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Into Value

Report

Lot A1, Sun Central Concept Stormwater Management Plan

Prepared for Evans Long Pty Ltd

23 March 2021

Calibre Professional Services Pty Ltd
55 070 683 037

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2021/1176

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1. Introduction

1.1 General Information

Calibre Professional Services Pty Ltd has been commissioned by Evans Long Pty Ltd to complete the following Concept Stormwater Management Plan (CSMP) for Lot A1 within the Sun Central development. Lot A1 is located in Maroochydore within the Sunshine Coast Council Local Government Area and has a property description of Lot 61 on Plan SP305312. To establish consistency throughout the report, Lot A1 will herein be referred to as “the site”.

The investigations and analysis presented in this report have been undertaken to determine the stormwater requirements for the proposed development in accordance with the relevant Local and State Government standards. Assessment was undertaken by modelling the pollutant export generated from the development and proposing necessary stormwater quality improvement devices (SQID's).

1.2 Scope

The scope of this report is to provide a conceptual stormwater quality management strategy for the proposed development on Lot A1, located within the greater Sun Central development. This report shall provide MUSIC modelling details to confirm that post-construction Water Quality Objectives (WQO's) as required under the State Planning Policy (SPP 2017) will be achieved.

1.3 Previous Investigations

Cardno – Maroochydore City Centre: Addendum to Cornmeal Creek Flood Study (Dated 11 September 2017)

The prior investigation provided by Cardno assessed the stormwater quantity measures required for the Maroochydore City Centre development. It is important to note that this addendum does not state the requirement for internal lots within Stage 1 of the development to provide independent stormwater detention. Therefore, it has been deduced that all stormwater detention requirements for the site are already accounted for under the Cornmeal Creek Flood Study and are therefore compliant with relevant PDA development approval.

A copy of the abovementioned report is provided in **Appendix D**.

2. Site Characteristics

2.1 Location

The site is located in the northeast portion of the Sun Central Stage 1 development, within Maroochydore City Centre (MCC). The site is bounded by Gaba Lane to the north and east, and First Avenue to the west, as identified in **Figure 2-1** below.



Figure 2-1 Site Locality (Nearmap)

2.2 Proposed Development

The proposed development includes a multi-storey building, with an associated internal laneway, landscaping, and pedestrian path areas on the ground level. It is noted that a drainage outlet is located on the western edge of the site, adjacent to First Avenue. For the purpose of this investigation, all stormwater generated within the site is assumed to discharge through the aforementioned outlet, with the exception of the bypassing flows discharging onto Gaba Lane.

A copy of the Architectural Masterplan is provided in **Appendix A**.

3. Stormwater Quantity Management

In accordance with the requirements stated in the previous investigation (**Section 1.3**), it is deduced that the design and construction of a detention system is not required for the site. Therefore, stormwater quantity management will not be discussed further in this report.

4. Stormwater Quality Management

To improve the stormwater quality leaving the proposed development, a treatment train of suitable Stormwater Quality Improvement Devices (SQID's) have been proposed to intercept and capture the pollutants so that the potential impacts on waterways downstream are mitigated.

This section discusses:

- The identification of key stormwater pollutants associated with the proposed development;
- The Water Quality Objectives (WQO's) identified for the catchment;
- Proposed measures to mitigate the increase in pollutant export; and
- Modelling of the proposed measures and comparison to the identified WQOs.

Concept management strategies have been modelled using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC), generally in accordance with the Water by Design MUSIC Modelling Guidelines for South East Queensland (2010).

4.1 Pollutants of Concern

Typical key pollutants expected to be generated during the operational (post-construction) phase of the planned development are listed as follows, with those presented in capitals being the key pollutants to be targeted for treatment:

- LITTER
- SEDIMENT
- Oxygen demanding substances (possibly present)
- NUTRIENTS (N & P)
- Pathogens / Faecal coliforms
- Hydrocarbons
- HEAVY METALS (associated with fine sediments)
- Surfactants
- Organochlorines & organophosphates
- Thermal pollution
- pH altering substances

Only the key pollutants will be further addressed in this report; however, the treatment train developed will adequately mitigate the other pollutant loads. As heavy metals will predominately be associated with fine sediment, controls proposed to reduce total suspended solids will also adequately reduce loads of heavy metals.

4.2 Water Quality Objectives

The proposed development triggers compliance with the *State Planning Policy (SPP, 2017)* with respect to stormwater quality. The appropriate load reduction WQO's presented in **Table 4-1** have been sourced from the *SPP (2017)*.

Table 4-1 Load Reduction Water Quality Objectives

Pollutant	Total Suspended Solids (TSS)	Total Phosphorus (TP)	Total Nitrogen (TN)	Gross Pollutants (GP)
Load Reduction Target	80%	60%	45%	90%

4.3 Stormwater Quality Management Strategy

As the development has the potential to increase pollutant loads and concentrations in stormwater runoff entering downstream waterways, a treatment train of suitable Stormwater Quality Improvement Devices (SQIDs) are proposed to mitigate this increase. This treatment train will involve the following proprietary devices:

- **SPEL Stormsack** – SPEL Stormsacks are located within the stormwater system to effectively capture contaminants contained within runoff. It is proposed that one (1) SPEL Stormsack is fitted within the nominated stormwater field inlet located on the proposed internal laneway. Refer to the specific locations in **Appendix B**. This device has been modelled to provide primary treatment to runoff generated from the ground, prior to the flows reaching the subsequent proprietary SQID. Further Stormsack details are provided in **Section 4.4.4.1**.
- **SPEL Filter Cartridge System** – this cartridge filter system engages hydraulic pressure forces to push the stormwater through the filter media. This causes a constant flow velocity, thereby creating consistent treatment. Four (4) SPEL Filters encased by a cylindrical SPEL Vault are to be located at the southwest extent of the proposed internal laneway, adjacent to First Avenue. This placement aims to ensure that where possible all stormwater generated within the site will be subject to treatment. Refer to **Section 4.4.4.2** and **Appendix C** for additional details.

All treated stormwater shall discharge from the site through the designated drainage outlet located on the western edge of the site. All landscaped areas within the site have been excluded from the MUSIC model. It is important to note that the eastern ground area in front of the pad mount transformer and 50m² of the internal laneway were required to bypass treatment due to onsite hydraulic constraints.

An attempt was made to incorporate a strip drain at the rear of the site to collect these bypassing flows however the level difference between the internal laneway (3.094m AHD) and the drainage outlet (1.78m AHD) was consumed by the requirements of the system and would result in surcharging out of the strip drain. The requirements of the drainage system include 0.9m internal weir within the SPEL Vault, flow depth (approx. 270mm) over the internal weir, elevation drop over along the pipe length and at manholes. Additional HGL from roof water coming off of the roof would also add additional HGL further contributing to surcharging.

In response to the above hydraulic constraints a stormwater strategy was designed and is shown in **Appendix B**. This strategy has been optimised to limit the bypassing area where possible.

The abovementioned proprietary devices have been designed and employed into the stormwater quality management strategy in accordance with advice from SPEL Environmental.

4.4 MUSIC Modelling Methodology

Stormwater quality modelling of the proposed development has been undertaken using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) Version 6.3.0, developed by the Cooperative Research Centre for Catchment Hydrology (CRCCH). MUSIC enables the user to conceptualise the transfer of pollutants through a stormwater drainage system and provides an aid in quantifying the effectiveness of the proposed stormwater quality management strategy. MUSIC only provides quantitative modelling for Total Suspended Solids (TSS), Total Phosphorous (TP), Total Nitrogen (TN) and Gross Pollutants (GP).

The MUSIC model was setup generally in accordance with Water by Design MUSIC Modelling Guidelines (2010). The subsequent sections discuss the model configurations adopted for the analysis.

- **Site:** 61/ SP305312 First Avenue, Maroochydore
- **Model:** 21-000083-Lot_A1_SPELFilter_Revised.sqz

4.4.1 Meteorological Data

Six minute pluviographic data was sourced from the Bureau of Meteorology (BOM) for Caloundra WTP (Station No.40496). In accordance with *Table 3.1* from *MUSIC Modelling Guidelines* (2010) the 10 year period from 1st January 1997 to 31st December 2006 was adopted for the rainfall duration. The mean annual rainfall for this period is 1,348mm.

4.4.2 Source Nodes

The source nodes represent the catchment areas of the proposed developable areas modelled in MUSIC. A split catchment approach was adopted in accordance with the MUSIC Modelling Guidelines (2010). The split catchment approach separates the catchment areas into surface areas representing roof, road and ground, measured from the architectural masterplan layout. **Table 4-2** below summarises the source node configuration and percent impervious values adopted. Refer to *Calibre Drawing No. 21-000083-SK001* in **Appendix B** for the SQID distribution and surface type breakdown within the site.

Table 4-2 MUSIC Source Node Parameters

Source Node	Surface Type	Area (ha)	Percent Impervious (%)
Roof (100% Imp)	Roof	0.086	100
Road – Internal Laneway (100% Imp)	Road	0.007	100
Ground (100% Imp)	Ground	0.014	100

Rainfall runoff parameters for all nodes were assigned as commercial land-use, in accordance with *Table 3.7* of the *MUSIC Modelling Guidelines* (2010). Pollutant export properties for source nodes have been configured according to the commercial land use category in accordance with *Table 3.8* of the *MUSIC Modelling Guidelines* (2010).

Stochastic generation estimation and serial autocorrelation set to zero has also been adopted.

4.4.3 Drainage Links

No routing was adopted for drainage links within the MUSIC model in accordance with Section 4.17 of the MUSIC Modelling Guidelines (2010). This assumes flows and associated pollutants from all parts of the catchment arrive at the treatment nodes at the same time. This is conservative as it means that MUSIC may overestimate the overflow volumes.

4.4.4 Treatment Nodes

4.4.4.1 SPEL Stormsack

One (1) SPEL Stormsack (600mm x 600mm) has been proposed within the internal laneway for the primary treatment of stormwater. The litter basket design will capture trash, leaf litter and coarse sediment before flowing into the downstream cartridge device. Refer to **Figure 4-1** for an example of the SPEL Stormsack in a field inlet.



Figure 4-1 Example SPEL Stormsack in Field Inlet Arrangement.

4.4.4.2 SPELFilter Cartridge System

SPEL Environmental have designed and appropriately sized a cartridge system to meet the pollution reduction targets for the development. The proposed system was modelled in MUSIC in accordance with the SPEL parameters. Details of the proposed system are detailed in **Table 4-3** with the concept configuration provided in **Figure 4-2**. Refer to **Appendix C** for the SPELFilter Cartridge System details.

Table 4-3 SPELFilter Parameters

Parameter	Adopted Design
Number of Filter Cartridges	4 x EMC 45
Extended Detention Depth	0.85m
SPEL Vault Area	5.3m ²

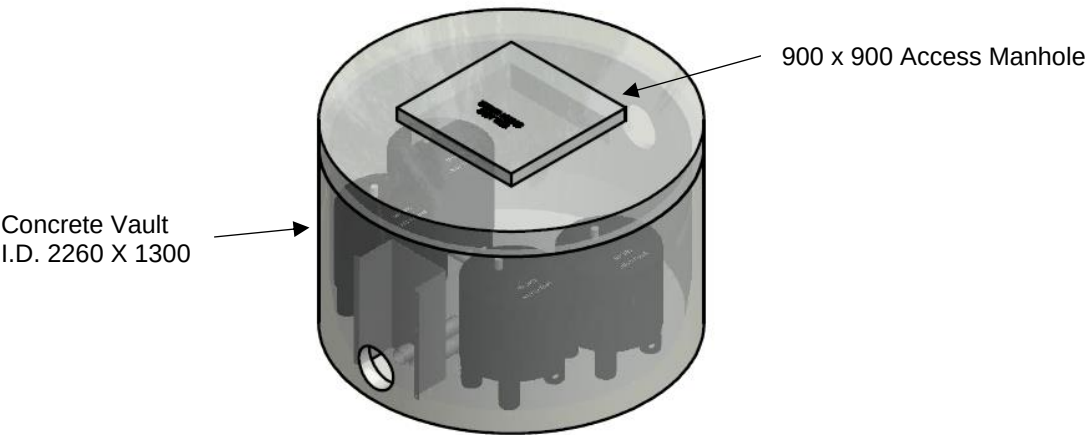


Figure 4-2 Concept Cartridge Vault Configuration and Internal Dimensions (I.D.)

4.4.5 MUSIC Model Setup

Refer to **Figure 4-3** for the MUSIC model layout of source and treatment nodes and the associated treatment train effectiveness results.

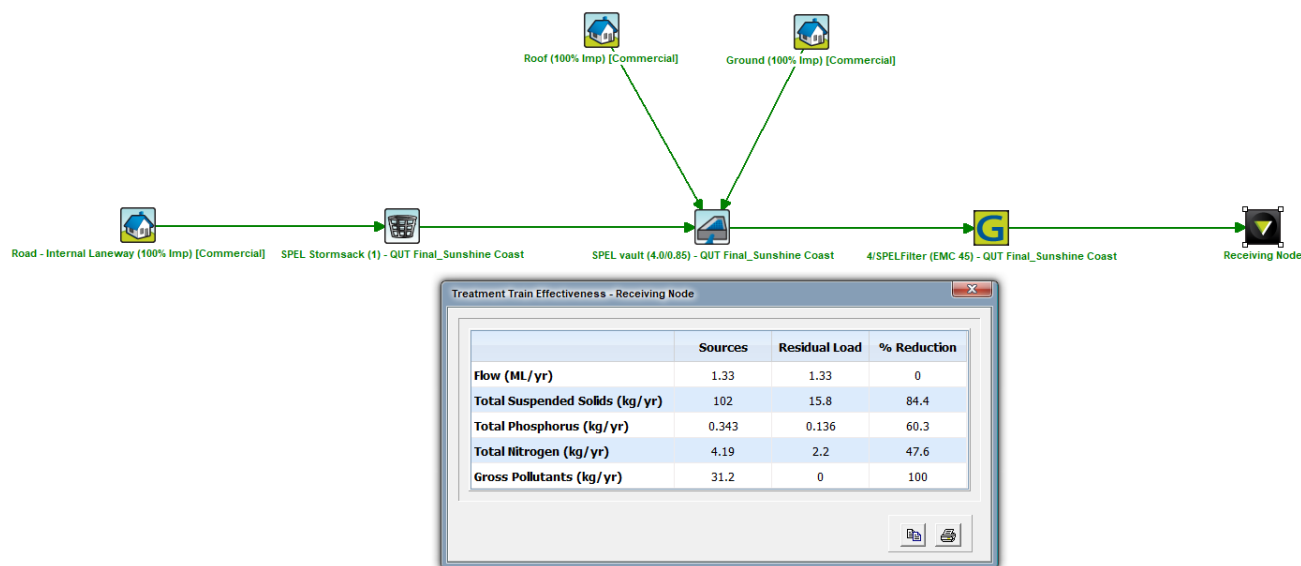


Figure 4-3 MUSIC Model Setup

4.5 MUSIC Modelling Results

Results for the proposed stormwater quality management strategy are presented in **Table 4-4** below.

Table 4-4 MUSIC Modelling Results

Description	Target Pollutant			
	TSS	TP	TN	GP
WQO	80%	60%	45%	90%
Load Reduction Achieved	84.4%	60.3%	47.6%	100%
WQO Achieved?	Yes	Yes	Yes	Yes

The above results indicate that the proposed strategy is effective in treating pollutant loads from the development to achieve the WQO's for TSS, TP, TN and GP as required under the SPP (2017). Therefore, it is recommended that the proposed concept stormwater quality management strategy be approved.

5. Conclusion

This CSMP has been prepared on behalf of Evans Long Pty Ltd to address the stormwater requirements identified for the proposed development located within the MCC development, Maroochydore. As part of this investigation it was identified that the development must comply with the overarching *Maroochydore City Centre: Addendum to Cornmeal Creek Flood Study* prepared by *Cardno* (2017). By undertaking a stormwater quality analysis using MUSIC software, this CSMP demonstrates that the proprietary devices designed by SPEL adequately treat stormwater and achieve all Water Quality Objectives under the SPP, 2017 (Refer to **Section 4.2**).

On the basis of the above, it is recommended that this stormwater management plan, strategies (as discussed within), and concept drawings be approved.

6. Disclaimer

This report has been prepared on behalf of and for the exclusive use of Evans Long Pty Ltd and is subject to and issued in accordance with the agreement between Calibre Professional Services Pty Ltd.

Our investigation and analysis has been specifically catered for the particular requirements of Evans Long Pty Ltd and may not be applicable beyond this scope. For this reason, any other third parties are not authorised to utilise this report without further input and advice from Calibre Professional Services Pty Ltd.

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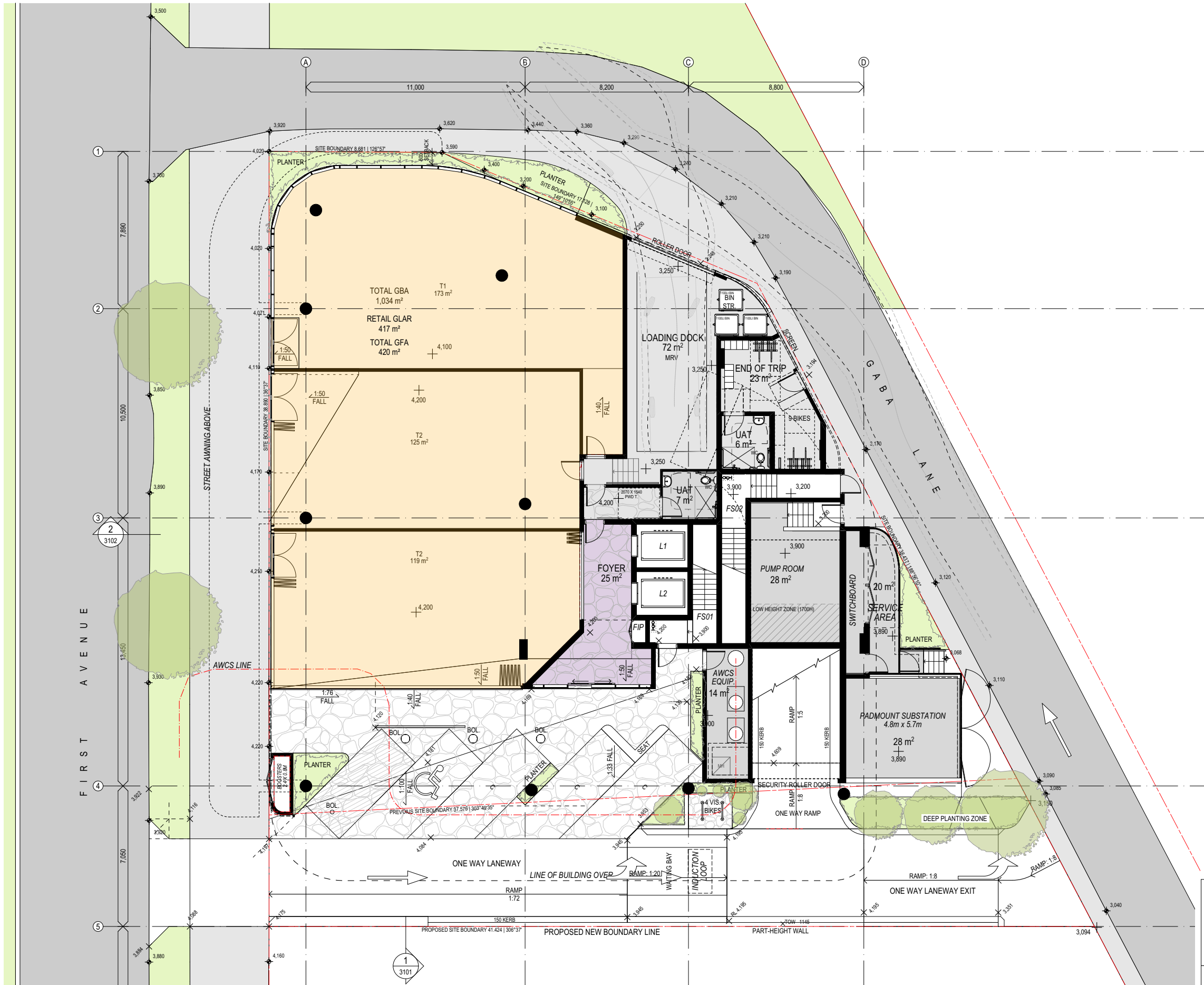
7. References

- Department of State Development, Infrastructure and Planning (2017), State Planning Policy.
- Water by Design, 2010, *MUSIC Modelling Guidelines*, Version 1.0.
- Cardno, Maroochydore City Centre: Addendum to Cornmeal Creek Flood Study, 2017

LOT A1, SUN CENTRAL CONCEPT STORMWATER MANAGEMENT PLAN

Appendix A Architectural Masterplan

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NOTE:
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SUN CENTRAL MAROOCHYDORE

LOT A1, SUN CENTRAL, MAROOCHYDORE

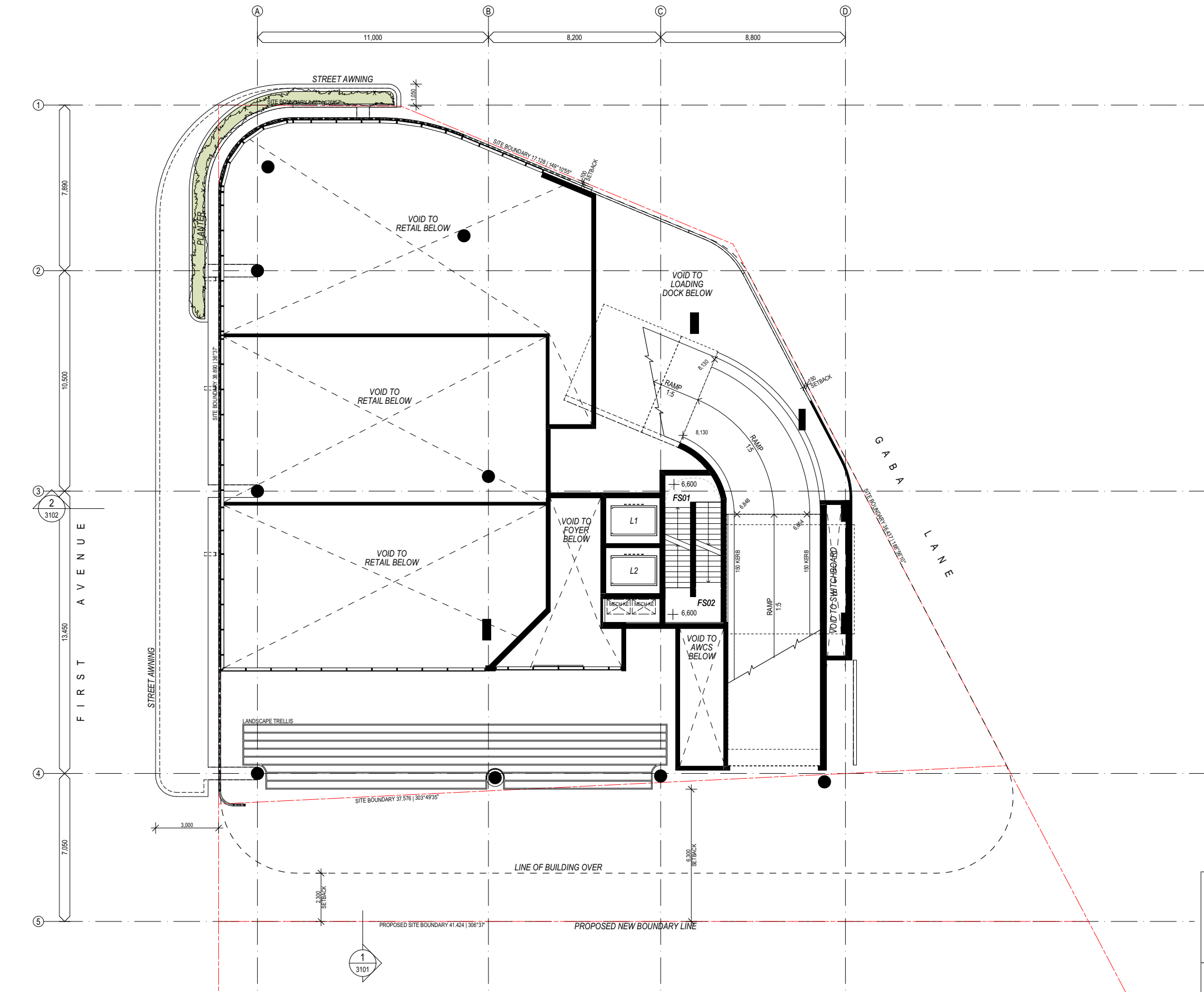
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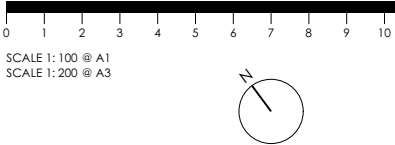
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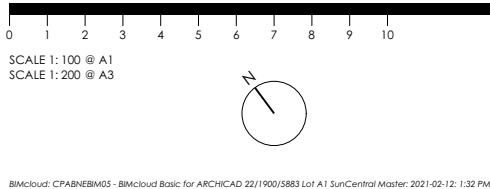
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FLOOR PLAN - MEZZANINE

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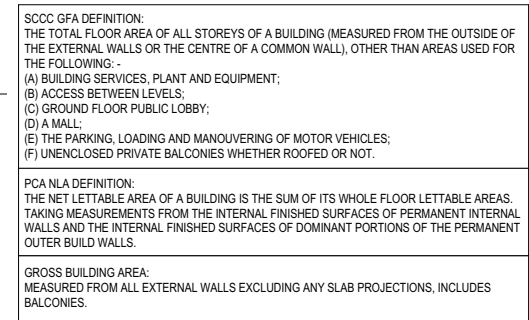
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FLOOR PLAN - PODIUM LEVEL 01

JOB No 5883
DRAWING No SD2012
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FLOOR PLAN - LEVEL 03 - TYPICAL
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FLOOR

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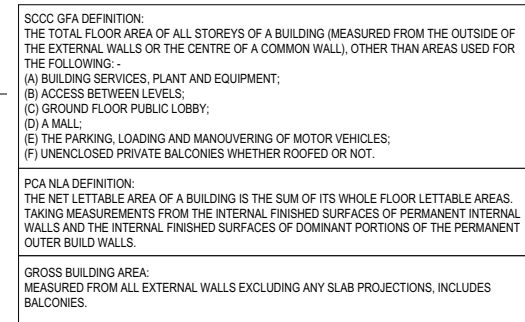
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MEASURED FROM ALL EXTERNAL WALLS EXCLUDING ANY SLAB PROJECTIONS, INCLUDES BALCONIES.

SUN CENTRAL MAROOCHYDORE

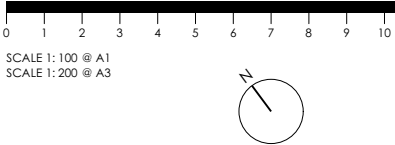
LOT A1, SUN CENTRAL, MAROOCHYDORE
CLIENT - EVANS LONG

DRAWING TITLE
FLOOR PLAN - LEVEL 04

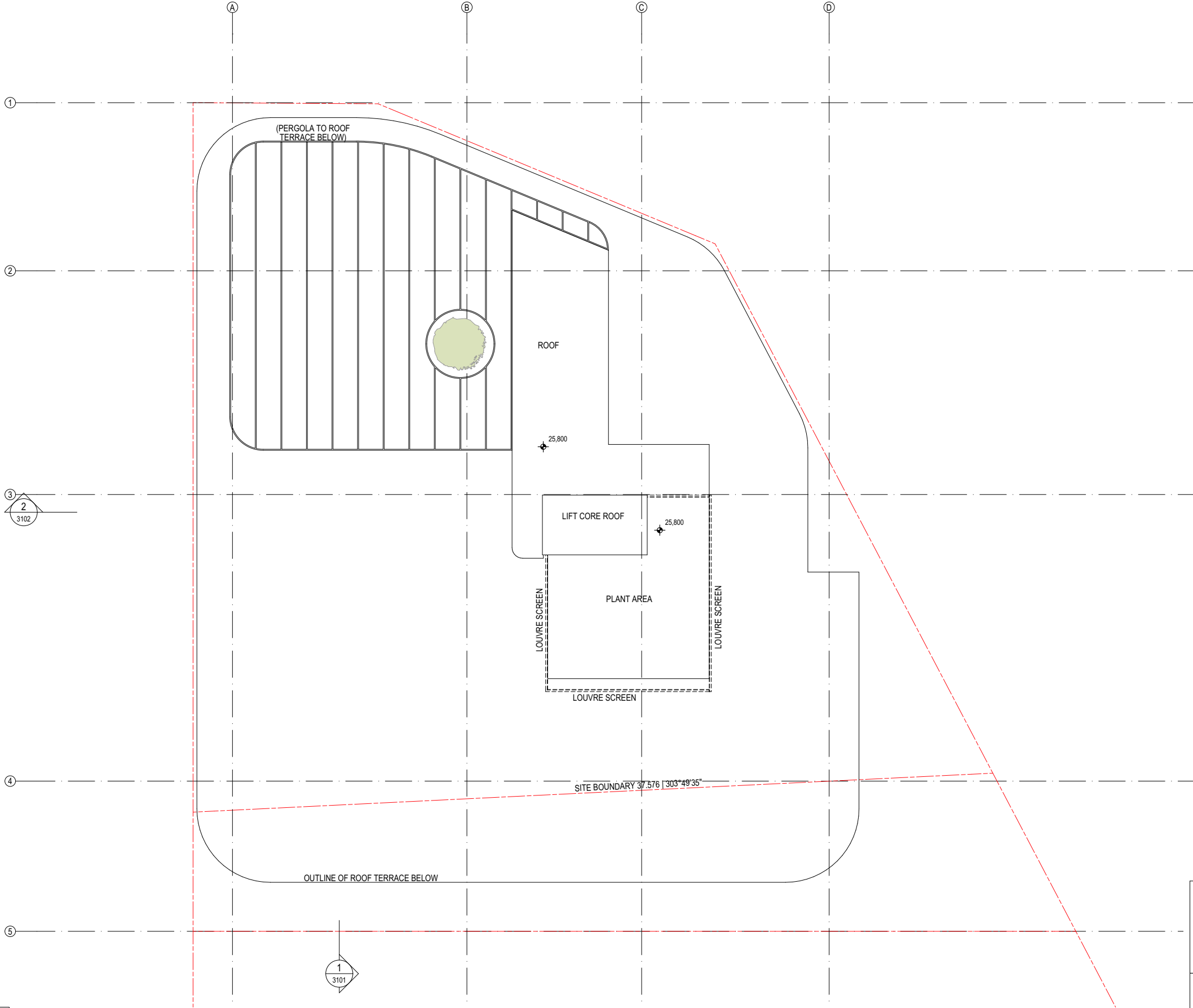
JOB No 5883
DRAWING No SD2015
ISSUE G



1 ROOF PLAN
SCALE 1:100 @ A1
SCALE 1:200 @ A3



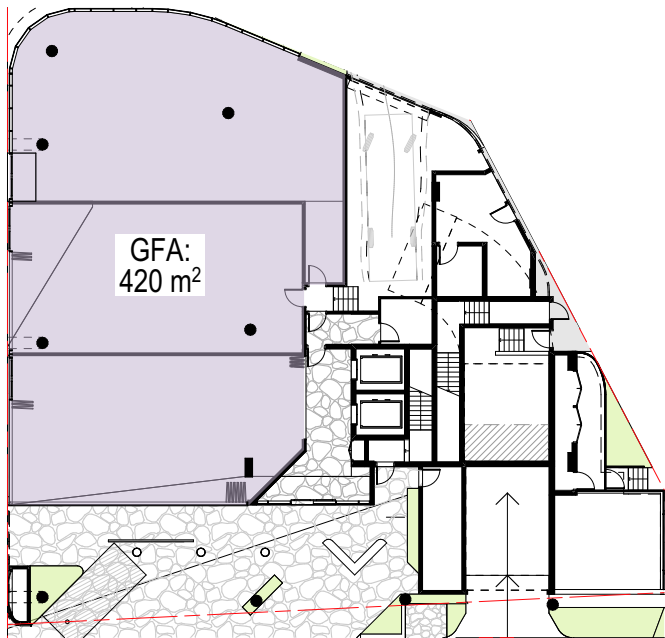
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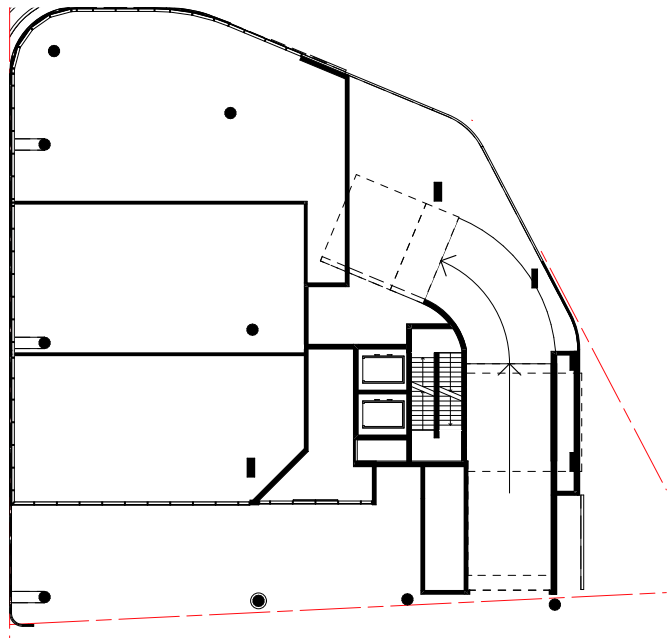
SCCC GFA DEFINITION:
THE TOTAL FLOOR AREA OF ALL STOREYS OF A BUILDING (MEASURED FROM THE OUTSIDE OF THE EXTERNAL WALLS OR THE CENTRE OF A COMMON WALL), OTHER THAN AREAS USED FOR THE FOLLOWING: -
(A) BUILDING SERVICES, PLANT AND EQUIPMENT;
(B) ACCESS BETWEEN LEVELS;
(C) GROUND FLOOR PUBLIC LOBBY;
(D) A MALL;
(E) THE PARKING, LOADING AND MANOUEVERING OF MOTOR VEHICLES;
(F) UNENCLOSED PRIVATE BALCONIES WHETHER ROOFED OR NOT.

PCA NLA DEFINITION:
THE NET LETTABLE AREA OF A BUILDING IS THE SUM OF ITS WHOLE FLOOR LETTABLE AREAS. TAKING MEASUREMENTS FROM THE INTERNAL FINISHED SURFACES OF PERMANENT INTERNAL WALLS AND THE INTERNAL FINISHED SURFACES OF DOMINANT PORTIONS OF THE PERMANENT OUTER BUILD WALLS.

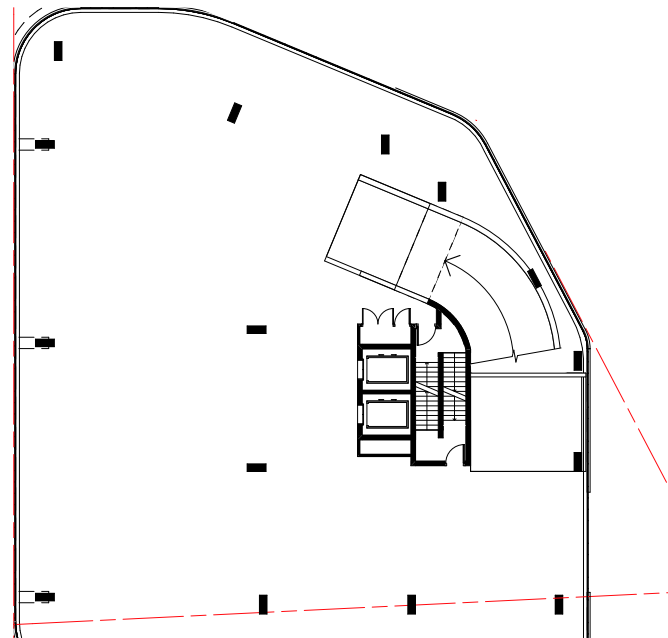
GROSS BUILDING AREA:
MEASURED FROM ALL EXTERNAL WALLS EXCLUDING ANY SLAB PROJECTIONS, INCLUDES BALCONIES.



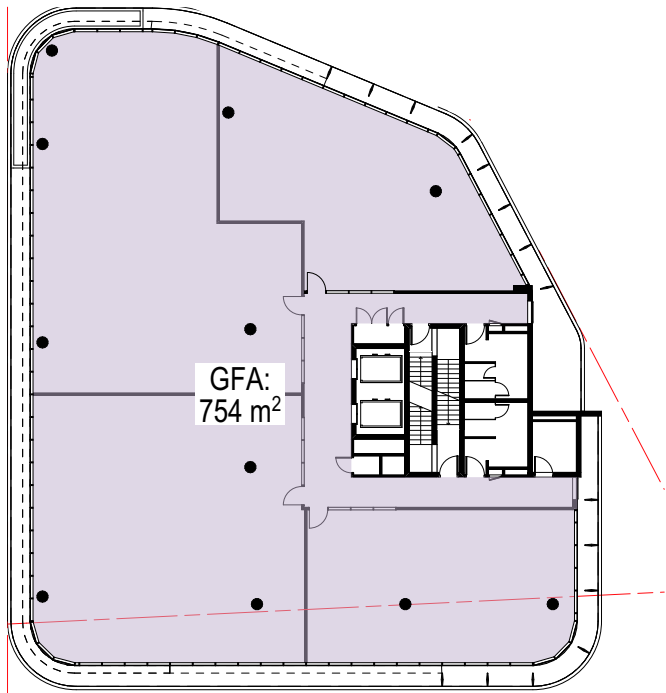
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SCALE 1:400 @ A3



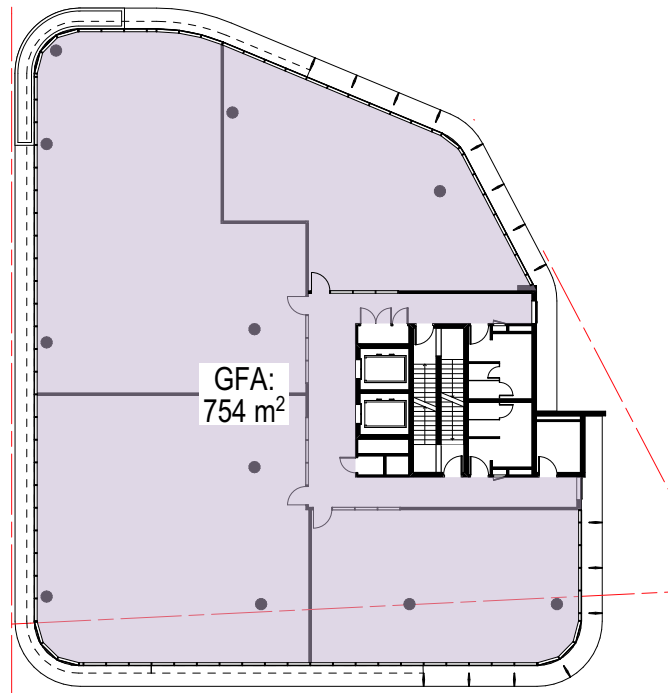
2 GFA PLAN - MEZZANINE
SCALE 1:200 @ A1
SCALE 1:400 @ A3



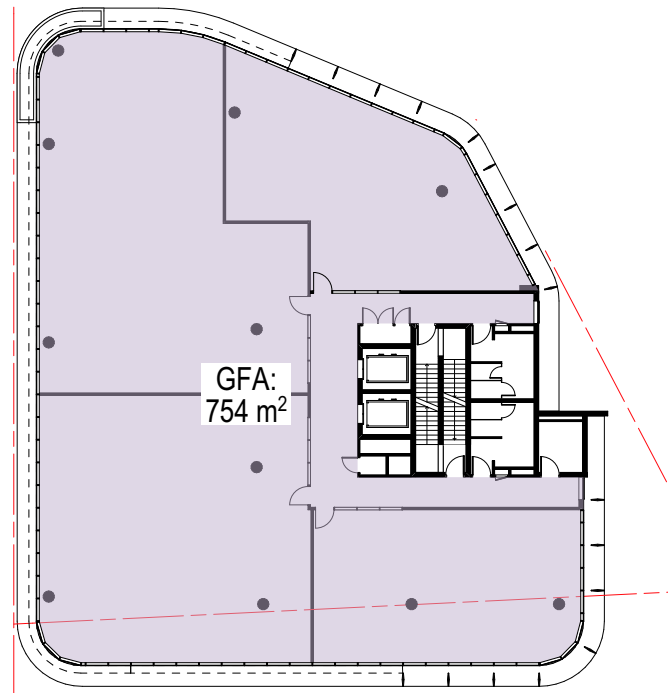
3 GFA PLAN - LEVEL 01
SCALE 1:200 @ A1
SCALE 1:400 @ A3



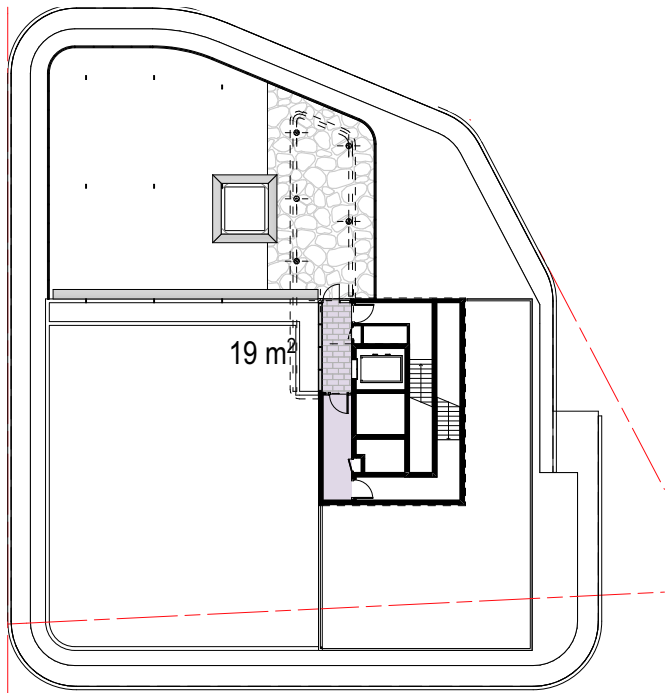
4 GFA PLAN - LEVEL 02
SCALE 1:200 @ A1
SCALE 1:400 @ A3



5 GFA PLAN - LEVEL 03
SCALE 1:200 @ A1
SCALE 1:400 @ A3



6 GFA PLAN - LEVEL 04
SCALE 1:200 @ A1
SCALE 1:400 @ A3



7 GFA PLAN - ROOF TERRACE
SCALE 1:200 @ A1
SCALE 1:400 @ A3

SCCC GFA DEFINITION:
THE TOTAL FLOOR AREA OF ALL STOREYS OF A BUILDING (MEASURED FROM THE OUTSIDE OF THE EXTERNAL WALLS OR THE CENTRE OF A COMMON WALL), OTHER THAN AREAS USED FOR THE FOLLOWING:-
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(B) ACCESS BETWEEN LEVELS;
(C) GROUND FLOOR PUBLIC LOBBY;
(D) A MALL;
(E) THE PARKING, LOADING AND MANOEUVERING OF MOTOR VEHICLES;
(F) UNENCLOSED PRIVATE BALCONIES WHETHER ROOFED OR NOT.

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A	PRELIMINARY ISSUE	20/01/2021	MB	DW	MT
ISSUE PURPOSE	DATE	D	C	A	

SUN CENTRAL MAROOCHYDORE

LOT A1, SUN CENTRAL, MAROOCHYDORE

CLIENT - EVANS LONG

DRAWING TITLE

GFA PLANS

JOB No

5883

DRAWING No

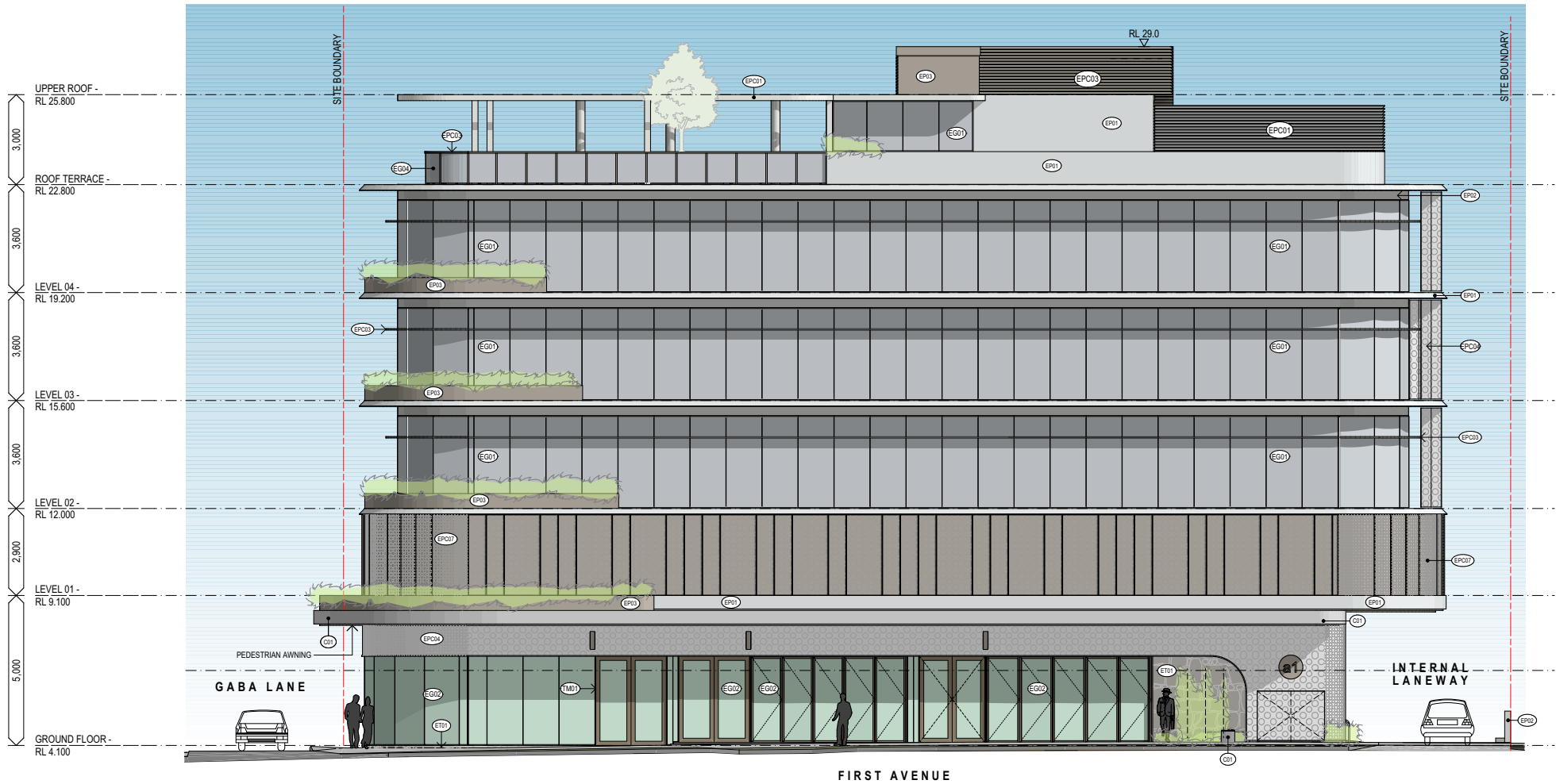
SD2801

ISSUE

C

MATERIALS LEGEND

- EP01** - PAINT FINISH - WHITE
- EP02** - PAINT FINISH - LIGHT GREY
- EP03** - PAINT FINISH - BRONZE
- EPC01** - POWDERCOAT FINISH - WHITE
- EPC02** - POWDERCOAT FINISH - DARK GREY
- EPC03** - POWDERCOAT FINISH - BRONZE
- EPC04** - PERFORATED ALUMINIUM - WHITE POWDERCOAT FINISH
- EPC06** - POWDERCOAT - TIMBER-LOOK PRINT
- EPC07** - PERFORATED ALUMINIUM - BRONZE POWDERCOAT FINISH
- ET01** - STONE TILING OR SIMILAR
- TM01** - TIMBER-LOOK FINISH
- C01** - OFF-FORM CONCRETE - NATURAL FINISH
- EG01** - GREY VISION GLASS WITH EPC02 FRAMES
- EG02** - CLEAR VISION GLASS WITH EPC02 FRAMES
- EG03** - GREY VISION GLASS
- EG04** - CLEAR VISION GLASS



1 WEST ELEVATION
SCALE 1:100 @ A1
SCALE 1:200 @ A3

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0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 @ A1
SCALE 1:200 @ A3

BMcloud: C:\PABNEBIM05 - BMcloud Basic for ARCHICAD 22\1900\5883 Lot A1 SunCentral Master: 2021-02-12 1:32 PM

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B	PRELIMINARY ISSUE	03/12/20	MB	DW	MT
A	PRELIMINARY ISSUE	17/11/2020	AM	DW	MT
ISSUE PURPOSE	DATE	D.	C.	A.	

SUN CENTRAL MAROOCHYDORE

LOT A1, SUN CENTRAL, MAROOCHYDORE
CLIENT - EVANS LONG

DRAWING TITLE
WEST ELEVATION

JOB No
5883
DRAWING No
SD3001
ISSUE
G

- MATERIALS LEGEND**
- EP01** - PAINT FINISH - WHITE
 - EP02** - PAINT FINISH - LIGHT GREY
 - EP03** - PAINT FINISH - BRONZE
 - EPC01** - POWDERCOAT FINISH - WHITE
 - EPC02** - POWDERCOAT FINISH - DARK GREY
 - EPC03** - POWDERCOAT FINISH - BRONZE
 - EPC04** - PERFORATED ALUMINIUM - WHITE POWDERCOAT FINISH
 - EPC06** - POWDERCOAT - TIMBER-LOOK PRINT
 - EPC07** - PERFORATED ALUMINIUM - BRONZE POWDERCOAT FINISH
 - ET01** - STONE TILING OR SIMILAR
 - TM01** - TIMBER-LOOK FINISH
 - C01** - OFF-FORM CONCRETE - NATURAL FINISH
 - EG01** - GREY VISION GLASS WITH EPC02 FRAMES
 - EG02** - CLEAR VISION GLASS WITH EPC02 FRAMES
 - EG03** - GREY VISION GLASS
 - EG04** - CLEAR VISION GLASS



1 EAST ELEVATION
SCALE 1:100 @ A1
SCALE 1:200 @ A3

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0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 @ A1
SCALE 1:200 @ A3

BIMcloud: C:\PABNEBIM05 - BIMcloud Basic for ARCHICAD 22\1900\5883 Lot A1 SunCentral Master: 2021-02-12 1:32 PM

FOR INFORMATION

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ISSUE PURPOSE	DATE	D.	C.	A.	

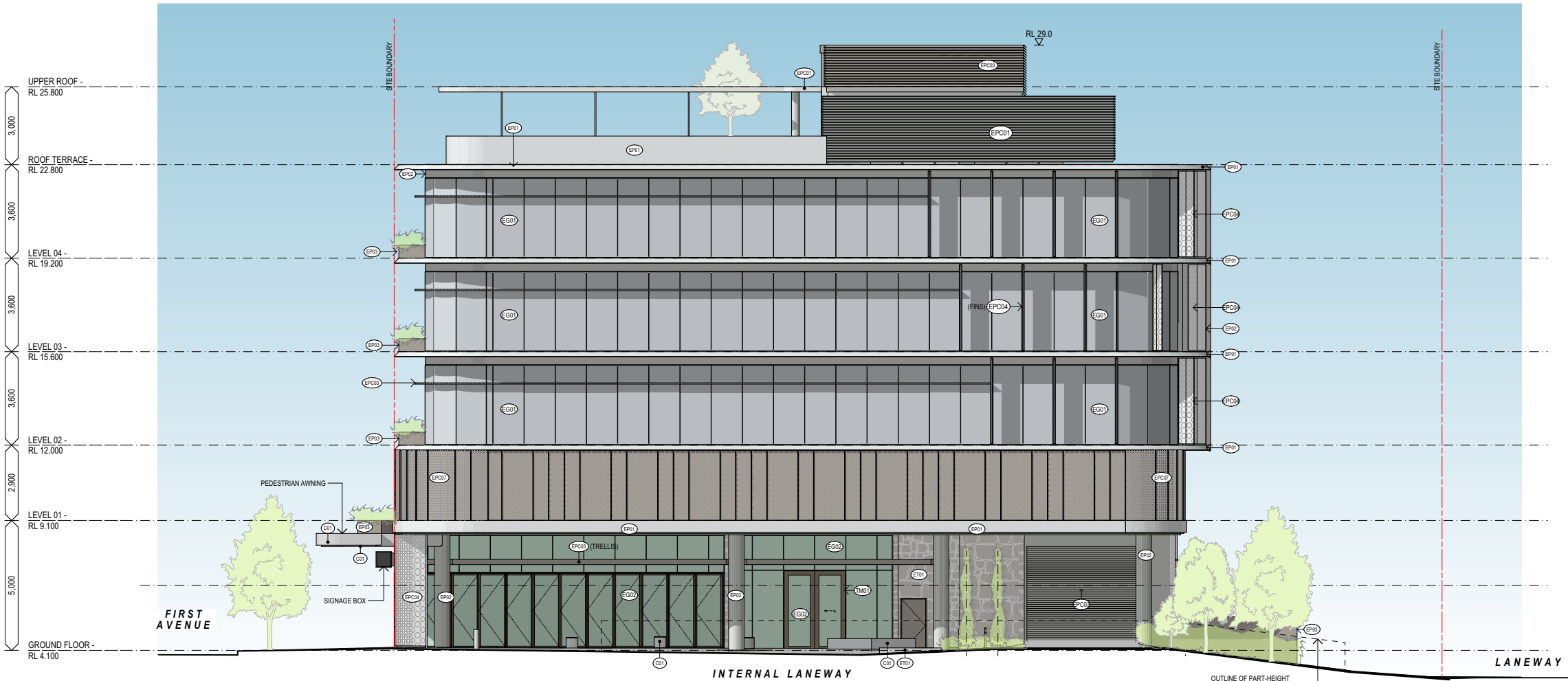
SUN CENTRAL MAROOCHYDORE

LOT A1, SUN CENTRAL, MAROOCHYDORE
CLIENT - EVANS LONG

DRAWING TITLE
EAST ELEVATION

JOB No
5883
DRAWING No
SD3002
ISSUE
G

- MATERIALS LEGEND**
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 - EP02** - PAINT FINISH - LIGHT GREY
 - EP03** - PAINT FINISH - BRONZE
 - EPC01** - POWDERCOAT FINISH - WHITE
 - EPC02** - POWDERCOAT FINISH - DARK GREY
 - EPC03** - POWDERCOAT FINISH - BRONZE
 - EPC04** - PERFORATED ALUMINIUM - WHITE POWDERCOAT FINISH
 - EPC06** - POWDERCOAT - TIMBER-LOOK PRINT
 - EPC07** - PERFORATED ALUMINIUM - BRONZE POWDERCOAT FINISH
 - ET01** - STONE TILING OR SIMILAR
 - TM01** - TIMBER-LOOK FINISH
 - C01** - OFF-FORM CONCRETE - NATURAL FINISH
 - EG01** - GREY VISION GLASS WITH EPC02 FRAMES
 - EG02** - CLEAR VISION GLASS WITH EPC02 FRAMES
 - EG03** - GREY VISION GLASS
 - EG04** - CLEAR VISION GLASS



1 SOUTH ELEVATION
SCALE 1:100 @ A1
SCALE 1:200 @ A3

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0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 @ A1
SCALE 1:200 @ A3

BMcloud: CPABNEBIM05 - BMcloud Basic for ARCHICAD 22/1900/5883 Lot A1 SunCentral Master: 2021-02-12 1:32 PM

FOR INFORMATION

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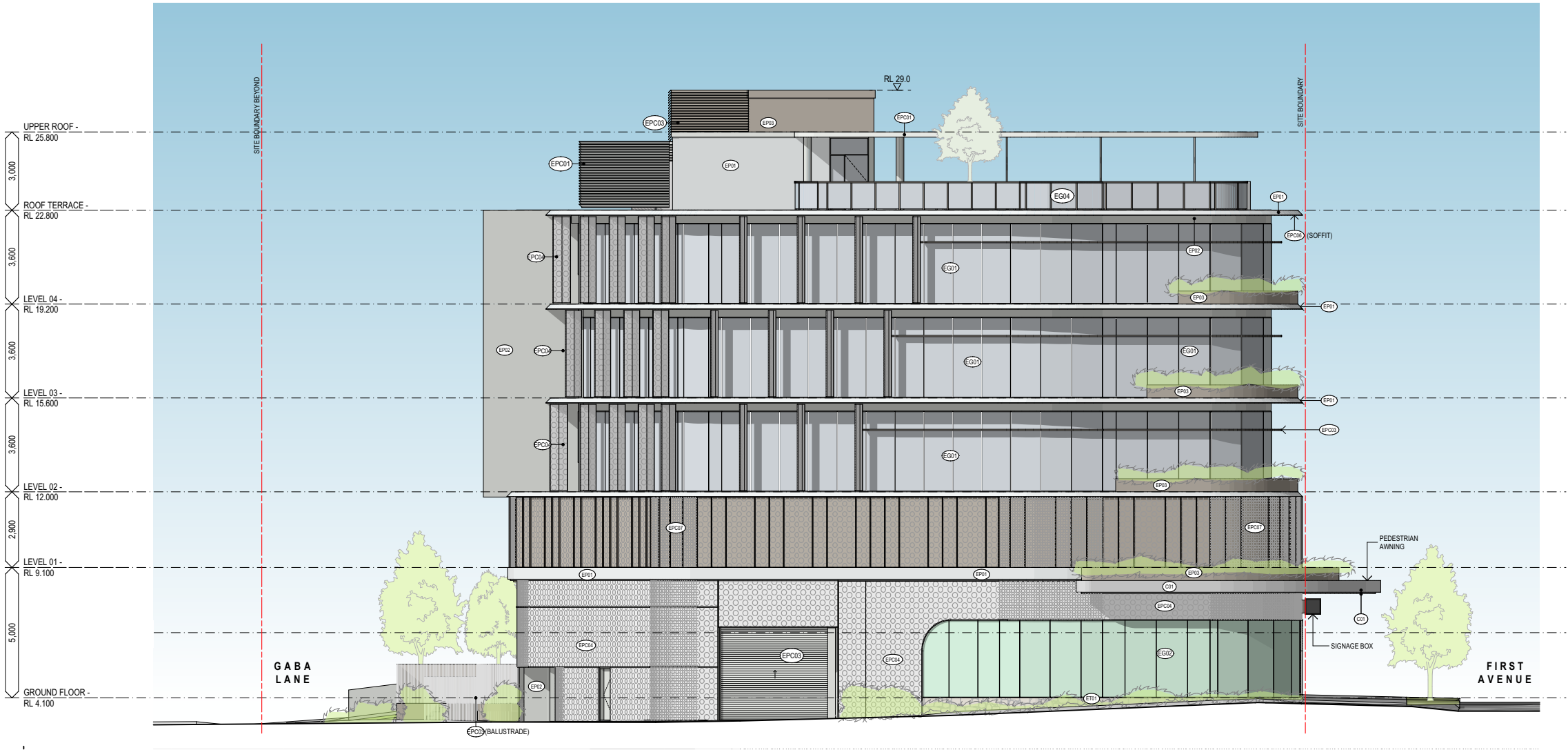
SUN CENTRAL MAROOCHYDORE

LOT A1, SUN CENTRAL, MAROOCHYDORE
CLIENT - EVANSLONG

DRAWING TITLE
SOUTH ELEVATION

ISSUE
JOB No
5883
DRAWING No
SD3003
ISSUE
G

- MATERIALS LEGEND**
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 - EP02** - PAINT FINISH - LIGHT GREY
 - EP03** - PAINT FINISH - BRONZE
 - EPC01** - POWDERCOAT FINISH - WHITE
 - EPC02** - POWDERCOAT FINISH - DARK GREY
 - EPC03** - POWDERCOAT FINISH - BRONZE
 - EPC04** - PERFORATED ALUMINIUM - WHITE POWDERCOAT FINISH
 - EPC06** - POWDERCOAT - TIMBER-LOOK PRINT
 - EPC07** - PERFORATED ALUMINIUM - BRONZE POWDERCOAT FINISH
 - ET01** - STONE TILING OR SIMILAR
 - TM01** - TIMBER-LOOK FINISH
 - C01** - OFF-FORM CONCRETE - NATURAL FINISH
 - EG01** - GREY VISION GLASS WITH EPC02 FRAMES
 - EG02** - CLEAR VISION GLASS WITH EPC02 FRAMES
 - EG03** - GREY VISION GLASS
 - EG04** - CLEAR VISION GLASS



1 NORTH ELEVATION
SCALE 1:100 @ A1
SCALE 1:200 @ A3

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0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 @ A1
SCALE 1:200 @ A3

FOR INFORMATION

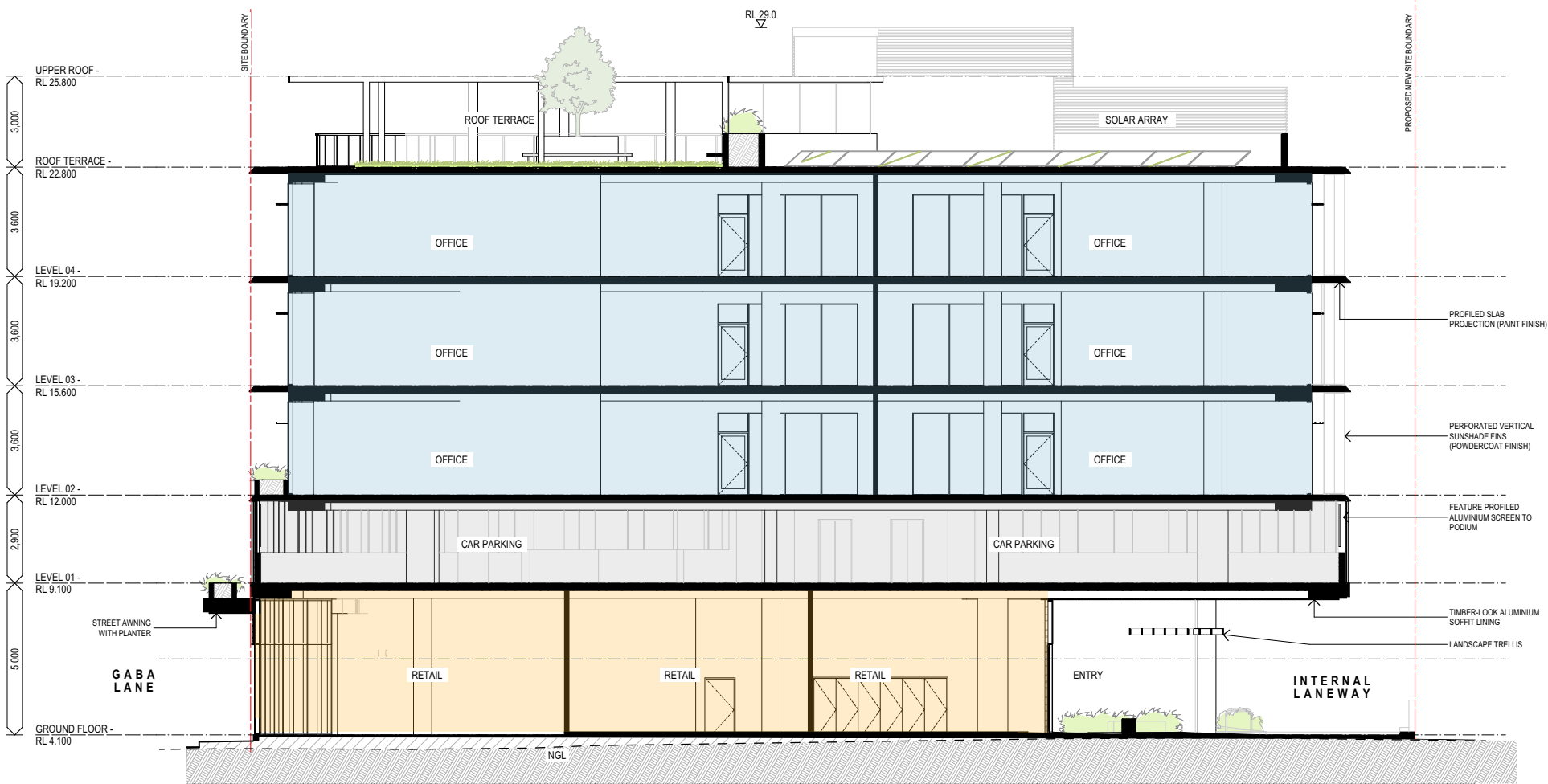
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ISSUE	PURPOSE	DATE	D.	C.	A.

SUN CENTRAL MAROOCHYDORE

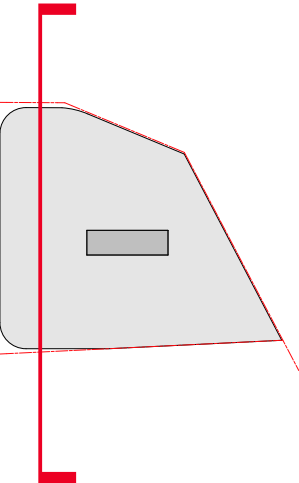
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CLIENT - EVANS LONG

DRAWING TITLE
NORTH ELEVATION

JOB No
5883
DRAWING No
SD3004
ISSUE
G



1 SECTION 1
SCALE 1:100 @ A1
SCALE 1:200 @ A3



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0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 @ A1
SCALE 1:200 @ A3

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FOR INFORMATION

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ISSUE PURPOSE	DATE	D.	C.	A.	

SUN CENTRAL MAROOCHYDORE

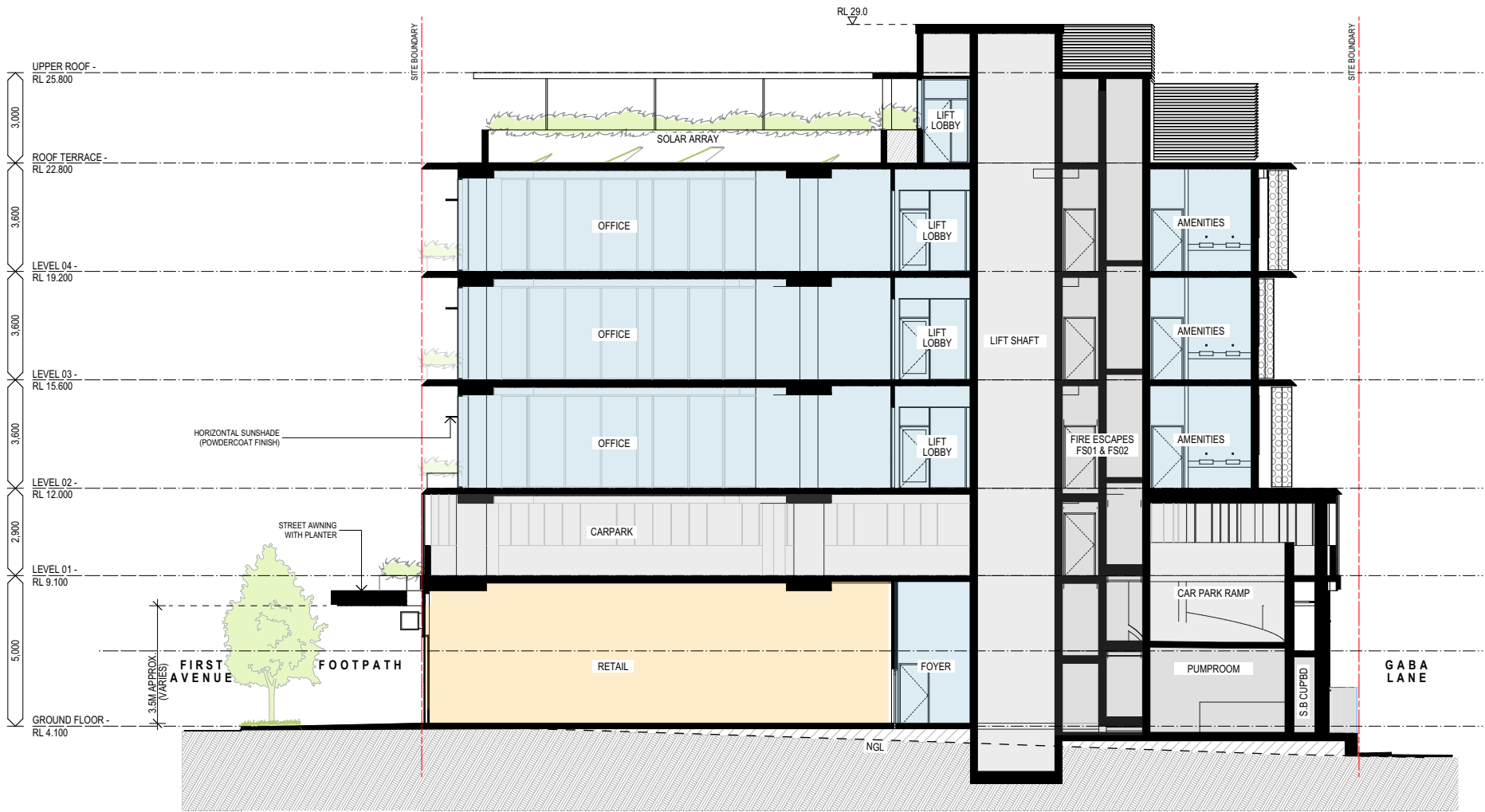
LOT A1, SUN CENTRAL, MAROOCHYDORE

CLIENT - EVANSLONG

DRAWING TITLE

SECTIONS

JOB No 5883
DRAWING No SD3101
ISSUE F



2 SECTION 2
SCALE 1:100 @ A1
SCALE 1:200 @ A3

DEVELOPMENT SUMMARY			
STORY	NLA (m²)	GFA (m²)	GBA (m²)
GROUND FLOOR	417 (GLAR)	420	1034
PODIUM LEVEL 01	0	0	968
LEVEL 02	754	754	966
LEVEL 03	754	754	853
LEVEL 04	754	754	850
ROOF TERRACE	0	19	850
TOTAL	2679	2701	5521

CARPARKS PROVIDED:

RETAIL: 4 (1 / 105m² GFA)
OFFICE: 30 (1 / 75m² GFA)

CARPARKS REQUIRED (EDQ):

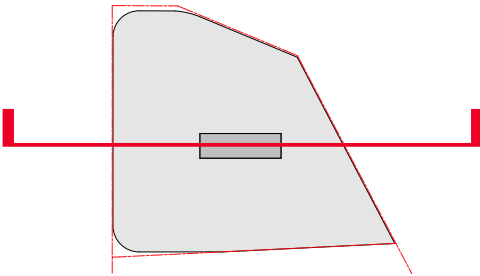
MAXIMUM 1 SPACE / 60m² GFA = MAX. 45 CARPARKS

SITE AREA: 1173m²

SCCC GFA DEFINITION:
THE TOTAL FLOOR AREA OF ALL STOREYS OF A BUILDING (MEASURED FROM THE OUTSIDE OF THE EXTERNAL WALLS OR THE CENTRE OF A COMMON WALL), OTHER THAN AREAS USED FOR THE FOLLOWING: -
(A) BUILDING SERVICES, PLANT AND EQUIPMENT;
(B) ACCESS BETWEEN LEVELS;
(C) GROUND FLOOR PUBLIC LOBBY;
(D) A MALL;
(E) THE PARKING, LOADING AND MANOUEVERING OF MOTOR VEHICLES;
(F) UNENCLOSED PRIVATE BALCONIES WHETHER ROOFED OR NOT.

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GROSS BUILDING AREA:
MEASURED FROM ALL EXTERNAL WALLS EXCLUDING ANY SLAB PROJECTIONS, INCLUDES BALCONIES.



LOT A1, SUN CENTRAL CONCEPT STORMWATER MANAGEMENT PLAN

Appendix B Concept Stormwater Drawings

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NOTES

1. ALL INFORMATION PRESENTED ON THIS DRAWING IS CONCEPTUAL ONLY AND TO BE CONFIRMED THROUGH SUBSEQUENT DETAILED DESIGN.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE LATEST VERSION OF CALIBRE REPORT NO. 21-000083-CSP01A

The diagram illustrates the proposed stormwater management system. It features a horizontal line representing the SITE BOUNDARY. Below this line, a series of colored rectangles represent different nodes in the system. From top to bottom, these are: a grey rectangle for ROAD (INTERNAL LANEWAY) NODE (100% IMPERVIOUS), a pink rectangle for GROUND NODE (100% IMPERVIOUS), a green rectangle for EXCLUDED LANDSCAPING AREA (0% IMPERVIOUS), a blue rectangle for ROOF NODE (100% IMPERVIOUS), and a yellow rectangle for EXCLUDED BYPASSING AREA. To the left of the grey rectangle, there is a circular icon containing a square with a cross, representing a stormwater inlet. Above the diagram, a horizontal line with two vertical tick marks is labeled SITE BOUNDARY. To the right of the diagram, the text PROPOSED STORMWATER is written. Below this, the text PROPOSED FIELD INLET WITH SPEL STORMSACK LITTER BASKET is written. Below the diagram, the text ROAD (INTERNAL LANEWAY) NODE (100% IMPERVIOUS) is written. Below this, the text GROUND NODE (100% IMPERVIOUS) is written. Below the diagram, the text EXCLUDED LANDSCAPING AREA (0% IMPERVIOUS) is written. Below this, the text ROOF NODE (100% IMPERVIOUS) is written. Below the diagram, the text EXCLUDED BYPASSING AREA is written.

SITE BOUNDARY

PROPOSED STORMWATER

PROPOSED FIELD INLET WITH SPEL STORMSACK LITTER BASKET

ROAD (INTERNAL LANEWAY) NODE (100% IMPERVIOUS)

GROUND NODE (100% IMPERVIOUS)

EXCLUDED LANDSCAPING AREA (0% IMPERVIOUS)

ROOF NODE (100% IMPERVIOUS)

EXCLUDED BYPASSING AREA

CATCHMENT NAME	AREA (ha)	FRACTION IMPERVIOUS (%)
ROOF (100% Imp)	0.086	100
ROAD – INTERNAL LANEWAY (100% Imp)	0.007	100
GROUND (100% Imp)	0.014	100

[illegible]

STATUS	CONCEPT ONLY
APPROVED	
BY:	
SIGN:	DATE:

SCALE

0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0

SCALE 1:200 (A1) SCALE 1:400 (A3)

CLIENT

EVANS LONG PTY LTD



PROJECT

LOT A1
SMP

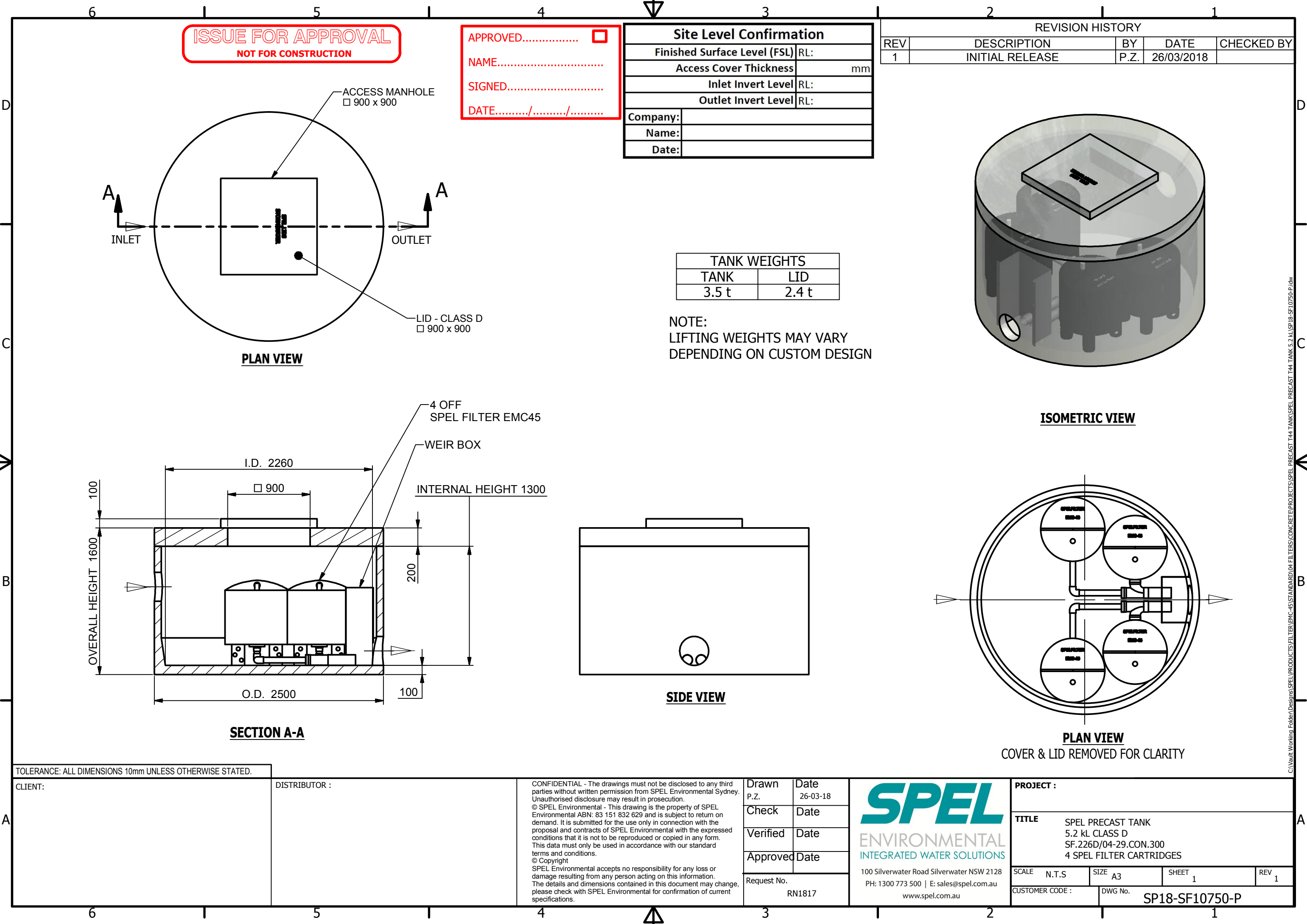
DISCLAIMER
ALL DIMENSIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.

DRAWING TITLE		
STORMWATER MANAGEMENT PLAN		
PROJECT No.	DRAWING No.	REVISION
21-000083	SK001	A

LOT A1, SUN CENTRAL CONCEPT STORMWATER MANAGEMENT PLAN

Appendix C SPELFilter Cartridge System Details

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LOT A1, SUN CENTRAL CONCEPT STORMWATER MANAGEMENT PLAN

Appendix D Cardno – Maroochydore City Centre: Addendum to Cornmeal Creek Flood Study

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Report available upon request

A black and white photograph of a landscape. In the foreground, there are tall, dry grasses and a row of large, flat rocks along a path or waterway. In the background, there are several large, leafy trees and a clear sky.

Contact Us

Calibre Professional Services Pty Ltd
55 070 683 037

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Maroochydore Qld 4558
PO Box 997, Buddina Qld 4575

calibregroup.com