Attachment 10 to Item 2.1.1.

Traffic Report

Date of meeting: 27 February 2025
Location: Council Chambers
Time: 10am

TRAFFIC IMPACT ASSESSMENT

Proposed Hotel Development
27 Douglas Road, Kurrajong Heights

Reference: 20.544r01v07
Date: March 2022

TRAFFIX
TRAFFIC & TRANSPORT PLANNERS

Suite 2.08, 50 Holt St
Surry Hills, NSW 2010

t: (02) 8324 8700
w: www.traffix.com.au

DOCUMENT VERIFICATION

Job Number	20.544			
Project	27 Douglas Road, Kurrajong Heights			
Client	Balma Projects Pty Ltd			
Revision	Date	Prepared By	Checked By	Signed
v07	18/03/2022	Neil Caga	Neil Caga	[redacted]

CONTENTS

1. INTRODUCTION

TRAFFIX has been commissioned by Balma Projects Pty Ltd to undertake a traffic impact assessment in support of a development application (DA) relating to a hotel development at 27 Douglas Road, Kurrajong Heights. The development is located within the Hawkesbury City Council Local Government Area (LGA) and has been assessed under that Council's controls.

This report documents the findings of our investigations and should be read in the context of the Statement of Environmental Effects (SEE), prepared separately.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Assesses traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions

2. LOCATION AND SITE

The subject site at 27 Douglas Road, Kurrajong Heights is located approximately 4.2 kilometres northwest of Kurrajong town centre and is legally identified as Lot 1 of DP1188572. More specifically, it is located on the northern side of Douglas Road and southwestern side of the Bells Line of Road and Warks Hill Road intersection.

The site is irregular in configuration and has a total site area of 3,867m². It has a northern boundary of 52.3 metres and western boundary of 93.4 metres to neighbouring residential properties, with a southern frontage to Douglas Road of 26.5 metres. The remaining eastern boundary of 141.2 metres comprises a 44.8 metre frontage to Bells Line of Road and Warks Hills Road, and 96.4 metres to existing retail developments.

The site is currently vacant and provides vehicular access via a gate from Douglas Road, situated on the southern frontage of the site.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A**, which provides an appreciation of the general character of roads and other key attributes in proximity to the site.

Figure 1: Location Plan

Figure 2: Site Plan

3. EXISTING TRAFFIC CONDITIONS

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- Bells Line of Road: forms part of a TfNSW Main Road (MR 184) that traverses east-west between Kurrajong Road in the east and Chifley Road in the west. Within the vicinity of the site, it is subject to 60km/h speed zoning and accommodates a single lane of traffic in each direction. Bells Line of Road does not permit on on-street parking on either side of the road.
- Warks Hill Road: a local road that traverses north-south between a dead-end at Kurrajong Heights and Bells Line of Road in the west. Within the vicinity of the site, it is subject to 50km/h speed zoning and accommodates a single lane of traffic in each direction. Warks Hill Road permits unrestricted on-street parking along both sides of the road.
- Douglas Road: a local road that traverses east-west between East Street in the east and private driveways in the west. It is subject to 50km/h speed zoning and accommodates a single lane of traffic in each direction, east of the Bells Line of Road. It should be noted that Douglas Road, west of the Bells Line of Road, generally accommodates a single unsealed road.

It can be seen from **Figure 3** that the site is conveniently located with respect to the main arterial road serving the region, being Bells Line of Road, with connections to the north and south via Warks Hill Road and Douglas Road, respectively. As such, traffic is able to be distributed onto the wider road network, minimising traffic impacts.

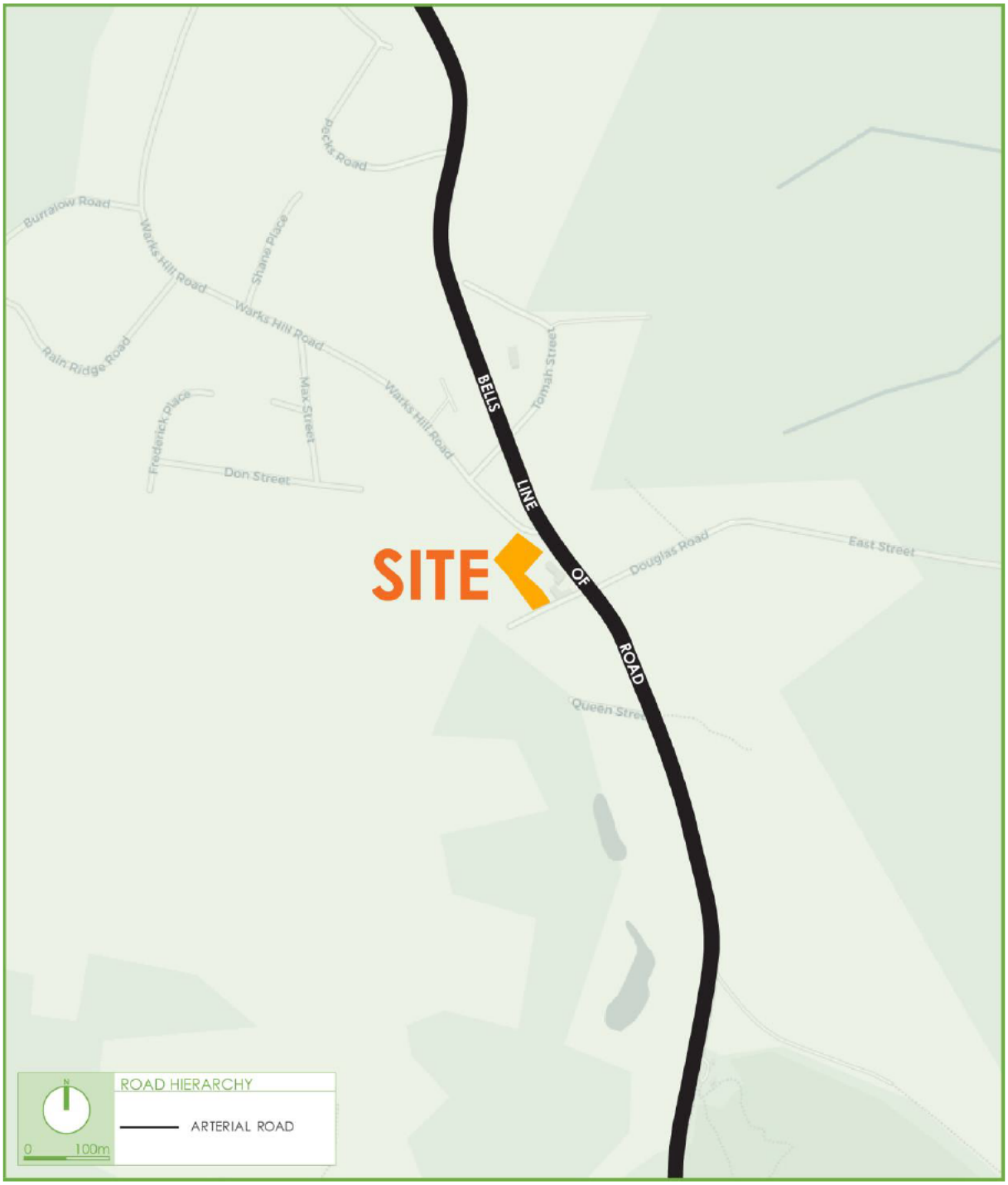


Figure 3: Road Hierarchy

3.2 Public Transport

The subject site is located within 50 metres of bus stops along Bells Line of Road, which provide bus services along Route 682 between Berambing and Kurrajong to Richmond. Furthermore, this bus route provides connection to Richmond Railway Station, thereby connecting commuters to the wider public transport network. These bus stops and route are presented in **Figure 4** below.

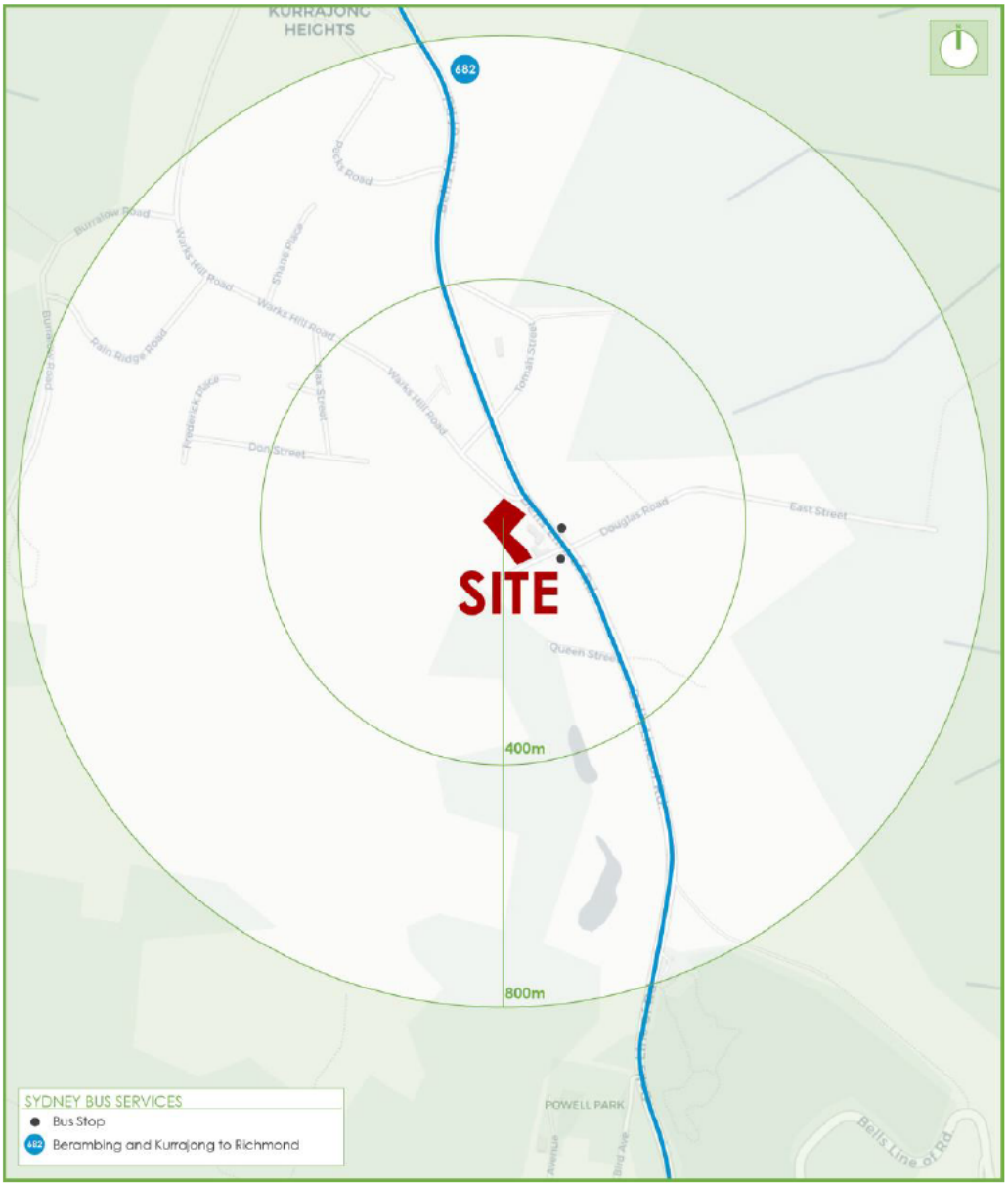


Figure 4: Public Transport

4. DESCRIPTION OF PROPOSED DEVELOPMENT

A detailed description of the proposed development is provided in the SEE, prepared separately. In summary, the development for which approval is now sought comprises the following components and associated gross floor areas (GFA):

- Construction of a hotel development with a total area of 1,415m² GFA, including:
  - 163m² GFA within the Lower Ground Floor;
  - 772m² GFA within the Ground Floor; and
  - 480m² GFA within the First Floor.
- Construction of ancillary components including amenities, kids area, patron circulation areas, foyers, smoking areas and associated back-of-house areas;
- Construction of nine (9) cabins and ancillary day spa;
- Provision of a total of 75 car parking spaces within an at-grade car park
- Provision of a loading bay that is able to accommodate an 8.8 metre long medium rigid vehicle (MRV); and
- Provision of two (2) vehicular accesses from Douglas Road and Warks Hill Road.

The parking and traffic impacts arising from the development are discussed in **Section 5** and **Section 6**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix B**.

5. PARKING REQUIREMENTS

5.1 Car Parking

Reference should be made to the Parking Assessment Report prepared by John Coady Consulting.

5.2 Accessible Parking

The Hawkesbury DCP 2002 does not provide accessible car parking rates and provisions for hotel developments. As such, the accessible car parking rates and provisions have been assessed under the Building Code of Australia (BCA) *Disability (Access to premises – Buildings) Standards 2010*. The accessible parking rate for the proposed development is 1 space for every 50 car parking spaces or part thereof (Class 6).

Application of this rate to the total 75 car parking spaces equates to a requirement for two (2) accessible parking spaces. In response, the development proposes two (2) accessible parking spaces, thereby compliant with the minimum requirements of the BCA.

5.3 Motorcycle and Bicycle Parking

The Hawkesbury DCP 2002 does not provide motorcycle or bicycle parking rates and provisions for hotel developments. As such, the development does not propose any motorcycle and bicycle parking spaces.

5.4 Refuse Collection and Servicing

The Hawkesbury DCP 2002 does not provide loading bay provisions for hotel developments. Nevertheless, the development proposes a single loading bay for all refuse collection and servicing within the lower ground floor area, situated on the west side of the club building. This loading bay is able to accommodate an 8.8 metre long MRV, with the service vehicle able to enter and egress the development in a forward direction. Accordingly, this refuse collection and servicing arrangement is considered acceptable, given the nature and scale of the development.

5.5 Courtesy Shuttle Bus Service

The Hawkesbury DCP 2002 does not have a requirement for a courtesy bus service. Nevertheless, the development proposes to utilise the loading bay for shuttle bus pick-up and drop-off. This courtesy bus is proposed to provide services throughout the Kurrajong region, hence considered appropriate for the proposed development.

6. TRAFFIC AND TRANSPORT IMPACTS

6.1 Development Trip Generation

6.1.1 Club Component

The RMS Guide to Traffic Generating Developments 2002 recommends the analysis of traffic generation for a proposed 'Hotel – Traditional' development be based on surveys of similar existing hotels.

In addition to the above, the utilisation of the proposed development is more akin to a 'Club' development. As such, the RMS Guide provides the following similar advice for 'Club' developments:

> *'Surveys of licensed clubs conducted by the RTA in 1978 indicate that it is difficult to generalise on their traffic generation because of the diversified nature of clubs. Traffic generation is affected by such factors as the provision of live entertainment, gambling facilities, number of members and club location. Behavioural changes since 1978, such as the introduction of random breath testing, also make such generalisations more difficult.'*

Traffic generation rates are therefore not specified in the RMS Guide for this type of development and in any event, such a rate would not be as accurate or reliable. As such, the RMS Guide prefers a methodology based on a survey assessment of comparable developments. TRAFFIX has had extensive experience with developments of this nature and has identified an average traffic generation rate, based on surveys of comparable developments. This average rate is summarised as follows:

- 2.38 veh/hr per 100m² GFA (evening peak period)

Application of the average traffic generation rate to the proposed 1,415m² GFA and assuming a modal split of 50:50 for this component of the development, will result in the following anticipated traffic generation for the club component:

- 34 veh/hr during the evening peak period (17 in, 17 out)

6.1.2 Accommodation Component

The RMS Guide to Traffic Generating Developments 2002 provides the traffic generation rates for casual accommodation (motels) at rate of 0.4 vehicle trips per unit. Application of this rate to the proposed nine (9) cabins and assuming a modal split of 80:20, will result in the following anticipated traffic generation for the accommodation component:

- 4 veh/hr during the evening peak period (3 in, 1 out)

6.1.3 Combined Traffic Generation

The combined vehicle trip generation of the development is summarised as follows:

- 38 veh/hr during the evening peak period (20 in, 18 out)

6.2 Traffic Impacts

The above traffic generation is considered to be a conservative assessment, with the impact of anticipated traffic generation expected to be significantly less, given the following:

- The abovementioned traffic generation rate is applicable to the club component of the proposed development's evening peak period. This evening peak period is not expected to coincide with the surrounding network PM peak period and as such, the anticipated traffic generation will have minimal impacts on the surrounding network;
- The proposed development is significantly smaller than the comparable surveyed developments. The anticipated trip generation is therefore expected to be reduced for the proposed development;
- The development proposes two (2) vehicular accesses, resulting in the anticipated traffic volumes being distributed onto Warks Hill Road and Douglas Road. As a result, the traffic impacts on the surrounding intersections are anticipated to be marginal and, in any event, well within typical fluctuations in background traffic volumes; and
- The development proposes a courtesy bus service that will provide services throughout the Kurrajong region. Accordingly, this service will provide an alternative mode of transportation and assist in reducing the traffic generation of the proposed development;

As a result, the traffic generation of the proposed development is considered to have minimal impacts on the surrounding road network and is supportable on traffic planning grounds.

7. ACCESS AND INTERNAL DESIGN ASPECTS

7.1 Vehicular Access

The development proposes a total of 75 car parking spaces (User Class 2) with access from Douglass Road and Warks Hill Road (local roads). It will therefore require a Category 2 driveway under AS2890.1 (2004), being a combined entry and exit width of 6.0 to 9.0 metres. In response, the development proposes two (2) combined entry and exit accesses that both have a width of 6.1 metres, measured at the property boundary, noting that the Warks Hill Road access is able to accommodate an 8.8 metre long MRV. These vehicular access arrangements are superior to the requirements of AS2890.1 (2004), therefore acceptable.

A swept path analysis of all design vehicles entering and exiting the proposed development, including the service vehicle, has been included in **Appendix C**, demonstrating satisfactory operation of the proposed vehicular accesses.

7.2 Internal Design

The internal car park complies with the requirements of AS2890.1 (2004), AS2890.2 (2018) and AS2890.6 (2009), with the following characteristics noteworthy:

7.2.1 Parking Modules

- All patron / visitor car parking spaces have been designed in accordance with AS2890.1 (2004) User Class 2, being a minimum width of 2.5 metres and length of 5.4 metres.
- All staff car parking spaces have been designed in accordance with AS2890.1 (2004) User Class 1, being a minimum width of 2.4 metres and length of 5.4 metres.
- All accessible parking spaces have been designed in accordance with AS2890.6 (2009), being a minimum width of 2.4 metres, length of 5.4 metres and provide an adjacent shared zone with the same dimensions.
- The loading bay to be designed in accordance with AS2890.2 (2018) to accommodate an 8.8 metre long MRV, being a minimum width of 3.5 metres and length of 8.8 metres.
- All spaces located adjacent to obstructions of greater than 150mm in height are provided with an additional width of 300mm.

7.2.2 Ramps

- All accesses are provided a maximum gradient of 1 in 20 (5%) for the initial 6.0m inside the property boundary, in accordance with AS 2890.1 (2004) Section 3.3 (a).
- The internal ramp has been designed in accordance with AS2890.2 (2018) to accommodate an 8.8 metre long MRV, being a maximum gradient of 1 in 6.5 (15.4%) and containing gradient transitions with a maximum rate of change of 1 in 16 (6.25%).

7.2.3 Clear Head Heights

- A minimum clear head height of 2.2 metres is to be provided for all trafficable areas of the car park area, as required under AS2890.1 (2004).
- A minimum clear head height of 2.5 metres is to be provided for all accessible parking spaces and adjacent shared areas, as required under AS2890.6 (2009).
- A minimum clear head height of 4.5 metres is to be provided for trafficable areas of the 8.8 metre long MRV, as required under AS2890.2 (2018).

7.2.4 Other Considerations

- Dead-end aisles are provided with the required 1.0 metre aisle extension, as required under AS2890.1 (2004) Figure 2.3.
- Visual sight triangles have been provided for all vehicular accesses, as required under AS2890.1 (2004) Figure 3.3.
- All columns are located outside of the parking space design envelope, as required under AS2890.1 (2004) Figure 5.2.
- A swept path analysis has been undertaken and included in **Appendix C** demonstrating satisfactory vehicle movements of an 8.8 metre long MRV to/from the loading dock.

7.3 Summary

In summary, the internal configuration of the car park has been designed in accordance with AS2890.1 (2004), AS2890.2 (2018) and AS2890.6 (2009). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

8. CONCLUSION

In summary:

- The proposal seeks approval to construct a hotel development at 27 Douglas Road, Kurrajong Heights, comprising a club component of 1,415m² GFA, nine (9) cabins and total provision for 75 car parking spaces.
- The car parking requirements for the proposed development should be referred to the Parking Assessment Report prepared by John Coady Consulting.
- The anticipated traffic generation rate for the proposed development was determined based on surveys of comparable developments and the RMS Guide to Traffic Generating Developments 2002. Application of these rates resulted in an anticipated traffic generation of 38 veh/hr during the evening peak period, which would be distributed across two (2) vehicular accesses onto Warks Hill Road and Douglas Road.

  This is considered a conservative assessment, given that the envisaged peak period of the club component of the proposed development would not coincide with the network peak period of the surrounding roads. Accordingly, the traffic generation of the proposed development is considered to have minimal impacts on the surrounding road network.
- The internal configuration of the car park area has been designed in accordance with AS2890.1 (2004), AS2890.2 (2018) and AS2890.6 (2009). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards. As such, any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.

This traffic impact assessment therefore demonstrates that the subject application is supportable on traffic planning grounds. TRAFFIX anticipates an ongoing involvement during the development approval process.

APPENDIX A

Photographic Record

View looking north along Bells Line of Road at the intersection with Warks Hill Road

View looking east along Warks Hill Road at the intersection with Bells Line of Road

View looking west along Warks Hill Road from the subject site's access driveway

View looking south along Bells Line of Road at the intersection with Douglas Road

View looking east along Douglas Road at the intersection with Bells Line of Road

View looking west along Douglas Road showing the gravel road

View looking west along Douglas Road showing the sealed road

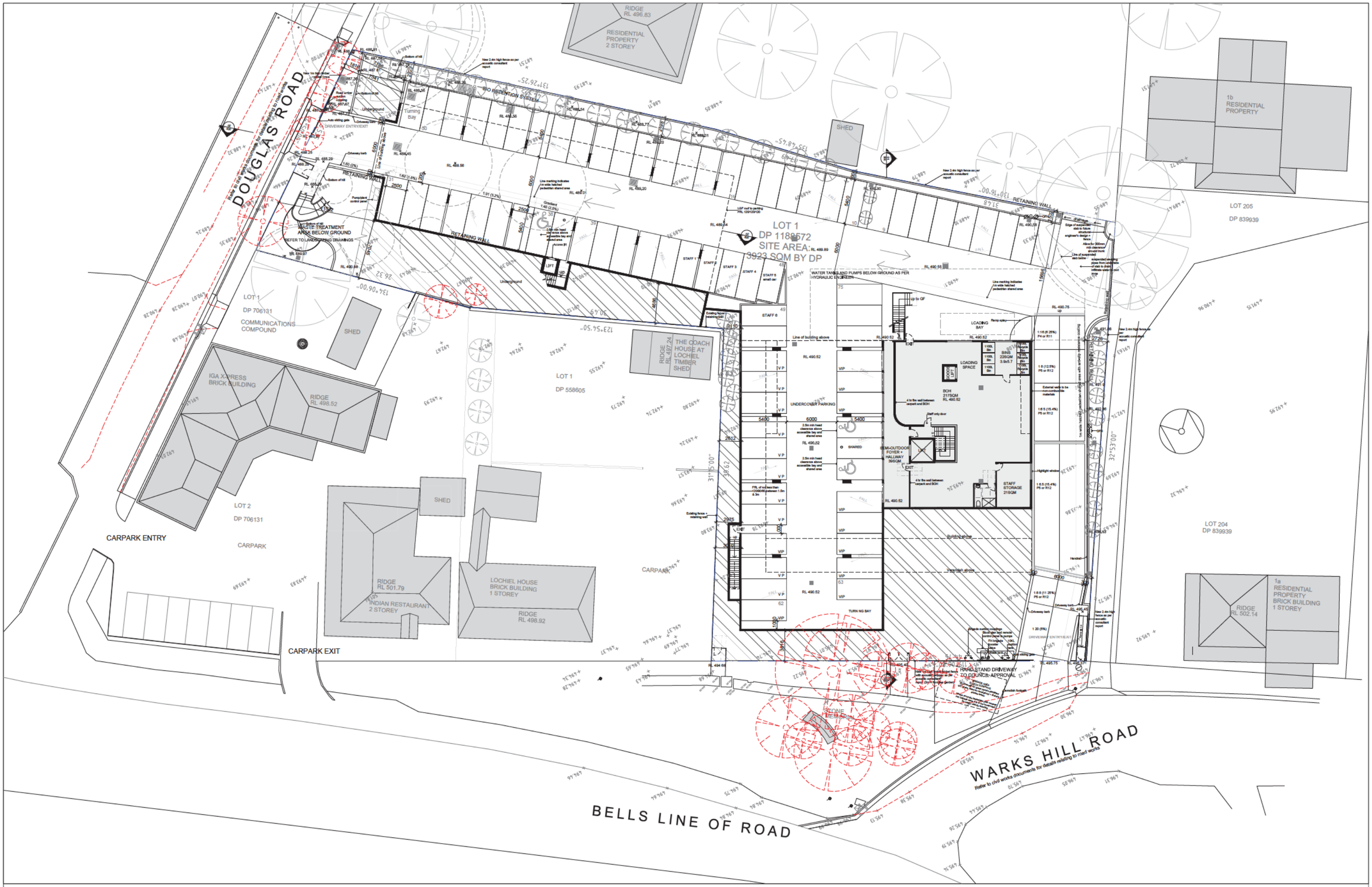
View looking north at the proposed exit access driveway of the development

View looking west along Douglas Road showing the gravel road

View looking east along Douglas Road showing the sealed road

APPENDIX B

Reduced Plans



Legend

- Boundary Line
- Existing RL
- RL 485.92 Proposed RL
- Tree removal

Issue	Description	Issue Date
1	DA	17.03.22

Shop 3B, 780 Bourke St, Redfern NSW 2016
www.archebiosis.com
P 02 8399 2334
E archebiosis@archebiosis.com

ARCHEBIOSIS ARCHITECTS

Project
Kurrajong Heights Hotel & Accommodation

Drawing content
Lower Ground Floor Site Plan

Scale
1:400@A3

Drawing No.
SK102

Client
Merc Capital

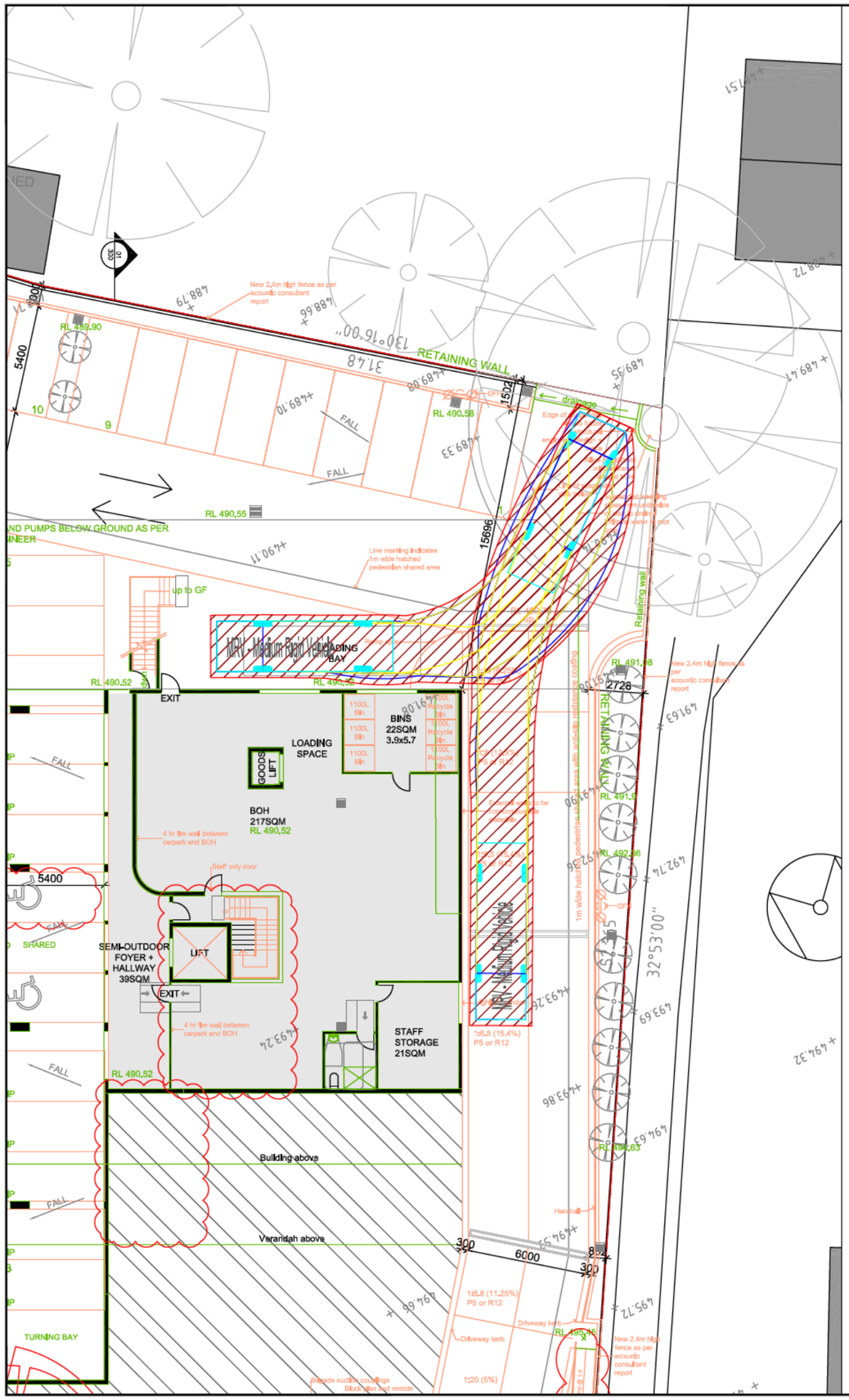
Project Status
DA

Date
17/03/2022

Issue No.
1

APPENDIX C

Swept Path Analysis



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date
A	Swept Path Analysis	NC	06-04-2021
B	Updated Plans	VD	22-12-2021
C	Updated Plans	NC	18-03-2022

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
Archebiosis Architects

Client
Balma Projects Pty Ltd

Scale / Plan Orientation

0 2.5 5 7.5 10m
1:250 @ A3

Project Description
27 Douglas Road
KURRAJONG HEIGHTS NSW 2758

Drawing Prepared By

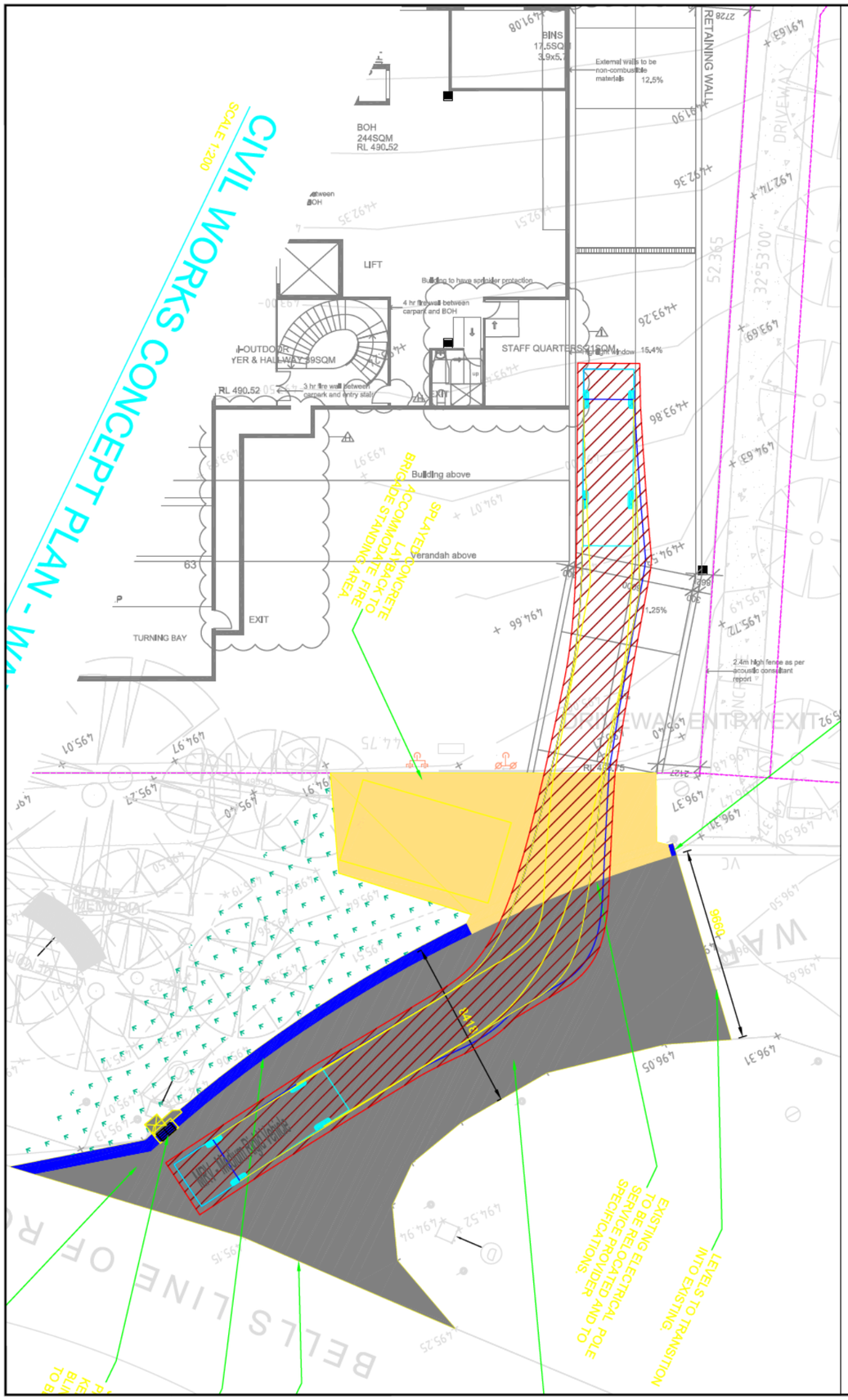
TRAFFIX
TRAFFIC & TRANSPORT PLANNERS
Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

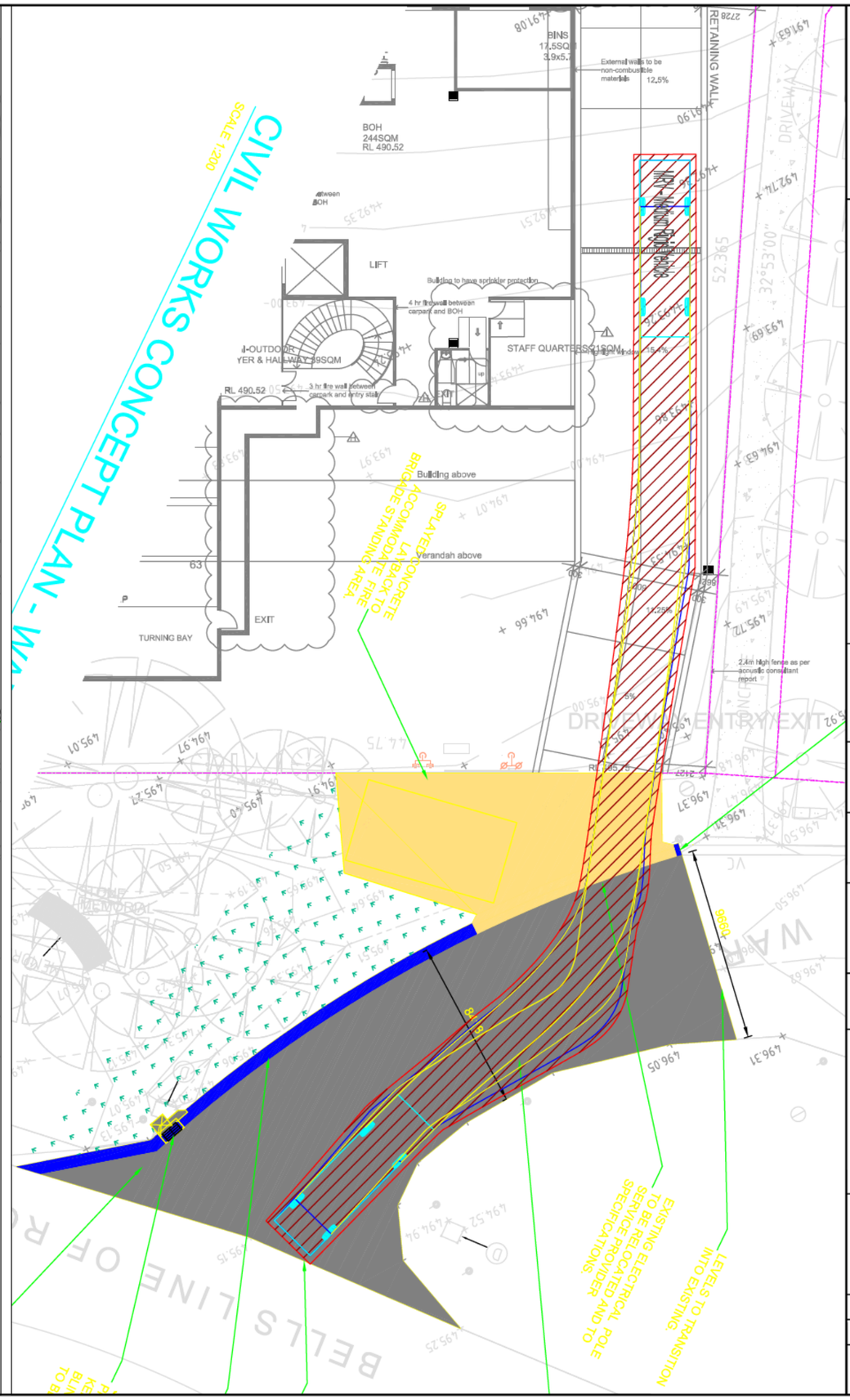
Drawing Title
Swept Path Analysis
Lower Ground Floor - Loading Bay
8.8m Medium Rigid Vehicle
LEFT: Entry Movement
RIGHT: Exit Movement

Drawn:	Checked:	Date:
NC	VD	06-04-2021

20.544d10v01 TRAFFIX [220317 Plans] Design Review + Civil Plans.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
20.544	DA	TX.01	C





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KURRAJONG HEIGHTS NSW 2758

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TRAFFIX
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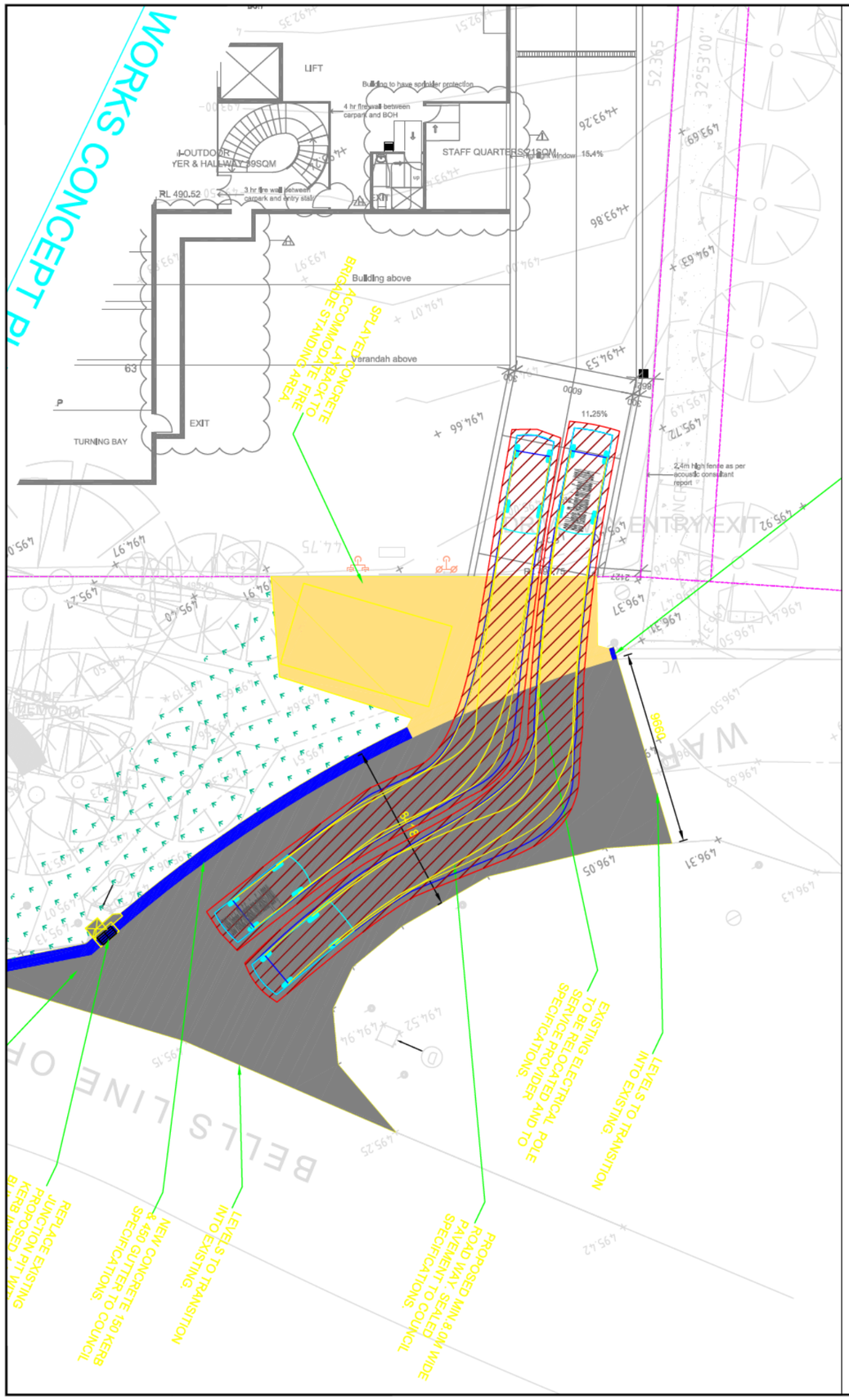
Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

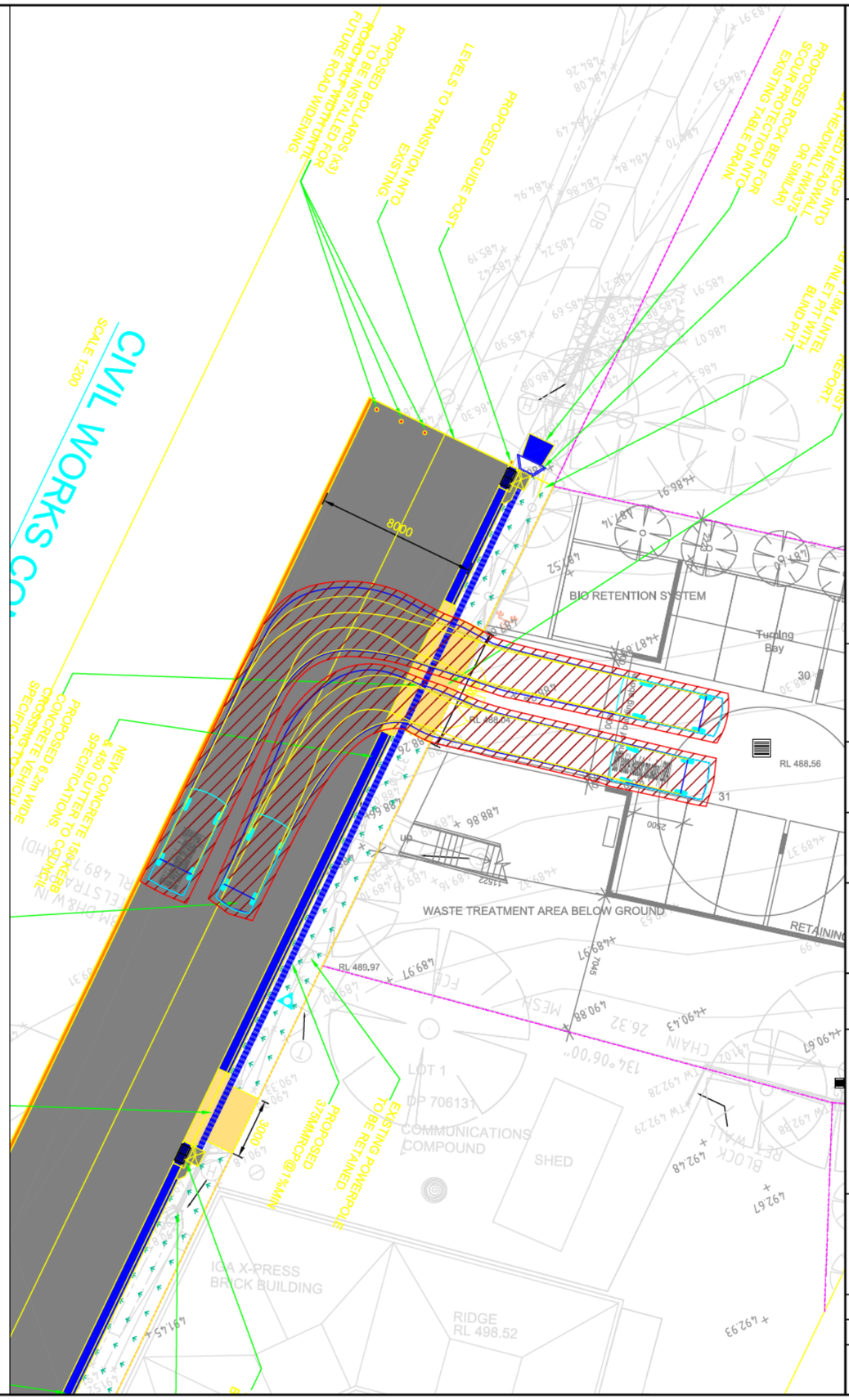
Drawing Title
Swept Path Analysis
Warks Hill Road - Vehicular Access
8.8m Medium Rigid Vehicle
LEFT: Entry Movement
RIGHT: Exit Movement

Drawn:	Checked:	Date:
VD	VD	22-12-2021

20.544d10v01 TRAFFIX [220317 Plans] Design Review + Civil Plans.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
20.544	DA	TX.02	B





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Suite 2.08, 50 Holt Street
Surry Hills, NSW 2010
PO Box 1124
Strawberry Hills, NSW 2012
t: +61 2 8324 8700
f: +61 2 9830 4481
w: www.traffix.com.au

Drawing Title
Swept Path Analysis
Vehicular Accesses
B99 & B85 Vehicle
LEFT: Warks Hill Road
RIGHT: Douglas Road

Drawn:	Checked:	Date:
VD	VD	22-12-2021

20.544d10v01 TRAFFIX [220317 Plans] Design Review + Civil Plans.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
20.544	DA	TX.03	B