



Traffic and Accessibility Impact Assessment for

Site 8B, Sydney Olympic Park

(Ref. No. T2-410)

Prepared for Fitzpatrick Investments Pty Ltd

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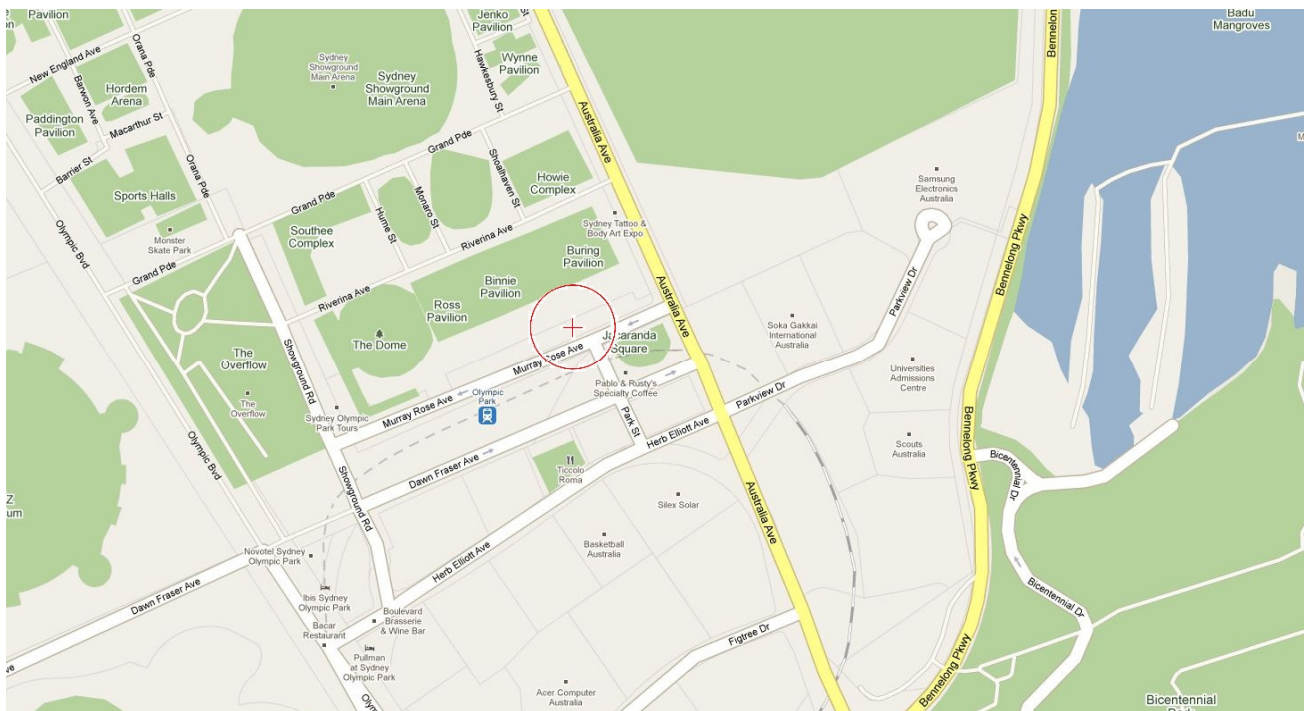
Attachments:

- Attachment 1 Architectural Drawings
- Attachment 2 Turning Path Output Drawings

1 Introduction

1.1 Project Summary

Parking Consultants International have been engaged by Fitzpatrick Investments Pty Ltd to prepare an assessment of the traffic and parking related considerations associated with a proposal to construct a 6 storey commercial office building within Site 8B of the Sydney Olympic Park.



1.2 Purpose of this Report

This report has been prepared to accompany a Part 3A Application to the Department of Planning for the construction of a 6 storey building accommodating 5,982.6m² (NLA) of commercial office floor area with ground floor retail of 715.86m² and parking for 53 vehicles within two levels of basement.

This report presents the following considerations relating to Traffic and Parking assessment of the proposal:

1. Section 2 - A description of the project,
2. Section 3 - A description of the road network serving the development property,

- 3. Section 4 - Determination of the traffic activity associated with the development proposal, and the adequacy of the surrounding road network,
- 4. Section 5 - Assessment of the proposed parking provision in the context of the relevant planning control requirements,
- 5. Section 6 - Assessment of the proposed carpark, vehicular access and internal circulation arrangements in relation to compliance with the relevant standards,
- 6. Section 7 - A description of the impact of Special Events held within the Olympic Park,
- 7. Section 8 - Conclusion

2 Proposal

2.1 Development Site

The development site is located within the Sydney Olympic Park at Homebush Bay and is referred to as Site 8B. The site is located on the northern side of Murray Rose Avenue approximately 100 metres to the west of Australia Avenue and immediately west of an existing commercial building located on Site 8A. The Olympic Park railway station is located immediately opposite the site, on the southern side of Murray Rose Avenue.



The subject site is rectangular in shape, with an area of 1,170m² and a frontage of 50 metres to Murray Rose Avenue. Vehicular access is provided via an existing driveway and ramp located within the site, adjacent to the eastern boundary. This access ramp serves the existing building within Site 8A as well as the proposed basement carpark.

2.2 Development Proposal

The proposal involves the construction of a 6 storey building above 2 levels of basement parking. The building will accommodate a Gross Floor Area of 6,313.5m², with a Nett Lettable area of 5,982.6m². Parking for 53 cars and 39 bicycles will be provided within the basement carpark.

Details of the proposal are presented on the architectural drawings prepared by Bates Smart Architects and those illustrating the parking and access arrangements are included as Attachment 1.

3 Existing Transport Facilities

3.1 Road Hierarchy

The subject development site is located in the heart of the Sydney Olympic Park in Homebush Bay. The road network serving the site comprises the regional road network surrounding the Homebush Bay area, as well as the internal Olympic Park network.

The external road network includes:

The M4 Motorway (Metrod 4) comprises a 6 lane divided carriageway which has an east-west alignment along the southern side of the Olympic Park and connects between the Great Western Highway at Strathfield and the Blue Mountains at Emu Plains.

Parramatta Road (The Great Western Highway and State Road 44) is a State Road, which connects between the City and region to the west of the Blue Mountains. In the vicinity of Homebush Bay, the Highway is aligned parallel to the M4 Motorway and operates as a sub-arterial road, and an alternative route to the motorway. For much of its length, Parramatta Road carries 3 lanes in each direction, and provides connectivity to the local road network.

Homebush Bay Drive (Metrod 3) is a State Road connecting between Mona Vale and Peakhurst and serves the western Sydney region including Pymble, Ryde, Strathfield and Hurstville.

The Olympic Park road network includes:

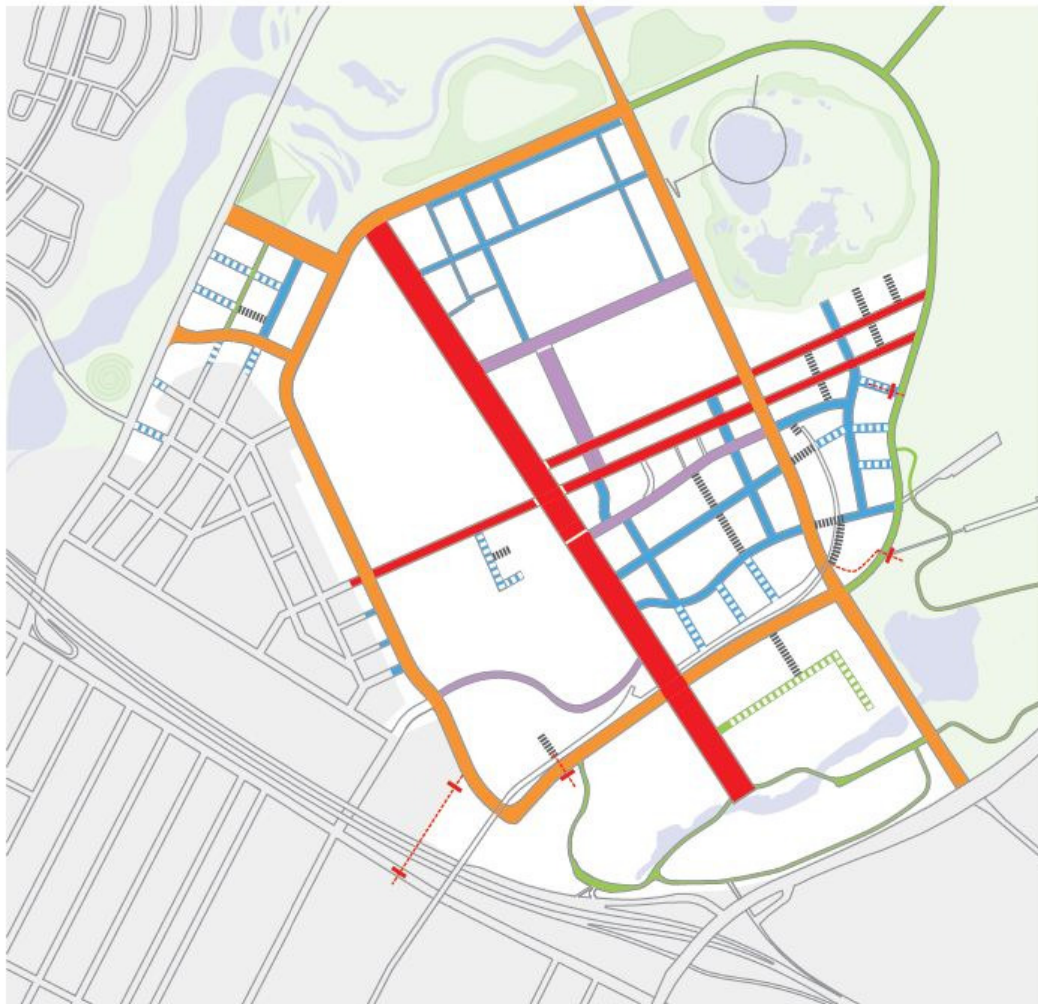
Australia Avenue forms the primary route through the park, connecting between Homebush Bay Drive and Silverwater Road. The carriageway comprises two lanes in each direction, divided by a landscaped central median. Australia Avenue intersects with Homebush Bay Drive by way of a grade separated intersection, including a ground level roundabout, beneath the Homebush Bay Drive over-bridge. Intersections along Australia Avenue include the traffic signal controlled intersections at Sarah Durack Avenue, Kevin Coombs Avenue and Hill Road. All other intersections comprise Give Way control, with right turn movements accommodated through openings in the central median.

Sarah Durack Avenue forms part of a ring road around the perimeter of the Olympic Park allowing for a balanced distribution of traffic to and from the regional road network.

Olympic Boulevard represents the primary spine road through the Olympic Park, and is aligned adjacent to the main stadium (ANZ Stadium) and is closed to vehicles during major events.

Murray Rose Avenue is a local access road, which provides access to the subject site, the Olympic Park railway station and the rear of The Dome and adjoining Pavilions.

The internal road hierarchy is described in Section 3 of the Sydney Olympic Park Master Plan 2030, which contains the following plan:



Key

	ICF Funded Civic Streets		ICF Funded Local Streets
	ICF Funded Perimeter Avenues and Connecting Streets		Potential Pedestrian Connections
	ICF Funded Park Edge Streets		Development Funded Streets
	ICF Funded Town Streets		Through-Site Links

Image extracted from Sydney Olympic Park Master Plan 2030

3.2 Existing Traffic Volumes

The existing traffic volumes in the vicinity of the site are presented in the following section, and reference data published by the RTA.

The RTA collect traffic volume data through the use of permanent traffic counters located at strategic points within the arterial and sub-arterial road network. The data is expressed as an Annual Average Daily Traffic (AADT), which represents the annual volume, divided over 365 days. This provides a reliable snapshot of a particular road and provides an indication of whether the road is operating within capacity. It is also generally recognised that the weekday peak hour traffic volume typically represents 10% of the AADT.

The RTA data indicates the following AADTs on roads within the vicinity of the site:

Australia Avenue, west of Homebush Bay Drive	-	24,707
Homebush Bay Drive, at the M4 interchange	-	57,335
Parramatta Road, at John Street	-	36,764
M4 Motorway, at Homebush Bay	-	83,759

3.3 Capacity Assessment

Observations of the intersection of Australia Avenue and Murray Rose Avenue indicate that the current peak volumes do not reach the capacity of the intersection, and that a good level of service is achieved. This is due in part to the broader function of the Olympic Park road network to accommodate the traffic activity associated with major events, and the continued development of the remaining sites.

3.4 Public Transport

Public transport forms a key component of the transport arrangements serving the Olympic Park. In relation to the development site and the proposed use, the Olympic Park railway station is located on the southern side of Murray Rose Avenue, directly opposite the site.

Rail Services

Cityrail provides a number of daily services connecting directly between Central and the Olympic Park. Alternatively, there is a regular Olympic Park Sprint service between the park and Lidcombe, which provides a connection to the Inner West Line, the Bankstown Line, the South Line, the Western Line and the Mountains Line.

Bus Services

The State Transit Authority (Sydney Buses) operates three services through the Olympic Park as detailed in the following:

Route Number	Route Description
525	Daily full time service between Parramatta, University of Western Sydney, Rydalmere, Ermington, Silverwater, Newington, Sydney Olympic Park, Strathfield and Burwood
526	Daily full time service between Sydney Olympic Park Wharf, Newington, Sydney Olympic Park, Strathfield and Burwood.
401	Monday to Saturday daytime service between Sydney Olympic Park (Olympic Park Station) and Lidcombe via Mons Street.

Each of these services passes the site, with stops located adjacent to the railway station. Route 526 also connects with the Olympic Park ferry wharf located to the north of the Millennium Parklands.

Ferry Services

The Olympic Park Wharf is located 2.7 kilometres to the north of the site; however, bus route 526 provides a connection between the wharf and the adjacent railway station. Ferry services are operated by Sydney Ferries and the Parramatta River route provides a regular connection between the CBD and Parramatta.

Public transport plays an intrinsic role in the continued viability and growth of the Sydney Olympic Park, and the relationship of the site with the Olympic Park railway station, which is also served by Sydney Buses means that the completed commercial building will benefit from a high level of public transport accessibility.

Projected Use

The Sydney Olympic Park Master Plan 2030 document sets a maximum limit on the provision of parking spaces associated with uses within the Olympic Park. The limitation of parking is applied as a means of reducing the use of private vehicles, particularly in relation to commuters. This is a reflection of the convenient level of access to public transport within the Olympic Park.

The proposed building will accommodate a leasable floor area of 5,982.6m² and will likely involve a daytime population of 430 persons. The proposal includes a parking provision for 53 vehicles and RTA data indicates an average car occupancy of 1.2 persons per car. Application of this occupancy to the maximum number of 53 vehicles within the car park indicates that 64 persons could travel by car, leaving 366 persons to travel by other means.

It is noted that the proposal includes bicycle parking for 39 bicycles and includes end-of-trip facilities such as showers and lockers. The relatively level terrain within the Olympic Park in conjunction with the numerous cycle routes and low traffic volumes within the road network make cycling an attractive travel mode, which could account for up to 39 persons.

The location of the site in relation to the railway station and neighbouring bus stops would make travelling by rail and bus the most attractive alternatives. Of the 327 persons not travelling by car or bicycle, it is likely that up to 90% (294 persons) would travel by train or bus over a two hour arrival and departure period. The remaining 33 persons would likely travel by walking or set-down by private vehicles.

4 Development Traffic Assessment

4.1 Traffic Generation

The traffic generation of the proposed development has been established with reference to Section 3 of the RTA Guide to Traffic Generating Developments, which presents the traffic generation rates for a number of land uses.

In relation to commercial office developments, Section 3.5 presents an evening peak hour traffic generation rate of 2 vehicle trips per 100m² of gross floor area. The RTA definition of Gross Floor Area is similar to that of Nett Leasable Area as defined by SOPA. Therefore application of this rate to the proposed NLA of 5,982.6m² indicates a peak hour traffic activity of 120 vehicle movements. However, this rate does not have regard for developments where a restrictive parking provision is required and where access to public transport is commensurate with reduced parking and a policy of reduced car usage.

The parking provision requirements of SOPA are presented in Section 4 of the Sydney Olympic Park Master Plan 2030, and in relation to commercial development, restrict parking to a maximum provision of 1 space per 80m². This compares with the unrestrained parking recommendation of 1 space per 40m² presented in Section 5 of the RTA Guide. The proposed development will provide parking at a rate of 1 space per 110m², further reducing the parking requirement.

While casual and long-term parking is generally available throughout the Olympic Park, the pricing regime does not compete with the relatively low cost of public transport. In this regard, it is likely that the restrictive parking provision will have a notable impact upon the traffic activity associated with the development.

The RTA Guide assumes that 80% of employees enter or exit a commercial office building within the peak period. This data was collected prior to the introduction of flexible working hours, however given that there is no evidence to suggest a lower figure in relation to the proposed building, a peak hour traffic generation rate of 0.8 movements per parking space has been applied to the development. The proposal will include 53 parking spaces, indicating a peak traffic generation of 43 vehicle movements to and from the basement carpark. They may be employees who choose to use the surrounding public parking, however this would be a relatively low proportion, and the movements would be distributed across the internal road network, rather than associated with the site.

The road network serving the Olympic Park, and its connections with the regional road network, have been constructed to accommodate the traffic activity anticipated by the Masterplan and continued development of the site, as well as the major events associated with each of the venues. It is in this context that the traffic activity associated with the proposal will be accommodated within the road network with no notable impact upon the operation of the surrounding intersections.

5 Carparking Provision

5.1 Planning Policy Requirements

The parking requirements relating to new developments within the Olympic Park are presented in Table 4.10 within the Sydney Olympic Park Master Plan 2030 document.

The parking rates are presented as a maximum provision in line with the SOPA planning principal of “promoting access and travel by public transport, walking and cycling”.

In relation to commercial office development the Masterplan stipulates a maximum provision of 1 space per 80m² NLA.

5.2 Proposed Parking Provision

The proposed building will accommodate a Nett Leasable Area of 5,982.6m² and application of the rate of 1 per 80m² indicates a maximum allowance of 74.8 parking spaces. In accordance with this requirement, it is proposed to provide 53 parking spaces supplemented by 39 bicycle parking spaces.

The proposed parking provision will be suitable for the development and is fully compliant with the planning principals outlined in the Masterplan.

6 Access and Carpark Assessment

6.1 Vehicular Access

The proposed building will be located immediately adjacent to a recently completed building within Site 8A. It is proposed that the buildings will share the driveway located on the common boundary, which divides the sites. The driveway and ramp down to the rear of the sites has been constructed and is in use in relation to the Site 8A carpark. The ramp leads down to a landing area where vehicles will turn left to enter the subject basement. The provision of access to both carparks, from the landing area, will comprise a Tee-intersection, which will provide adequate capacity to accommodate the associated vehicle movements.

The existing driveway has been designed in accordance with Section 3 of AS2890.1 in relation to width, geometry and location having regard for sight distances. The proposed development does not impact in any way on the current arrangement of the driveway.

6.2 Carpark Arrangement

The carpark arrangement internal circulation and parking arrangements have been designed in accordance with the requirements of Section 2 of AS2890.1.

Table 1.1 of AS2890.1 presents a number of classifications applicable to different land-uses. According to the Table, the most appropriate carpark classification applicable to the subject carpark will be a Class 1 facility, which is suitable for *“Employee and commuter parking (generally, all-day parking)”*.

The parking space dimensions and associated aisle widths for each classification are presented in Table 2.2, and accordingly, a Class 1 facility requires parking space dimensions of 2.4 x 5.4 metres with an access aisle width of 6.2 metres.

The proposed carpark has been designed to provide a more generous parking space width of 2.5 metres, which enables a slightly reduced aisle width of 6.05 metres, which closely represents the layout of a Class 2 carpark. In this regard, the carpark design complies with the requirements of AS2890.1.

In order to assess the parking and vehicle access arrangement, a turning path assessment has been prepared using the AutoTrack vehicle modelling software and application of the B85 vehicle as defined in AS2890.1. The turning path drawings are presented in Attachment B.

7 Impact of Special Events

Sydney Olympic Park hosts a number of major events during a typical year, most notably the Royal Easter Show over the Easter Period and the Telstra 500 V8 Championship during early December.

There are several types of event held within the Olympic Park, ranging from Sporting events within the sports venues, entertainment events, and annual events such as the Eastern Show. For ease of reference the events affecting the operation of the proposed building can be summarised as the following four modes:

Normal Operation (No Event)

The road network will function in the normal manner providing sufficient capacity as described in Section 4 of this report. Pedestrian and vehicular access to the building will operate in a normal manner.

Royal Easter Show Operation

The Royal Easter Show takes place once per year and has a duration of two weeks over the Easter period. However the Royal Agricultural Society (RAS) takes control of the showground site two weeks prior and one week after the official show period.



The RAS has the ability to utilise up to 3 metres (width) of the Right of Carriageway located along the northern boundary of the development site. The northern boundary is characterised by a removable metal fence which is relocated during the Easter Show period to provide the

required space to the south of the RAS halls. Service vehicle access into the Easter Show site is provided at the intersection of Murray Rose Avenue and Australia Avenue. A controlled pedestrian entry and egress is also located at the eastern end of Murray Rose Avenue to provide access into the showground for patrons arriving or departing via Olympic Park Railway Station. There may also be varying degrees of access control implemented by SOPA (Gate 15) in and around Murray Rose Avenue (Jacaranda Square) to facilitate taxi access and coordination of other service vehicles associated with the show.

The show typically operates between 7am and 9pm with the carnival operating until 11pm during the two weeks of the Easter Show.

The proposed building will be accessible (car parking and staff access) from Murray Rose Avenue during the Eastern Show period. Service vehicles requiring access to the rear of the building (waste removal, large deliveries etc...) will require coordinated access through the RAS controlled point (at Murray Rose / Australia Avenue) to the Right of Carriageway. It is understood that this activity currently occurs in relation to the existing building at 8 Australia Avenue (adjoining building) without causing undue impact on the operation of the show.

The following strategies are proposed to minimise impact and congestion in the locality around Jacaranda Square:

1. Regular communication between the Building Manager and SOPA with regard to event dates and potential impacts,
2. Regular communication between Building Manager, tenants and staff (emails, notices etc...) regarding possible impacts and provide clear information on alternative travel / access arrangements,
3. Coordinate with relevant authorities as required,
4. Provision of staff access passes / identification to assist with access through SOPA controlled access points (Gate 15) within the vicinity of Jacaranda Square,
5. Encourage staff to use public transport or alter travel patterns during the Easter Show period to minimise congestion around Jacaranda Square,
6. Building Manager to coordinate service vehicle access requirements with SOPA and RAS through show period.

Retail tenants to coordinate deliveries prior to midday and contact Building Manager for alternative arrangements

Telstra 500 V8 Supercar Championship

The Sydney Telstra 500 is an annual event managed by the Homebush Motor Racing Authority. The event has taken place over the past two years and involves the installation of a race track within the Olympic Park, as illustrated on the following plan.

4. Building Manager to monitor SOPA's published six monthly event calendar and provide regular updates to tenants/ staff as necessary,
5. Coordinate with relevant authorities as required,
6. Provision of staff access passes / identification if required for certain tenants / staff,
7. Encourage staff to use public transport or implement an office closure on Friday to minimise the need for travel to Sydney Olympic Park thereby easing unnecessary congestion. This would need to be discussed / negotiated with tenants during tenancy negotiations,
8. Retail tenants to coordinate deliveries prior to and after the event. Close consultation may be required with Building Manager to assist with this process;

Stadium Events

The fourth operating mode relates to major sporting events or concerts that occur regularly throughout the year at ANZ Stadium and Acer Arena. Although these events typically occur outside of standard working hours, there will inevitably be impacts for businesses operating in the area with regard to access.

There are two major impacts that will affect tenants and staff during major events such as that described above. These include:

- Traffic access to and from Olympic Park before and after events. Often, alternative traffic egress routes are suggested to tenants and staff to avoid delays at major intersections such as Homebush Bay Drive and Underwood Road;
- Murray Rose Avenue is regularly used by SOPA as a pedestrian route to direct the public from an event to Olympic Park Railway Station. The area surrounding Jacaranda Square is also used as a drop off and pick up zone for private vehicles and taxis.

The following strategies are proposed to minimise impacts for future tenants and the event as part of the proposed development:

1. Regular communication between the Building Manager and SOPA with regard to event dates and potential impacts;
2. Building Manager to monitor SOPA's published six monthly event calendar and provide regular updates to tenants/ staff as necessary;
3. Coordinate with relevant authorities as required;
4. Regular communication between Building Manager, tenants and staff (emails, notices etc...) regarding possible impacts and provide clear information on alternative travel / access arrangements or shutdowns;

5. Retail tenants to coordinate deliveries prior to and after the event. This may involve limiting deliveries to prior to 12pm on weekdays and no deliveries on Saturday or Sundays during events. Close consultation may be required with Building Manager to assist with this process;

These strategies are intended to comply with the Sydney Olympic Park Major Event Impact Assessment Guidelines based on discussions with SOPA's Major Events Coordinator. The strategies can be formalised following the outcome of the approval process and will be prepared in close consultation with SOPA and other relevant authorities.

8 Summary

In summary, the proposed development comprises a 6 storey office building accommodating 5,982.6m² of leasable floor area with parking for 53 cars and 39 bicycles within a basement carpark.

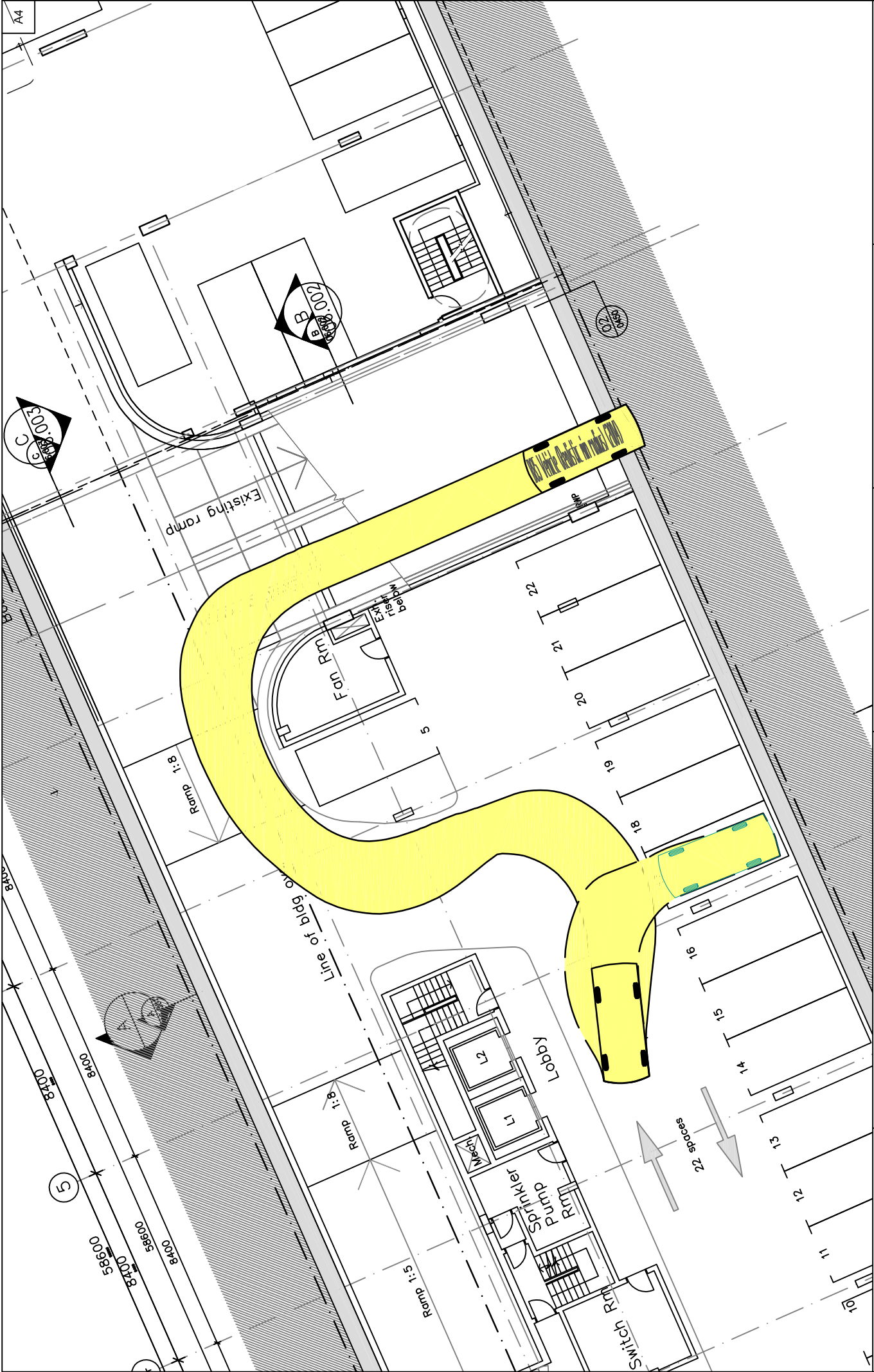
The traffic activity associated with the development will be consistent with the overall planning for the Sydney Olympic Park and will not have any detrimental impact on the operation of the surrounding road network.

The proposed parking provision for 53 cars is within the maximum allowance according to the relevant planning policy and will assist in encouraging workers to travel to the site by means other than private cars. In this regard, 39 bicycle parking spaces are proposed within the basement, and the site is well served by public transport.

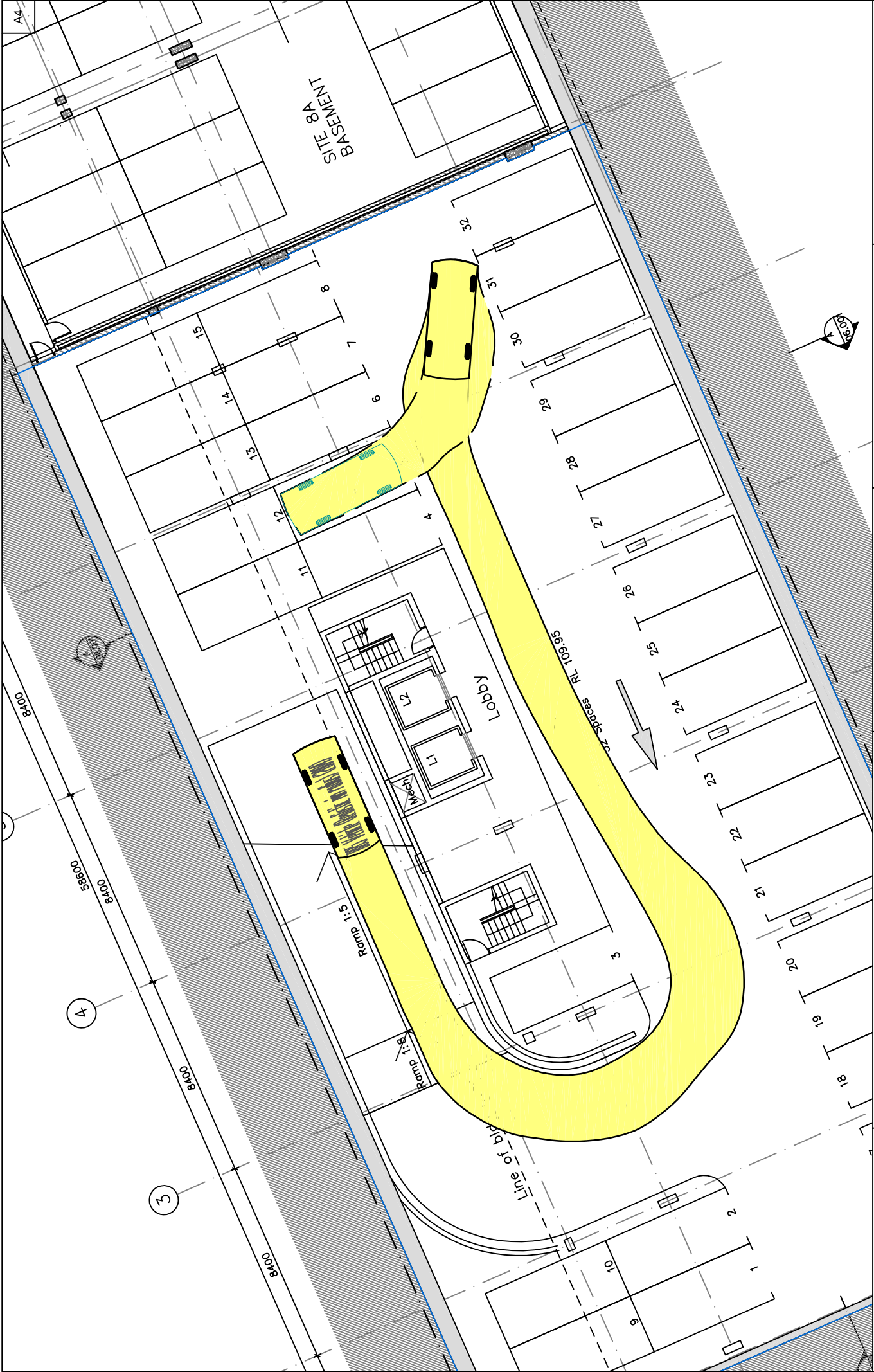
The parking and vehicular access arrangements have been designed in accordance with the relevant standard, being AS2890.1, while the sharing of the existing Site 8A access driveway will provide access to the basement without the need for additional driveways through the pedestrian domain.

Attachment 1 Architectural Drawings

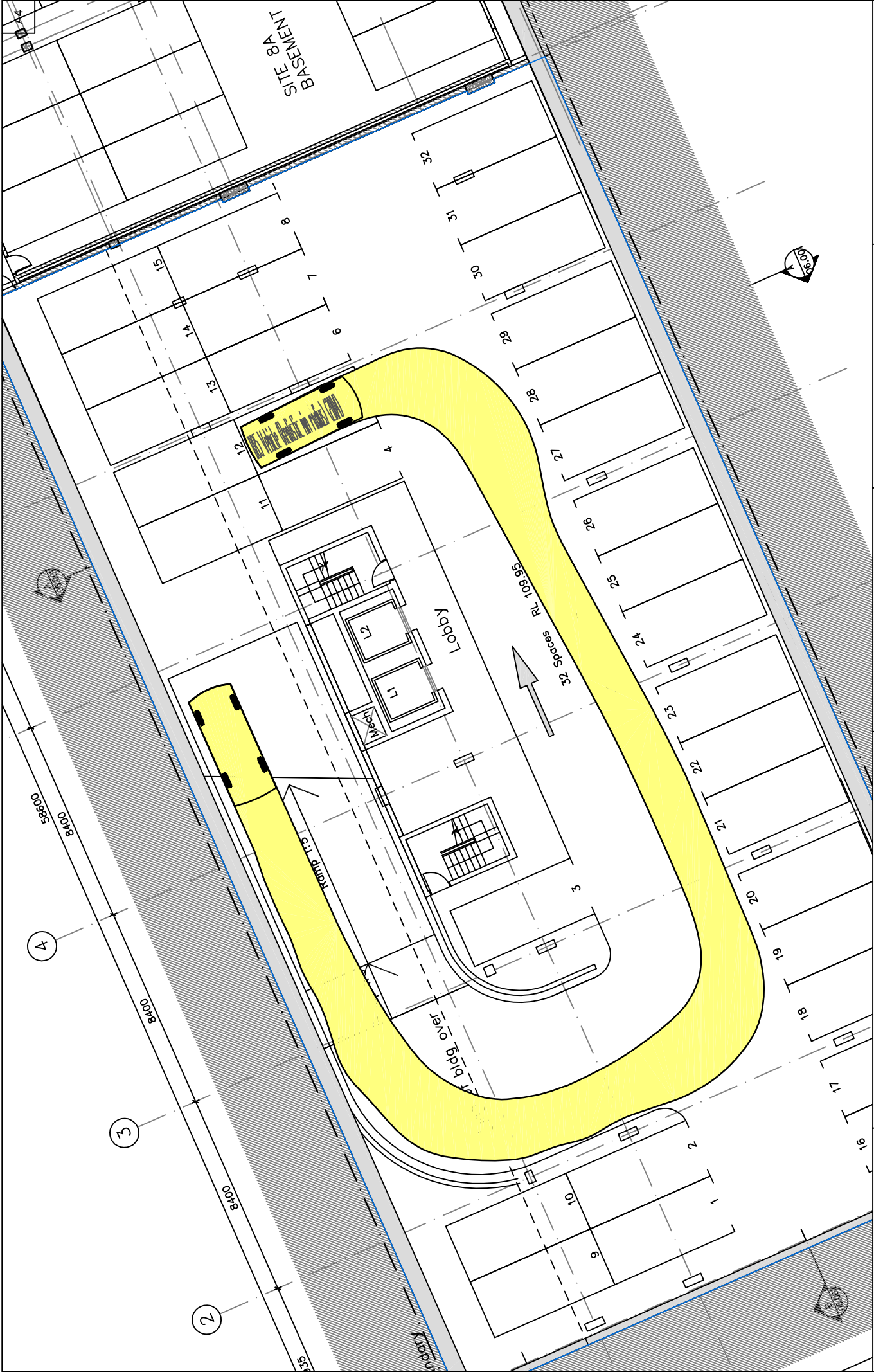
Attachment 2 Turning Path Output Drawings



DESIGNED BY:  parking consultants international pty ltd suite 11, 590 miller road, rosmann nsw 2088 australia pci@parkingconsultants.com www.parkingconsultants.com	NOTES: The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytica Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.	PROJECT: SITE 8B, SYDNEY OLYMPIC PARK	DRAWING TITLE: TURNING PATH ASSESSMENT DEMONSTRATING AN 85th PERCENTILE VEHICLE (FORD FALCON) ENTERING THE CARPARK	CUSTOMER:	Fitzpatrick Investments Pty Ltd
				DRG. #:	TP1
				VERSION #:	1
				SCALE:	1:200
				PROJECT #:	T2-410
		DATE:	25/10/10		



	DESIGNED BY:	NOTES: The turning paths illustrated in this drawing have been prepared using the AutoTrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytica Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.	PROJECT: SITE 8B, SYDNEY OLYMPIC PARK	DRAWING TITLE: TURNING PATH ASSESSMENT DEMONSTRATING AN 85th PERCENTILE VEHICLE (FORD FALCON) ENTERING THE LOWER CARPARK	CLIENT: Fitzpatrick Investments Pty Ltd
					DRG. #: TP3
					VERSION #: 1
					SCALE: 1:200
					PROJECT #: T2-410
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PROJECT:
SITE 8B, SYDNEY OLYMPIC PARK

DRAWING TITLE:
TURNING PATH ASSESSMENT
DEMONSTRATING AN 85th
PERCENTILE VEHICLE (FORD FALCON)
EXITING THE LOWER CARPARK

CUSTOMER:
Fitzpatrick Investments Pty Ltd

DRG. #: TP4

VERSION #: 1

PROJECT #: T2-410

SCALE: 1:200

DATE: 25/10/10