Hemanote Consultants

27-28 PARK AVENUE, KINGSWOOD

PROPOSED NEW AGE BOARDING HOUSE

TRAFFIC & PARKING IMPACT ASSESSMENT

MARCH 2021

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PROPOSED BOARDING HOUSE

DATE: 30 MARCH 2021

DISCLAIMER

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1 INTRODUCTION

This report has been prepared by Hemanote Consultants to assess the traffic and parking implications for the proposed new age boarding house development at 27-28 Park Avenue, Kingswood, for sixty-four (64) self-contained boarding rooms, over two basement parking levels.

This report is to be read in conjunction with the architectural plans prepared by CK Design (reduced copy of the plans is attached in Appendix 'A' of this report) and submitted to Penrith City Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and its use;
- *Section 3:* Description of existing traffic conditions near the subject site;
- *Section 4:* Description of the proposal, vehicular access and on-site parking provision, layout and circulation;
- *Section 5:* Assessment of the on-street parking conditions and utilisation near the subject site; and impacts on parking;
- *Section 6:* Assessment of impacts on traffic near the subject site; and
- *Section 7:* Outlines conclusions.

2 EXISTING SITE DESCRIPTION

➢ ***Site Location***

The site is located on the northern side of Park Avenue at properties No. 27-28 (legally known as Lots 11 and 12 of DP29528) within the suburb of Kingswood. The site has a frontage of approximately 32 metres to Park Avenue from the south. Refer to Figure 1 for a site locality map.

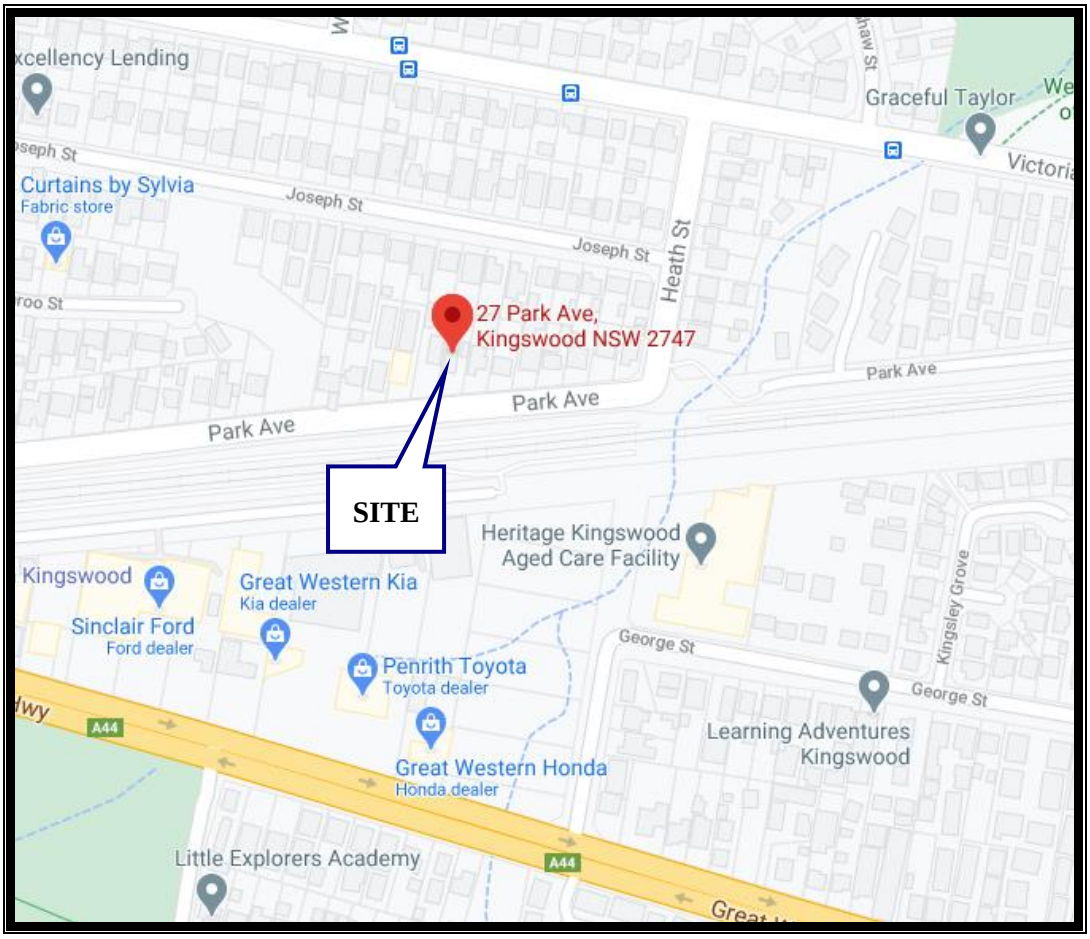


Figure 1: Site Locality Map

- ***Existing Site & Surrounding Land Use***

The subject site has an area of 1,680m^2 and is currently occupied by single residential dwellings. It is located in a mainly residential area, characterised by residential dwellings, as well as retail and commercial sites on the other side of the railway line. The site is also located approximately 850 metres from Kingswood Railway Station.

Photo 1: The frontage of the subject site to Park Avenue

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

Park Avenue is a local collector road that runs in an east to west direction, between Heath Street (local road) to the east and Richmond Road (local road) to the west. It intersects with Walter Street and Heath Street near the subject site.

3.2 Road Description and Traffic Control

Park Avenue has a two-way undivided carriageway with a width between kerbs of approximately 11 metres. This carriageway generally provides one travel lane per direction, with on-street parking available on both sides of the road. At present, unrestricted parking is permitted on both sides of Park Avenue, including the frontage of the subject site.

The legal speed limit on Park Avenue is 50km/h. Park Avenue intersects with Walter Street and is controlled by a T-priority, given to traffic travelling along Park Avenue.

Figure 2: Aerial photo of the subject site

Photo 2: Park Avenue near the subject site - facing east

Photo 3: Park Avenue near the subject site - facing west

3.3 Current Traffic Flows

A traffic volume count was undertaken by Hemanote Consultants on Park Avenue in front of the subject site on Wednesday 24 March 2021, during the morning period (7.00am to 9.00am) and afternoon period (3.00pm to 6.00pm), considering traffic peak periods.

The current traffic flows in the morning & afternoon peak are shown in Table 1 below.

Traffic movement	Morning Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	7.30am – 8.30am	5.00pm – 6.00pm
Park Avenue		
Eastbound	182	190
Westbound	175	184

Table 1: Current Peak traffic flows in the vicinity of the subject site (on a typical weekday)

The results of the traffic volume counts undertaken determined that the traffic morning peak period on Park Avenue was between 7.30am to 8.30am and the afternoon peak period was between 5.00pm to 6.00pm on a typical weekday.

The current traffic flows on Park Avenue near the subject site are typical for a local collector road in a mainly residential area near a railway station, where traffic is free flowing without major queuing or delays in peak hours, with spare capacity.

It is determined that the existing mid-block level of service on Park Avenue near the subject site is at level 'A', in accordance with Table 4.4 of the Roads & Maritime Services' *"Guide to Traffic Generating Developments - 2002"* (shown below) where peak hour flow is less than 200 vehicles/hr/direction.

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Table 4.4: Urban road peak hour flows per direction RMS Guide)

3.4 Existing Transportation Services

The subject site has good access to existing public transport services in the form of trains and buses. The site is located approximately 850 metres from Kingswood Railway Station.

Frequent bus services operate along Park Avenue, Victoria Street, Burton Street, Oxford Street, Richmond Road, William Street, Francis Street, Rugby Street, Charles Sturt Drive, Heavy Street, John Oxley Avenue, Wrench Street and Cambridge Street in close proximity of the subject site (i.e. bus routes 780, 782 and 785).

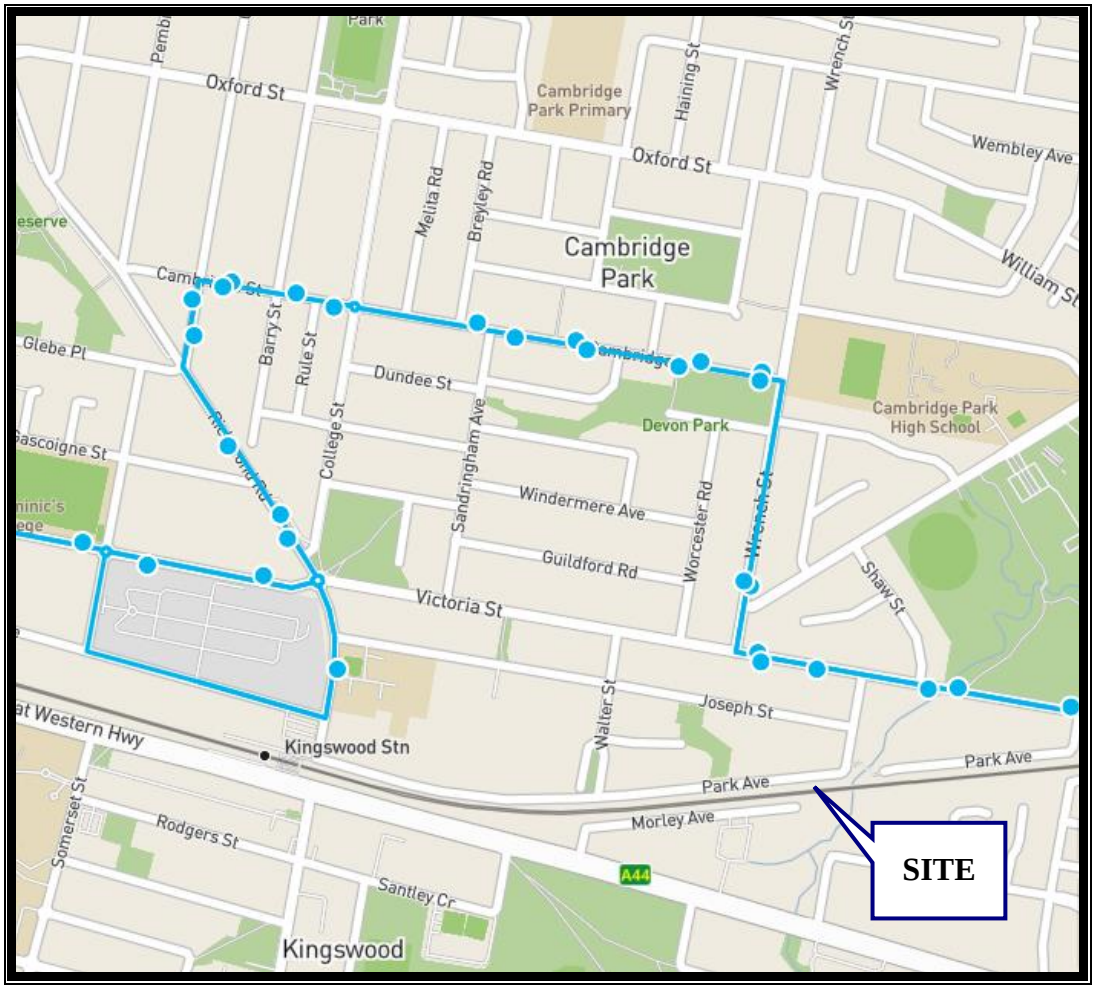


Figure 3: Bus services near the subject site (Bus route 785)

4 PROPOSED DEVELOPMENT

4.1 Description of the proposal

The proposed development is for the demolition of the existing residential dwellings located at 27-28 Park Avenue, Kingswood, and the construction of a new age boarding house with on-site basement parking.

The proposed development will include the following:

- A new age boarding house containing a total of sixty-four (64) self-contained boarding rooms (including 6 accessible rooms) allocated for the use of residents, in addition to a manager's room.
- A total of thirty-two (32) on-site car parking spaces (9 spaces in upper basement level and 23 spaces in lower basement level), including 6 accessible car spaces & adjacent shared areas, in addition to 13 motorcycle spaces (11 spaces in upper basement level and 2 spaces in lower basement level) and 13 bicycle storage spaces located in lower basement level.

Refer to ***Appendix 'A'*** for the proposed development plans.

4.2 Vehicular & Pedestrian Access

The vehicular access to and from the off-street basement car parking levels will be via an existing access driveway located towards the south-eastern corner of the site, in Park Avenue. The proposed access driveway is to be widened to 6.2 metres, which is adequate for a low volume (Category 1) access driveway in accordance with AS2890.1:2004 – Table 3.2.

The access driveway is to provide two-way vehicular movements, where two vehicles can pass each other at the same time without causing delays or congestion to traffic on the street. The proposed access driveway is located more than 6 metres from the tangent point of the adjacent kerbline, in accordance with Figure 3.1 of AS2890.1:2004.

Vehicular access is to be located and constructed in accordance with the requirements of AS2890.1:2004, where vehicles enter and exit the site in a forward direction at all times.

The existing vehicular crossing located in Park Avenue towards the south-western corner of the site is to be made redundant and replaced with new kerb, gutter and footpath, to be constructed to Council specifications.

The clear sight line triangle (2.5m x 2m) between the driver's eye view and pedestrians is to be provided on the exit side of the driveway, as per Figure 3.3 of AS2890.1:2004. A separate pedestrian access gate is also provided at the front of the site, to segregate pedestrians and vehicles and improve safety within the site.

4.3 On-site Parking Provision

The State Environmental Planning Policy (Affordable Rental Housing) ARHSEPP 2009 requires car parking to be provided at a rate of 0.5 car parking spaces for each boarding room for a development in an accessible area. The subject site is located in an accessible area as it is situated approximately 850 metres walking distance of a railway station and approximately 400 metres walking distance of a bus stop on a bus route. The ARHSEPP 2009 also requires parking for motorcycles and bicycles to be provided at a rate of 1 space per 5 boarding rooms.

Parking requirements	Car/ motorcycle/ bicycle parking rate	Proposed boarding rooms	Parking required	Total parking required	Total parking proposed
Boarding House Developments					
Car parking	1 per 2 boarding rooms	64	32	32	32
Motorcycle parking	1 per 5 boarding rooms		12.8	13	13
Bicycle parking	1 per 5 boarding rooms		12.8	13	13
			Total	58	58
Compliance with off-street parking					Yes

Table 2: On-site car, motorcycle & bicycle parking requirements and provision

The proposed boarding house for a total of 64 boarding rooms would, therefore require thirty-two (32) on-site car parking spaces, in addition to thirteen (13) motorcycle spaces and thirteen (13) bicycle storage spaces.

The proposed development provides a total of thirty-two (32) on-site car parking spaces (9 spaces in upper basement level and 23 spaces in lower basement level), including 6 accessible car spaces & adjacent shared areas, in addition to 13 motorcycle spaces (11 spaces in upper basement level and 2 spaces in lower basement level) and 13 bicycle storage spaces located in lower basement level.

Therefore, the on-site car, bicycle and motorcycle parking proposed is adequate for the proposed development and in compliance with ARHSEPP 2009 requirements.

4.4 On-site Parking Layout and Circulation

The layout of the on-site car parking area and manoeuvring arrangements has been designed to enhance vehicular and pedestrian access, where vehicles enter and exit the site in a forward direction, through the provision of adequate internal aisle width and turning space.

AS2890.1:2004 Parking facilities Part 1: Off-street car parking requires a minimum parking space width of 2.4 meters (for User Class 1A residential parking) and a minimum length of 5.4 meters. The proposed off-street car spaces have a minimum clear width of 2.4 metres and a minimum length of 5.4 meters each, which is adequate.

The accessible car parking spaces have a width of 2.4 metres, in addition to adjacent 2.4 metres wide shared area, which is adequate in accordance with AS2890.6:2009.

An extension at the blind aisle has been provided beyond the last parking spaces in accordance with Clause 2.4.2(c) of AS2890.1:2004. Car parking spaces adjacent to walls or obstructions have been made wider than the minimum width, to accommodate full door opening in accordance with Clause 2.4.2(d) of AS2890.1:2004.

Clause 2.4.2 of AS2890.1:2004 requires a minimum aisle width of 5.8 metres for two-way aisles, adjacent to 90^{o} angle parking. The proposed aisles have a minimum width of 6 metres, which is adequate for two-way traffic and manoeuvring into and out of parking spaces.

A 4.3 metres wide turning bay is provided towards the rear of the upper basement level, to allow vehicles to turn around within a maximum three-point-turn, if all other car parking spaces are occupied and exit the site in a forward direction.

The ramp to the upper basement level has a clear width of 5.5 metres, in addition to a 300mm wide kerb on either side and has a grade of 1:20 (5%) for the first 5.3 metres within the site. It has a maximum grade of 1:6.5 (15.4%) with changes in grade of 8.3% for 4 metres at either end of the ramp, to prevent vehicle scraping.

The ramp to the lower basement level has a minimum clear width of 5.5 metres, in addition to a 300mm wide kerb on either side and has a maximum grade of 1:5 (20%) with changes in grade of 10% for 2 metres at either end of the ramp, to prevent vehicle scraping.

A minimum 2.2 metres headroom clearance is to be generally provided from the car park basement levels to the underside of all services conduits and suspended stormwater pipelines, in accordance with Clause 5.3.1 of AS2890.1:2004. A "Maximum Clearance 2.2m Height" sign is to be erected at the entrance to the basement car park area and is to be clearly visible to all drivers. A minimum 2.5 meters headroom clearance is to be provided above the accessible parking spaces and the adjacent shared zones in accordance with Clause 2.4 of AS2890.6:2009. A headroom clearance of 3.1 metres is provided at the entrance to the upper basement and leading up to the loading bay and truck turning area.

Traffic convex mirrors are to be installed at the vehicular ramps (as shown on the basement plans), to provide drivers with further assistance with viewing oncoming traffic.

All vehicular manoeuvring within the site has been designed and checked using the HRV, B99 and B85 design vehicle turning paths from AS2890.1:2004, AS2890.2:2018 and Austroads. Refer to the vehicle swept paths diagrams attached in Appendix 'B' of this report.

Therefore, the car parking layout and circulation are adequate in accordance with AS2890.1:2004, AS2890.6:2009 and AS2890.2:2018, where vehicles are to enter and exit the site in a forward direction at all times.

➢ ***Waste Collection***

All waste storage is to take place within the dedicated garbage storage area located in basement 1 level. Waste Bins will be collected by a private waste contractor within the loading bay located in the upper basement level, using a Heavy Rigid Vehicle (HRV – 9.7 metres long truck as shown below). A truck turntable (11 metres in diameter) is provided in front of the loading bay to ensure trucks can enter and exit the site in a forward direction. Refer to the truck swept path plans attached in Appendix 'B' of this report.

2.3.1 Low Entry Heavy Rigid Waste Collection Vehicle

Vehicle Classifications	Heavy Rigid Vehicle Dimensions
Overall Length (m)	9.7
Operational Length (m)	11.7
Design Width (m)	2.8
Design Height (m)	3.1
Swept Circle (m)	17.0
Clearance (travel height) (m)	3.5
Roadway/ramp grade (max)	1:6.5 (15.4%)
Rate of change of grade (max)	1:12 (8.3%) in 4.0m of travel
Gross Weight (max tonnes)	28.0
Front Chassis Clearance	13°
Rear Chassis Clearance	16°

Table 1: Standard dimensions in accordance with AS 2890.2

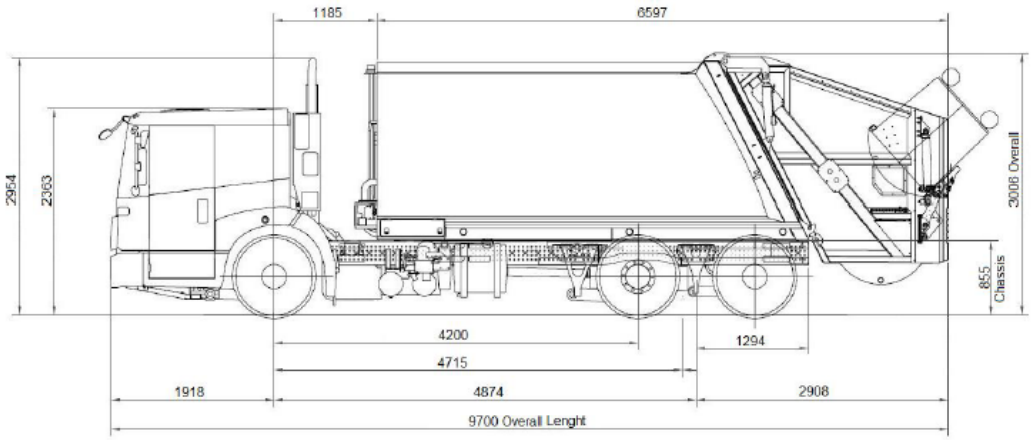


Figure 1: 9.7m Heavy Rigid Rear Load Waste Collection Vehicle specifications

5 ON-STREET PARKING PROVISION

5.1 Existing Parking Controls

The subject site is located in a mainly residential area, where unrestricted parking is permitted on both sides of Park Avenue, including the frontage of the subject site.

5.2 Impacts of Proposed Development on Parking

The parking demand resulting from the boarding house development can be accommodated within the proposed adequate and compliant on-site car, bicycle and motorcycle parking spaces. The subject site has good access to existing public transport in the form of train and bus services.

Therefore, the proposed development will not have adverse impacts on parking in the surrounding area.

6 EXTERNAL TRAFFIC IMPACT

An indication of the potential traffic generation of the proposed development is provided by the RMS *Guide to Traffic Generating Development - 2002*.

The Guide specifies the following traffic generation rates for high density residential developments:

- 1.52 daily vehicle trips per dwelling,
- 0.19 AM peak hour vehicle trips per dwelling, and
- 0.15 PM peak hour vehicle trips per dwelling.

Therefore, the proposed development with sixty-four (64) boarding rooms has an estimated traffic generation as follows:

- 98 daily vehicle trips (In and Out trips).
- 13 AM peak hour vehicle trips (In and Out trips).
- 10 PM peak hour vehicle trips (In and Out trips).

The estimated peak hour traffic generation from the proposed development is of low impact on existing flows on Park Avenue and surrounding streets. The traffic generated by the proposed boarding house development can be readily accommodated within the existing road network.

The potential increase in the number of vehicle movements in and about Park Avenue and adjacent streets is minor and will not have adverse impacts on the amenity of the area.

7 CONCLUSION

It can be concluded from the traffic and parking impact assessment that the proposed boarding house development at 27-28 Park Avenue, Kimgswood will not have adverse impacts on existing traffic or parking conditions and is worthy of Council's support in its current form.

- The current traffic flows on Park Avenue are typical for a local road in a mainly residential area near a railway station, with free-flowing traffic without major queuing or delay in peak traffic periods, with spare capacity.

- The estimated peak hour traffic generation is of low impact on existing flows on Park Avenue and the surrounding road network. The traffic generated by the proposed boarding house development can be readily accommodated within the existing road network.

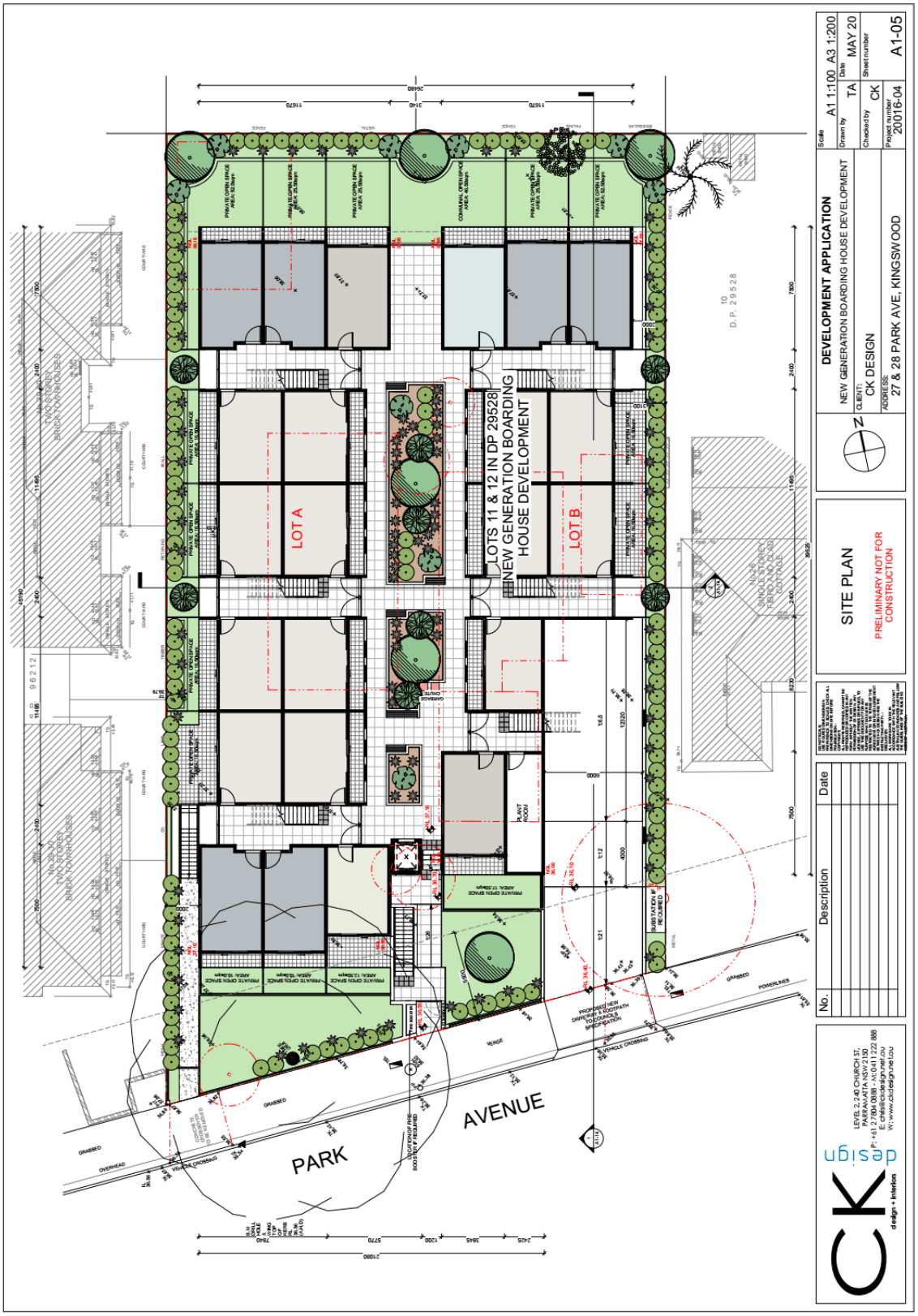
- The potential increase in the number of vehicle movements in and about Park Avenue and adjacent streets will not have adverse impacts on the amenity of the area.

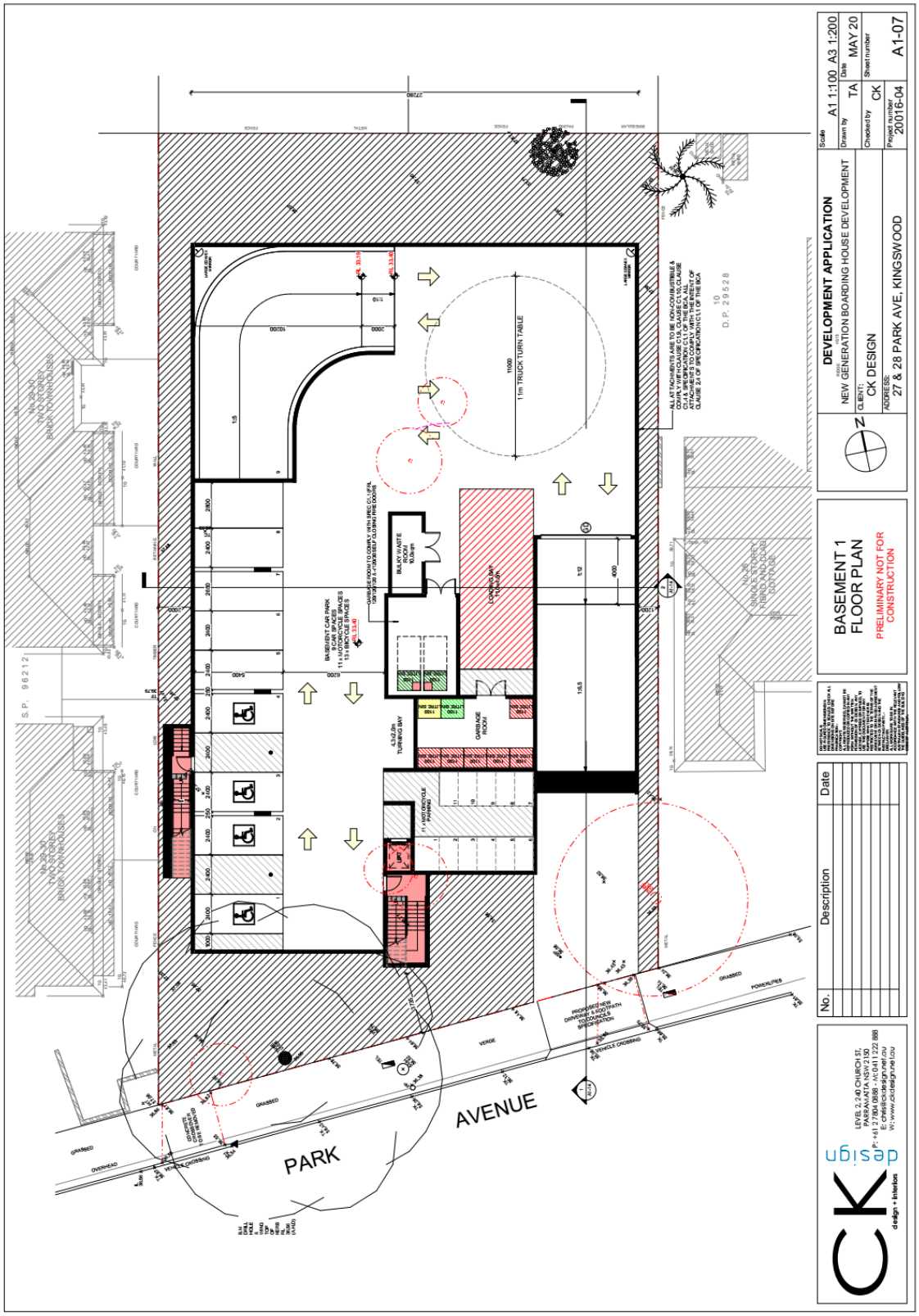
- The parking demand resulting from the proposed boarding house development can be easily accommodated within the proposed adequate off-street car, motorcycle and bicycle parking, which is in compliance with ARHSEPP 2009 requirements.

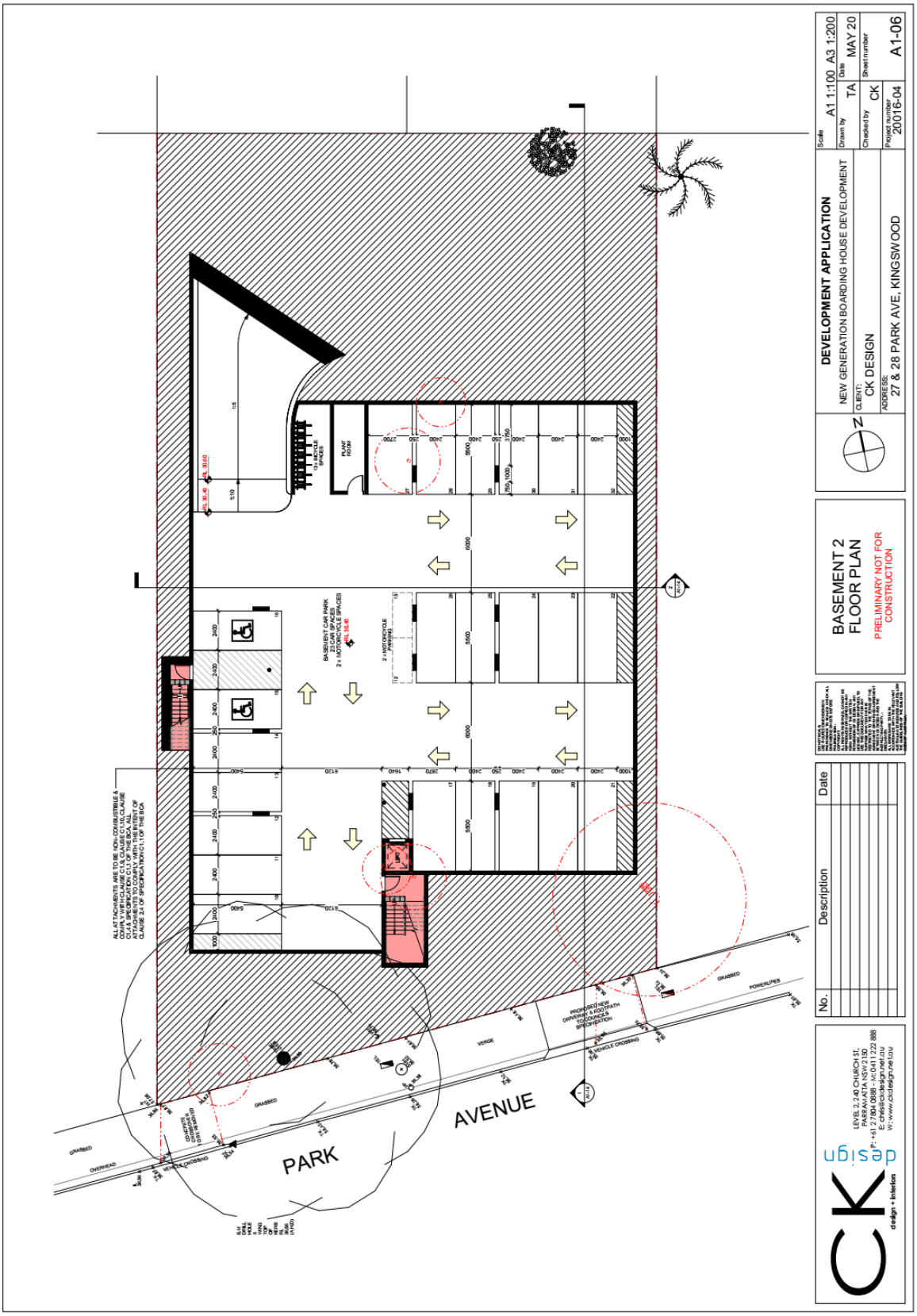
- The subject site has excellent access to existing public transport services in the form of regular train and bus services.

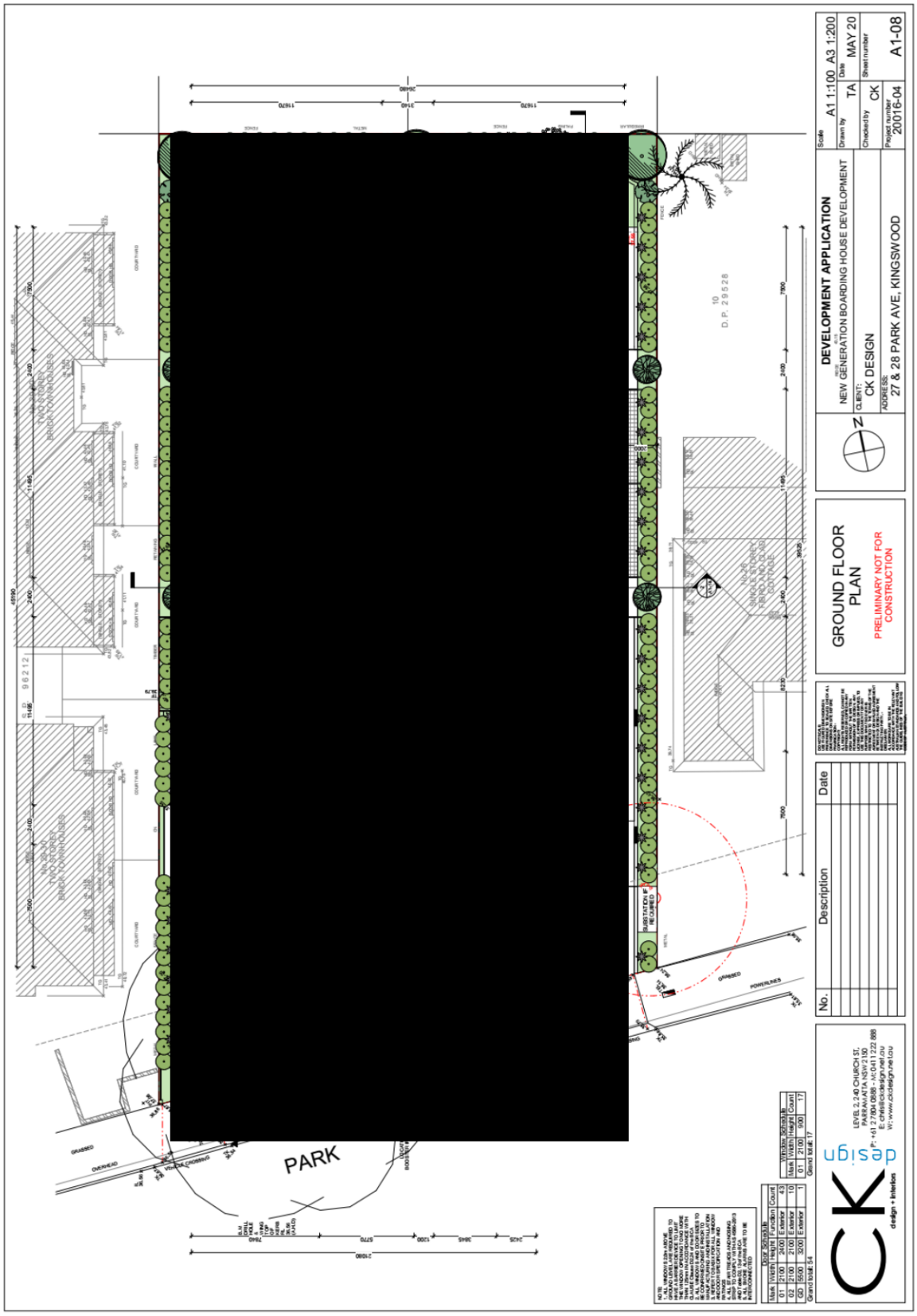
- The proposed development will not have adverse impacts on parking in the surrounding area.

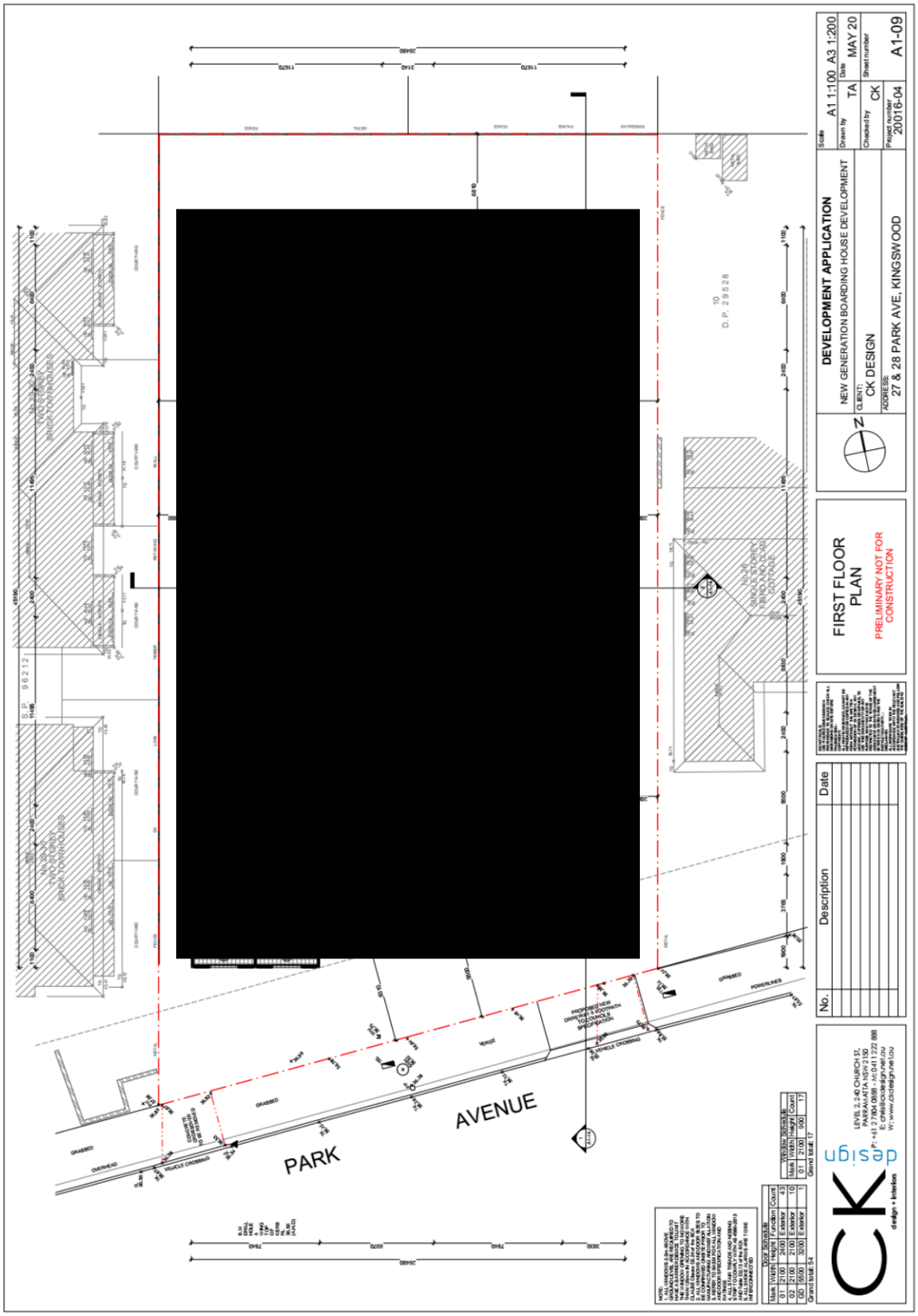
Appendix A – Proposed Development Plans

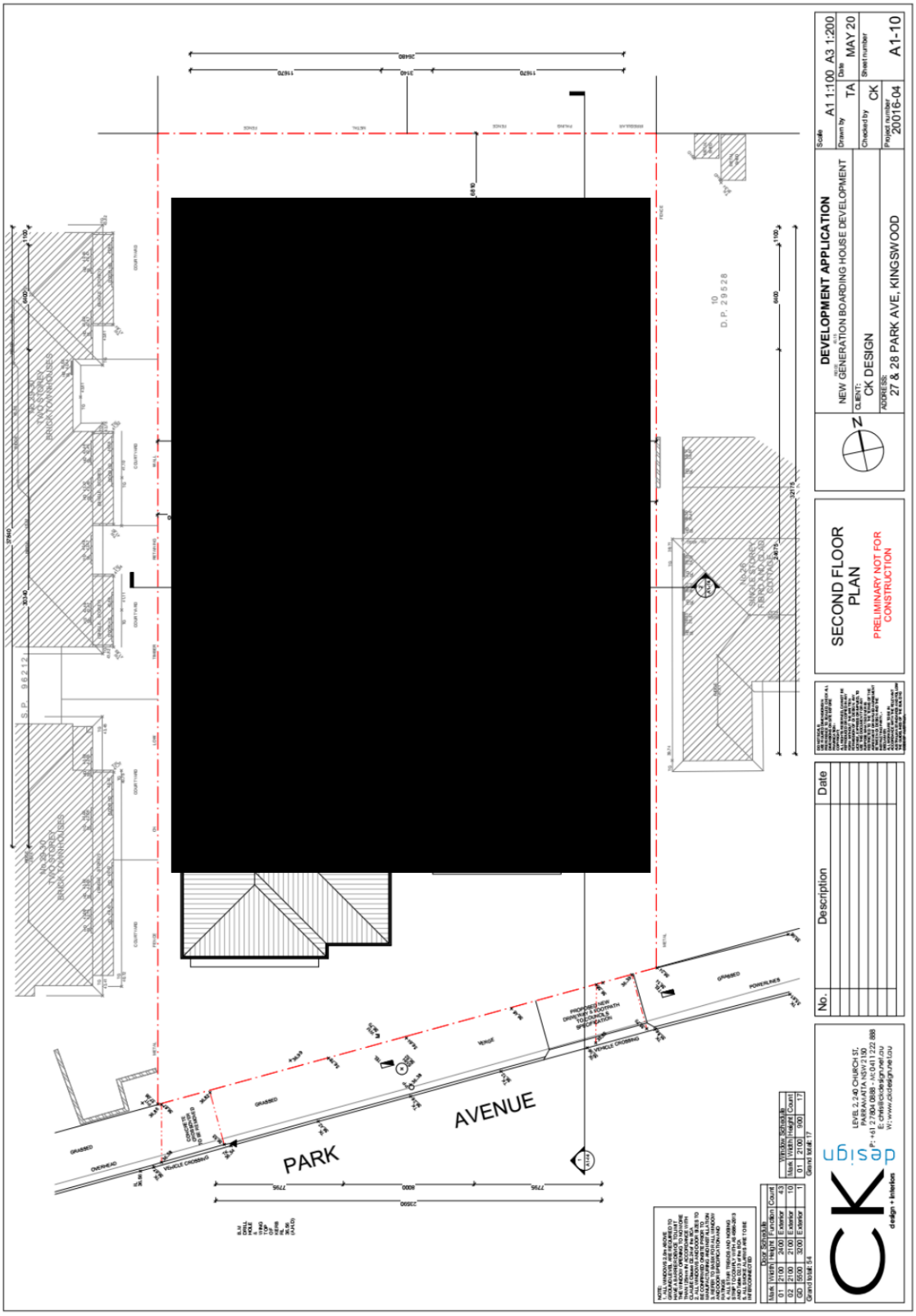


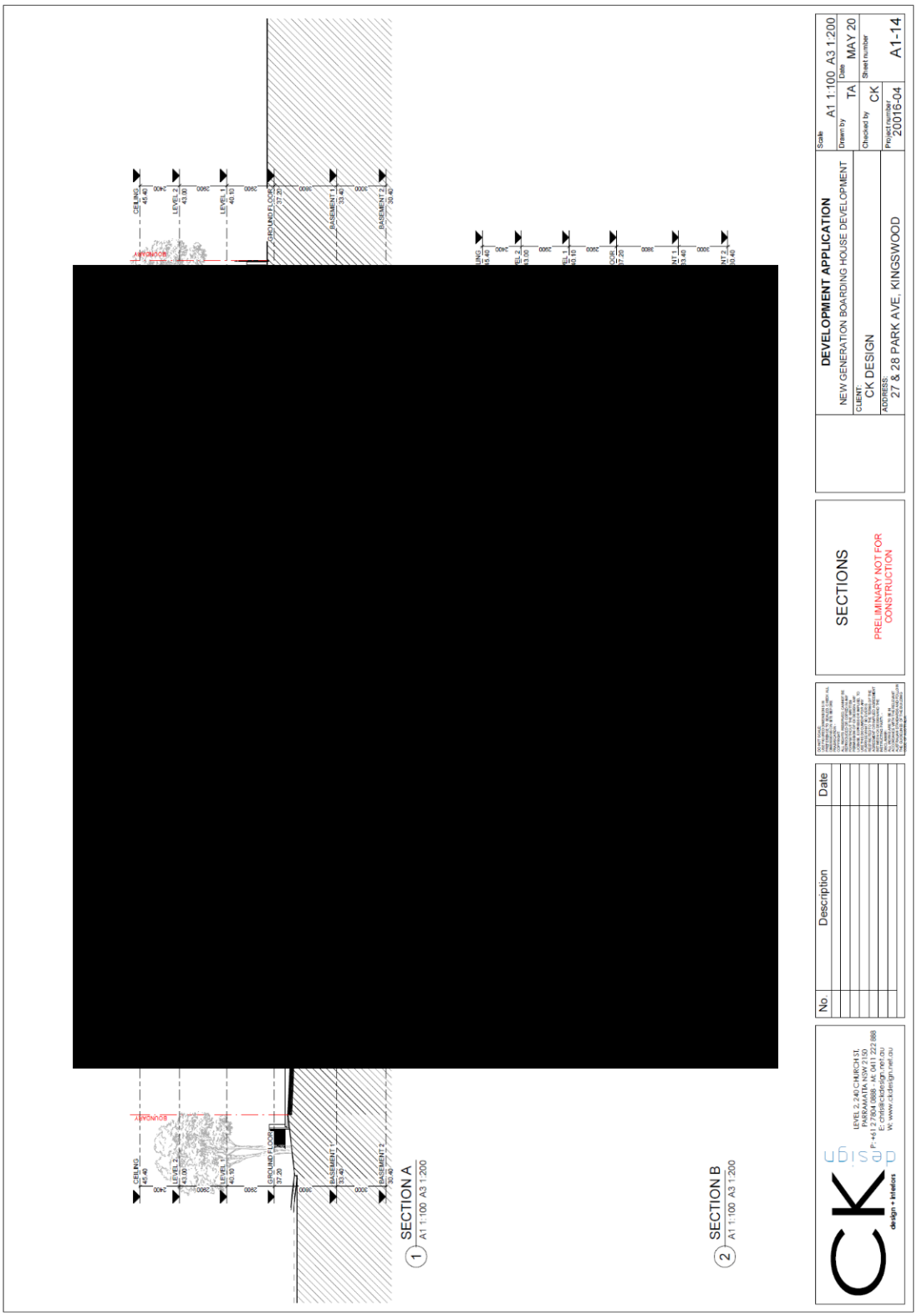












Appendix B – Vehicle Swept Paths