
B HINO 300 614 3400WB 5M^3		
		DATE: JUL-07-2011

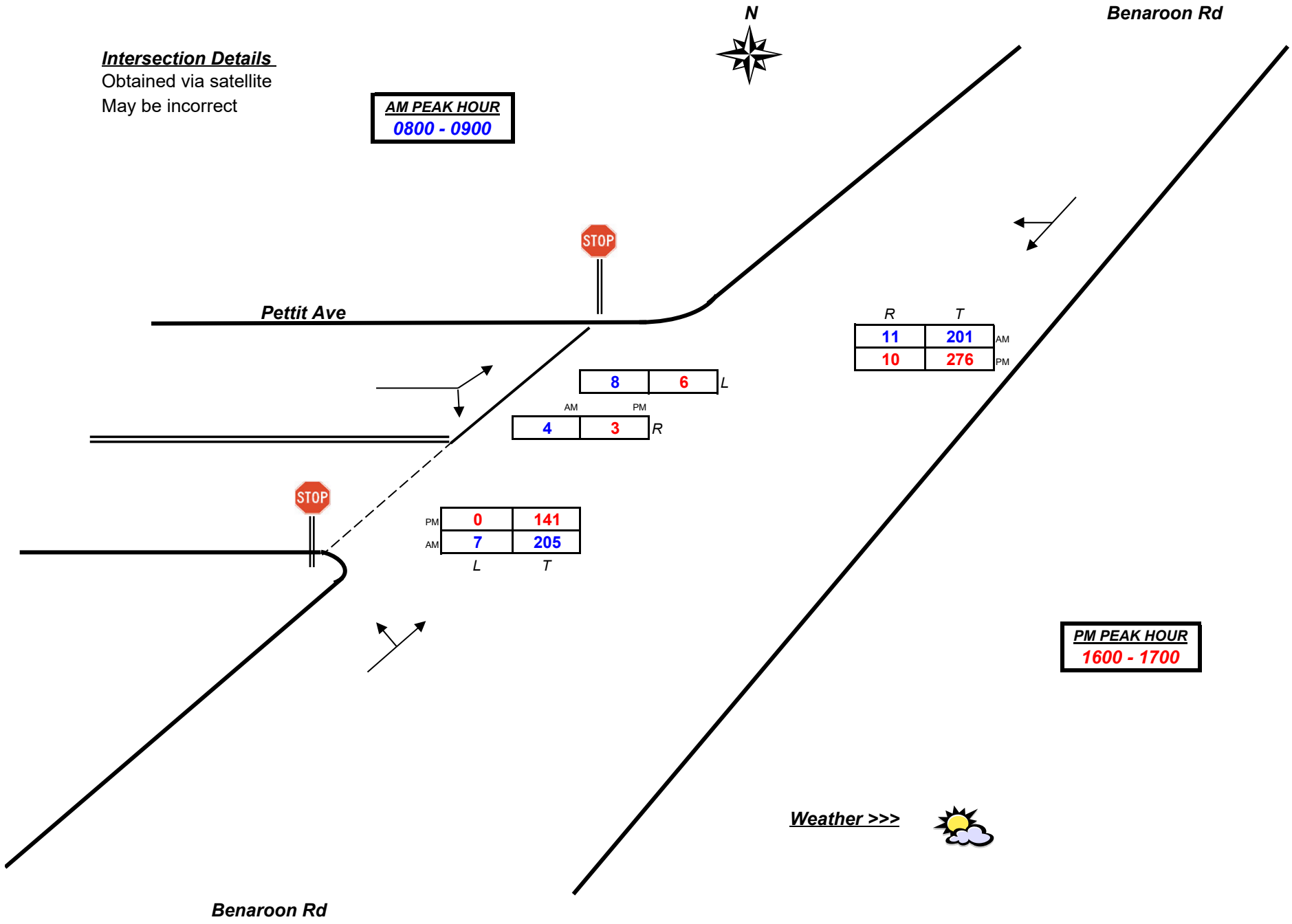
APPENDIX 5

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph. Mob.0418-239019

Client : Stanbury Traffic Planning
Job No/Name : 7783 LAKEMBA Traffic & Parking
Day/Date : Tuesday 29th November 2022



APPENDIX 6

MOVEMENT SUMMARY

Site: 101 [Benaroon Road & Pettit Avenue am existing (Site Folder: General)]

Benaroon Road & Pettit Avenue am existing
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benaroon Road														
1	L2	7	0.0	7	0.0	0.115	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	55.3
2	T1	205	0.0	216	0.0	0.115	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach		212	0.0	223	0.0	0.115	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.5
North: Benaroon Road														
8	T1	201	0.0	212	0.0	0.108	0.1	LOS A	0.1	0.6	0.04	0.03	0.04	59.1
9	R2	11	0.0	12	0.0	0.108	6.3	LOS A	0.1	0.6	0.04	0.03	0.04	55.7
Approach		212	0.0	223	0.0	0.108	0.4	NA	0.1	0.6	0.04	0.03	0.04	59.0
West: Pettit Avenue														
10	L2	8	0.0	8	0.0	0.013	8.8	LOS A	0.0	0.3	0.33	0.86	0.33	45.6
12	R2	4	0.0	4	0.0	0.013	9.6	LOS A	0.0	0.3	0.33	0.86	0.33	40.6
Approach		12	0.0	13	0.0	0.013	9.1	LOS A	0.0	0.3	0.33	0.86	0.33	44.2
All Vehicles		436	0.0	459	0.0	0.115	0.5	NA	0.1	0.6	0.03	0.05	0.03	58.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

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Site Category: (None)
Stop (Two-Way)

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South: Benaroon Road														
1	L2	1	0.0	1	0.0	0.077	5.5	LOS A	0.0	0.0	0.00	0.00	0.00	55.7
2	T1	141	0.0	148	0.0	0.077	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		142	0.0	149	0.0	0.077	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
North: Benaroon Road														
8	T1	276	0.0	291	0.0	0.144	0.0	LOS A	0.1	0.6	0.02	0.02	0.02	59.5
9	R2	10	0.0	11	0.0	0.144	6.0	LOS A	0.1	0.6	0.02	0.02	0.02	56.0
Approach		286	0.0	301	0.0	0.144	0.2	NA	0.1	0.6	0.02	0.02	0.02	59.3
West: Pettit Avenue														
10	L2	6	0.0	6	0.0	0.009	8.5	LOS A	0.0	0.2	0.27	0.87	0.27	45.7
12	R2	3	0.0	3	0.0	0.009	9.7	LOS A	0.0	0.2	0.27	0.87	0.27	40.6
Approach		9	0.0	9	0.0	0.009	8.9	LOS A	0.0	0.2	0.27	0.87	0.27	44.2
All Vehicles		437	0.0	460	0.0	0.144	0.4	NA	0.1	0.6	0.02	0.03	0.02	59.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX 7

R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph. Mob.0418-239019

Client : Stanbury Traffic Planning
Job No / Name : 7783 LAKEMBA Traffic & Parking
Day/Date : Tuesday 29th November 2022

Area	Location	Capacity	0700	0715	0730	0745	0800	0815	0830	0845	0900
A	Pettit Ave South / Side	NS	0	0	0	0	0	0	0	0	0
B	Pettit Ave South / Side	NS	0	0	0	0	0	0	0	0	0
C	Pettit Ave North / Side	7	6	6	6	7	7	7	7	7	7
D	Pettit Ave North / Side	10	10	10	10	10	10	10	10	10	10
E	Benaroon Rd East / Side	8	0	0	0	0	0	0	0	0	0
F	Benaroon Rd East / Side	10	0	0	0	0	0	0	0	0	0
G	Benaroon Rd West / Side	6	0	0	0	0	0	0	0	0	0
H	Benaroon Rd West / Side	6	0	0	0	0	0	0	0	0	0
Total of Vehicles Parked		47	16	16	16	17	17	17	17	17	17
Number of Vacant Spaces			31	31	31	30	30	30	30	30	30
% of Capacity Used			34.0%	34.0%	34.0%	36.2%	36.2%	36.2%	36.2%	36.2%	36.2%

Area	Location	Capacity	1600	1615	1630	1645	1700	1715	1730	1745	1800
A	Pettit Ave South / Side	NS	0	0	0	0	0	0	0	0	0
B	Pettit Ave South / Side	NS	0	0	0	0	0	0	0	0	0
C	Pettit Ave North / Side	7	7	6	6	5	4	5	5	6	7
D	Pettit Ave North / Side	10	10	10	10	10	10	10	10	10	9
E	Benaroon Rd East / Side	8	0	0	0	0	0	0	0	0	0
F	Benaroon Rd East / Side	10	0	0	0	0	0	0	0	0	0
G	Benaroon Rd West / Side	6	0	0	0	0	0	0	0	0	0
H	Benaroon Rd West / Side	6	0	0	0	0	0	0	0	0	0
Total of Vehicles Parked		47	17	16	16	15	14	15	15	16	16
Number of Vacant Spaces			30	31	31	32	33	32	32	31	31
% of Capacity Used			36.2%	34.0%	34.0%	31.9%	29.8%	31.9%	31.9%	34.0%	34.0%

APPENDIX 8

MOVEMENT SUMMARY

Site: 101 [Benaroon Road & Pettit Avenue am projected (Site Folder: General - Copy)]

Benaroon Road & Pettit Avenue am projected
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benaroon Road														
1	L2	16	0.0	17	0.0	0.126	5.5	LOS A	0.0	0.0	0.00	0.04	0.00	54.9
2	T1	216	0.0	227	0.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.3
Approach		232	0.0	244	0.0	0.126	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.0
North: Benaroon Road														
8	T1	212	0.0	223	0.0	0.113	0.1	LOS A	0.1	0.7	0.04	0.03	0.04	59.2
9	R2	11	0.0	12	0.0	0.113	6.4	LOS A	0.1	0.7	0.04	0.03	0.04	55.7
Approach		223	0.0	235	0.0	0.113	0.4	NA	0.1	0.7	0.04	0.03	0.04	59.0
West: Pettit Avenue														
10	L2	8	0.0	8	0.0	0.026	8.9	LOS A	0.1	0.6	0.38	0.88	0.38	45.2
12	R2	13	0.0	14	0.0	0.026	9.8	LOS A	0.1	0.6	0.38	0.88	0.38	40.1
Approach		21	0.0	22	0.0	0.026	9.5	LOS A	0.1	0.6	0.38	0.88	0.38	42.4
All Vehicles		476	0.0	501	0.0	0.126	0.8	NA	0.1	0.7	0.04	0.07	0.04	58.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Benaroon Road & Pettit Avenue pm projected (Site Folder: General - Copy)]

Benaroon Road & Pettit Avenue pm projected
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Benaroon Road														
1	L2	8	0.0	8	0.0	0.086	5.5	LOS A	0.0	0.0	0.00	0.03	0.00	55.1
2	T1	151	0.0	159	0.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.5
Approach		159	0.0	167	0.0	0.086	0.3	NA	0.0	0.0	0.00	0.03	0.00	59.3
North: Benaroon Road														
8	T1	285	0.0	300	0.0	0.148	0.0	LOS A	0.1	0.6	0.03	0.02	0.03	59.5
9	R2	10	0.0	11	0.0	0.148	6.1	LOS A	0.1	0.6	0.03	0.02	0.03	56.0
Approach		295	0.0	311	0.0	0.148	0.2	NA	0.1	0.6	0.03	0.02	0.03	59.3
West: Pettit Avenue														
10	L2	6	0.0	6	0.0	0.022	8.6	LOS A	0.1	0.5	0.33	0.88	0.33	45.2
12	R2	11	0.0	12	0.0	0.022	9.9	LOS A	0.1	0.5	0.33	0.88	0.33	40.1
Approach		17	0.0	18	0.0	0.022	9.4	LOS A	0.1	0.5	0.33	0.88	0.33	42.2
All Vehicles		471	0.0	496	0.0	0.148	0.6	NA	0.1	0.6	0.03	0.05	0.03	58.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.