

# St Leonards South

## Area 4

# BASIX Report

DA Review

**Prepared for:** New Hope Evergreen Pty Ltd

**Att:** Alistair Cook

**Date:** 07/09/2022

**Prepared by:** Henry Andresen

**Ref:** 301350653

**Stantec Australia Pty Ltd**

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# Revision

Revision	Date	Comment	Prepared By	Approved
1	07/09/2022	DA BASIX Report – Tower 4	HA	RD

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## Qualifications to this Report

The following qualifications apply to this report:

- Information has been based on our understanding of the proposed building and documentation provided, as noted.
- This report outlines the scope of works required for BASIX compliance only. Additional requirements such as civil/stormwater, façade design and/or acoustic requirements should be coordinated with the relevant design consultants.
- As this project involves no detailed design or site supervision by Stantec, we advise that we will not prepare a Safety in Design report for this project. As detailed in our scope of work we will review the Safety in Design report prepared by the project designer and make comment as appropriate. We confirm that the responsibility for complying with the requirements of the state OS&H legislation remains with the project designer in conjunction with the project team and the client.

## Disclaimer

The energy models prepared for BASIX thermal comfort compliance provides an estimate of the base building's energy performance. This estimate is based on a necessarily simplified and idealised version of the building that does not and cannot fully represent all of the intricacies of the building and its operation. As a result, the energy model results only represent an interpretation of the potential performance of the building. No guarantee or warrantee of building performance in practice can be based on energy modelling results alone.



# 1. Executive Summary

We can confirm the following outcome of the BASIX analysis for 4-8 Marshall Avenue, 1-5 Canberra Avenue and 2-8 Holdsworth Avenue, also known as Area 1, 2 and 4 of the St Leonards South (SLS) Precinct development project.

This report is a DA issue for **area 4** of the wider SLS precinct development. Respective BASIX reports for areas 1 and 2 have been prepared and provided as part of this DA submission.

It has been determined that the proposed buildings have achieved a BASIX Certification with the following scores

	Energy Score	Water Score	Thermal Comfort	Average NatHERS
<b>Target</b>	25%	40%	Pass	6.0 (Development wide)
<b>SLS Area 4</b>	30%	42%	Pass	6.1

**Table 1: BASIX Scores**

- BASIX Certificates have been included in Appendix A.
- Further information regarding the thermal comfort and building fabric specification has been outlined within Section 4 of this report. Note this specification detail forms the basis of BASIX compliance and therefore must be documented within the project design/specification in order to achieve CC approval.
- Our assessment works have been conducted based on the Architectural Plans (30/06/2022, DA Rev) as part of the BASIX drawing sets provided by the rothelowman Architect team.





## 2. Design Documentation

The following BASIX assessment is based on all architectural drawings received from rothelowman dated (08/09/2022) and associated design notes, including:

Drawing No.	Drawing Description	Revision	Received/ Dated
TP01.28	AREA 1, 2 & 4 ST LEONARDS SOUTH	C	02.09.2022
TP00.00	AREA 1, 2 & 4 ST LEONARDS SOUTH	B	12.09.2022

## 3. Thermal Comfort Design Assessment

The thermal comfort aspect of this assessment was conducted using the FirstRate5 Thermal Performance Assessment Software, which assesses the thermal performance of a Class 1 or Class 2 dwelling in accordance with the requirements of National House Energy Rating Scheme (NatHERS) scheme as stated in the BASIX Thermal Comfort Protocol.

Compliance requires that the average area adjusted heating and cooling loads are below or equal to the average area adjusted heating and cooling loads calculated by BASIX. In addition, individual dwellings must also meet descriptive targets as defined by BASIX.

Based on the information received to date, the development average area adjusted heating and cooling loads were found to be as noted in the table below.

### Development Average NatHERS Star Ratings:

Building	Achieved Average NatHERS Star Rating	Minimum Development Average
Building 4 (Area 4)	6.1	6.0 (Development wide)

### Development Average Heating and Cooling Loads:

	Heating Load (MJ/m <sup>2</sup> /year)	Cooling Load (MJ/m <sup>2</sup> /year)
BASIX Maximum Average	45.4	29.5
St Leonards South Development Average	30.8	19.9

**Note:** Full summary of NatHERS Thermal Performance Results is attached within Appendix A

### 3.1 Energy Modelling Software

Thermal comfort compliance has been demonstrated via the simulation method within BASIX. Stantec have conducted energy simulations utilizing FirstRate5 software (Version 5.3.2a) which is approved under the BASIX Thermal Comfort Protocol (November 2020).



## 3.2 Energy Modelling Limitations

The energy modelling results obtained from the FirstRate5 software provides an estimate of the base building energy performance only. This estimate is based upon a simplified and idealised version of the building that does not fully comply with the intricacies of a building and its operation. As a result, the energy mode represents an interpretation of the potential building performance only. Several dependent factors will affect the actual operational performance of the building, including local climate variation, building occupant behaviour, construction technique and building services commissioning. No guarantee or warrantee of building performance in practice can be based on energy modelling results alone.

## 4. Design Specification

### 4.1 BASIX Compliant Design Specification

#### 4.1.1 Design Specification – FABRIC

Design Specification – FABRIC
<b>External Walls:</b>  <b>R2.25</b> Insulation.  <b>R3.5 Required to all external (non-balcony) walls in Penthouse T4.13.U02</b>  <b>Internal Walls to Adjoining Apartment:</b>  As the adjoining apartment is considered a conditioned space there is no thermal insulation requirement for this wall.  Therefore, the insulation to this wall shall be as per acoustic requirements.  <b>Internal Walls to Corridors:</b>
<b>Exposed Ceilings and Roof:</b>  <b>R3.5, R4.0 (Level 18-19 Penthouse only)</b>  <b>Exposed Soffit:</b>  <b>R2.0</b> Insulation
<b>Windows and Glazed Doors:</b>  Double Glazed Clear – <b>U 4.8, SHGC 0.59</b>  Double Glazed Argon filled – <b>U4.5, SHGC 0.61</b> (T4.12.U02, T4.13.U01, T4.13.U02)  All windows have been specified with weather-strips to prevent air infiltration when closed. This is standard compliance with AS2047.  <b>Note:</b> The thermal performance values for all windows detailed above are for glass and framing system combined.

#### 4.1.2 Design Specification - WATER

Design Specification – WATER
<b>Alternative Water Supply</b>



A 30kL Rainwater tank has been included in the design. The rainwater tank serves areas 1, 2 & 4 of the development to irrigate the landscape and for use in washdown areas
<p><b>Fixtures &amp; Fittings:</b></p> <p>We note that fixtures with the following WELS ratings have been included in the BASIX Assessment:</p> <p><b>Common Areas (as applicable) &amp; all dwellings:</b></p> <ul style="list-style-type: none"> <li>• 4 Star WELS minimum rated Showerheads (&gt; 6 but &lt;= 7.5 L/min)</li> <li>• 5 Star WELS minimum rated Toilets</li> <li>• 6 Star WELS minimum rated Kitchen taps</li> <li>• 6 Star WELS minimum rated Bathroom taps</li> <li>• 5 Star WELS minimum rated dishwasher</li> </ul> <p>*Note: a reduction in the WELS rating of these fixtures or appliances will affect the water aspect of the BASIX rating.</p>
<p><b>Outdoor Pool &amp; Spa</b></p> <p>- N/A</p>
<p><b>Fire System:</b></p> <p>One sprinkler system per building</p> <p>Fire sprinkler test water will be contained in a closed system.</p>

#### 4.1.3 Design Specification - ENERGY

Design Specification - ENERGY
<p><b>Alternative Energy Supply/ Solar Photovoltaic System</b></p> <p>N/A</p>
<p><b>Air Leakage</b></p> <p>Kitchen, bathroom, and laundry exhaust shall be via individual fan ducted to the façade or roof.</p> <p>Back-draft dampers must be installed to prevent air infiltration.</p>
<p><b>Hot Water System</b></p> <p>A centralised hot water system (gas fired manifolded) is to be installed to serve all dwellings. One system has been allocated per building for the BASIX assessment.</p> <p>Domestic Hot Water internal pipework is required to have minimum R0.6 insulation.</p> <p><i>It should be noted that a less efficient hot water system will affect the BASIX Energy rating.</i></p>
<p><b>Mechanical Ventilation Systems:</b></p> <p><b>Common Areas:</b></p> <p>Ventilation supply + exhaust with a carbon monoxide monitor and VSD fan</p>



- Car Park Basements

Ventilation exhaust only

- Garbage rooms

Ventilation supply only, interlocked to light

- Site plant and service rooms

Ventilation supply only, time clock or BMS controlled

- Storage spaces
- Site wide building corridors/hallway spaces
- Residential Lobby

No mechanical ventilation

- Fire Stairs (Stair pressurisation in emergency mode only)

#### **Dwellings:**

Kitchen, bathroom, and laundry exhaust will be ducted to the external façade or roof (manual on/off switch).

#### **Dwelling Cooling Systems:**

Centralised cooling system: Variable refrigerant volume unit 1-per-tower, electric driven compressor, air cooled condenser. Medium - COP 3.5 –5.5 is specified for all buildings across site.

#### ***Ceiling Fan Strategy:***

Requirement	Unit
1 x 1400mm Ceiling Fan to Kitchen/Living	T4.03.U01, T4.03.U02, T4.03.U04, T4.03.U05, T4.03.U06, T4.03.U08, T4.03.U09, T4.04.U01, T4.04.U02, T4.04.U05, T4.04.U08, T4.05.U01,

#### **Dwelling Heating Systems:**

Centralised heating system: Variable refrigerant volume unit 1-per-tower, electric driven compressor, air sourced evaporator. Medium - COP 3.5 –5.5 is specified for all buildings across site.

#### **Lighting:**

##### **Common Areas:**

Dedicated LED lamps throughout.

Zoned switching and Motion Sensor to:

- Car Park areas
- Fire stairs

Motion Sensors to:

- Storage spaces
- Garbage rooms
- All plant and service rooms



<p>All lifts: LED connected to lift call button</p> <p>Time clock and motion sensors to:</p> <ul style="list-style-type: none"> <li>• Site wide building corridors/hallway spaces</li> <li>• Ground floor lobby spaces</li> </ul> <p><b>Dwellings:</b></p> <p>Dedicated LED Lamps throughout.</p>
<p><b>Vertical Transportation:</b></p> <p>Gearless traction lifts with V V V F motor and regenerative drive serving all storeys of all buildings have been specified within the BASIX certificate.</p>
<p><b>Dwelling Appliance Specifications:</b></p> <p>The following minimum energy performance specifications have been included within the BASIX assessment:</p> <ul style="list-style-type: none"> <li>• Gas cooktops and electric ovens to all dwellings.</li> <li>• Fridge: 4-star energy rating</li> <li>• Dishwasher: 4-star energy rating</li> <li>• Dryer: 3-star energy rating</li> </ul> <p><i>Compliance Note: A reduction in the quality of any of these appliances will affect the energy aspect of the BASIX rating. Client to confirm which appliances are to be included within base-building design.</i></p>
<p><b>Common Pool and Spa</b></p> <p>Electric heat pumps to all pools and spas across the development.</p>



## 5. BASIX Certification Detail

Project Summary	
Project Name	St Leonards South – Area 4
Street Address	4-8 Marshall Avenue, 1-5 Canberra Avenue and 2-8 Holdsworth Avenue
Local Government Area	Lane Cove Council
Plan Type / Number	DP 7259
Lot No#	1-3, 5-7 & 39-42
Section No#	Section 3
No. of Residential Buildings	1
No. of units in Residential Flat Buildings	53
No. of multi-dwelling houses	0
No. of single dwelling houses	0
BASIX Certificate No#	1262669M
Project Score	
Water	42
Thermal Comfort	Pass
Energy	30



## 6. Appendix A: BASIX Certificates



# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 1262669M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Wednesday, 07 September 2022

To be valid, this certificate must be lodged within 3 months of the date of issue.



Planning,  
Industry &  
Environment

### Project summary

Project name	St Leonards South - Area 4
Street address	Canberra Avenue St Leonards 2065
Local Government Area	Lane Cove Municipal Council
Plan type and plan number	deposited 7259
Lot no.	1
Section no.	3
No. of residential flat buildings	1
No. of units in residential flat buildings	53
No. of multi-dwelling houses	0
No. of single dwelling houses	0

### Project score

Water	✓ 42	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 30	Target 25

### Certificate Prepared by

Name / Company Name: Stantec Australia Pty Ltd

ABN (if applicable): 17007820322



# Description of project

## Project address

Project name	St Leonards South - Area 4
Street address	Canberra Avenue St Leonards 2065
Local Government Area	Lane Cove Municipal Council
Plan type and plan number	deposited 7259
Lot no.	1
Section no.	3

## Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	53
No. of multi-dwelling houses	0
No. of single dwelling houses	0

## Site details

Site area (m <sup>2</sup> )	1671
Roof area (m <sup>2</sup> )	489.8
Non-residential floor area (m <sup>2</sup> )	0.0
Residential car spaces	70
Non-residential car spaces	0

## Common area landscape

Common area lawn (m <sup>2</sup> )	555.02
Common area garden (m <sup>2</sup> )	203.0
Area of indigenous or low water use species (m <sup>2</sup> )	152.25

## Assessor details

Assessor number	DMN/21/2042
Certificate number	EC9JNIBAJ2
Climate zone	56
Ceiling fan in at least one bedroom	No
Ceiling fan in at least one living room or other conditioned area	No

## Project score

Water	✓ 42	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 30	Target 25

## Description of project

The tables below describe the dwellings and common areas within the project

### Residential flat buildings - AREA 4, 53 dwellings, 13 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.01	3	176.6	0.0	0.0	0.0
3.01	1	50.0	0.0	0.0	0.0
3.07	2	67.0	0.0	0.0	0.0
4.03	2	69.2	0.0	0.0	0.0
4.08	1	52.5	0.0	0.0	0.0
5.05	2	67.0	0.0	0.0	0.0
6.03	3	148.9	0.0	0.0	0.0
8.03	2	78.3	0.0	0.0	0.0
9.04	2	80.0	0.0	0.0	0.0
11.01	2	80.9	0.0	0.0	0.0
12.02	4 or more bedrooms	164.2	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.02	3	177.1	0.0	0.0	0.0
3.02	1	50.0	0.0	0.0	0.0
3.08	1	52.5	0.0	0.0	0.0
4.04	2	80.7	0.0	0.0	0.0
5.01	1	50.0	0.0	0.0	0.0
5.06	1	52.5	0.0	0.0	0.0
6.04	3	141.3	0.0	0.0	0.0
8.04	2	80.0	0.0	0.0	0.0
10.01	2	80.9	0.0	0.0	0.0
11.02	2	80.1	0.0	0.0	0.0
13.01	4 or more bedrooms	156.3	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.04	1	177.5	0.0	0.0	0.0
3.04	1	50.0	0.0	0.0	0.0
3.09	1	52.5	0.0	0.0	0.0
4.05	2	67.7	0.0	0.0	0.0
5.02	1	50.0	0.0	0.0	0.0
5.07	1	52.5	0.0	0.0	0.0
6.05	3	145.6	0.0	0.0	0.0
9.01	2	80.9	0.0	0.0	0.0
10.02	2	80.1	0.0	0.0	0.0
11.03	2	78.3	0.0	0.0	0.0
13.02	4 or more bedrooms	164.2	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.05	3	176.6	0.0	0.0	0.0
3.05	1	48.9	0.0	0.0	0.0
4.01	1	50.0	0.0	0.0	0.0
4.06	2	67.0	0.0	0.0	0.0
5.03	2	69.2	0.0	0.0	0.0
6.01	3	143.1	0.0	0.0	0.0
8.01	2	80.9	0.0	0.0	0.0
9.02	2	80.1	0.0	0.0	0.0
10.03	2	78.3	0.0	0.0	0.0
11.04	2	80.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
2.03	1	86.2	0.0	0.0	0.0
3.06	2	67.7	0.0	0.0	0.0
4.02	1	50.0	0.0	0.0	0.0
4.07	1	52.5	0.0	0.0	0.0
5.04	2	102.2	0.0	0.0	0.0
6.02	3	123.1	0.0	0.0	0.0
8.02	2	80.1	0.0	0.0	0.0
9.03	2	78.3	0.0	0.0	0.0
10.04	2	80.0	0.0	0.0	0.0
12.01	4 or more bedrooms	158.7	0.0	0.0	0.0

## Description of project

The tables below describe the dwellings and common areas within the project

### Common areas of unit building - AREA 4

Common area	Floor area (m <sup>2</sup> )
Car park area	2312.4
Residential Lobby (BLDG 4)	112.7

Common area	Floor area (m <sup>2</sup> )
Lift car (No.1)	-
Hallway (BLDG 4)	414.66

Common area	Floor area (m <sup>2</sup> )
Lift car (No.2)	-

### Common areas of the development (non-building specific)

Common area	Floor area (m <sup>2</sup> )
Garbage room (No. 1)	74.9
Storage	219.4

Common area	Floor area (m <sup>2</sup> )
Plant or service room (No. 1)	386.9

Common area	Floor area (m <sup>2</sup> )
Fire Stair	292.0

# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - AREA 4

### (a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

### (b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

## 2. Commitments for multi-dwelling houses

## 3. Commitments for single dwelling houses

## 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

### 1. Commitments for Residential flat buildings - AREA 4

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but <= 7.5 L/min)	5 star	6 star	6 star	no	-	5 star	-	-	-	-	-	-	-

Dwelling no.	Alternative water source							
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	<b>Hot water</b>	<b>Bathroom ventilation system</b>		<b>Kitchen ventilation system</b>		<b>Laundry ventilation system</b>	
<b>Dwelling no.</b>	<b>Hot water system</b>	<b>Each bathroom</b>	<b>Operation control</b>	<b>Each kitchen</b>	<b>Operation control</b>	<b>Each laundry</b>	<b>Operation control</b>
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	interlocked to light

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	-

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & gas oven	4 star	yes	4 star	-	3 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	



(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must:  (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1.01	45.1	20.8
1.02	38.8	22.0
1.04	33.1	15.9
1.05	43.4	17.9
2.03	32.1	20.2
3.01	20.0	20.1
3.02	9.7	13.0
3.04	21.6	13.8
3.05	34.5	15.0
3.06	37.5	18.2
3.07	30.5	19.4
3.08	15.0	9.7
3.09	27.9	13.9
4.01	20.0	19.2

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
4.02	14.8	13.8
4.03	30.8	15.8
4.04	38.7	17.8
4.05	42.4	18.0
4.06	22.7	18.1
4.07	17.4	14.5
4.08	29.3	14.0
5.01	29.0	17.2
5.02	17.8	21.2
5.03	36.7	12.4
5.04	45.3	12.2
5.05	29.6	16.8
5.06	26.6	13.2
5.07	38.1	21.9
6.01	19.1	25.3
6.02	35.2	23.6
6.03	34.9	28.1
6.04	43.0	19.6
6.05	36.4	23.6
8.01	25.2	26.5
8.02	38.7	17.9
8.03	29.2	20.8
8.04	26.0	21.0
9.01	33.7	27.1
9.02	37.5	19.2
9.03	30.6	24.4
9.04	25.9	22.4

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in mJ/m <sup>2</sup> /yr)
10.01	30.1	24.6
10.02	38.1	20.4
10.03	30.0	25.0
10.04	25.4	23.6
11.01	34.0	24.7
11.02	40.3	20.5
11.03	29.8	26.1
11.04	25.1	24.5
12.01	19.8	22.9
12.02	29.4	20.9
13.01	41.6	28.3
All other dwellings	45.3	25.1

**(b) Common areas and central systems/facilities**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park area	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	No
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	No
Residential Lobby (BLDG 4)	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	No
Hallway (BLDG 4)	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired boiler	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Central cooling system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: air cooled condenser Unit efficiency (min): medium - COP 3.5 - 5.5
Central heating system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency: medium - COP 3.5 - 5.5
Lift (No. 1)	gearless traction with V V V F motor and regenerative drive	Number of levels (including basement): 18

Central energy systems	Type	Specification
Lift (No. 2)	gearless traction with V V V F motor and regenerative drive	Number of levels (including basement): 18

#### 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

##### (b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	10000.0	To collect run-off from at least: - 489.8 square metres of roof area of buildings in the development - 200.0 square metres of impervious area in the development - 605.6 square metres of garden/lawn area in the development - 332.9 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 605.6 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Garbage room (No. 1)	ventilation exhaust only	-	light-emitting diode	motion sensors	No
Plant or service room (No. 1)	ventilation supply only	interlocked to light	light-emitting diode	motion sensors	No
Fire Stair	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	No
Storage	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	No



## Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

## Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

## 7. Appendix B: Insulation Markup





AREA 1, 2 & 4 ST LEONARDS SOUTH  
SITE 1,2,4  
4-8 MARSHALL AVE, 1-5 CANBERRA AVE, 2-8 HOLDSWORTH AVE, ST LEONARDS

DRAWING LIST		
DRAWING NUMBER	DRAWING TITLE	REVISION
TP00.00	COVER PAGE	B
TP00.01	SITE PLAN	B
TP00.02	DEMOLITION PLAN	B
TP01.00	BASEMENT 4	B
TP01.01	BASEMENT 3	B
TP01.02	BASEMENT 2	B
TP01.03	BASEMENT 1	B
TP01.04	LEVEL 0	B
TP01.05	LEVEL 1	B
TP01.11	LEVEL 2	B
TP01.12	LEVEL 3	B
TP01.13	LEVEL 4	B
TP01.14	LEVEL 5	B
TP01.15	LEVEL 6	B
TP01.16	LEVEL 7	B
TP01.17	LEVEL 8	B
TP01.18	LEVEL 9	B
TP01.19	LEVEL 10	B
TP01.20	LEVEL 11	B
TP01.21	LEVEL 12	B
TP01.22	LEVEL 13	B
TP01.23	LEVEL 14	B
TP01.24	LEVEL 15	B
TP01.25	LEVEL 16	B
TP01.26	LEVEL 17	B
TP01.27	LEVEL 18	B
TP01.28	LEVEL 19	B
TP01.29	ROOF PLAN	B
TP02.01	NORTH ELEVATION - BUILDING 1 & 2	B
TP02.02	SOUTH ELEVATION - BUILDING 4	B
TP02.03	SOUTH ELEVATION - BUILDING 1 & 2	B
TP02.04	EAST ELEVATION - BUILDING 1	B
TP02.05	EAST ELEVATION - BUILDING 2 & 4	B
TP02.06	WEST ELEVATION - BUILDING 2 & 4	B
TP02.07	WEST ELEVATION - BUILDING 1	B
TP02.08	NORTH ELEVATION - BUILDING 4	A
TP03.01	SECTION A1	B
TP03.02	SECTION A2	B
TP03.03	SECTION B	B
TP03.04	SECTION C	B
TP05.00	OVERALL DEVELOPMENT SUMMARY	B
TP11.01	GFA - TOWER ONE	B
TP11.03	GFA - TOWER TWO AND FOUR	B
TP11.05	GFA - TOWER TWO AND FOUR	B
TP12.01	3D SOLAR POV STUDIES	B
TP12.02	3D SOLAR POV STUDIES	B
TP12.03	3D SOLAR POV STUDIES	B
TP13.01	SEPP 65 COMPLIANCE	B
TP13.02	SEPP 65 COMPLIANCE	B
TP13.03	SEPP 65 COMPLIANCE	B
TP13.04	SEPP 65 COMPLIANCE	B
TP13.05	DEEP SOIL + SITE AMENITY	B
TP13.06	COMMUNAL OPEN SPACE	B
TP13.07	HEIGHT PLANE DIAGRAM	B
TP13.08	T2 T4 FOOTPRINT	A
TP13.11	STORAGE COMPLIANCE	B
TP14.01	SHADOWS PROPOSED	B
TP14.02	SHADOWS PROPOSED	B
TP14.03	SHADOWS PROPOSED	B
TP15.01	ADAPTABLE AND VISITABLE COMPLIANCE	B
TP15.02	ADAPTABLE LAYOUT PLANS	B
TP15.03	ADAPTABLE LAYOUT PLANS	B
TP15.04	ADAPTABLE LAYOUT PLANS	B
TP15.05	ADAPTABLE LAYOUT PLANS	A
TP15.06	ADAPTABLE LAYOUT PLANS	A
DRAWING TOTAL: 65		



PRELIMINARY ISSUE

Revisions	A	30.06.22	DA SUBMISSION	RIC
	B	08.09.22	RFI RESPONSE	MA

Project / **AREA 1, 2 & 4 ST  
LEONARDS SOUTH**  
NSW

Drawing / **COVER PAGE**

Project No / **221089**      Date / **08.09.22**

Author / **MA**

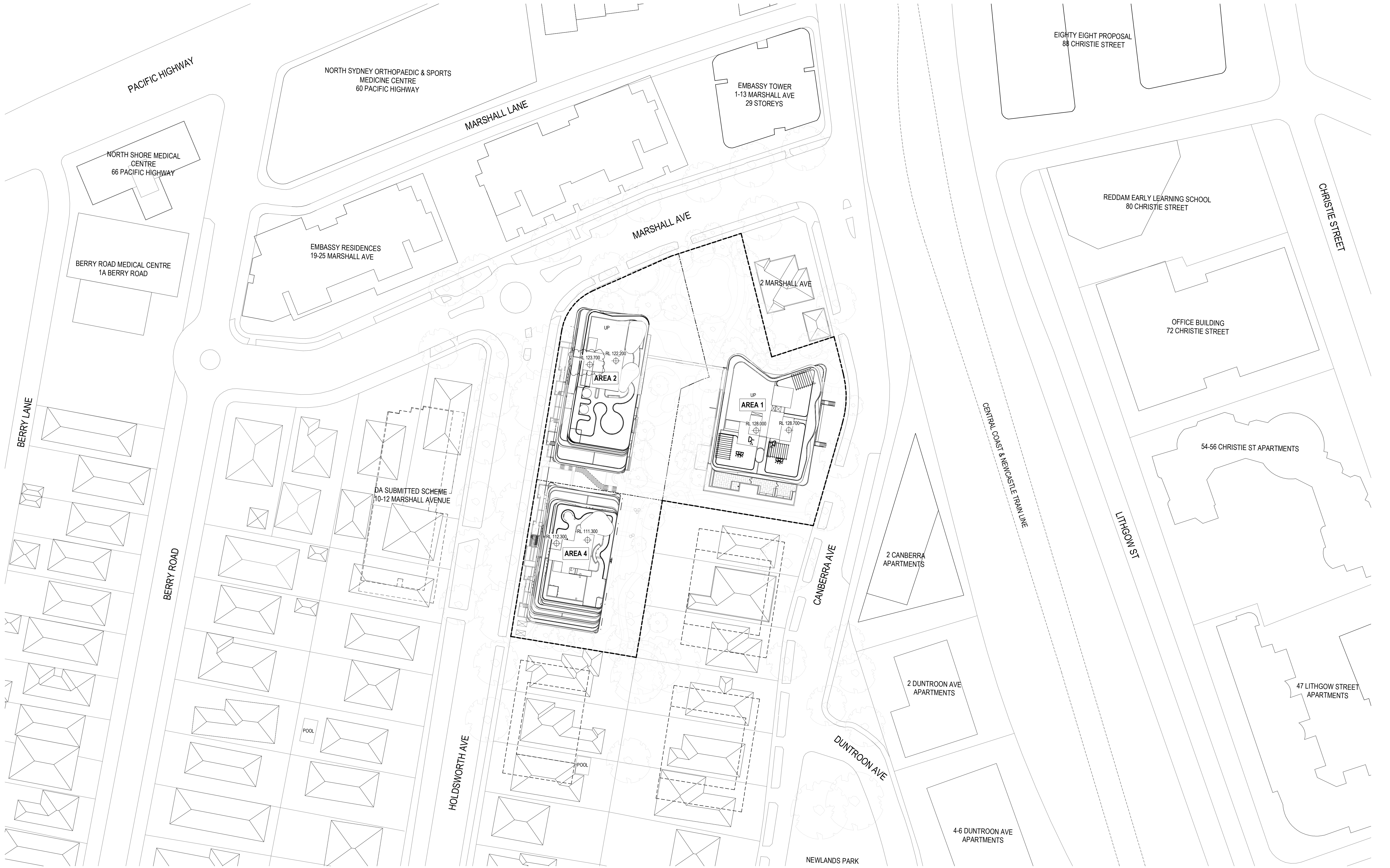
Scale: @ A1/

Drawing No. / **TP00.00**

**B**

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REFER TO LANDSCAPE DRAWINGS BY LANDSCAPE ARCHITECT FOR FURTHER INFORMATION

PRELIMINARY ISSUE

Revisions	A	30.06.22	DA SUBMISSION	RIC
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **SITE PLAN**

Project No / **221089**      Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 500**

Drawing No. / **TP00.01**

**B**

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Demolition Notes

Contractor to confirm existing conditions on site.

Contractor to demolish existing structure/remove all materials. Cut and seal services as required in accordance with local authority requirements and a.s. codes for that trade u.n.o

Protection of works as required by local authorities

Cleaning of site to epa requirements by contractor

Asbestos

Contractor to allow for complete demolition & removal of all asbestos products. All asbestos products to be removed & handled as per relevant Australian standards

Extent of demolition work as indicated on this drawing & heritage consultants drawings & specifications, including but not limited to the following:

Removal/demolition of all existing floor/slabs & footings, external and internal walls, windows, doors, cladding, gutters, downpipes, rainwater heads, cappings, flashing gutter board supports etc. u.n.o

Removal/demolition of all existing works including but not limited to external steps, paths, carparks, planters & landscaping, gates, fences, garden walls, retaining walls, bollards, light blades signs, columns etc. u.n.o

Removal/demolition of all existing fixtures and fittings including but not limited to lights, taps, basins, wcs etc. Disconnection & removal of existing services to be undertaken by appropriate contractors

Contractor to make good damage to adjoining buildings, pavement, laneways, roads, fences, kerbs, channels, services, street furniture, carspace markings etc. (ie. Any adjoining objects/materials not within site boundary) resulting from demolition works.

All repairs to authority requirements or to condition prior to demolition. Contractors are responsible for relocation and co-ordination of road carparking markings, ticket machines etc.

Preliminary

Precautionary measures to be undertaken as described in AS 2601-2001. A "hazardous substances management plan" is to be implemented before and during demolition if the preliminary investigation of the building identifies any hazardous materials contained therein. These materials will be removed as per the guidelines of the responsible authority and clearance certificate obtained before demolition commences

Safety fencing

Security fences shall be provided to the street boundary of the demolition site and any additional precautionary measures, taken as may be necessary to prevent unauthorised entry to the site, where the demolition site adjoins a public thoroughfare the common boundary between them shall be fenced for its full length with a hoarding unless the least horizontal distance between the common boundary and the nearest part of the structure is greater than twice the height of the structure. The fencing shall be the equivalent of the chain wire as specified in AS 1725

Notices lettered in accordance with AS 1319 and displaying the words "warning demolition in progress", or similar, shall be fixed to the fencing at appropriate places to warn the public. Provision shall be made for ready access to the site by emergency services personnel in the event of fire or accident.

Demolition work

Structures shall be demolished in the reverse order to that of their construction. The order of demolition for buildings shall be progressive, storey by storey, having proper regard to the type of construction. No part of any structure shall be left unsupported or unattended in such a condition that it may collapse or become dangerous. Precautions shall be taken to ensure that the stability of all parts of the structure, and the safety of persons on and outside the site, will be maintained in the event of sudden and severe weather changes.

Walls on the boundaries are to be demolished in a safe and workmanship like manner. Walls shall not be laterally loaded by accumulated debris or rubble, to the extent that they are in danger of collapse, allowable loading of the suspended floors shall be determined by an independent structural engineer.

Dust control

The techniques adopted for stripping out and for demolition shall minimise the release of dust into the atmosphere. Before the commencement of stripping or demolition in an area of a structure, any existing accumulations of dust in that area shall be collected, placed in suitable containers and removed. Selection of an appropriate collection technique, such as vacuuming or hosing down, shall take due account of the nature of the dust and the type of hazard it presents. Dust generated during stripping, or during the breaking down of the building fabric to removable sized pieces, shall be kept damp until it is removed from the site or can be otherwise contained. The use of excess water for this purpose shall be avoided.

Noise control

Noise shall be minimised as far as practicable, by the selection of appropriate methods and equipment, and by the use of silencing devices wherever practicable to epa/code requirements.

Note:

1. Attention is drawn to recommendations in AS 2436
2. Hours of operating equipment may be restricted by regulatory authority

Fire services

Where a fire hydrant service or a fire hose reel service is provided in a building, it shall be available at all times during the demolition of the building, so that all remaining storeys except the two uppermost storeys, are serviced. Access to the fire protection services, including any booster fitting, shall be maintained at all times. If a sprinkler system is installed in a building to be demolished, it shall be maintained in an operable condition at each storey below the two uppermost unstripped storeys.

Suitable portable fire extinguishers shall be kept at all times in working area and are not protected by other fire services, and maintained in an operable condition.

Adjoining properties

Safe access to and egress from adjoining buildings shall be maintained at all times for the duration of the demolition work. No demolition activity shall cause damage to or adversely affect the structural integrity of adjoining buildings. The effects of vibration and conversion on adjoining buildings and their occupants shall be minimised by selecting demolition methods and equipment appropriate to the circumstances. Where any surface of an adjoining building is exposed by demolition, the need for weatherproofing the exposed surface shall be investigated and temporary or permanent protection provided as appropriate. Precautions shall be taken to minimise the spreading of mud and debris by vehicles leaving the site.

General

Openings in existing walls and floors, through which there is a risk of persons falling to lower level, shall be either properly guarded or boarded over and the boarding secured against unauthorised or accidental removal. Precautions shall be taken to prevent glass from falling on any person in or outside the building. Demolished material shall not be allowed to fall freely outside the structure unless it is confined within a chute or similar enclosure, which is clear of obstructions to objects falling freely.

Demolished material shall be removed progressively from the site and at any time, shall not be allowed to accumulate to the extent that it presents a hazard to the public or to site personnel.

All drawings to be read in conjunction with heritage consultants drawings and specifications

Site protection/shoring legend

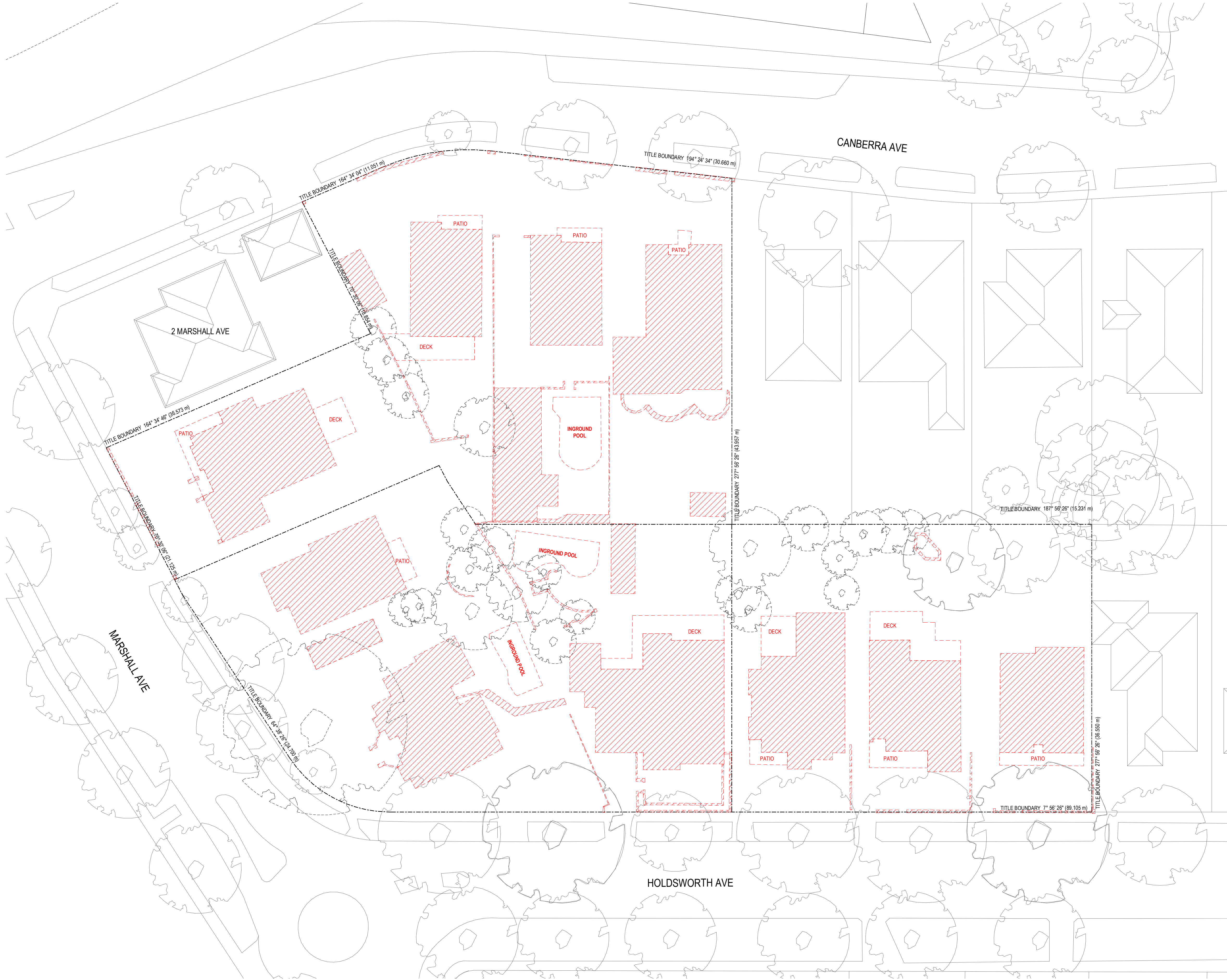
Permanent site shoring

Temporary site shoring

Note:

Refer structural engineers drawings for all site protection and shoring details

Demolition of existing dwellings has been approved under the NSW Complying Development Code, reference CDC-92182. Demolition does not form part of this Development Application and this drawing is provided for information only.



PRELIMINARY ISSUE

Revisions	A	30.06.22	DA SUBMISSION
	B	08.09.22	RFI RESPONSE

RIC  
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BUILDINGS TO BE DEMOLISHED

HARDSTAND TO BE DEMOLISHED

TREES WITHIN DEVELOPMENT FOR TREE REMOVAL OR RELOCATION. REFER TO ARBORIST AND LANDSCAPE ARCHITECT'S REPORT

Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **DEMOLITION PLAN**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP00.02**

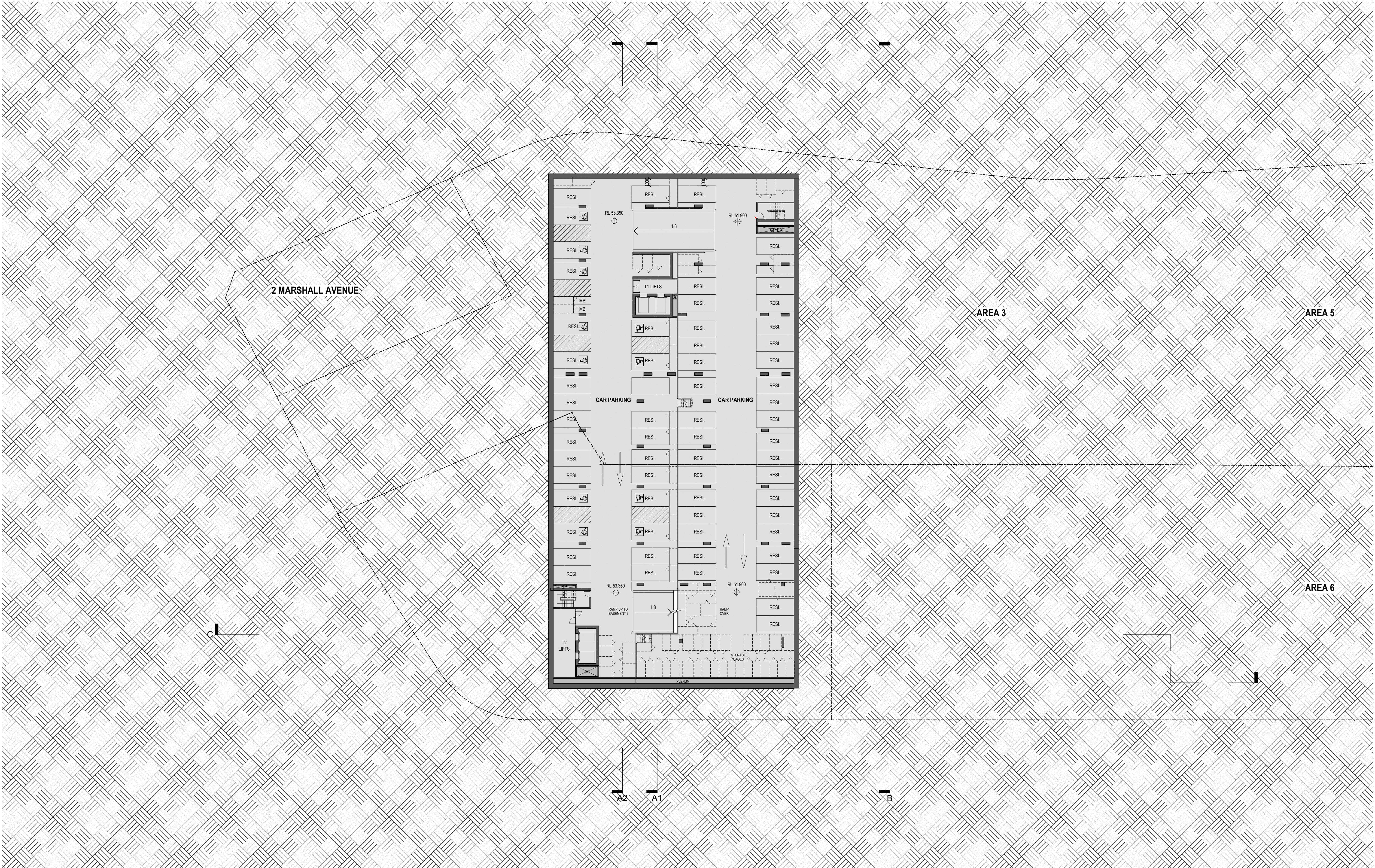
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Project / **AREA 1, 2 & 4 ST  
LEONARDS SOUTH**  
NSW

Drawing / **BASEMENT 4**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.00**

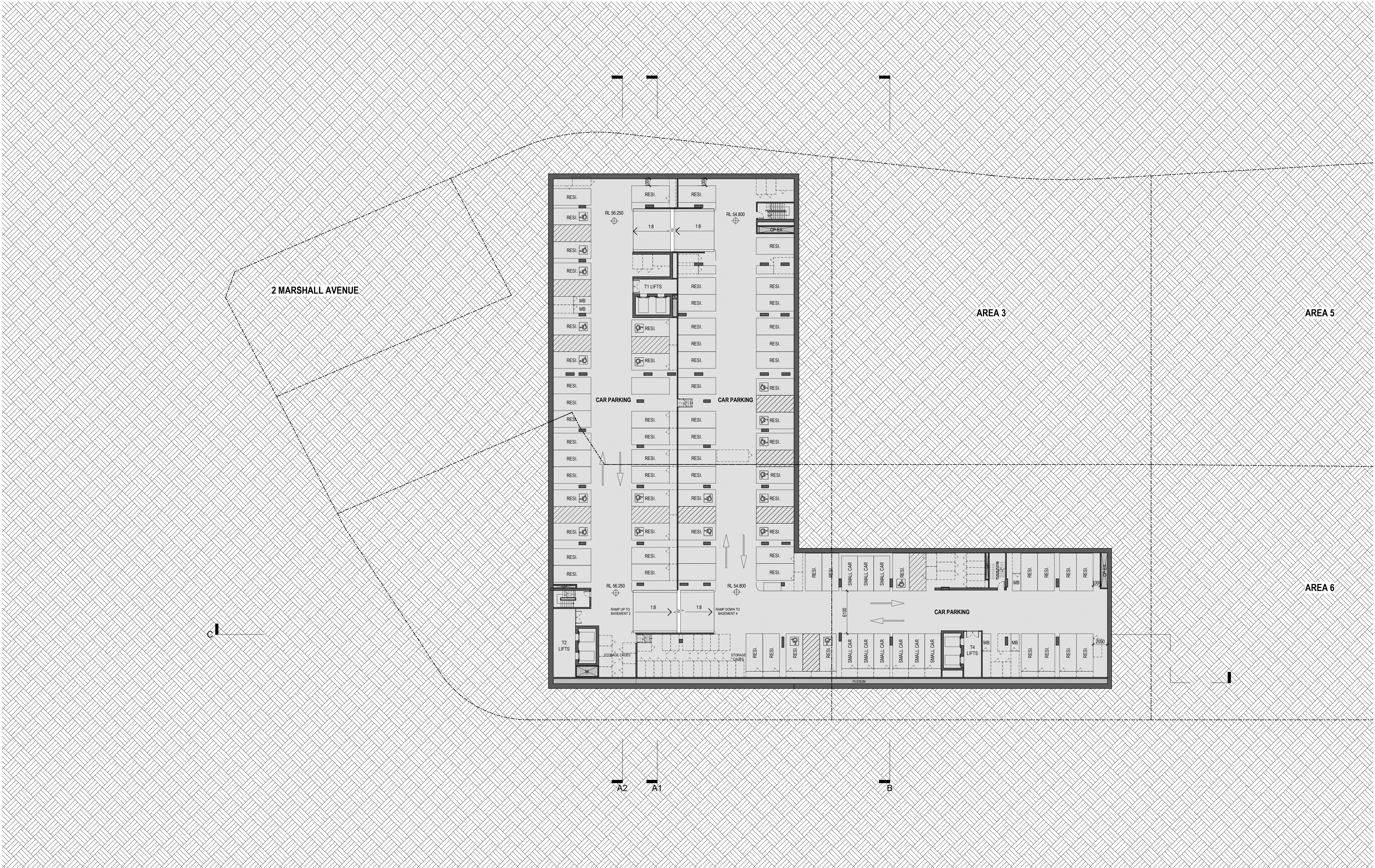
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Project / **AREA 1, 2 & 4 ST  
LEONARDS SOUTH**  
NSW

Drawing / **BASEMENT 3**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.01**

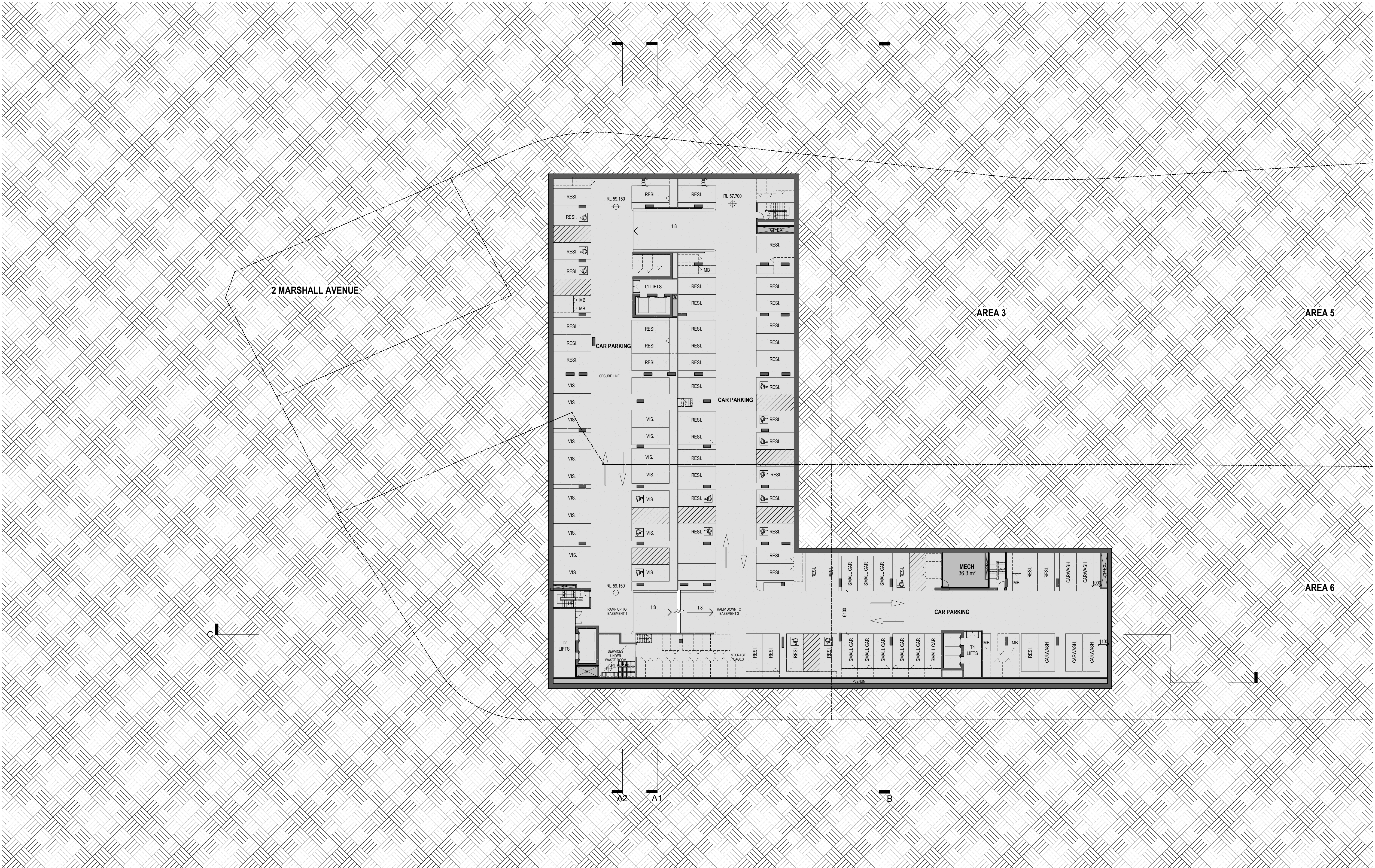
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Project / **AREA 1, 2 & 4 ST  
LEONARDS SOUTH**  
NSW

Drawing / **BASEMENT 2**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.02**

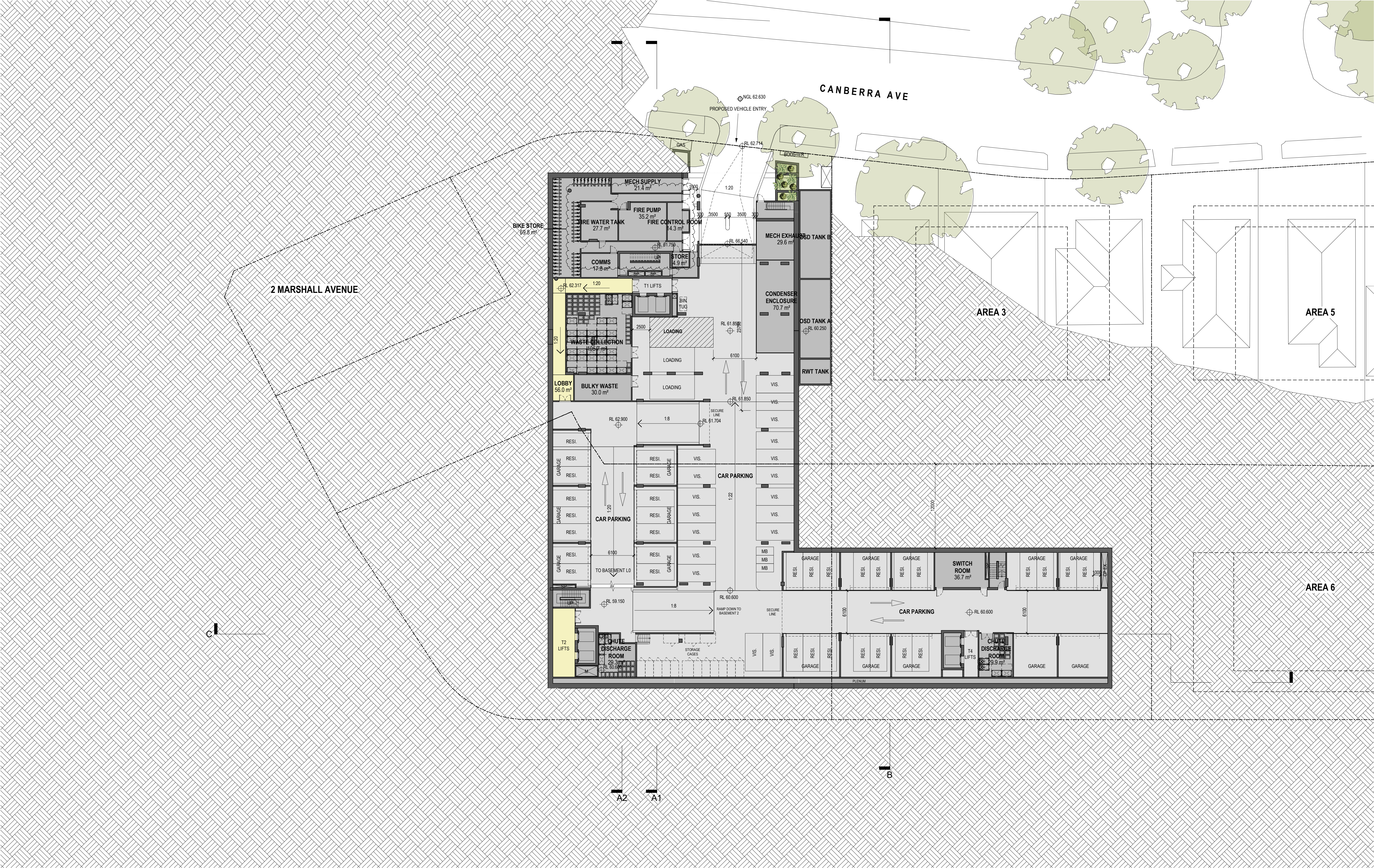
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Project / **AREA 1, 2 & 4 ST  
LEONARDS SOUTH**  
NSW

Drawing / **BASEMENT 1**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.03**

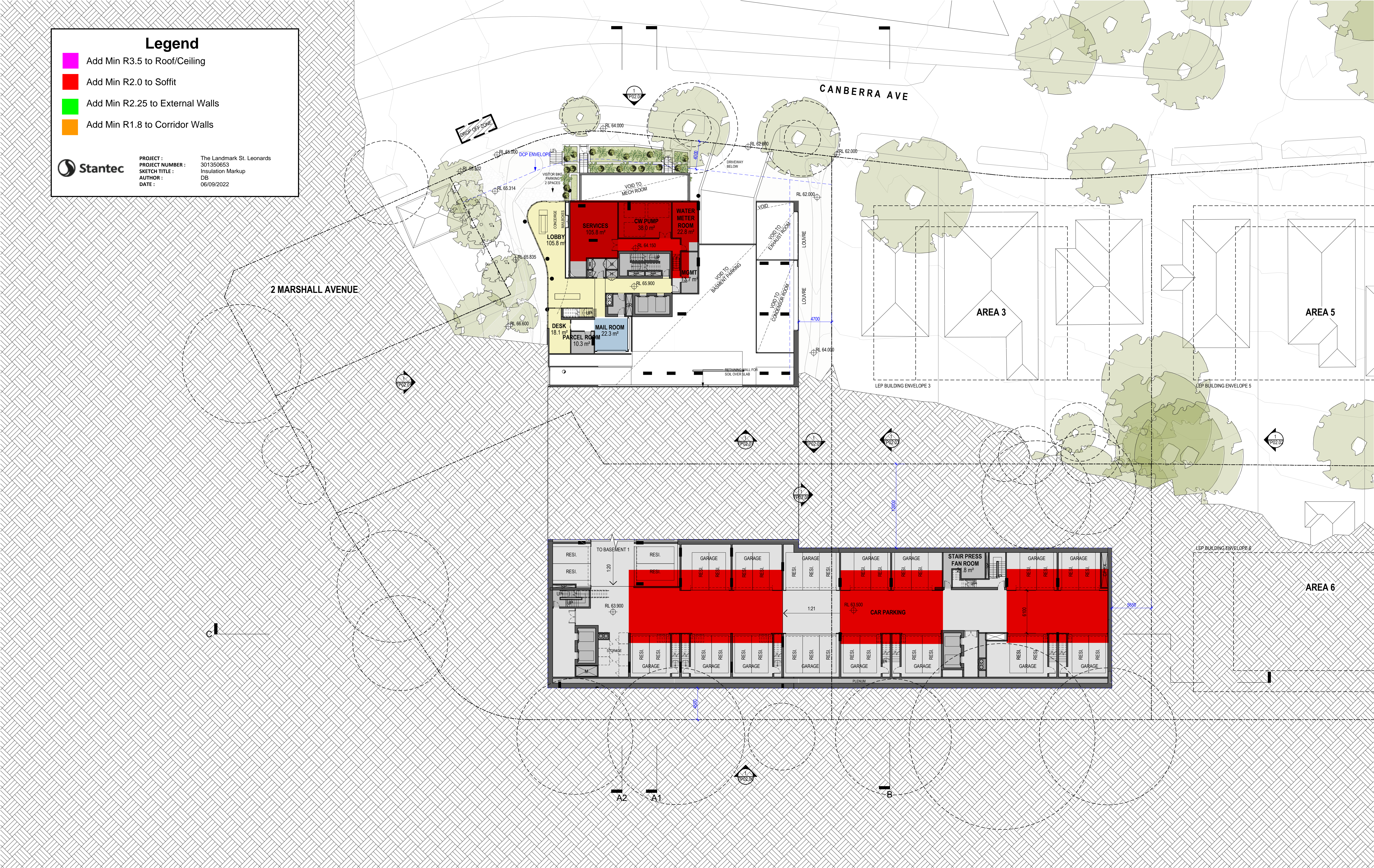
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 0**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.04**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
301350653  
Insulation Markup  
DB  
06/09/2022



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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 1**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.05**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
301350653  
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DB  
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 2**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.11**

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## Legend

- Add Min R3.5 to Roof/Ceiling
- Add Min R2.0 to Soffit
- Add Min R2.25 to External Walls
- Add Min R1.8 to Corridor Walls



PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

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301350653  
Insulation Markup  
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2 MARSHALL AVENUE

MARSHALL AVE

CANBERRA AVE

AREA 3

AREA 5

AREA 6

HOLDSWORTH AVE

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RIC  
MA

Project  
**AREA 1, 2 & 4 ST  
LEONARDS SOUTH**  
NSW

Drawing  
**LEVEL 3**

Project No  
**221089** Date  
**08.09.22**

Author  
**MA**

Scale: @ A1/  
**1 : 250**

Drawing No.  
**TP01.12**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
301350653  
Insulation Markup  
DB  
06/09/2022

The floor plan shows two building footprints on Level 4. The left footprint contains rooms T1.04.U01 through T1.04.U07, a central corridor (50.5 m²), and a staircase (ST). The right footprint contains rooms T2.04.U01 through T2.04.U08, a central corridor (79.4 m²), and a staircase (ST). Rooms are color-coded: green for external walls, orange for corridor walls, red for soffits, and pink for roof/ceiling. Dimensions and room types are labeled for each room. The plan is bounded by Marshall Ave to the west, Holdsworth Ave to the south, and Canberra Ave to the north. Various area labels (AREA 3, AREA 5, AREA 6) and LEP building envelopes are shown. A legend in the top left corner defines the insulation requirements for different parts of the building.

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 4**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.13**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
301350653  
Insulation Markup  
DB  
06/09/2022

The drawing shows a detailed architectural floor plan for Level 5 of a building. It features two main building footprints. The upper footprint is irregularly shaped and contains several rooms, each labeled with a unit identifier and area (e.g., T1.05.U01 2 BED (A) 72.1 m²). A central corridor is labeled 'CORRIDOR 50.5 m²'. The lower footprint is more rectangular and also contains rooms with unit labels and areas (e.g., T2.05.U01 2 BED 89.8 m²). A central corridor for this footprint is labeled 'CORRIDOR 79.4 m²'. Various rooms are highlighted with color-coded insulation markings: magenta for roof/ceiling, red for soffits, green for external walls, and orange for corridor walls. The plan is surrounded by context including 'CANBERRA AVE' to the north, 'MARSHALL AVE' to the west, and 'HOLDSWORTH AVE' to the south. Other areas shown include 'AREA 3', 'AREA 5', and 'AREA 6'. Dimensions and grid lines (A1, A2, B, C) are indicated throughout the plan.

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08.09.22

RFI RESPONSE

MA

Project

AREA 1, 2 & 4 ST  
LEONARDS SOUTH

NSW

Drawing

LEVEL 5

Project No

221089

Date

08.09.22

Author

MA

Scale: @ A1

1 : 250

Drawing No.

TP01.14

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 6**

Project No / **221089**      Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.15**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 7**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.16**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

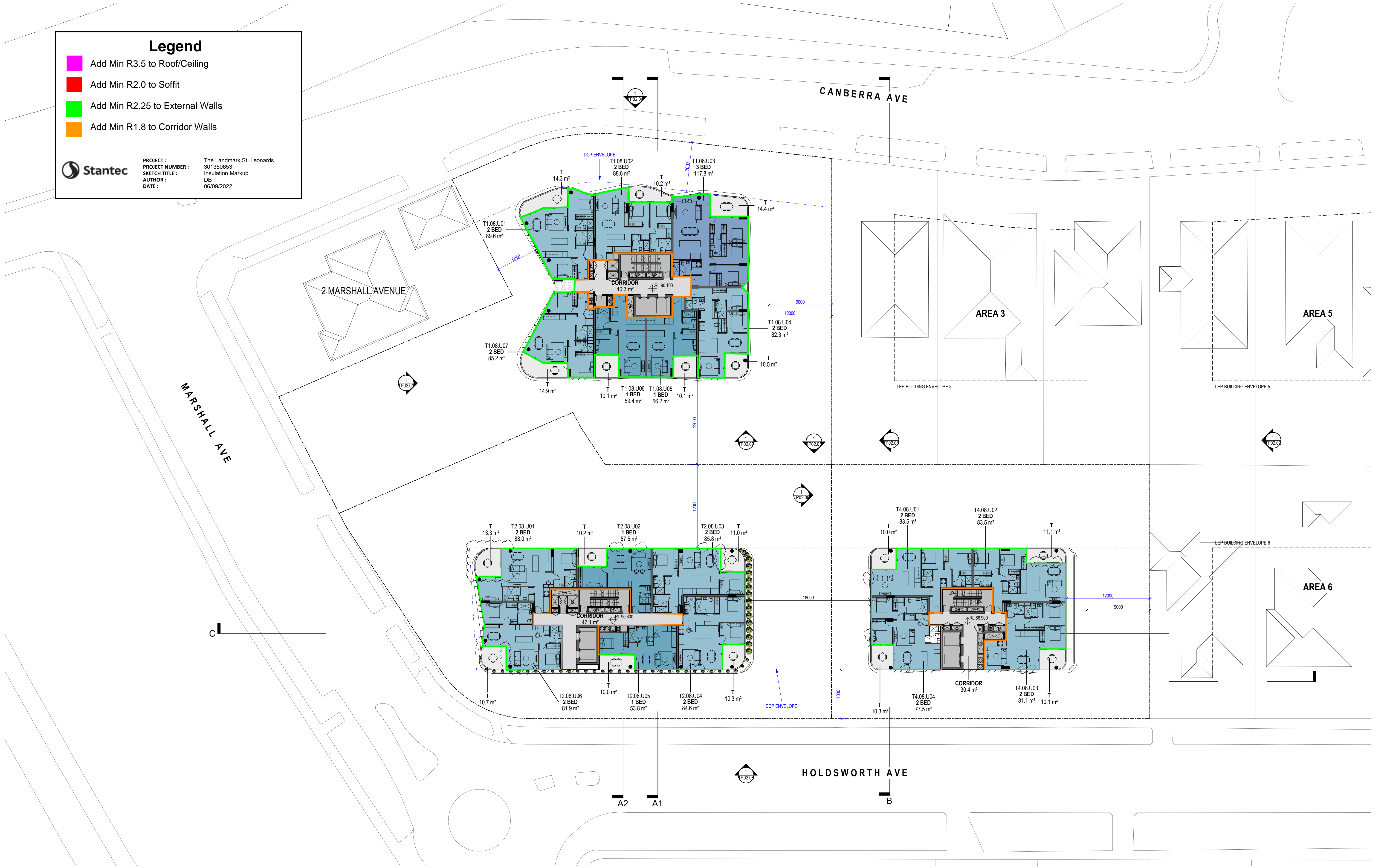
Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

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PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 8**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

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Drawing No. / **TP01.17**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

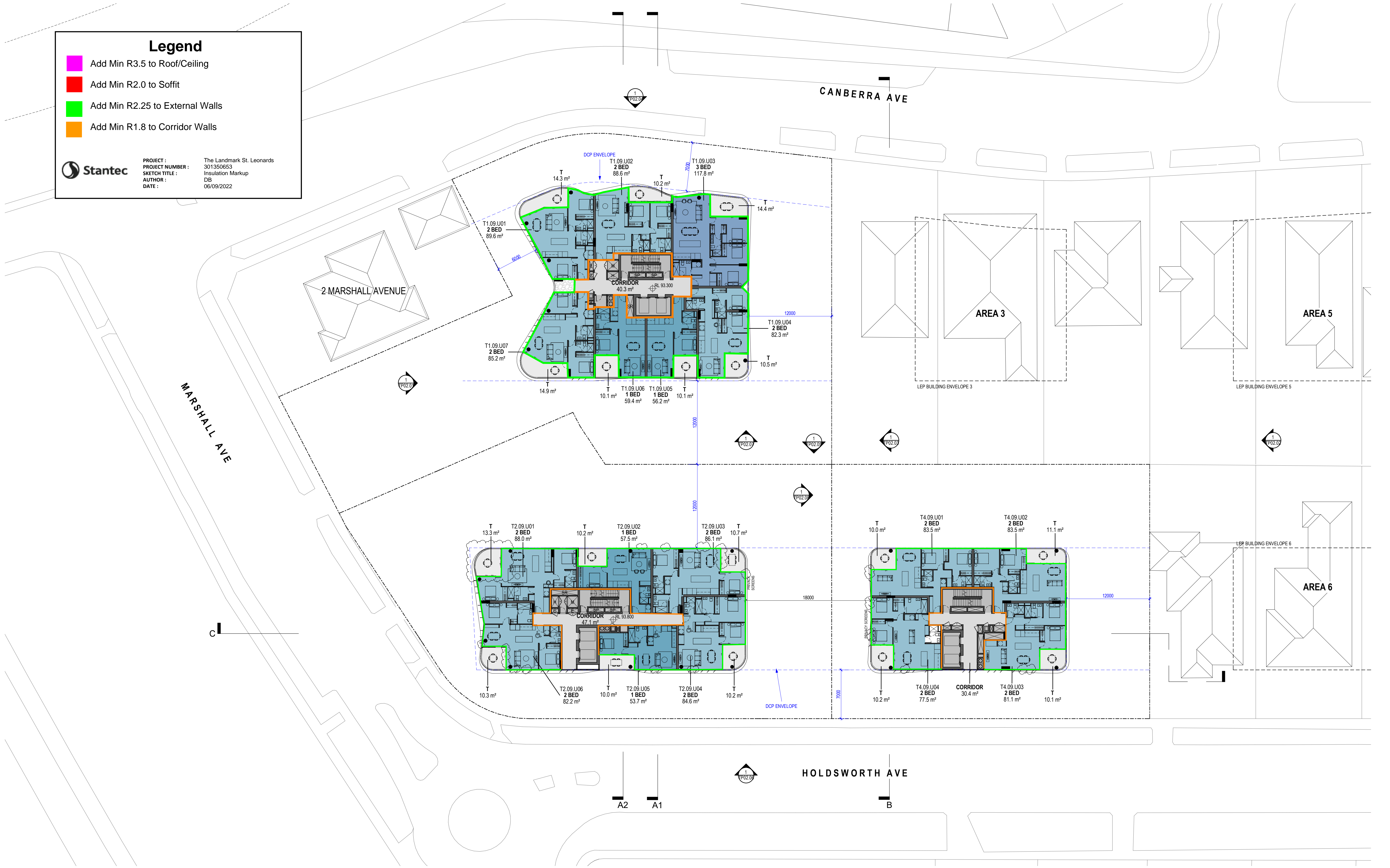
Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 9**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.18**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

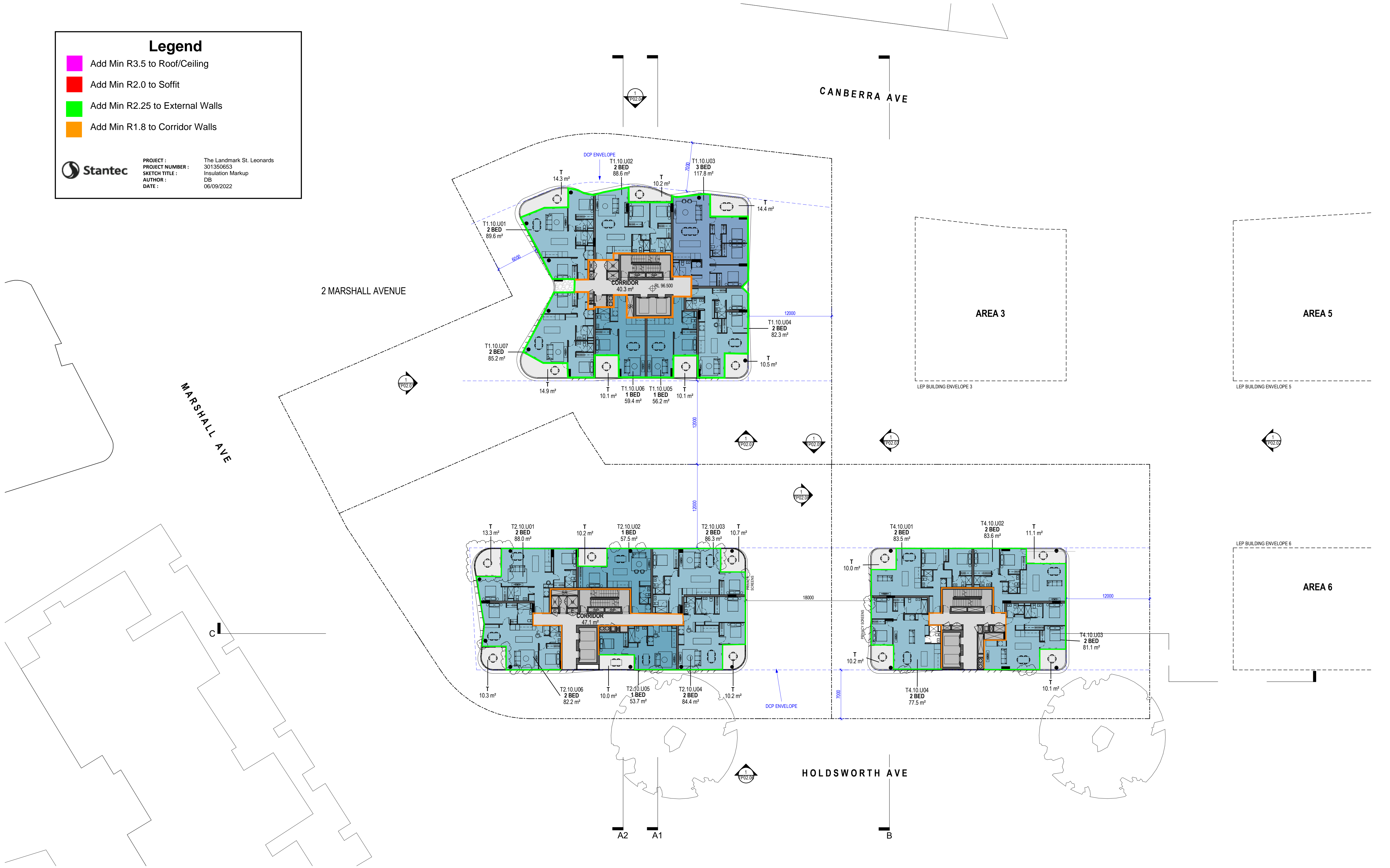
Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

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PROJECT :  
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SKETCH TITLE :  
AUTHOR :  
DATE :

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 10**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.19**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

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NSW

Drawing / **LEVEL 11**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.20**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

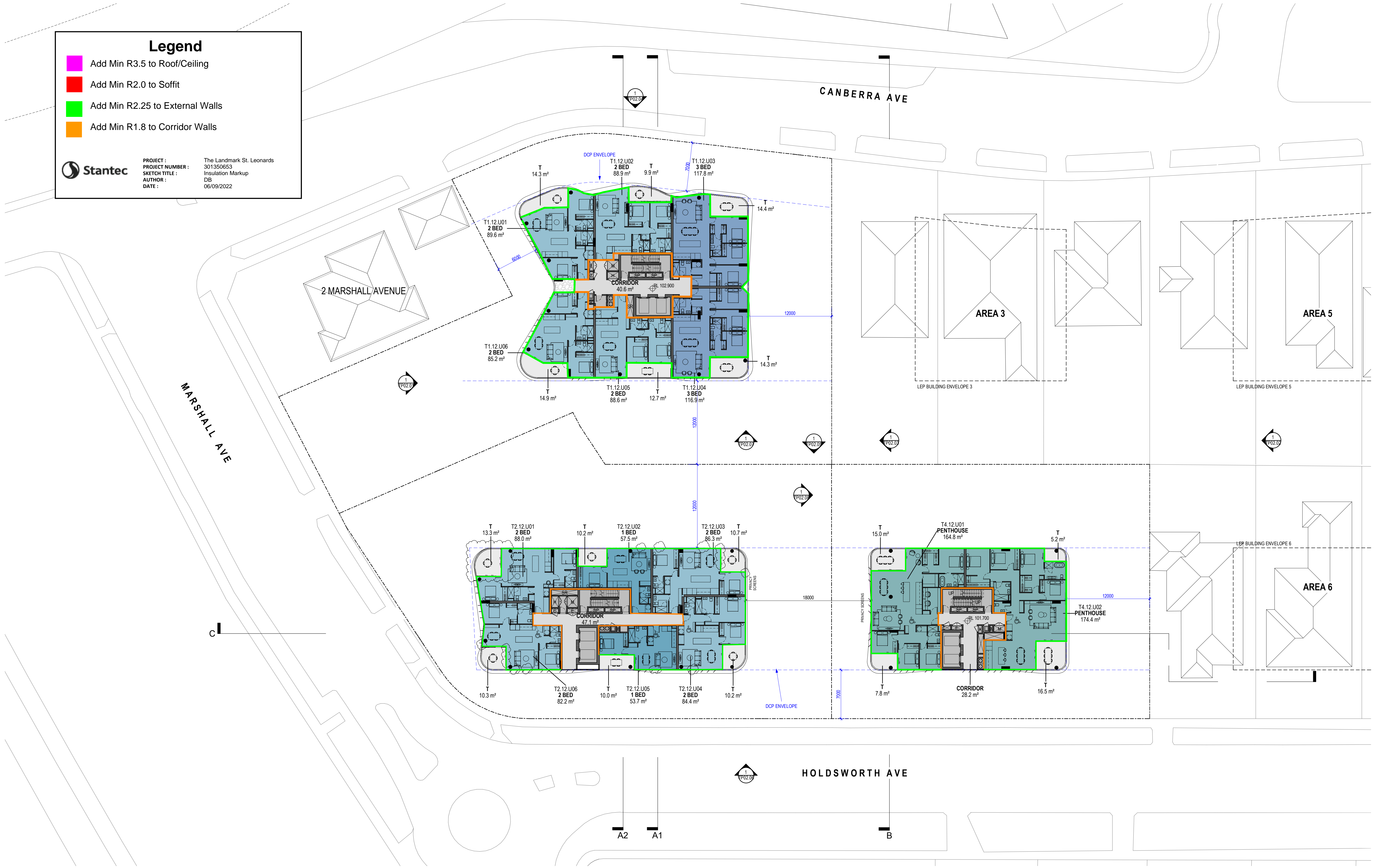
Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

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NSW

Drawing / **LEVEL 12**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.21**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

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PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
301350653  
Insulation Markup  
DB  
06/09/2022

PRELIMINARY ISSUE

Revisions	A	30.06.22	DA SUBMISSION	RIC
	B	08.09.22	RFI RESPONSE	MA

Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 13**

Project No / **221089**

Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.22**

**B**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

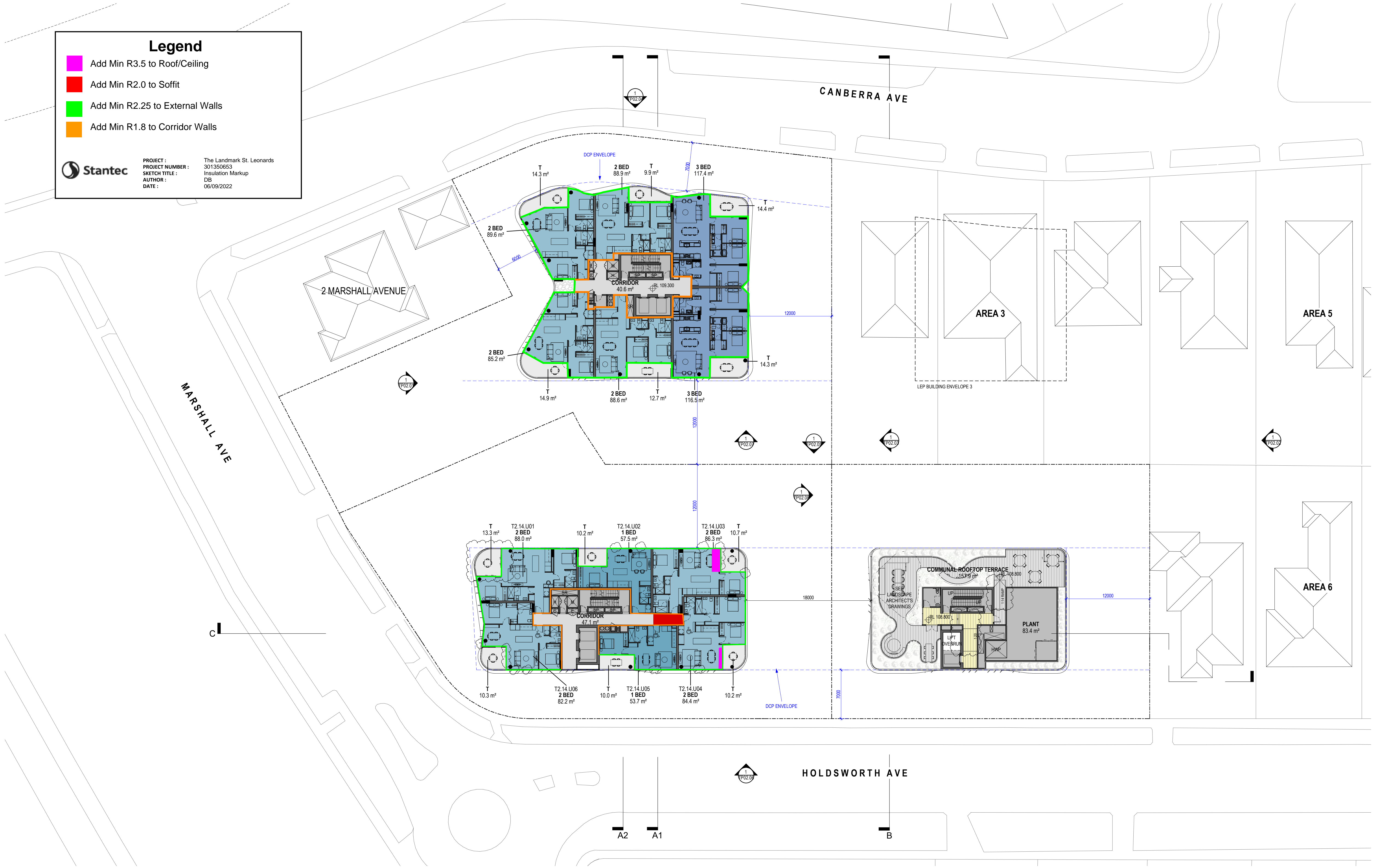
Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

The Landmark St. Leonards  
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 14**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.23**

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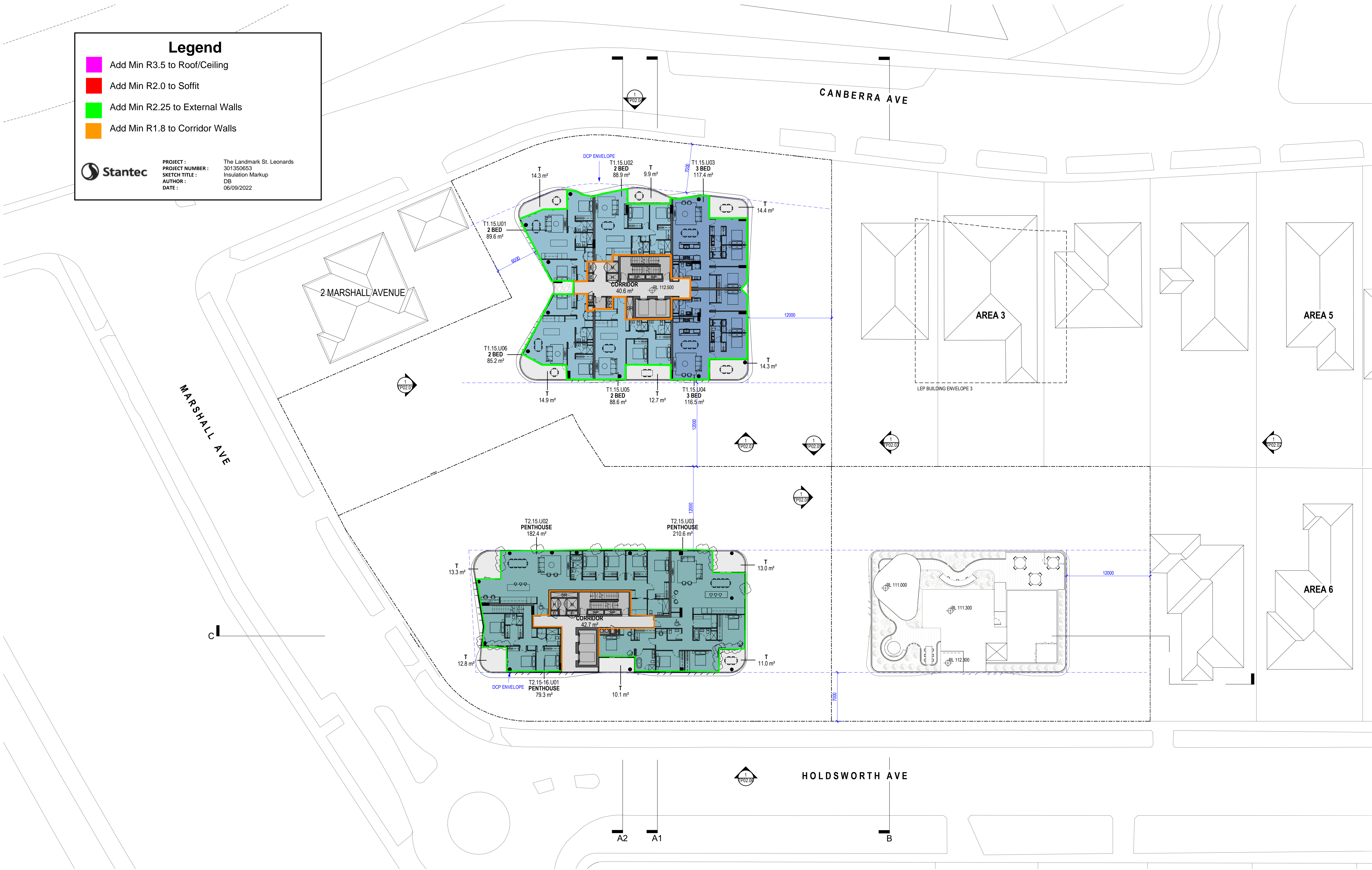


Legend

- Add Min R3.5 to Roof/Ceiling
- Add Min R2.0 to Soffit
- Add Min R2.25 to External Walls
- Add Min R1.8 to Corridor Walls



PROJECT : The Landmark St. Leonards  
PROJECT NUMBER : 301350653  
SKETCH TITLE : Insulation Markup  
AUTHOR : DB  
DATE : 06/09/2022



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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 15**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.24**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

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301350653  
Insulation Markup  
DB  
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 16**

Project No / **221089**      Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.25**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

PROJECT :  
PROJECT NUMBER :  
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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
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Drawing / **LEVEL 17**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.26**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

Add Min R1.8 to Corridor Walls

Stantec

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 18**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.27**

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Legend

Add Min R3.5 to Roof/Ceiling

Add Min R2.0 to Soffit

Add Min R2.25 to External Walls

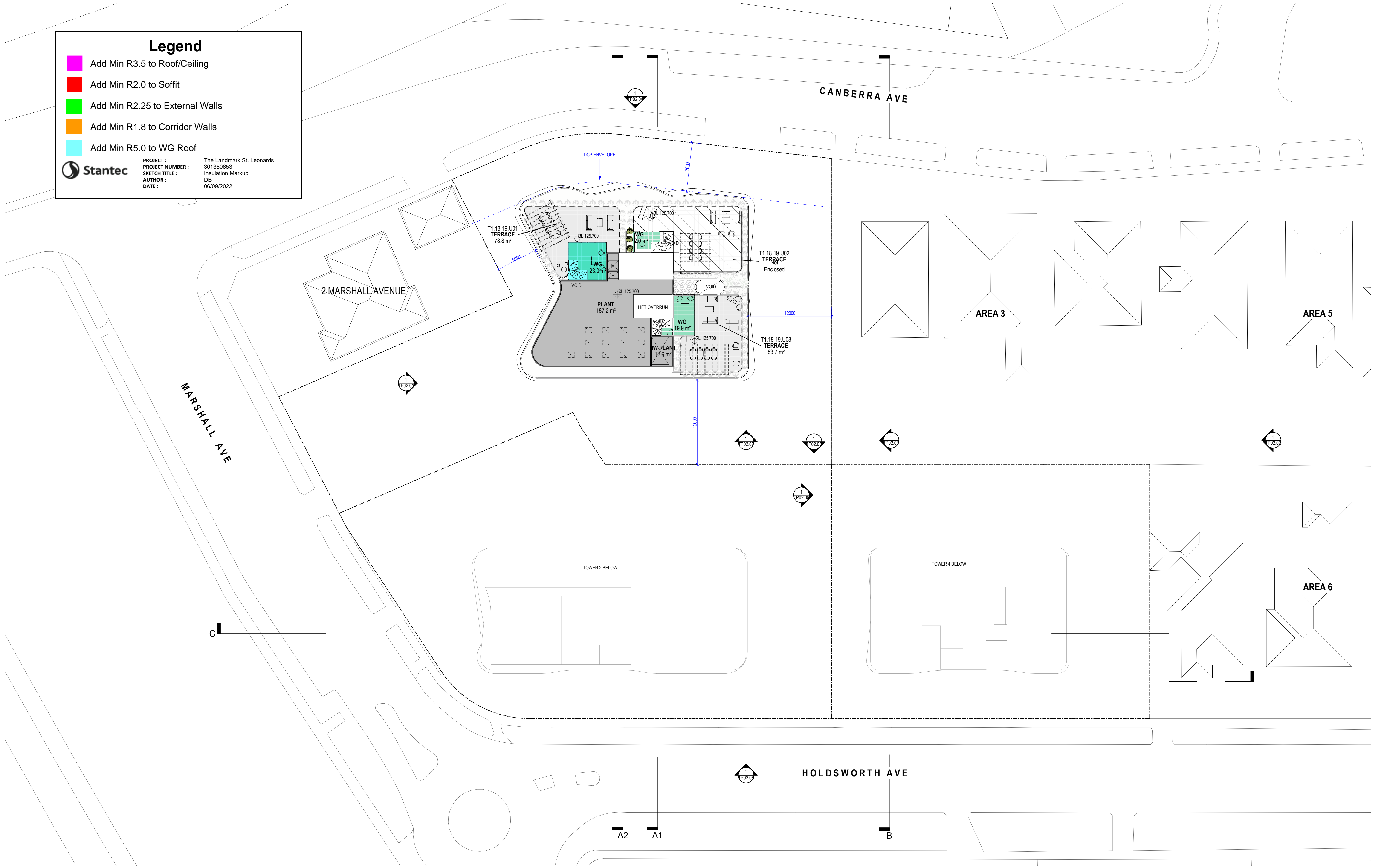
Add Min R1.8 to Corridor Walls

Add Min R5.0 to WG Roof

Stantec

PROJECT :  
PROJECT NUMBER :  
SKETCH TITLE :  
AUTHOR :  
DATE :

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Project / **AREA 1, 2 & 4 ST LEONARDS SOUTH**  
NSW

Drawing / **LEVEL 19**

Project No / **221089** Date / **08.09.22**

Author / **MA**

Scale: @ A1 / **1 : 250**

Drawing No. / **TP01.28**

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