MANAGING DIRECTORS MATTHEW PALAVIDIS VICTOR FATTORETTO

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# 181 Maroubra Road, Maroubra

**Noise Impact Assessment** 

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# **1** INTRODUCTION

Acoustic Logic Consultancy has been engaged to undertake acoustic analysis for 181 Maroubra Road, Maroubra project.

Key considerations with respect to this project are:

- External noise impacts on the site (primarily traffic noise from Maroubra Road).
- Noise emissions from the site, and the potential for adverse impact on nearby development.

This assessment has been conducted using the Bureau architectural drawings provided to this office from Sgammotta Architects and dated, 20<sup>th</sup> October, 2017.

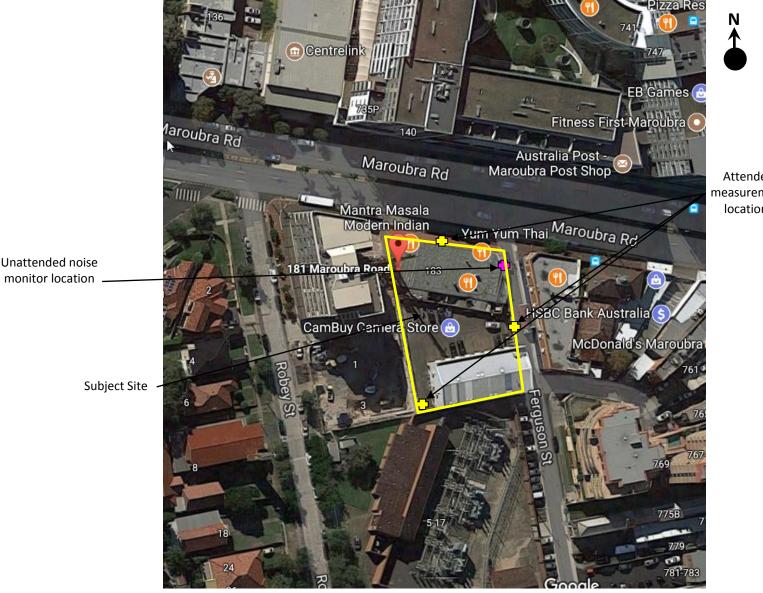
### 2 SITE DESCRIPTION

The subject site is located at 181 Maroubra Road, Maroubra and includes a residential development.

The site is bounded by Maroubra Road to the north, which is the most significant noise source impacting the site.

The nearest sensitive receivers are residential receivers bounding the site to the, east and west and directly opposite the site as detailed in the figure below.

Figure 1 below illustrates the location of the subject site and the noise monitoring equipment.



Attended measurement locations

# **3 NOISE DESCRIPTORS**

Traffic noise constantly varies in level, due to fluctuations in traffic speed, vehicle types, road conditions and traffic densities. Accordingly, it is not possible to accurately determine prevailing traffic noise conditions by measuring a single, instantaneous noise level. To accurately determine the effects of traffic noise a 15-20 minute measurement interval is utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters. These parameters are used to measure how much annoyance would be caused by a particular noise source.

In the case of environmental noise three principle measurement parameters are used, namely  $L_{10},$   $L_{90}$  and  $L_{eq}.$ 

The  $L_{10}$  and  $L_{90}$  measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement interval.

The  $L_{10}$  parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the  $L_{90}$  level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The  $L_{90}$  parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the  $L_{90}$  level.

The  $L_{eq}$  parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period.  $L_{eq}$  is important in the assessment of traffic noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of traffic noise.

Current practice favours the  $L_{eq}$  parameter as a means of measuring traffic noise, whereas the  $L_{10}$  parameter has been used in the past and is still incorporated in some codes. For the reasons outlined above, the  $L_{90}$  parameter is not used to assess traffic noise intrusion.

# 4 NOISE IMPACT ASSESSMENT

The primary noise source impacting the site is Maroubra Road to the north, which carries medium to heavy traffic flows. Noise impacts should comply with the requirements of Randwick City Council and Australian Standard 2107 (*Recommended Noise Levels and Reverberation times for Building Interiors*).

# 4.1 NOISE LOGGING

Long term unattended noise monitoring was conducted on site between the 2<sup>nd</sup> and 8<sup>th</sup> of November 2017 using a Acoustic Research Laboratories noise loggers set on A-weighted fast response mode with calibration checked at the beginning and end of the measurement period.

The results of noise logging are included in Appendix 1.

# 4.2 NOISE MEASUREMENTS

Measurement of external noise was conducted using short-term hand held measurements on the morning of 2<sup>nd</sup> November 2017 during a peak-morning period of 8.30am to 9am. Measurements were made using a Svantek 958 Type 1 Sound Analyser set on A-weighted fast response mode.

Location	Measured Noise Level dB(A)L <sub>eq,15 min</sub>
Maroubra Road façade	70
Ferguson Street Façade	66
South Façade (including substation)	59

## Table 1 - Measured Noise Levels

# 4.3 ACOUSTIC OBJECTIVES

As Randwick City Council does not set out specific traffic noise requirements, the assessment has been conducted to the requirements of Australian Standard 2107 '*Recommended Noise Levels and Reverberation times for Building Interiors*', as presented in the table below.

## Table 2 - Australian Standard 2107 Internal Noise Level Criteria

Room Internal Noise Level	
Bedroom	40 dB(A) worst 1 hour
Living	45 dB(A) worst 1 hour

# 4.4 **RECOMMENDATIONS**

Noise intrusion into the development was assessed using the measured external noise levels reported above as the basis. Recommendations have been determined taking into account the orientation of windows, barrier effects (where applicable), the total area of glazing, facade transmission loss and room sound absorption characteristics.

The recommended treatments set out below are indicative only, precise details of window thicknesses, wall and roof construction will be undertaken at CC stage to demonstrate the compliance with AS2107 will be achieved.

## 4.4.1 Glazing

The table below indicates the glazing types that will be required to achieve the recommended internal noise levels.

Level	Facade	Room Type	Glazing	Seals
	Maroubra Road	Bedrooms	12.38mm laminated	Yes
		Living Areas	10.38mm laminated	Yes
All	East and West Elevations	Bedrooms	10.38mm laminated	Yes
	Elevations	Living Areas	6.38mm laminated	Yes
	Southorn Flowation	Bedrooms	6.38mm laminated	Yes
Southern Elevation -		Living Areas	6.38mm laminated	Yes

# **Table 3 - Glazing Requirements**

The glazing thicknesses recommended are those needed to satisfy acoustic requirements and do not take into account other requirements such as thermal, structural, safety or other considerations. These additional considerations may require the glazing thickness to be increased beyond the acoustic requirement.

In addition to complying with the minimum scheduled glazing thickness, the STC rating of the glazing fitted into openable frames and fixed into the building opening should not be lower than the values listed in Table 6 for all rooms. Where nominated, this will require the use of acoustic seals around the full perimeter of openable frames and the frame will need to be sealed into the building opening using a flexible sealant. Note that mohair seals in windows and doors are not acceptable where acoustic seals are required.

Glazing Assembly	Acoustic Seals	Minimum STC of Installed Window
6.38mm laminated	Yes	31
10.38mm laminated	Yes	35
12.38mm laminated	Yes	36

# Table 4 - Minimum STC of Glazing

## 4.4.2 Walls

Noise intrusion through the external masonry walls will be negligible and will not contribute to internal noise levels.

## 4.4.3 Ceiling/Roof

Noise intrusion through the concrete slab roof construction will not be significant and is not required to be upgraded.

# 5 NOISE EMISSION ASSESSMENT

The only significant noise generated by the site is likely to be from mechanical services (toilet exhaust fans and other ventilation plant).

The nearest sensitive receivers are residential receivers bounding the site to the east and west and directly opposite the site on Green Street to the north.

Noise from these plant items should comply with the Environmental Protection Authority (EPA) Industrial Noise Policy and/or Council noise emission codes at nearby properties to ensure that these will be no adverse acoustic impact on these properties.

Design of mechanical services to achieve compliance with the above criteria guidelines is routine acoustic practice. This will involve:

- Monitoring of existing ambient noise levels to determine the allowable noise emission goals for the site.
- Identifying potentially noise effected properties.
- Detailed design of plant treatments (plant room construction, enclosures, in-duct acoustic treatments) to ensure operational noise will meet noise emission requirements.

Typically, a condition of consent will require detailed analysis of mechanical services (once selected) to be undertaken prior to the granting of a construction certificate. Compliance with the required noise levels will be achievable. On site monitoring of ambient noise and subsequent detailed design acoustic of mechanical services will be undertaken at CC stage, after final selection of plant items and locations.

# 5.1 INDUSTRIAL NOISE POLICY OBJECTIVES/GUIDELINES

The EPA Industrial Noise Policy provides guidelines for the assessment of noise impacts from industrial and commercial premises. The recommended assessment objectives vary depending on the nearest potentially affected residential receivers, the time of day and the type of noise source. The EPA Industrial Noise Policy has two requirements that must both be satisfied; that is, an intrusiveness criterion and an amenity criterion.

Criterion for neighbouring commercial/retail/recreation properties are based on set noise level criterion within the Industrial Noise Policy.

If a noise source achieves compliance with the INP guidelines it would generally be accepted the noise source would not cause "offensive noise" as defined in the Protection of the Environment Operations Act (refer below).

# 5.1.1 Intrusiveness Criterion

The guideline is intended to limit the audibility of noise emissions, and requires that noise emissions measured using the  $L_{eq}$  descriptor not exceed the existing background noise level by more than 5 dB(A) Where applicable, the intrusive noise level should be penalised (increased) to account for any annoying characteristics such as tonality.

# 5.1.2 Amenity Criterion

The guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment.

The EPA Industrial Noise Policy sets out acceptable noise levels for various localities. Table 2.1 titled *"Amenity Criteria"* on page 16 of the Policy designates four categories to distinguish different residential areas. They are rural, suburban, urban and urban/industrial interface. The EPA Industrial Noise Policy also includes recommended noise levels for other land uses such as commercial and industrial premises. The nearest potentially affected residential premises situated immediately to the south of the proposed development site which have been classified as being situated in an sub-urban noise amenity area as defined by the EPA NSW Industrial Noise Policy.

The following table presents the amenity criteria applicable to the nominated nearest potentially affected residential receivers. The receiver type utilised against the indicative noise amenity area is defined by the sub-urban criteria.

# 5.2 BACKGROUND NOISE MONITORING

The existing ambient environment on site was measured using the unattended noise monitor installed on site, as detailed in section above. The background noise level recorded by this monitor is representative of the ambient level at the existing multi-storey residential receivers to the rear of the site.

Measured background noise levels are presented below. Refer to Appendix 1 for noise monitoring data.

	Background noise level dB(A)L <sub>90</sub>			
Location	Daytime (7am – 6pm)	Evening (6pm – 10pm)	Night-time (10pm – 7am)	
Maroubra Road	53	49	40	

# Table 5 – Measured Background Noise Levels

# 5.3 PROJECT NOISE EMISSION CRITERIA

Based on the requirements of the INP, Table 6 below provides a summary of the assessment criteria applicable to the proposed development, at the neighbouring potentially affected residential properties.

Time of day	Measured Background Noise Level dB(A) L <sub>90(15minutes)</sub>	Amenity Criteria dB(A) L <sub>eq(period)</sub>	Intrusiveness Criteria Background + 5 dB(A) L <sub>eq(15minutes)</sub>
Day	53	55	58
Evening	49	45	54
Night	40	40	45

# Table 6 – Noise Objectives for Residential Receivers

Note: the noise levels in Bold text above are the projects required noise level criteria.

# 5.3.1 Protection of the Environment Operations Act Regulation

Protection of the Environmental Operations regulation limits the noise levels associated within the operation of domestic air conditioning criteria during night time periods which is presented below:

Protection of the Environmental Operations (Noise Control) Regulation 2000-Sect 52

# 52 Air Conditioners

(1) A person must not cause or permit an air conditioner to be used on residential premises in such a manner that it emits noise that can be herd within a habitable room in any other residential premises (regardless of weather any door or window to that room is open):

(a) before 8 am or after 10 pm on any Saturday, Sunday or public holiday, or

(b) before 7 am or after 10 pm on any other day.

# 5.4 **RECOMMENDATIONS**

# 5.4.1 External Mechanical Plant

Mechanical plant items are not typically selected at selected at DA stage.

Detailed review of all external mechanical plant should be undertaken at construction certificate stage (once plant selections and locations are finalised). Acoustic treatments should be determined in order to control plant noise emissions to the levels set out in section 5.2 of this report.

Particular attention should be paid to the following:

- Noise breakout from kitchen exhaust fan ducting contained in risers in the accommodation quarters above, which can be satisfactorily dealt with through in-duct treatments and riser wall construction (construction to be determined after fan selection).
- Noise from roller doors fixed to the slab below occupied tenancies which can be satisfactorily addressed through use of vibration isolation of door motors and rail system.

All plant can be satisfactorily attenuated to levels complying with noise emission criteria through appropriate location and (if necessary) standard acoustic treatments such as noise screens, enclosures, in-duct treatments (silencers/lined ducting) or similar.

# **6** CONCLUSION

Potential noise impacts associated with the proposed 181 Maroubra Road, Maroubra development have been assessed.

Noise impacts from nearby noise sources (primarily traffic noise) on occupants of the development have been assessed in accordance with Randwick City Council guidelines. The acoustic treatments necessary to achieve these guidelines have been set out in section 4.

Noise emissions objectives for the site have been determined based on noise emission guidelines typically adopted by Council, and have been presented in section 5.

We trust this information is satisfactory. Please contact us should you have any further queries.

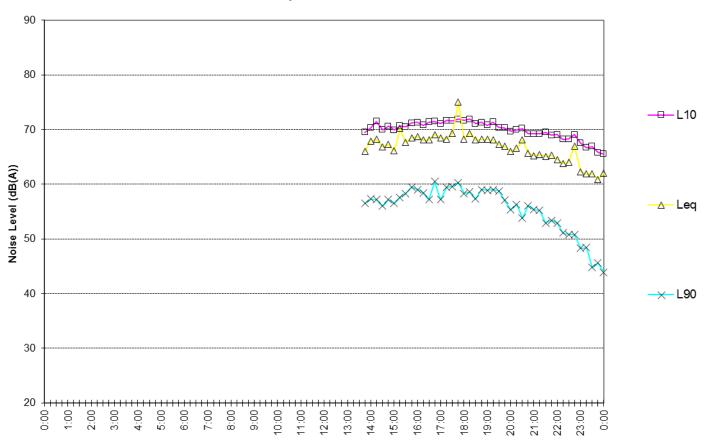
Yours faithfully,

B.G. White.

Acoustic Logic Consultancy Pty Ltd Ben White

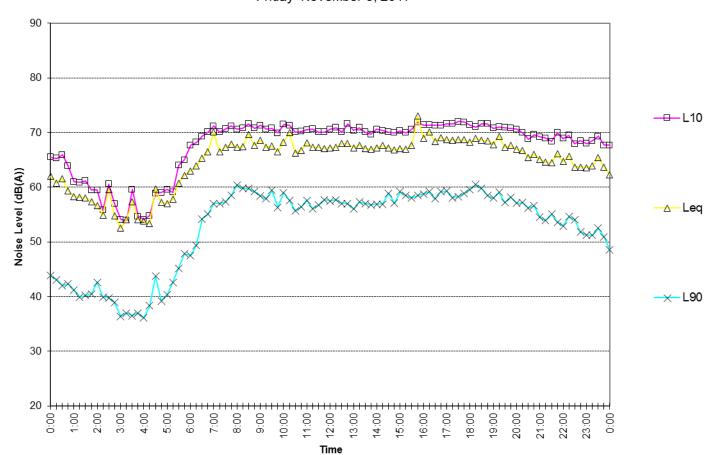
Appendix 1

Noise Logging Data

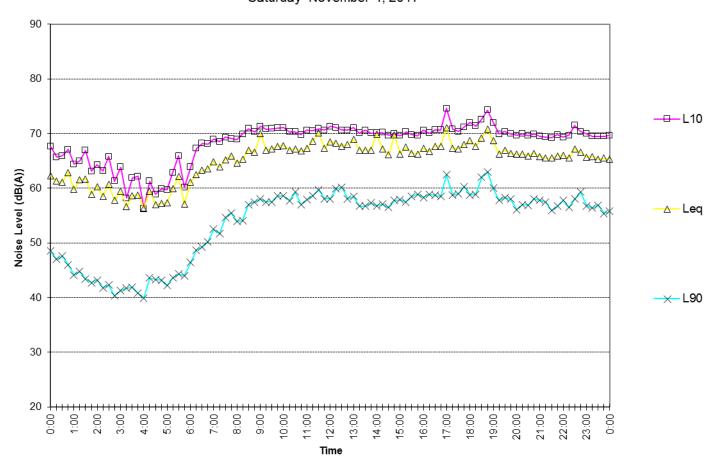


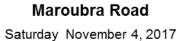
Maroubra Road

Thursday November 2, 2017

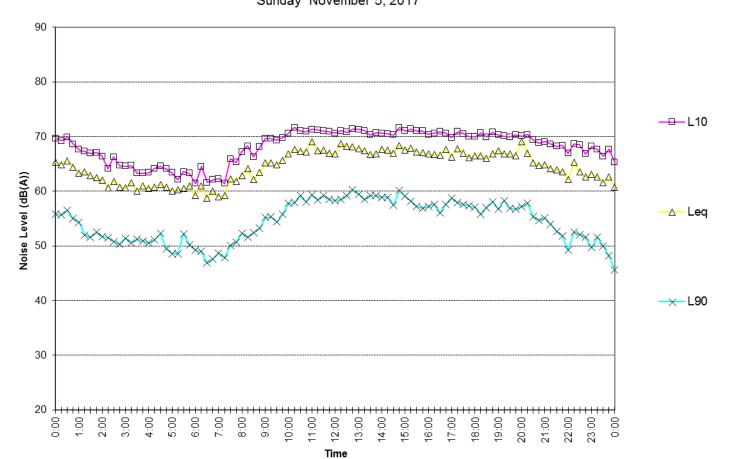


Maroubra Road Friday November 3, 2017



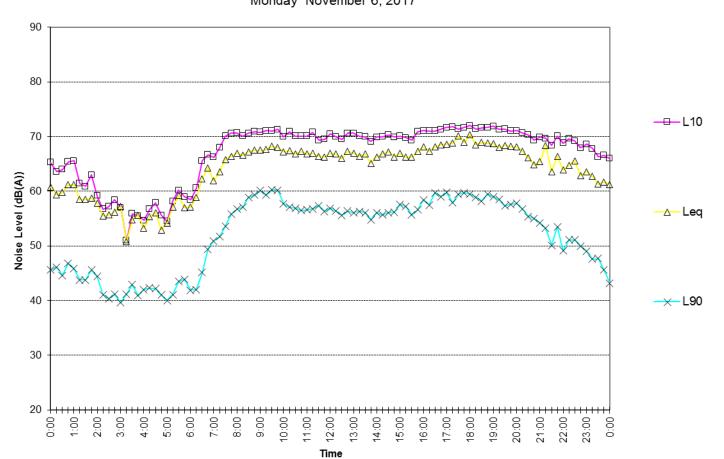


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# Maroubra Road Sunday November 5, 2017

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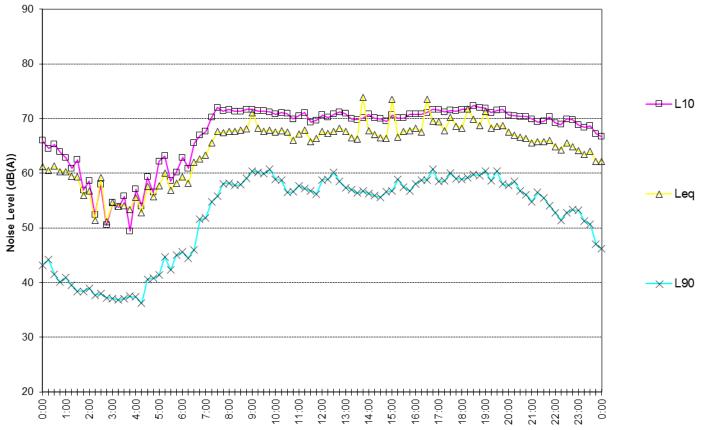


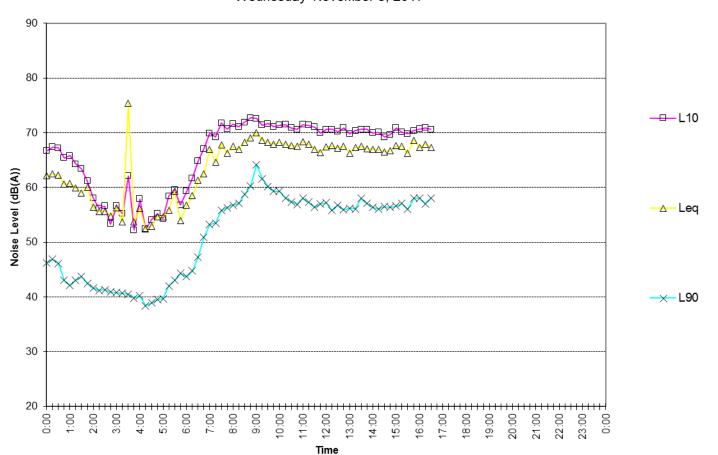
# Maroubra Road Monday November 6, 2017

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# Maroubra Road and Anzac Parade

Tuesday November 7, 2017





Maroubra Road Wednesday November 8, 2017

# **PROPOSED MIXED USE DEVELOPMENT** AT 181 - 191 MAROUBRA ROAD, MAROUBRA

# DA SUBMISSION

NatHERS & BASIX Summary for 181 Maroubra Rd, Maroubra

WATER - MINIMUM REQUIREMENTS

# **APARTMENTS**

WATER RATINGS • 3 Star rated (>6 but <= 7.5 L/min) showerheads 4 Star rated toilets 5 Star rated taps to Kitchen 5 Star rated taps to Bathrooms / Ensuites 3 Star rated dishwashe

COMMON AREAS AINWATER TANK

# Not required FIRE SPRINKLERS

 To all Basement levels Fire sprinkler test water in closed system COMMON / CARETAKER W

### 4 Star rated toilet 4 Star rated tap

FHERMAL COMFORT - MINIMUM REQUIREMENTS APARTMENTS ONLY

# INSULATION

• R2.5 to underside of ceiling slab of top floor units. Suspended ceiling required. No external wall insulation requirements – cavity brick construction AAC intertenancy walls with plasterboard finish

# EXTERNAL COLOURS • External wall colour to be MEDIUM (0.475<SA<0.70) • Roof colour to be DARK (SA>0.70)

WINDOWS & GLAZING

• Aluminium framed with low-e glazing to windows and doors to select units (typically U= 5.6 & SHGC=0.4.1). Refer apartment specific NatHERS Certificates for further details. • Aluminium framed with clear glazing to all other windows and doors (typically U= 6.7 & SHGC=0.70). Refer apartment specific NatHERS Certificates for further details

## FLOOR COVERINGS • Tile flooring to Living areas and carpet to Bedrooms. Tiles to wet areas.

**CEILING PENETRATIONS** · Assessed without downlights. • Exhaust fans to range hood, Ensuites, Bathrooms, WC's, Laundry with draught seals

# ENERGY - MINIMUM REQUIREMENTS

APARTMENTS HEATING AND COOLING

 Ceiling fans to all Living & Bedroom areas VENTILATION Ducted artificial ventilation to min. 1 Bathroom Ducted range hood to Kitchen Ducted artificial ventilation to Laundry LIGHTING

• Efficient compact fluorescent or LED lighting throughout **APPLIANCES & OTHER FIXTURES**  Electric cooktop & electric oven 4 Star rated dishwasher • Well ventilated fridge space Indoor clothes drying line

# COMMON AREAS

LIGHTING Basements 1, 2 & 3 fluorescent – time clock and motion sensor
Commercial Garbage Room compact fluorescent – manual on / manual off
Residential Garbage Room compact fluorescent – manual on / manual off Plant / Meter Room compact fluorescent – manual on / manual off • WC compact fluorescent - manual on / manual off • Fire Stairs 1, 2 & 3 compact fluorescent - manual on / timer off Bicycle Spaces compact fluorescent – motion sensors Entry Foyers LED - manual on / timer off

 Lobbies LED - manual on / timer off Lifts LED - connected to lift call button

# VENTILATION

Basements 1, 2 & 3 supply and exhaust - carbon monoxide monitor + VSD fan
Commercial Garbage Room exhaust only
Residential Garbage Room exhaust only • Plant / Meter Room ventilation (supply + exhaust) – thermostatically controlled • WC ventilation (supply + exhaust) - time clock controlled

LIFTS Lifts to be a gearless traction VVVF (Variable Voltage Variable Frequency Drive) system



Certificate no .: Assessor Name: Accreditation no .: 6.4 Certificate date: Dwelling Address: Average star rating 181 Maroubra Road TIONWIDE HOUSE Maroubra, NSW 2035

www.nathers.gov.au



0002877440

21 June 2018

20884

Zoltan Lipovschi

ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA
В	19/06/2018	REVISED FOR DA SUBMISSION

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ROJECT	181-191 MAROUBRA ROAD, MA
DDRESS	181-191 MAROUBRA ROAD, M
RAWING T	ITLE COVER SHEET

DRAWING LIST			
Sheet Number	Sheet Name	Current Revision	
DA 000	COVER SHEET	В	
DA 008	PHOTOMONTAGE	A	
DA 009	PHOTOMONTAGE	A	
DA 010	SITE ANALYSIS	В	
DA 012	STREET ELEVATIONS	В	
DA 013	DEMOLITION DRAWING	A	
DA 100	BASEMENT 03	A	
DA 101	BASEMENT 02	A	
DA 102	BASEMENT 01	A	
DA 103	GROUND FLOOR	A	
DA 104	LEVEL 01	В	
DA 105	LEVEL 02	В	
DA 106	LEVEL 03 & LEVEL 04	В	
DA 107	LEVEL 05	В	
DA 108	LEVEL 06	В	
DA 109	BLOCK A ROOF TERRACE	В	
DA 110	BLOCK A ROOF PLAN	В	
DA 120	ADAPTABLE UNITS	В	
DA 200	NORTH (MAROUBRA ROAD) ELEVATION	В	
DA 201	EAST (FERGUSON STREET) ELEVATION	В	
DA 202	SOUTH ELEVATION	В	
DA 203	WEST ELEVATION	В	
DA 204	INTERNAL NORTH ELEVATION	В	
DA 205	INTERNAL SOUTH ELEVATION	В	
DA 300	SECTION A-A	В	
DA 301	SECTION B-B	В	
DA 302	SECTION C-C	В	
DA 303	FACADE DETAILS	A	
DA 310	HEIGHT ANALYSIS	A	
DA 311	HEIGHT ANALYSIS	A	
DA 312	HEIGHT ANALYSIS	A	
DA 400	MATERIALS & FINISHES	В	
DA 401	MATERIALS & FINISHES	В	
DA 500	STRATA PLANS	A	
DA 501	STRATA PLANS	В	
DA 502	STRATA PLANS	В	
DA 700	SHADOW DIAGRAMS	В	
DA 701	SHADOW DIAGRAMS	В	
DA 910	EXTERIOR PERSPECTIVES	A	
DA 911	EXTERIOR PERSPECTIVES	A	



**IAROUBRA** 

AROUBRA



PROJECT No. 16116 SCALE 1:1 DRAWING No. **DA 000** 

DATE DRAWN REVISION В

22/06/2018 12:06:04 Author





FERGUSON ST



# CORNER FROM MAROUBRA RD

DEVELOPMENT APPLICATION

773/2017

Randwick City Council 7 December 2017 Records Received

ABSA 7.2 age star NATIONWIDE HOUSE BASI

1

0002241050 Certificate no.: Zoltan Lipovschi Assessor Name: 20884 Accreditation no.: Certificate date: Dwelling Address: 181 Maroubra Road Maroubra, NSW 2035

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30 November 2017 in)

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Suite 2.02, 77 Dunning Avenue, Rosebery NSW 2018, Australia tel: +61 2 9313 6988 fax: +61 2 9313 7188 email: max@sgammotta.com.au

PROJECT TITLE MIXED USE DEVELOPEMENT

DRAWING TITLE PHOTOMONTAGE

181-191 MAROUBRA ROAD,

PROJECT ADDRESS

MAROUBRA

DA 008	Α
 DRAWING NO.	REVISION
SCALE	1:1
DRAWN BY	SR
DATE	Issue Date
PROJECT NO.	16116





CORNER FROM FERGUSON ST

MAROUBRA RD 2

# DEVELOPMENT APPLICATION

773/2017

Randwick City Council 7 December 2017 Records Received

181-191 MAROUBRA ROAD,

ABS BASI

1



0002241050 Certificate no. Zoltan Lipovschi Assessor Name: 20884 Accreditation no.: 30 November 2017 Certificate date: Dwelling Address: 181 Maroubra Road Maroubra, NSW

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PROJECT TITLE MIXED USE DEVELOPEMENT DRAWING TITLE

PROJECT ADDRESS

MAROUBRA

PHOTOMONTAGE

DA 009	Α
DRAWING NO.	REVISION
SCALE	1:1
DRAWN BY	SR
DATE	Issue Date
PROJECT NO.	16116

# **PROPOSED MIXED USE DEVELOPMENT** AT 181 - 191 MAROUBRA ROAD, MAROUBRA

# **DA SUBMISSION**

NatHERS & BASIX Summary for 181 Maroubra Rd, Maroubra WATER - MINIMUM REQUIREMENTS

APARTMENTS

WATER RATINGS • 3 Star rated (>6 but <= 7.5 L/min) showerheads 4 Star rated toilets 5 Star rated taps to Kitchen • 5 Star rated taps to Bathrooms / Ensuites 3 Star rated dishwasher

COMMON AREAS RAINWATER TANK Not required

FIRE SPRINKLERS To all Basement levels · Fire sprinkler test water in closed system COMMON / CARETAKER V

 4 Star rated toilet 4 Star rated tap

THERMAL COMFORT - MINIMUM REQUIREMENTS - APARTMENTS ONLY INSULATION • R2.5 to underside of ceiling slab of top floor units. Suspended ceiling required.

• No external wall insulation requirements – cavity brick construction AAC intertenancy walls with plasterboard finish EXTERNAL COLOURS

 External wall colour to be MEDIUM (0.475<SA<0.70)</li> Roof colour to be DARK (SA>0.70)

WINDOWS & GLAZING • Aluminium framed with low-e glazing to windows and doors to Living Rooms of Units 1.05, 1.08, 2.05, 6.07, 6.08 (typically U= 5.6 & SHGC=0.4.1). Refer apartment specific NatHERS Certificates for further details. • Aluminium framed with clear glazing to all other windows and doors (typically U= 6.7 & SHGC=0.70). Refer apartment specific NatHERS Certificates for further details

FLOOR COVERINGS • Tile flooring to Living areas and carpet to Bedrooms. Tiles to wet areas.

**CEILING PENETRATIONS**  Assessed without downlights. • Exhaust fans to range hood, Ensuites, Bathrooms, WC's, Laundry with draught seals

APARTMENTS HEATING AND COOLING Ceiling fans to all Living & Bedroom areas

VENTILATION Ducted artificial ventilation to min. 1 Bathroom Ducted range hood to Kitchen Ducted artificial ventilation to Laundry

LIGHTING

 Efficient compact fluorescent or LED lighting throughout **APPLIANCES & OTHER FIXTURES**  Electric cooktop & electric oven 4 Star rated dishwasher Well ventilated fridge space

 Indoor clothes drying line COMMON AREAS

# LIGHTING

• Basements 1, 2 & 3 fluorescent – time clock and motion sensor Commercial Garbage Room compact fluorescent – manual on / manual off • Residential Garbage Room compact fluorescent – manual on / manual off • Plant / Meter Room compact fluorescent – manual on / manual off WC compact fluorescent – manual on / manual off • Fire Stairs 1, 2 & 3 compact fluorescent - manual on / timer off Bicycle Spaces compact fluorescent – motion sensors Entry Foyers LED - manual on / timer off Lobbies LED - manual on / timer off

Lifts LED - connected to lift call button

VENTILATION • Basements 1, 2 & 3 supply and exhaust - carbon monoxide monitor + VSD fan Commercial Garbage Room exhaust only

 Residential Garbage Room exhaust only • Plant / Meter Room ventilation (supply + exhaust) – thermostatically controlled

 WC ventilation (supply + exhaust) – time clock controlled LIFTS

Lifts to be a gearless traction VVVF (Variable Voltage Variable Frequency Drive) system







0002241050

Zoltan Lipovschi

ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA

contractor shall verify all dimensions on site report any discrepancies before proceeding the work. Written dimensions are to take erence over scaled dimensions. This drawing l be read in conjunction with drawings and uments prepared by associated consultants for project. The documents and design remain the right of the Architect and cannot be oduced in any manner without written consent.

	DRAWING LIST
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DA 008	PHOTOMONTAGE
DA 009	PHOTOMONTAGE
DA 010	COVER SHEET
DA 011	SITE ANALYSIS
DA 012	STREET ELEVATIONS
DA 013	DEMOLITION DRAWING
DA 100	BASEMENT 03
DA 101	BASEMENT 02
DA 102	BASEMENT 01
DA 103	GROUND FLOOR
DA 104	LEVEL 01
DA 105	LEVEL 02
DA 106	LEVEL 03 & LEVEL 04
DA 107	LEVEL 05
DA 108	LEVEL 06
DA 109	BLOCK A ROOF TERRACE
DA 110	BLOCK A ROOF PLAN
DA 120	ADAPTABLE UNITS
DA 200	NORTH (MAROUBRA ROAD) ELEVATION
DA 201	EAST (FERGUSON STREET) ELEVATION
DA 202	SOUTH ELEVATION
DA 203	WEST ELEVATION
DA 204	INTERNAL NORTH ELEVATION
DA 205	INTERNAL SOUTH ELEVATION
DA 300	SECTION A-A
DA 301	SECTION B-B
DA 302	SECTION C-C
DA 303	FACADE DETAILS
DA 400	MATERIALS & FINISHES
DA 401	MATERIALS & FINISHES
NDA 100	NOTIFICATION DRAWING

**DRAWING LIST** 





**Randwick City Council** 7 December 2017 **Records Received** 



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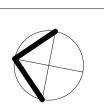


address Suite 2.02 77 dunning avenue rosebery nsw 2018 australia

telephone + 61 2 9313 6988 facsimile + 61 2 9313 7188 email max@sgammotta.com.au

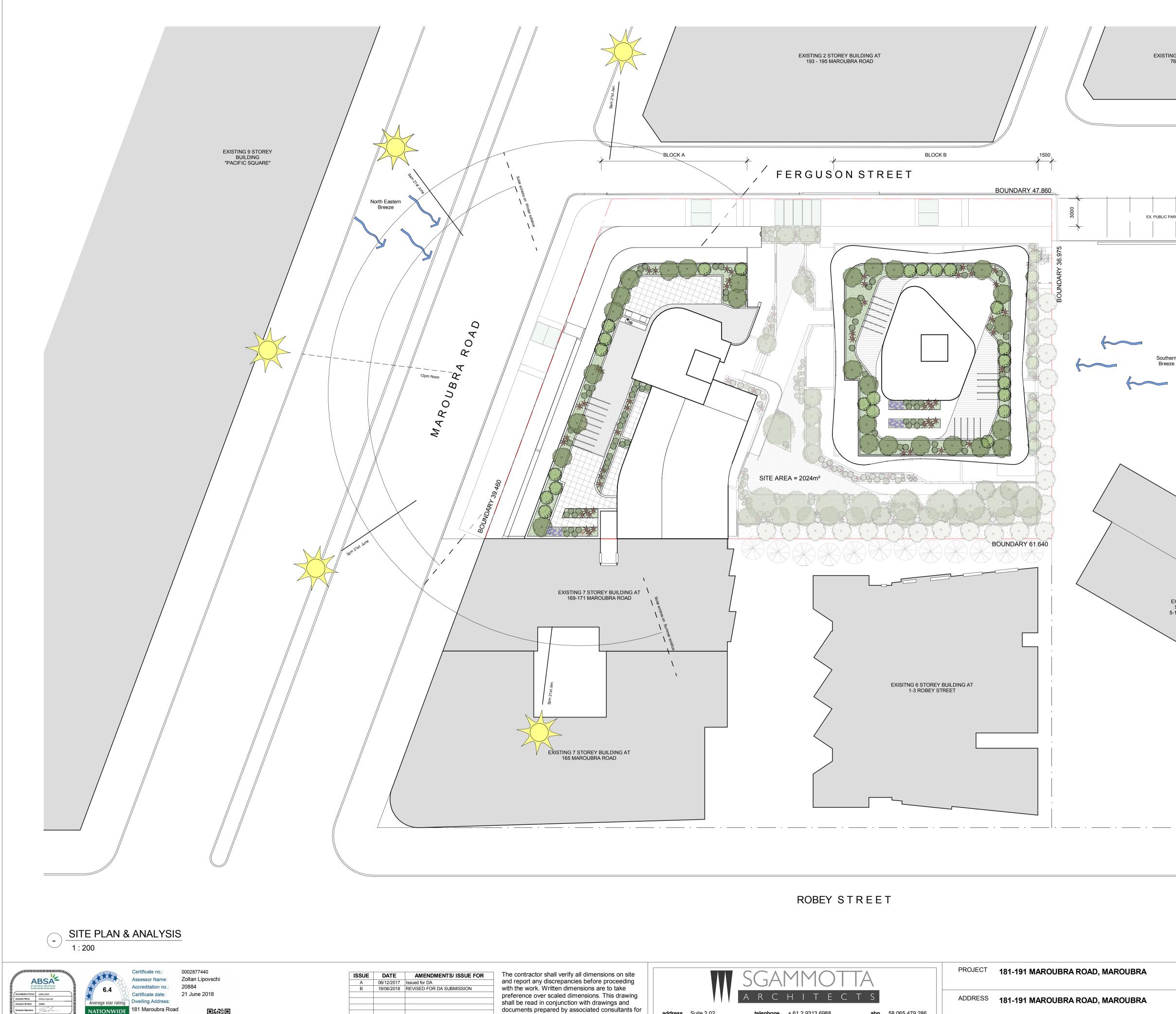
**abn** 58 065 479 286 reg no 4911

ADDRESS 181-191 MAROUBRA ROAD, MAROUBRA DRAWING TITLE COVER SHEET



DRAWING No. DA 010

REVISION Α



181 Maroubra Road Maroubra, NSW www.nathers.gov.au

NATIONWIDE

2035

HOUSE ENERGY RATING SCHEP

S Assessments completed within the accredit are part of the ABSA quality audit system

ISSUE	DATE	AMENDMENTS/ ISSUE FOR
Α	06/12/2017	Issued for DA
В	19/06/2018	REVISED FOR DA SUBMISSION

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# EXISTING 5 STOREY BUILDING AT 769 ANZAC PARADE

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DEVELOPMENT APPLICATION 773/2017 Amended/Additional Information Randwick City Council 25 June 2018 Records Received

DA 010

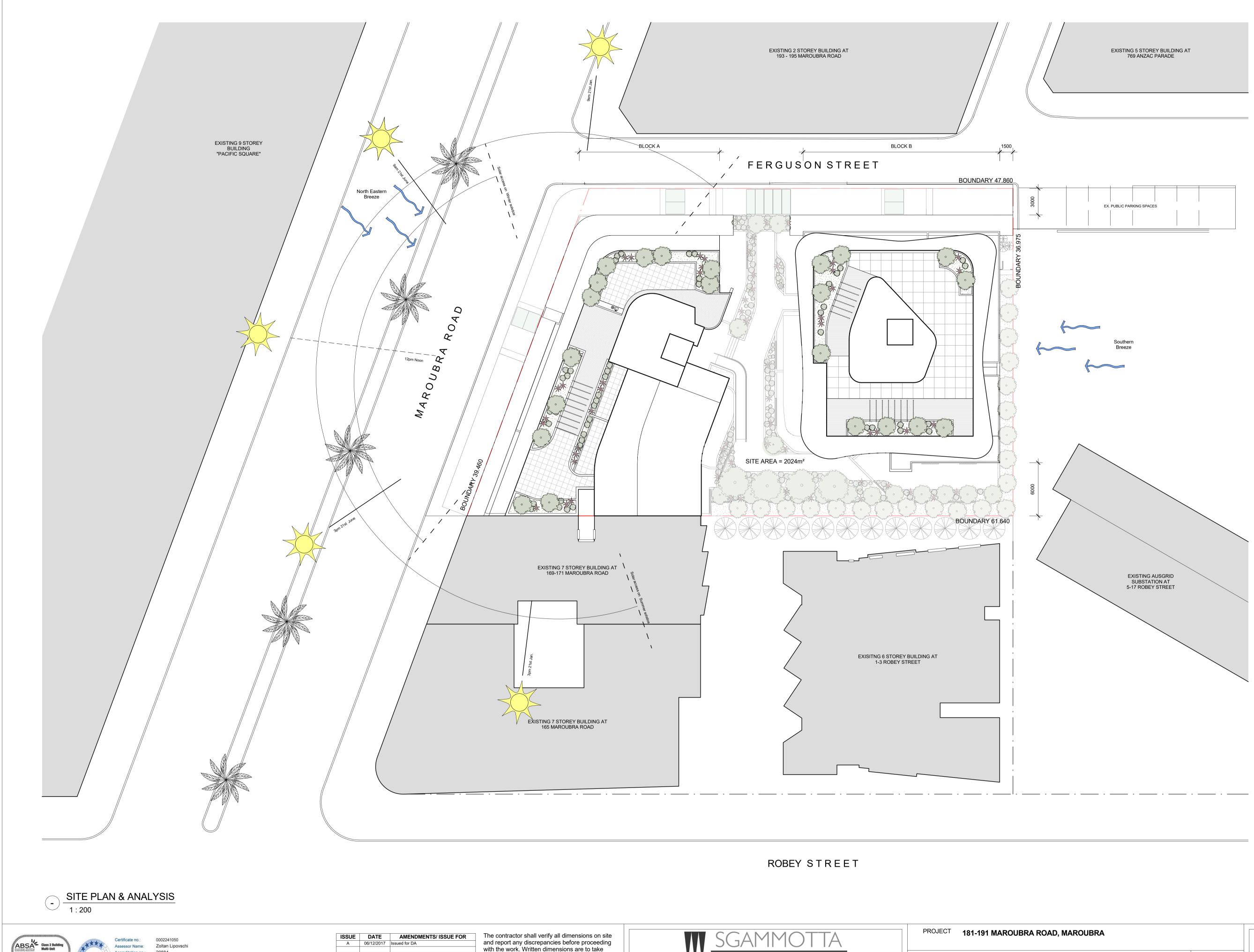
PROJECT No. 16116 SCALE 1 : 200 DRAWING No.

DATE DRAWN REVISION В

10/10/17 Author

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EXISTING AUSGRID SUBSTATION AT 5-17 ROBEY STREET



Accreditation no.: 20884

Dwelling Address:

Maroubra, NSW

2035

181 Maroubra Road

www.nathers.gov.au

Certificate date: 30 November 2017

7.2

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or Number 208

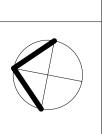


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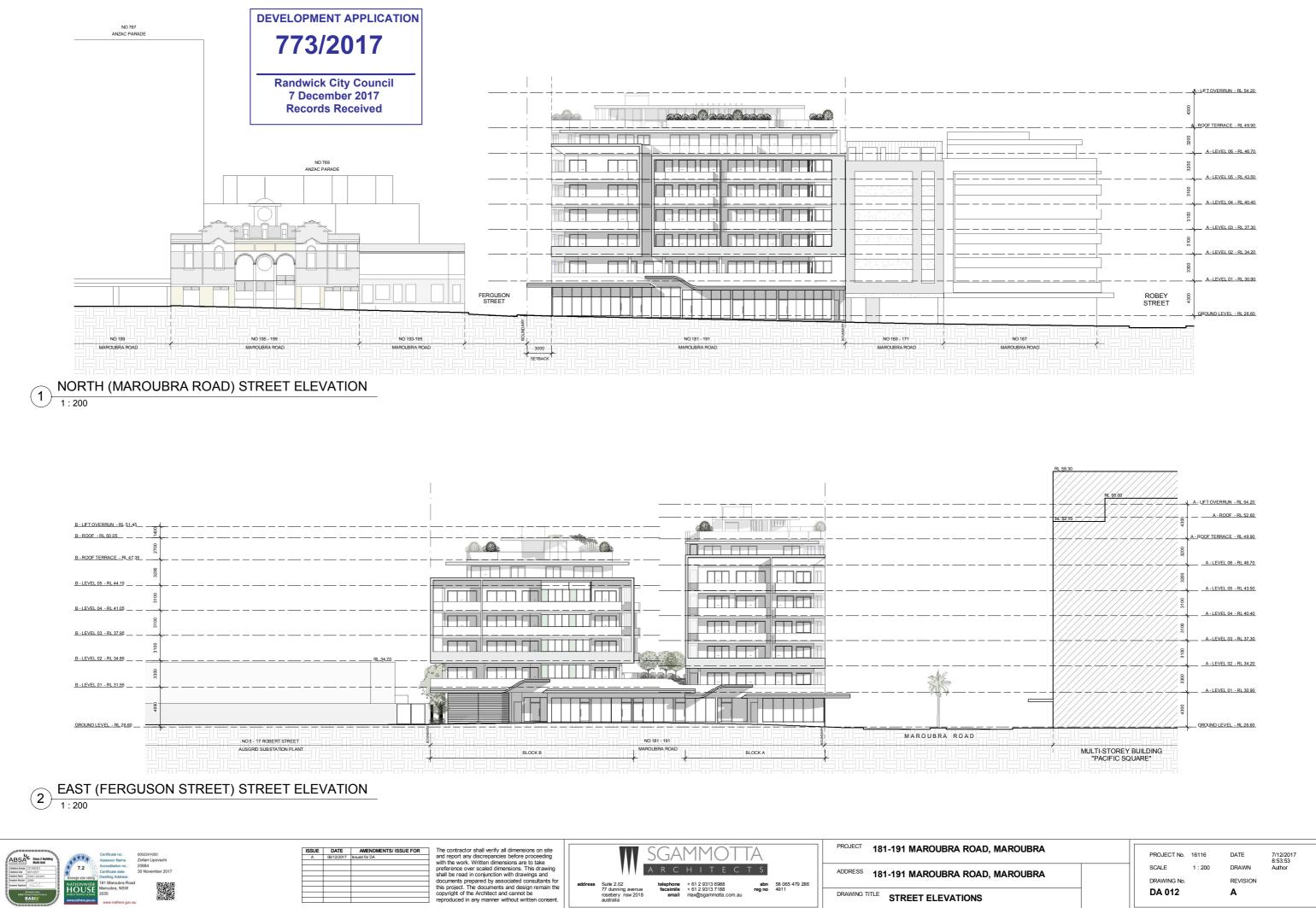
Randwick City Council 7 December 2017 Records Received

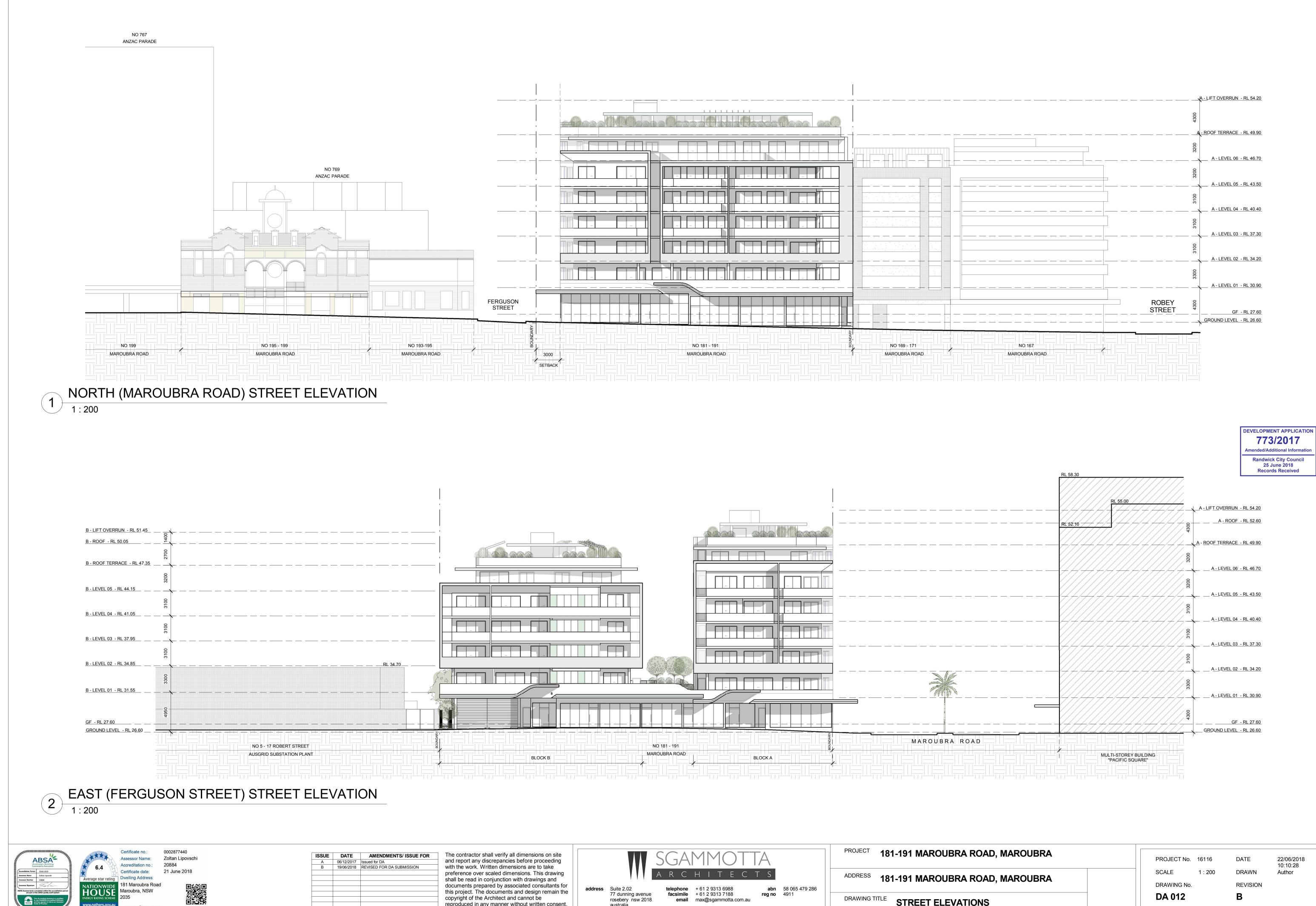


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DATE DRAWN REVISION Α

10/10/17 Author





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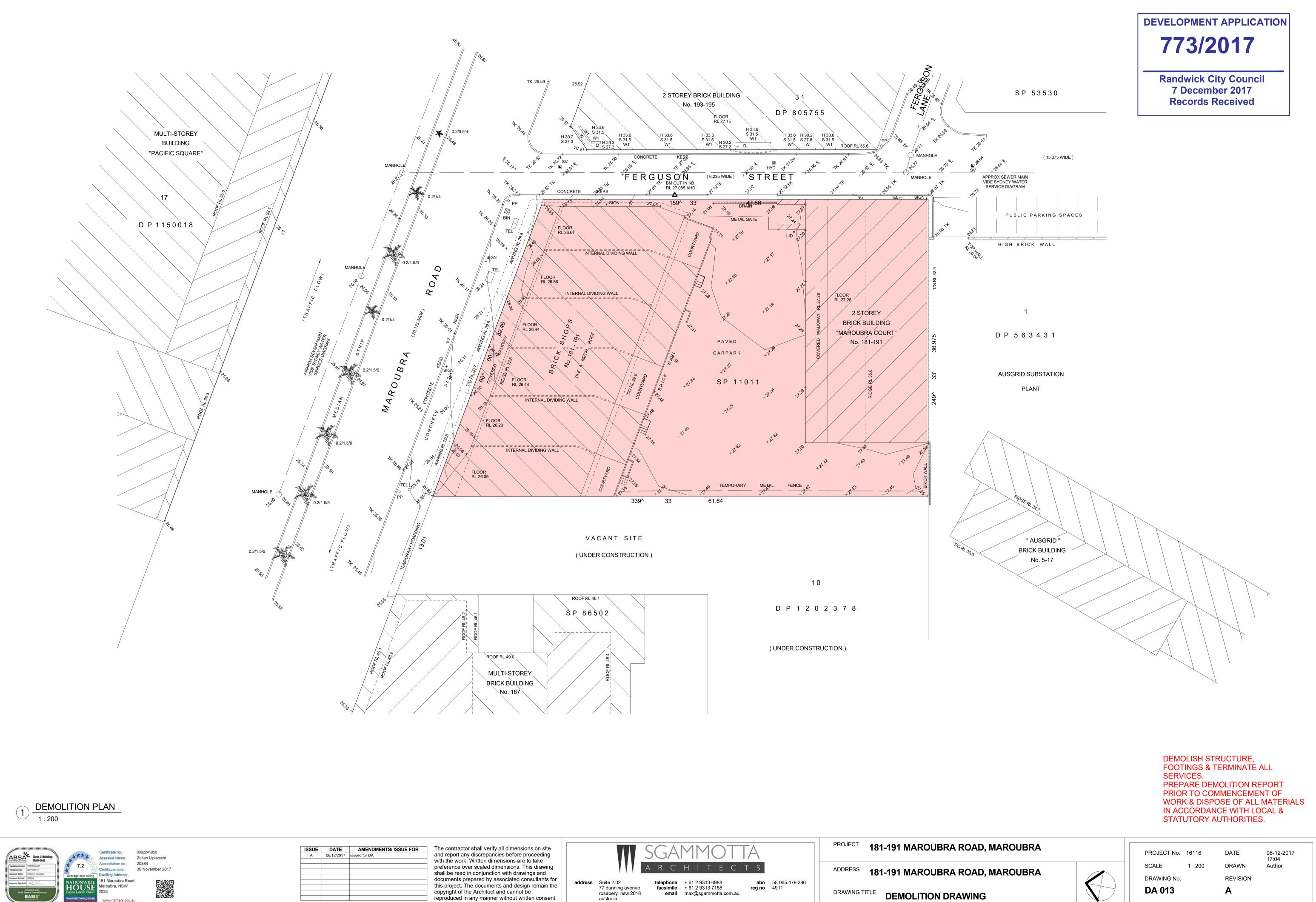
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address Suite 2.02 77 dunning avenue rosebery nsw 2018 australia

telephone + 61 2 9313 6988 facsimile + 61 2 9313 7188 email max@sgammotta.com.au abn 58 065 479 286 reg no 4911

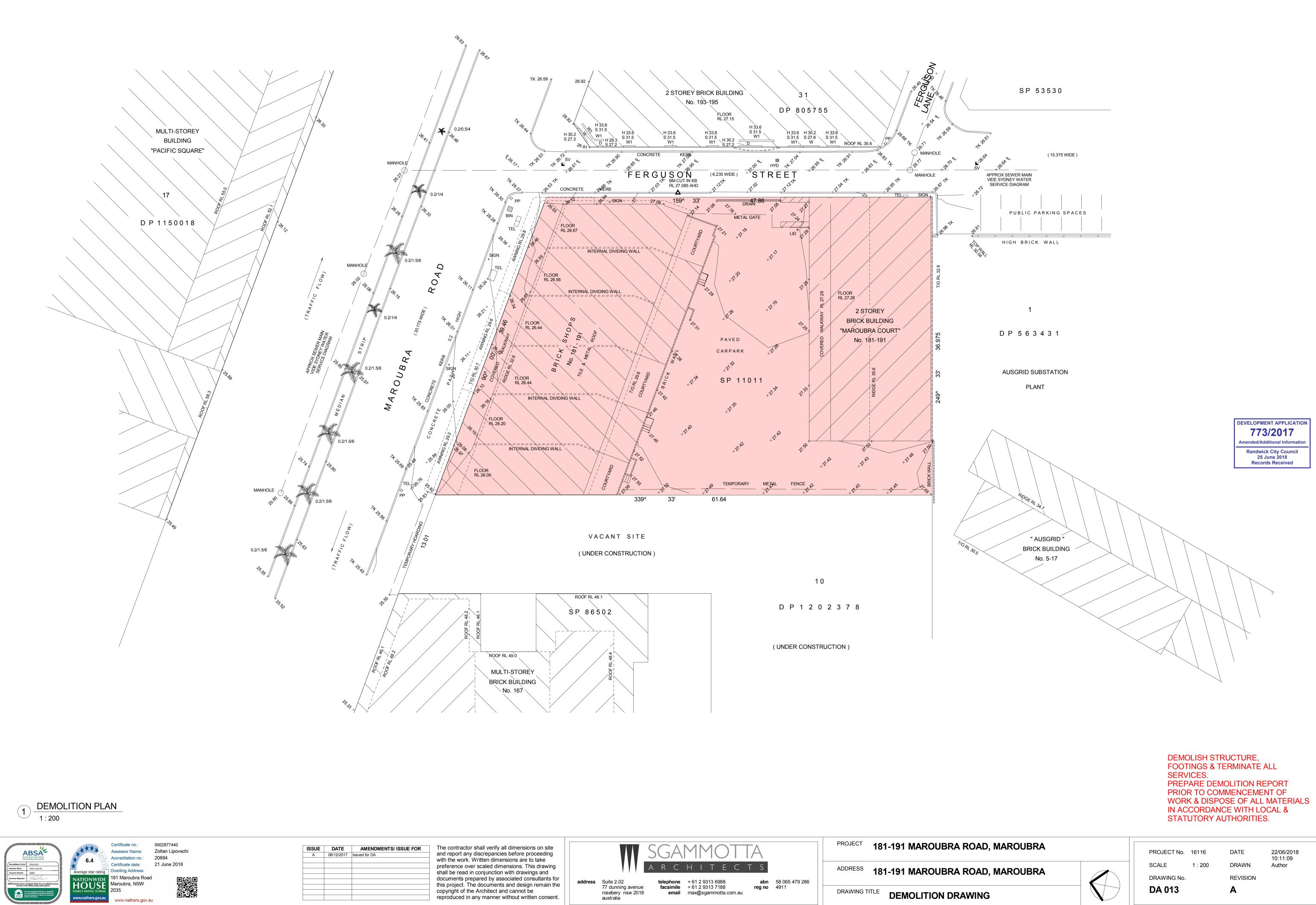
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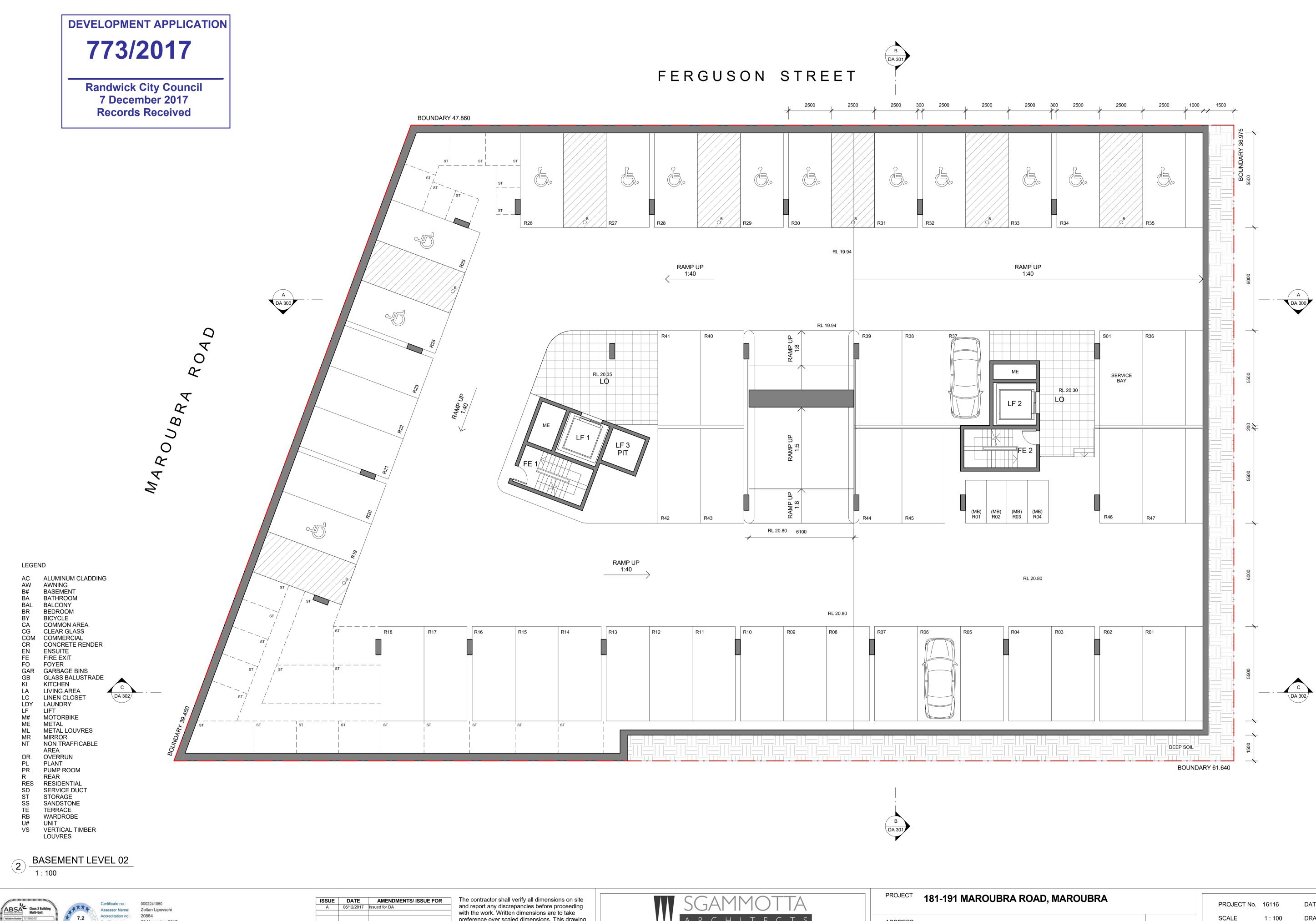
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ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA

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30 November 2017

Certificate date:

Dwelling Address:

Maroubra, NSW

2035

181 Maroubra Road

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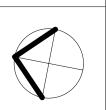
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preference over scaled dimensions. This drawing shall be read in conjunction with drawings and documents prepared by associated consultants for this project. The documents and design remain the copyright of the Architect and cannot be reproduced in any manner without written consent.

HI address Suite 2.02 **abn** 58 065 479 286 telephone + 61 2 9313 6988 77 dunning avenue facsimile + 61 2 9313 7188 reg no 4911 rosebery nsw 2018 email max@sgammotta.com.au australia

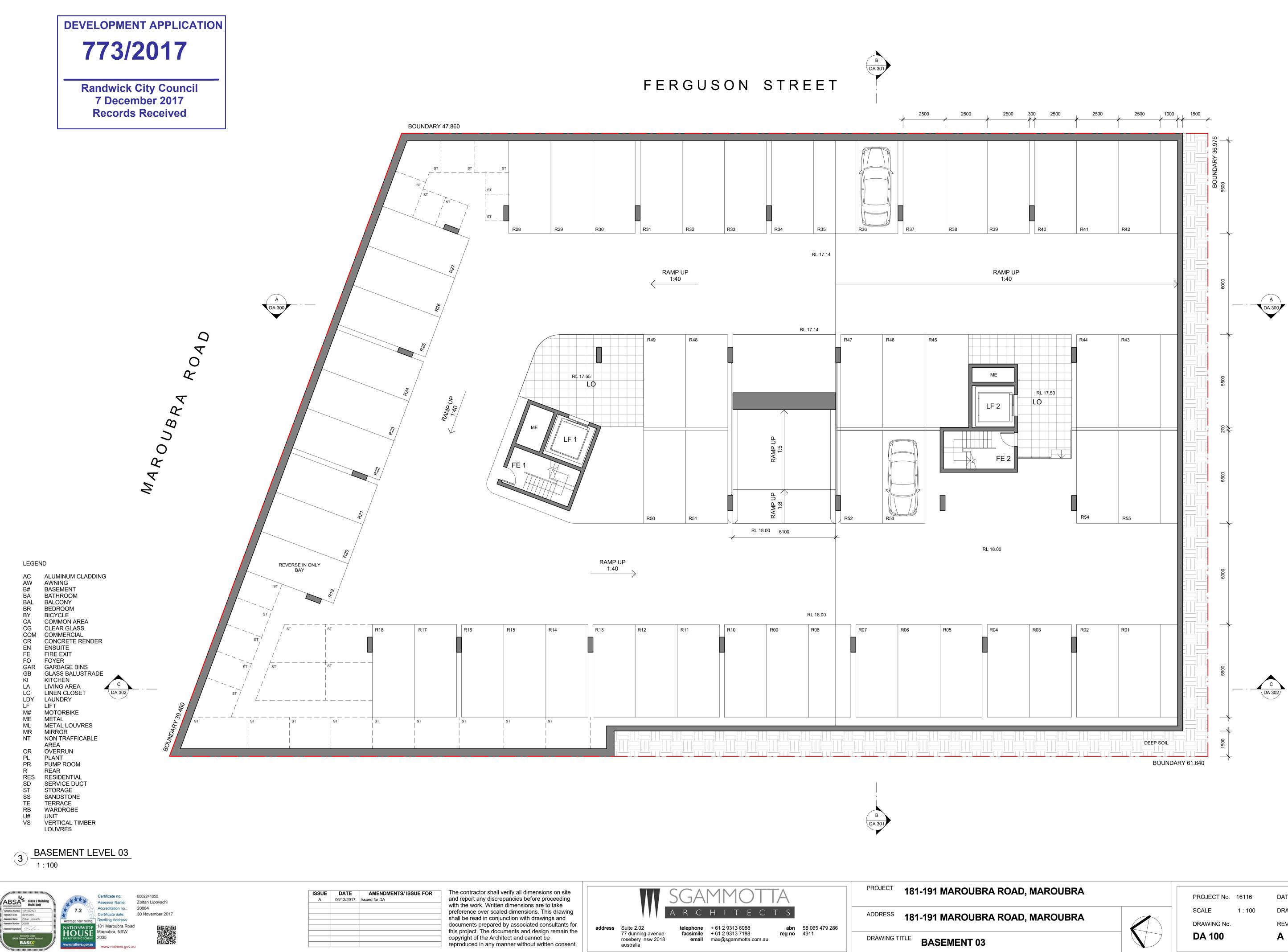
ADDRESS 181-191 MAROUBRA ROAD, MAROUBRA DRAWING TITLE **BASEMENT 02** 



SCALE 1 : 100 DRAWING No. DA 101

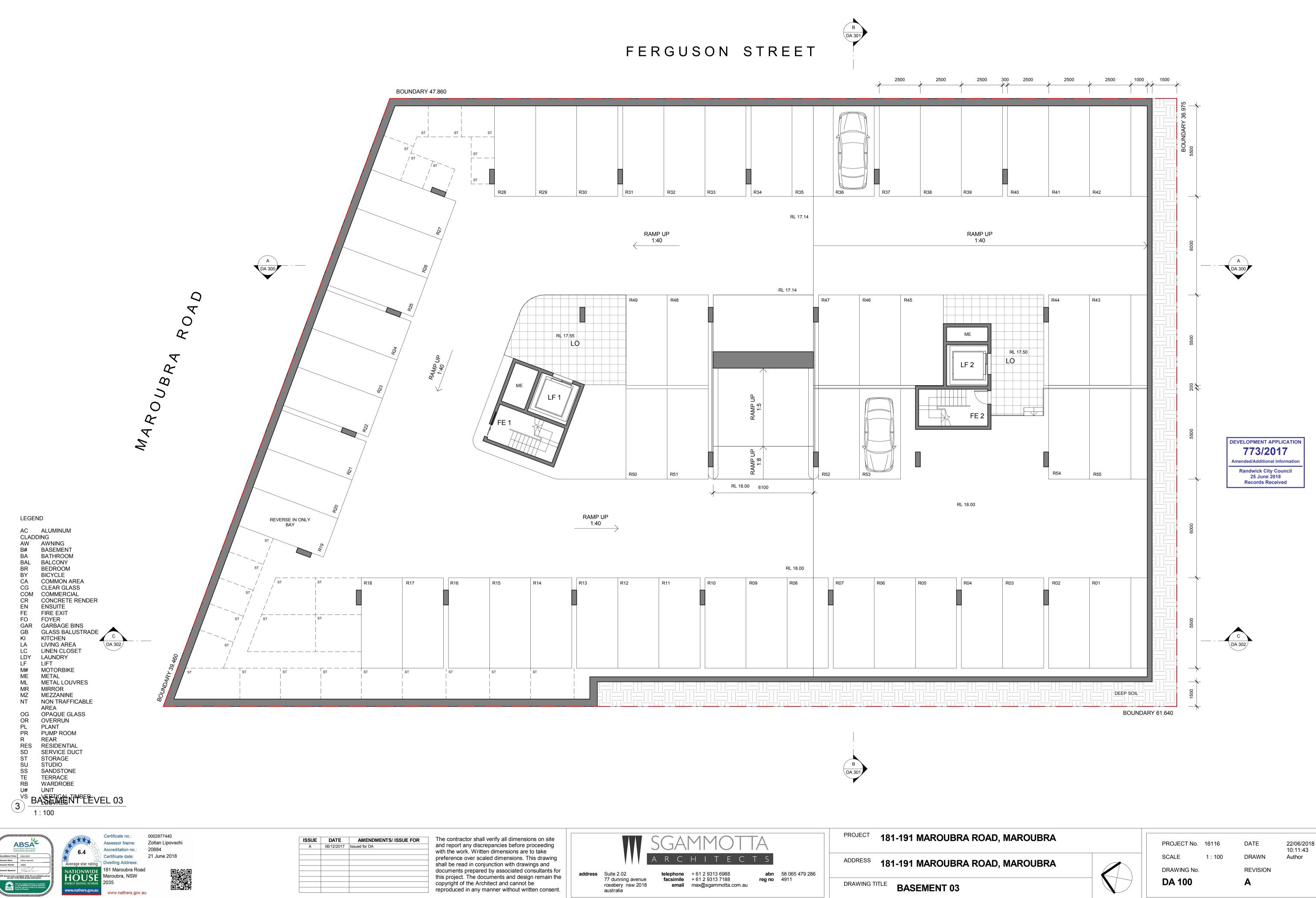
DATE DRAWN REVISION Α

06-12-2017 17:04 Author



PROJECT	181	I-191 MAROUBRA ROAD, M	AF
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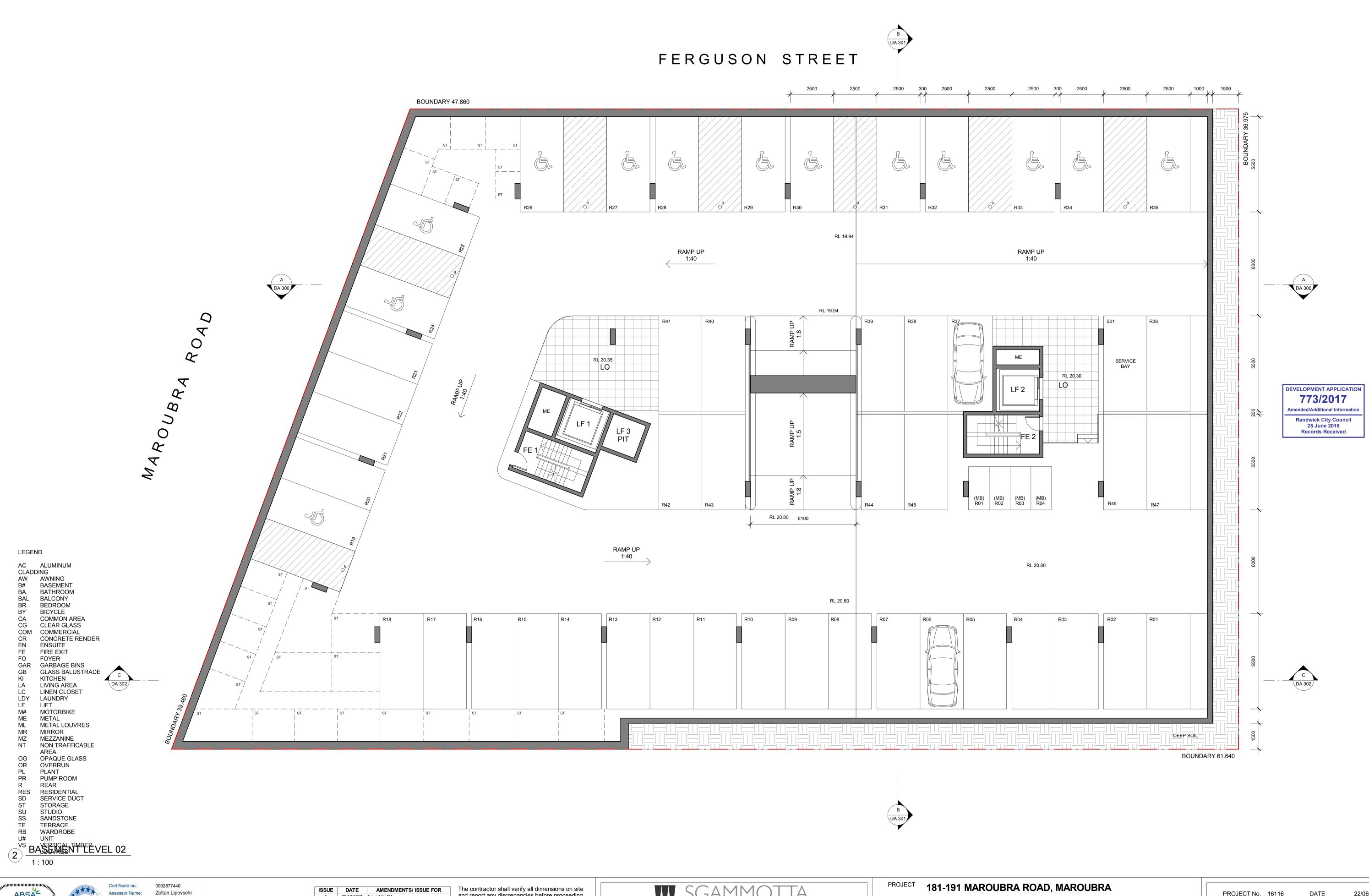
DATE DRAWN REVISION 06-12-2017 17:04 Author







ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA





Assessor Name: Accreditation no .: 6.4 Certificate date: 21 June 2018 Dwelling Address: Average star rating NATIONWIDE 181 Maroubra Road HOUSE Maroubra, NSW 2035

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ISSUE	DATE	AMENDMENTS/ ISSUE FOR
A	06/12/2017	Issued for DA

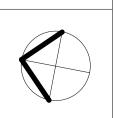
report any discrepancies before proceeding the work. Written dimensions are to take erence over scaled dimensions. This drawing I be read in conjunction with drawings and uments prepared by associated consultants for project. The documents and design remain the yright of the Architect and cannot be oduced in any manner without written consent.



email max@sgammotta.com.au

**abn** 58 065 479 286 reg no 4911

ADDRESS 181-191 MAROUBRA ROAD, MAROUBRA DRAWING TITLE **BASEMENT 02** 



PROJECT No. 16116 SCALE 1:100 DRAWING No. DA 101

DATE DRAWN REVISION Α

22/06/2018 10:12:16 Author

PARKING SUMMARY

BASEMENT 3 ~ RESIDENTIAL = 55 SPACES

BASEMENT 2 ~ RESIDENTIAL = 47 SPACES (INC. 13 ACCESSIBLE SPACES) RESIDENTIAL MOTORBIKE = 04 SPACES SERVICE = 01 SPACE

BASEMENT 1 ~ COMMERCIAL = 17 SPACES (INC. 01 ACCESSIBLE SPACE) VISITOR = 17 SPACES (INC. 01 ACCESSIBLE SPACE) BICYCLE = 42 SPACES COMMERCIAL MOTORBIKE = 01 SPACE VISITOR MOTORBIKE = 01 SPACE SERVICE = 01 SPACE

### **DEVELOPMENT APPLICATION** 773/2017

**Randwick City Council** 7 December 2017 **Records Received** 



AC AW B# BA BAL BR BY	BEDROOM BICYCLE
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COM	
CR	CONCRETE RENDER
EN	ENSUITE
FE	FIRE EXIT
FO	FOYER
GAR	
GB KI	GLASS BALUSTRADE KITCHEN
LA	LIVING AREA
LC	LINEN CLOSET
LDY	
LF	LIFT
M#	MOTORBIKE
ME	METAL
ML	METAL LOUVRES
MR	MIRROR
NT	NON TRAFFICABLE
OR	AREA OVERRUN
PL	PLANT
PR	PUMP ROOM
R	REAR
RES	RESIDENTIAL
SD	SERVICE DUCT
ST	STORAGE

STORAGE ST SANDSTONE SS ΤE TERRACE WARDROBE RB U# UNIT VERTICAL TIMBER VS









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Zoltan Lipovschi

ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA

contractor shall verify all dimensions on site report any discrepancies before proceeding the work. Written dimensions are to take erence over scaled dimensions. This drawing Il be read in conjunction with drawings and uments prepared by associated consultants for project. The documents and design remain the yright of the Architect and cannot be oduced in any manner without written consent.

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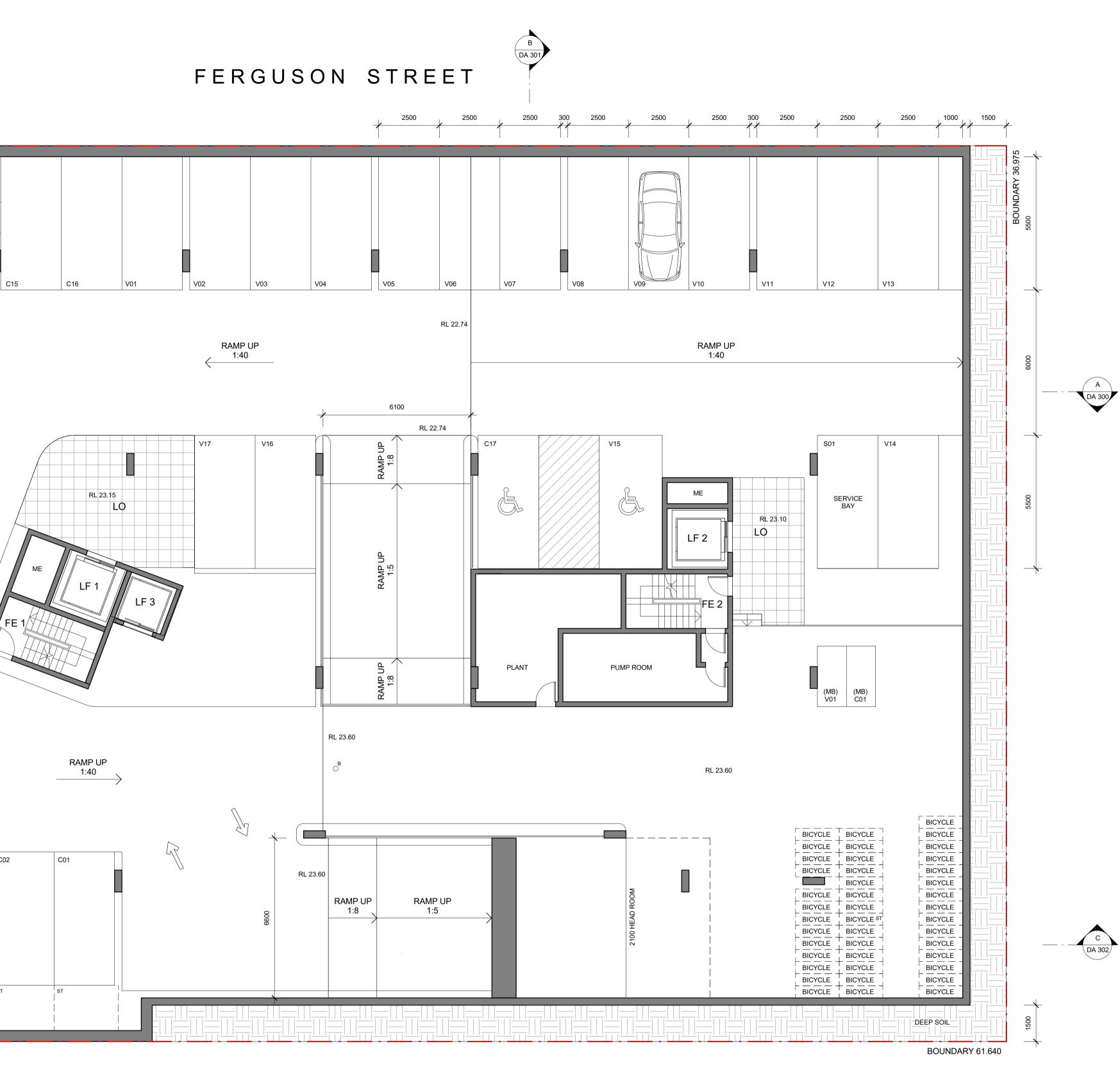
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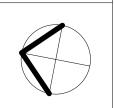
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DA 303





PROJECT 181-191 MAROUBRA ROAD, MAROUBRA HI 181-191 MAROUBRA ROAD, MAROUBRA ADDRESS address Suite 2.02 **abn** 58 065 479 286 telephone + 61 2 9313 6988 77 dunning avenue facsimile + 61 2 9313 7188 reg no 4911 DRAWING TITLE **BASEMENT 01** rosebery nsw 2018 email max@sgammotta.com.au australia



PROJECT No. 16116 SCALE 1 : 100 DRAWING No.

DA 102

DATE DRAWN REVISION Α

06-12-2017 17:04 Author

PARKING SUMMARY

BASEMENT 3 ~ RESIDENTIAL = 55 SPACES

BASEMENT 2 ~

RESIDENTIAL = 47 SPACES (INC. 13 ACCESSIBLE SPACES) RESIDENTIAL MOTORBIKE = 04 SPACES SERVICE = 01 SPACE

BASEMENT 1 ~

COMMERCIAL = 17 SPACES (INC. 01 ACCESSIBLE SPACE) VISITOR = 17 SPACES (INC. 01 ACCESSIBLE SPACE) BICYCLE = 42 SPACES COMMERCIAL MOTORBIKE = 01 SPACE VISITOR MOTORBIKE = 01 SPACE SERVICE = 01 SPACE



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BR	BEDROOM
BY	BICYCLE
CA	COMMON AREA
CG	CLEAR GLASS
COM	COMMERCIAL
CR	CONCRETE RENDER
EN	ENSUITE
FE	FIRE EXIT
FO	FOYER
GAR	GARBAGE BINS
GB	GLASS BALUSTRADE
KI	KITCHEN
LA	LIVING AREA
LC	LINEN CLOSET
LDY	LAUNDRY
LF	LIFT
M#	MOTORBIKE
ME	METAL
MR	MIRROR
MZ	MEZZANINE
NT	NON TRAFFICABLE AREA
OG	OPAQUE GLASS
OR	OVERRUN
PL	PLANT
PR	PUMP ROOM
R	REAR
RES	RESIDENTIAL
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Certificate no .: Assessor Name: Accreditation no .: 6.4 Certificate date: Dwelling Address: Average star rating 181 Maroubra Road ATIONWID HOUSE Maroubra, NSW 2035 www.nathers.gov.au



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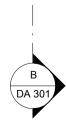
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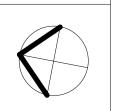
Zoltan Lipovschi

ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA

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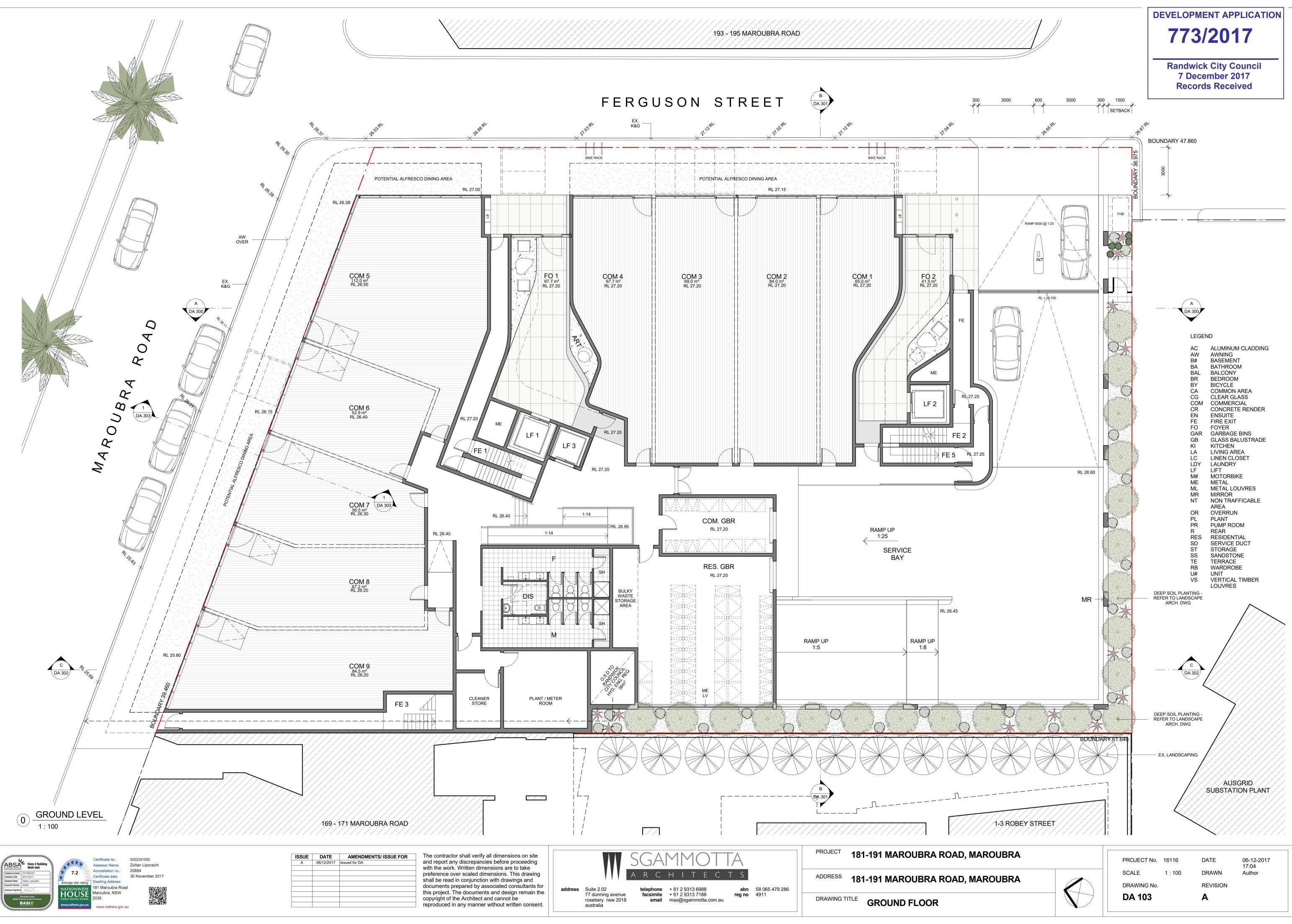
PROJECT 181-191 MAROUBRA ROAD, MAROUBRA ADDRESS 181-191 MAROUBRA ROAD, MAROUBRA  $H \mid T$ **abn** 58 065 479 286 **reg no** 4911 address Suite 2.02 77 dunning avenue telephone + 61 2 9313 6988 facsimile + 61 2 9313 7188 DRAWING TITLE rosebery nsw 2018 email max@sgammotta.com.au **BASEMENT 01** australia

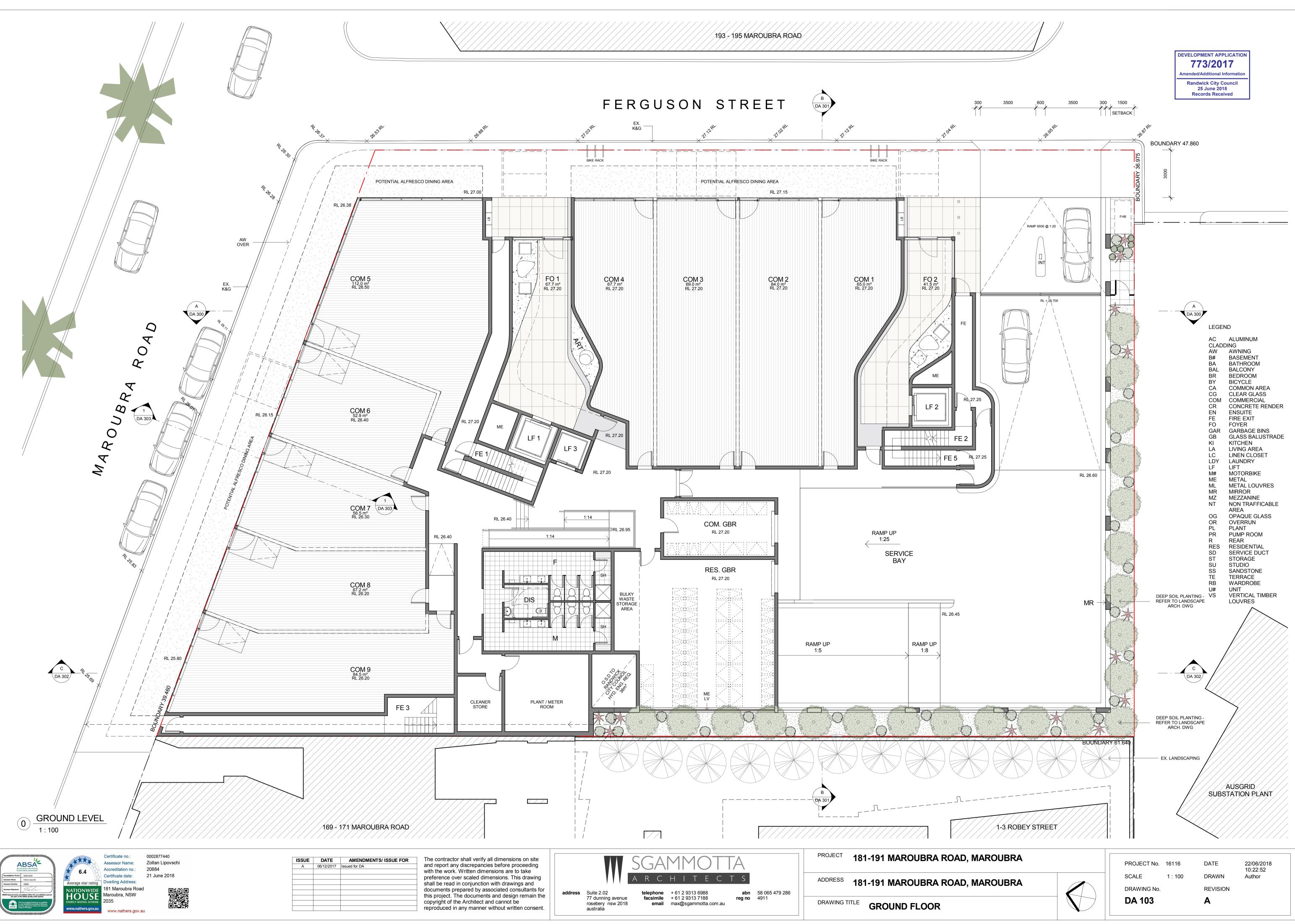


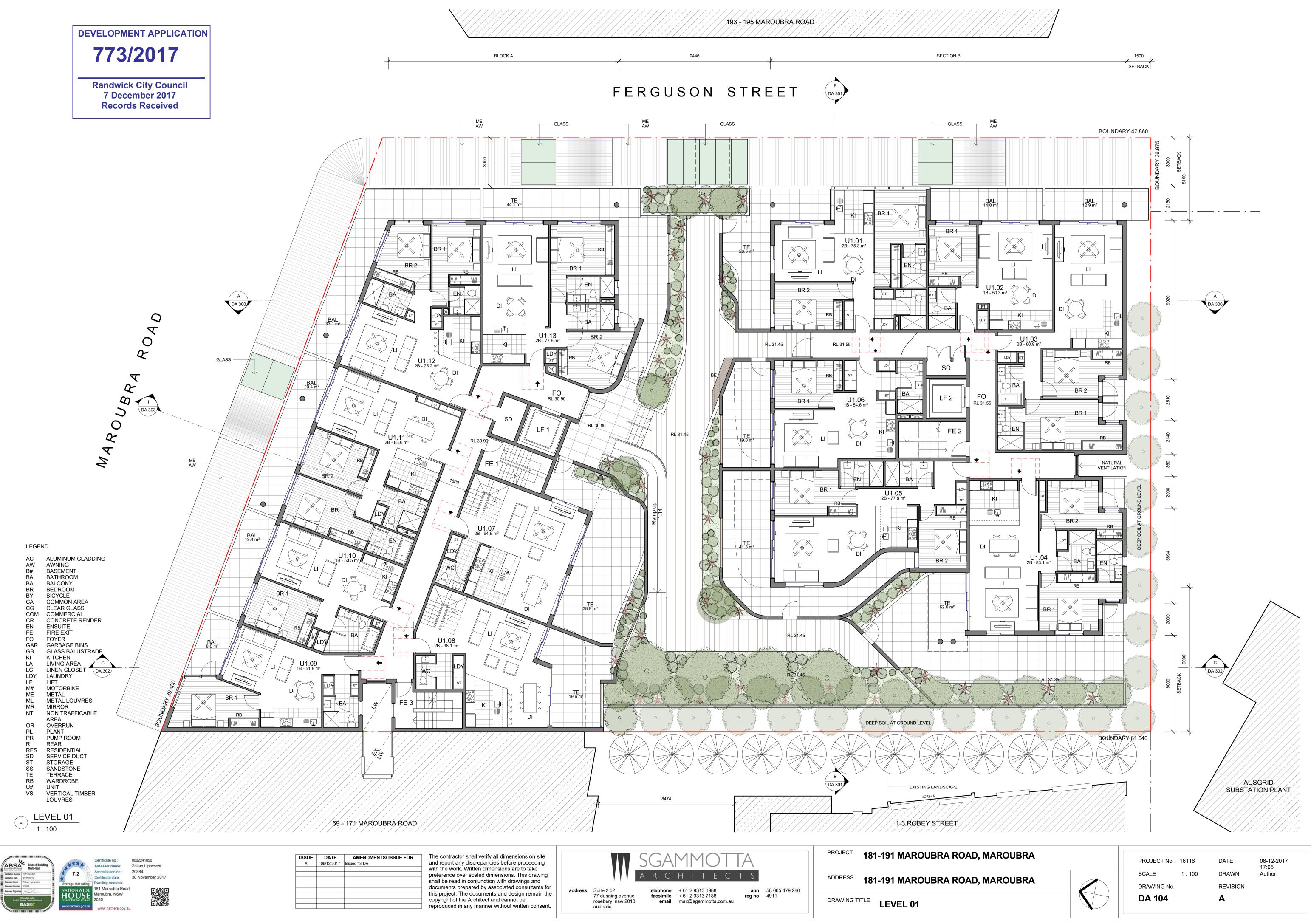
PROJECT No. 16116 1:100 SCALE DRAWING No. DA 102

DATE DRAWN REVISION Α

22/06/2018 10:20:34 Author

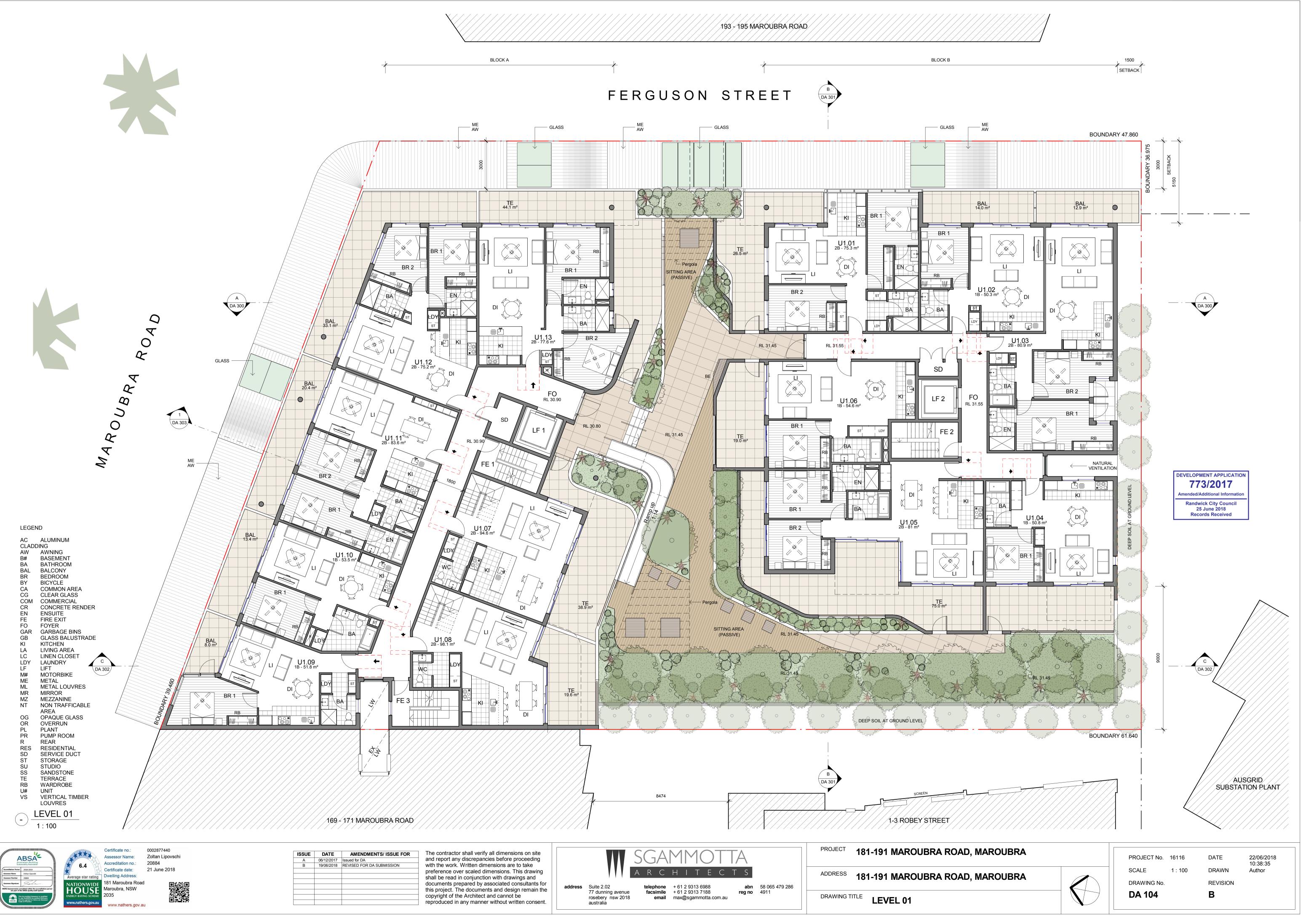








ISSUE	DATE	AMENDMENTS/ ISSUE FOR
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ISSUE	DATE	AMENDMENTS/ ISSUE FOR
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ISSUE	DATE	AMENDMENTS/ ISSUE FOR
А	06/12/2017	Issued for DA



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ssessor Name	Zoltan Lipovski	3
Assessor Number	20884	1
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ISSUE	DATE	AMENDMENTS/ ISSUE FOR
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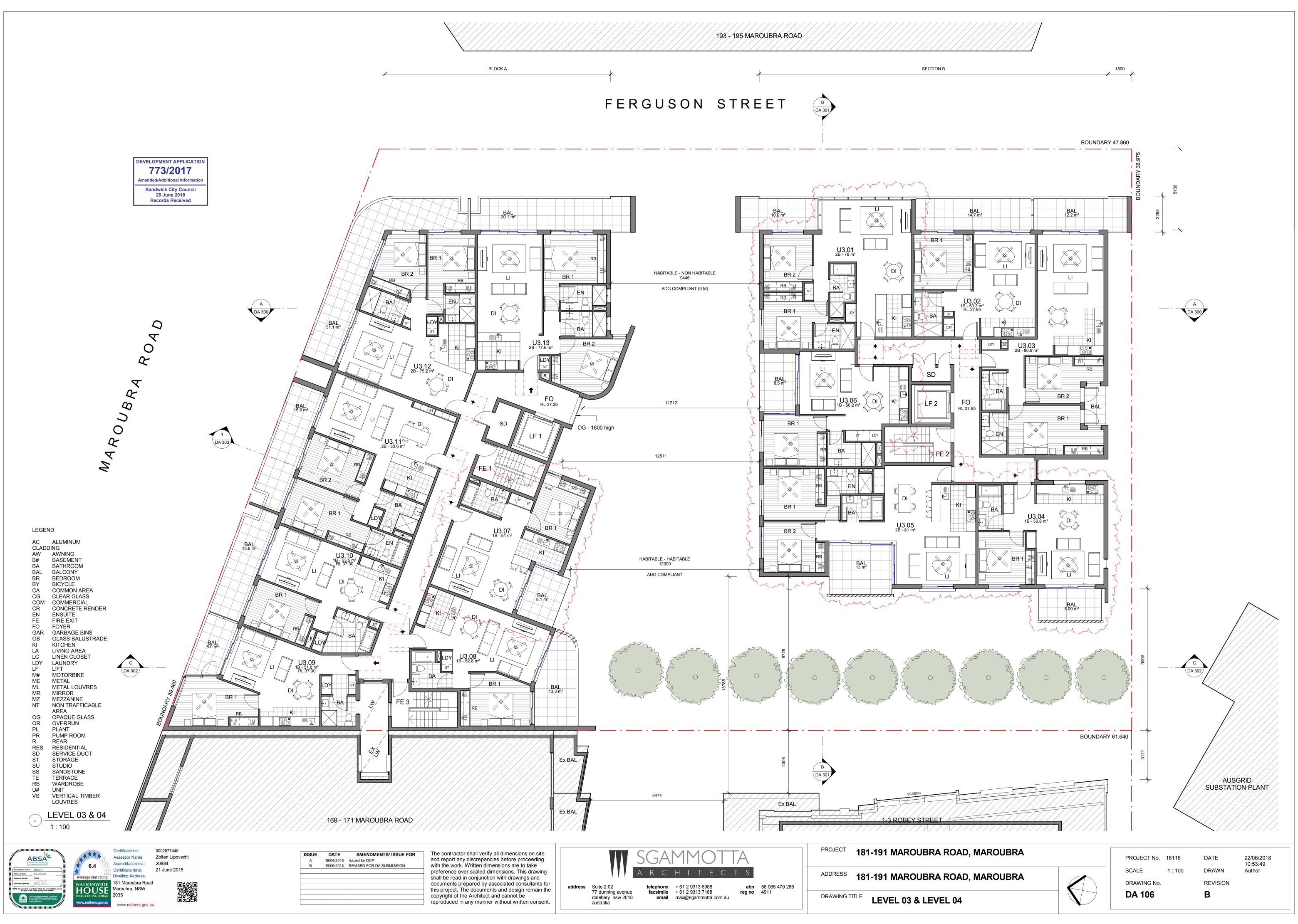


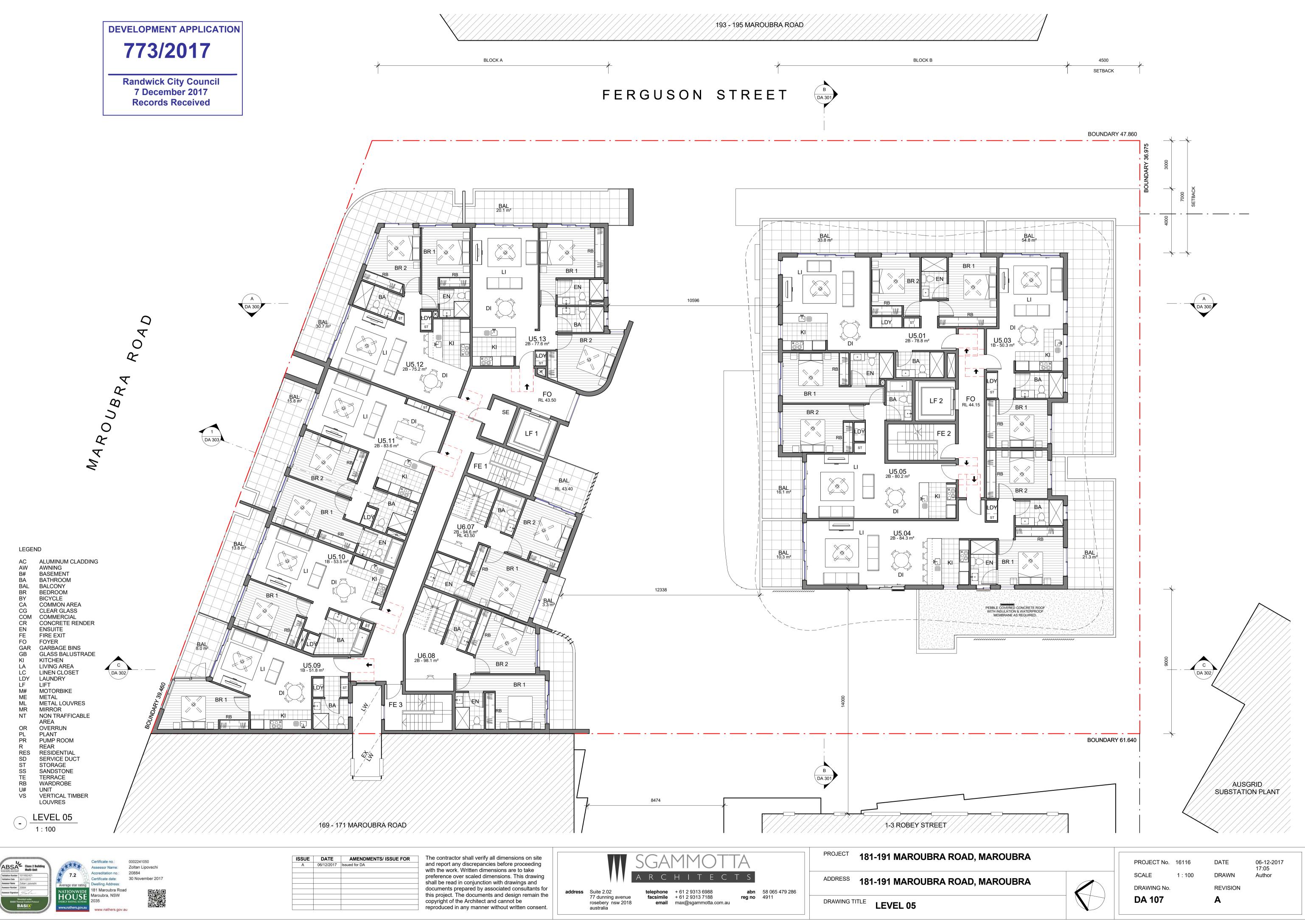






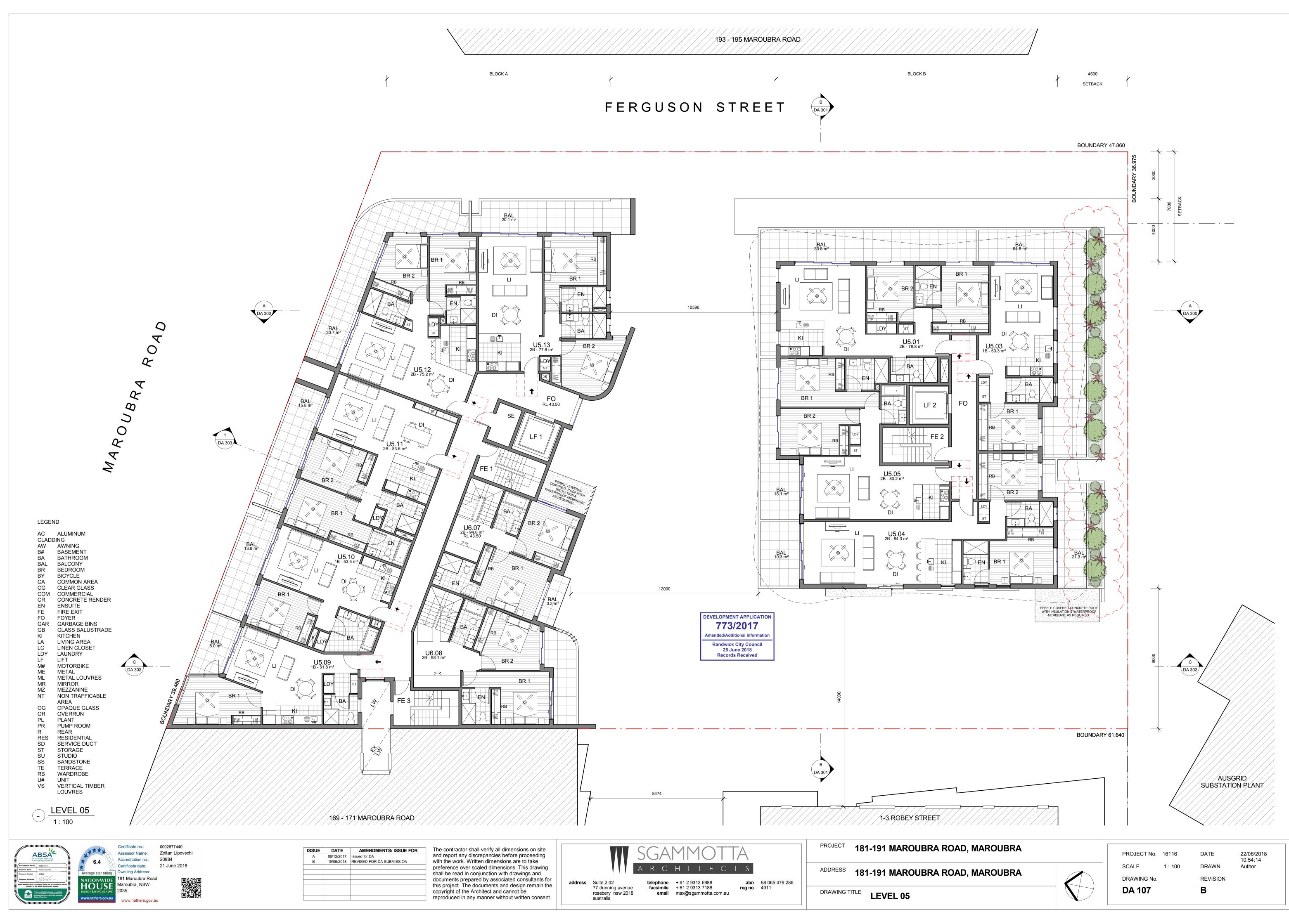
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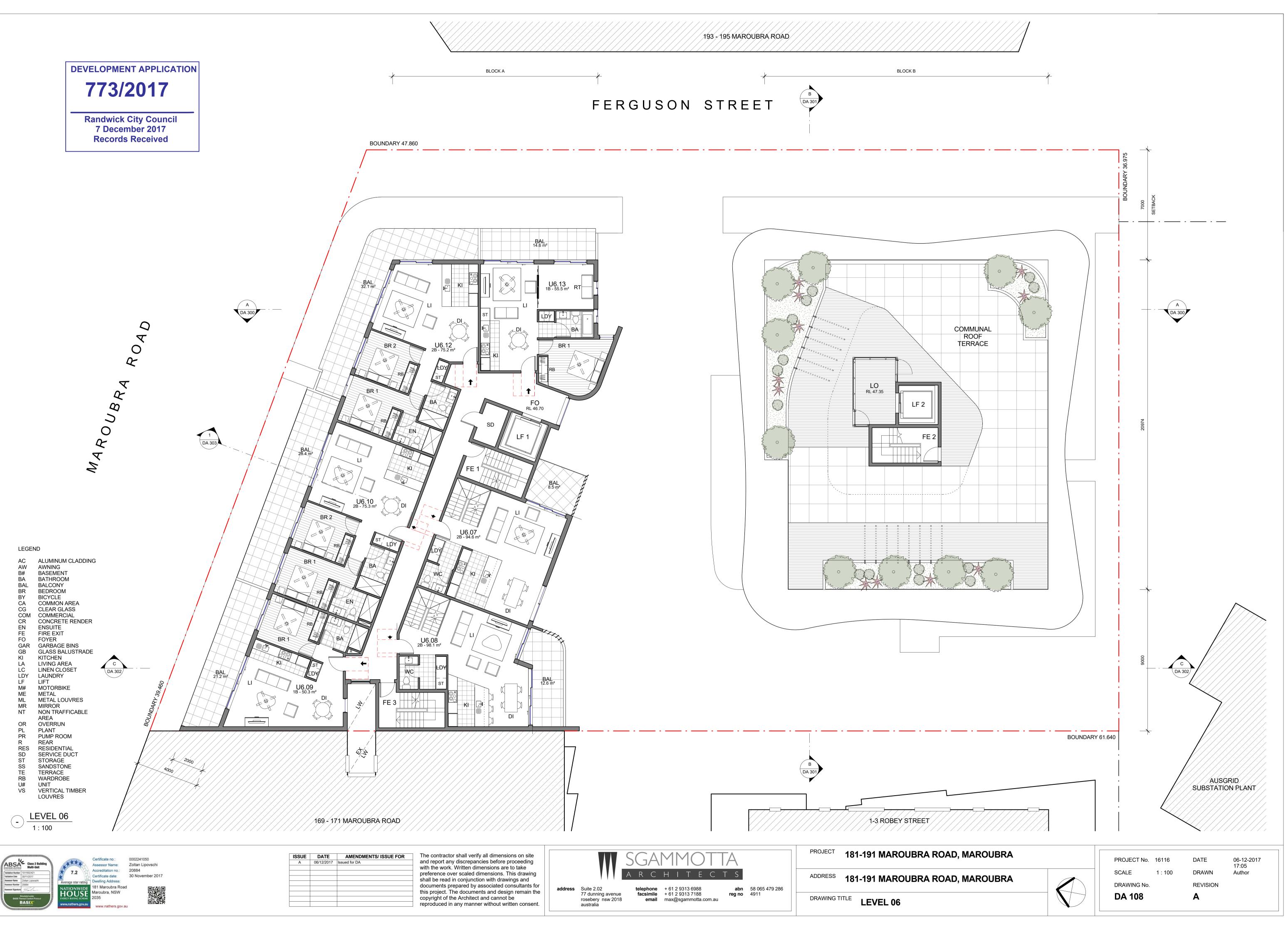




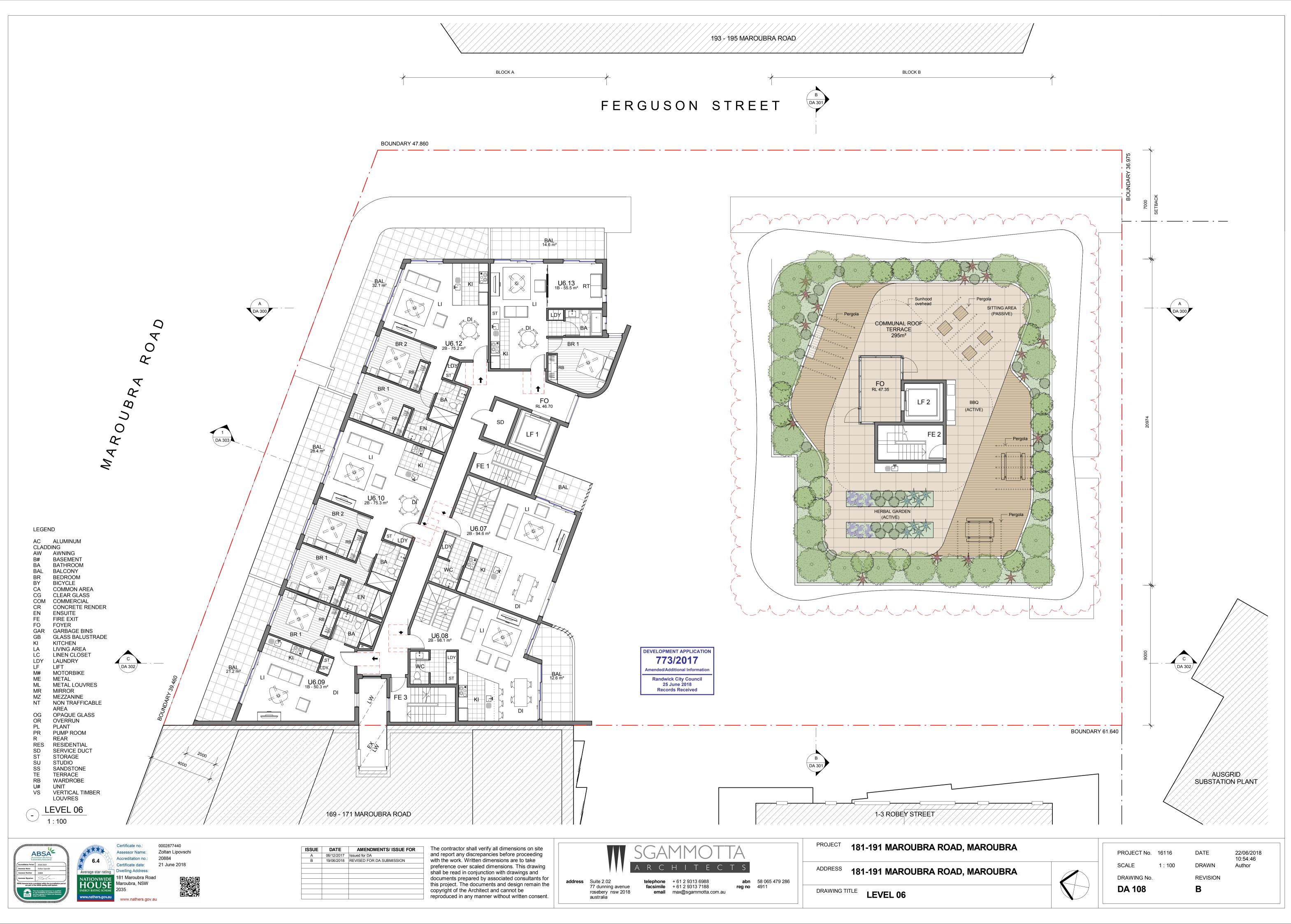


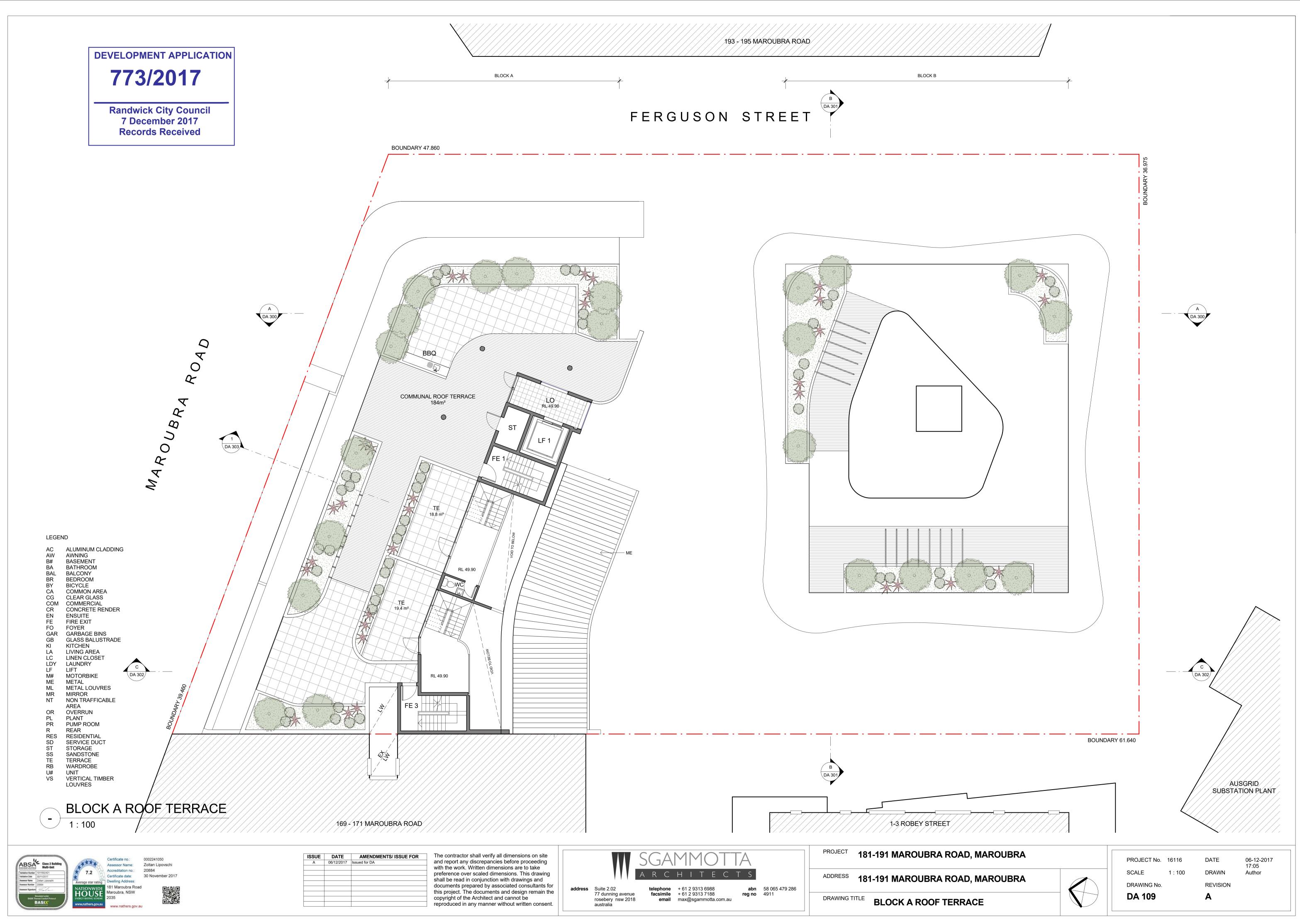
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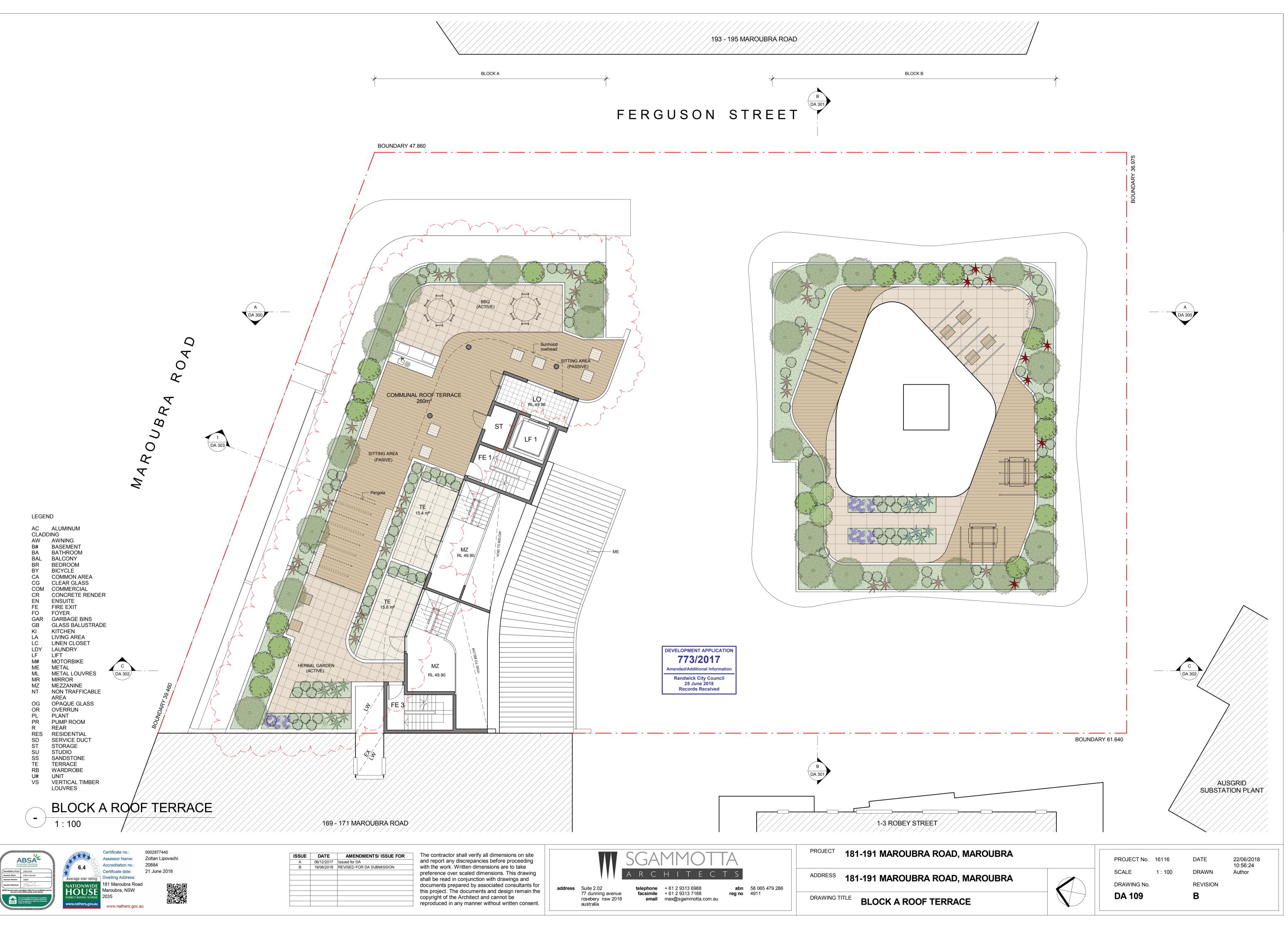
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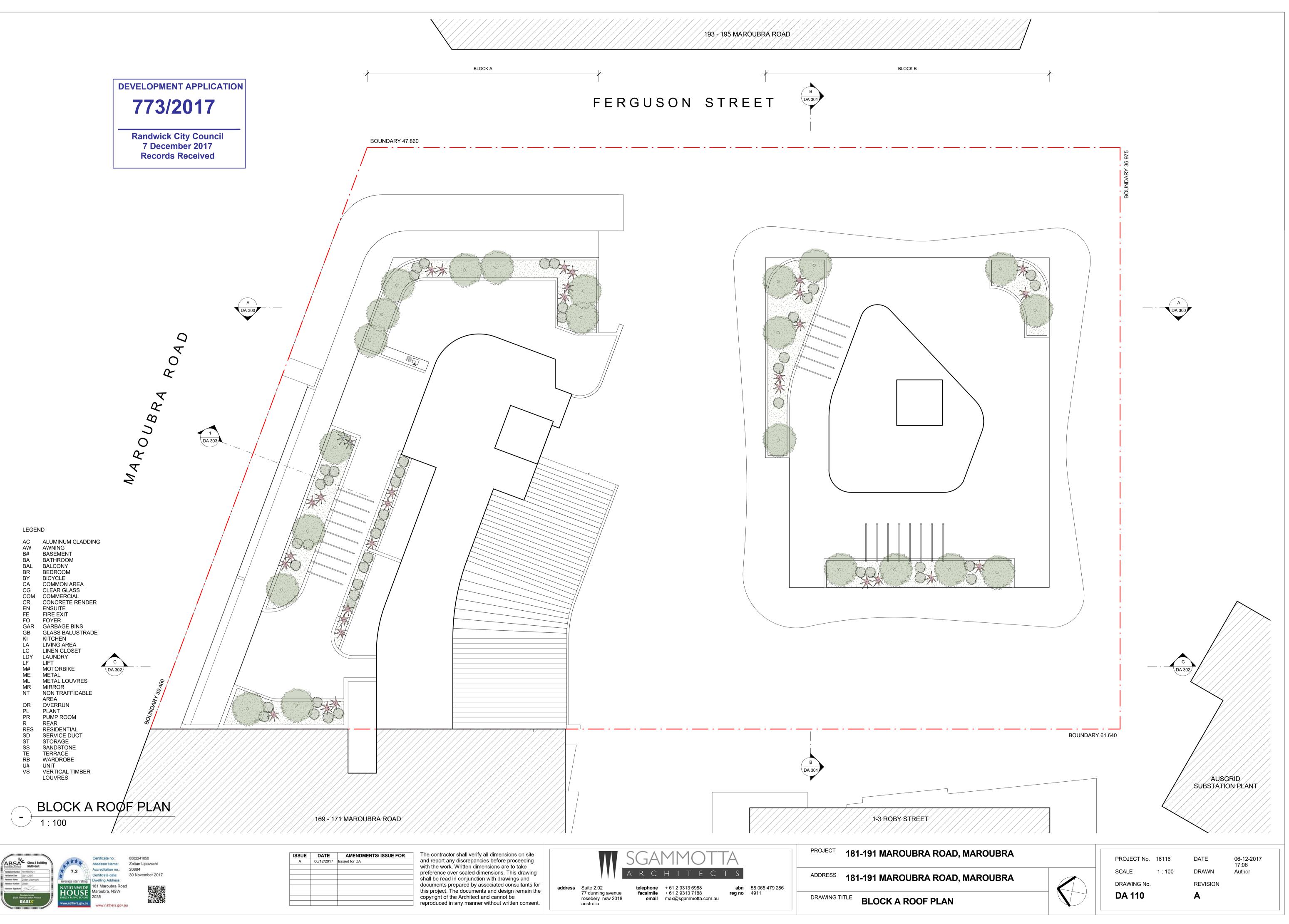


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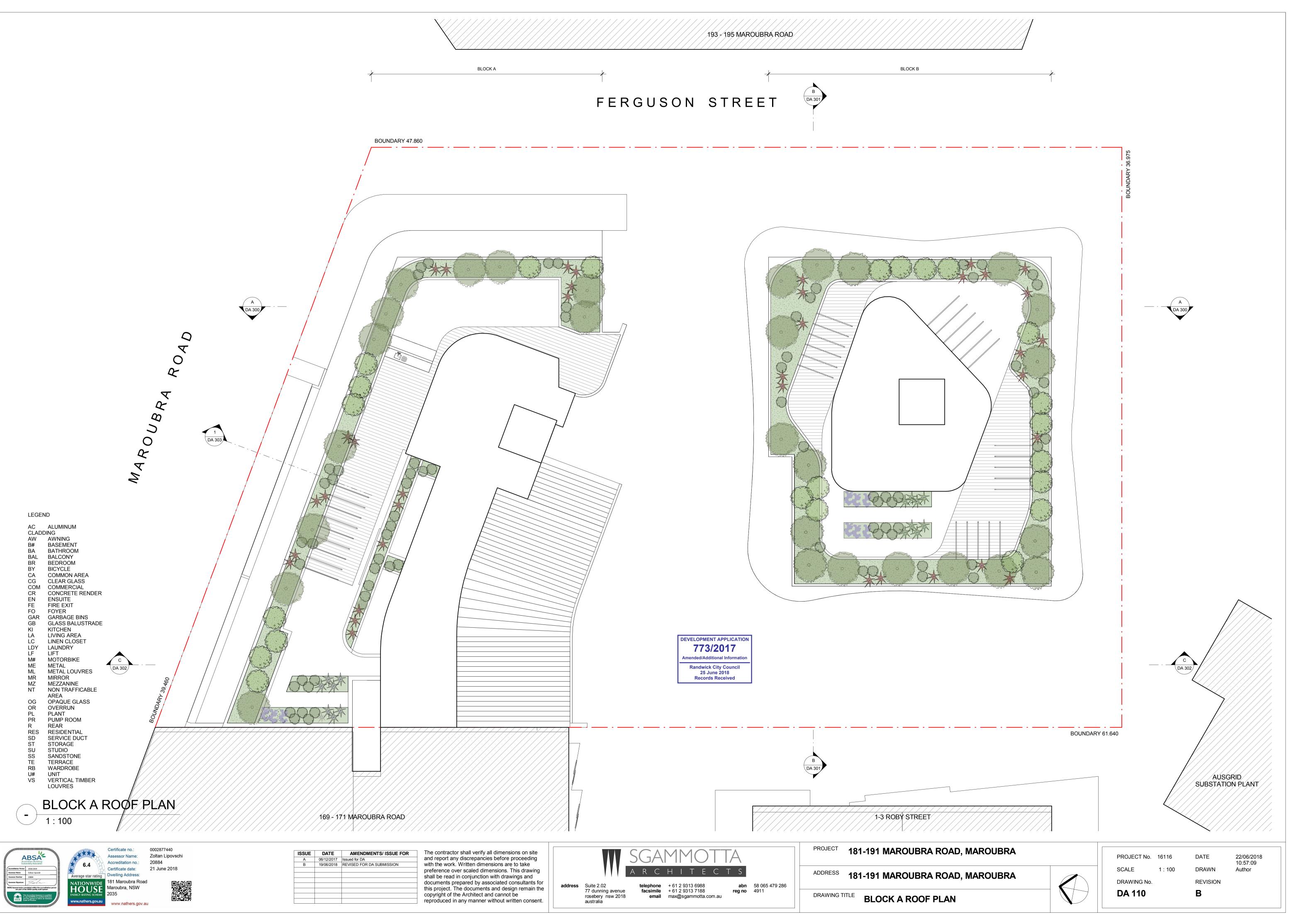


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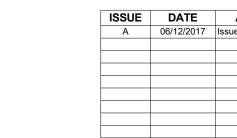






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Zoltan Lipovschi



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	A	06/12/2017	Issued for DA

with the work. Written dimensions are to take copyright of the Architect and cannot be



## 2 UNIT 1.10/2.10/3.10/4.10/5.10 Post-Adaptation

### UNIT 1.06/2.06/3.06/4.06/5.06 Post-Adaptation

## UNIT 1.02/2.02/3.02/4.02 Post-Adaptation

DRAWN REVISION 06-12-2017 17:06 Author



Certificate no .: Assessor Name: Accreditation no .: Certificate date: Dwelling Address: 181 Maroubra Road Maroubra, NSW

www.nathers.gov.au



ISSUE DATE AMENDMENTS/ ISSUE FOR Α 
 06/12/2017
 Issued for DA

 19/06/2018
 REVISED FOR DA SUBMISSION

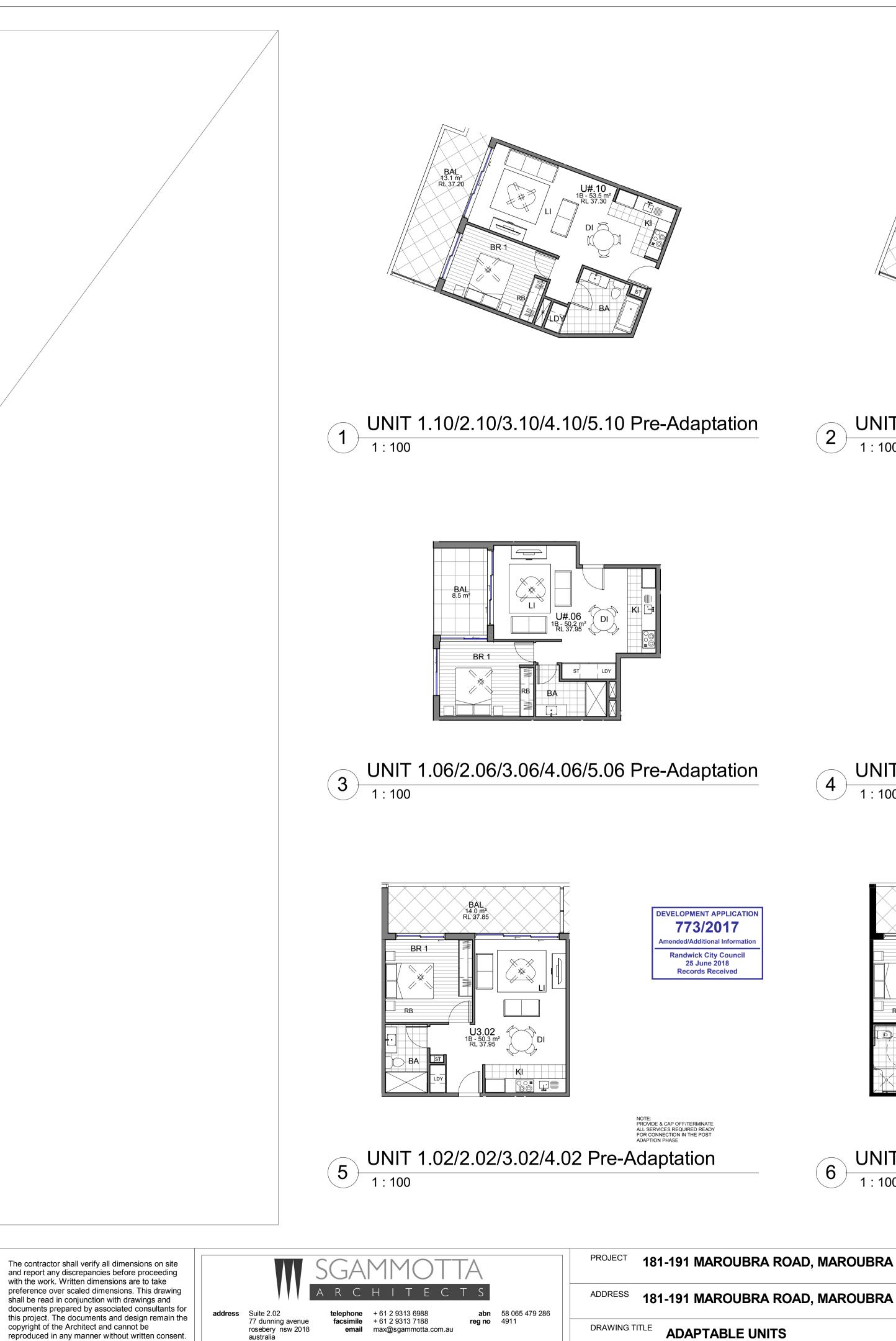
The contractor shall verify all dimensions on site with the work. Written dimensions are to take copyright of the Architect and cannot be reproduced in any manner without written consent.

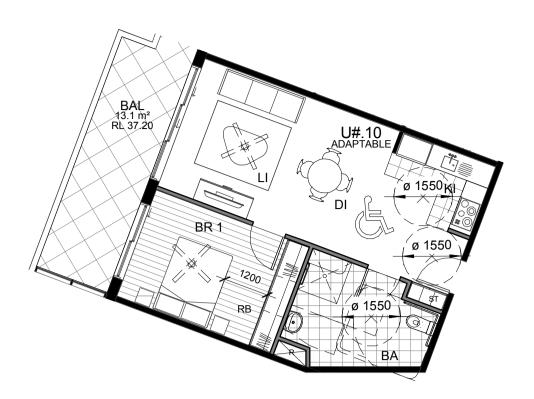
XXXX 6.4 Average star rating NATIONWIDE HOUSE ENERGY RATING SCHEME 2035

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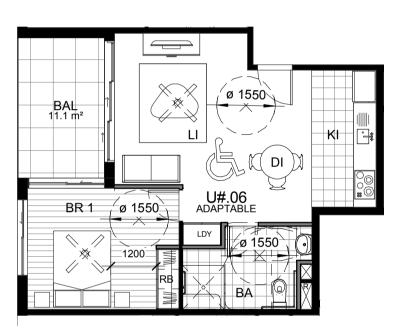


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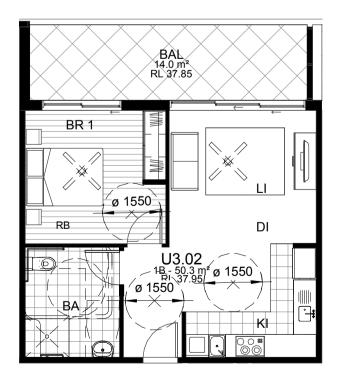




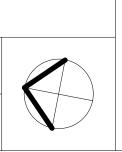
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# 4 UNIT 1.06/2.06/3.06/4.06/5.06 Post-Adaptation



### UNIT 1.02/2.02/3.02/4.02 Post-Adaptation 1 : 100



PROJECT No. 16116 1 : 100 SCALE DRAWING No. DA 120

DATE DRAWN REVISION Β

22/06/2018 10:57:48 Author