Ref: 23203
Date: December 2023
Issue: A

Proposed Child Care Centre

46A Townsend Street, Condell Park

Traffic Impact Assessment

Transport and Traffic Planning Associates

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1.0 Introduction

This report has been prepared to accompany a Development Application to the Canterbury-Bankstown Council for a proposed Childcare Centre development at 46A Townsend Street, Condell Park (Figure 1).

The purpose of this report is to:

- Describe the site, its context and the proposed development scheme
- Describe the existing road network and conditions on that network
- Assess the adequacy of the proposed on-site parking provision
- Assess the potential traffic implications
- Assess the proposed vehicle access and servicing arrangements.

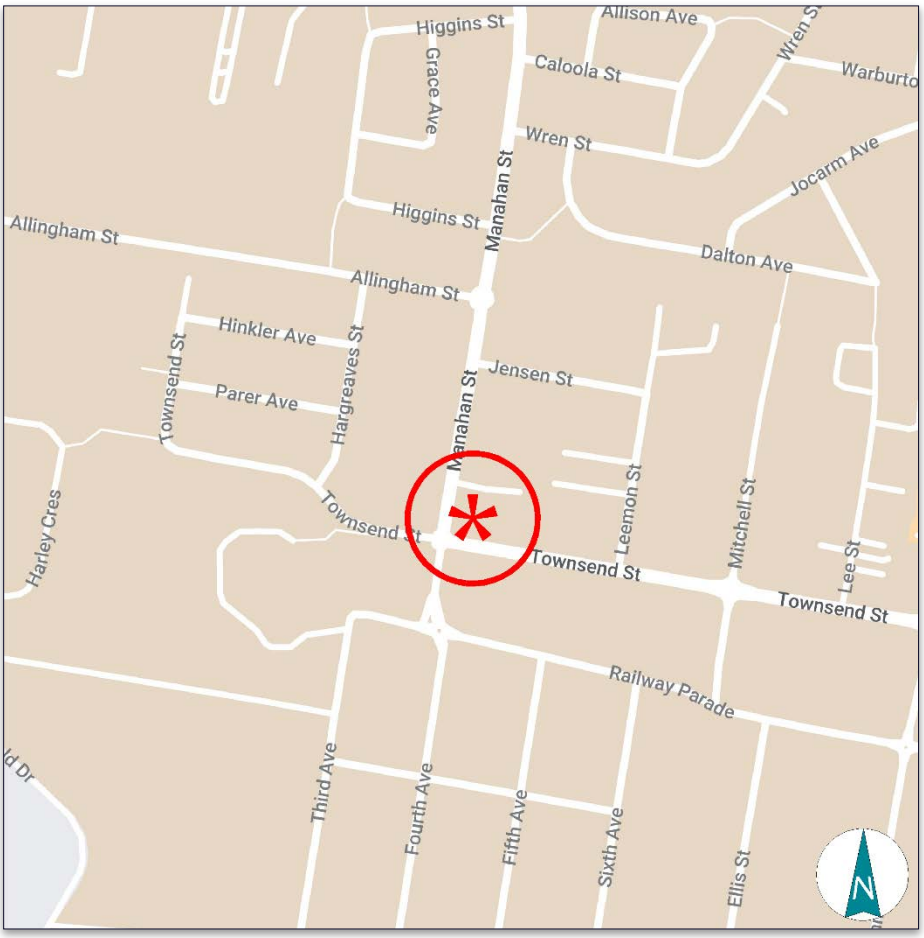


Figure 1 - Site Location

2.0 Proposed Development

2.1 Site, Context & Existing Circumstances

The site (Figure 2) is Lot 3 in DP385273, which occupies a rectangularly-shaped area of some 665m^2 with frontage to the northern side of Townsend Street.

The surrounding land uses comprise:

- The adjoining and surrounding low-density residential dwellings
- The Condell Park retail area along Simmat Avenue to the east of the site
- Bankstown Airport to the west of the site
- Kinch Reserve to the southwest of the site

Figure 2 - Site Boundary

2.2 Proposed Development

It is proposed to demolish the existing older style brick residential building to construct a new 2-level child care centre capable of accommodating 49 children comprising:

- 3 Playrooms
- 1 cot room
- 2 general bathrooms & 1 accessible bathroom
- Kitchen & Laundry
- Reception and office
- Outdoor play area

The proposed development will retain the existing driveway and provide access into the basement car park comprising 9 spaces.

Details of the approved development are provided on the plans prepared by ZT Architects and are reproduced in part in Appendix A.

3.0 Existing Road Network and Traffic Conditions

3.1 Road Network

The road network serving the site (Figure 3) comprises:

- South Western Motorway (M5) – a State Highway and arterial route providing a major east-west connection between Mascot and Liverpool
- Canterbury Road/ Milperra Road – a State Road and arterial route providing an east-west connection between Bankstown and Newtown
- Hume Highway – a State Road and an arterial route which provides a north-south-west connecting route across the central-western metropolitan area, between Liverpool in the west and Summer Hill in the east
- the collector road system including Marion Street, Simmat Avenue, Edgar Street/ Queen Street and Eldridge Road

Townsend Street is a relatively straight road with one bend towards the west with a 10m wide carriageway comprising a traffic lane and parking lane in both directions.

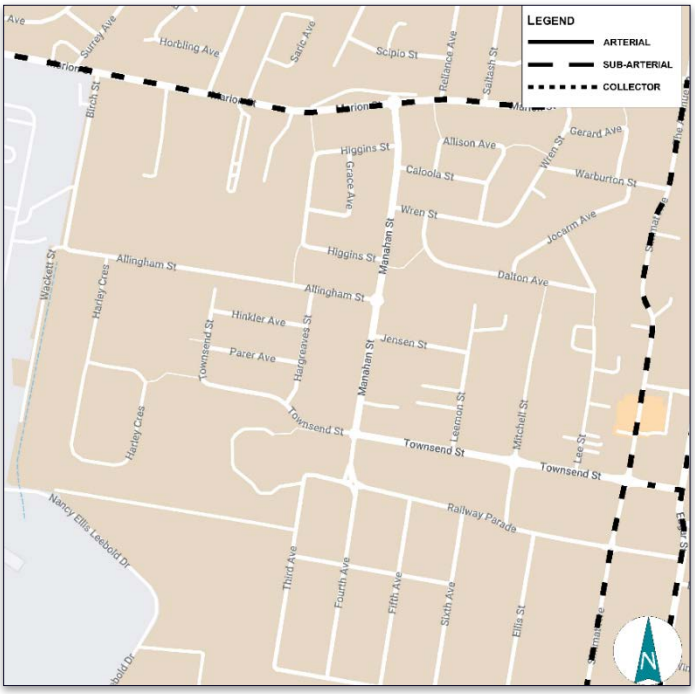


Figure 3 - Road Network

3.2 Traffic Controls

The existing limited traffic controls on the road system serving the site (Figure 4) comprise:

- The traffic lights at the Railway Parade/ Edgar Street intersection
- The roundabouts along Townsend Street at the Manahan Street/ Mitchell Street and Simmat Avenue intersections
- The roundabouts along Manahan Street at the Allingham Street/ Townsend Street and Railway Parade intersections
- The STOP sign control on Mitchell Street onto Railway Parade
- The 50kmph speed restriction on the local and collector road system with 60kmph speed restrictions on Canterbury Road
- The various raised-speed humps in the area
- The zebra pedestrian crossings along Simmat Avenue

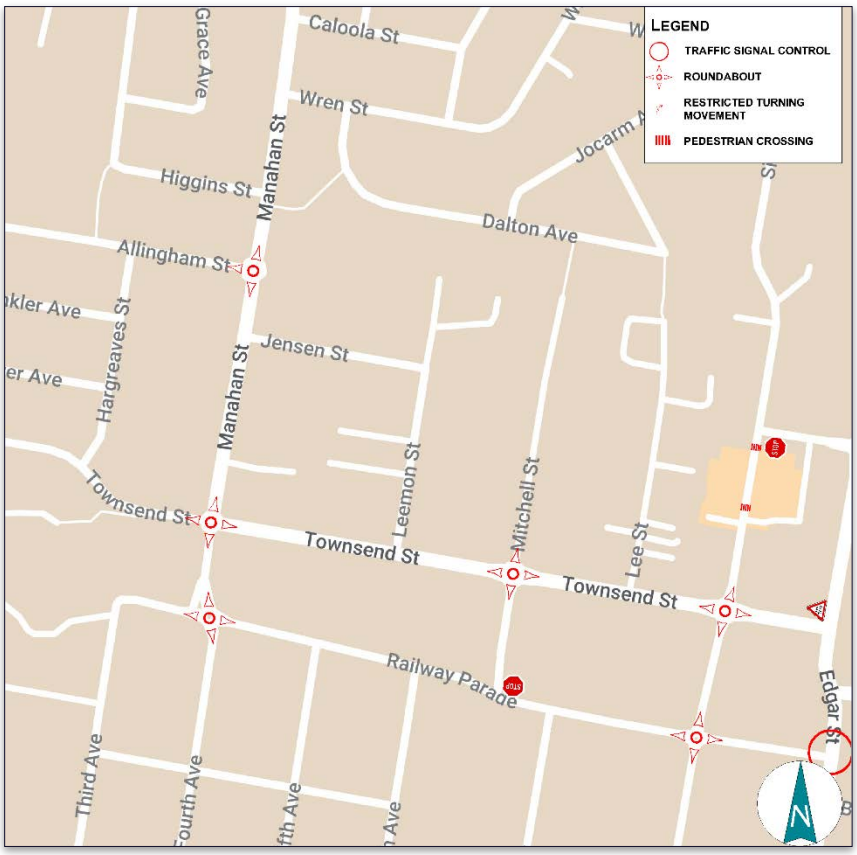


Figure 4 - Traffic Controls

3.3 Traffic Conditions

An indication of the prevailing traffic conditions in the area is provided by data published by the TfNSW in the vicinity road network. The TfNSW data is expressed in terms of Annual Average Daily Traffic (AADT), and the latest recorded volumes in the vicinity of the site are:

Edgar Street North of Milperra Road	25,000

The operation of the road system is the vicinity of the site is generally satisfactory due to the control provided by the numerous roundabout and traffic signal controlled intersections.

3.4 Transport Services

Bus route 925 operates along Townsend Street, with the closest bus station to the site being some 20m away. This route connects between East Hills and Lidcombe, via Bankstown, providing access to various train stations. The site is considered to be well-serviced in relation to accessibility to public transport.

Details of the available public transport services are provided in Appendix B.

4.0 Traffic, Parking and Pick-Up/Drop Off

4.1 Traffic

An indication of the potential traffic generation of the proposed development can be established with reference to the RTA study (Child Care Centres TEF Consulting 2015), which supersedes the earlier 2002 Guideline criteria, which was based on a study undertaken in the 1990s which aggregated the results for different types of centres including "before and after school".

The 2015 RTA study identifies a traffic generation rate for "Long Day Care Centres" (see details overleaf) of:

	Peak Hour Vehicle Trips/Child	
	AM	**PM**
Preschool	0.40	0.38

Application of an hourly rate to the proposed 49 child places indicates a peak hourly vehicle trip generation of 20 movements during the AM peak and 19 movements during the PM peak.

If the trips are assumed to be relatively evenly distributed between arrivals and departures, then the following characteristics of traffic generation are projected.

AM		**PM**	
IN	**OUT**	**IN**	**OUT**
10	10	9	10

The projected traffic generation of the proposed development represents an increase in vehicle movement to that of the existing residential development, as expected. However, It is apparent that the vehicle volumes are still relatively minor in magnitude and will not have any adverse traffic implications on the surrounding network because these movements will be spread over multiple directions.

4.2 Parking

Council's Development Control Plan (2012) specifies the following requirement for Child Care Centres:

1 space for every 2 staff members

1 setdown/pick-up space as follows:

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

Application of this criteria will see the following parking demand:

Set down/pick up spaces	4
Staff	4

While the DCP criteria do not specify the requirements of a childcare centre with the capacity of 49 children for the setdown/pick-up spaces, it can be safely assumed that the addition of 9 children on top of the criteria requires an additional 1 space following the trend of the DCP rate.

Accordingly, the childcare centre is proposed to provide 4 staff car spaces and 4 setdown/pick-up spaces, and 1 accessible space in full compliance with the DCP criteria.

Council's DCP also specifies a bike parking requirement for childcare centres, at 1 bike parking space per 4 staff. In accordance with Council's guidelines, 3 bike parking spaces will be provided in the basmenet parking.

4.3 Drop Off & Pick Up

Townsend Street has a relatively quiet characteristic regarding traffic movements with the absence of heavy vehicle volumes while providing a generously wide carriageway without direct access to roads with high volumes, high speeds or heavy vehicle volumes. Townsend Street also provides a concrete footpath along the site frontage servicing pedestrian movements to and from the site. These conditions allow for a safe and suitable on-street drop-off & pick-up arrangement. The drop-off & pick-up circumstances for the proposed on-site arrangements will also be safe with the access and internal circulation circumstances compliant with AS2890.1&6; see Section 5 for further details. It is therefore apparent that the sites drop off & pick up areas are in satisfaction with the Child Care Planning Guidelines NSW Section 3.1 (C2).

5.0 Access, Internal Circulation and Servicing

5.1 Access

The vehicle access has been designed in accordance with AS2890.1 and 6, with adequate sight distances, ramp grades and access widths provided whereby:

- Driveway grades do not exceed the maximum grade of 1:4
- The driveway grade changes are less than 18% over 2m
- The driveway width proposes a 6m wide access for passing with a 3m wide ramp into the basement, complying with the minimum widths where the following conditions apply:
    - Local frontage road type with less than 25 spaces = Category 1
    - Category 1 minimum entry and exit width is 3m combined
- The proposed driveway location sight triangles (2.5m x 2m) are not obstructed on the property boundary for pedestrian safety

It is understood that the proposed driveway grade exceeds 1:20 before 6m from the site boundary. The proposed driveway only provides some 4.5m of 1:20 before the site boundary. It should, however, be noted that:

- The AS requirement relates to the ability of egressing drivers to sight objects/pedestrians when reaching the sight boundary.
- AS2890.2 (Commercial vehicles) says that the 1:20 should be for the distance of the longest wheelbase of the vehicle that will use the driveway (because the grade at the wheels determines the vehicle's angle and, therefore, the driver's vision).
- The wheelbase of an 85th percentile car is 2.8m, and for a 99th percentile is 3.05m. Sutherland Council DCP specifies 3m at 1:20 in recognition of this reality.

The arrangement results in the driver's eye level when the car reaches the site boundary being exactly the same as for the standard. See Appendix C for further details.

5.2 Internal Circulation

A flexible internal 2-way circulation system is proposed with the parking bay, aisle widths and manoeuvring areas for vehicles designed to satisfy the design requirements of AS2890.1 & 6 as follows:

- Aisle widths are 5.8m minimum with an additional 300mm when opposing a wall in satisfaction with the relevant standards
- Aisle lengths include the additional 1m for vehicle movements on end spaces as required
- Space widths are increased by an additional 300mm when confined by a wall
- Parking space dimensions comply with the 2.4m x 5.4m minimum
- The accessible space and associated shared area comply with the minimum dimensions
- The accessible space supports both forward and reverse ingress and egress (see Appendix C)

5.3 Servicing

General waste collection will be completed by the Council's waste truck, which will continue to occur outside the peak periods (avoiding the AM arrival and PM departure of children). Any requirements for smaller service vehicles (i.e., deliveries, courier activity, maintenance, etc.), which typically involve vans, utes, etc., will park within the on-street parking.

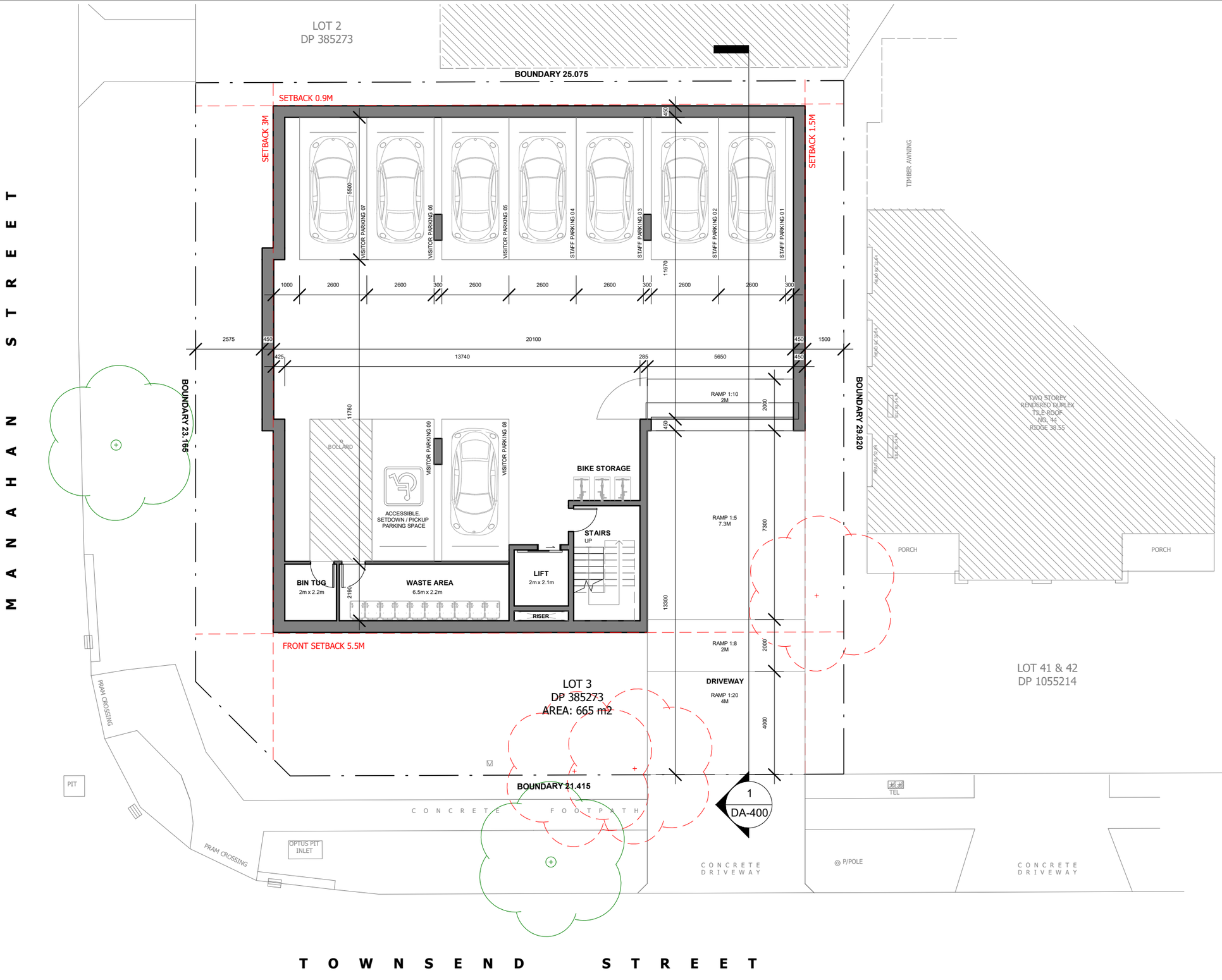
6.0 Conclusion

The assessment of the proposed development childcare centre at 46A Townsend Street, has established that:

- The resultant traffic generation will not present any adverse traffic implications.
- The proposed parking provision will be adequate to accommodate the projected staff parking demand and drop-off/pick-up uses.
- The proposed vehicle access and car parking layout will be appropriate to current AS2890.1 and AS2890.6 design standards.
- The proposed servicing provisions will be suitable and appropriate.

Appendix A
Proposed Plans

TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994



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BUILDING DESIGNER

NOTE

ISSUE	DATE	PURPOSE OF ISSUE

PROJECT
46A TOWNSEND STREET, CONDELL PARK NSW 2200

CLIENT
-

STATUS
PRELIMINARY

STAGE
DA

N

DRAWING NO.
DA-200

ISSUE
A

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JOB NO.
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CHECKED BY
RZ

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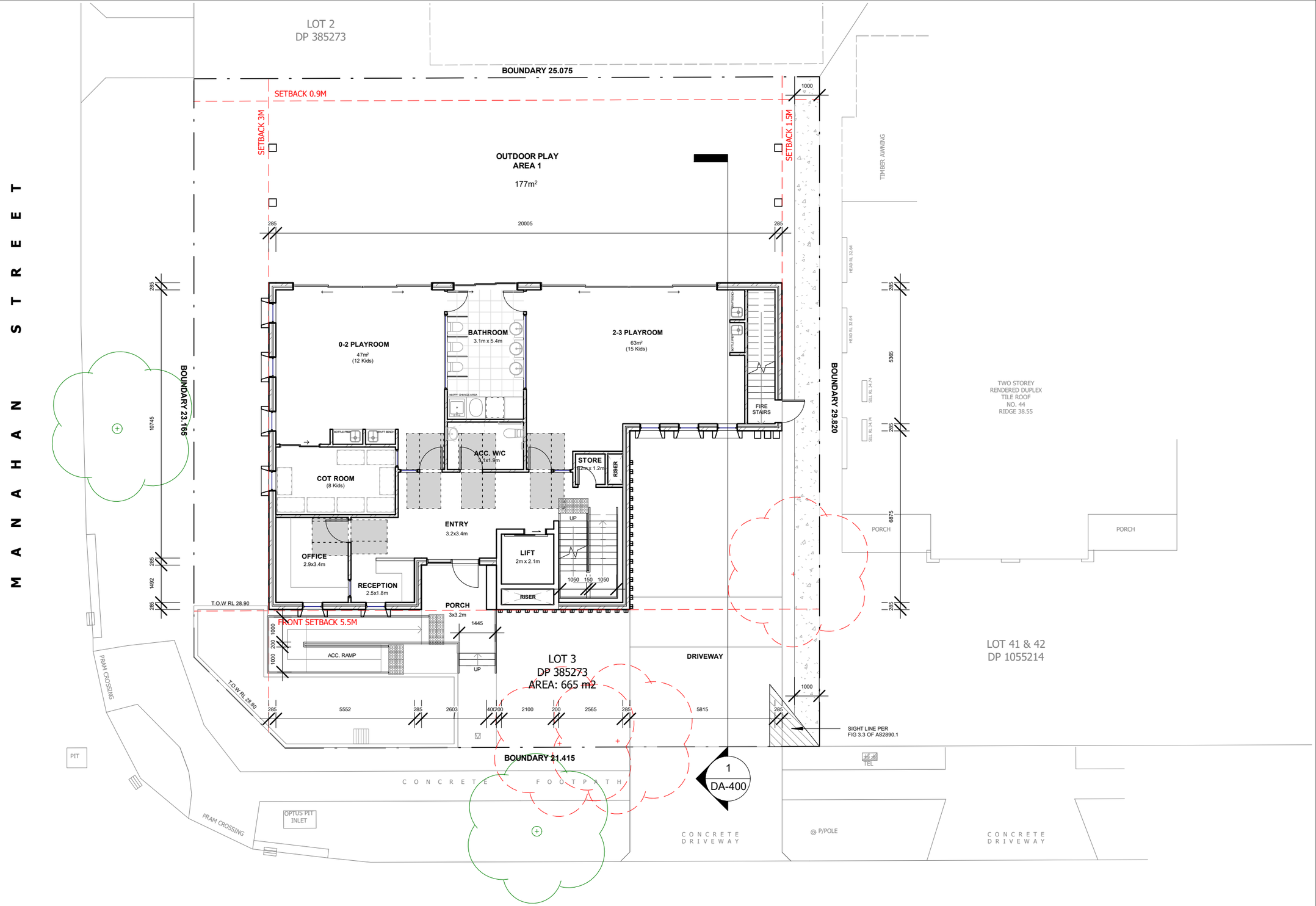

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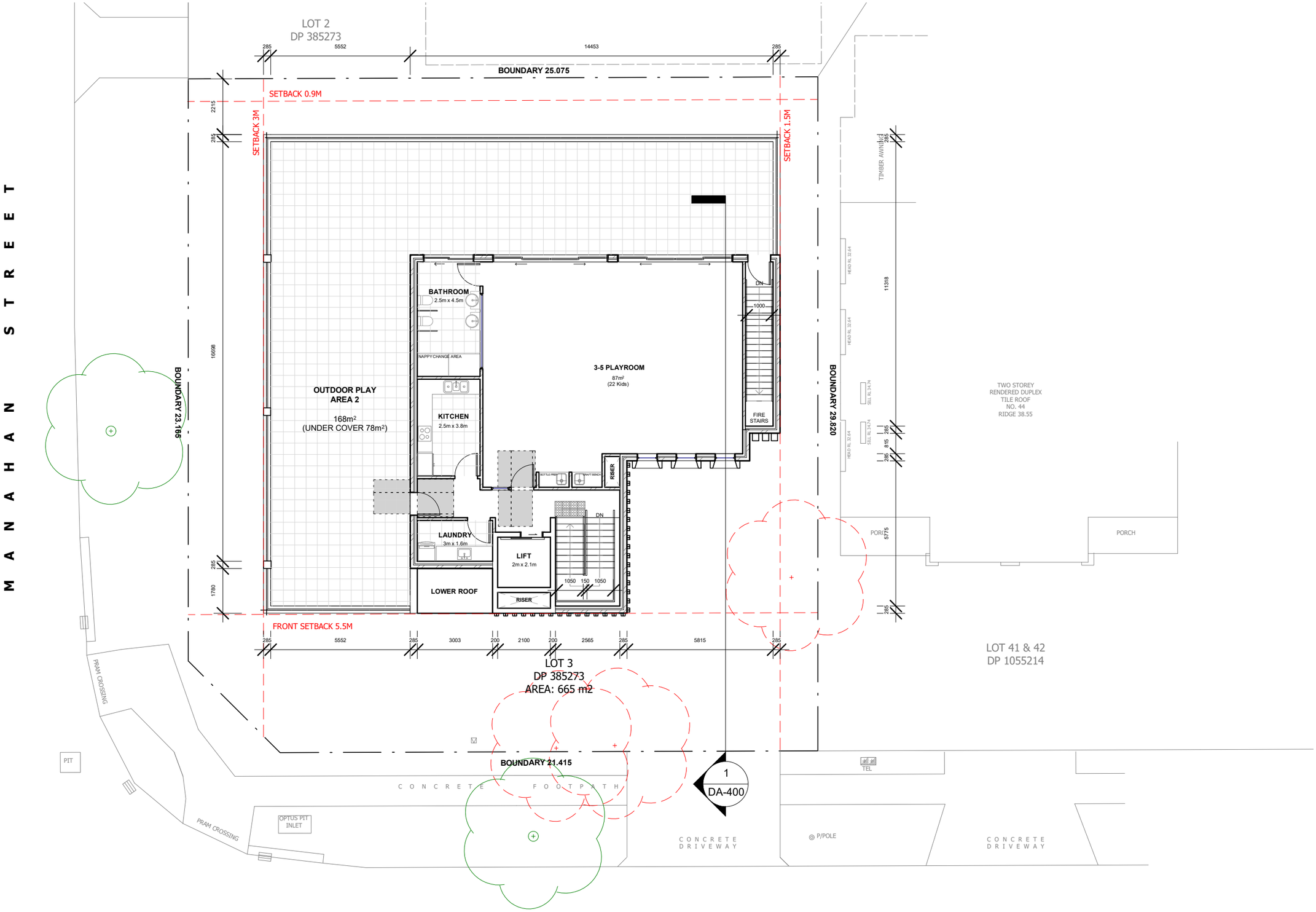

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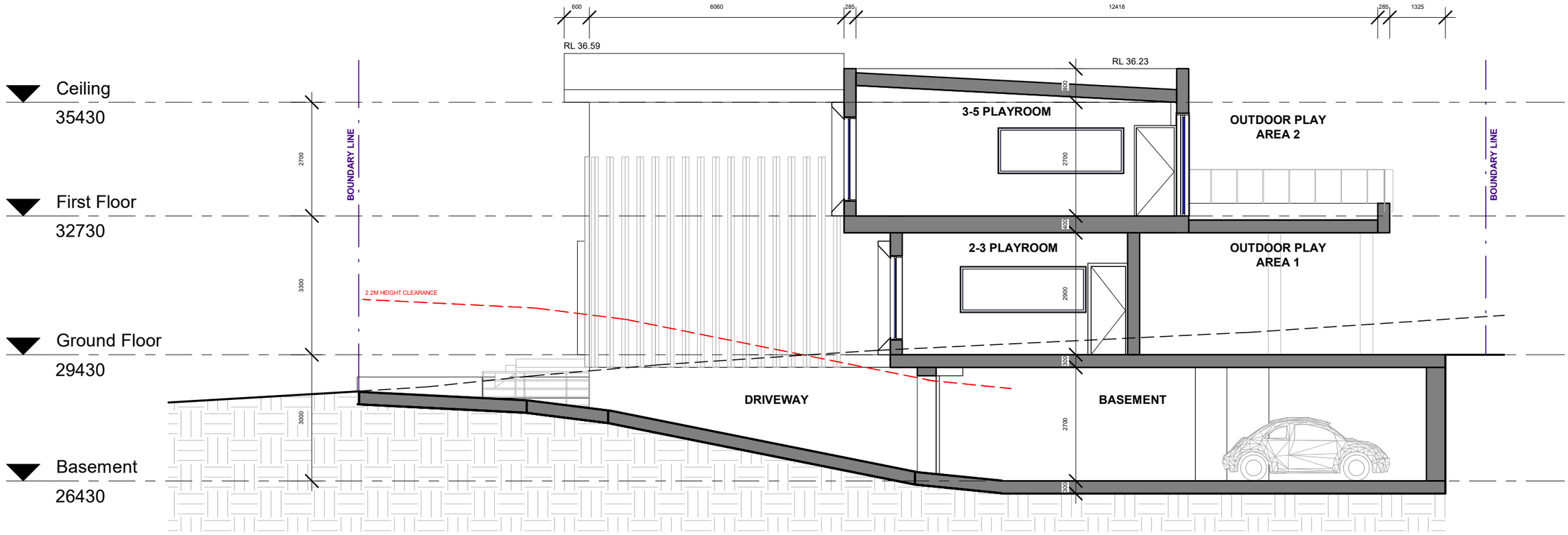

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18 DECEMBER 2023

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Appendix B
Public Transport Services

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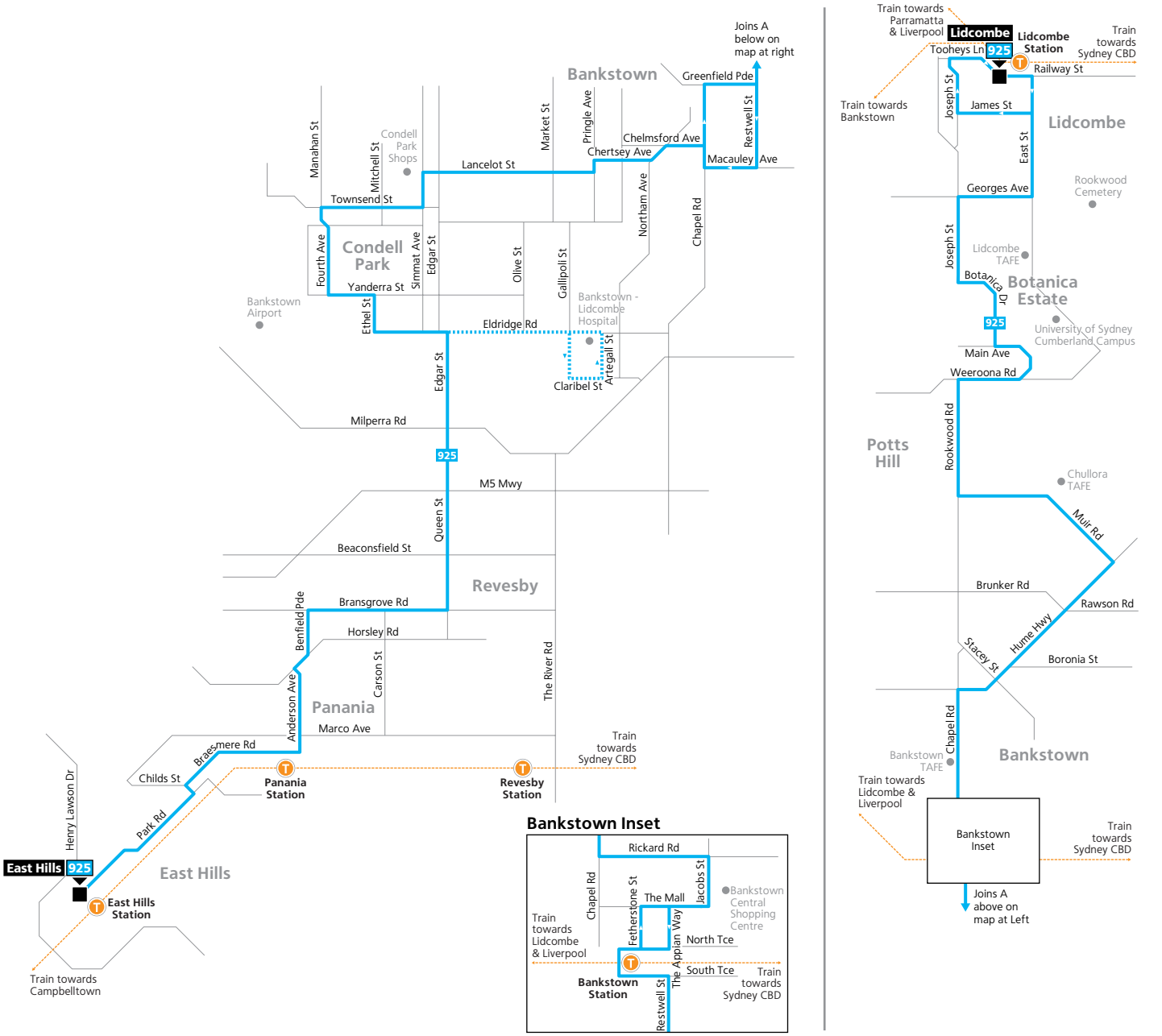
Route 925



Legend

- Bus route
- Limited services
- 925 Bus route number
- Bus route start/finish
- Train line/station

Diagrammatic Map
Not to Scale
North

NSW GOVERNMENT Transport

transportnsw.info

Appendix C
Swept Path Assessment

TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
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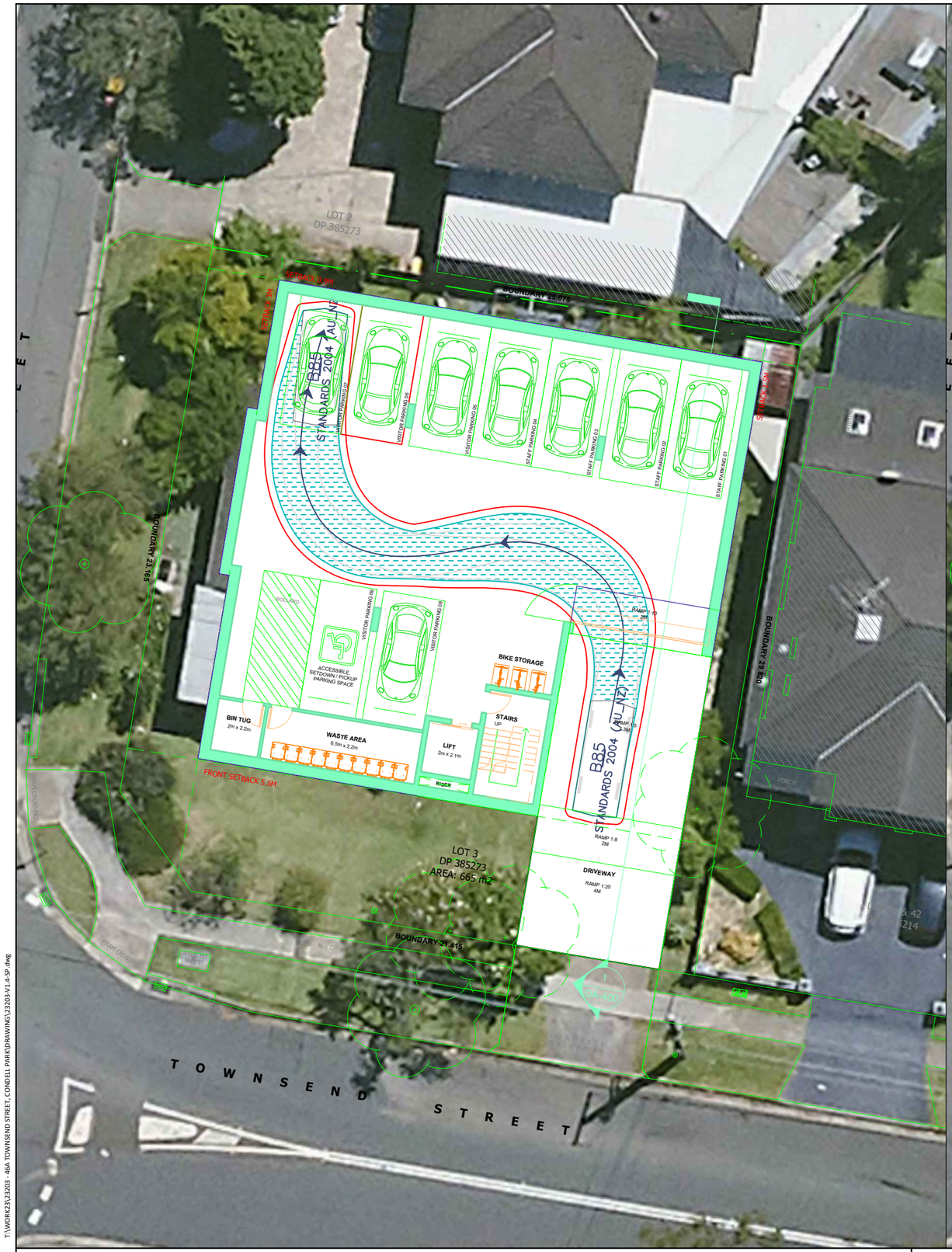

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Plotted by Antonios

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ENTRY AND EXIT OF AN 85th PERCENTILE VEHICLE
SWEPT PATH ASSESSMENT

DRAWING REF NO. 23203-V1.4-SP

SHEET NO. 01 OF 06

ISSUE DATE 19 December 2023

DESIGNED BY A.LAFKAS

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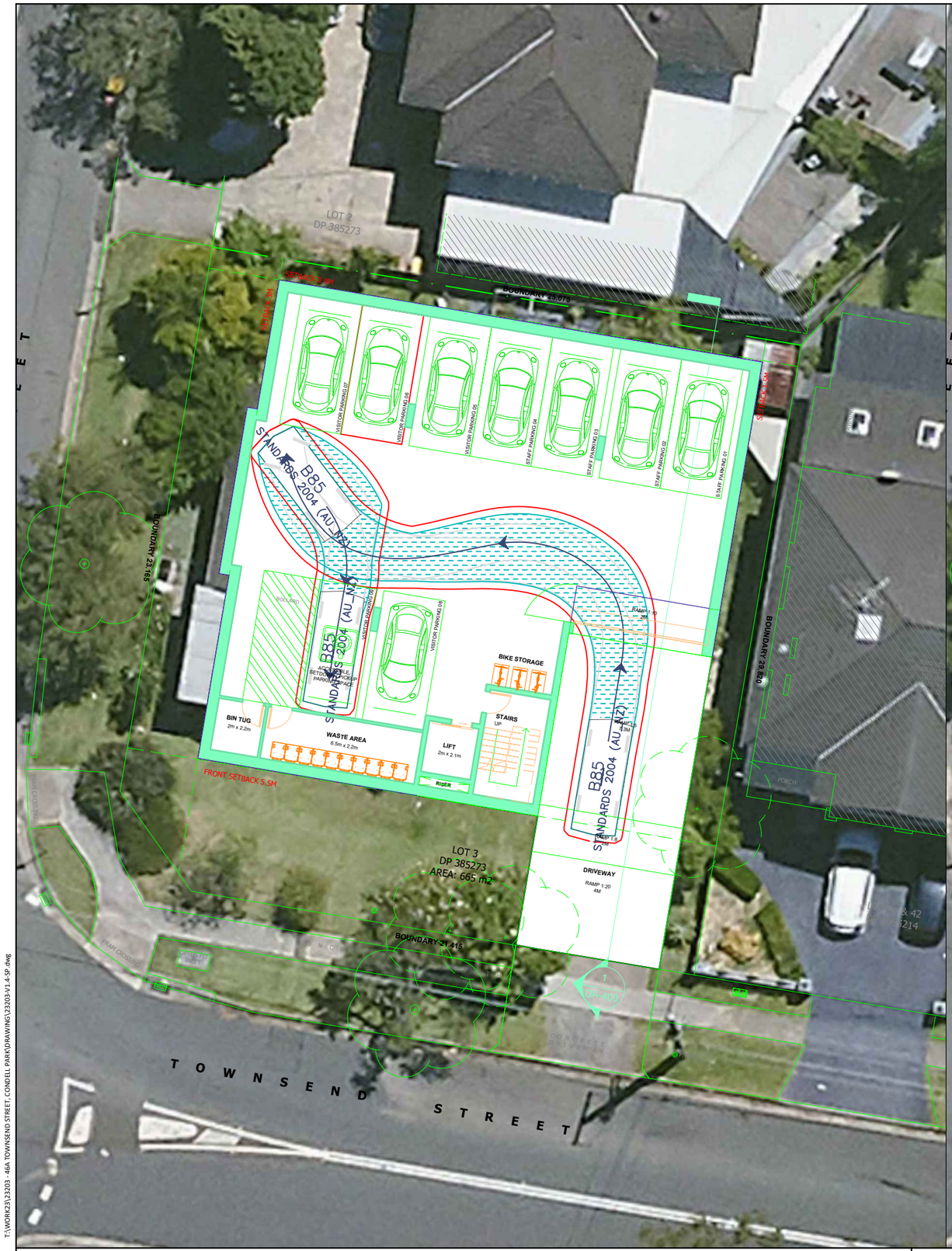

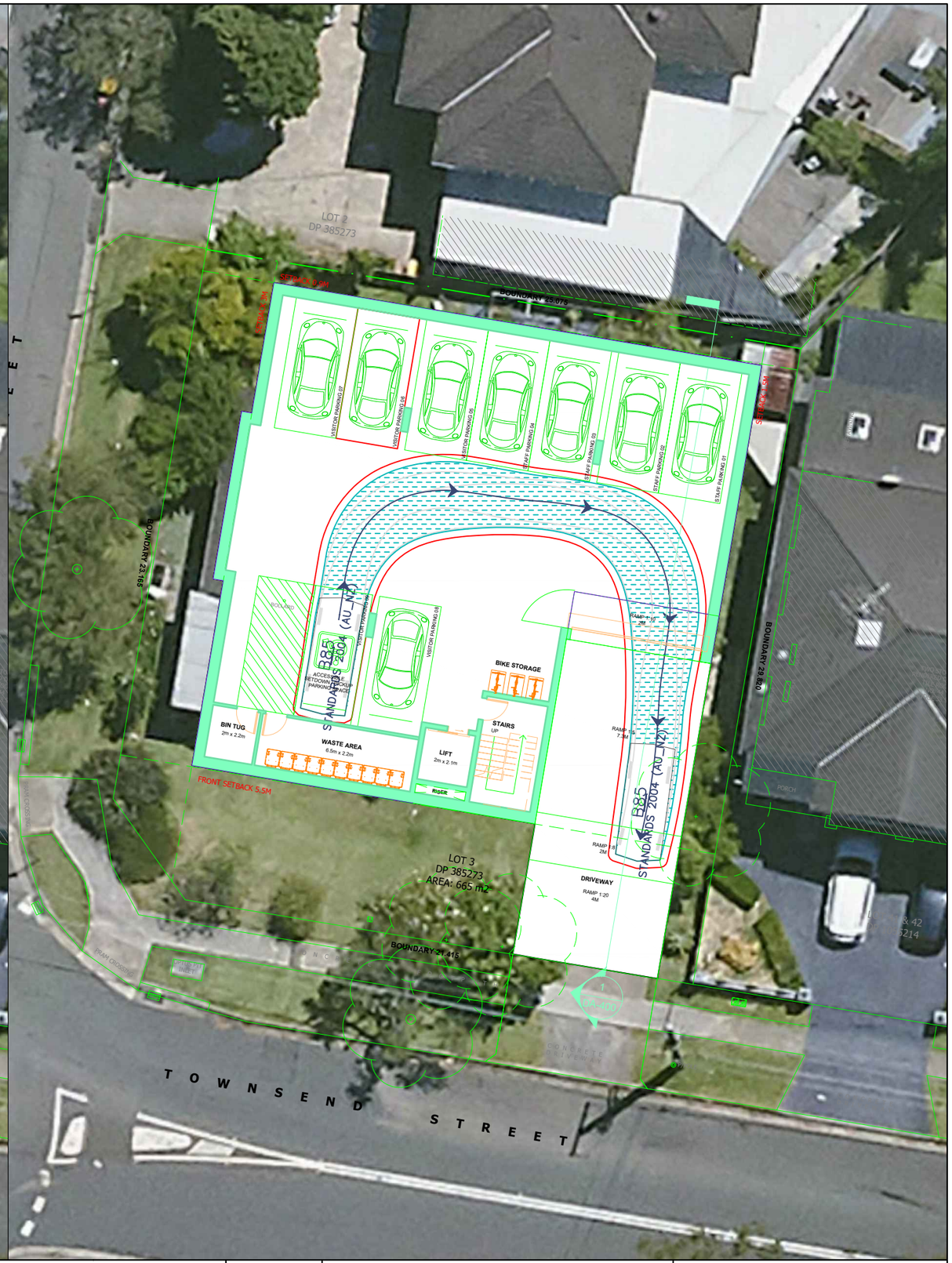

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ENTRY AND EXIT OF AN 85th PERCENTILE VEHICLE SWEPT PATH ASSESSMENT

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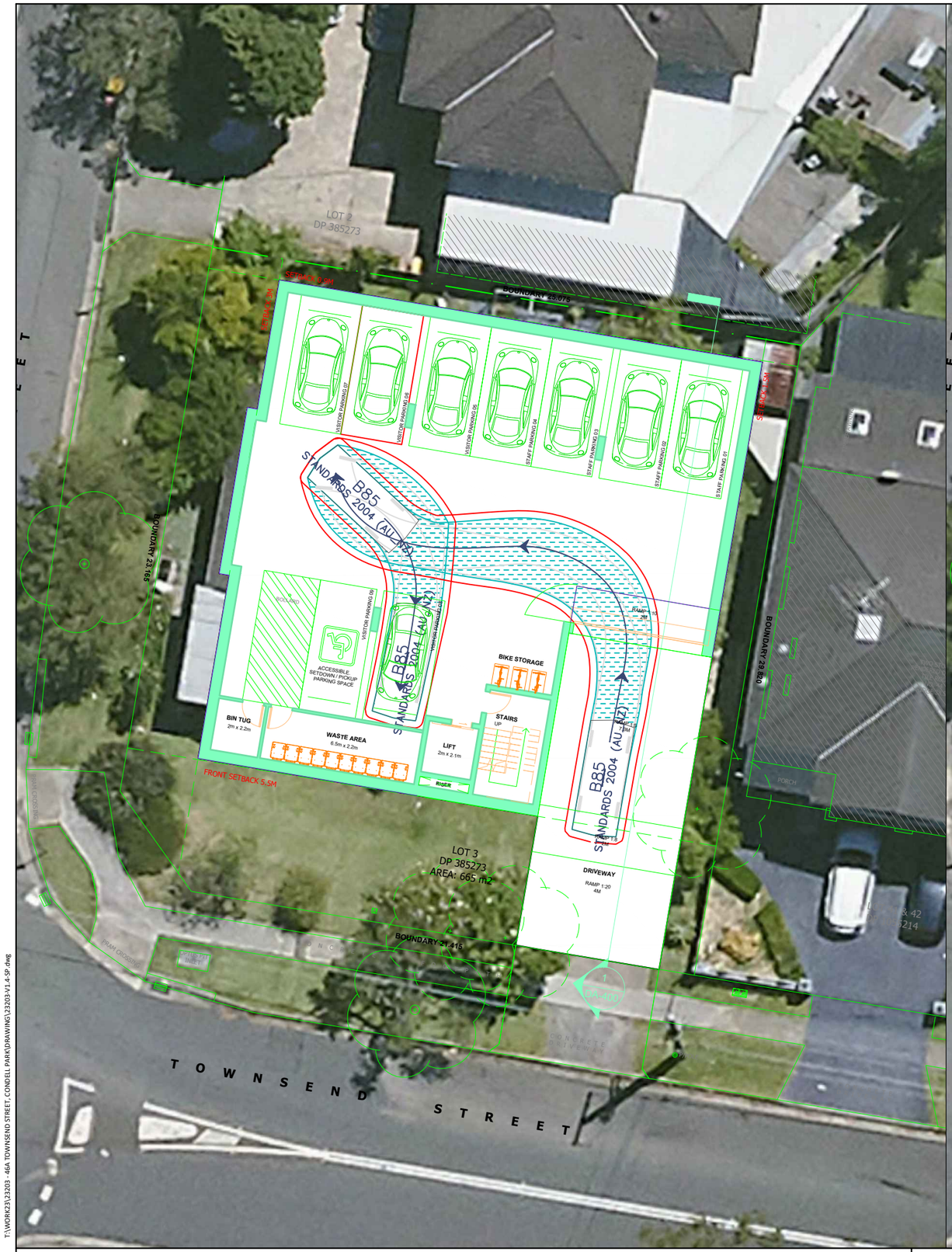

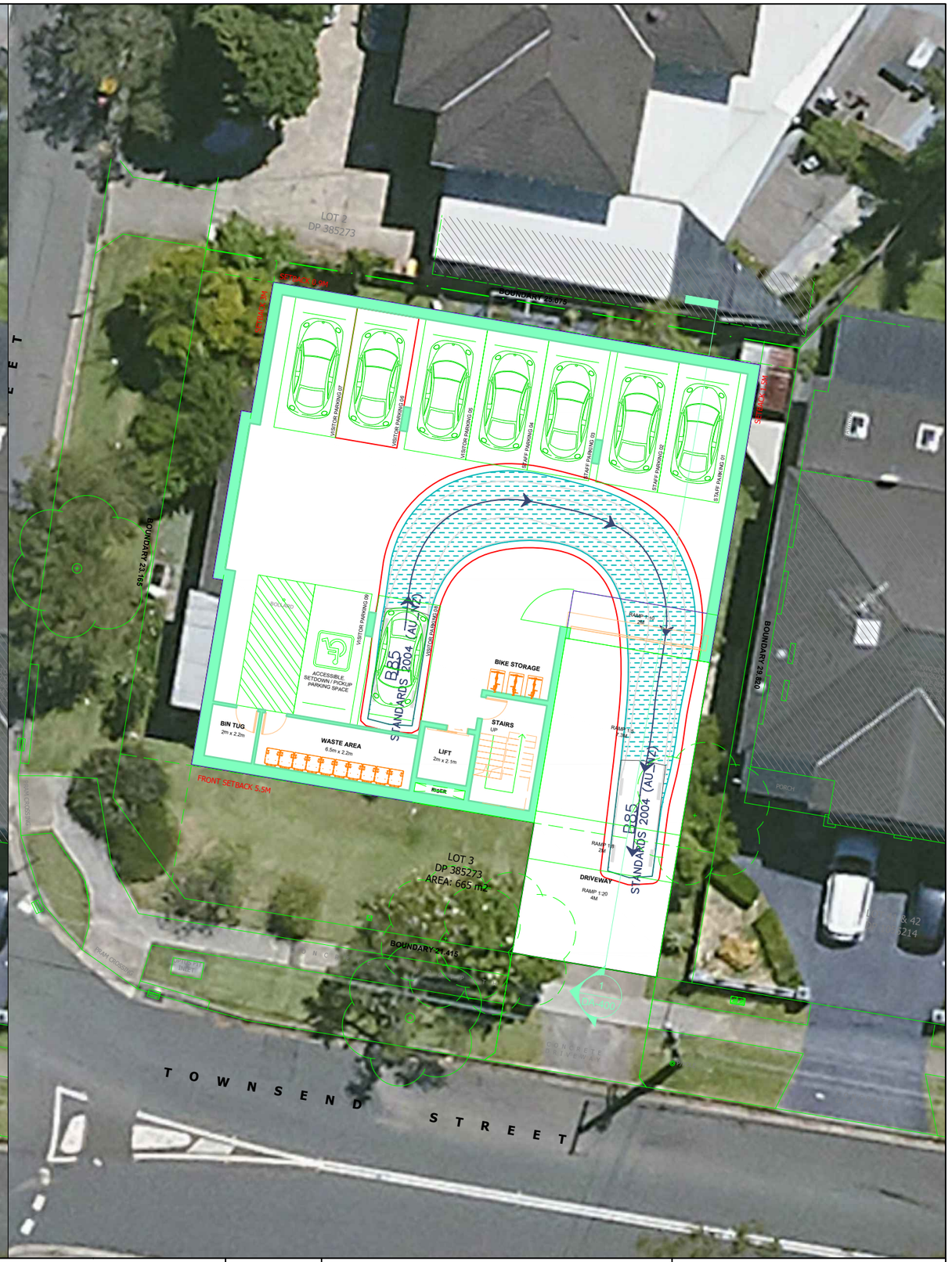

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46A TOWNSEND ST, CONDELL PARK NSW 2200
ENTRY AND EXIT OF AN 85th PERCENTILE VEHICLE
SWEPT PATH ASSESSMENT

DRAWING REF NO. 23203-V1.4-SP SHEET NO. 03 OF 06 ISSUE DATE 19 December 2023

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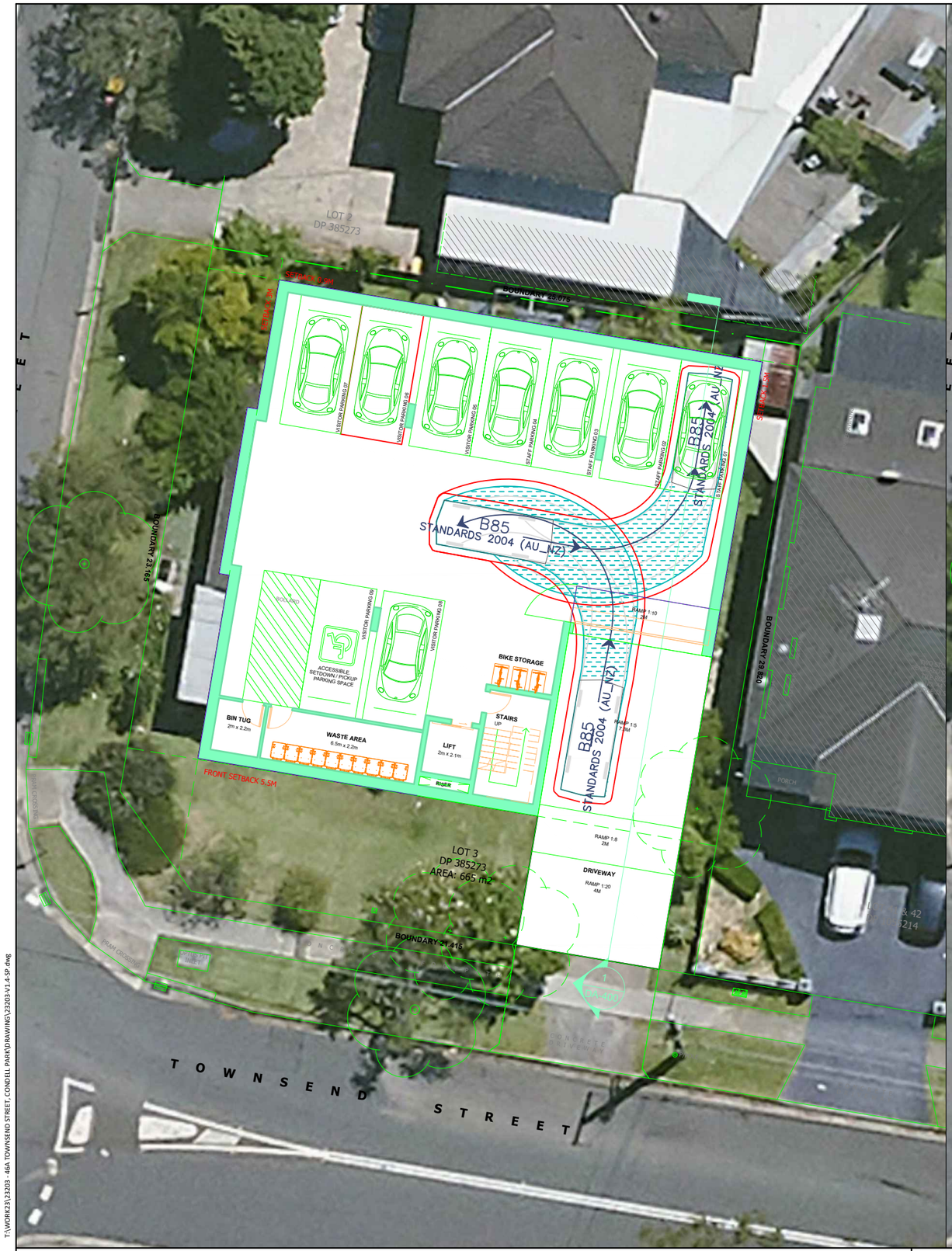

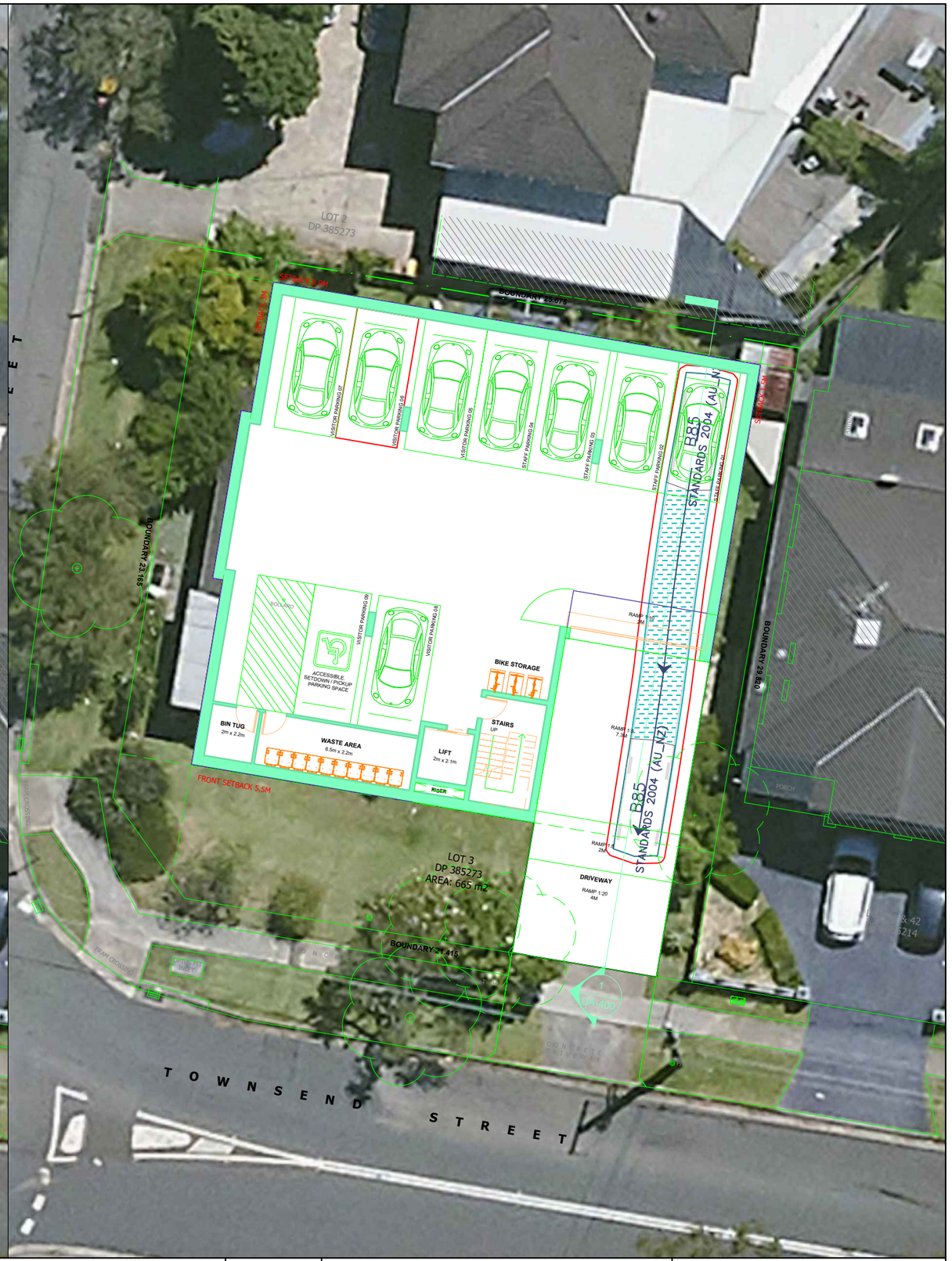

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46A TOWNSEND ST, CONDELL PARK NSW 2200
ENTRY AND EXIT OF AN 85th PERCENTILE VEHICLE SWEPT PATH ASSESSMENT

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SHEET NO. 04 OF 06

ISSUE DATE 19 December 2023

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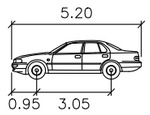
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



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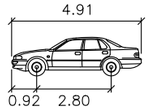

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46A TOWNSEND ST, CONDELL PARK NSW 2200
ENTRY AND EXIT OF AN 85th PERCENTILE AND 99th PERCENTILE VEHICLE SWEPT PATH ASSESSMENT

DRAWING REF NO. 23203-V1.4-SP

SHEET NO. 05 OF 06

ISSUE DATE 19 December 2023

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SCALE A3 — 0 1.0 2.0 — 1:100

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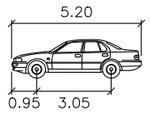

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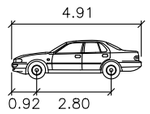

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VISITOR PARKING 07
VISITOR PARKING 06
VISITOR PARKING 05
STAFF PARKING 04
STAFF PARKING 03
STAFF PARKING 02
STAFF PARKING 01
SETBACK 1.5M
B99 STANDARDS 2004 (AU_NZ)
BOLLARD
VISITOR PARKING 09
VISITOR PARKING 08
ACCESSIBLE. SETDOWN / PICKUP PARKING SPACE
BIN TUG 2m x 2.2m
WASTE AREA 6.5m x 2.2m
LIFT 2m x 2.1m
STAIRS UP
RISER
BIKE STORAGE
RAMP 1:10 2M
RAMP 1:5 7.3M
B85 STANDARDS 2004 (AU_NZ)
B99 STANDARDS 2004 (AU_NZ)
RAMP 1:8 2M
DRIVEWAY
RAMP 1:20 4M
FRONT SETBACK 5.5M
PRAM CROSSING
PRAM CROSSING
LOT 3 DP 385273 AREA: 665 m2
BOUNDARY 21.415
CONCRETE FOOTPATH
OPTUS PIT INLET
BOUNDARY 29.820
TIMBER AWNING
PORCH
TWO STOR RENDERED TILE ROO NO. 44 EDGE 38.5
LOT 41 & 42 DP 1055214

T:\WORK23\23203 - 46A TOWNSEND STREET, CONDELL PARK\DRAWING\23203-V1.4-SP.dwg

Plotted by Antonies

46A TOWNSEND ST, CONDELL PARK NSW 2200
ENTRY AND EXIT OF AN 85th PERCENTILE AND 99th PERCENTILE VEHICLE SWEPT PATH ASSESSMENT

DRAWING REF NO. 23203-V1.4-SP SHEET NO. 06 OF 06 ISSUE DATE 19 December 2023

DESIGNED BY A.LAFKAS

SCALE A3 0 1.0 2.0 1:100

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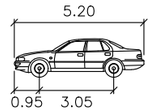
DISCLAIMER

This drawing has been prepared using vehicle modelling computer software AutoTurn Pro V11.0 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

ttpa TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994
Address: Level 6, Suite 604, 10 Help Street, Chatswood NSW 2067
P: (02) 9411 5660 E: info@ttpa.com.au W: www.ttpa.com.au

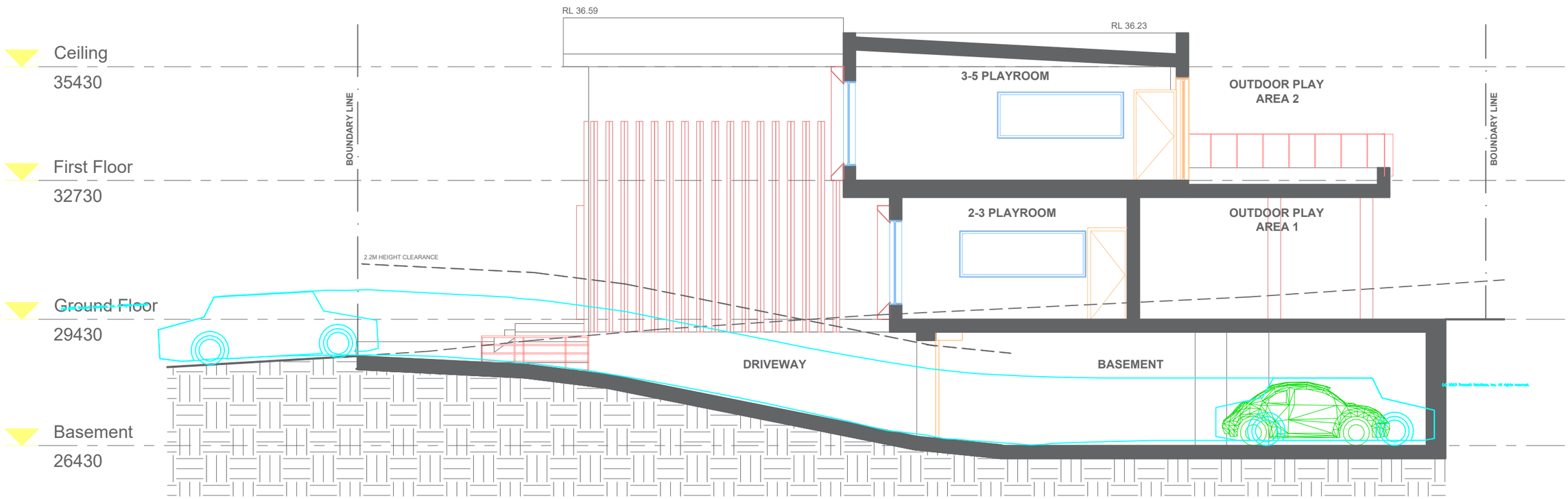
SWEPT PATH KEY:

- VEHICLE BODY
- VEHICLE BODY PATH
- VEHICLE CONFLICT POINTS



B99

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



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Plotted by Antonios

46A TOWNSEND ST, CONDELL PARK NSW 2200
ENTRY AND EXIT OF AN 99TH PERCENTILE VEHICLE
VERTICAL SWEPT PATH ASSESSMENT

DRAWING REF NO. 23203-V1.4-SP SHEET NO. 07 OF 06 ISSUE DATE 19 December 2023

DESIGNED BY A.LAFKAS

SCALE A3 0 1.0 2.0 1:100

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