



Transport Assessment

Proposed Residential Development

Site 5 Buchan Avenue, Edmondson Park

Ref: 1980r01v1

03/06/2022



Info@asongroup.com.au

+61 2 9083 6601

Suite 17.02, Level 17,

1 Castlereagh Street,

Sydney, NSW 2000

Document Control

Project No	1980
Project	Site 5 Buchan Avenue – Proposed Residential Development Application
Client	Urban Property Group
File Reference	P1980r01v1 DA TA_ Site 5 Buchan Ave, Edmondson Park

Revision History

Revision No.	Date	Details	Author	Approved by
-	03/06/2022	Draft	J. Wong	J. Laidler
Final	26/07/2022	Issue I	J. Laidler	J. Laidler

This document has been prepared for the sole use of the Client and for a specific purpose, as expressly stated in the document. Ason Group does not accept any responsibility for any use of or reliance on the contents on this report by any third party. This document has been prepared based on the Client's description of its requirements, information provided by the Client and other third parties.

Contents

Glossary

1	Introduction	1
1.1	Overview	1
1.2	Project History	1
1.3	Key References	3
2	Future Context	4
2.1	MOD 5	4
3	Description of the Proposal	7
3.1	Project Description	7
3.2	Architectural Plans	7
4	Site and Location	10
4.1	Site Context	10
4.2	Road Hierarchy	11
5	Public and Active Transport	14
5.1	Public Transport	14
5.2	Active Transport	16
6	Parking Provisions	17
6.1	Car Parking	17
6.2	Bicycle Parking	18
6.3	Motorcycle Parking	18
6.4	Service Vehicle Parking	19
7	Traffic Assessment	20
7.1	Trip Generation	20
7.2	Traffic Assessment	20
8	Design Commentary	21
8.1	Design Standards	21
8.2	Design Vehicle	21
8.3	Access Design	21
8.4	Internal Cars and Trucks Movement	21
8.5	Car Parking Design	21
8.6	Waste Collection	22
9	Summary & Conclusion	23
9.1	Introduction & Development Summary	23
9.2	Key Findings	23
9.3	Conclusion	23

Contents Continued

Figures

Figure 1: Site Location	1
Figure 2: Concept Plan Road Network (MOD 5	5
Figure 3: Proposed Basement Plan (North)	7
Figure 4: Proposed Basement Plan (South)	8
Figure 5: Proposed Ground Floor Plan	8
Figure 6: Proposed Level 1 Plan	9
Figure 7: Edmondson Park Town Centre North Precinct	10
Figure 8: Precinct Road Layout	11
Figure 9: Existing Road Network	13
Figure 10: Public and Active Transport Near the Site	15
Figure 11: Active Transport Network	16

Tables

Table 1: EPS Concept Plan (MP 10_0118) – Modification History	2
Table 2: Mod 5 Adopted Yield Comparison	4
Table 3: MOD 5 Approved Peak Hour Trip Generation Rates	5
Table 4: Approved EPFTC Peak Hour Trip Generation - MOD 5	6
Table 5: Road Hierarchy	12
Table 6: Bus Frequency	14
Table 7: MOD 5 car parking rates (maximum)	17
Table 8: MOD 5 car parking Requirements (Maximum)	17
Table 9: Mod 5 motorcycle Parking Requirements	18
Table 10: Proposed Traffic Generation	20

APPENDICES

Appendix A. Swept Path Analysis

Glossary

Acronym	Description
CC	Construction Certificate
Council	Liverpool City Council
DA	Development Application
DCP	Development Control Plan
DPE	Department of Planning and Environment
GFA	Gross Floor Area
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
MOD	Section 4.55 Modification (also referred as a S4.55)
RMS Guide	Transport for NSW (formerly Roads and Traffic Authority), Guide to Traffic Generating Developments, 2002
TDT 2013/04a	TfNSW Technical Direction, Guide to Traffic Generating Developments – Updated traffic surveys, August 2013
TfNSW	Transport for New South Wales
TA	Transport Assessment
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

1.1 Overview

Ason Group has been commissioned by Urban Property Group to prepare a Transport Assessment (TA) in support of a Development Application (DA) for construction of a residential development consisting of approximately 273 units on “Site 5” at Buchan Avenue, Edmondson Park (the Site). This TA provides an assessment of the access, traffic, and parking implications of the Proposal.

For context, the Site is located within the Edmondson Park South Concept Plan area. It is assumed that the broader traffic impacts of the development have been satisfactorily addressed as part of the MOD 5 assessment(s). A key aspect of this TA is to present the outcomes of those previous studies and confirm how the Proposal is consistent with that previous assessment.

The Site is located at Lot 3 DP1257105 and on land zoned as R1 – General Residential. The location of the proposed development is shown in **Figure 1**.



Figure 1: Site Location

1.2 Project History

The Edmondson Park South Concept Plan was originally approved on 18 August 2011, followed by several subsequent modifications. A summary of those modifications is provided in **Table 1**.

TABLE 1: EPS CONCEPT PLAN (MP 10_0118) – MODIFICATION HISTORY

Modifications	Descriptions	Traffic / Transport Related	Status
MOD 1	Amend the timing for approval of a vegetation rehabilitation plan associated with remediation works.	No	Approved
MOD 2	Modification in relation to the sales and information centre within Edmondson Park	No	Approved
MOD 3	Modification in relation to Sewerage Treatment Plan, Decommissioning and Remediation	No	Approved
MOD 4	Modifications in relation to maximum Gross Floor Area (GFA), maximum building height, number of dwellings, maximum parking rates etc.	Yes	Approved
MOD 5	Revision to the Concept Plan boundary to include land owned by Landcom and the Office of Strategic Lands (OSL) and other modifications relating to school zone, road layout, dwelling yield and mix, building height and bushfire asset protection zones.	Yes	Awaiting Determination
MOD 6	Redistribute GFA within the Town Centre Core to reflect the further design development that has occurred since the original indicative scheme was developed. It will NOT result in any increase in the total GFA, height or number of dwellings for the Frasers Town Centre.	No	Approved
MOD 7	Modification to include a high school in the Edmondson Park Town Centre	Yes	Withdrawn
MOD 8	Amendment to the Edmondson Park Frasers Town Centre Guidelines to reduce the car park rate for 2-bedroom dwellings in the Town Centre Core	Yes	Approved
MOD 9	Modification to amend the Edmondson Park Frasers Town Centre Guidelines to reduce the car parking rate for two-bedroom dwellings within residential flat buildings in the Town Centre Core from 1.2 spaces per dwelling to 1 space per dwelling.	Yes	Withdrawn
MOD 10	Modification to the Concept Plan, as it relates to Precinct 3 to increase dwelling numbers by 350 to a maximum of 600 (a total of 4,852 dwellings across the Concept Plan) and alter the road network hierarchy.	Yes	SEARs Issued
MOD 11	Modification to the approved Design Guidelines to allow additional attached dwelling typologies with Residential Precincts 2 and 3.	No	Approved
MOD 12	Modification to allow school lot within the town centre and relocate residential flat buildings from the town centre into Residential Precinct 3.	Yes	Proponent Reviewing Submissions

It is noted that MOD 5 is of relevance to traffic and transport considerations. As such, the proposed implications have been assessed against the 'benchmark' conditions detailed in the MOD 5 traffic and transport study, on the assumption that these conditions will have inherently been considered and validated by the key consent authorities, including the Department of Planning, Industry and Education (DPIE) and Transport for NSW (TfNSW).

Having regard to the above, this TA provides an assessment of the traffic characteristics of the development compared to the MOD 5 characteristics.

1.3 Key References

In preparing this TA, Ason Group has referenced the following key planning documents. These include:

- Liverpool Development Control Plan 2008 (Liverpool DCP 2008); and
- Edmondson Park South Concept Plan MOD 5 – Transport Management and Accessibility Plan, dated 04 June 2020, prepared by Aecom (referred as 'MOD 5 TMAP').
- Edmondson Park South – Concept Plan MOD 5 – Transport Management and Accessibility Plan Addendum, dated 04 June 2020, prepared by Aecom (referred as 'MOD 5 TMAP Addendum').
- Edmondson Park Landcom Town Centre North Design Guidelines, dated August 2020, prepared by Willowtree Planning (referred as 'EP Design Guidelines')
- Traffic Impact Assessment Report – Edmondson Park Frasers Town Centre – Section 75W Modification, dated 05 February 2017, prepared by Ason Group (MOD 4 RtS TIA Report)
- Edmondson Park South Development Control Plan, Nov 2012 (Ed Park South DCP)

This TA also references general access, traffic and parking guidelines, including:

- Australian Standard 2890.1: 2004 Parking Facilities – Off-Street Car Parking (AS 2890.1: 2004);
- Australian Standard 2890.2:2018 Parking Facilities – Off-Street Commercial Vehicle Facilities (AS 2890.2: 2018);
- Australian Standard 2890.3: 2015 Parking Facilities – Bicycle Parking (AS 2890.3:2015);
- Australian Standard 2890.6: 2009 Parking Facilities – Off-Street Parking for People with Disabilities (AS 2890.6: 2009);
- National Construction Code 2019 Volume One (NCC 2019).
- Roads and Maritime Services, Guide to Traffic Generating Developments, v2.02, 2002 (RMS Guide);
- Roads and Maritime Services, Technical Direction TDT 2013/04a, Guide to Traffic Generating Developments – Updated Traffic Surveys (Updated RMS Guide);

2 Future Context

2.1 MOD 5

The original Edmondson Park South (EPS) Concept Plan was approved in 2011 by the Planning Assessment Commission (PAC).

Of relevance to this DA, the original Concept Plan outlined that the land use for Edmondson Park Town Centre North included a total of 440 residential dwellings plus 1,500 student combined primary and high school.

MOD 5¹, once approved, will increase that number of residential units; varying depending on which option for the school site is pursued.

TABLE 2: MOD 5 ADOPTED YIELD COMPARISON

Land Use	2 ha School ¹	6 ha School
Residential	3,286	3,030
Retail	5,200m ² GFA	5,200m ² GFA
Students	1,000	3,000 ²

Notes: 1) Preferred Scheme

2) Includes both primary and high school

Having regard to the above, the Concept Plan – based on MOD 5 being approved – is presented in **Figure 2**, with a comparison against the original Concept Plan approval of land uses within Ed.Square.

It is noted that the 2-hectare option includes a Major Local Road along the eastern boundary of the subject site, bordering the parkland corridor. However, the 6-hectare option (shown below) relocates that road to the western side of the site.

It is separately noted that the Primary School² has been approved to the west of the subject site. The plans submitted as part of that application suggest that the 6-hectare option for the school site is potentially being pursued.

¹ http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8607

² <https://www.planningportal.nsw.gov.au/major-projects/projects/new-primary-school-edmondson-park>

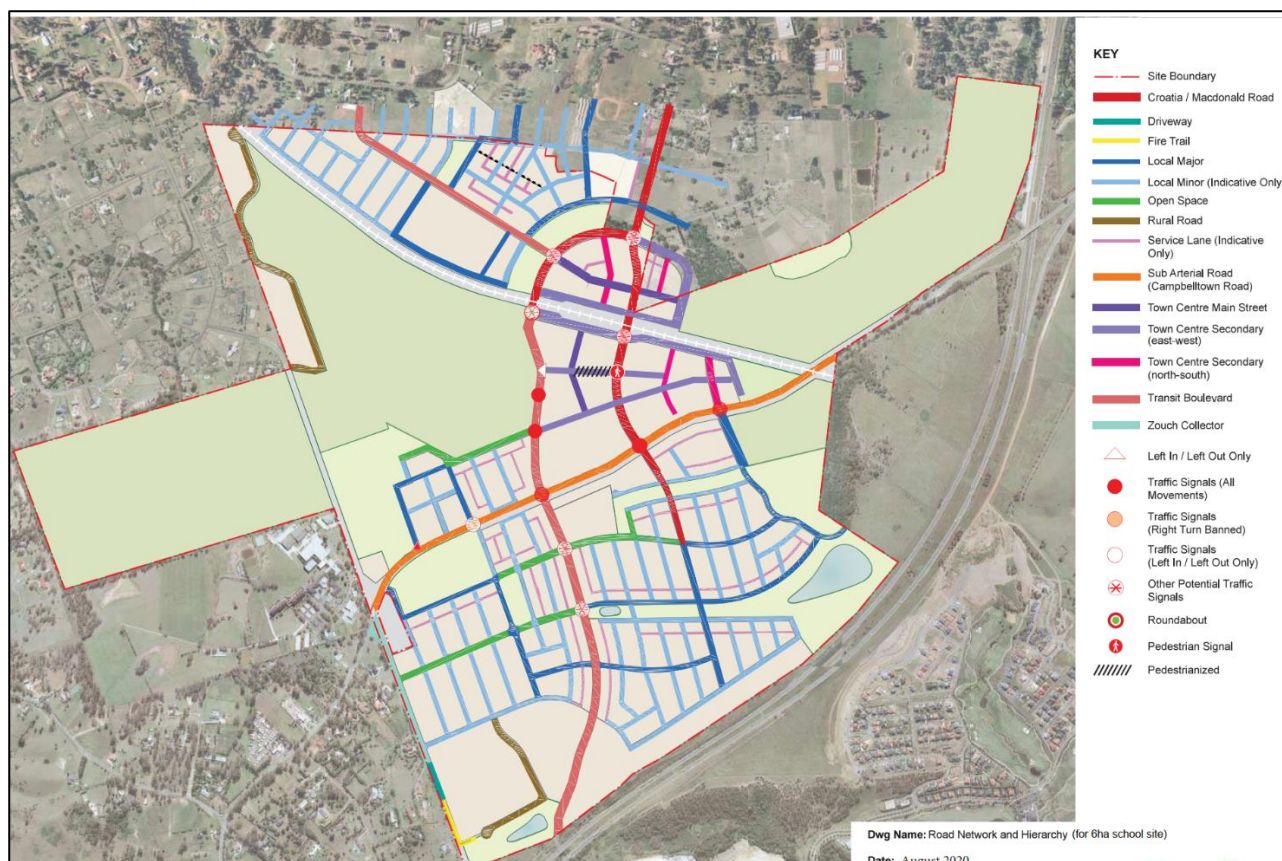


Figure 2: Concept Plan Road Network (MOD 5)

2.1.1 Approved Trip Generation Rates

With reference to the MOD 5 RtS TA report, the following peak hour trip generation rates were adopted and approved (as shown in **Table 3**):

TABLE 3: MOD 5 APPROVED PEAK HOUR TRIP GENERATION RATES

Land Use	AM Peak	PM Peak	Source
Residential ¹	Medium Density: 0.62 trips / hour / dwelling High Density: 0.51 trips / hour / dwelling		Concept Plan TMAP

Note: 1) First principal assessment based on mode split assumptions.

2.1.2 Approved Trip Generation

The expected trips that will be generated by MOD 5 of the Concept Plan are provided below in **Table 4**.

TABLE 4: APPROVED EPFTC PEAK HOUR TRIP GENERATION - MOD 5

Land Use	Trip Generation (2ha School)		Trip Generation (6ha School)	
	AM Peak	PM Peak	AM Peak	PM Peak
Residential	4,358	4,358	4,193	4,193
Retail	804	1,479	804	1,479
Commercial	-	-	-	-
Medical	30	40	30	40
School	750	-	1,750	-
St Francis College	393	-	393	-
Total	6,335	5,877	7,170	5,712

Note: Volumes based on Section 6.2 of the MOD 5 report prepared by Aecom.

3 Description of the Proposal

3.1 Project Description

The Proposal seeks approval for the following:

- The Site would provide a residential development, which comprises:
 - 266 units , including
 - 120 units for the North Podium and
 - 146 for the South Podium
 - 182 car spaces for the North Podium inclusive of 12 accessible spaces
 - 216 car spaces for the South Podium inclusive of 15 accessible spaces
 - 1 service bay via a turntable, with access from the North Podium.
 - 266 bicycle parking spaces (to be stored in storage cages and/or dwellings)
 - 20 motorcycle parking spaces (to be provided during post DA or detailed CC documentation)

3.2 Architectural Plans

For context, a reduced scale copy of the site is provided below. Detailed plans are provided separately.

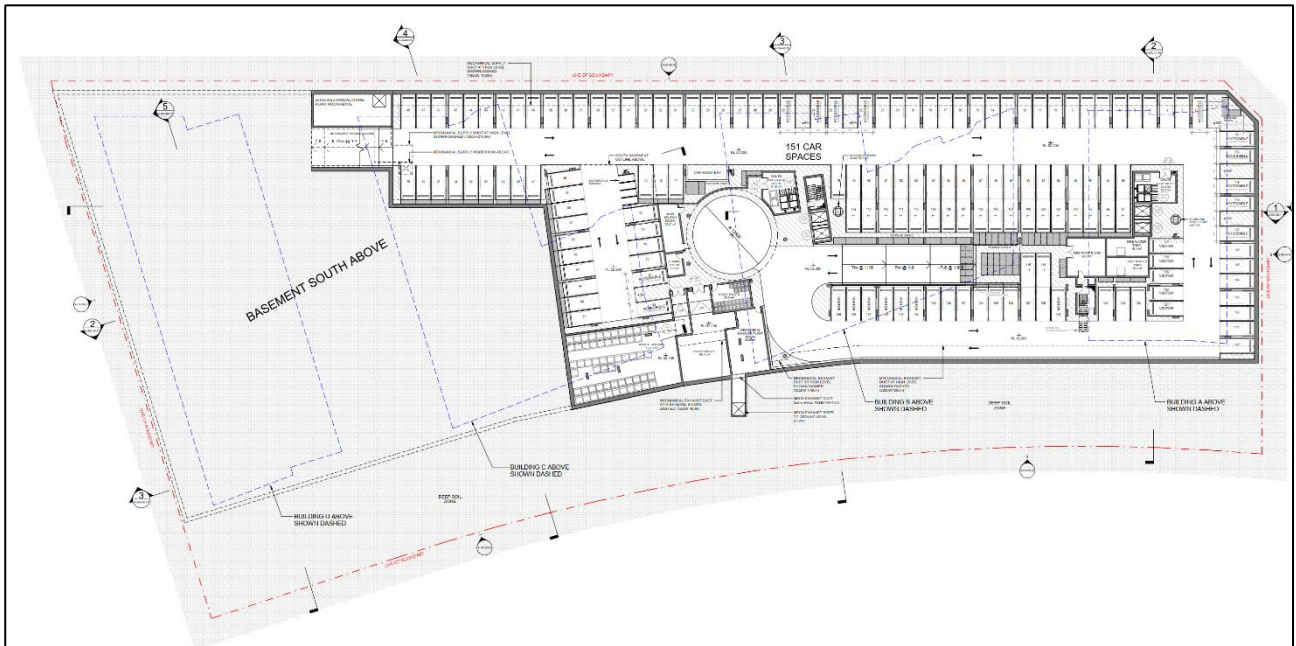


Figure 3: Proposed Basement Plan (North)

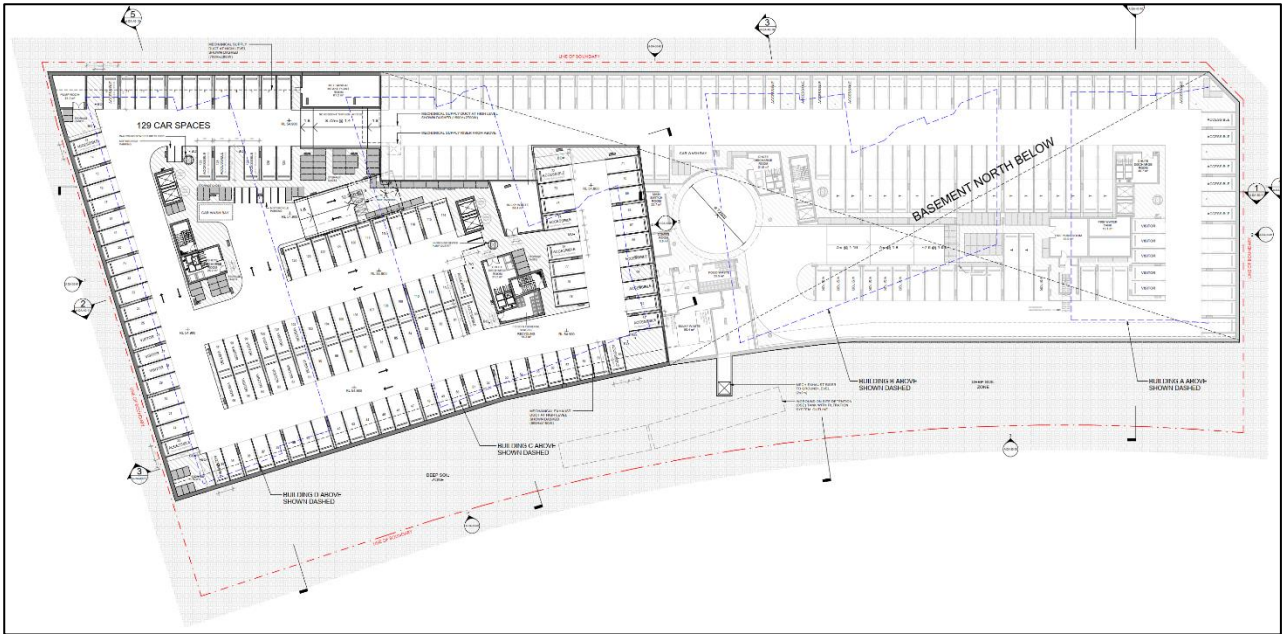


Figure 4: Proposed Basement Plan (South)



Figure 5: Proposed Ground Floor Plan



Figure 6: Proposed Level 1 Plan

4 Site and Location

4.1 Site Context

Edmondson Park is located approximately 8 kilometres southwest from the Liverpool CBD and approximately 34 kilometres from the Sydney CBD. The overall EPS Concept Plan area is located within both Liverpool Council and Campbelltown Council LGAs. The Site forms the northern sub-precinct within the Edmondson Park Release Area.

The Site subject to this application is located within the Edmondson Park Town Centre North area, as shown in **Figure 7** below, which is located on the northern side of Buchan Avenue within the suburb of Edmondson Park and forms part of Lot 3 in DP1257105. Further, the Site lies solely within the Liverpool Council LGA and is approximately 692 metres to the north-west of Edmondson Park Railway Station.

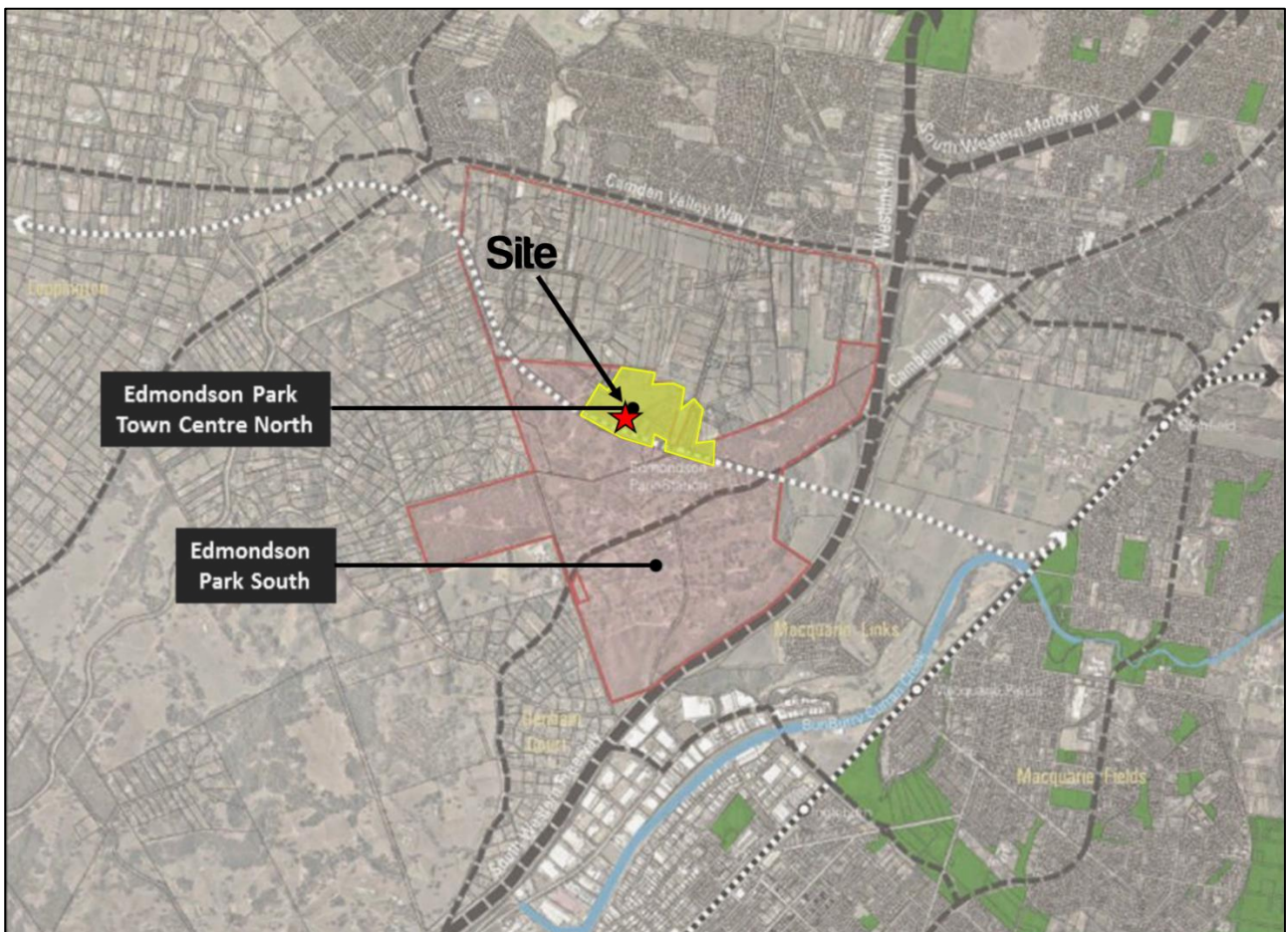


Figure 7: Edmondson Park Town Centre North Precinct

4.2 Road Hierarchy

The proposed layout of the Edmondson Park Precinct is presented below.

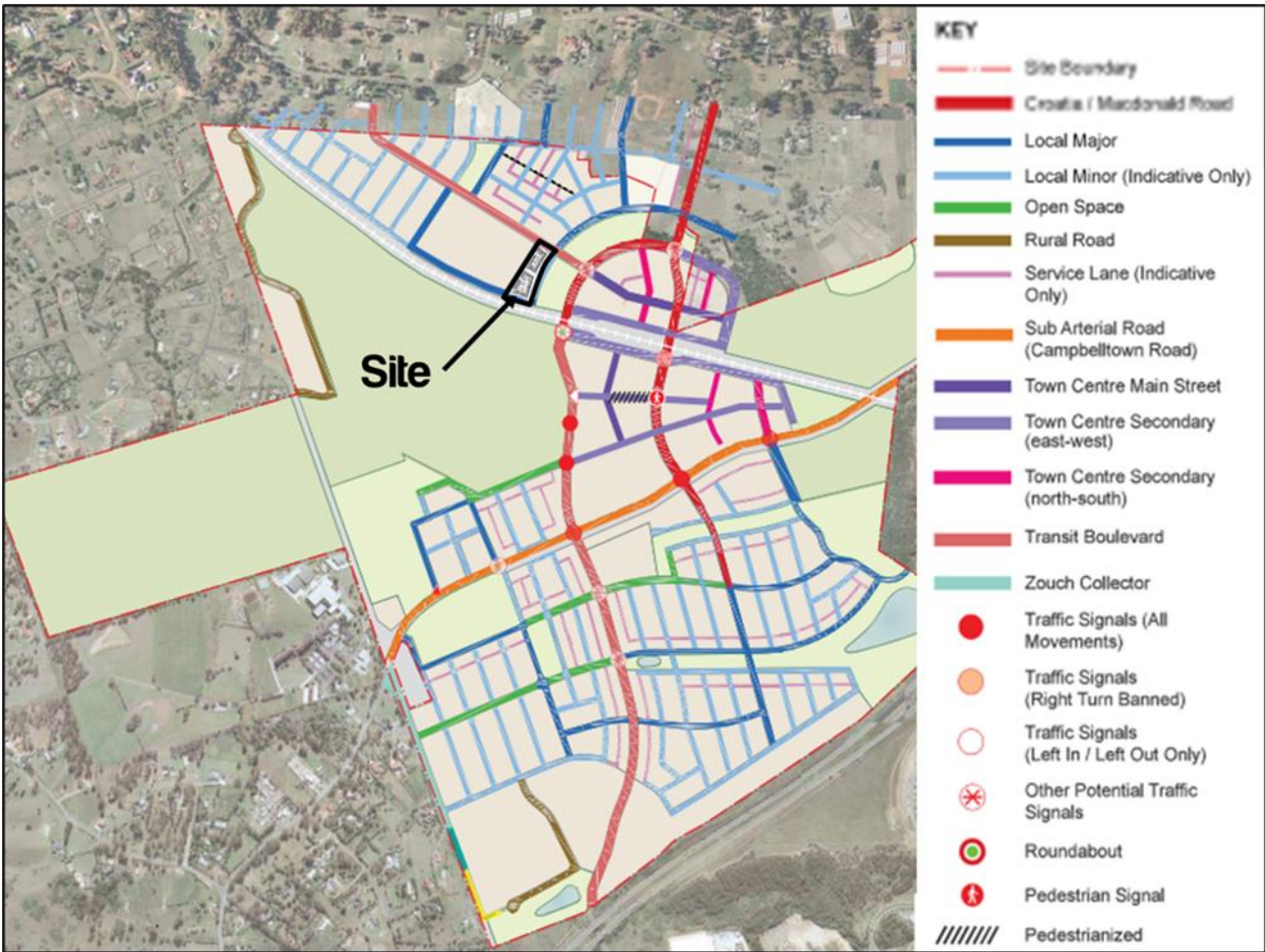


Figure 8: Precinct Road Layout

Notwithstanding, the existing road network in the vicinity of the Site is shown in **Figure 9**, while key roads are further detailed in **Table 5**.

TABLE 5: ROAD HIERARCHY

Road	Description
Campbelltown Road	Campbelltown Road is a classified arterial road that traverses in an east-west direction to the south of the Site. It currently carries an annual average daily traffic (AADT) in the order of 15,350 vehicles per day (two-way). Traffic volumes during the weekday morning and evening peak periods are in the order 1,450 and 1,475 vehicles per hour (veh/hr), respectively.
MacDonald Road	MacDonald Road is a north-south vehicular connector road to the south of the Site. It currently does not connect to Buchan Ave but will once built. MacDonald Rd has two-lanes in each direction and has a posted speed limit of 50km/hr. There is no parking on either side of the road.
Soldiers Parade (& Bernera Rd)	Soldiers Parade is a secondary north-south connection east of the site. It currently forms a signalised intersection with Henderson Parade and an unsignalised intersection with Campbelltown Road to the south. Near the Site, Soldiers Pde is a single lane in each direction and has a posted speed limit of 50km/hr. Unrestricted parking is available on both sides of the road
Buchan Avenue	Buchan Avenue is a local road that runs along the north boundary of the Site with a sign posted speed limit of 50 km/h. Buchan Avenue generally provides a single lane of traffic in either direction, a parking lane on both sides in addition to a bicycle lane. Buchan Avenue provides access to the Edmondson Park Train Station.

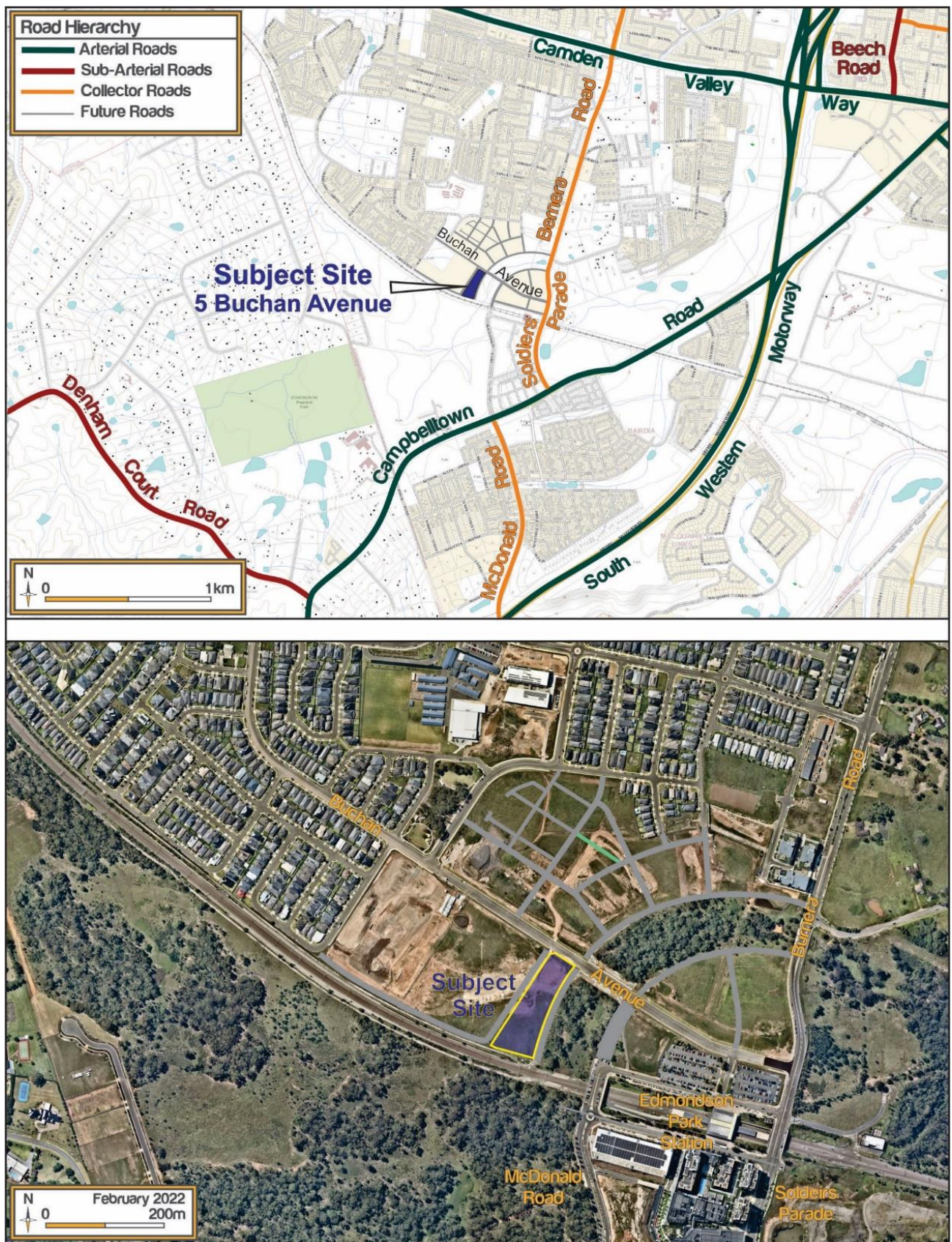


Figure 9: Existing Road Network

5 Public and Active Transport

The Site is currently serviced by bus and train services while active transport is provided via cycle paths. This is shown in **Figure 10**.

5.1 Public Transport

5.1.1 Train Services

The Edmondson Park Train Station is located approximately 380 metres to the south-east of the Site, providing access to the broader metropolitan area. It is within the comfortable walking catchment based on the Integrated Public Transport Service Planning Guidelines (IPT Guidelines). Further, there are several bus stops within walking distance from the Site.

Figure 10 provides a depiction of the Edmondson Park Train Station with respect to the location of the Site.

5.1.2 Bus Services

The closest bus stops servicing the existing Interline and Hillsbus bus routes are located 400 metres walking distance from the Site. These are indicated in **Figure 10** within the 400-metre isochrone.

The table below shows the available bus routes and their service frequencies.

TABLE 6: BUS FREQUENCY

Routes	Peak Frequency
859 Carnes Hill to Edmondson Park Station	11 services during the AM Peak and 12 services during the PM Peak
869 Ingleburn to Liverpool via Edmondson Park & Prestons	5 services during AM Peak and 12 services during the PM Peak
868 Edmondson Park Station	4 services during AM Peak and 3 services during the PM Peak
N31	Does not run during Peak

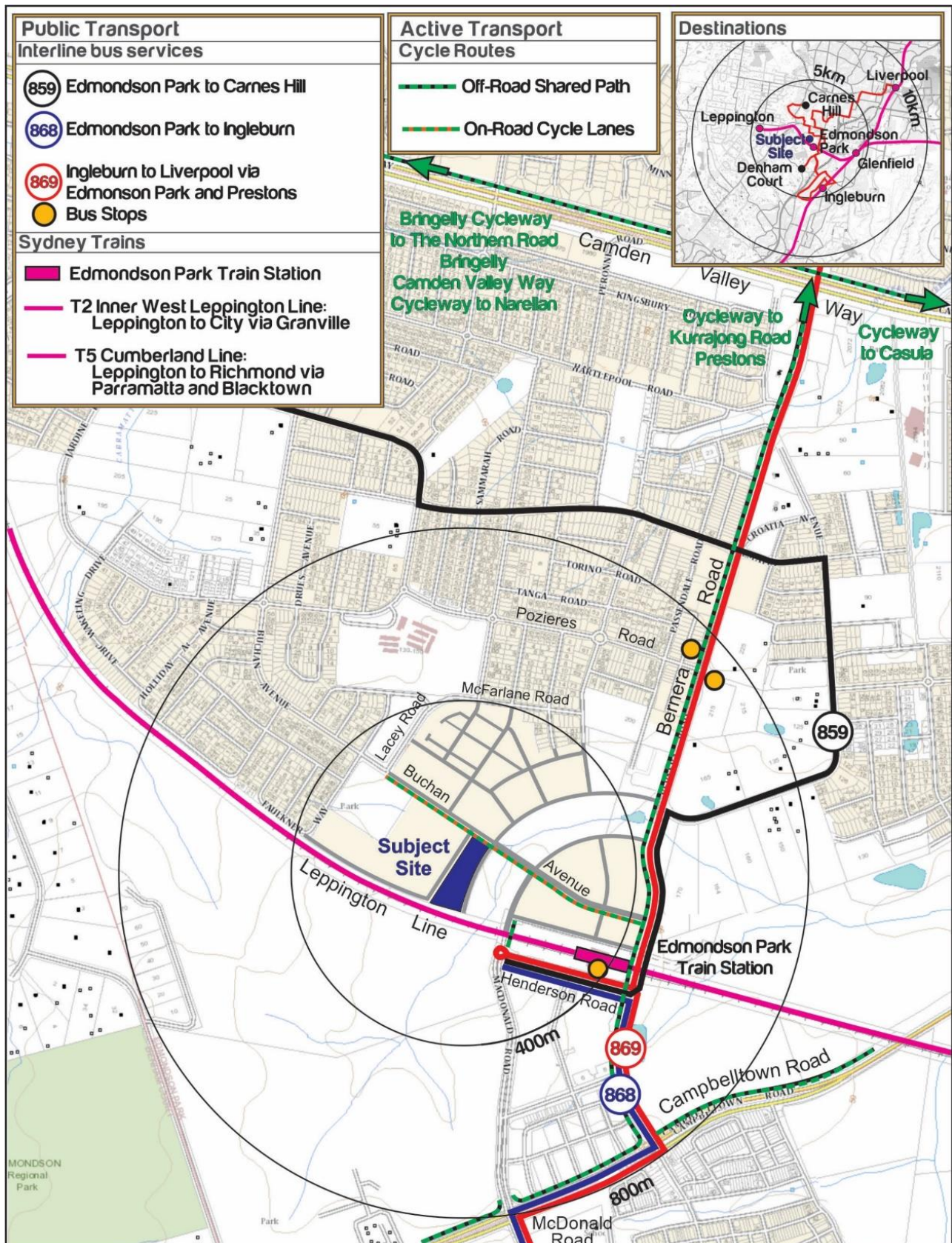


Figure 10: Public and Active Transport Near the Site

5.2 Active Transport

5.2.1 Pedestrian Routes

Currently, the Site has a 2.0-metre-wide footpath along its frontage to Buchan Avenue. The footpath is of good quality and enables pedestrian access to public transport services via pedestrian crossings.

5.2.2 Bicycle Routes

The closest bicycle route to the Site is along Buchan Avenue which provides dedicated lanes on either side of the road. The bicycle route is connected to Camden Valley Way via Rynan Avenue and Bernera Road. Bicycle routes are shown in more detail in **Figure 11**.

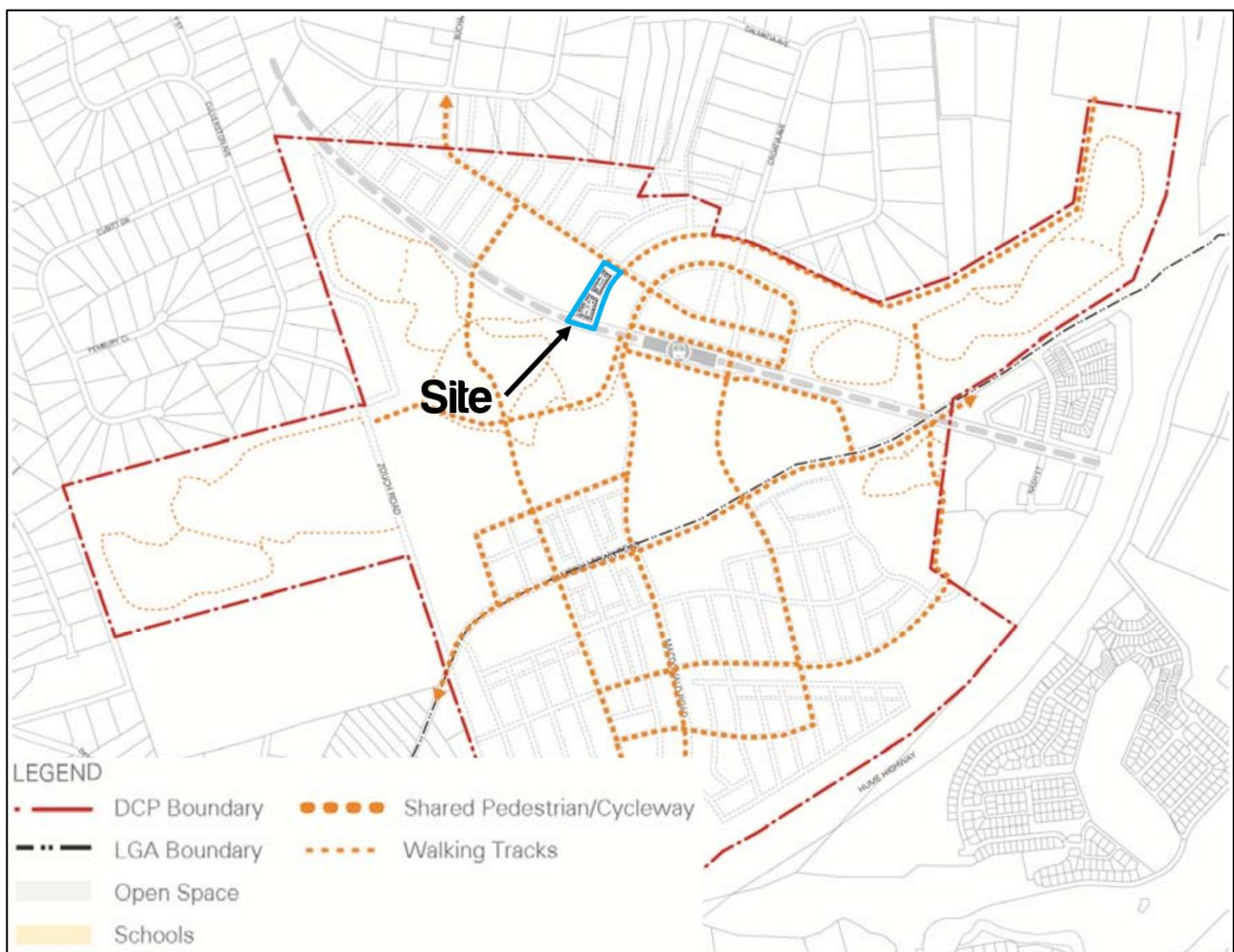


Figure 11: Active Transport Network

6 Parking Provisions

6.1 Car Parking

6.1.1 Parking Requirements

This DA seeks to construct a residential development consisting of 266 units, hence, car parking rates from Table 2 of the EP Planning Guidelines have been adopted. The rates considered relevant to the Proposal are shown in **Table 7**.

TABLE 7: MOD 5 CAR PARKING RATES (MAXIMUM)

Land Use		Parking Rate
Residential flat buildings	Studio and 1 Bedroom	1 space per dwelling
	2 Bedroom	1.2 spaces per dwelling
	3 Bedroom or more	2 spaces per dwelling
	Visitor	1 space for per 10 dwellings

6.1.2 Parking Provisions

The application of the above rates results in the parking requirements shown in **Table 8**.

TABLE 8: MOD 5 CAR PARKING REQUIREMENTS (MAXIMUM)

Land Use	Yield (Units)	Parking Rate	Parking Spaces Required
Studio and 1 Bedroom	37	1 space per dwelling	37
2 Bedroom	154	1.2 spaces per dwelling	185
3 Bedroom or more	75	2 spaces per dwelling	150
Visitor	-	1 space for per 10 dwellings	27
TOTAL:			399

In response, the development provides a total of 398 car parking spaces. Noting that the above requirement is a maximum, the proposal is therefore consistent with the relevant requirements, with the slight reduction (of only 1 space) deemed acceptable and satisfying the objectives of the Edmondson Park Landcom Town Centre North Design Guidelines (EP Design Guidelines) which seek to balance demands against restraining car usage.

6.1.3 Visitor Parking

The proposal provides for a total of 27 visitor car spaces which meets EP Design Guidelines requirements. These have been provided in consolidated locations on the basement level near the entry point for ease of signposting.

6.1.4 Accessible Parking

The EP Design Guidelines does not outline any accessible parking rates. Nonetheless, the proposal includes a total of 26 accessible spaces predominantly located on the basement level.

6.2 Bicycle Parking

With reference to the minimum bicycle parking rate is as follows:

- Residential flat buildings – Minimum 1 space per dwelling

Accordingly, the development requires a total of 266 bicycle spaces in total. Notwithstanding, it should be noted that the EP Design Guidelines state:

...there is no requirement for a space to be provided if adequate space is provided in the dwelling, storage or parking area.

It is expected that 266 bicycle spaces shall be provided via dedicated bicycle parking areas, storage cages and/or inside dwellings as to meet the requirements outlined above as part of the post DA or pre-Construction Certificate (CC) stage.

6.3 Motorcycle Parking

With reference to Table 3 of the EP Design Guidelines, the minimum motorcycle parking rate is as follows:

- Multi dwelling housing / residential flat buildings – 1 space per 20 car spaces

Therefore, the proposed minimum provision of motorcycle parking spaces are outlined below.

TABLE 9: MOD 5 MOTORCYCLE PARKING REQUIREMENTS

Building	Yield	Parking Rate	Motorcycle Parking Requirements	Motorcycle Parking Provision
Site 5	398 Spaces	1 space per 20 car spaces	20	0
TOTAL:			20	0

The development requires 20 motorcycle parking spaces in total. As such, it is expected that the proposal will provide 20 motorcycle parking spaces, to meet requirements as part of the post DA or pre-CC documentation.

6.4 Service Vehicle Parking

With reference to Table 2 of the EP Design Guidelines, the minimum service vehicle parking rate is as follows:

- Multi dwelling / residential flat buildings – 1 space per 40 units (up to 4 spaces per building)

Noting that the basement is shared between the north and south podiums, with a consolidated service area. Therefore, the development is considered as one building for the purposes of the above rate with a resultant requirement for up to 4 spaces.

A single service bay for trucks is provided with the basement of the north podium. This includes provision of a turning bay to ensure that large trucks can enter and exit the site in a forward direction.

There are also a number of visitor parking bays in close proximity to the service area which can be used by smaller vehicles such as couriers, and as such is considered to provide up to 4 service vehicle spaces.

A car wash bay is also provided in the basement level of each podium.

7 Traffic Assessment

7.1 Trip Generation

7.1.1 Existing Trip Generation

The Site is currently vacant, hence there are no traffic volumes generated from the Site.

7.1.2 Proposed Traffic Generation

With reference to the adopted traffic generation rates outlined within the MOD 4 RtS TIA Report, and utilised within the MOD 5 assessment, the following peak hour trip generation has been proposed.

TABLE 10: PROPOSED TRAFFIC GENERATION

Building	Yield	AM Peak	PM Peak		
		Trip Rate	Trips (vehicles/hr)	Trip Rate	Trips (vehicles/hr)
North Podium	120 Units	0.51 trips per unit	61	0.51 trips per unit	61
South Podium	146 Units		74		74
TOTAL:	266 Units		135		135

As shown in **Table 10**, the assessment forecasts that the Proposal would generate 135 vehicular trips/hr during both AM and PM peak hours.

7.2 Traffic Assessment

Precinct-wide modelling undertaken by Aecom (included as part of the MOD 4 submission) adopted a traffic generation for the broader precinct and included the development within Site 5. The proposal remains consistent within this context and consequently the traffic generated by the development has been accounted for in the previous traffic modelling undertaken to determine the road infrastructure requirements of the wider EPFTC area.

Therefore, additional traffic modelling is not necessary in relation to the current proposal.

8 Design Commentary

8.1 Design Standards

The Site has been designed to comply with the following relevant Australian Standards, subject to the comments outlined within **Appendix A**:

- AS2890.1:2004 for car parking areas and;
- AS2890.2:2018 for commercial vehicle loading areas.

It is expected that any detailed construction drawings in relation to the car park or Site access would comply with these Standards. Furthermore, compliance with the above Standards would be expected to form a standard Condition of Consent prior to any development approval.

8.2 Design Vehicle

Proposed driveway and vehicle circulation areas have been designed to accommodate movements of a 10 metre Rigid truck. It should be noted a detailed ramp assessment should be conducted in the pre-CC stage.

8.3 Access Design

The Proposal consists of an access crossover on a future road that will be connected to Buchan Avenue according to the Site plan. It would provide access for vehicles up to 10 metre Rigid trucks to the Site. Swept path analysis at the access are shown in **Appendix A**.

8.4 Internal Cars and Trucks Movement

Internal car and trucks movement would occur on the driveway, ramp, and circulation areas. Internal vehicular movement has been assessed under AS2890.1: 2004 and AS2890.2: 2018. Relevant swept path assessment of the proposed internal circulation is shown in **Appendix A**.

8.5 Car Parking Design

Resident and visitor parking is demonstrated to generally comply with AS2890.1:2004 in line with User Class 1A required for residential parking and has been outlined in **Appendix A**.

Accessible spaces comply with AS2890.6:2009.

8.6 Waste Collection

Based on the advice provided to Ason Group, waste collection for each unit will be serviced by 10 metre Rigid Trucks.

9 Summary & Conclusion

9.1 Introduction & Development Summary

- Ason Group has been engaged by Urban Property Group to prepare a Traffic Assessment (TA) report to support the proposed Development Applications (DA) for Site 5 within Edmondson Park Town Centre North (As identified within the Edmondson Park South Concept Plan (MP 10_0118)).

The Proposal seeks approval for the following:

- The Site would provide a residential development, which comprises:
 - 266 units , including
 - 120 units for the North Podium and
 - 146 for the South Podium
 - 182 car spaces for the North Podium inclusive of 12 accessible spaces
 - 216 car spaces for the South Podium inclusive of 15 accessible spaces
 - 1 service bay via a turntable, with access from the North Podium.
 - 266 bicycle parking spaces (to be stored in storage cages and/or dwellings)
 - 20 motorcycle parking spaces (to be provided during post DA or detailed CC documentation, and without material changes to the existing plans)

9.2 Key Findings

The key findings of this Traffic Assessment (TA) are:

- The provision of 398 car parking spaces complies with the requirements set out in the EP Design Guidelines, for multi dwelling housing / residential flat buildings, noting that the EP Design Guidelines parking rates adopted are maximum rates.
- The trip generation rates adopted for this assessment are consistent with the traffic assessment undertaken in the approved MOD 4 RtS TIA Report which adopted a traffic generation of 223 vehicles per hour for the Site.
- The above traffic has already been considered as part of the precinct-wide modelling that has been undertaken in support of MOD 5 which forms the basis of this DA. As such, the impacts of the development have already been taken into account when designing the supporting infrastructure and key intersection. All key intersections are expected to still operate at an acceptable LoS D or better.

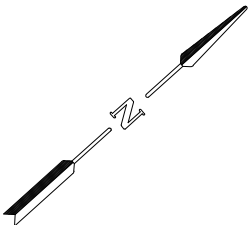
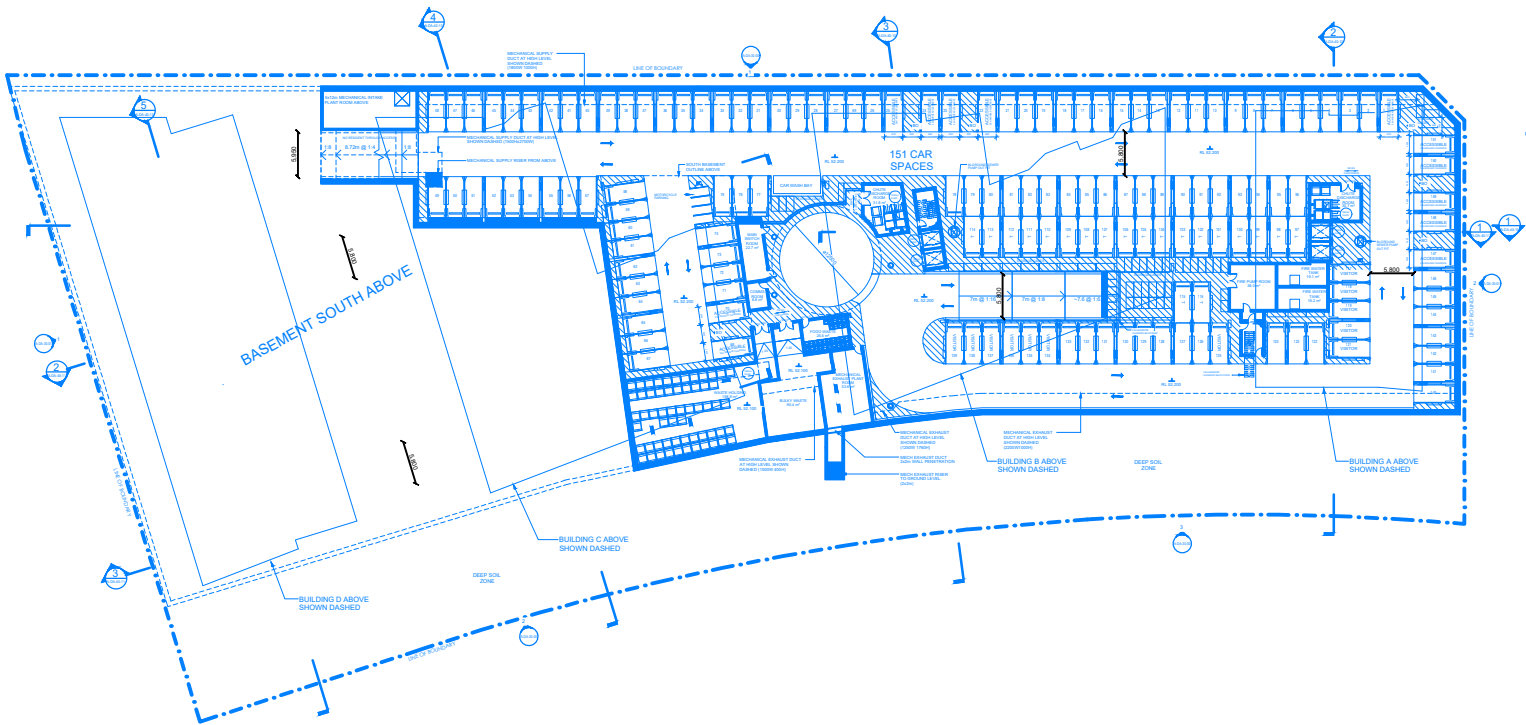
9.3 Conclusion

In summary, the proposed residential development at Site 5 Buchan Avenue, Edmondson Park is deemed supportable on traffic and transport planning grounds and will not result in any unacceptable impacts on the surrounding road network.

Appendix A. Swept Path Analysis

NOTE:

1. SITE PLANS SHOWN ON AG02-AG04 HAVE BEEN REVIEWED AGAINST AS2890.2:2018 FOR THE LARGEST VEHICLE, 10m RIGID TRUCK, AND WE NOTE.
- 1.1. MODIFICATIONS TO THE GROUND FLOOR SOUTHERN ACCESS WOULD BE REQUIRED.
2. CAR PARKING AREAS OF SITE PLANS SHOWN ON AG02-AG05 HAVE BEEN REVIEWED AGAINST AS2890.1:2004 AND WE NOTE:
- 2.1. CAR PARKING SPACES ARE OF USER CLASS 1/1A (2.4m X 5.4m).
- 2.2. ACCORDING TO THE LANDCOM TOWN CENTRE NORTH DESIGN GUIDELINES (LTCNDG), 20 MOTORCYCLE SPACES ARE REQUIRED
- 2.3. PLEASE CLARIFY HOW MANY BICYCLES CAN BE STORED IN THE BICYCLE CAGES ALTOGETHER. THE LTCNDG STATES THAT THE DEVELOPMENT SHALL HAVE ROOM FOR 266 PARKED BICYCLES. BIKES MAY BE STORED INSIDE DWELLINGS AND/OR STORAGE CAGES.



GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Cox Architects, received 19.05.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 10m Rigid Truck

DESIGNED	PAPER SIZE
James Laidler	A3
APPROVED BY	DATE
X.XXXX	02.06.2022
SCALE	0 10 20
1:1000	

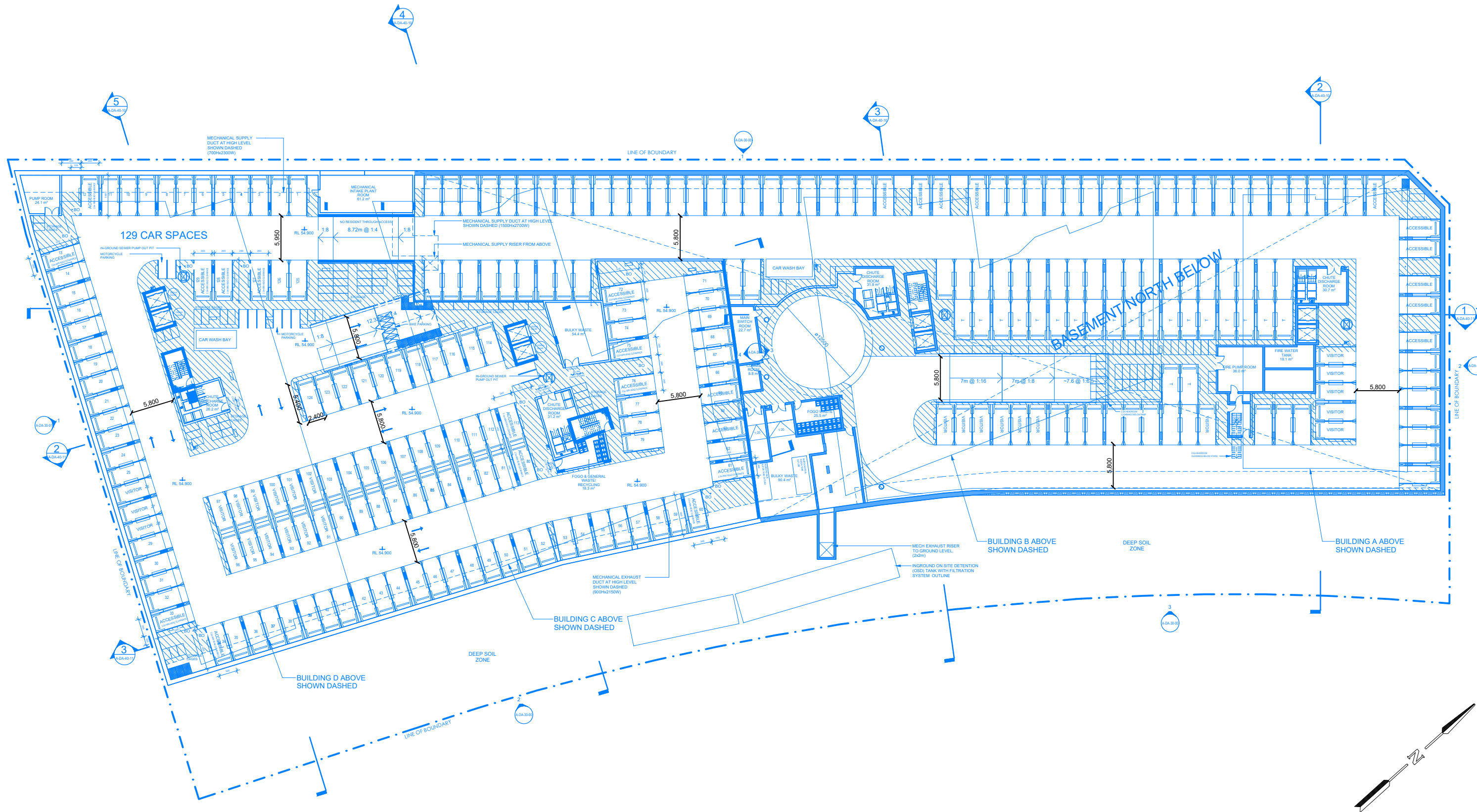
CLIENT
Urban Property Group
PROJECT
1980
Buchan Avenue, Edmondson Park

DOCUMENT INFORMATION	
DESIGN REVIEW	
SITE OVERVIEW	
FILE NAME	SHEET
AG1980-01-v03.dwg	AG01



Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

ASION ACCEPTS NO RESPONSIBILITY WHATSOEVER FOR THE USE OF UNAPPROVED PLANS IN ANY CONSTRUCTION OR FOR ANY COMMERCIAL PURPOSES. SET OUT DIMENSIONS OF ALL DESIGN LINES, GRID LINES, CONTROL LINES, RECOVERY MARKS AND BENCHMARKS SHOULD BE VERIFIED AND CONFIRMED AGAINST THE LATEST INFORMATION AT CONSTRUCTION. ASION IS TO BE NOTIFIED IMMEDIATELY OF ANY ERROR OR DISCREPANCY AND THE MATTER RESOLVED PRIOR TO THE COMMENCEMENT OR CONTINUATION OF ANY WORK. THIS NOTE IS AN INTEGRAL PART OF THIS PLANDATA. REPRODUCTION OF THIS PLAN OR ANY PART OF IT WITHOUT THIS NOTE BEING INCLUDED IN FULL WILL RENDER THE INFORMATION SHOWN ON SUCH REPRODUCTION INVALID AND NOT SUITABLE FOR USE. PLEASE NOTE: ASION THEREFORE DISCLAIMS ALL LIABILITY FOR ANY DAMAGE, INCLUDING ECONOMIC LOSS, CAUSED BY THE INACCURACY OF THE INFORMATION SHOWN ON THIS PLANDATA. THE USER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN ON THIS PLANDATA.



GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Cox Architects, received 19.05.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 10m Rigid Truck

DESIGNED

James Laidler

APPROVED BY

X.XXXX

SCALE

1:500

PAPER SIZE

A3

DATE

02.06.2022

0 5 10

CLIENT

Urban Property Group

PROJECT

1980

Buchan Avenue, Edmondson Park

DOCUMENT INFORMATION

DESIGN REVIEW

SITE OVERVIEW (BASEMENT- NORTH)

FILE NAME

AG1980-01-v03.dwg

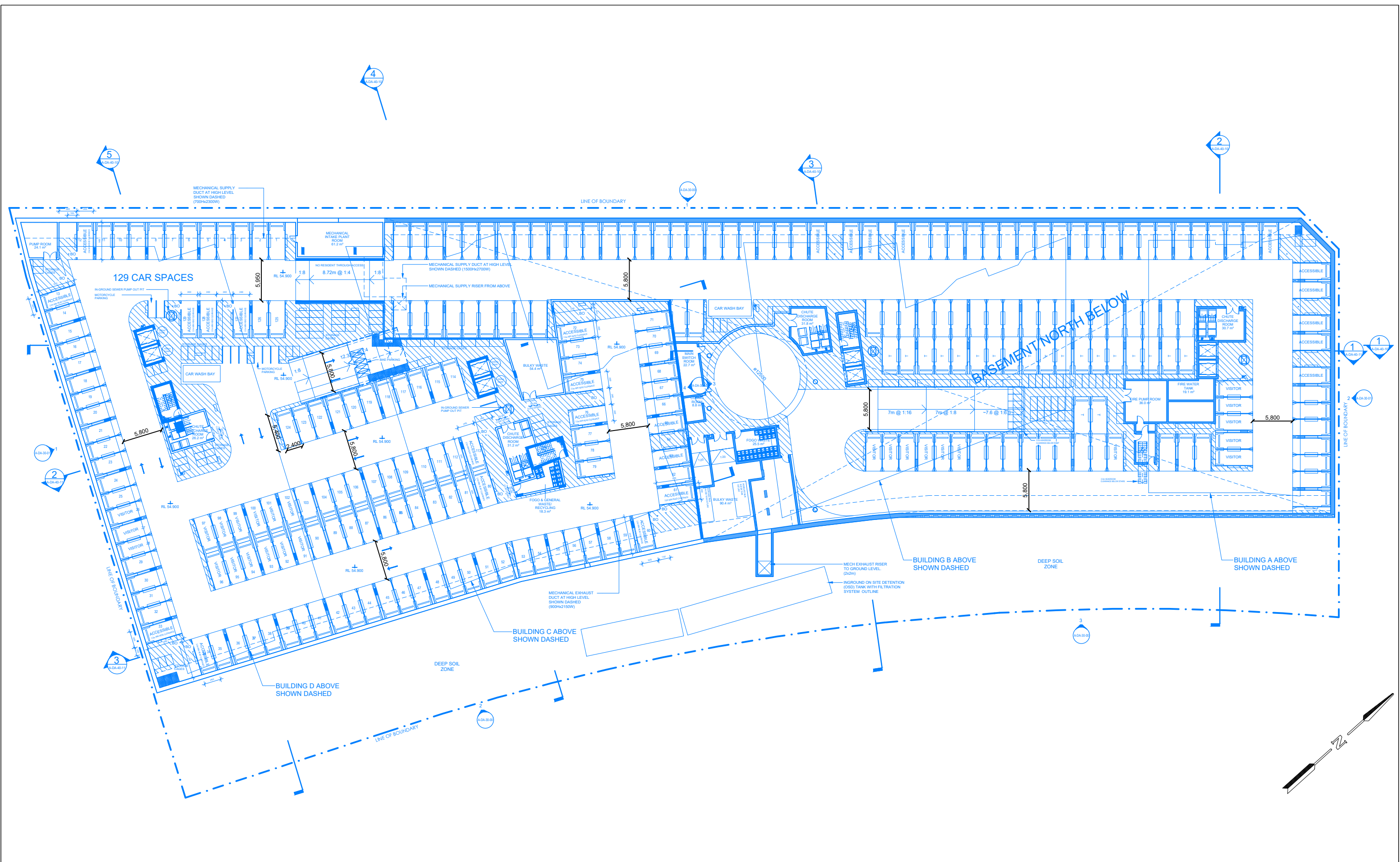
SHEET

AG02

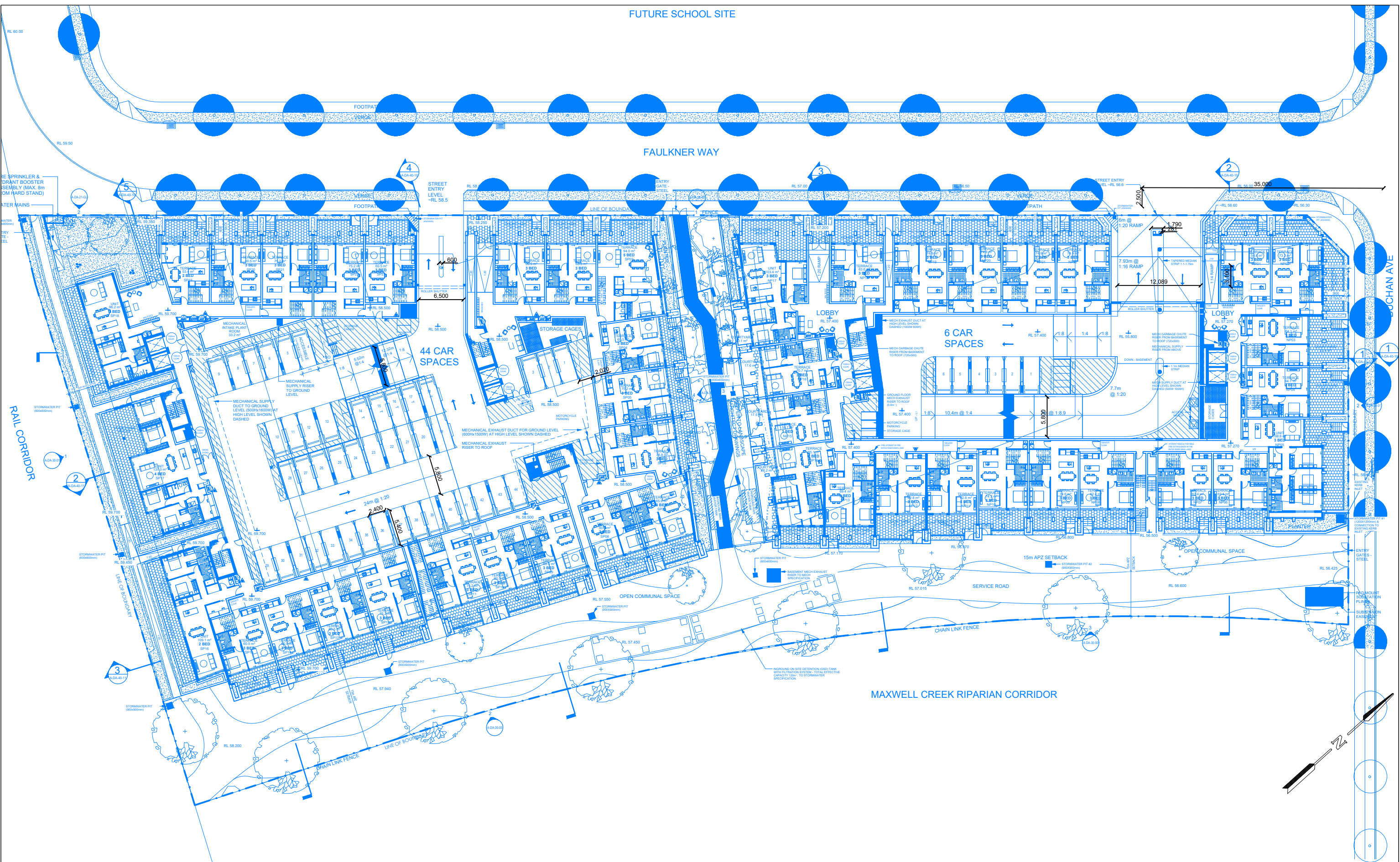
asongroup

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000

info@asongroup.com.au



<div>GENERAL NOTES</div> <div>This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck</div>	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION		<div>asongroup</div> <div>Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au</div>
	James Laidler	A3	Urban Property Group	DESIGN REVIEW		
	APPROVED BY	DATE	PROJECT	SITE OVERVIEW (BASEMENT- SOUTH)		
	X.XXXX	02.06.2022	1980			
	SCALE			FILE NAME	SHEET	
	1:500	0510	Buchan Avenue, Edmondson Park	AG1980-01-v03.dwg	AG03	



GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Cox Architects, received 19.05.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 10m Rigid Truck

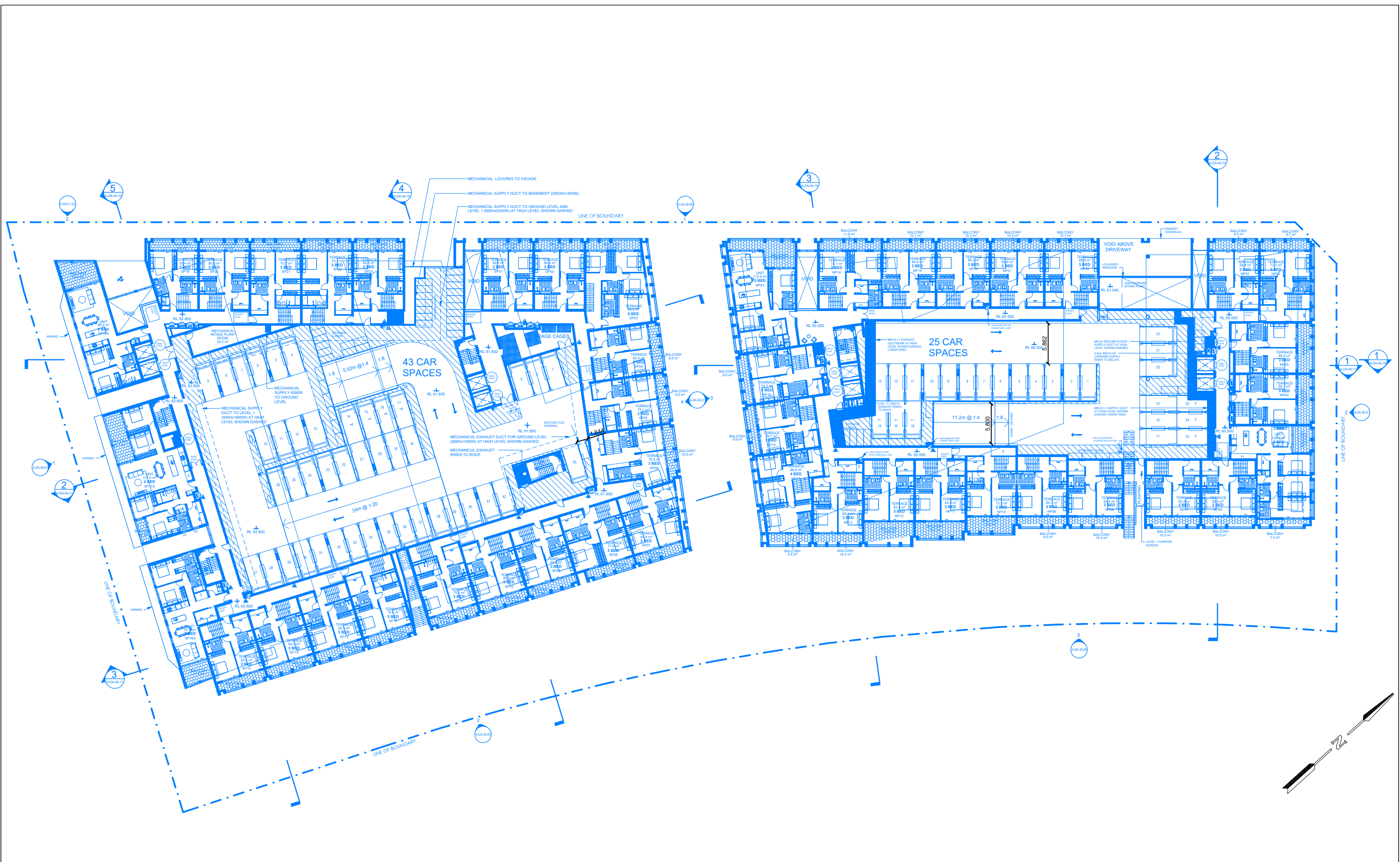
DESIGNED	PAPER SIZE
James Laidler	A3
APPROVED BY	DATE
X.XXXX	02.06.2022
SCALE	
1:500	0 5 10

CLIENT	PROJECT
Urban Property Group	1980
	Buchan Avenue, Edmondson Park

DOCUMENT INFORMATION	
DESIGN REVIEW	
SITE OVERVIEW (GROUND)	
FILE NAME	SHEET
AG1980-01-v03.dwg	AG04

asongroup

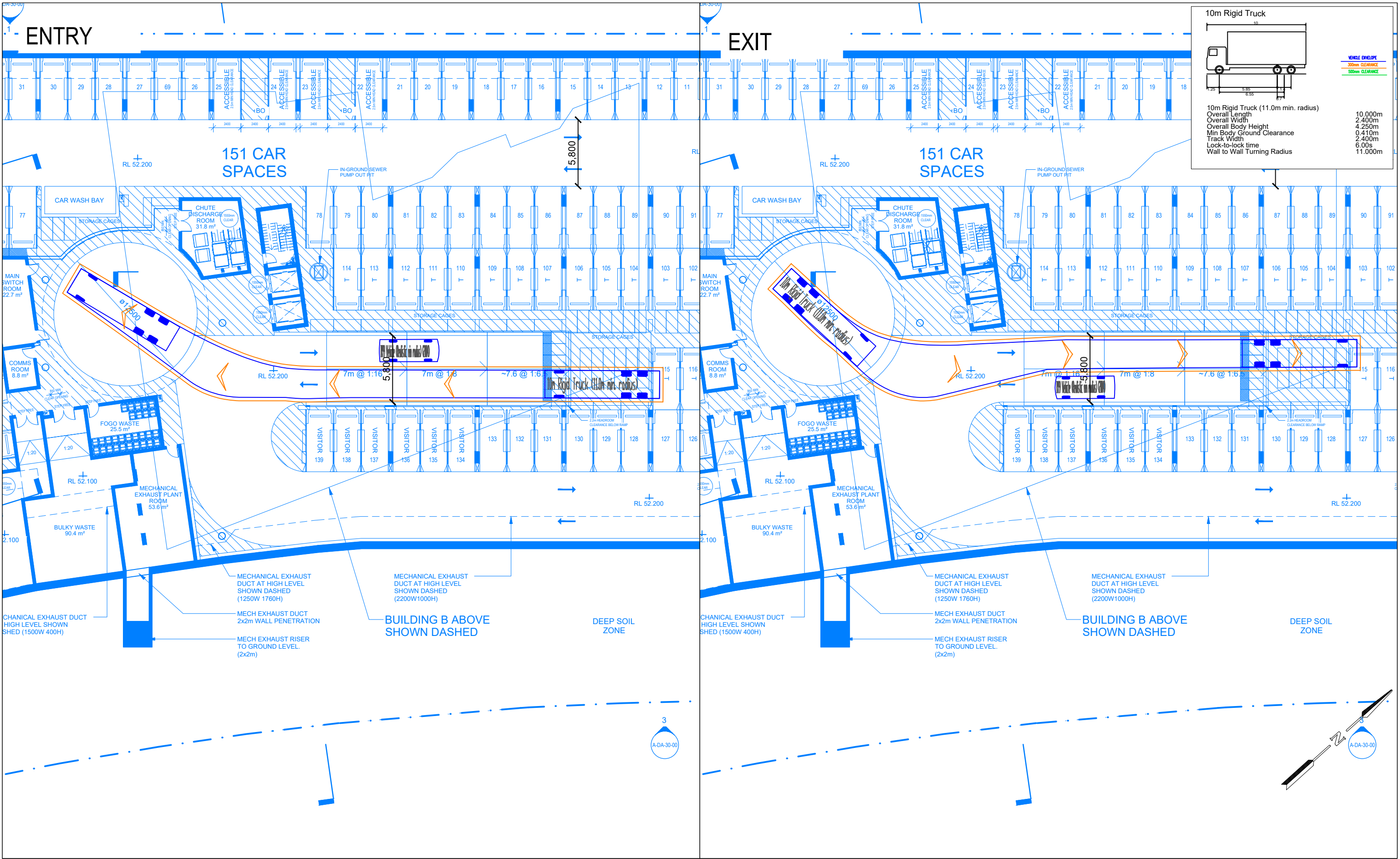
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au



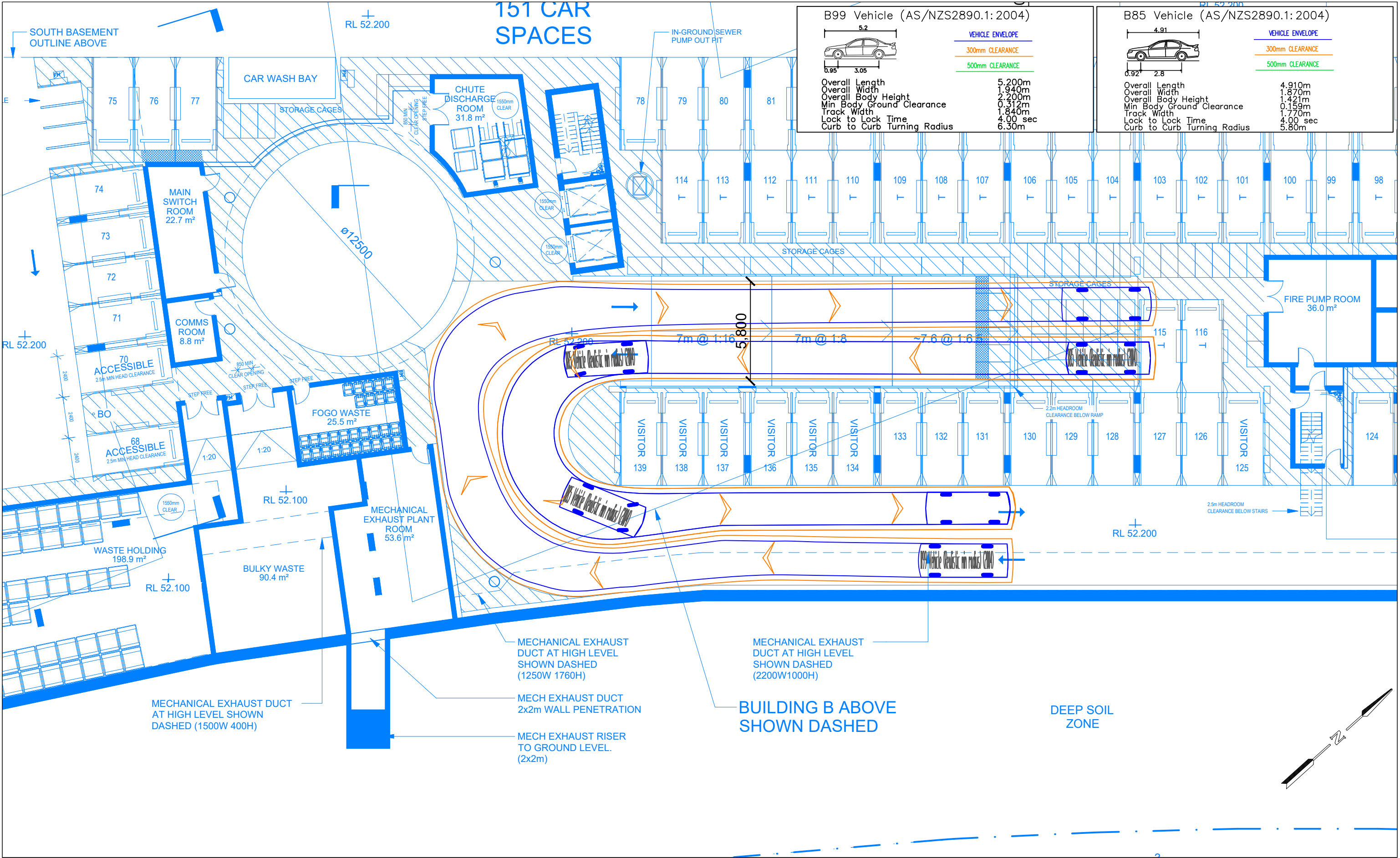
GENERAL NOTES		DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION	
This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck		James Laidler	A3	Urban Property Group	DESIGN REVIEW	
		APPROVED BY	DATE	PROJECT	SITE OVERVIEW (LEVEL 1)	
		X.XXXX	02.06.2022	1980	FILE NAME	SHEET
		SCALE		Buchan Avenue, Edmondson Park	AG1980-01-v03.dwg	AG05
		1:500	0 5 10			

asongroup

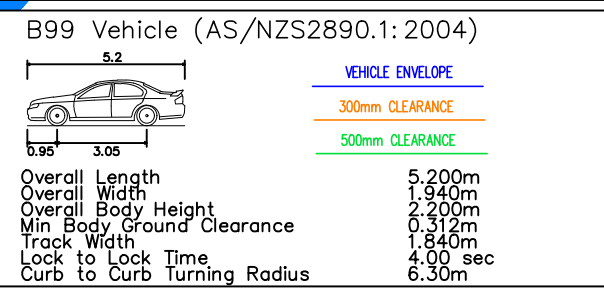
Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au



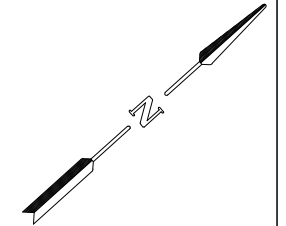
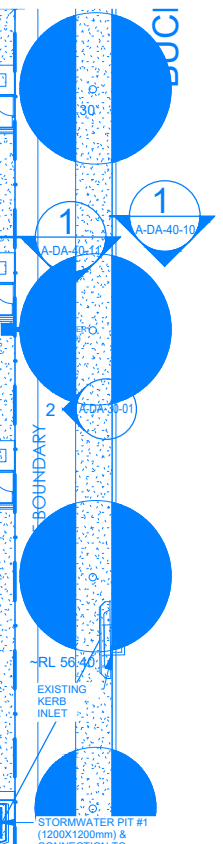
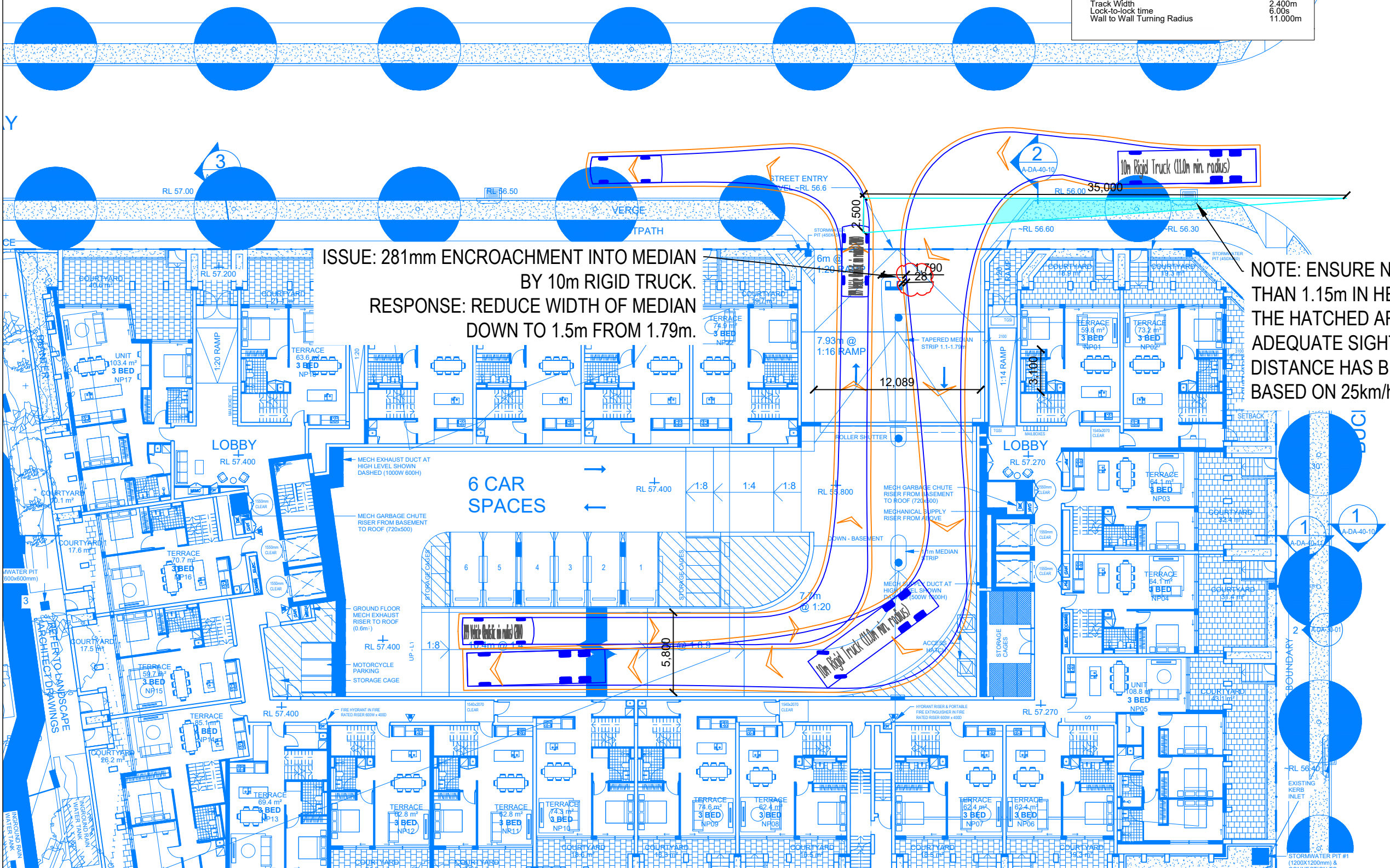
GENERAL NOTES <p>This drawing is provided for information purposes only and should not be used for construction.</p> <p>Base Plan prepared by Cox Architects, received 19.05.2022.</p> <p>Swept path assessments completed at 10 km/h and 300mm clearance.</p> <p>Design vehicle: 10m Rigid Truck</p>	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION	
	James Laidler	A3	Urban Property Group		
	APPROVED BY	DATE	PROJECT	DESIGN REVIEW	
	X.XXXX	02.06.2022	1980	10m RIGID TRUCK SWEEP PATHS (BASEMENT- NORTH)	
SCALE	1:300	0510	Buchan Avenue, Edmondson Park	FILE NAME	SHEET
				AG1980-01-v03.dwg	AG06



<div>GENERAL NOTES</div> <div>This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck</div>	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION		<div>asongroup</div> <div>Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au</div>
	James Laidler	A3	Urban Property Group	DESIGN REVIEW		
	APPROVED BY	DATE	PROJECT	B99 AND B85 SWEPT PATHS (BASEMENT-NORTH)		
	X.XXXX	02.06.2022	1980			
	SCALE	<div>0510</div>		FILE NAME	SHEET	
1:200	AG1980-01-v03.dwg			AG07		
		Buchen Avenue, Edmondson Park				



NOTE: ENSURE NO OBJECTS GREATER THAN 1.15m IN HEIGHT ARE WITHIN THE HATCHED AREA TO MAINTAIN ADEQUATE SIGHT DISTANCE. (SIGHT DISTANCE HAS BEEN CALCULATED BASED ON 25km/h)



DESIGNED

James Laidler

PAPER SIZE

DATE
02 06 2022

VERGEEKLE	

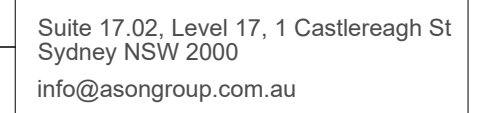
Urban Property Group

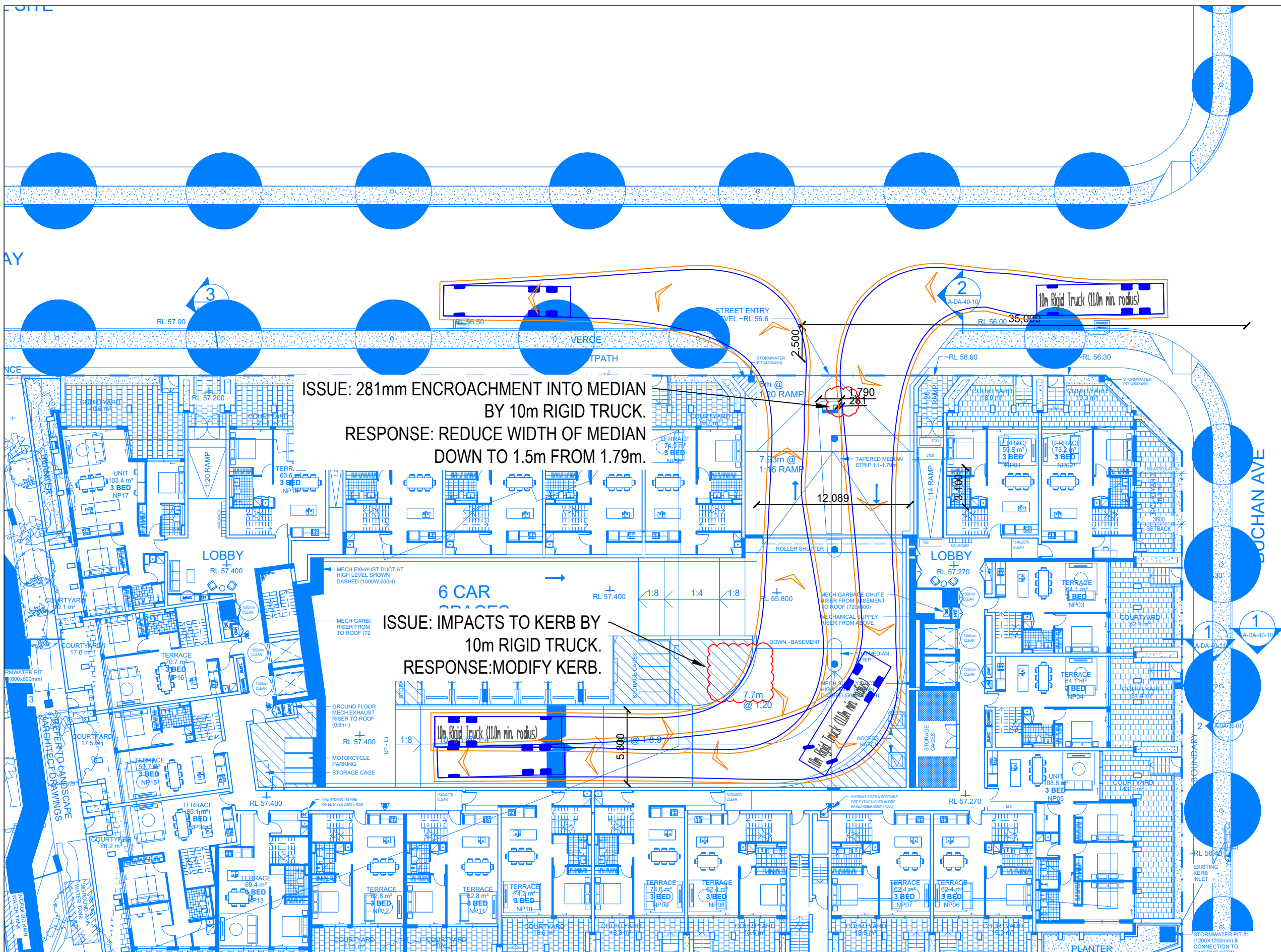
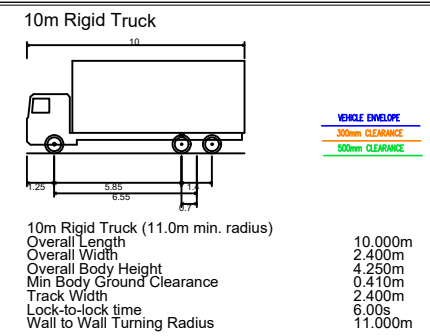
1980

DESIGN REVIEW

FILE NAME


SHEET





GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Cox Architects, received 19.05.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 10m Rigid Truck

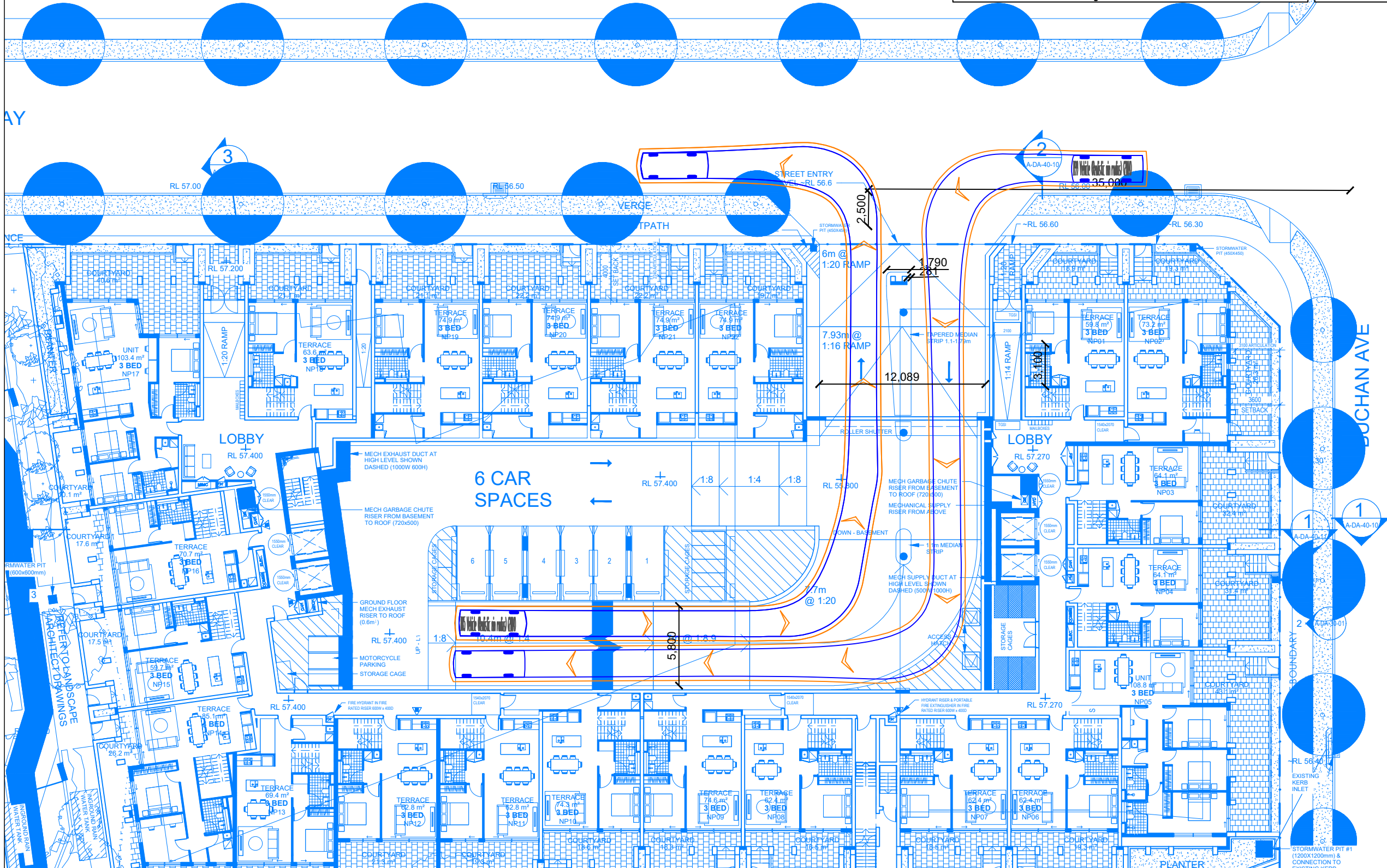
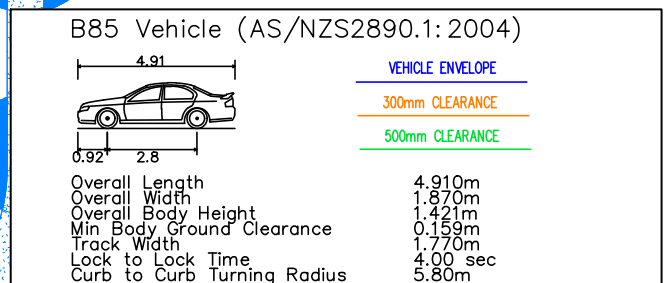
DESIGNED James Laidler	PAPER SIZE A3
APPROVED BY X.XXXX	DATE 02.06.2022
SCALE 1:300	

CLIENT
Urban Property Group
PROJECT
1980
Buchan Avenue, Edmondson Park

DOCUMENT INFORMATION	
DESIGN REVIEW	
10m RIGID TRUCK SWEEP PATHS (GROUND)	
FILE NAME	SHEET
AG1980-01-v03.dwg	AG10

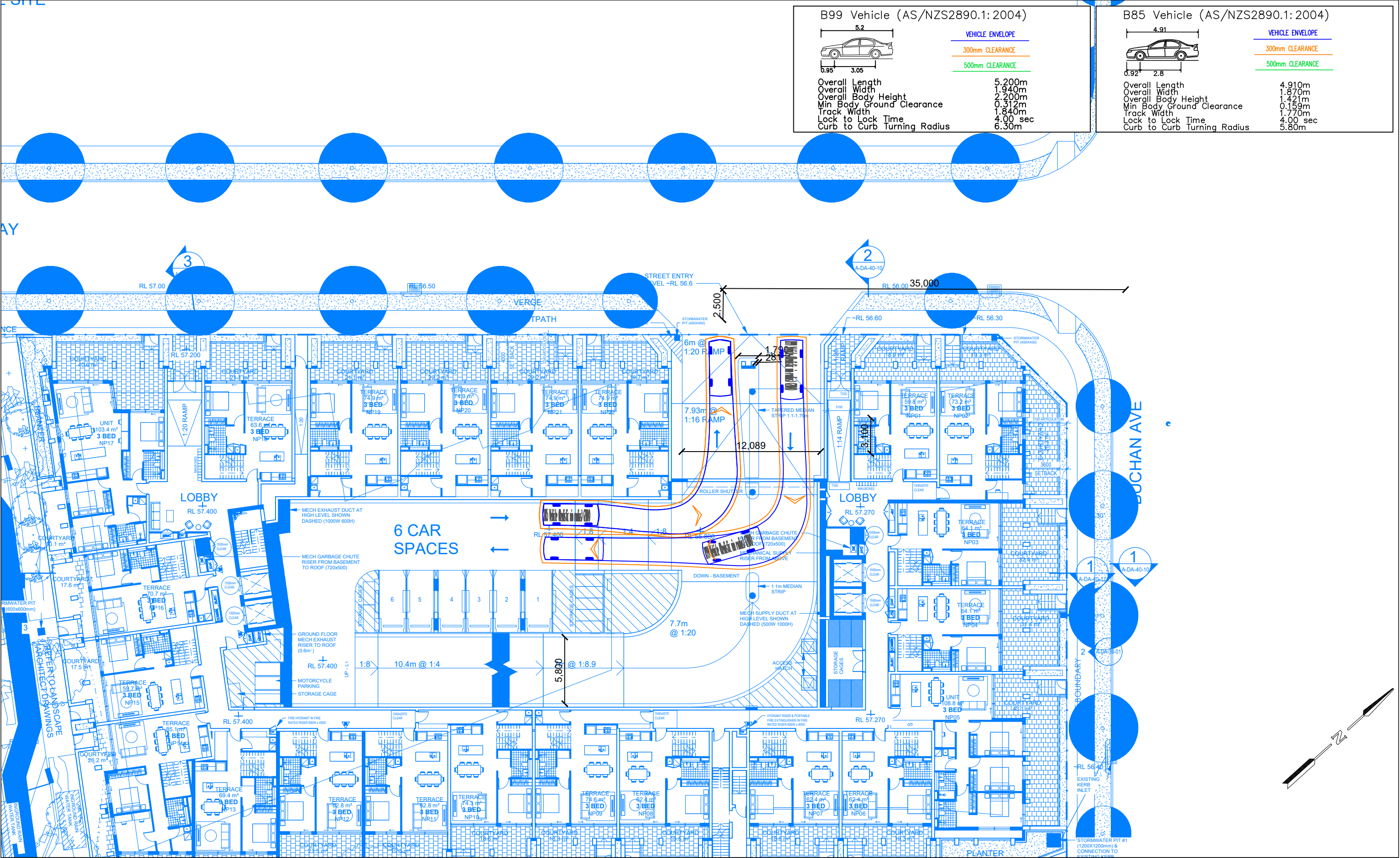
asongroup

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

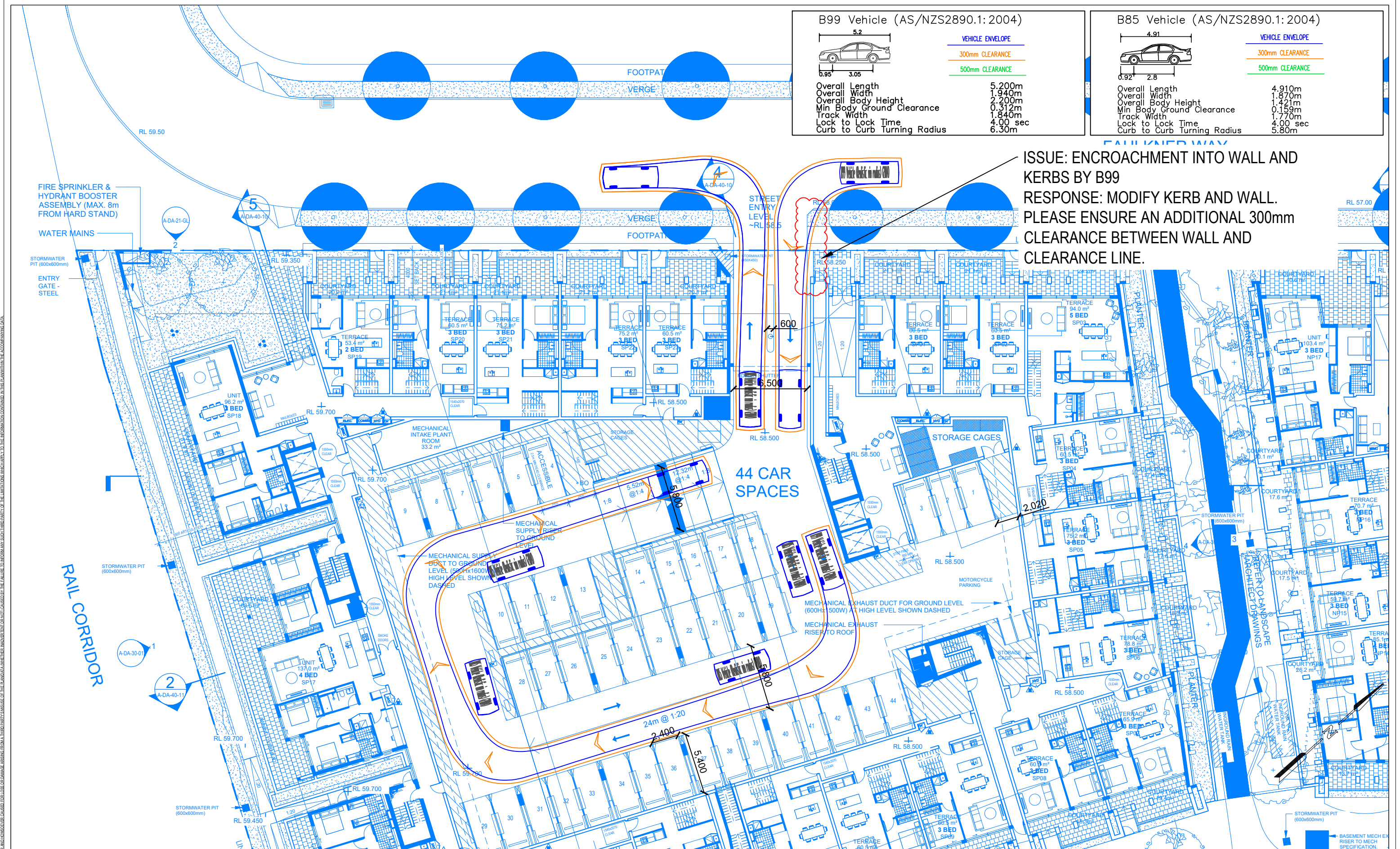


asongroup

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au



GENERAL NOTES		DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION	
This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck		James Laidler	A3	Urban Property Group	DESIGN REVIEW	
		APPROVED BY	DATE	PROJECT	B99 AND B85 SWEPT PATHS (GROUND)	
		X.XXXX	02.06.2022	1980	FILE NAME	SHEET
		SCALE		Buchan Avenue, Edmondson Park	AG1980-01-v03.dwg	AG12
		1:300	0 3 6			



B99 Vehicle (AS/NZS2890.1:2004)

5.2

0.95

3.05

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

5.200m

1.940m

2.200m

0.312m

1.840m

4.00 sec

6.30m

B85 Vehicle (AS/NZS2890.1:2004)

4.91

0.92

2.8

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Track Width

Lock to Lock Time

Curb to Curb Turning Radius

4.910m

1.870m

1.421m

0.159m

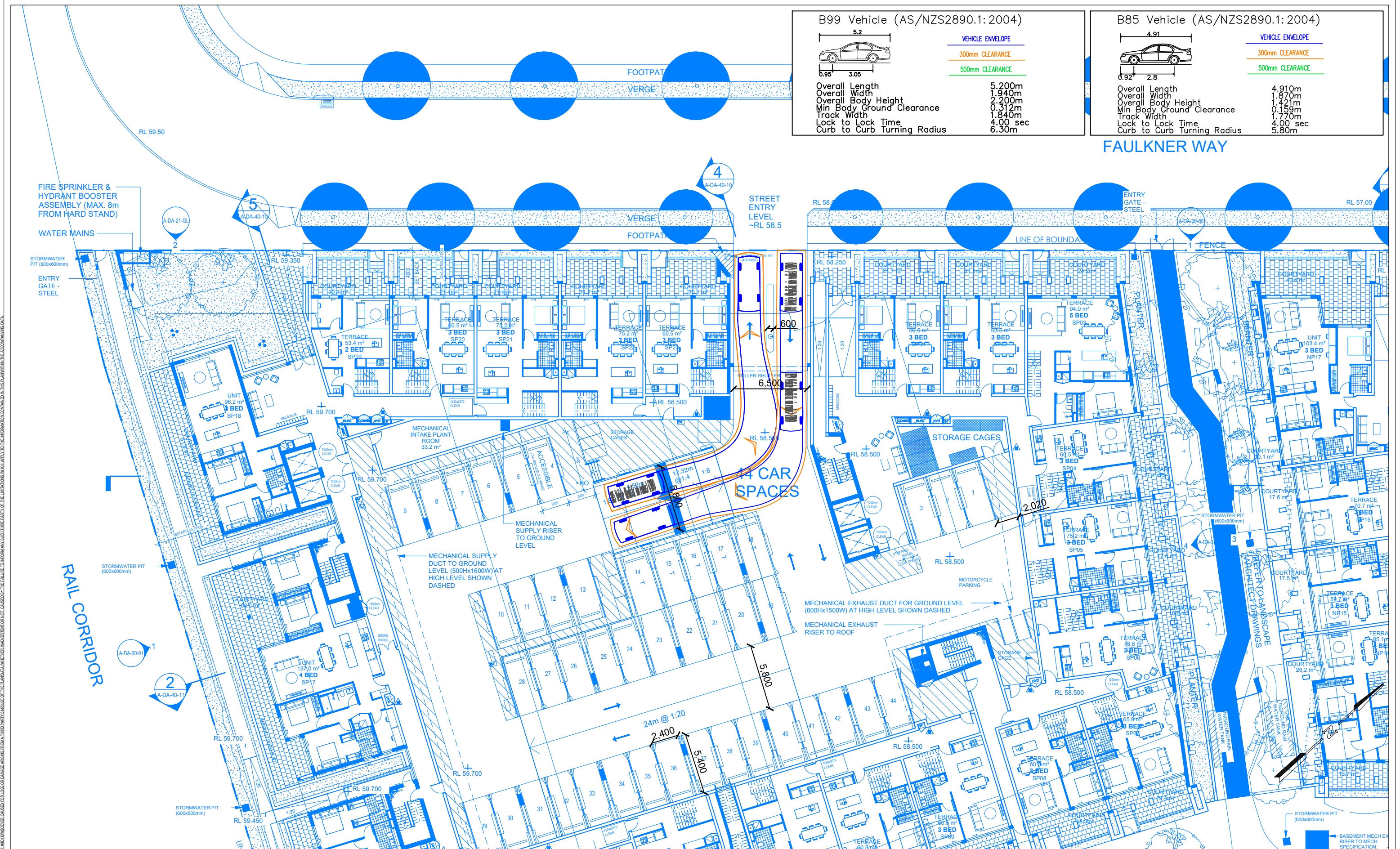
1.770m

4.00 sec

5.80m

ISSUE: ENCROACHMENT INTO WALL AND KERBS BY B99
RESPONSE: MODIFY KERB AND WALL.
PLEASE ENSURE AN ADDITIONAL 300mm CLEARANCE BETWEEN WALL AND CLEARANCE LINE.

GENERAL NOTES	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION	
	James Laidler	A3	Urban Property Group	DESIGN REVIEW	
	APPROVED BY	DATE	PROJECT	B99 AND B85 SWEPT PATHS (GROUND)	
	X.XXXX	02.06.2022	1980	FILE NAME	SHEET
This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck	SCALE	0 3 6		AG1980-01-v03.dwg	AG13
	1:300				
			Buchan Avenue, Edmondson Park	Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au	

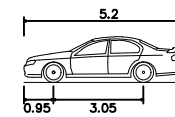
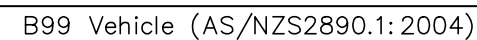


GENERAL NOTES This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck	DESIGNED James Laidler	PAPER SIZE A3	CLIENT Urban Property Group	DOCUMENT INFORMATION	
	APPROVED BY X.XXXX	DATE 02.06.2022	PROJECT 1980	DESIGN REVIEW	
	SCALE 1:300	036	Buchen Avenue, Edmondson Park	B99 AND B85 SWEPT PATHS (GROUND)	SHEET
				AG1980-01-v03.dwg	AG14

ASON ACCEPTS NO RESPONSIBILITY WHATSOEVER FOR THE USE OF UNAPPROVED PLANS IN ANY CONSTRUCTION OR FOR ANY COMMERCIAL PURPOSES. SET OUT DIMENSIONS OF ALL DESIGN LINES, GRID LINES, CONTROL LINES, RECOVERY MARKS AND BENCHMARKS SHOULD BE VERIFIED AND CONFIRMED AGAINST THE LATEST INFORMATION AT CONSTRUCTION. ASON IS TO BE NOTIFIED IMMEDIATELY OF ANY ERROR OR DISCREPANCY AND THE MATTER RESOLVED PRIOR TO THE COMMENCEMENT OF ANY WORK. THIS NOTE IS AN INTEGRAL PART OF THIS PLAN. DATA. REPRODUCTION OF THIS PLAN OR ANY PART OF IT WITHOUT THE WRITTEN PERMISSION OF ASON GROUP IS PROHIBITED. ASON GROUP IS NOT RESPONSIBLE FOR THE USE OF UNAPPROVED PLANS IN ANY CONSTRUCTION OR FOR ANY COMMERCIAL PURPOSES. SET OUT DIMENSIONS OF ALL DESIGN LINES, GRID LINES, CONTROL LINES, RECOVERY MARKS AND BENCHMARKS SHOULD BE VERIFIED AND CONFIRMED AGAINST THE LATEST INFORMATION AT CONSTRUCTION. ASON IS TO BE NOTIFIED IMMEDIATELY OF ANY ERROR OR DISCREPANCY AND THE MATTER RESOLVED PRIOR TO THE COMMENCEMENT OF ANY WORK. THIS NOTE IS AN INTEGRAL PART OF THIS PLAN. DATA.



<div>GENERAL NOTES</div> <div>This drawing is provided for information purposes only and should not be used for construction. Base Plan prepared by Cox Architects, received 19.05.2022. Swept path assessments completed at 10 km/h and 300mm clearance. Design vehicle: 10m Rigid Truck</div>	DESIGNED	PAPER SIZE	CLIENT	DOCUMENT INFORMATION		<div>asongroup</div> <div>Suite 17.02, Level 17, 1 Castlereagh St Sydney NSW 2000 info@asongroup.com.au</div>
	James Laidler	A3	Urban Property Group			
	APPROVED BY	DATE	PROJECT	DESIGN REVIEW		
	X.XXXX	02.06.2022	1980	B85 AND B99 SWEPT PATHS (LEVEL 1)		
SCALE	<div>036</div>		Buchan Avenue, Edmondson Park	FILE NAME	SHEET	
1:300				AG1980-01-v03.dwg	AG15	

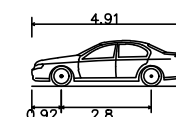
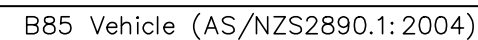


VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

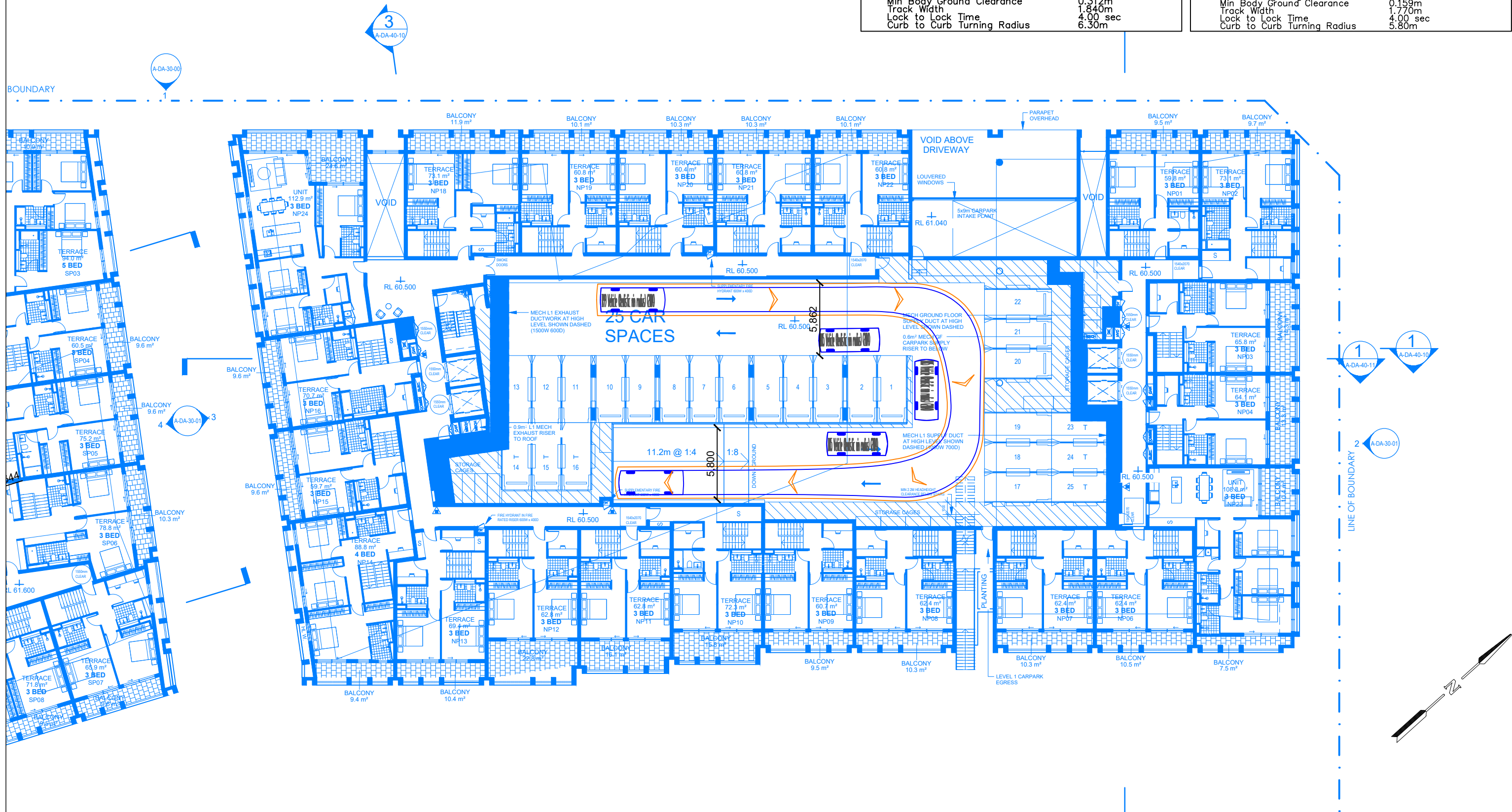


VEHICLE ENVELOPE

300mm CLEARANCE


500mm CLEARANCE

Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m



GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by Cox Architects, received 19.05.2022.
Swept path assessments completed at 10 km/h and 300mm clearance.
Design vehicle: 10m Rigid Truck

DESIGNED James Laidler	PAPER SIZE A3
APPROVED BY X.XXXX	DATE 02.06.2022
SCALE 1:300	

CLIENT	Urban Property Group
PROJECT	1980
	Buchan Avenue, Edmondson Park

DOCUMENT INFORMATION	
DESIGN REVIEW	
B85 AND B99 SWEPT PATHS (LEVEL 1)	
FILE NAME	SHEET
AG1980-01-v03.dwg	AG16

asongroup

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au