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Job Number: 20NL205-T6

Date: 25th February, 2024

Traffic Management Report for 10 Lagoon Street & 75 - 77 Murray Street, Moruya, NSW

Prepared for: D.A. Stage

Report No.	Issue No.	Issue Date	Details
20NL205-T6	6	22/02/2024	Issued for D.A.

Prepared by

LOKA CONSULTING ENGINEERS PTY LTD

Nermein Loka

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Senior Civil Engineer

Director

Table of Contents

1. Introduction	3
2. Proposed Development.....	4
2.1. Public Transportations.....	5
3. Off Street Parking Provision	5
3.1. Car parking	5
4. Car Park and Driveway Layout	6
4.1. Driveway and Ramp Design.....	6
4.2. Dimensions of Parking Spaces.....	7
5. Traffic Generation.....	9
6. Additional Requirement	10
7. Swept Path Analysis.....	10
Appendix A Architectural Plan	11
Appendix B Swept Path Analysis	16

1. Introduction

Loka Consulting Engineers Pty Ltd has been engaged by Kennedy Associates Architects to provide a Traffic Management Report for the site 10 Lagoon Street & 75 - 77 Murray Street, Moruya, NSW located within Eurobodalla Shire council (refer to Figure 1-1 and Figure 1-2) for D.A. stage.

A Traffic Management Plan and Report is required for the proposed development to identify the impacts of the proposal on the local street network and mitigation measures required to ameliorate any impacts. This includes:

- A description of the site and details of the development proposal;
- A review of the road network in the vicinity of the site, and traffic conditions on that road network;
- A review of the geometric design features of the proposed car parking facilities for compliance with the relevant codes and standards; and
- An assessment of the adequacy and suitability of the quantum of off-street car parking provided on site.



Figure 1-1 Subject site (from SIX maps)

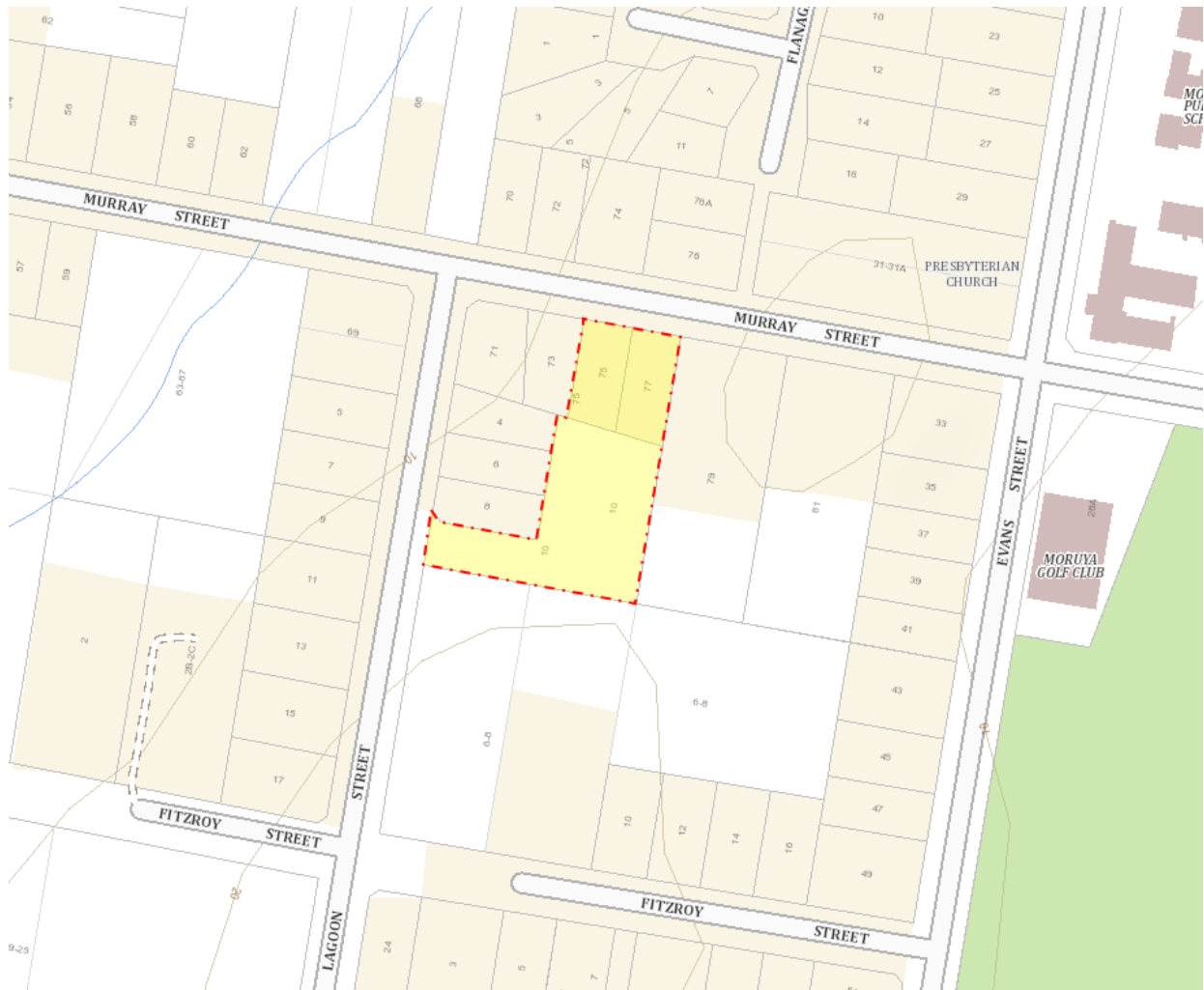


Figure 1-2 Site location (from SIX maps)

2. Proposed Development

The proposed development will facilitate the construction of a multi-dwelling housing comprising 18 units. 16 units have entry from Murray Street. While 2 units have entry from Lagoon Street within a site area of approximately 4582.6m².

The proposed development is bounded by

- Murray street on the North,
- No. 79 Murray Street on the East,
- No. 4 – 8 Lagoon Street & No. 73 Murray Street on the West
- No. 12 Lagoon Street & No. 6 Fitzroy Street on the South.

2.1.Public Transportations

It takes 13-minutes walking (1.0km) from the site to Vulcan St. at Mirrabooka Av, bus stop (refer to Figure 2-1).

Table 2-1 shows the bus line name; routes and the time between two successive trips. Refer to Transport NSW for accurate details.

Line Name	Route	Interval
MCS	South Coast to Canberra	3Hr 34min.
700-1	Eden to Bomaderry	Once a day
860	Batemans Bay to Moruya via Surf Beach & Broulee	2Hr

Table 2-1 Bus line, route, and time

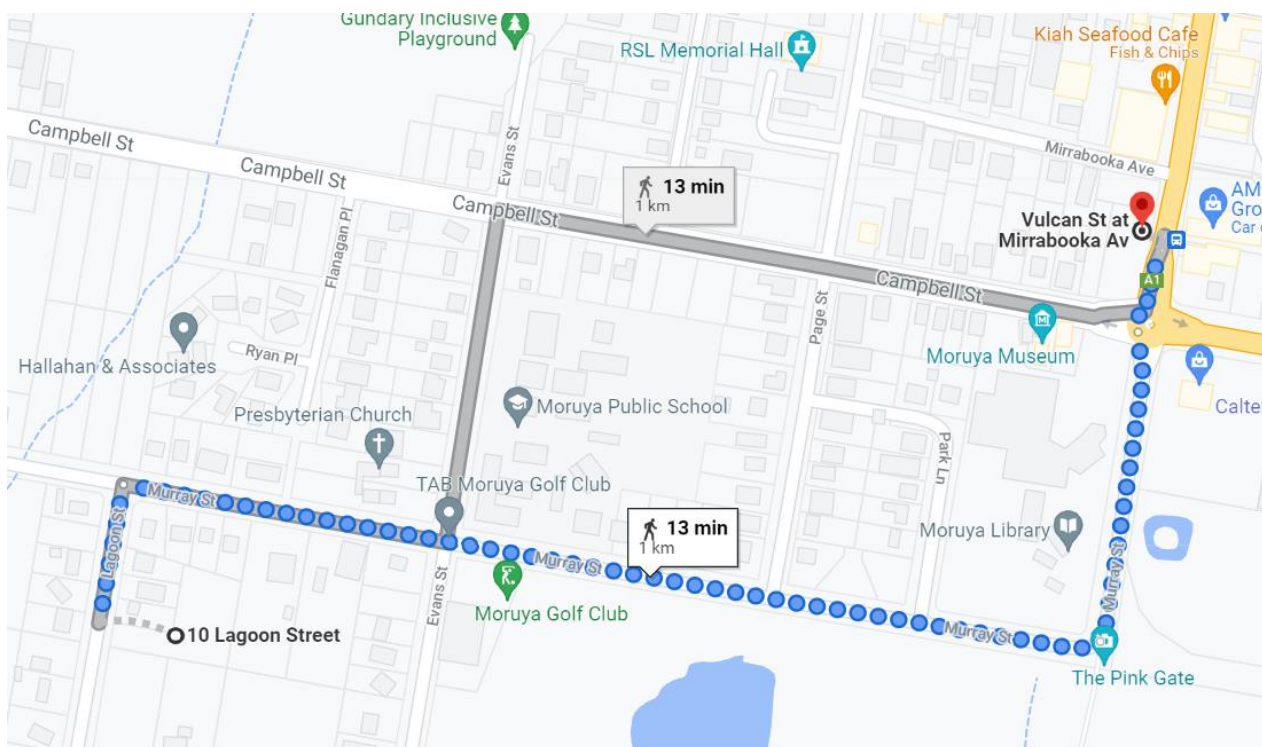


Figure 2-1 Site to bus stop 1 (from Google maps)

3. Off Street Parking Provision

3.1. Car parking

According to State Environmental Planning Policy (Housing) 2021, the subject site is in an inaccessible area since it is 1Km walking distance away from bus stops. Since the development is proposed in an inaccessible area, the following car parking must be provided as shown in Table 3-1.

Land use	Minimum number of car parking spaces
Social housing	Application made by a social housing provider 0.5 space/1-bedroom unit 1.0 space/2-bedroom unit 1.5 space/3+ bedroom unit

Table 3-1 Off-street car parking space provision rate

Required minimum parking spaces for the proposed development is shown in Table 3-2.

Unit type	Amount	Parking rate	Required spaces	Required	Proposed
1-bed	6	0.5	3	16	20 (including 3 accessible)
2-bed	10	1.0	10		
3-bed	2	1.5	3		

Table 3-2 Required minimum car parking spaces

4 parking space are proposed for the two bedrooms units No. 17 & 18. While the other 16 parking spaces including 3 accessible are proposed for units 1-16.

The design complies with the requirement from State Environmental Planning Policy (Housing) 2021.

4. Car Park and Driveway Layout

4.1. Driveway and Ramp Design

The design of the driveway, internal roadways & ramps, and car parking spaces must comply with relevant Australian Standards; details are shown in the architectural plan. Table 4-1 and Table 4-2 assess the compliance of the site to Australian Standard.

FEATURE	AS 2890.1:2004	Architectural Plan	Compliance
Driveway width	• 3.0 to 5.5 for Category 1. • 6.0 to 9.0 for Category 2.	units 1-16 two-way 5.8m at boundary units 17 & 18 one-way 4.88m at boundary	The design is complied with AS2890.1 & council DCP
Internal driveway width	• One-way – 3.0m minimum between kerbs • Two- way – 5.5m minimum between kerbs • Note: 300mm clearance on both side when there is a high kerb or barrier on both sides.	units 1-16 One-way 3.0m in addition to 150mm kerb on both sides to landscape area Two way 5.8m in addition to 300mm kerb on both sides	The design is complied with AS2890.1 & council DCP

Ramp grade	Longer than 20m – 1:5 maximum. Up to 20m long – 1:4 maximum. Transition grade no more than 1:8. First 6m no more than 1:20. Changes of grade no more than 1:8.	Unit 17 & 18 Max. 1:20 units 1-16 - the 1st 6.0m max 4.2% upwards from boundary. 26.4m ramp with maximum grade 10.0% 15.2m between two ramps with maximum grade of 2.5% 2.0m transition with 12.5% grade 15.60m ramp with max. 12.5% grade 2.0m transition with 12.5% grade	The design is complied with AS2890.1 & council DCP
Headroom	2.2m min between the floor and an overhead obstruction. Headroom above each dedicated space and adjacent shared area should be a minimum of 2.5m.	Uncovered open parking spaces for units 1-16 Closed garages for units 17 & 18 with minimum 3.0m head clearance. Please ensure to provide minimum 2.2m head clearance at CC stage	The design is complied with AS2890.1, 6 & council DCP

Table 4-1 Driveway and ramp design

4.2. Dimensions of Parking Spaces

The design of the car parking spaces should be in compliance with AS 2890.1 & 6.

FEATURE	AS 2890.1 & 6	Architectural Plan	Compliance
Residential parking	5.4m x 2.4m Additional 300mm when adjacent a wall	Min. 5.4m x 2.4m	The design is complied with AS2890.1 & council DCP
Accessible parking	5.4m x 2.4m adjacent a 5.4m x 2.4m shared zone	5.4m x 2.4m adjacent a 5.4m x 2.4m shared zone	The design is complied with AS2890.1 & council DCP
Aisle width	5.8m minimum	5.8m	The design is complied with AS2890.1 & council DCP
Blind aisle	1m extension beyond last space	Minimum 1.68m	The design is complied with AS2890.1 & council DCP

Table 4-2 Dimensions of parking spaces

As required in AS 2890.1:2004, a triangular area with 2.5m (face to driveway) by 2.0m (face to street) will be kept clear of obstructions to visibility (Refer to Figure 4-1).

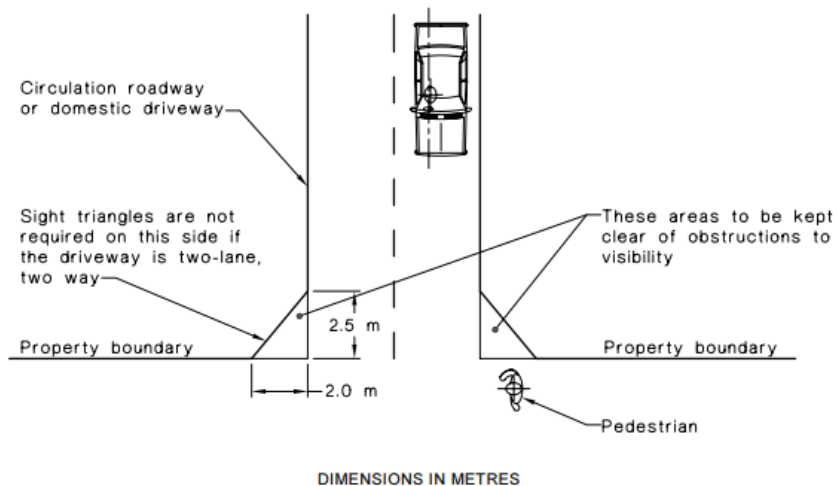


Figure 4-1 AS 2890.1:2004 requirement

In accordance with AS 2890.1:2004, sight triangle is hatched in red and shown in the following Figures 4-2 & 4-3.

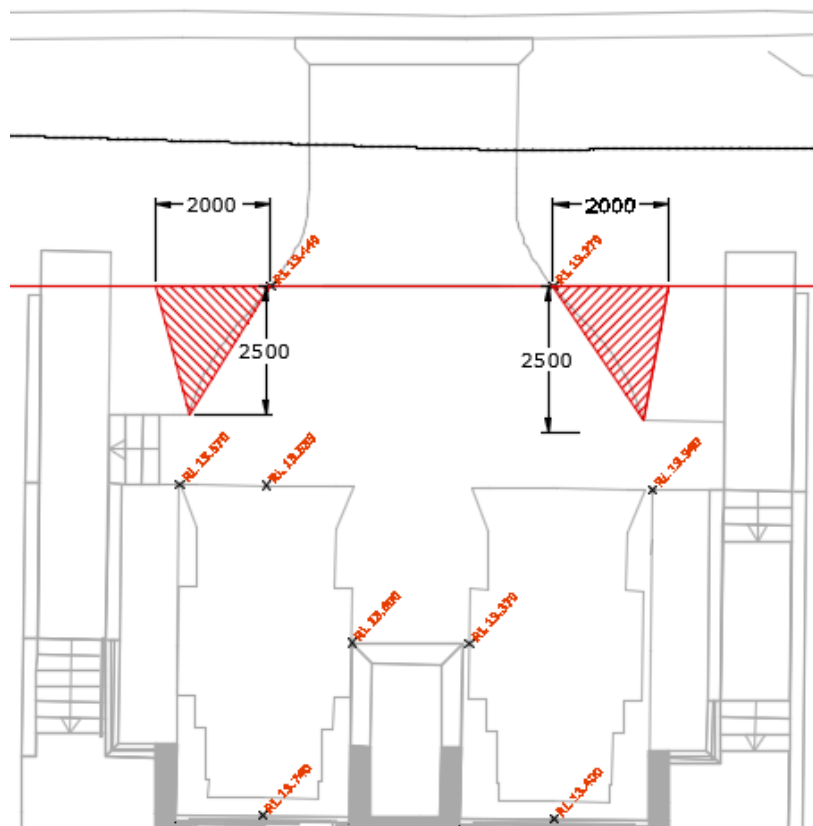


Figure 4-2 Sight triangle

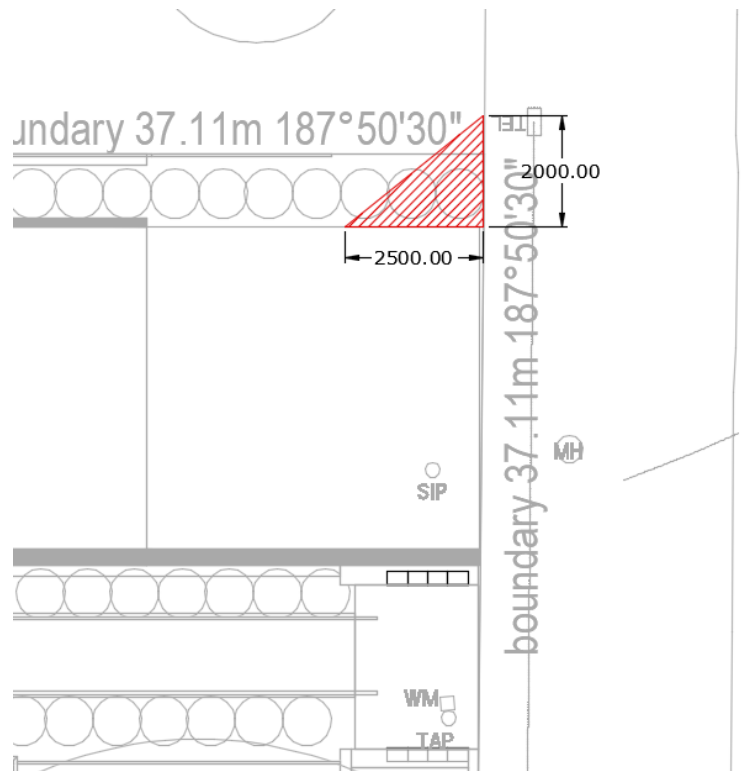


Figure 4-3 Sight triangle

Ensure any object within the sight triangle is max. 1.15m high or 50% transparent above 0.9m if higher than 1.15m.

The design complies with sight triangle requirement.

5. Traffic Generation

An indication of the traffic generation potential of the development proposal is provided in accordance with Roads and Maritime Services (RMS) publication 'Guide to Traffic Generating Developments 2002'. RMS guidelines are based on an extensive survey of a wide range of land uses.

The existing site is comprised of two single dwelling with the following rate expected:

Dwelling houses

Daily vehicle trips = 9.0 per dwelling

Weekday peak hour vehicle trips = 0.85 per dwelling

The subject site is proposed to be multi dwelling with the following rate expected:

Medium density

Smaller units (up to two bedrooms)

Daily vehicle trips = 4 - 5 per dwelling

Weekday peak hour vehicle trips = 0.4 - 0.5 per dwelling

Larger units and town houses (three or more bedrooms)

Daily vehicle trips = 5.0-6.5 per dwelling

Weekday peak hour vehicle trips = 0.5-0.65 per dwelling

The corresponding peak hour vehicle trips are given in Table 5-1 below.

Condition	Land use	Unit type	Rate	Unit	Weekday peak hour vehicle trips
Future	Medium density RFB	2-beds	0.5 per dwelling	16	8
		3-beds	0.65 per dwelling	2	1.3
Existing	Single dwelling		0.85 per dwelling	2	1.7

Table 5-1 Traffic generation for future and existing development

The future trips should be discounted by the existing trips, which is shown in Table 5-2 below.

Traffic Generation Potential	Weekday peak hour vehicle trips
Future	9.3
Existing	1.7
Net	7.6

Table 5-2 Project net Increase in peak hour traffic generation potential

According to the table above, there will be a net increase of 8 peak hour vehicle trips in traffic generation potential for the proposed development.

It is our opinion that this increase in traffic activity is manageable and will not have any unacceptable traffic implications in terms of road network capacity.

6. Additional Requirement

Convex mirrors should be considered at the junction of the parking aisle to ensure there is sufficient a sight distance for drivers.

Giveaway signs & line-marking should be consider at the junction of the one-way ramp to ensure safe vehicular circulation.

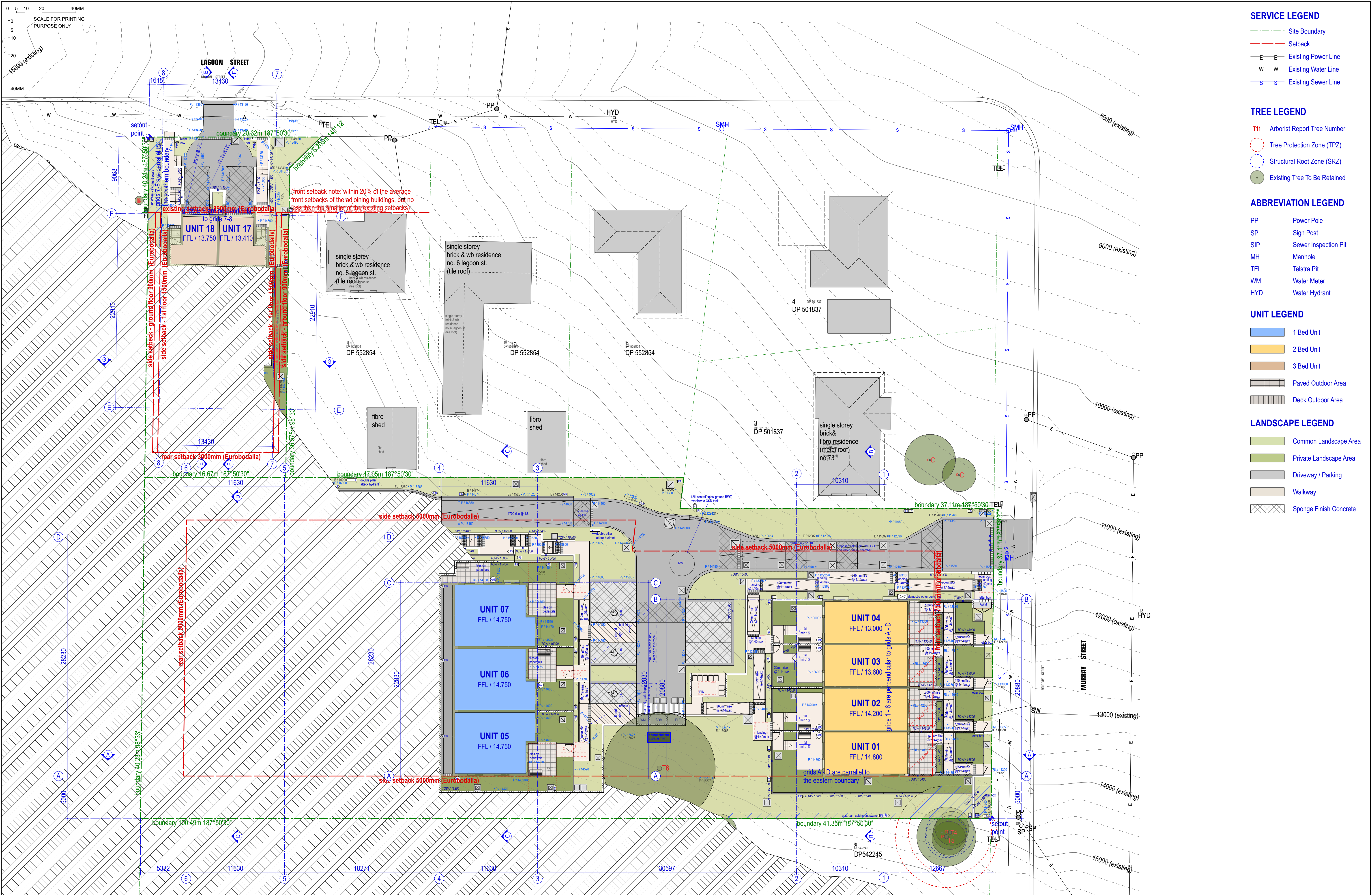
7. Swept Path Analysis

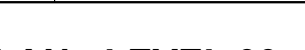
To ensure all vehicles enter and exit the site in a forward direction, swept path analysis has been conducted in the Appendix B.

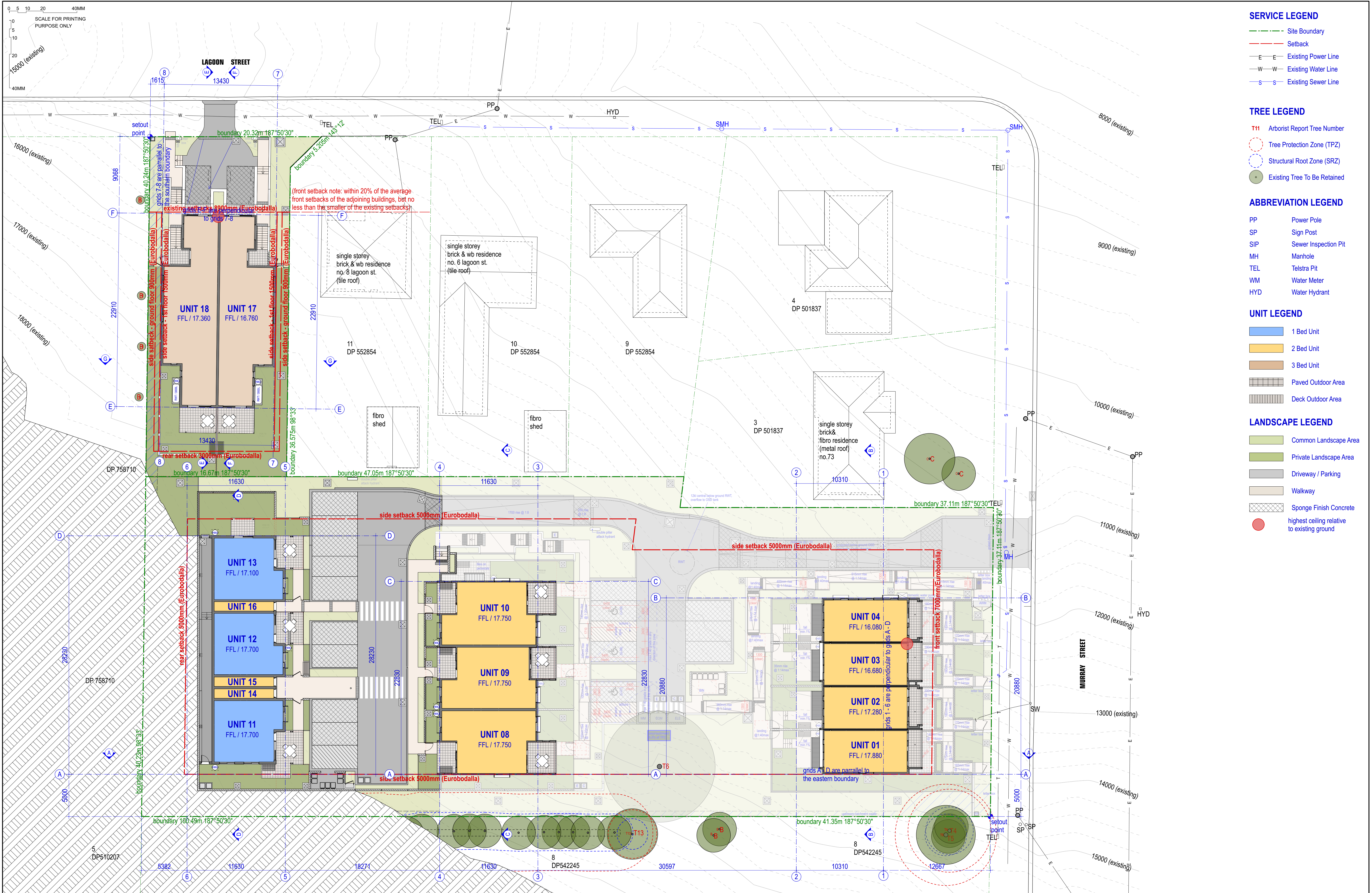
It is our opinion that the proposed car parking and driveway comply with Australia Standard.

APPENDIX A

Architectural Plan



	NOMINATED ARCHITECT:		PROJECT ARCHITECT		STRUCTURAL / CIVIL CONSULTANT		HYDRAULIC CONSULTANT			TITLE: SITE PLAN - LEVEL 00	STATUS:			
	ANTHONY NOLAN - 6773		KENNEDY ASSOCIATES ARCHITECTS		HATCH		ERBAS				DA	DA		
			PH (02) 9557 6466 FAX (02) 9557 6477		PH (02) 8202 8000		PH (02) 9437 1022				LGHC REF: BGXDL	SCALE: 1:200@A1		
			PROJECT MANAGER		LANDSCAPE CONSULTANT		ELECTRICAL CONSULTANT				STAGE: DA	DRAWN: PL		
			LAND & HOUSING CORPORATION		Concept Landscape Architects		ERBAS				CHECKED: AN	APPROVED: AN		
REV		DATE	NOTATION/AMENDMENT		PH (02) 8753 8100 FAX (02) 8753 8011		PH (02) 9437 1022		PROJECT No: 2053		SHEET: AR	DA104		
		16/2/24	Amended Part 5 Submission		PH (02) 9557 6466 FAX (02) 9557 6477		PH (02) 9437 1022		APPROVED: AN		REV: B			
			DO NOT SCALE DRAWINGS. CHECK ALL DIMENSIONS ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE.		PH (02) 8753 8100 FAX (02) 8753 8011		PH (02) 9437 1022		FILE: 2053 - 01 DA PLANS MASTER.vwx					



SERVICE LEGEND

- Site Boundary
- Setback
- Existing Power Line
- Existing Water Line
- Existing Sewer Line

TREE LEGEND

- Arborist Report Tree Number
- Tree Protection Zone (TPZ)
- Structural Root Zone (SRZ)
- Existing Tree To Be Retained

ABBREVIATION LEGEND

- PP Power Pole
- SP Sign Post
- SIP Sewer Inspection Pit
- MH Manhole
- TEL Telstra Pit
- WM Water Meter
- HYD Water Hydrant

UNIT LEGEND

- 1 Bed Unit
- 2 Bed Unit
- 3 Bed Unit
- Paved Outdoor Area
- Deck Outdoor Area

LANDSCAPE LEGEND

- Common Landscape Area
- Private Landscape Area
- Driveway / Parking
- Walkway
- Sponge Finish Concrete
- highest ceiling relative to existing ground



NOMINATED ARCHITECT:
ANTHONY NOLAN - 6773

REV	DATE	NOTATION/AMENDMENT
B	16/2/24	Amended Part 5 Submission

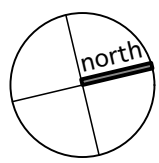
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FIGURED DIMENSIONS TAKE PRECEDENCE.

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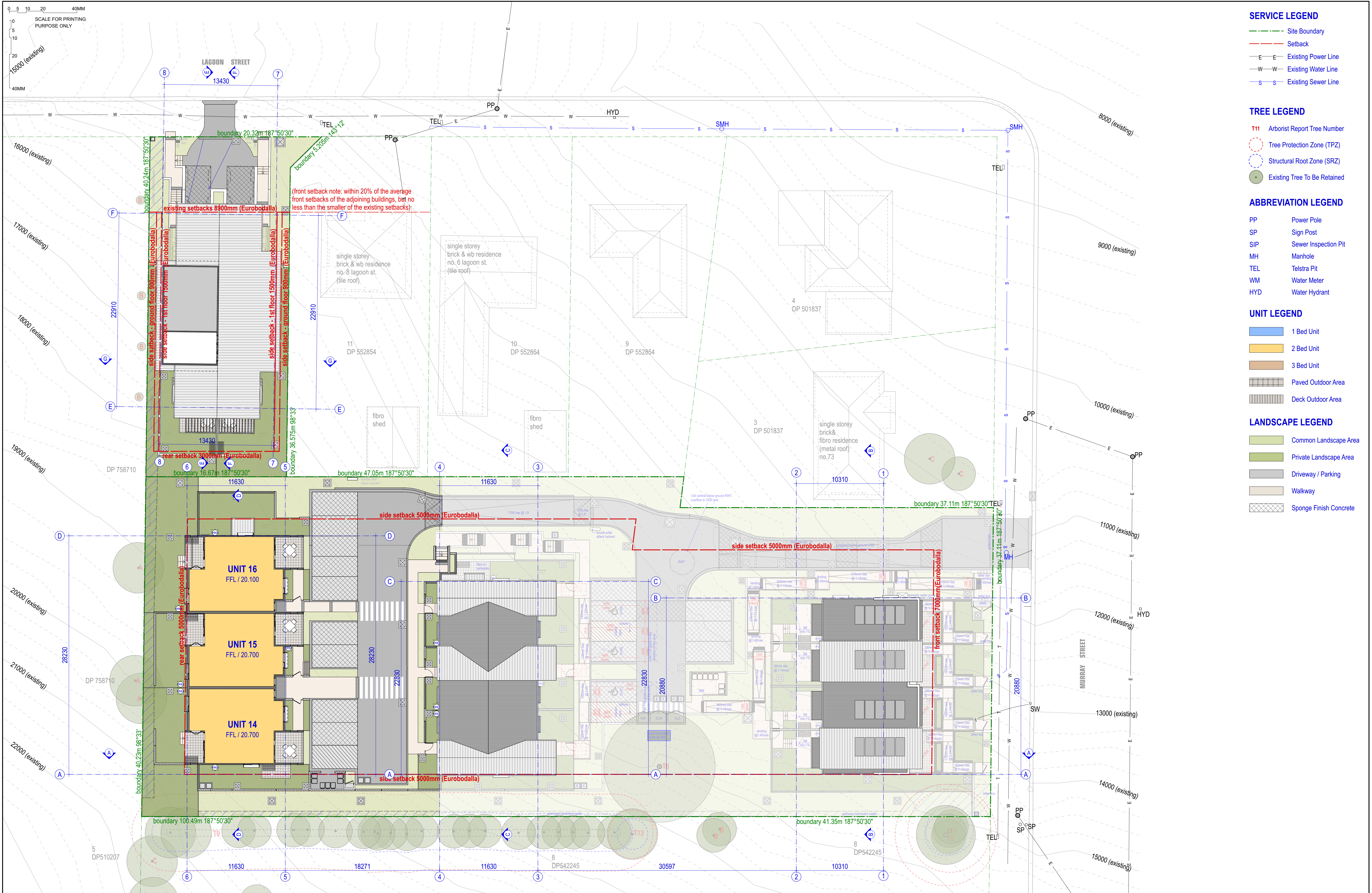
HYDRAULIC CONSULTANT
ERBAS
PH (02) 9437 1022
ELECTRICAL CONSULTANT
ERBAS
PH (02) 9437 1022

PROJECT:
MULTI-DWELLING HOUSING
at
10 Lagoon Street & 75-77 Murray Street, MORUYA
Total Site Area: 4582.6m² (by title.)
Lot 12 in DP 552854, Lot 1 & Lot 2 in DP501837



TITLE:
SITE PLAN - LEVEL 01
FILE:
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TYPE:	SHEET:	REV:	
AR	DA105	B	



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ANTHONY NOLAN - 6773

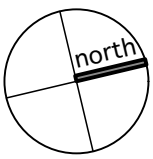
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ELECTRICAL CONSULTANT
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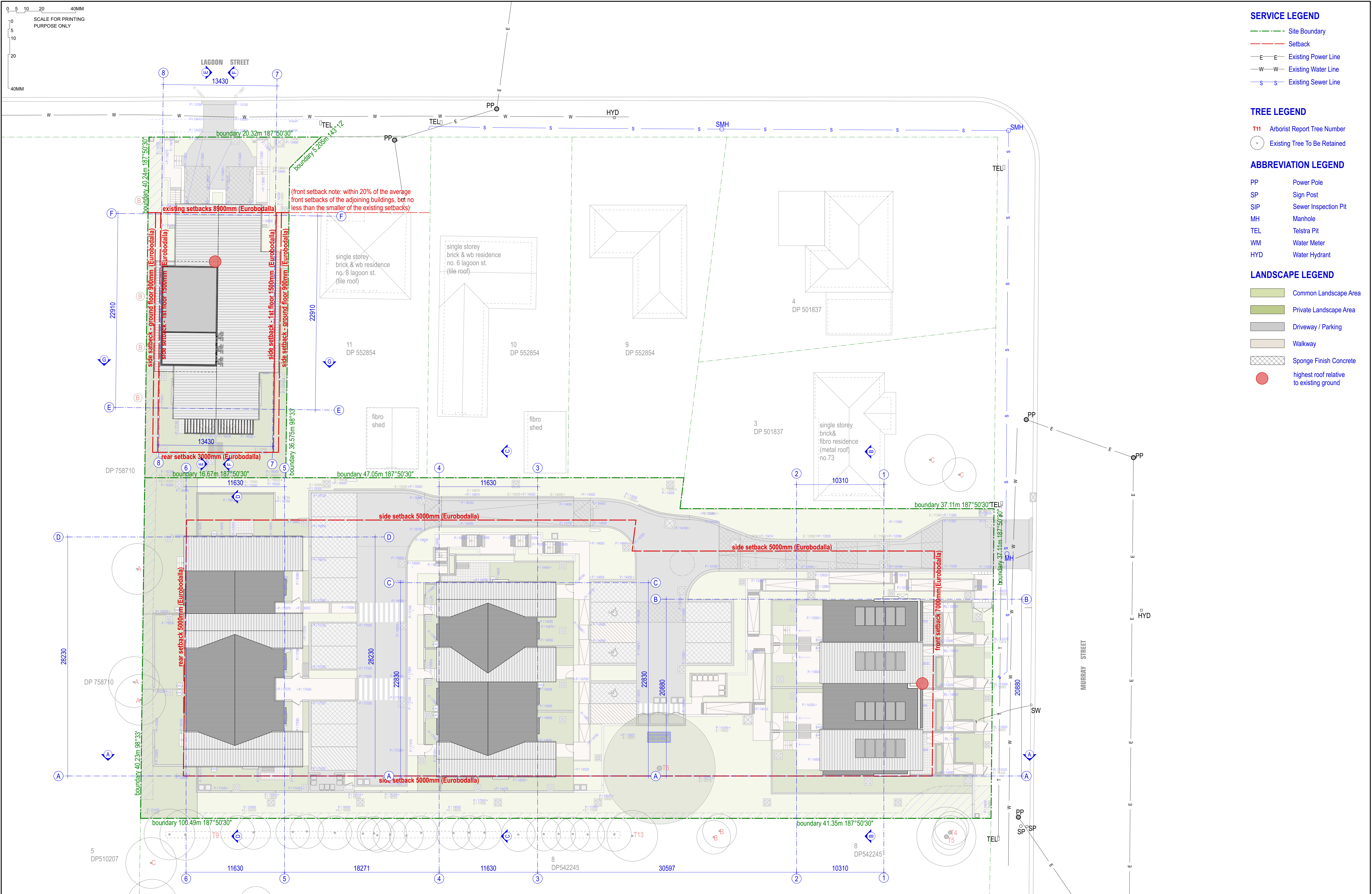
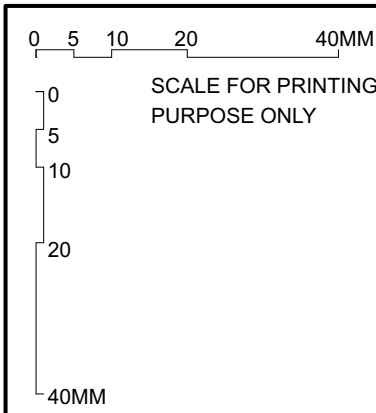
PROJECT:
MULTI-DWELLING HOUSING
at
10 Lagoon Street & 75-77 Murray Street, MORUYA
Total Site Area: 4582.6m² (by title.)
Lot 12 in DP 552854, Lot 1 & Lot 2 in DP501837



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SITE PLAN - LEVEL 02

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STAGE: DA	TYPE: AR	SHEET: DA106	REV: B



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- Driveway / Parking
- Walkway
- Sponge Finish Concrete
- highest roof relative to existing ground



NOMINATED ARCHITECT:
ANTHONY NOLAN - 6773

REV	DATE	NOTATION/AMENDMENT
B	16/2/24	Amended Part 5 Submission
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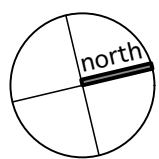
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Concept Landscape Architects
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HYDRAULIC CONSULTANT
ERBAS
PH (02) 9437 1022

ELECTRICAL CONSULTANT
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PROJECT:
MULTI-DWELLING HOUSING
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Total Site Area: 4582.6m² (by title.)
Lot 12 in DP 552854, Lot 1 & Lot 2 in DP 501837



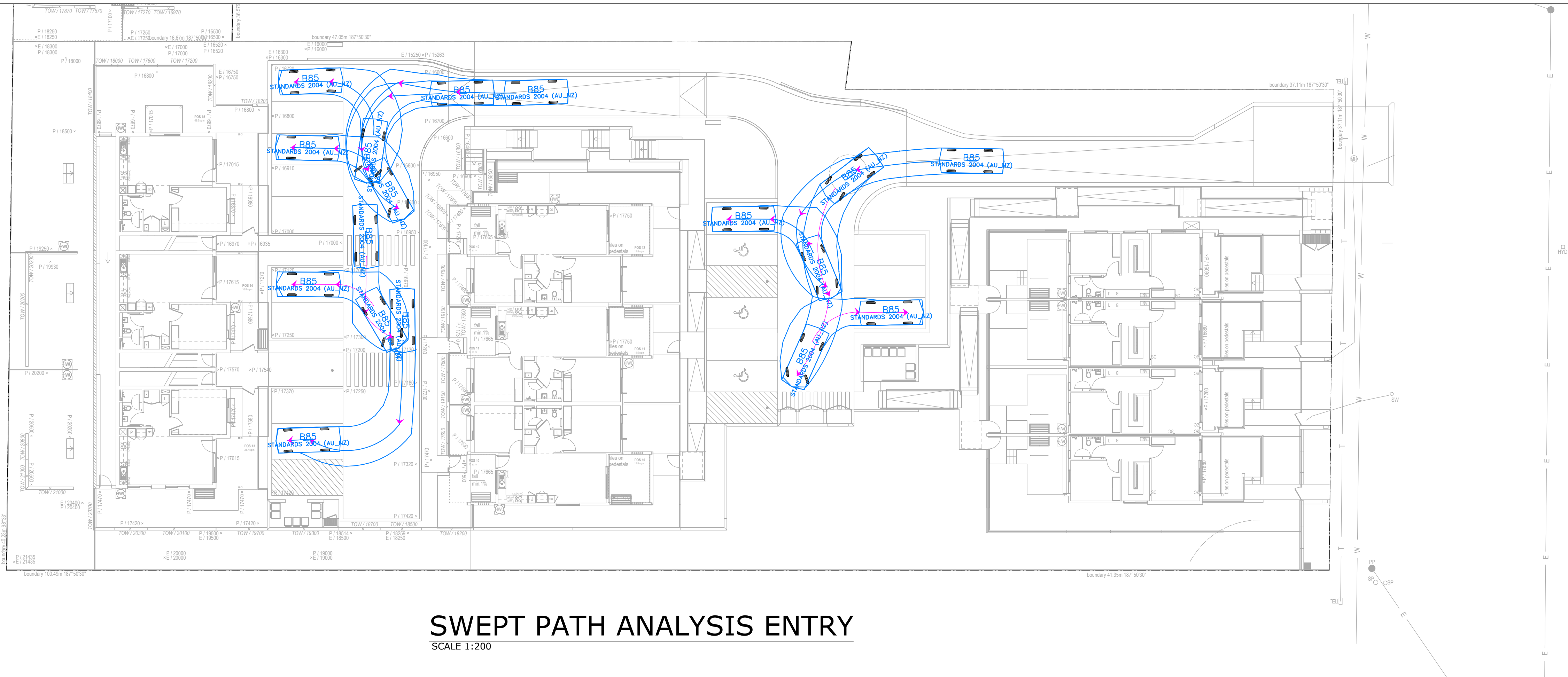
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SITE PLAN - ROOF LEVEL

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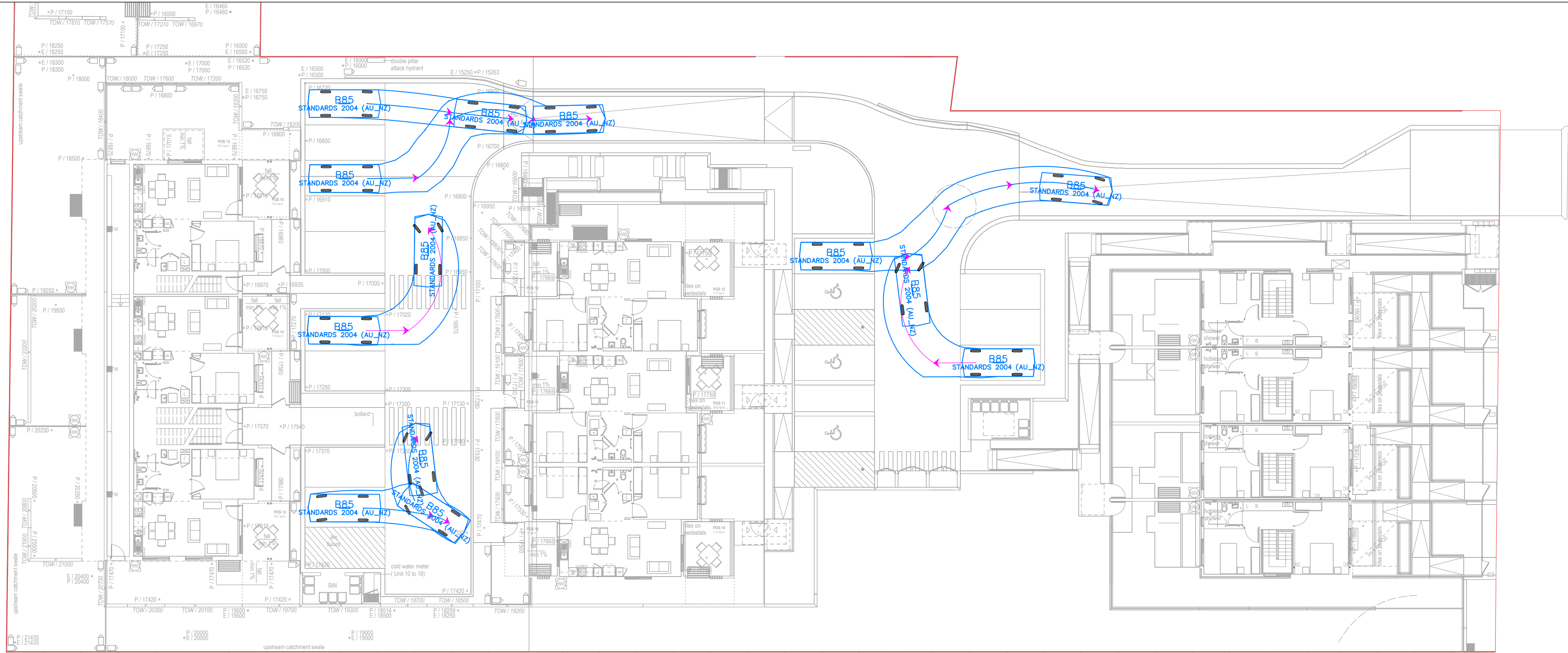
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TYPE	SHEET	REV.	
AR	DA107	B	

APPENDIX B

Swept Path Analysis



SWEPT PATH ANALYSIS ENTRY
SCALE 1:200



SWEPT PATH ANALYSIS EXIT
SCALE 1:200

NOT FOR CONSTRUCTION

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A	FOR D.A. APPROVAL	N.L.	A.E.	13-09-21								
No	AMENDMENT	ENG	DRAFT	DATE	No	AMENDMENT	ENG	DRAFT	DATE			

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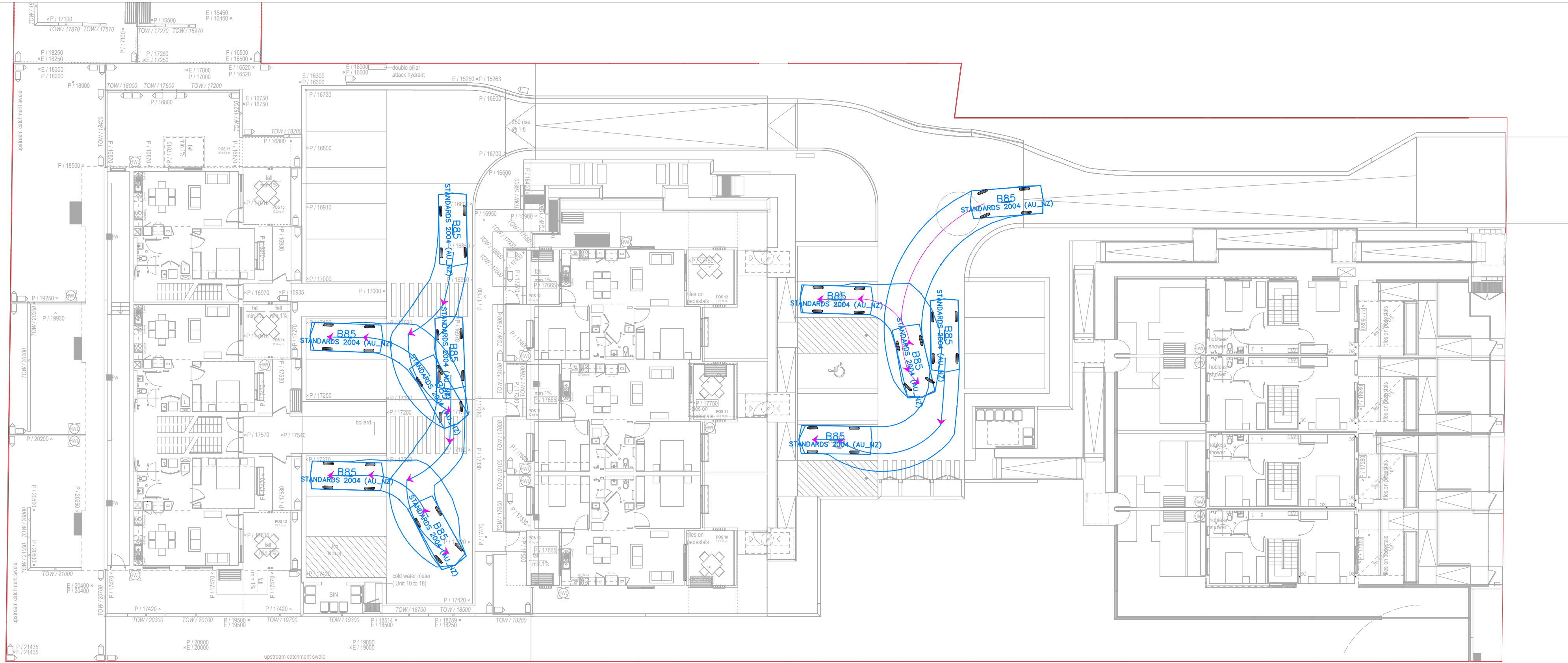
KENNEDY ASSOCIATES ARCHITECTS
level 3 / 1 booth street annandale 2038
nominated architect - anthony nolan - registration no. 6773
p + 61 2 9557 6466 f + 61 2 9557 6477

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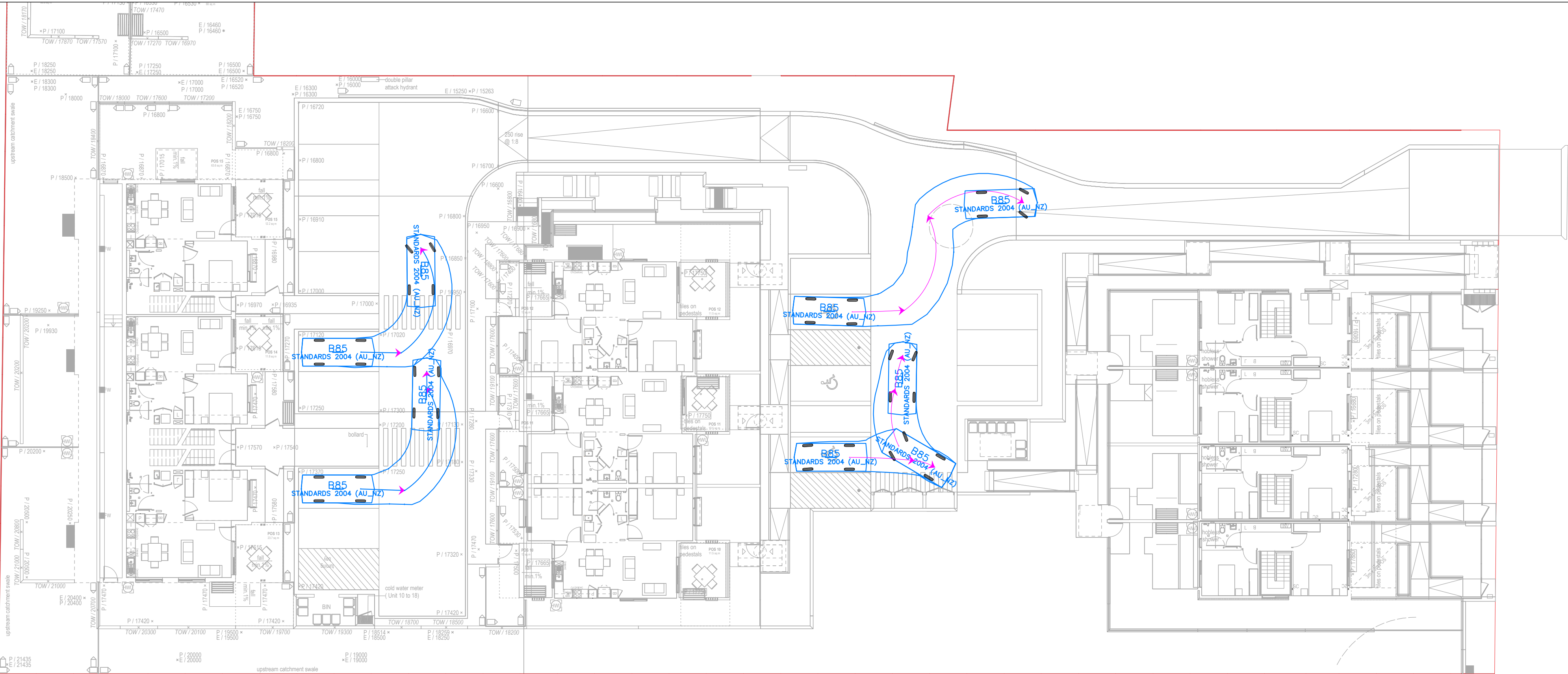
PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
AT 10 LAGOON ST. & 75-77 MURRAY ST.,
MORUYA, NSW
CONSENT AUTHORITY:
EUROBODALLA SHIRE COUNCIL

SHEET SUBJECT
SWEPT PATH ANALYSIS ENTRY &
EXIT

PROJECT 10 LAGOON ST. & 75-77 MURRAY ST., MORUYA, NSW			
DATE APR 21	DRAWN B.V.	DESIGNED B.V.	CHECKED N.L.
SCALE @ A1 1 : 100 U.N.O		JOB No 20NL205	
AUTHORISED NERMEIN LOKA	DWG No T01	REV D	



SWEPT PATH ANALYSIS ENTRY
SCALE 1:200



SWEPT PATH ANALYSIS EXIT
SCALE 1:200

NOT FOR CONSTRUCTION

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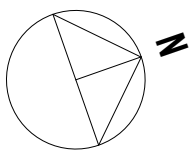
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level 3 / 1 booth street annandale 2038
nominated architect - anthony nolan - registration no. 6773
p + 61 2 9557 6466 f + 61 2 9557 6477

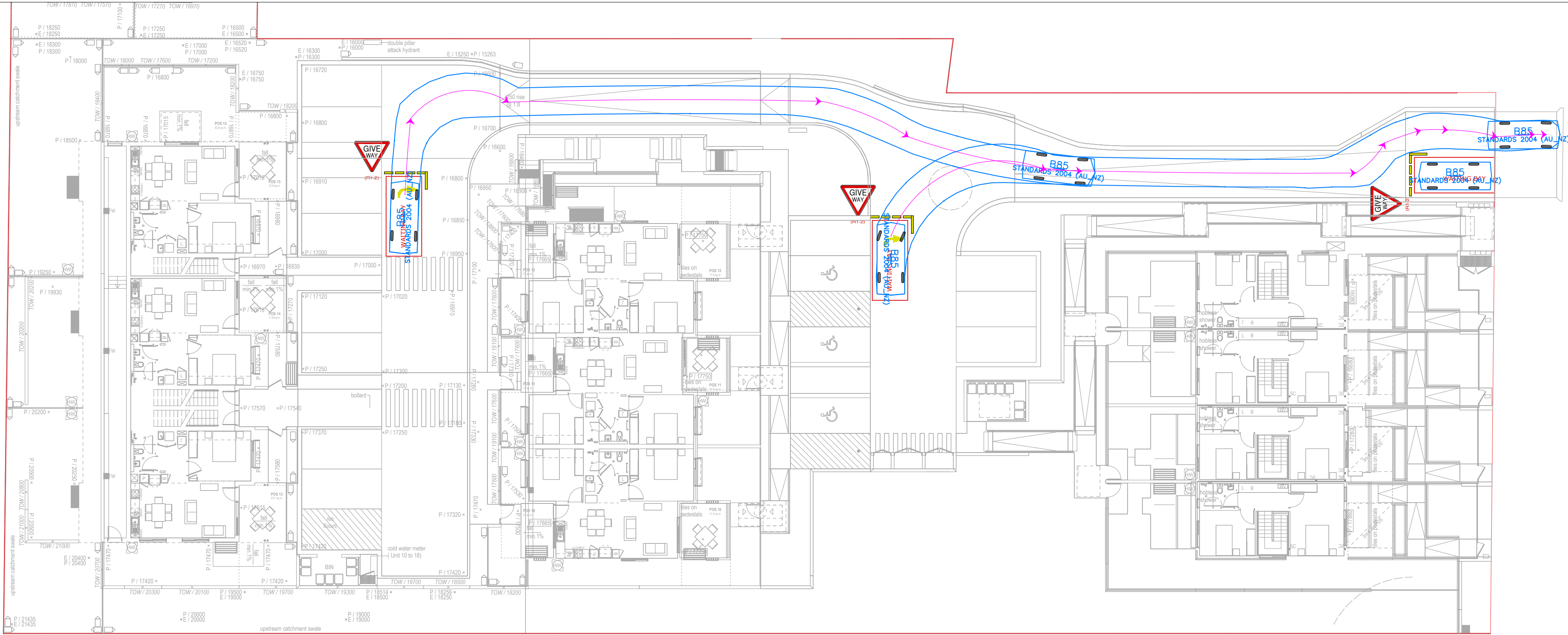
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PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT
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MORUYA, NSW
CONSENT AUTHORITY:
EUROBODALLA SHIRE COUNCIL

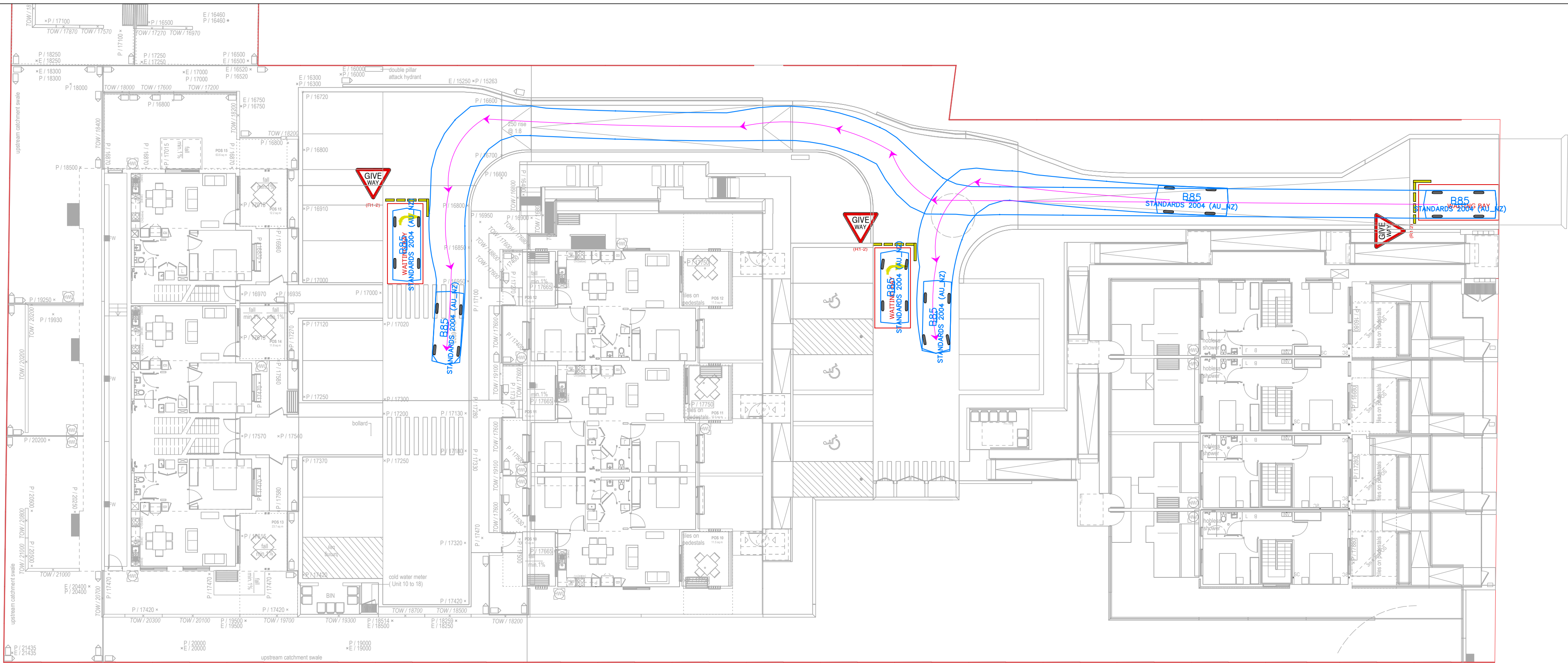


SHEET SUBJECT
SWEPT PATH ANALYSIS ENTRY &
EXIT

PROJECT 10 LAGOON ST. & 75-77 MURRAY ST., MORUYA, NSW			
DATE APR 21	DRAWN B.V.	DESIGNED B.V.	CHECKED N.L.
SCALE @ A1 1 : 100 U.N.O	JOB No 20NL205	DWG No T02	REV D



SWEPT PATH ANALYSIS ENTRY
SCALE 1:200



SWEPT PATH ANALYSIS EXIT
SCALE 1:200

NOT FOR CONSTRUCTION

A1 1 2 3 4 5 6 7 8 9 10

No	AMENDMENT	ENG	DRAFT	DATE	No	AMENDMENT	ENG	DRAFT	DATE
D	FOR D.A. APPROVAL	N.L.	B.V.	25-02-24					
C	FOR D.A. APPROVAL	N.L.	A.E.	01-02-22					
B	FOR D.A. APPROVAL	N.L.	A.E.	10-11-21					
A	FOR D.A. APPROVAL	N.L.	A.E.	13-09-21					

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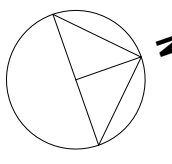
ARCHITECT

KENNEDY ASSOCIATES ARCHITECTS
level 3 / 1 booth street annandale 2038
nominated architect - anthony nolan - registration no. 6773
p+ 61 2 9557 6466 f+ 61 2 9557 6477

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CONSULTING
ENGINEERS Pty Ltd
14A/8 AVENUE OF AMERICAS, NEWINGTON, NSW
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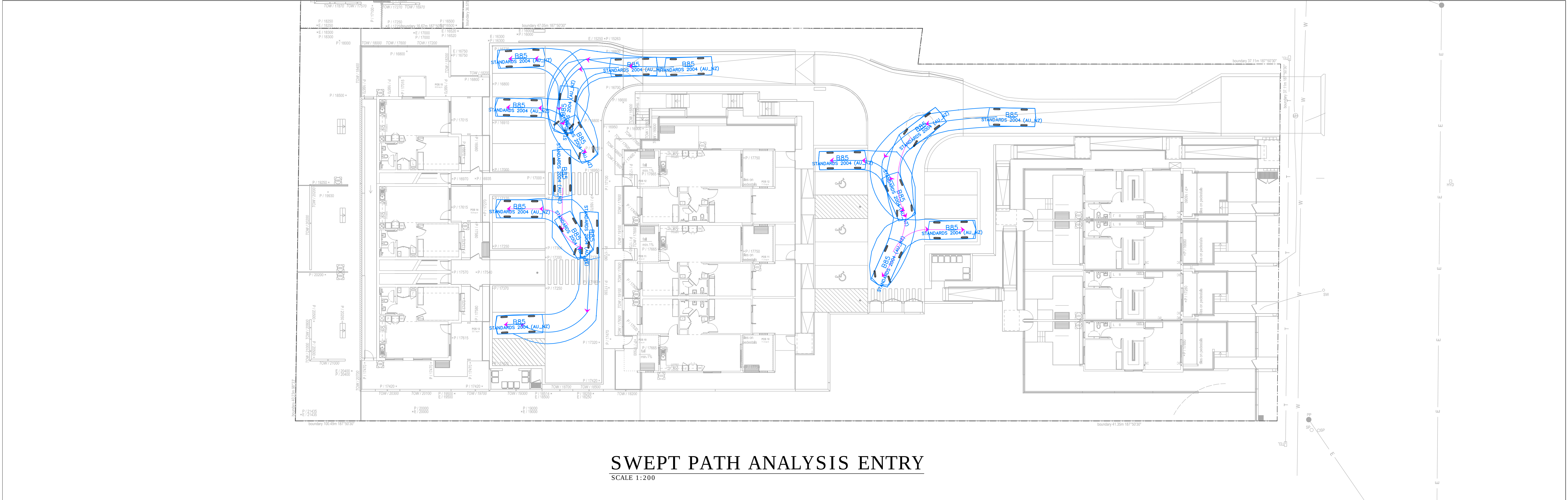
PROJECT
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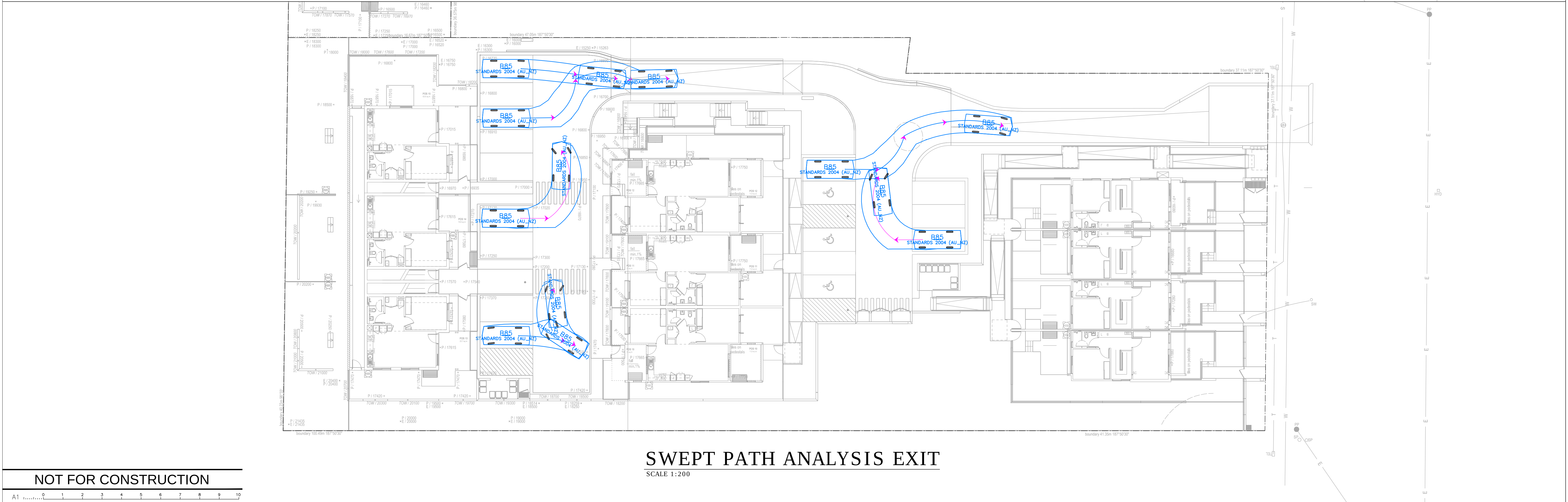


SHEET SUBJECT
SWEPT PATH ANALYSIS ENTRY &
EXIT

DATE	DRAWN	DESIGNED	CHECKED
APR 21	B.V.	B.V.	N.L.
SCALE @ A1	1 : 100 U.N.O	JOB No	20NL205
AUTHORISED	DWG No	REV	
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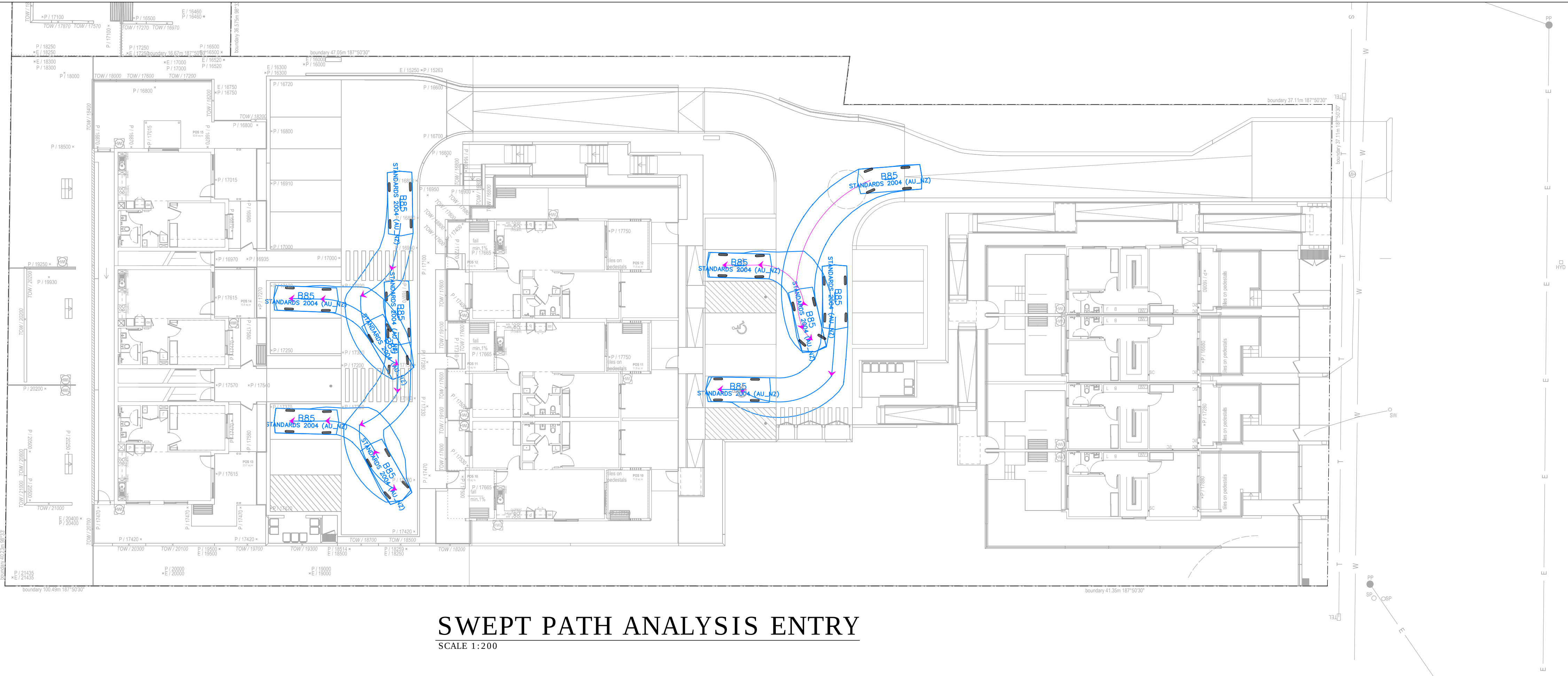
SWEPT PATH ANALYSIS ENTRY
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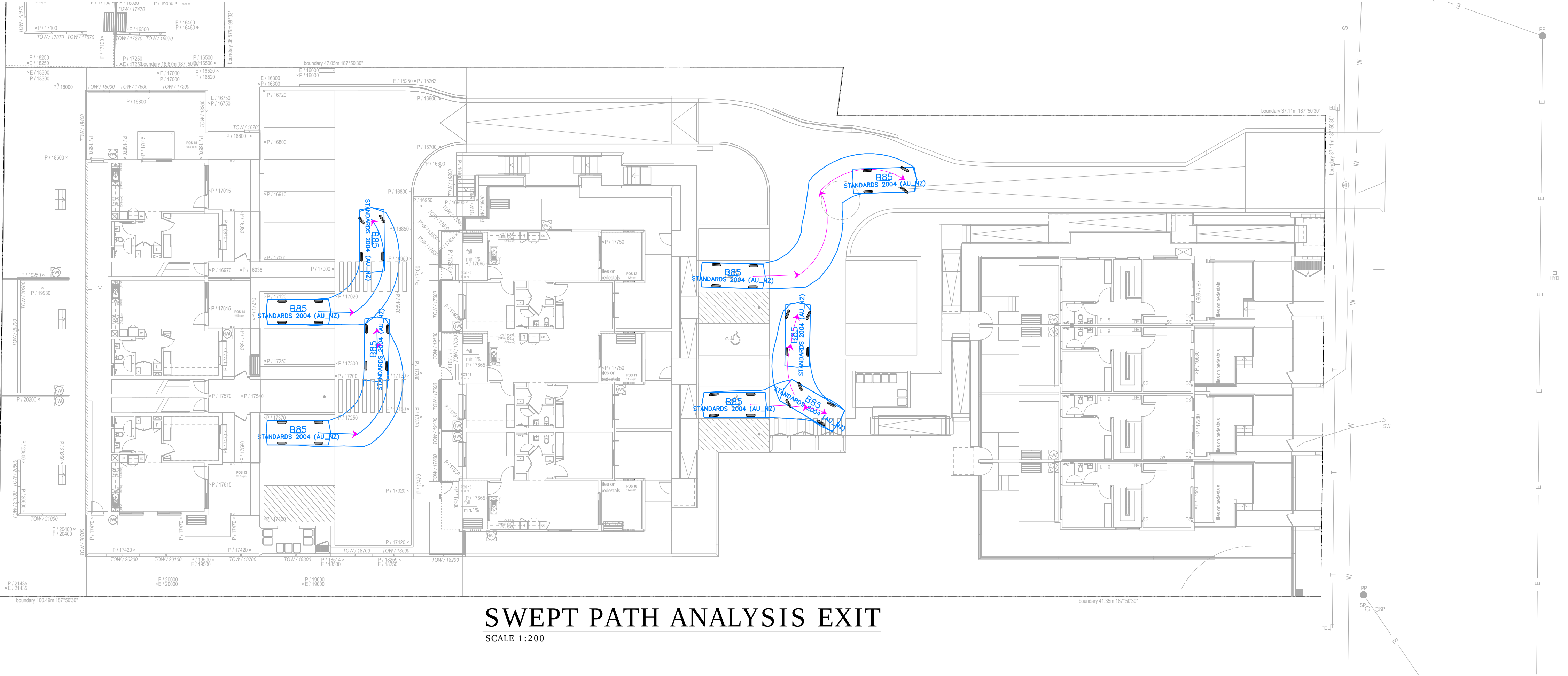
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NOT FOR CONSTRUCTION

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SWEPT PATH ANALYSIS ENTRY
SCALE 1:200



SWEPT PATH ANALYSIS EXIT
SCALE 1:200

NOT FOR CONSTRUCTION

	A1	0	1	2	3	4	5	6	7	8	9	10
D	FOR D.A. APPROVAL	N.L.	B.V.	20-12-23								
C	FOR D.A. APPROVAL	N.L.	A.E.	01-02-22								
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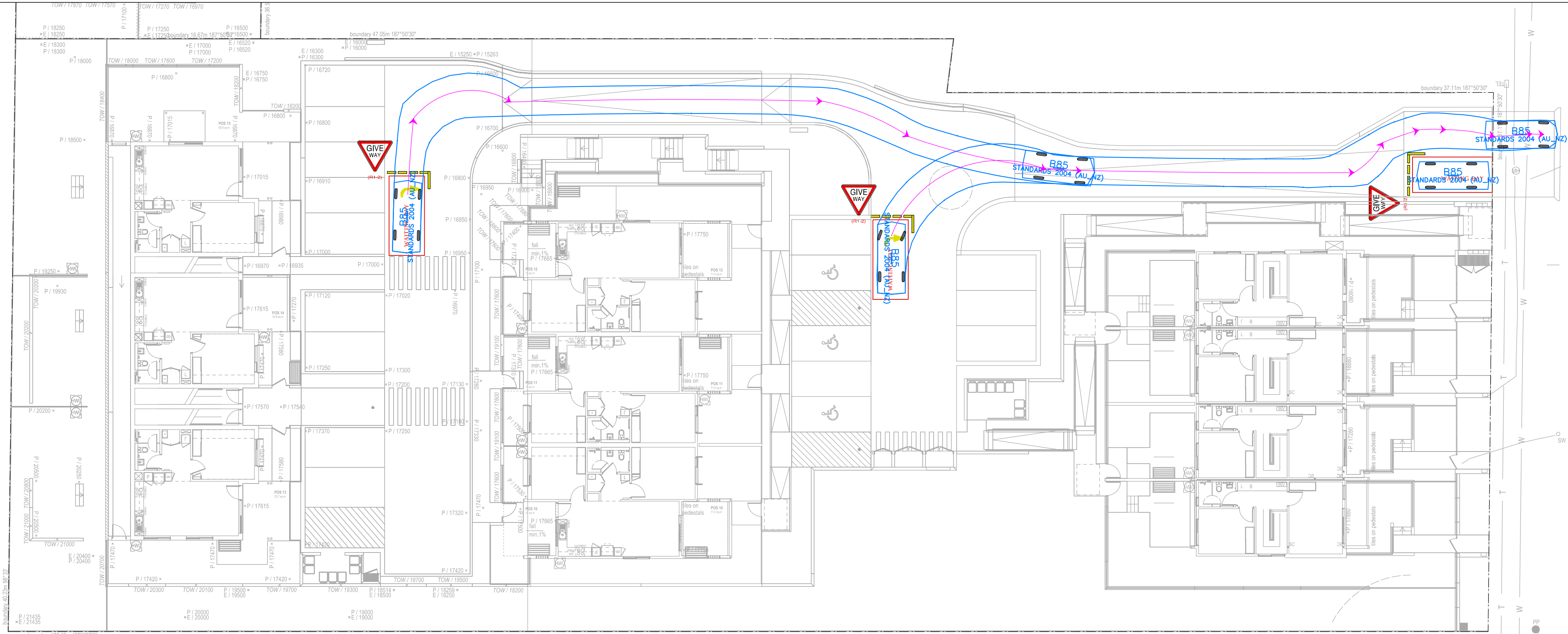
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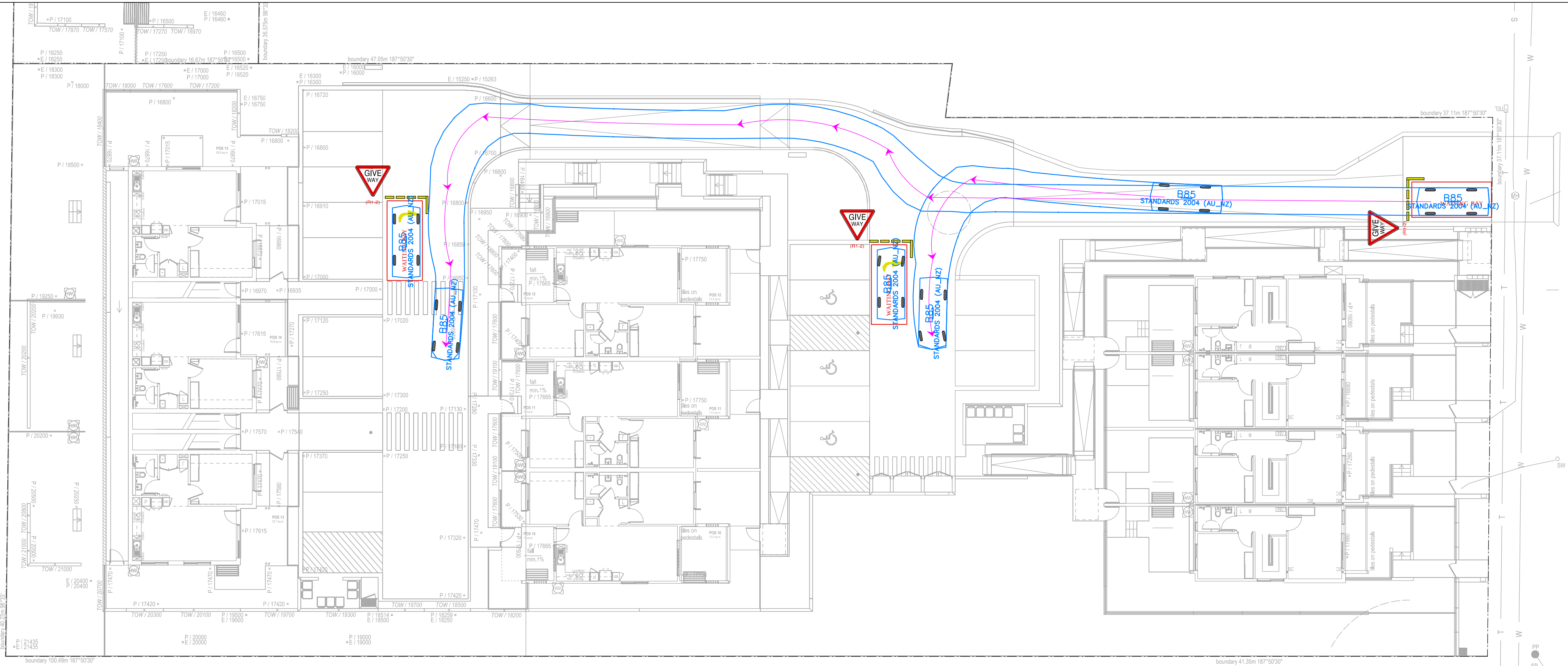
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ARCHITECT

KENNEDY ASSOCIATES ARCHITECTS
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nominated architect - anthony nolan
p + 61 2 9557 6456 f + 61 2 9557 6477

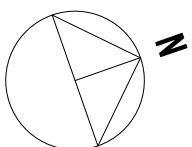


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