

## **GOLDEN SEDAYU**

### **LOT 305 – 306 BURSWOOD PENINSULA**

### **PRELIMINARY NOISE INGRESS ASSESSMENT**

**AUGUST 2023**

**OUR REFERENCE: 31490-2-23268**

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<b>TOWN OF VICTORIA PARK</b> Received: 1/03/2024
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**NOISE INGRESS ASSESSMENT**  
**LOT 307 – 308**  
**BURSWOOD PENINSULA**

Job No: 23268

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FOR

**GOLDEN SEDAYU**

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B	Glazing Requirements
C	Main Roads Traffic Flow Data

## 1. INTRODUCTION

Herring Storer Acoustics were commissioned by Golden Sedayu to carry out an acoustic study with regards to the ambient noise in the area surrounding the proposed development at Lot 305 – 306 Burswood Peninsula. TOWN OF VICTORIA PARK  
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The purpose of the study was to:

- Assess the noise that would be received within the development area from vehicles travelling on Graham Farmer Freeway for future traffic volumes.
- Assess the noise impact of the use of Belmont racecourse upon the proposed development.
- Assess the noise impact of crowd noise at the Belmont racecourse upon the proposed development.
- Compare the results with accepted criteria and if exceedances exist, develop the framework for the management of noise.

A plan is attached in Appendix A.

It is noted that whilst this study references *State Planning Policy 5.4* as the criteria for noise ingress associated with road noise, some parts of the assessment have not been conducted under strict accordance with the policy, although a conservative approach where possible has been utilised.

Noise levels associated with the use of the Belmont Racecourse – both the horse racing and training itself – have been considered in the context of providing a sufficient façade to control internal noise levels to a reasonable level.

The intent of this preliminary assessment is to inform of general acoustic requirements as well as garner development approval.

## 2. SUMMARY

A preliminary assessment of traffic noise impacts and horse passby noise levels has been undertaken, with the required glazing attenuation levels listed in Appendix B.

It should be noted that the development is located outside the trigger distance requiring an SPP 5.4 assessment, hence, this work could conceivably be undertaken only to ensure a reasonable level of amenity is provided within the development – rather than a mandatory requirement.

It is noted that this assessment is preliminary in nature only and is anticipated to be refined during the designed development process.

The glazing requirements to ameliorate both traffic and horse passbys was found to not be onerous – and it is considered likely that other requirements (thermal BAL etc) will be more prescriptive of glass thickness and performance than noise issues.



### 3. ACOUSTIC CRITERIA

#### 3.1 NOISE

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The Western Australian Planning Commission (WAPC) released on 6<sup>th</sup> September 2019 State Planning Policy 5.4 “Road and Rail Noise”. The requirements of State Planning Policy 5.4 are outlined below.

It is noted that the proposed development is located outside the trigger distance for an assessment – hence – this preliminary assessment in accordance with SPP 5.4 can be considered for information purposes only, to ensure a reasonable level of amenity if provided within the finished development. Refer to Figure 1 below.

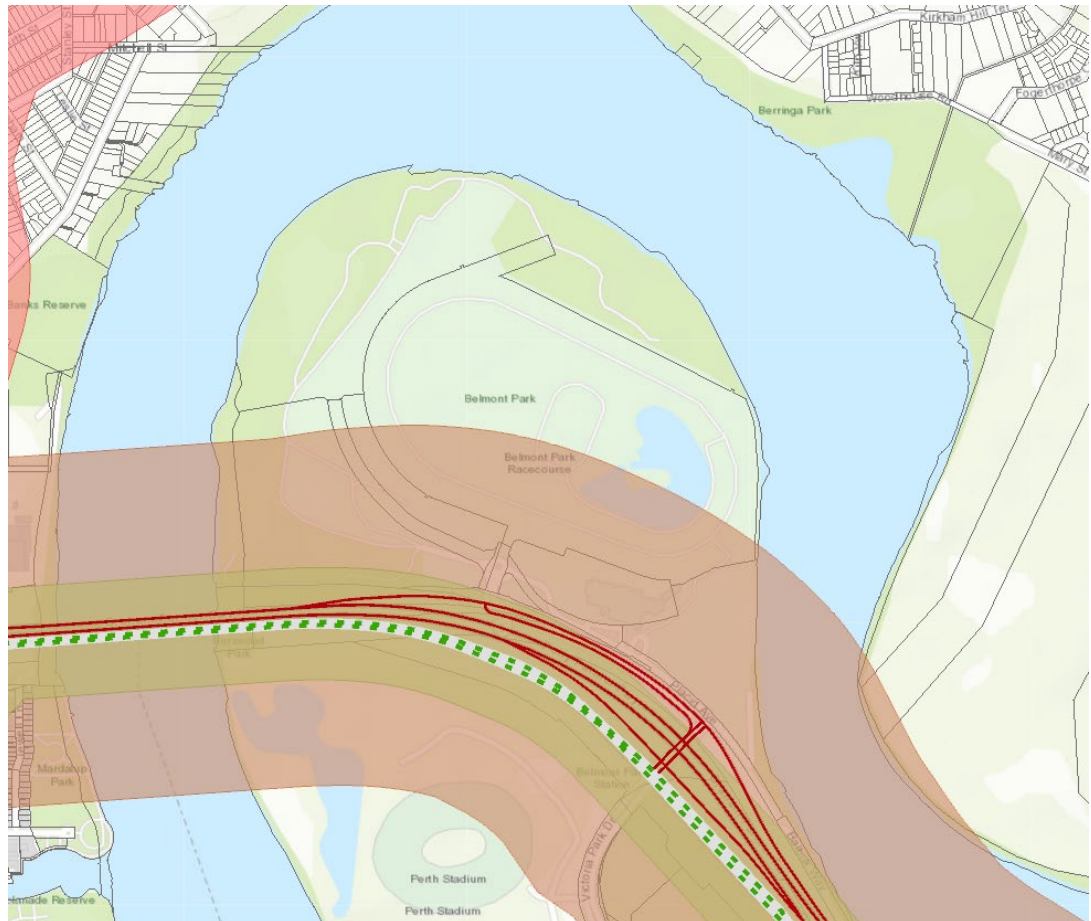


FIGURE 1 – DEVELOPMENT LOCATION OUTSIDE OF TRIGGER DISTANCE

#### POLICY APPLICATION (Section 4)

##### When and where it applies (Section 4.1)

*SPP 5.4 applies to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia, where there is proposed:*

- a) *noise-sensitive land-use within the policy’s trigger distance of a transport corridor as specified in **Table 1**.*
- b) *New or major upgrades of roads as specified in **Table 1** and maps (**Schedule 1,2 and 3**); or*
- c) *New railways or major upgrades of railways as specified in maps (**Schedule 1, 2 and 3**); or any other works that increase capacity for rail vehicle storage or movement and will result in an increased level of noise.*

### Policy trigger distances (Section 4.1.2)

**Table 1** identifies the State's transport corridors and the trigger distances to which the policy applies.

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The designation of land within the trigger distances outlined in **Table 1** should not be interpreted to imply that land is affected by noise and/or that areas outside the trigger distances are un-affected by noise.

Where any part of the lot is within the specified trigger distance, an assessment against the policy is required to determine the likely level of transport noise and management/mitigation required. An initial screening assessment (**guidelines: Table 2: noise exposure forecast**) will determine if the lot is affected and to what extent."

**TABLE 1: TRANSPORT CORRIDOR CLASSIFICATION AND TRIGGER DISTANCES**

Transport corridor classification	Trigger distance	Distance measured from
<b>Roads</b>		
<b>Strategic freight and major traffic routes</b> Roads as defined by Perth and Peel Planning Frameworks and/or roads with either 500 or more Class 7 to 12 Austroads vehicles per day, and/or 50,000 per day traffic volume	300 metres	Road carriageway edge
<b>Other significant freight/traffic routes</b> These are generally any State administered road and/or local government road identified as being a future State administered road (red road) and other roads that meet the criteria of either >=23,000 daily traffic count (averaged equivalent to 25,000 vehicles passenger car units under region schemes)	200 metres	Road carriageway edge
<b>Passenger railways</b>		
	100 metres	Centreline of the closest track
<b>Freight railways</b>		
	200 metres	Centreline of the closest track

Proponents are advised to consult with the decision making authority as site specific conditions (significant differences in ground levels, extreme noise levels) may influence the noise mitigation measures required, that may extend beyond the trigger distance.

### POLICY MEASURES (Section 6)

The policy applies a performance-based approach to the management and mitigation of transport noise. The policy measures and resultant noise mitigation will be influenced by the function of the transport corridor and the type and intensity of the land-use proposed. Where there is risk of future land-use conflict in close proximity to strategic freight routes, a precautionary approach should be applied. Planning should also consider other broader planning policies. This is to ensure a balanced approach takes into consideration reasonable and practical considerations.

### Noise Targets (Section 6.1)

**Table 2** sets out noise targets that are to be achieved by proposals under which the policy applies. Where exceeded, an assessment is required to determine the likely level of transport noise and management/mitigation required.

*In the application of the noise targets the objective is to achieve:*

- indoor noise levels as specified in **Table 2** in noise sensitive areas (for example, bedrooms and living rooms of houses, and school classrooms); and
- a reasonable degree of acoustic amenity for outdoor living areas on each residential lot. For non-residential noise-sensitive developments, for example schools and child care centres the design of outdoor areas should take into consideration the noise target.

*It is recognised that in some instances, it may not be reasonable and/or practicable to meet the outdoor noise targets. Where transport noise is above the noise targets, measures are expected to be implemented that balance reasonable and practicable considerations with the need to achieve acceptable noise protection outcomes.*

**TABLE 2: NOISE TARGETS**

Proposals	New/Upgrade	Noise Targets		
		Outdoor		Indoor
		Day ( $L_{Aeq}(\text{Day})$ dB) (6 am-10 pm)	Night ( $L_{Aeq}(\text{Night})$ dB) (10 pm-6 am)	( $L_{Aeq}$ dB)
Noise-sensitive land-use and/or development	New noise sensitive land use and/or development within the trigger distance of an existing/proposed transport corridor	55	50	$L_{Aeq}$ (Day) 40 (Living and work areas) $L_{Aeq}$ (Night) 35 (bedrooms)
Roads	New	55	50	N/A
	Upgrade	60	55	N/A
Railways	New	55	50	N/A
	Upgrade	60	55	N/A

Notes:

- The noise target is to be measured at one metre from the most exposed, habitable façade of the proposed building, which has the greatest exposure to the noise-source. A habitable room has the same meaning as defined in State Planning Policy 3.1 Residential Design Codes.
- For all noise-sensitive land-use and/or development, indoor noise targets for other room usages may be reasonably drawn from Table 1 of Australian Standard/New Zealand Standard AS/NZS 2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors (as amended) for each relevant time period.
- The 5dB difference in the criteria between new and upgrade infrastructure proposals acknowledges the challenges in achieving noise level reduction where existing infrastructure is surrounded by existing noise-sensitive development.
- Outdoor targets are to be met at all outdoor areas as far as is reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines. For example, it is likely unreasonable for a transport infrastructure provider to achieve the outdoor targets at more than 1 or 2 floors of an adjacent development with direct line of sight to the traffic.

### Noise Exposure Forecast (Section 6.2)

When it is determined that SPP 5.4 applies to a planning proposal as outlined in Section 4, proponents and/or decision makers are required to undertake a preliminary assessment using **Table 2**: noise exposure forecast in the guidelines. This will provide an estimate of the potential noise impacts on noise-sensitive land-use and/or development within the trigger distance of a specified transport corridor. The outcomes of the initial assessment will determine whether:

- no further measures are required.
- noise-sensitive land-use and/or development is acceptable subject to deemed-to-comply mitigation measures; or
- noise-sensitive land-use and/or development is not recommended. Any noise-sensitive land-use and/or development is subject to mitigation measures outlined in a noise management plan."

## 4. ACOUSTIC ENVIRONMENT

The noise measurements were conducted at approximately 2:30 PM, 23 August 2023 for a short term period to determine the  $L_{A10}$  noise level traffic for approximately 15 minutes. This time period has been identified as representative of highest traffic noise levels.

Utilising this measurement, reference to the DEFRA publication has been sought and the difference between the  $L_{A10,18hr}$  and the  $L_{Aeq,8hr}$  and the  $L_{Aeq,16hr}$  has been calculated. The location of the measurements is shown in Appendix A.

Noise measurements were conducted with a Larson Davis 831 Sound Level Meter. The Sound Level Meter was calibrated prior to and after use with a Bruel and Kjaer 4230 Calibrator. All equipment used is currently NATA laboratory calibrated. Calibration certificates are available on request.

**TABLE 4.1: SUMMARY OF MEASURED NOISE LEVELS**

Measurement Location	Measured/Calculated Noise Level, dB(A)		
	$L_{A10}$	$L_{Aeq, day (6am to 10pm)}$	$L_{Aeq, night (10pm to 6am)}$
Graham Farmer Freeway and Perth – Armadale Train Line	76.0	74.0	64.6

Noise levels were also recorded of horse passbys at Belmont racecourse at approximately 2pm, 23 August 2023. A passby maximum noise level of 55 dB(A) was recorded at a distance of approximately 100m.

## 5. MODELLING

To determine the noise levels from traffic on Graham Farmer Freeway and the Perth to Armadale train line, acoustic modelling was carried out using Sound Plan, using the Calculation of Road Traffic Noise (CoRTN)<sup>1</sup> algorithms.

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The input data for the model included:

- Topographical and cadastral data attained from Google Earth.
- Traffic data as per Table 5.1 (Obtained from MRWA Traffic Map, Attached in Appendix C).
- Adjustments as listed in Table 5.2.

**TABLE 5.1 - NOISE MODELLING INPUT DATA**

Parameter	Graham Farmer Freeway (Current) 2022	Kwinana Freeway (Future) 2042
Traffic Volumes	109,056 vpd	162,051 vpd
Percentage traffic 0600 – 2400 hours (Assumed)	94%	94%
Heavy Vehicles (%) (Assumed)	7.8%	7.8%
Speed (km/hr)	80km/hr	80km/hr
Road Surface	Chip Seal	Dense Graded Asphalt

**TABLE 5.2 – ADJUSTMENTS FOR NOISE MODELLING**

Description	Value
Façade Reflection Adjustment	+2.5 dB
Conversion from L <sub>A10</sub> (18 hour) to L <sub>Aeq</sub> (16 hour) (Day)	-2.0 dB

To determine the noise impact associated with horses racing and training on the track, the passby noise level measured was utilised to establish a noise model within Sound Plan 9.0. The model was calibrated to the measured noise levels. The glazing requirements to reduce the noise levels within the proposed development to the same internal noise levels specified by SPP 5.4 – which is considered industry standard – was then undertaken. This assessment is included in the tabulation in Appendix B.

It is noted that the amelioration required for horse passbys was slightly more onerous than traffic noise.

## 6. TRAFFIC NOISE ASSESSMENT

Using the data contained in Tables 4.1, 5.1 and 5.2, modelling was carried out under existing conditions for calibration. The Sound Plan model for the site has been set up for the 2042 scenario as defined in Table 5.1. The following assumptions have been made:

- 18 hour traffic count will be 94% of daily figures.
- Noise model calibrated to measured noise level as per Table 3.1
- The same diurnal relationship will exist in the future between the L<sub>A10</sub> (18 hour) and the L<sub>Aeq</sub> parameters; and
- 2.5 dB(A) has been added to the results for façade reflection.

<sup>1</sup> Calculation of Road Traffic Noise UK Department of Transport 1987

The noise requirements based on the above have been listed in Appendix B.

It is noted that these requirements pertain to acoustic requirements only, with regard to *State Planning Policy 5.4*, and may be superseded by other requirements (BAL, Thermal etc).

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These are preliminary calculations for window requirements, based upon approximate window to room size ratios. It is anticipated that the window glazing requirements would require refinement during the design development phase of the project.

## 7. CONCLUSION

In accordance with the WAPC Planning Policy 5.4, an assessment of the noise that would be received within the development of Lot 305 – 306 Burswood Peninsula, Burswood Peninsula from vehicles travelling on Graham Farmer Freeway has been undertaken.

In accordance with the Policy, the following would be the acoustic criteria applicable to this project:

### **External**

Day	55 dB(A) $L_{Aeq}$
Night	50 dB(A) $L_{Aeq}$

### **Internal**

Sleeping Areas	35 dB(A) $L_{Aeq(night)}$
Living Areas	40 dB(A) $L_{Aeq(day)}$

is noted that walls of the development would be required to be constructed of either masonry or tilt up concrete panel. If a lightweight construction or similar is desirable, investigation into constructions that would meet the requirement of State Planning Policy 5.4 would have to be undertaken.

The results of the acoustic assessment indicate that noise received at the development from future traffic, exceed external noise level criteria. Therefore, noise amelioration in the form of quiet house design listed in Appendix B, as well as notifications on the title is required.

Herring Storer Acoustic recommends the development be conditioned as such to require a full assessment of the development in accordance with *State Planning Policy 5.4* once detailed designed is finalised to provide a more accurate assessment – this would include finalised window sizes, façade constructions and the like to be accounted for.

# APPENDIX A

## PLANS





LOT 305 & LOT 306 BURSWOOD POINT

DRAWING REGISTER

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DRAWING NUMBER	DRAWING NAME	REV
DA0.01	DEVELOPMENT SUMMARY	K
DA0.02	SITE CONTEXT PLAN	A
DA1.00	PLANS - BASEMENT	K
DA1.01	PLANS - GROUND FLOOR	K
DA1.02	PLANS - LEVEL 01	K
DA1.03	PLANS - MEZZANINE	K
DA1.04	PLANS - LEVEL 02	K
DA1.05	PLANS - LEVEL 03	K
DA1.06	PLANS - LEVEL 04 - 11	K
DA1.07	PLANS - LEVEL 12	K
DA1.08	PLANS - LEVEL 13	K
DA1.09	PLANS - LEVEL 14	K
DA1.10	PLANS - LEVEL 15	K
DA1.11	PLANS - LEVEL 16	K
DA1.12	PLANS - LEVEL 17	K
DA1.13	PLANS - LEVEL 18	K
DA1.14	PLANS - LEVEL 19	K
DA1.15	PLANS - LEVEL 20	K
DA1.16	PLANS - ROOF LOWER	K
DA1.17	PLANS - ROOF UPPER	K
DA2.01	SECTIONS - NORTH - SOUTH	L
DA2.02	SECTIONS - EAST - WEST	L
DA3.01	ELEVATIONS - LOT 305 & 306 WEST	L
DA3.02	ELEVATIONS - LOT 306 NORTH & SOUTH	L
DA3.03	ELEVATIONS - LOT 305 & 306 EAST	L
DA3.04	ELEVATIONS - LOT 305 NORTH & SOUTH	L

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE
L	22.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
SUSTAINABILITY:	FULL CIRCLE DESIGN
WIND:	RWDI
WASTE:	TALIS
ACOUSTIC:	HERRING STORER
TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306
BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER	NORTH
23025	
SCALE	

DRAWING			
DRAWING REGISTER			
DRAWING NO.	DRAFTER	CHECKED	REV.
DA0.00	CD	—	L



A.

PODIUM - Lots 305 & 306 Burswood Point															
	A1 1x1	A2 1x1	A4 1x1	B1 2x2	B2 2x2		B9 2x2	B10 2x2	B3 2x2	B4 2x2	B8 2x2	B11 2x2		C1 3x2	C2 3x3
B1	58	58	57	91	91		113	110	92	99	114	115		142	155
GRD	1	6		1											
MEZZ															
L01	1	4	2	2	1										
L02	1			3	1		1	1							
L03									1	1	1	1		1	1
Total	3	10	2	6	2	0	1	1	1	1	1	1	0	1	1
Strata	174	580	114	546	182	0	113	110	92	99	114	115	0	142	155
Mix	9.7%	32.3%	6.5%	19.4%	0.3%	0.0%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	0.0%	3.2%	6.5%

B.

WEST TOWER - Lot 305 Burswood Point																							
	A3 1x1	B5 2x2	B6 2x2	B7 2x2	B12 2x2	B13 2x2	B14 2x2	C3 3x3	C5 3x3	C9 3x3	C10 3x3	Total Resi	Private Balcony M <sup>2</sup>	Resi Amenity External M <sup>2</sup>	Resi Amenity Indoor M <sup>2</sup>	GFA Total M <sup>2</sup>	NLA M <sup>2</sup>	NLA/ GFA % RATIO	CIRC/ SERV M <sup>2</sup>	CIRC+ SERV/ GFA % RATIO	RESI STORES		
	59	101	104	115	113	124	119	159	163	178	186										3SOM	4SOM	5SOM
L04	2	1	1	1	1	1						7	199			1081	675	62%	94	9%		3	
L05	2	1	1	1	1	1						7	199			1088	675	62%	96	9%		3	
L06	2	1	1	1	1	1						7	199			1081	675	62%	94	9%		3	
L07	2	1	1	1	1	1						7	199			1088	675	62%	96	9%		3	
L08	2	1	1	1	1	1						7	199			1081	675	62%	94	9%		3	
L09	2	1	1	1	1	1						7	199			1088	675	62%	96	9%		3	
L10	2	1	1	1	1	1						7	199			1081	675	62%	94	9%		3	
L11	2	1	1	1	1	1						7	199			1088	675	62%	96	9%		3	
L12		1		1			1		1		1	5	182			1067	684	64%	94	9%		2	1
L13		1		1			1		1		1	5	193			1078	684	63%	94	9%		2	1
L14		1		1			1		1		1	5	193			1078	684	63%	94	9%		2	1
L15		1		1			1		1		1	5	193			1078	684	63%	94	9%		2	1
L16								1	1	1	1	4	200			1078	686	64%	102	9%			1
TCE																250			59	24%			
Total	16	12	8	12	8	8	4	1	5	1	5	80	2553	190	0	14305	8822	63%	1297	10%	0	32	5
Strata	944	1212	832	1380	904	992	476	159	815	178	930	8822											
Mix	20.0%	15.0%	10.0%	15.0%	10.0%	10.0%	5.0%	1.3%	6.3%	1.3%	6.3%												
	20.0%	65.0%						15.0%															

OVERALL SUMMARY			
	1x1	2x2	3x2
Total Apts	31	111	58
Total Mix	16%	56%	29%
Resi Bays	1 Bay	1.84	2 Bays/Apt
Vis Bays	Req	26.5	
	Prop	21 (6 bay shortfall)	

Total GFA (M²) (Ex Parking)	41247
Total GFA (M²) (Inc Parking)	53961
Total NLA (M²)	23494

PARKING PROVIDED					
RESI PROP	VIS PROP	CAR BAY TOTAL	RESI MC	RESI BIKE	RESI VIS BIKE
B1	126		126	12	
GRD	26	21	47	5	100
MEZZ	65		65	6	
L01	66		66	10	
L02	68		68	3	
Total	351	21	372	36	100

RESI STORE SUMMARY		
	REQ	PROP
3	31	31
4	111	113
5	58	58
TOTAL	200	202

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C.

EAST TOWER - Lot 306 Burswood Point													
	B3 2x2	B4 2x2	B8 2x2	B11 2x2	C1 3x3	C2 3x3	C4 3x3	C6 3x3	C7 3x3	C8 3x3	P1 4x4	Total Resi	Private Balcony M <sup>2</sup>
L04	92	99	114	115	142	155	171	184	179	181	330	6	178
L05	1	1	1	1	1	1						6	178
L06	1	1	1	1	1	1						6	178
L07	1	1	1	1	1	1						6	178
L08	1	1	1	1	1	1						6	178
L09	1	1	1	1	1	1						6	178
L10	1	1	1	1	1	1						6	178
L11	1	1	1	1	1	1						6	178
L12	1	1	1	1	1	1						6	178
L13	1	1	1	1	1	1						6	178
L14	1		1		1			1		1		5	182
L15	1		1		1			1		1		5	181
L16							1	1	1	1		4	177
L17							1	1	1	1		4	184
L18							1	1	1	1		4	184
L19							1	1	1	1		4	184
L20							1		1		1	3	194
Total	12	10	12	10	12	10	5	6	5	6	1	89	3066
Strata	1104	990	1368	1150	1704	1550	855	1104	895	1086	330	12136	
Mix	13.5%	11.2%	13.5%	11.2%	13.5%	11.2%	5.6%	6.7%	5.6%	6.7%	1.1%		

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT

GOLDEN SEDAYU

PROJECT

BURSWOOD POINT

PROJECT ADDRESS

TOWER LOTS 305 + 306  
BURSWOOD POINT

PROJECT STATUS

TOWN PLANNING

PROJECT NUMBER

23025

NORTH

SCALE

DRAWING

DEVELOPMENT  
SUMMARY

DRAWING NO.

CD

DRAFTER

CHECKED

REV.

DA0.01

K



TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
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WIND:	RWDI
WASTE:	TALIS
ACOUSTIC:	HERRING STORER
TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

PROJECT ADDRESS

TOWER LOTS 305 + 306  
BURSWOOD POINT

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PROJECT STATUS

TOWN PLANNING

DRAWING

SITE CONTEXT

PLAN

DRAWING NO.

DRAFTER

CHECKED

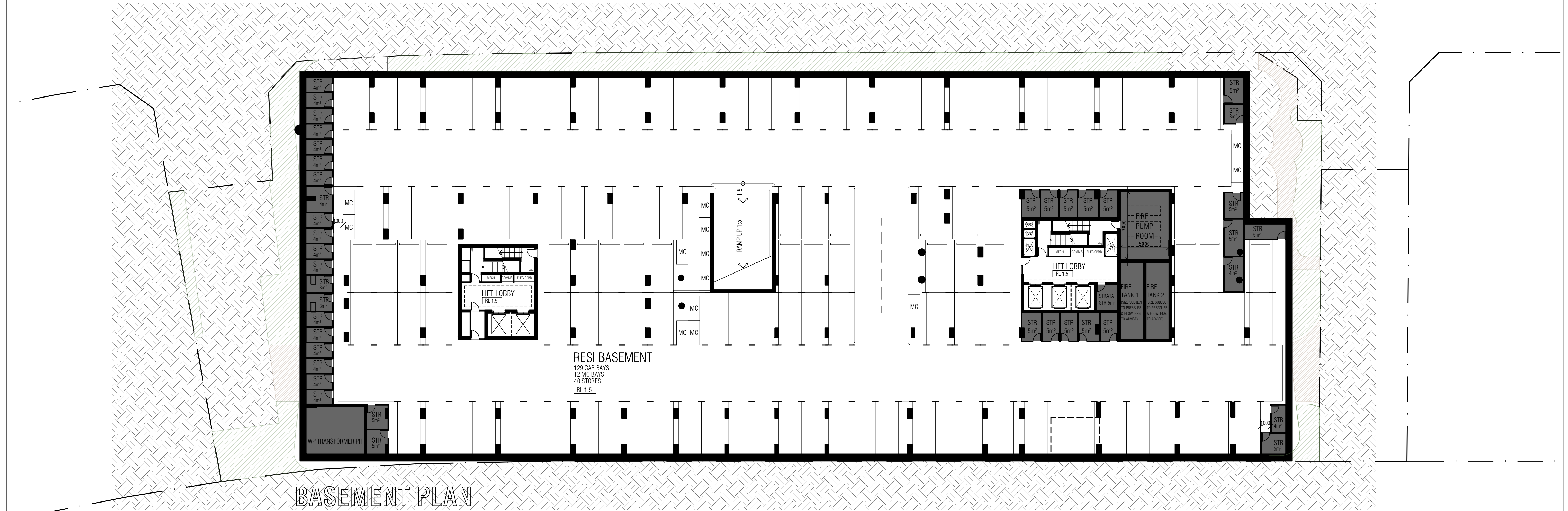
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REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
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TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

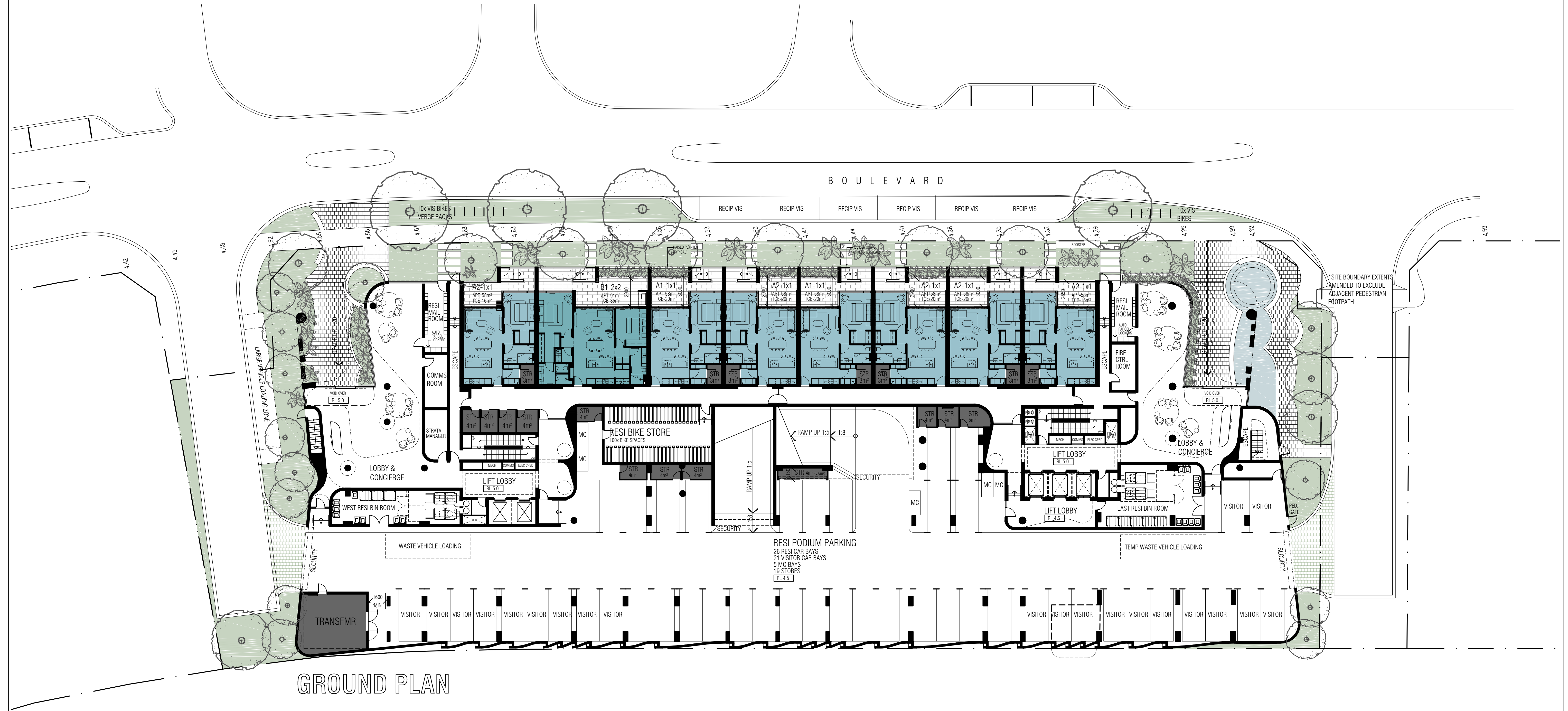
CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306
BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER	NORTH
23025	
SCALE	
1:200 @ A1	

DRAWING			
BASEMENT			
PLAN			
DRAWING NO.	DRAFTER	CHECKED	REV.
DA1.00	CD	—	K





REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
SUSTAINABILITY:	FULL CIRCLE DESIGN
WIND:	RWDI
WASTE:	TALIS
ACOUSTIC:	HERRING STORER
TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306
BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER	NORTH
23025	
SCALE	
1:200 @ A1	

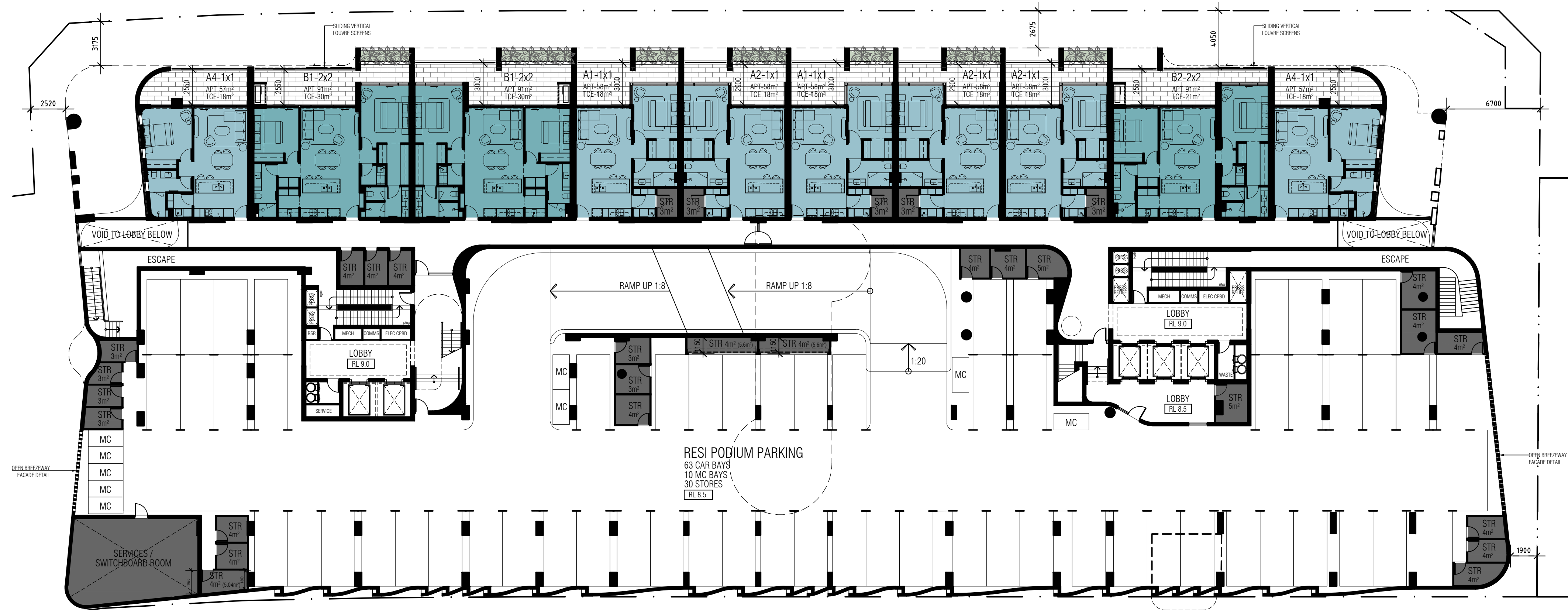
DRAWING

FLOOR PLANS

AS SHOWN

DRAWING NO.	DRAFTER	CHECKED	REV.
DA1.01	CD	—	K





L01 PLAN

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

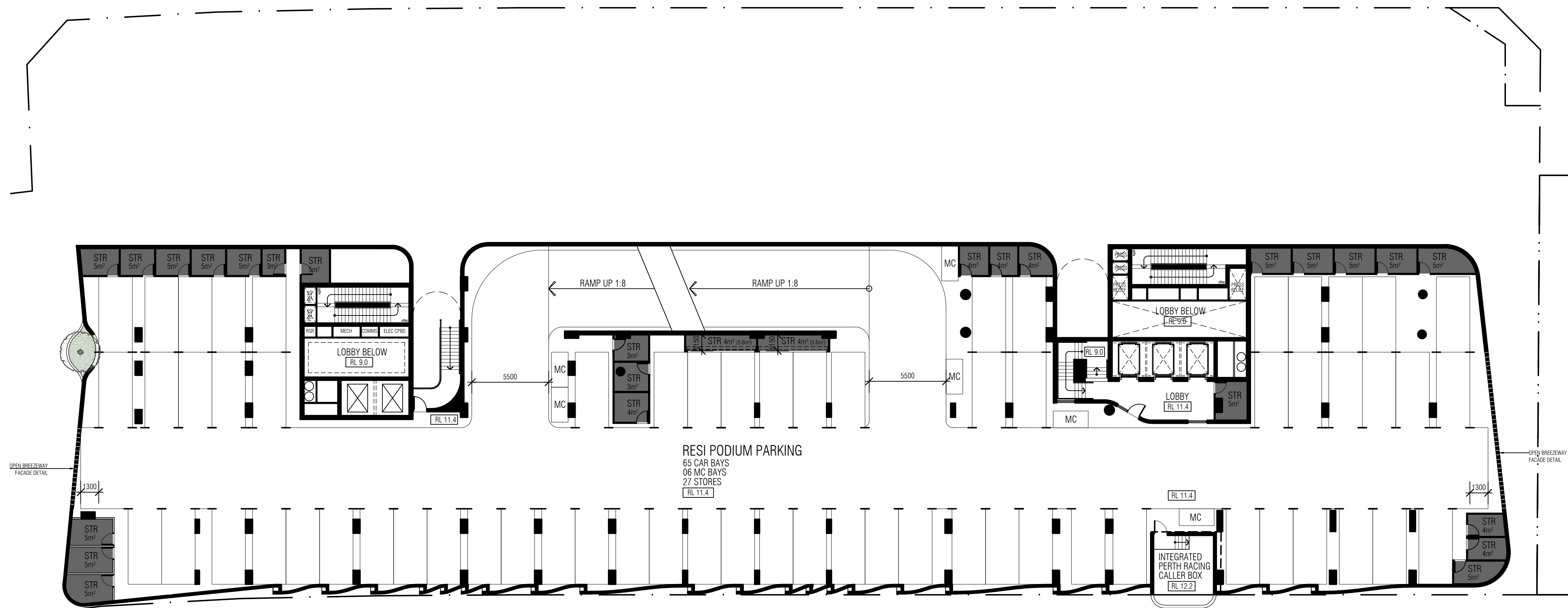
PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1

NORTH

0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.02  
DRAFTER CD  
CHECKED  
REV. K




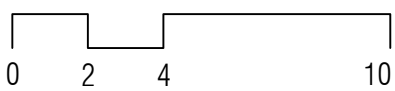
MEZZ PLAN

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

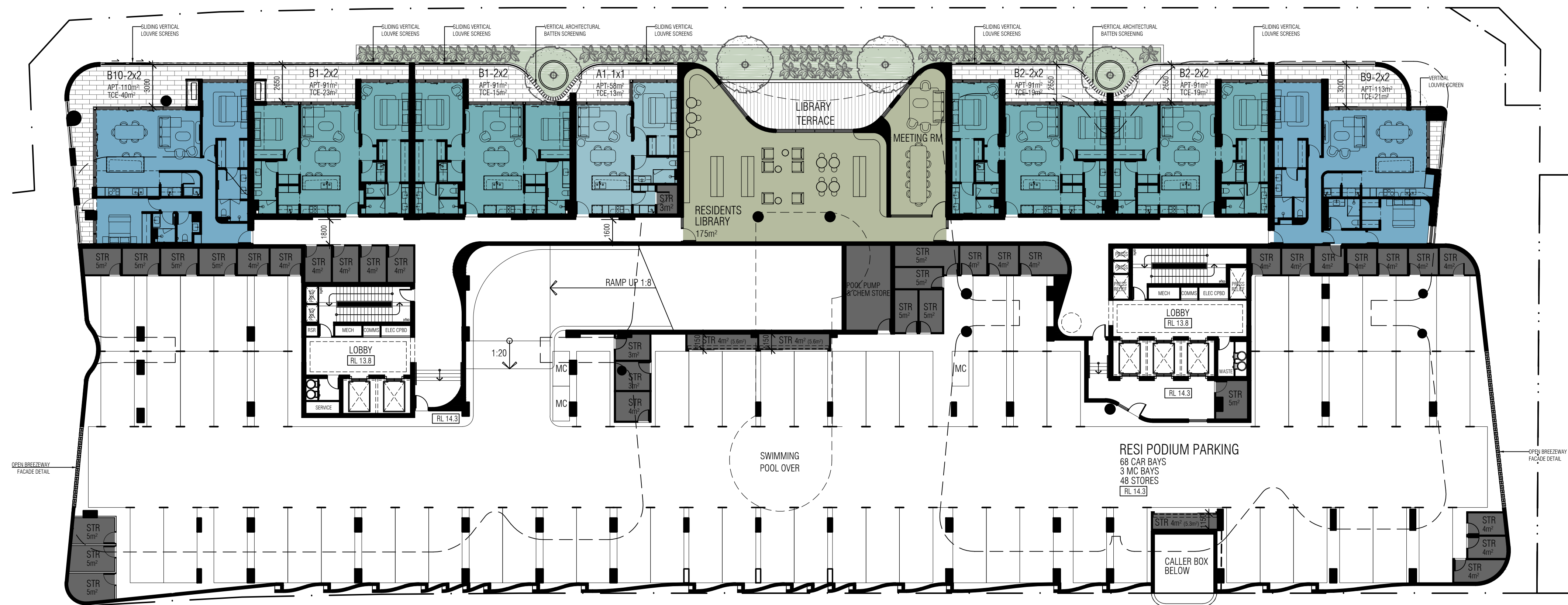
TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
  


DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.03  
DRAFTER CD  
CHECKED  
REV. K



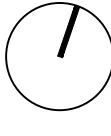
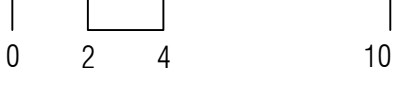
L02 PLAN

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

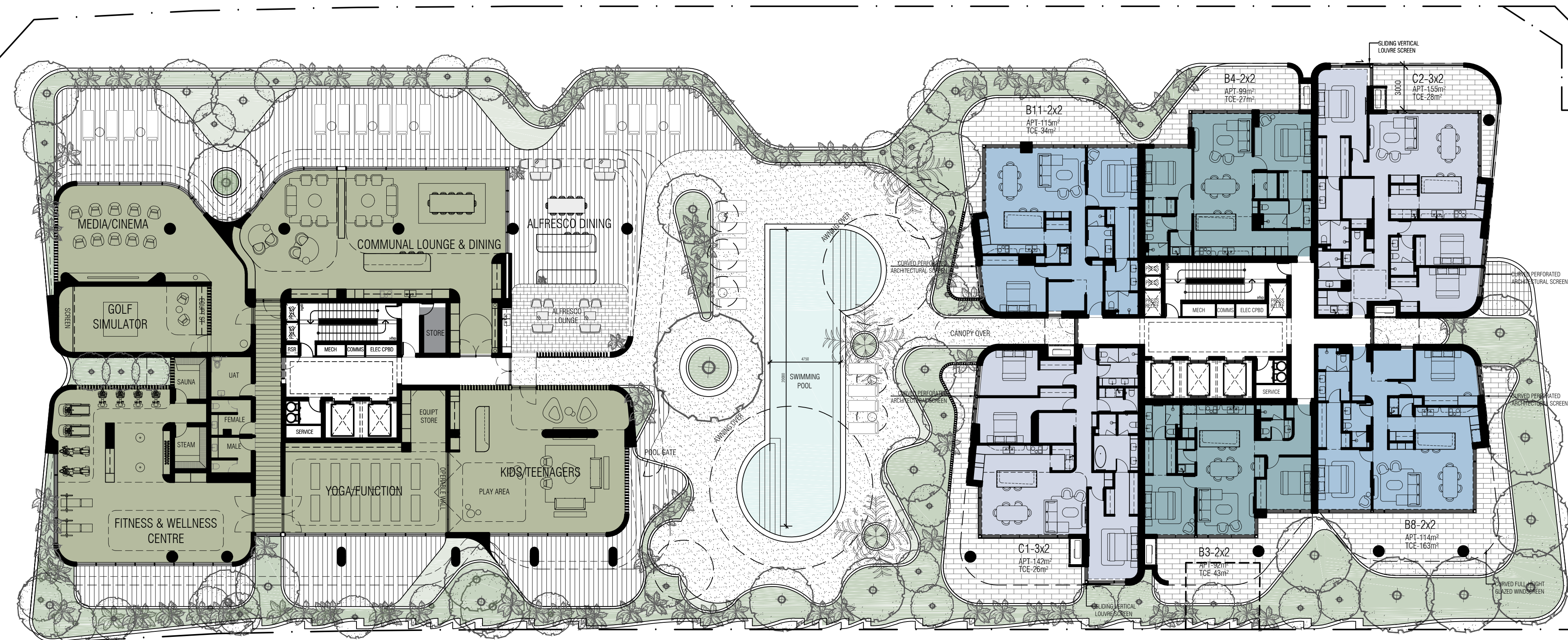
CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
  


DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.04  
DRAFTER CD  
CHECKED  
REV. K





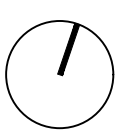
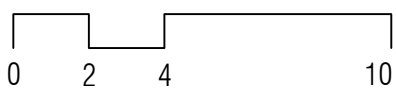
L03 PLAN

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

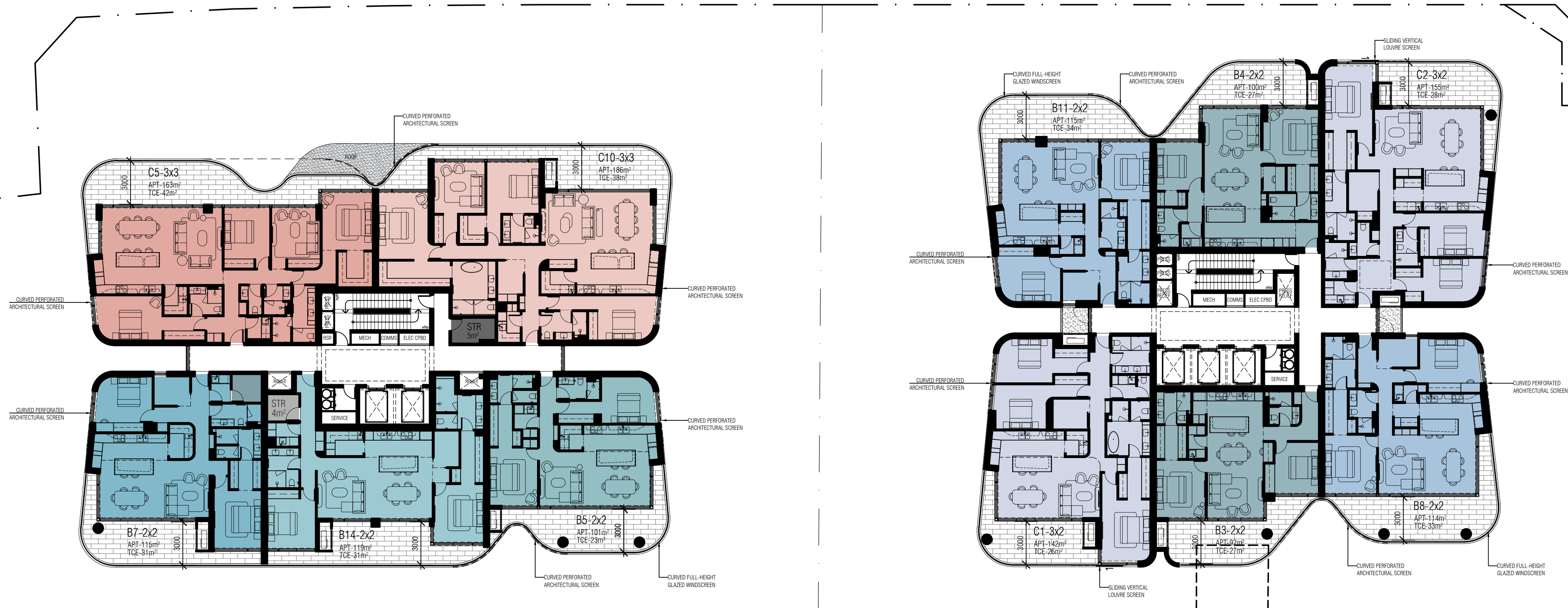
PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
  


DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.05  
DRAFTER CD  
CHECKED  
REV. K







L12 PLAN



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306 BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER
23025
SCALE
1:200 @ A1

NORTH

DRAWING
FLOOR PLANS AS SHOWN
DRAWING NO.
DA1.07
DRAFTER
CD
CHECKED
REV.
K





L13 PLAN



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

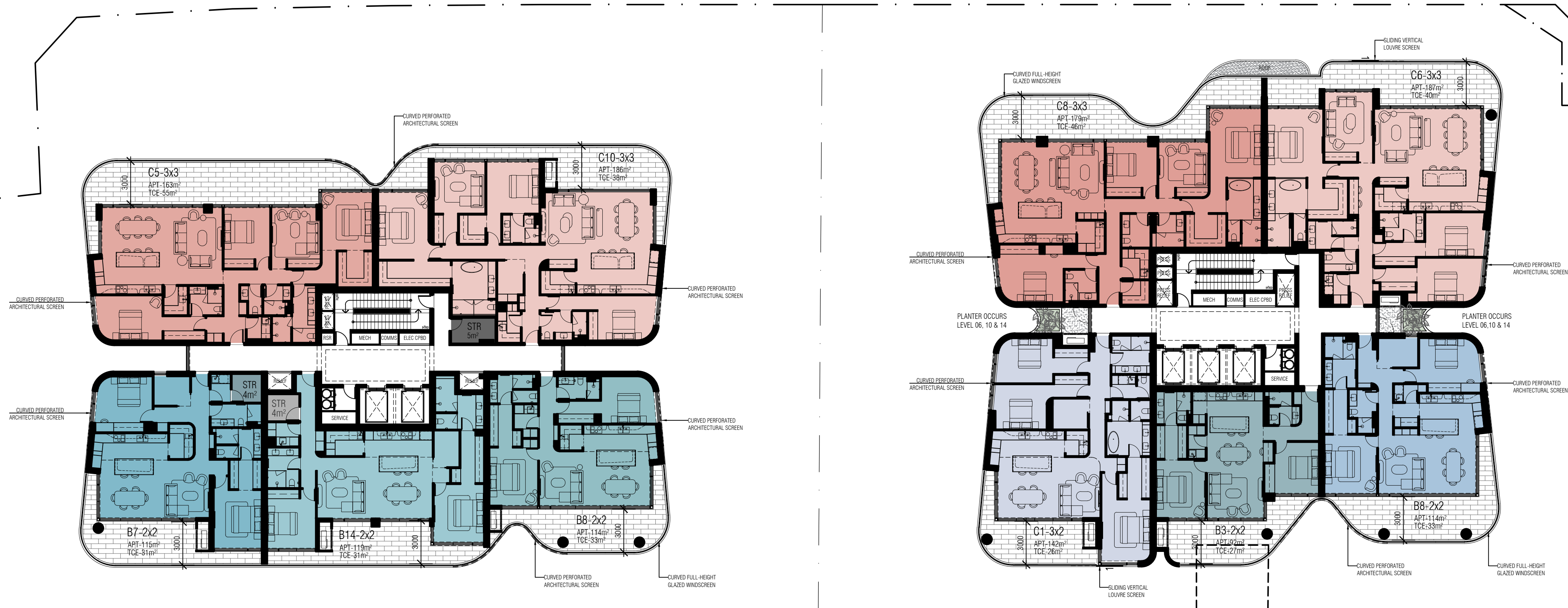
TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.08  
DRAFTER CD  
CHECKED  
REV. K



L14 PLAN

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.09  
DRAFTER CD  
CHECKED  
REV. K





L15 PLAN



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSOOD POINT

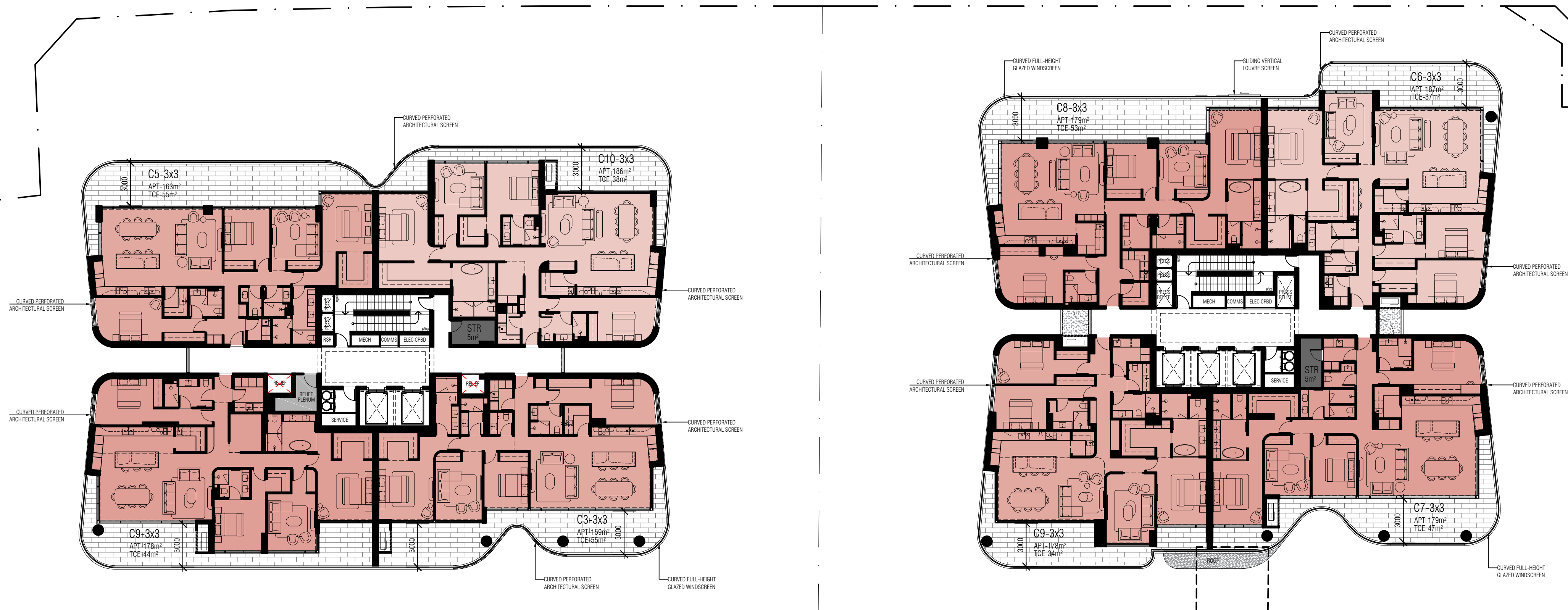
PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1

NORTH

0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DRAFTER CHECKED REV.  
DA1.10 CD \_ K



L16 PLAN

REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

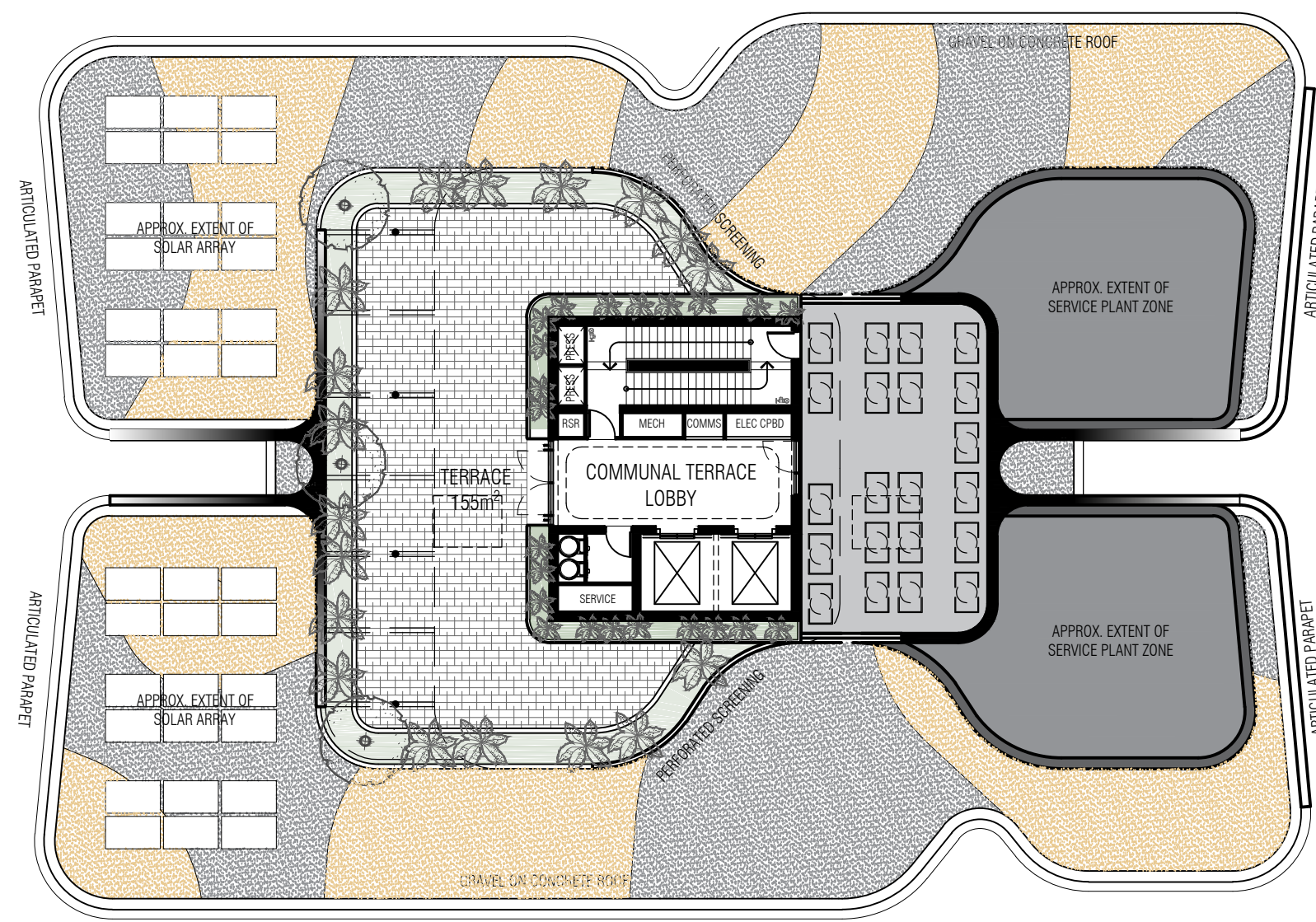
PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1

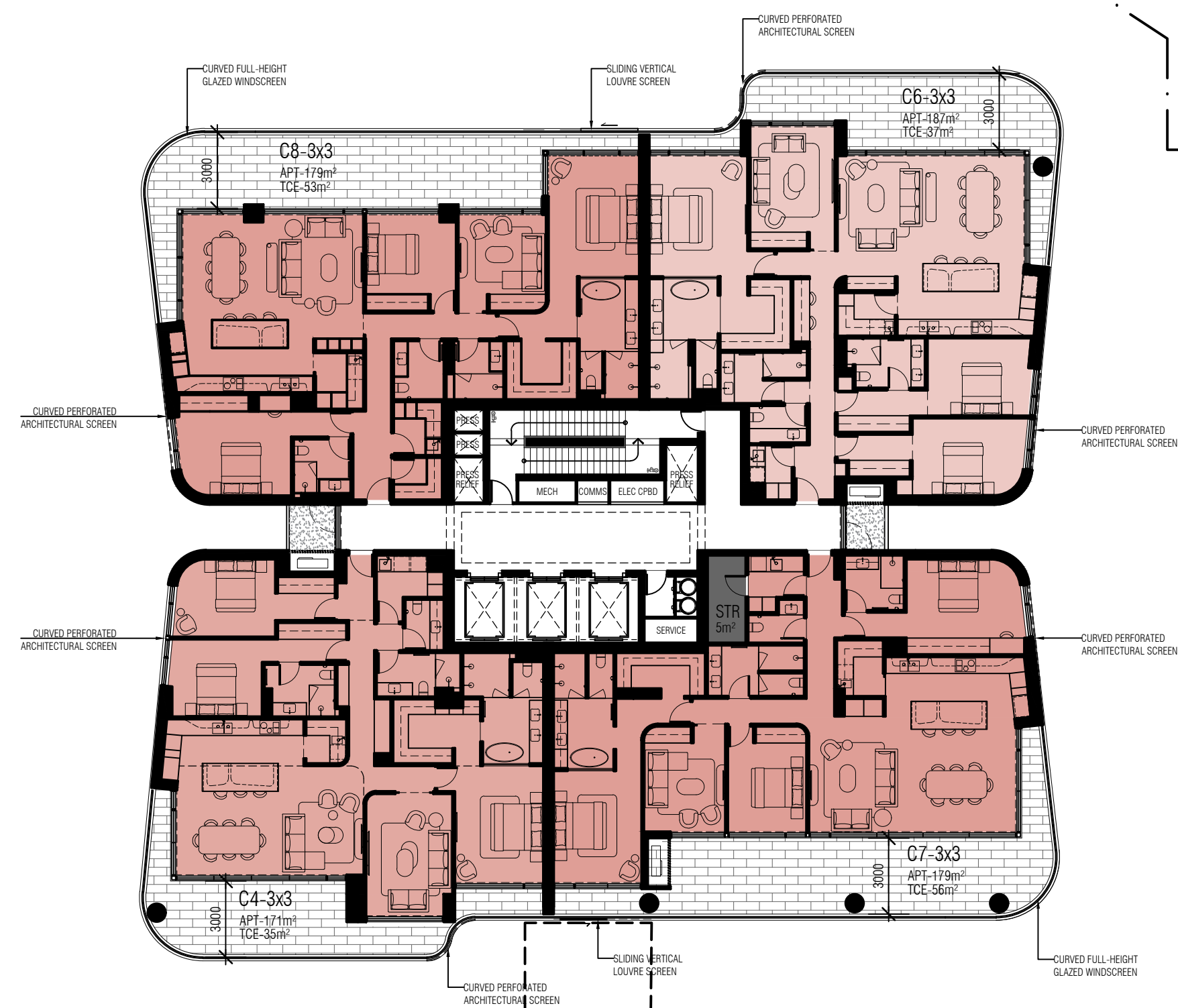
NORTH  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DRAFTER CHECKED REV.  
DA1.11 CD \_ K





L17 PLAN



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

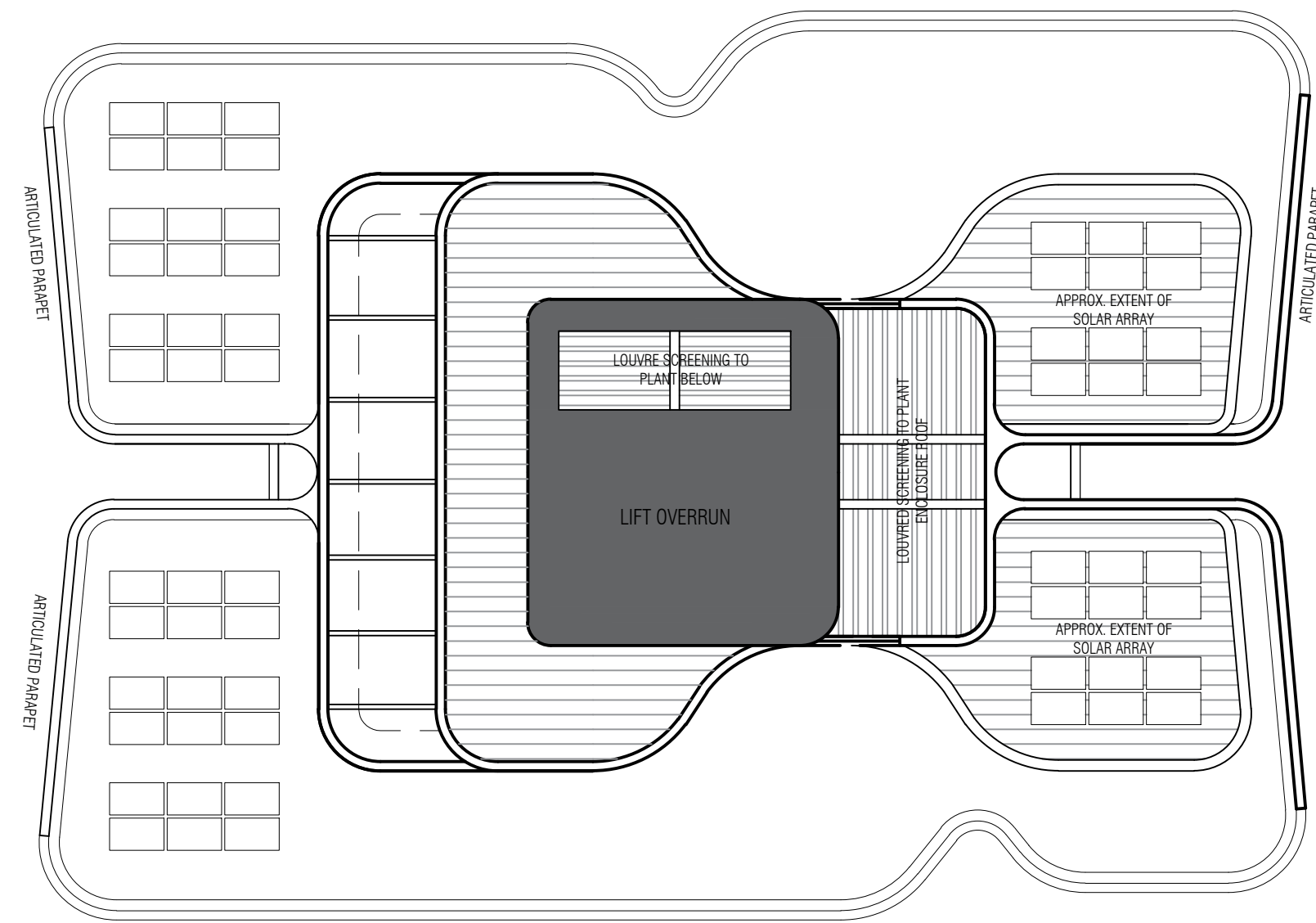
CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

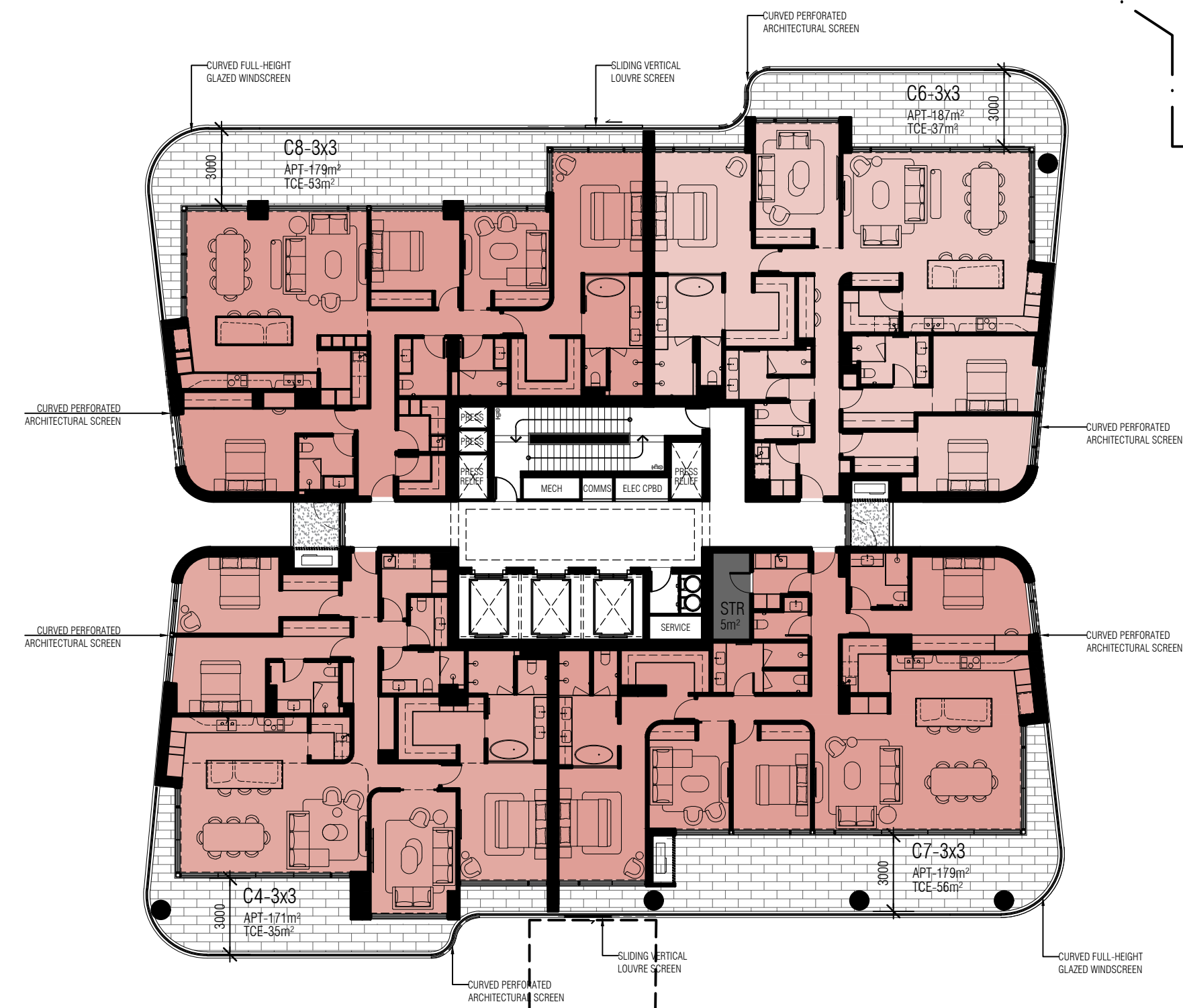
PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.12  
DRAFTER CD  
CHECKED  
REV. K





L18 PLAN



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

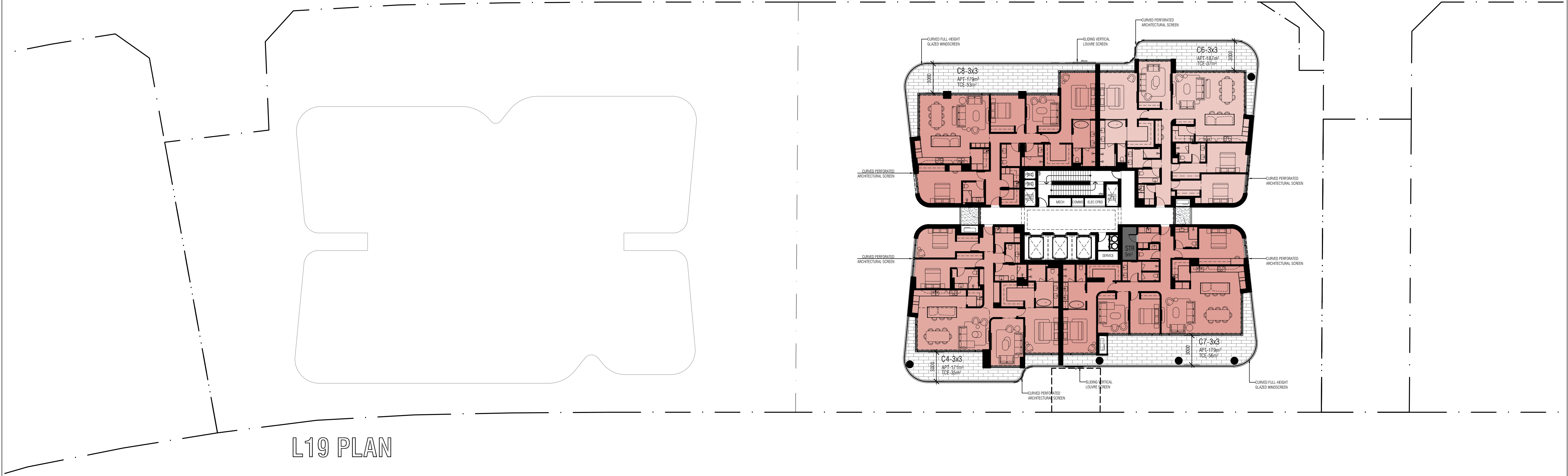
CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DA1.13  
DRAFTER CD  
CHECKED  
REV. K





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REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
SUSTAINABILITY:	FULL CIRCLE DESIGN
WIND:	RWDI
WASTE:	TALIS
ACOUSTIC:	HERRING STORER
TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306
BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

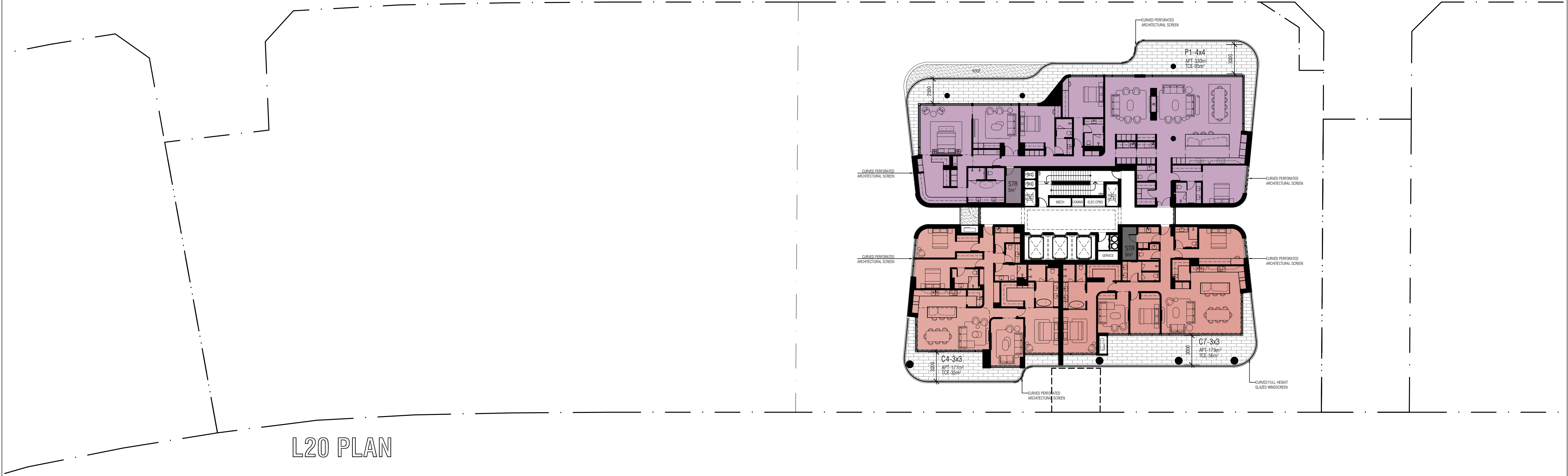
PROJECT NUMBER	NORTH
23025	
SCALE	
1:200 @ A1	

DRAWING

FLOOR PLANS

AS SHOWN

DRAWING NO.	DRAFTER	CHECKED	REV.
DA1.14	CD	—	K



L20 PLAN



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REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING: ELEMENT  
LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

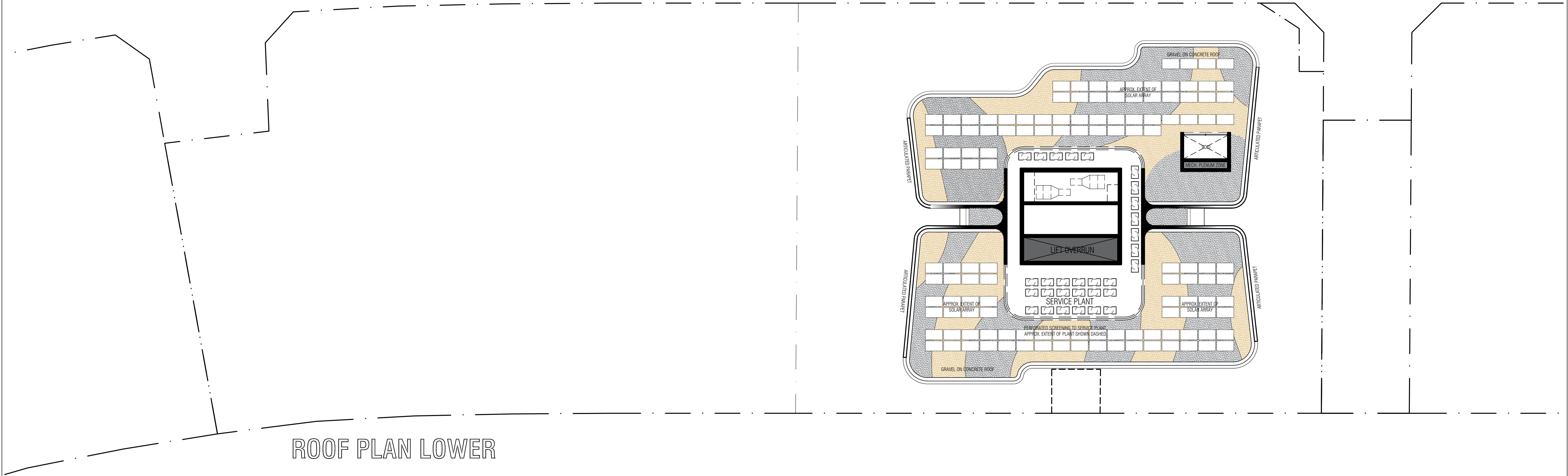
CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DRAFTER CHECKED REV.  
DA1.15 CD \_ K





REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

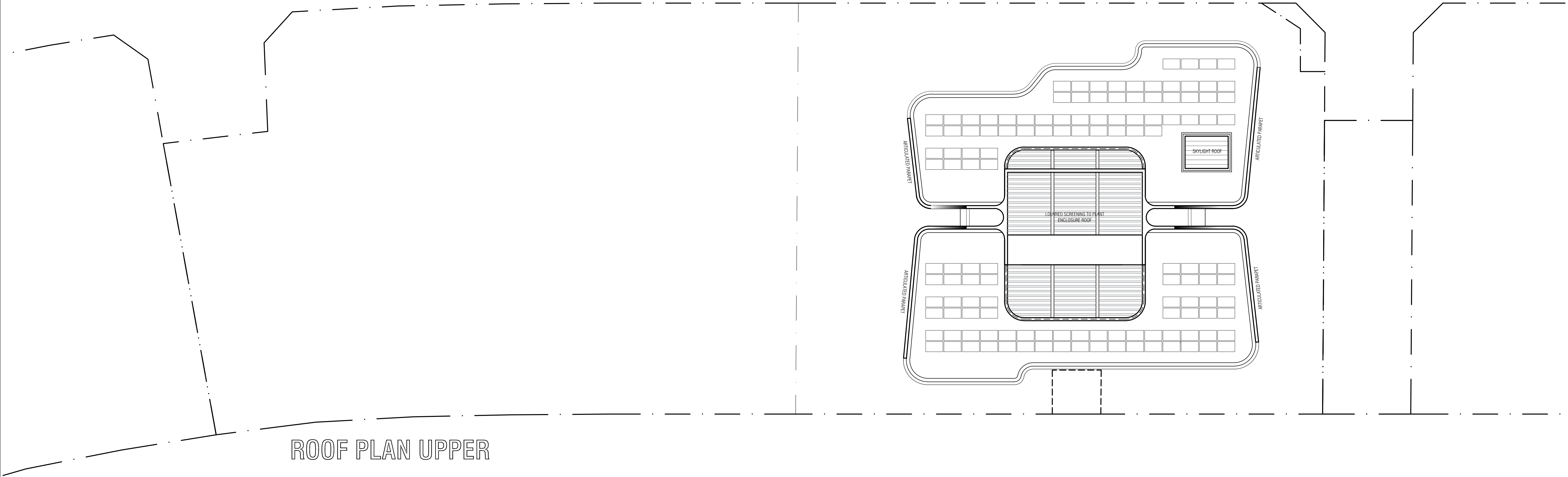
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LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
0 2 4 10

DRAWING  
FLOOR PLANS  
AS SHOWN  
  
DRAWING NO. DRAFTER CHECKED REV.  
DA1.16 CD \_ K



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
SUSTAINABILITY:	FULL CIRCLE DESIGN
WIND:	RWDI
WASTE:	TALIS
ACOUSTIC:	HERRING STORER
TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306
BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER	NORTH
23025	
SCALE	
1:200 @ A1	

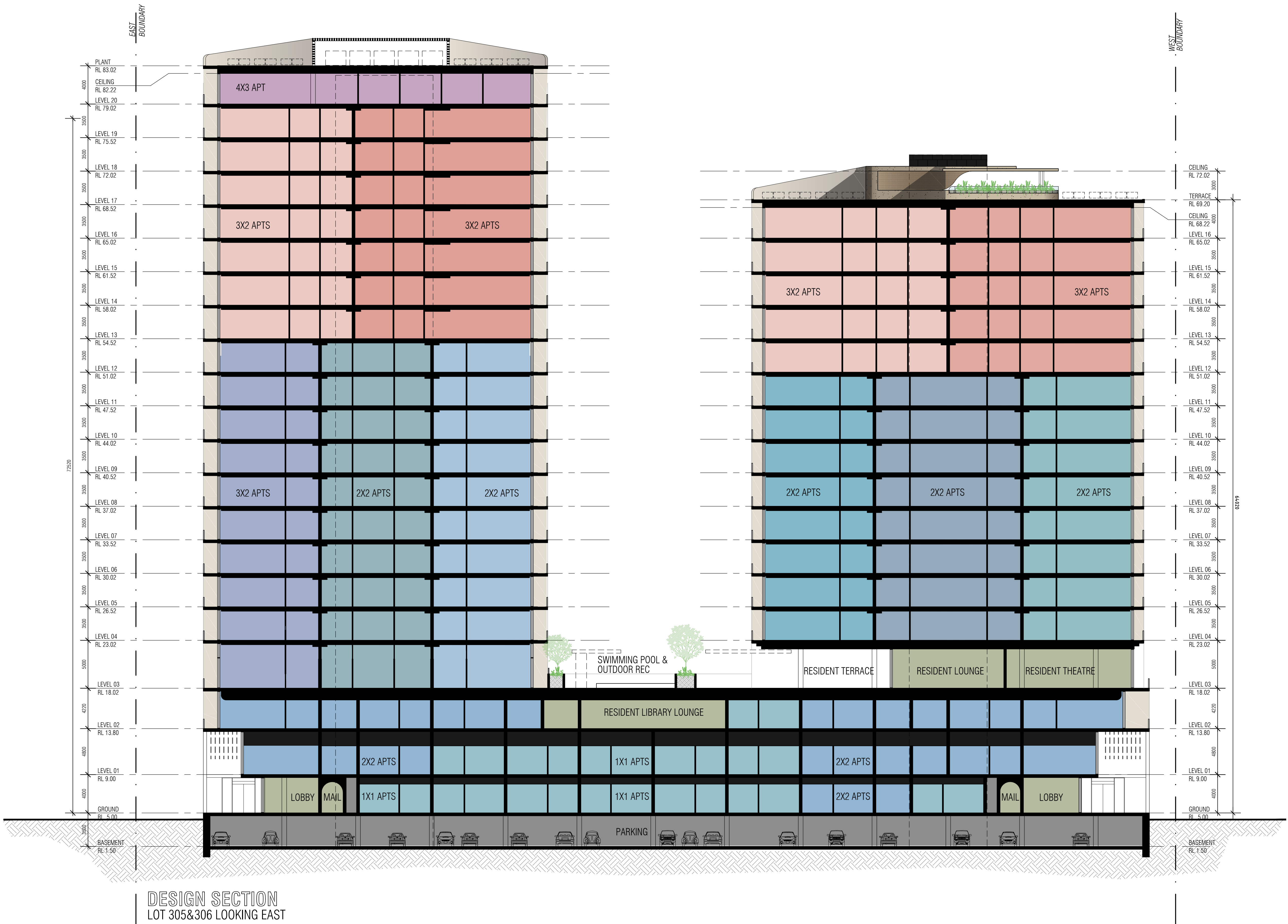
DRAWING

FLOOR PLANS

AS SHOWN

DRAWING NO.	DRAFTER	CHECKED	REV.
DA1.17	CD	—	K





REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE
L	22.02.2024	TOWN PLANNING ISSUE

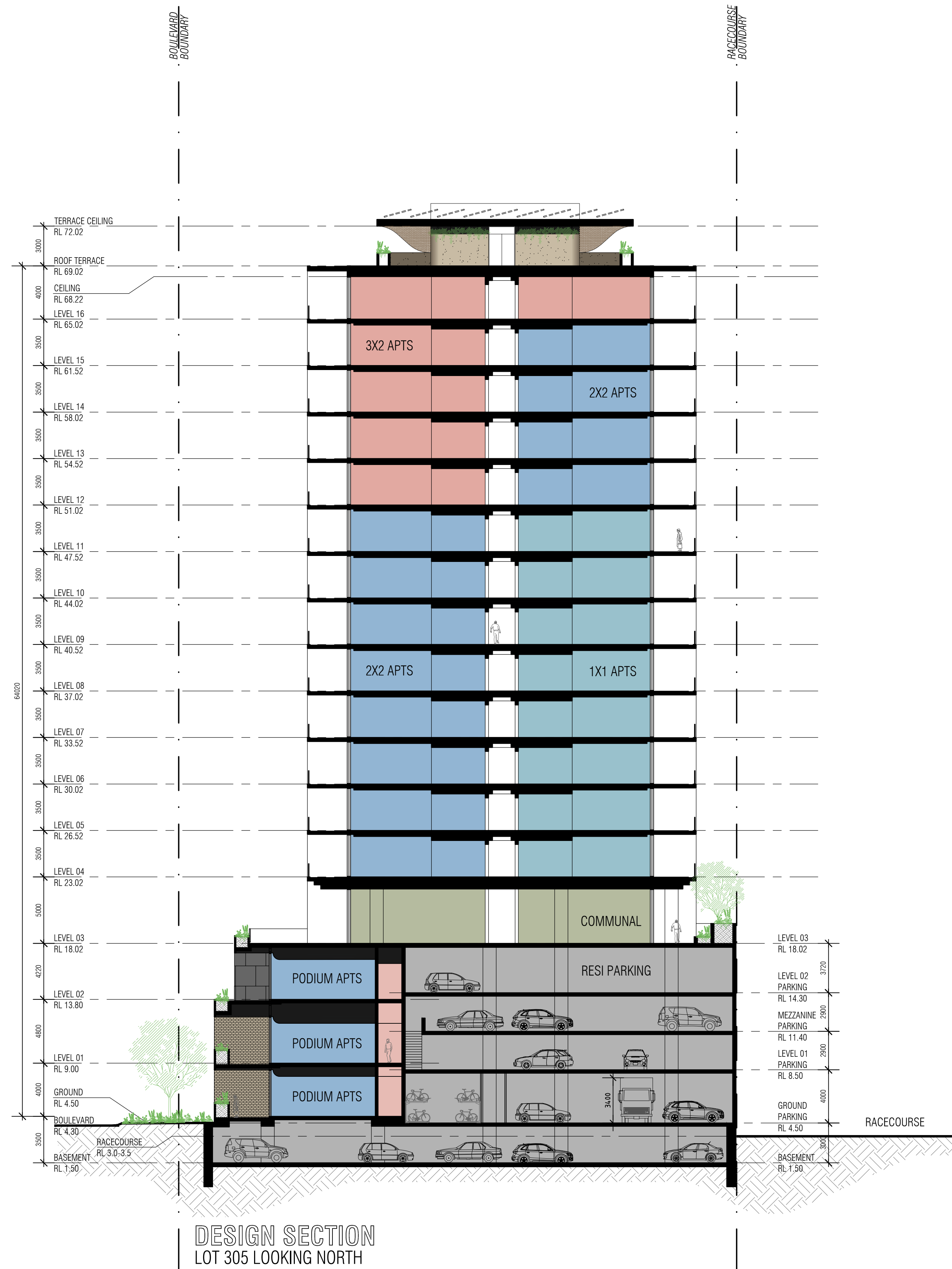
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LANDSCAPE: CAPA  
SUSTAINABILITY: FULL CIRCLE DESIGN  
WIND: RWDI  
WASTE: TALIS  
ACOUSTIC: HERRING STORER  
TRAFFIC: LEVEL 5 DESIGN  
STRUCTURAL: HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1  
  
NORTH  
0 2 4 10

DRAWING  
DESIGN SECTION  
AS SHOWN  
  
DRAWING NO. DA2.01  
DRAFTER CD  
CHECKED  
REV. L



REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE
L	22.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:	ELEMENT
LANDSCAPE:	CAPA
SUSTAINABILITY:	FULL CIRCLE DESIGN
WIND:	RWDI
WASTE:	TALIS
ACOUSTIC:	HERRING STORER
TRAFFIC:	LEVEL 5 DESIGN
STRUCTURAL:	HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306
BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER	NORTH
23025	
SCALE	0 2 4 10
1:200 @ A1	

DRAWING			
DESIGN SECTION			
AS SHOWN			
DRAWING NO.	DRAFTER	CHECKED	REV.
DA2.02	CD	—	L





REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE
L	22.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT  
  
GOLDEN SEDAYU  
  
PROJECT  
  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
  
PROJECT STATUS  
  
TOWN PLANNING

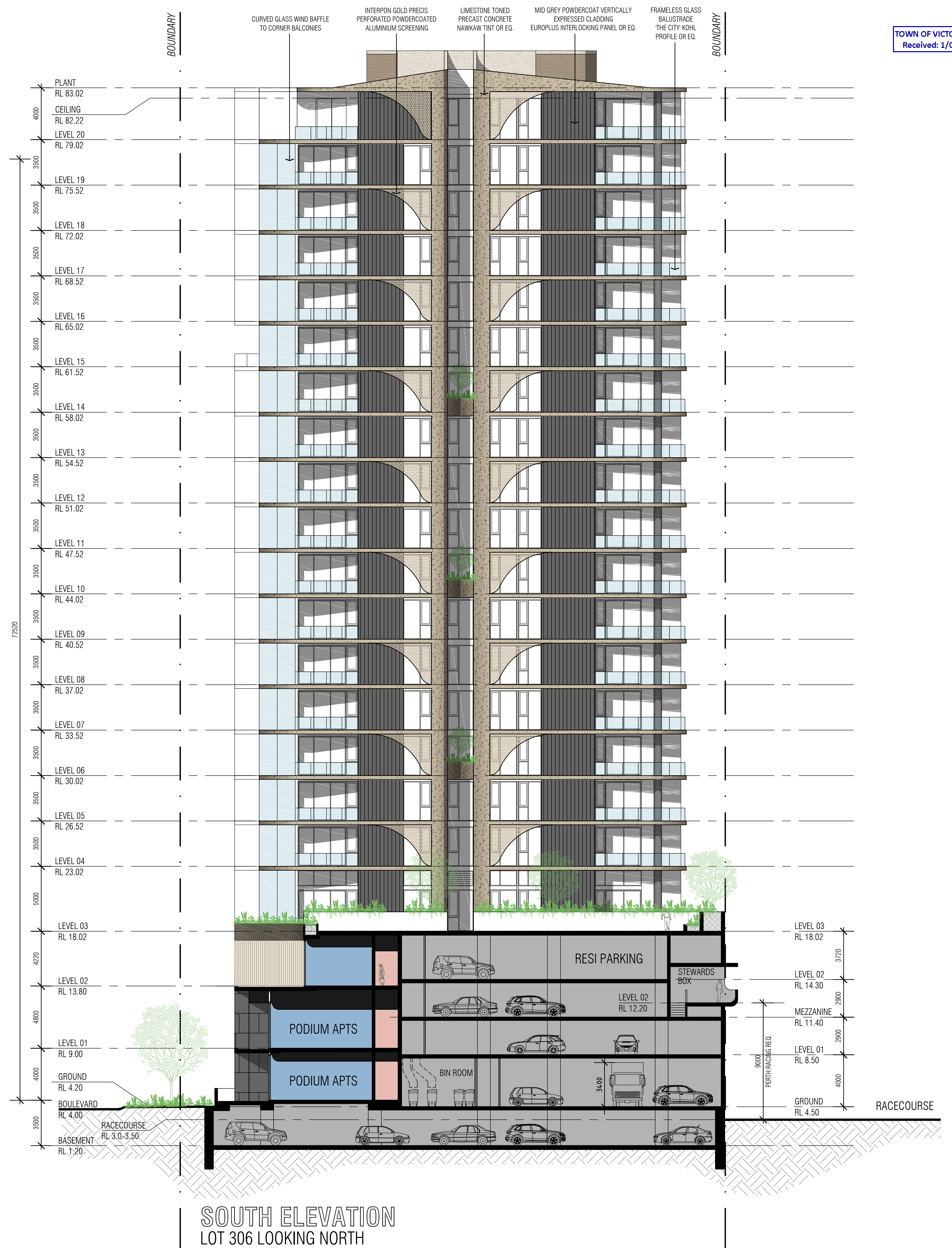
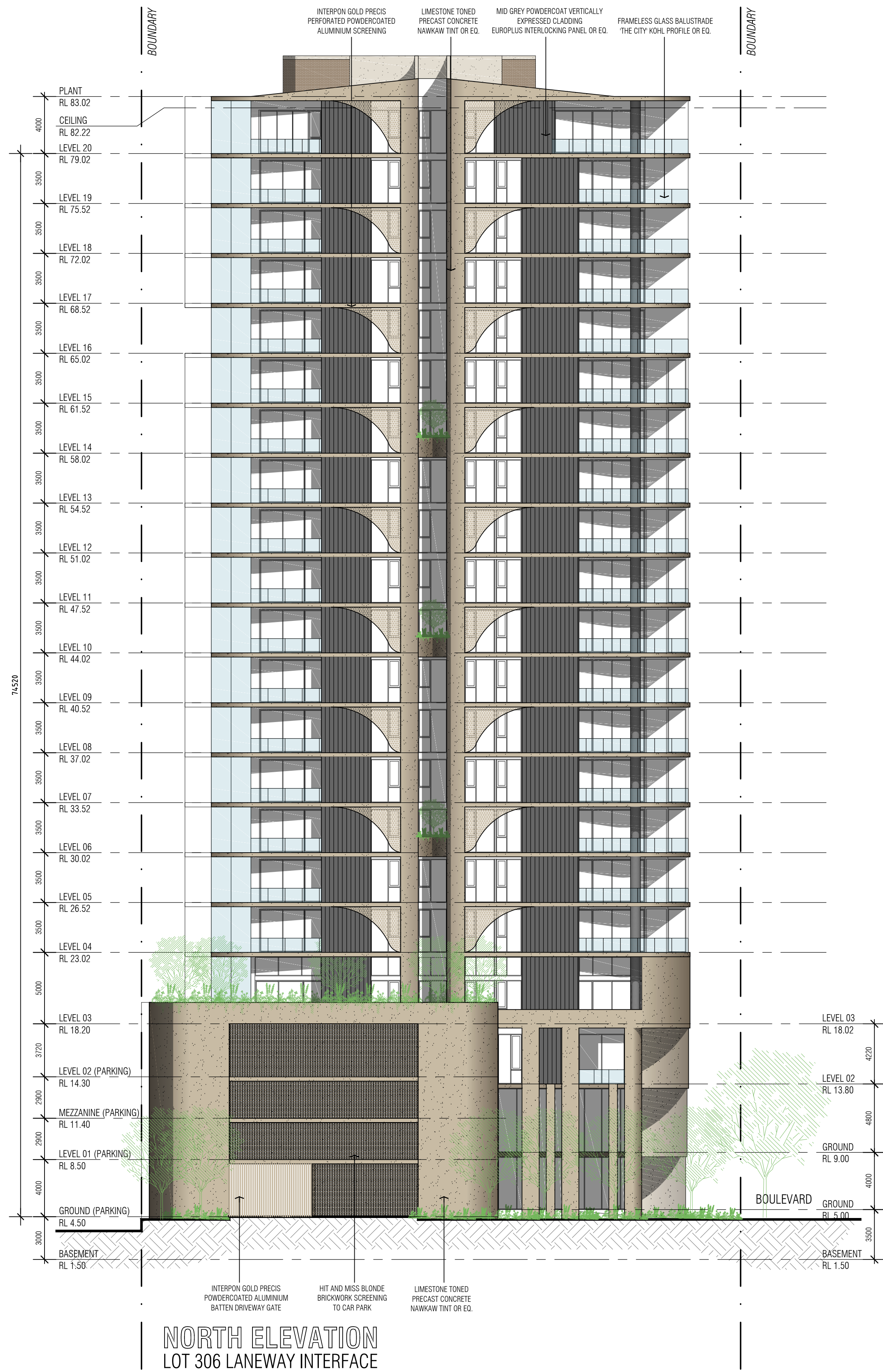
PROJECT NUMBER  
23025  
  
SCALE  
1:200 @ A1

NORTH

0 2 4 10

DRAWING  
ELEVATION  
AS SHOWN  
  
DRAWING NO. DA3.01  
DRAFTER CD  
CHECKED  
REV. L





REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE
L	22.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT  
GOLDEN SEDAYU  
PROJECT  
BURSWOOD POINT

PROJECT ADDRESS  
TOWER LOTS 305 + 306  
BURSWOOD POINT  
PROJECT STATUS  
TOWN PLANNING

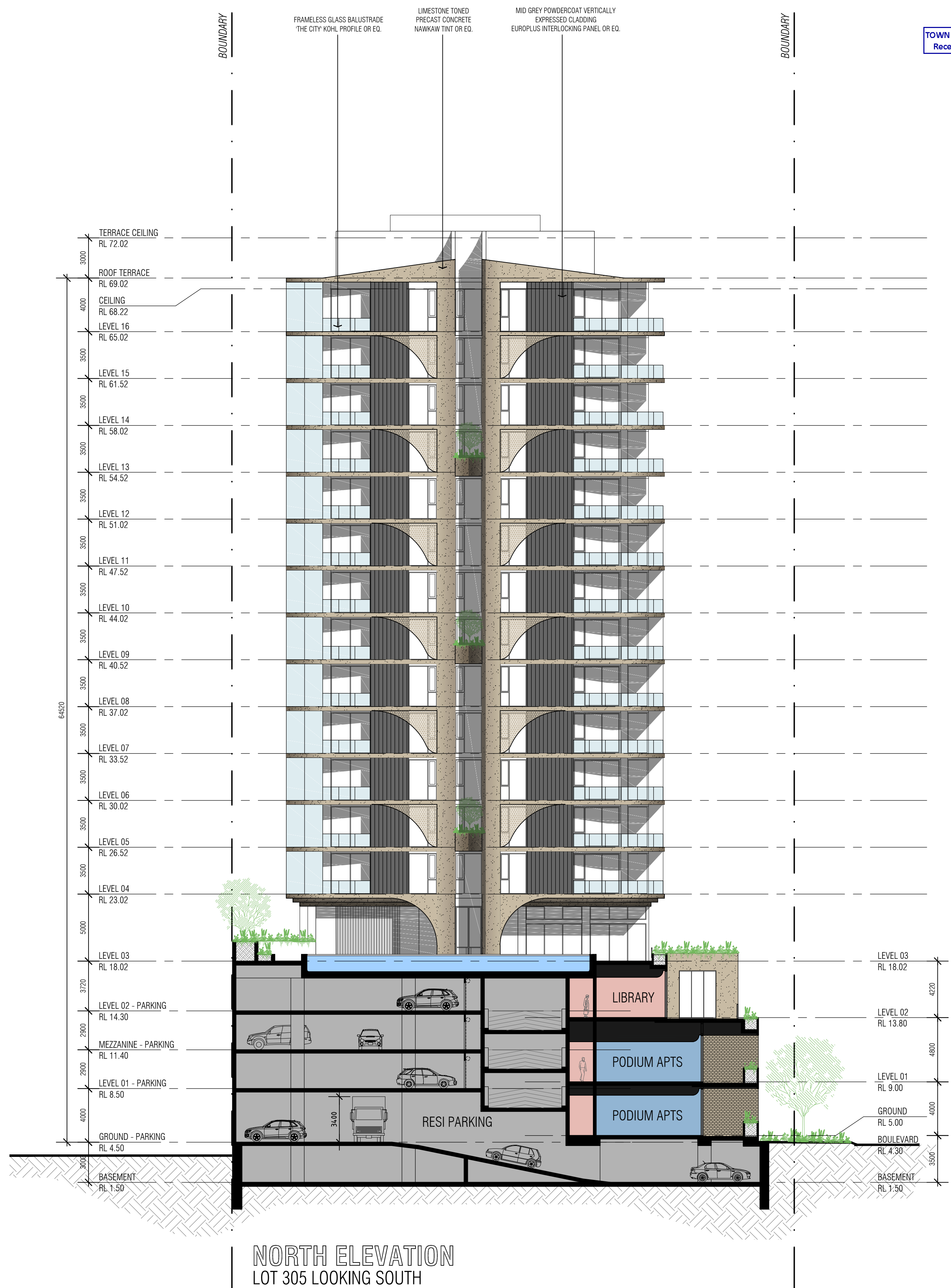
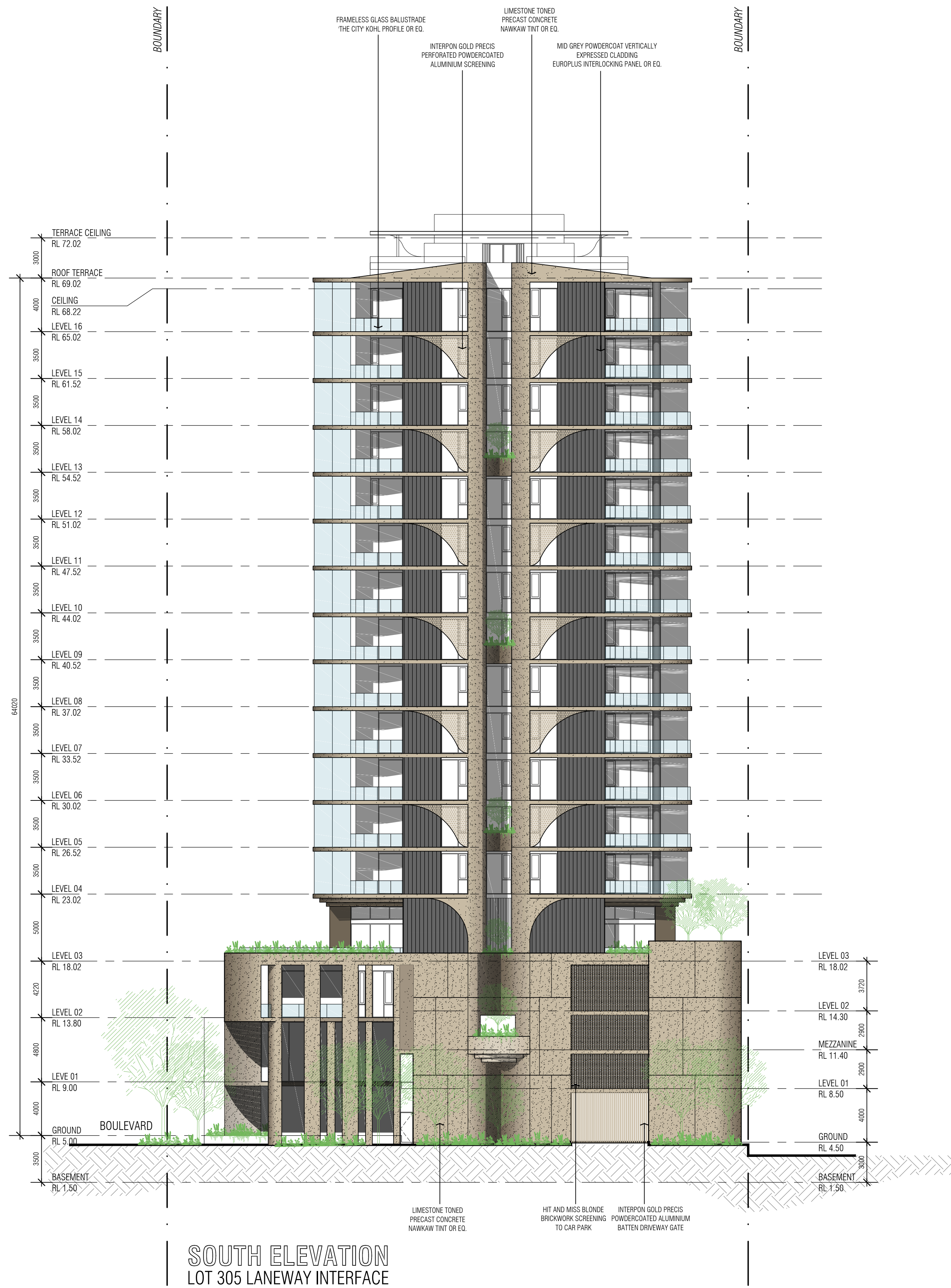
PROJECT NUMBER  
23025  
SCALE  
1:200 @ A1

DRAWING  
ELEVATIONS  
AS SHOWN  
DRAWING NO. DA3.02  
DRAFTER CD  
CHECKED  
REV. L









REV.	DATE	AMENDMENT
J	27.11.2023	PRELIM DA DD REVIEW
K	20.02.2024	TOWN PLANNING ISSUE
L	22.02.2024	TOWN PLANNING ISSUE

TOWN PLANNING:  
LANDSCAPE:  
SUSTAINABILITY:  
WIND:  
WASTE:  
ACOUSTIC:  
TRAFFIC:  
STRUCTURAL:

ELEMENT  
CAPA  
FULL CIRCLE DESIGN  
RWDI  
TALIS  
HERRING STORER  
LEVEL 5 DESIGN  
HERA

CLIENT
GOLDEN SEDAYU
PROJECT
BURSWOOD POINT

PROJECT ADDRESS
TOWER LOTS 305 + 306 BURSWOOD POINT
PROJECT STATUS
TOWN PLANNING

PROJECT NUMBER
23025
SCALE
0 2 4 10
1:200 @ A1

DRAWING
ELEVATIONS AS SHOWN
DRAWING NO.
DA3.04
DRAFTER
CD
CHECKED
REV.
L

## **APPENDIX B**

### **GLAZING REQUIREMENTS**

Proposed Development			Calculated Noise Levels and Required $R_w$ and $C_{tr}$ Ratings			
			Window to Room Area Ratio 0.3 Traffic Noise Ingress		Window to Room Area Ratio 0.3 Horse Passby Noise Level	
Floor Level	Traffic Noise Level dB $L_{Aeq}(\text{Day})$	Horse Noise Level dB $L_{Amax}$	Bedroom $R_w + C_{tr}$	Living Room $R_w + C_{tr}$	Bedroom $R_w + C_{tr}$	Living Room $R_w + C_{tr}$
Ground	55.4	59.6	25	20	29	24
1	56.1	59.5	26	21	29	24
2	56.6	59.5	26	21	29	24
3	57.1	60.9	27	22	30	25
4	57.4	61.4	27	22	31	26
5	57.7	61.6	27	22	31	26
6	58.0	61.8	28	23	31	26
7	58.2	61.9	28	23	31	26
8	58.4	61.9	28	23	31	26
9	58.6	61.9	28	23	31	26
10	58.8	61.9	28	23	31	26
11	59	61.9	29	24	31	26
12	59.1	61.8	29	24	31	26
13	59.3	61.7	29	24	31	26
14	59.4	61.7	29	24	31	26
15	59.5	61.6	29	24	31	26
16	59.6	61.5	29	24	31	26
17	59.8	61.5	29	24	31	26
18	59.9	61.4	29	24	31	26
19	60	61.3	30	25	31	26
20	60.1	61.2	30	25	31	26

Notes: The required  $R_w$  rating can be reduced by reducing the area of glazing.

Requirements pertain to only acoustic advice in regard to *State Planning Policy 5.4* and may be superceded by other requirements (BAL, Thermal, etc).



## **APPENDIX C**

### MRWA TRAFFIC FLOW DATA



## Hourly Volume

Graham Farmer Fwy (H020)

At Windan Bridge (SLK 3.50)

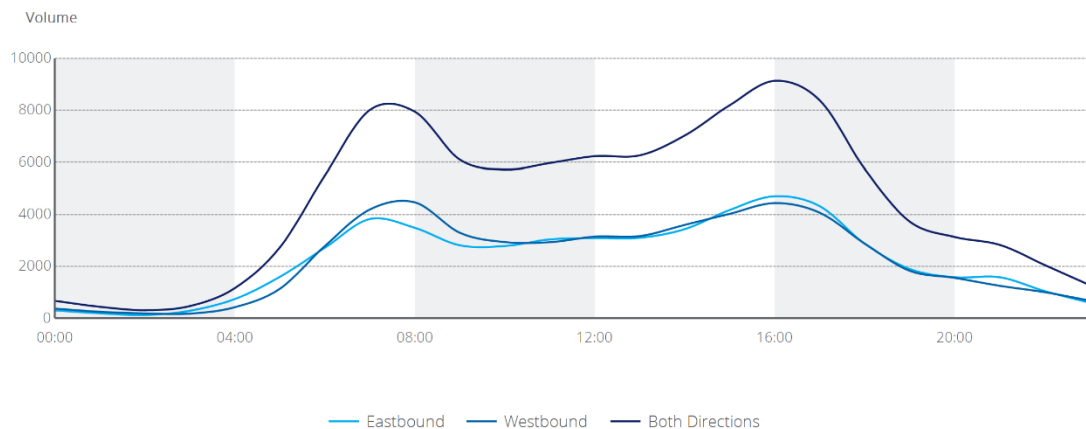
2023/24  
Monday to Friday

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	300	369	669	12	19	31	4.6
01:00	190	248	438	10	9	19	4.3
02:00	125	184	309	8	12	20	6.5
03:00	288	179	467	13	15	28	6.0
04:00	741	424	1165	35	41	76	6.5
05:00	1597	1139	2736	116	110	226	8.3
06:00	2718	2788	5506	256	277	533	9.7
07:00	3825	4194	8019	302	383	685	8.5
08:00	3482	4464	7946	280	404	684	8.6
09:00	2810	3292	6102	300	429	729	11.9
10:00	2784	2937	5721	317	392	709	12.4
11:00	3041	2932	5973	337	361	698	11.7
12:00	3091	3147	6238	332	354	686	11.0
13:00	3102	3167	6269	323	344	667	10.6
14:00	3435	3598	7033	321	333	654	9.3
15:00	4176	4028	8204	309	321	630	7.7
16:00	4702	4437	9139	259	250	509	5.6
17:00	4316	4066	8382	155	182	337	4.0
18:00	2865	2874	5739	99	111	210	3.7
19:00	1896	1825	3721	58	75	133	3.6
20:00	1577	1554	3131	44	53	97	3.1
21:00	1578	1249	2827	36	38	74	2.6
22:00	1045	1005	2050	32	32	64	3.1
23:00	595	677	1272	21	24	45	3.5
TOTAL	54279	54777	109056	3975	4569	8544	7.8



### Peak Statistics

AM	TIME	07:15	07:30	07:30	11:15	08:30	08:30
	VOL	3885	4760	8559	340	432	729
PM	TIME	16:15	16:15	16:15	12:30	12:15	12:00
	VOL	4738	4441	9179	332	356	686





# Hourly Volume

Graham Farmer Fwy (H020)

At Windan Bridge (SLK 3.50)

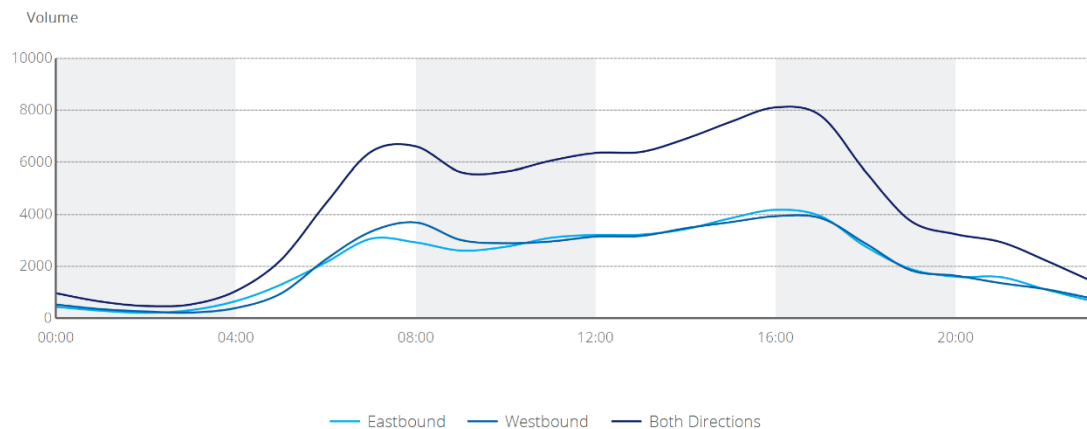
2023/24  
Monday to Sunday

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	439	526	965	16	21	37	3.8
01:00	289	349	638	9	10	19	3.0
02:00	210	259	469	8	10	18	3.8
03:00	311	219	530	12	13	25	4.7
04:00	660	393	1053	29	32	61	5.8
05:00	1296	954	2250	89	87	176	7.8
06:00	2156	2272	4428	194	216	410	9.3
07:00	3066	3338	6404	233	297	530	8.3
08:00	2923	3690	6613	220	316	536	8.1
09:00	2606	3016	5622	242	339	581	10.3
10:00	2756	2891	5647	259	316	575	10.2
11:00	3103	2960	6063	275	294	569	9.4
12:00	3213	3151	6364	272	288	560	8.8
13:00	3224	3174	6398	273	287	560	8.8
14:00	3435	3470	6905	266	280	546	7.9
15:00	3858	3704	7562	249	263	512	6.8
16:00	4181	3936	8117	218	210	428	5.3
17:00	3931	3859	7790	138	172	310	4.0
18:00	2755	2873	5628	91	107	198	3.5
19:00	1897	1849	3746	54	71	125	3.3
20:00	1597	1640	3237	43	56	99	3.1
21:00	1584	1353	2937	36	40	76	2.6
22:00	1107	1119	2226	32	34	66	3.0
23:00	669	774	1443	20	27	47	3.3
TOTAL	51266	51769	103035	3278	3786	7064	6.9



## Peak Statistics

AM	TIME	11:45	07:45	07:30	11:15	08:30	09:00
	VOL	3222	3844	6902	277	339	581
PM	TIME	16:15	16:45	16:15	13:30	13:15	13:15
	VOL	4210	3976	8178	277	290	564







## Hourly Volume

Graham Farmer Fwy (H020)

At Windan Bridge (SLK 3.50)

2023/24

Weekend

	All Vehicles			Heavy Vehicles			
	EB	WB	Both	EB	WB	Both	%
00:00	778	919	1697	20	26	46	2.7
01:00	541	603	1144	10	16	26	2.3
02:00	420	448	868	6	7	13	1.5
03:00	367	323	690	8	9	17	2.5
04:00	460	317	777	19	13	32	4.1
05:00	543	496	1039	21	34	55	5.3
06:00	748	981	1729	39	63	102	5.9
07:00	1175	1195	2370	66	81	147	6.2
08:00	1530	1755	3285	74	97	171	5.2
09:00	2092	2334	4426	93	118	211	4.8
10:00	2686	2776	5462	114	123	237	4.3
11:00	3255	3031	6286	116	127	243	3.9
12:00	3520	3162	6682	122	123	245	3.7
13:00	3527	3192	6719	141	145	286	4.3
14:00	3433	3151	6584	128	147	275	4.2
15:00	3064	2886	5950	100	114	214	3.6
16:00	2877	2685	5562	116	108	224	4.0
17:00	2967	3340	6307	94	145	239	3.8
18:00	2484	2873	5357	71	100	171	3.2
19:00	1903	1911	3814	47	63	110	2.9
20:00	1647	1853	3500	41	64	105	3.0
21:00	1599	1608	3207	35	41	76	2.4
22:00	1262	1400	2662	32	34	66	2.5
23:00	858	1011	1869	23	30	53	2.8
TOTAL	43736	44250	87986	1536	1828	3364	3.8



### Peak Statistics

AM	TIME	11:45	11:45	10:30	10:30	10:30	
	VOL	3507	3175	6682	123	131	254
PM	TIME	13:15	17:30	13:30	13:30	13:30	
	VOL	3607	3462	6835	145	162	307

