

Our Ref: T0921032:RB
Contact: Robert Bakon

19 July 2022

Bam Property Group (Australia) Pty Ltd Atf Fmf
C/- Urbis Pty Ltd
LEVEL 2, 64 Marine Parade
Southport QLD 4215

Attention: Patrick Hefferan

Dear Patrick,

99-101 OLD BURLEIGH ROAD INFORMATION REQUEST RESPONSE

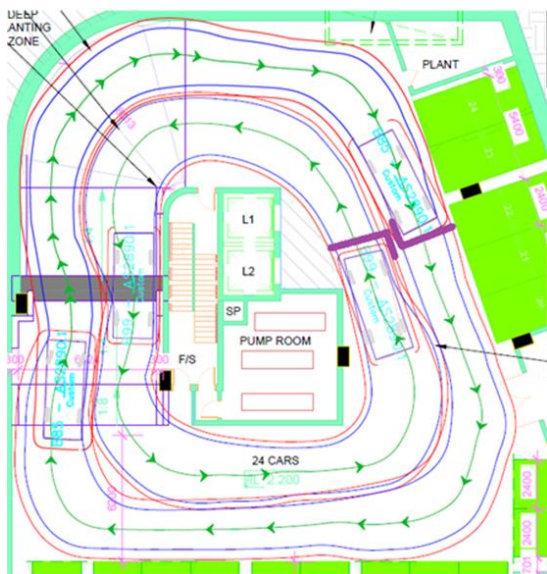
Cardno now Stantec (Stantec) has been engaged by Urbis to provide traffic engineering advice in relation to the proposed development on 99-101 Old Burleigh Road. As part of this development, Stantec prepared a traffic assessment (dated 10th of November, 2021) which was submitted to Council.

Following their review of the traffic assessment, Gold Coast City Council (Council) issued an Information Request (reference no. MCU/2021/603, dated 15 December 2021), which included comments regarding traffic and transport aspects of the development. Stantec provided a response to the IR on the 20th May 2022, to which Council have provided informal additional advice, in the form of an email received on the 1st July 2022, and a meeting undertaken on the 7th of July 2022. As such, Stantec have prepared the below response

A copy of the informal additional items is replicated below for ease of access. Updated development plans have been provided at **Appendix A**.

Item 5: Vehicle Circulation

Concerns were raised in Council's IR in relation to vehicle circulation. It is acknowledged that changes to geometry / widening of circulation areas has been undertaken, as reflected on the latest drawings; however, there are still 'pinch points' in basement levels. Consistent with Council's advice to the applicant at the meeting of 19 April 2022, Council requires that these 'conflict' areas be managed through hold points and flashing warning lights (as opposed to full signalisation of ramps). Additionally, the single-lane, two-way aisle in podium level 1 has not been addressed and will require management measures, to be identified by the applicant's Traffic Engineer. Further information relating to these issues is provided below:



Council Basement 1 proposed hold lines

Basement levels:

Basement levels still show 'pinch points' at various locations within the circulation paths, which may result in conflict between opposing vehicles. To manage circulation within basement levels, a 'warning' system shall be installed, consisting of flashing lights and hold lines (rather than full

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signalisation of basement ramps). **Development drawings shall be updated to show all required equipment, hold lines etc.**

Note – hold lines shall be generally located as shown in purple, below in the eastern aisles of Basement levels B1 and B2 (management of circulation in B3 is not deemed necessary given the limited number of movements (relatively) and the fact that the eastern parking aisle is wider than in B1 and B2).

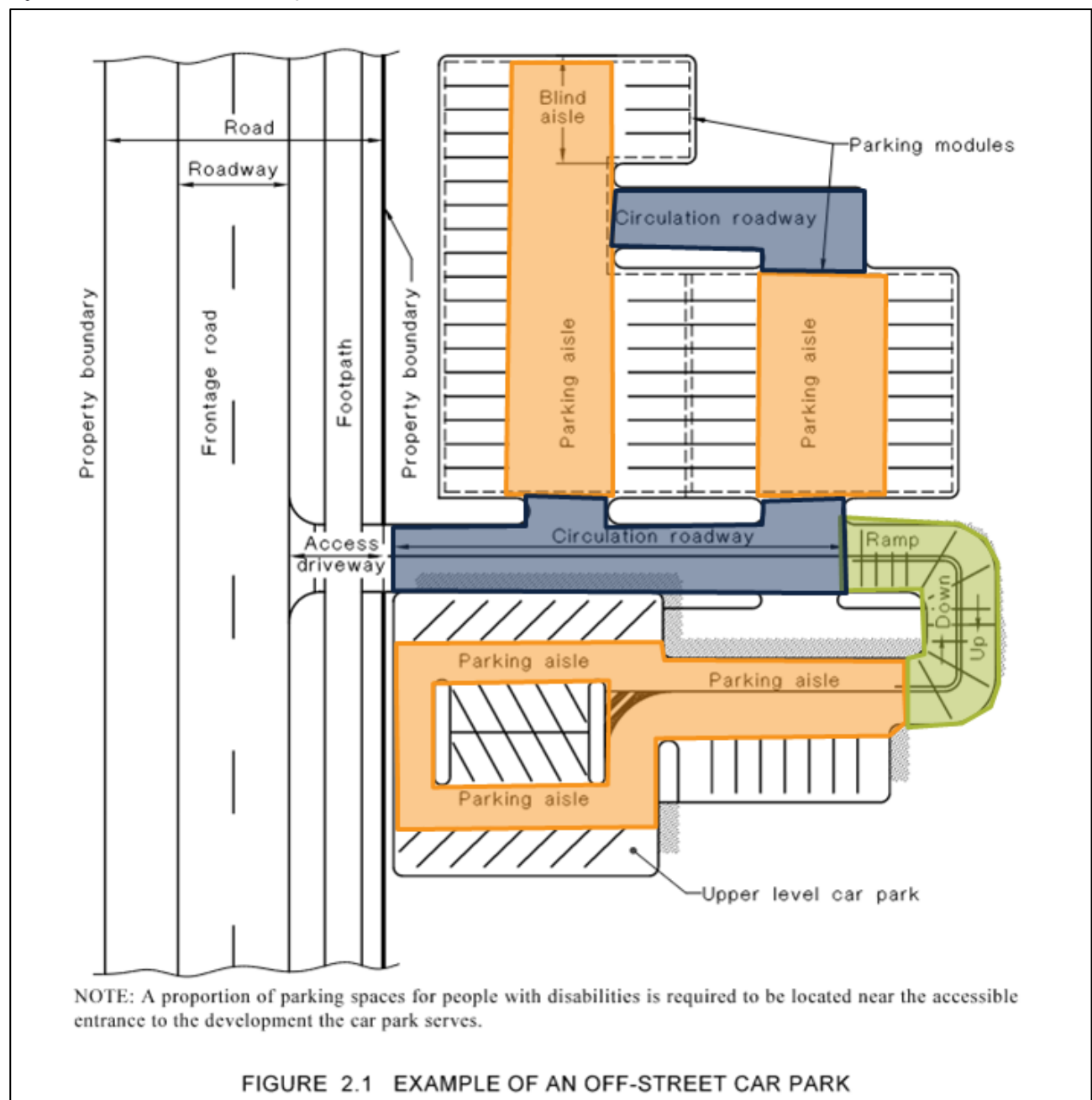
Stantec Response

Stantec has reviewed the basement ramps, circulation roadways and parking aisles and found that these have been designed in accordance with Australian Standards AS2890.1.

Stantec's methodology was to identify the various areas of a car park as per AS2890.1 and apply this to the current car park arrangement. This is shown in Figures 1-1 & 1-2, where:

- > Figure 1-1 details the terminology for an Off-Street Car Park (as shown in AS2890 Figure 2.1).
- > Figure 1-2 shows how the terminology from Figure 1-1 applies to the Basement 1 & 2 Layouts

Figure 1-1 AS2890 2.1 Example of an Off-Street Car Park



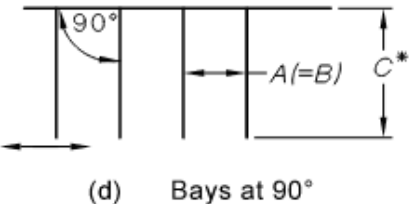
Source: AS2890.1 Figure 2.1

Figure 1-2 Basement Level Parking Classifications



Figure 1-3 outlines the requirements for Angle Parking Spaces (shown in AS2890 Figure 2.2), where the residential parking is Class 1A. Table 1-1 outlines the proposed basement 1 & 2 design and how it complies with AS2890.

Figure 1-3 AS2890 Figure 2.2 Layouts for Angle Parking Spaces

 (d) Bays at 90°	User class (Note 1)	A (Note 3)	B	C ₁	C ₂	C ₃	Aisle width (Note 4)
	1	2.4	2.4	5.4	4.8	5.4	6.2
	1A	2.4	2.4	5.4	4.8	5.4	5.8
	2	2.5	2.5	5.4	4.8	5.4	5.8
	3	2.6	2.6	5.4	4.8	5.4	5.8
	3A	2.6	2.6	5.4	4.8	5.4	6.6
	3A	2.7	2.7	5.4	4.8	5.4	6.2
	4	(See Note 5)					

Source: AS2890.1 Figure 2.2

Table 1-1 Basement 1 & 2 Parking Aisle Design Compliance

Design Criteria Description	AS2890.1 Standard	Proposed Design	Compliance
Bay length – standard	5.4m	5.4m	✓
Bay width – resident (class 1A)	2.4m	2.4m – 2.6m	✓
Bay length – tandem	10.4m	10.4m – 10.8m	✓
Bay width – tandem	2.4m	2.4m	✓
Parking Aisle Width (class 1A)	5.8m	6.2m – 8.0m	✓
Circulation Aisle Width (class 1A)	5.5m	8.2m	✓

As shown above, there provision is more than required to meet AS compliance. As such, Council's proposed warning system will only impede traffic operations and is not required from an operational standpoint.

Podium level 1

Podium level 1 still includes a single-lane, two-way aisle (eastern aisle is only 5.3 m wide, at its narrowest point); swept paths show conflict between opposing vehicles at this location, and management of vehicle movements has not been proposed;

Management of vehicle circulation is required in podium level 1 (method of management for vehicle circulation to be determined based on vehicle circulation as a result of changes to setbacks i.e. Single lane or two way circulation, this may require full signalisation rather than a warning system). A Traffic Engineering review shall be undertaken to identify an appropriate passing location for opposing vehicles in podium level 1. The passing location (hold lines) shall be supported by swept paths demonstrating the ability for two vehicles to pass (while maintaining compliant circulation clearances – this includes 600 mm clearance being maintained between passing cars). **Development drawings shall be updated to show all required equipment, hold lines, etc**

Alternatively, the applicant shall submit amended drawings demonstrating revised geometry in podium level 1 to remove the single-lane section of aisle (management of circulation in podium level 2 is not deemed necessary given the limited number of movements (relatively) and the fact that podium level 2 does not include single-lane aisles).

Stantec Response

Stantec have outlined the required hold lines for a one-way ramping system. Hold lines and swept paths outlining the one-way movements have been included in **Appendix B**. The exact positioning of the stop lights will be resolved as part of detailed design.

Additionally, SIDRA analysis has been undertaken of the proposed one-way operations to calculate expected vehicle delays, with the following assumptions included:

- > The one-way ramp operates as a signalised intersection, where only one movement goes at a time, waits for the ramp to completely clear, and then lets the other movement go
- > Given an approximate travel speed of 10km/hr and a distance of 20m between hold lines, an all-red signal time of 15 seconds has been added to signal analysis for each movement to allow the vehicle on green to clear before the opposing vehicle on red goes
- > Total delays for level 2 are the sum of average delays experienced by motorists at both levels 1 and 2, given that motorists must travel through the one-way system twice.

SIDRA results have been included in **Appendix C**.

Table 1-2 One-way Traffic Analysis AM Peak

Level	Spaces Affected	Trip Rate	Vehicle Distribution		Peak Hour Trips			Average Delay per vehicle		
			Inbound	Outbound	In	Out	Total	In	Out	Average
Level 1	16 spaces (34 total)	0.35 trips per space	30%	70%	3.6	8.3	11.9	33.5	25.9	28.3 sec
Level 2	18 spaces		30%	70%	1.9	4.4	6.3	33.3	25.8	28.0 sec

Table 1-3 One-way Traffic Analysis PM Peak

Level	Spaces	Trip Rate	Vehicle Distribution		Peak Hour Trips			Average Delay		
			Inbound	Outbound	In	Out	Total	In	Out	Average
Level 1	16 spaces	0.35 trips per space	60%	40%	7.1	4.8	11.9	27.6	31.4	29.1 sec
Level 2	18 spaces		60%	40%	3.8	2.5	6.3	29.1	29.0	29.1 sec

Table 1-4 Total One-way Impacts

Level	Peak Hour Trips			Average Delay		
	Inbound	Outbound	Average	Inbound	Outbound	Average
Level 1	33.5 sec	25.9 sec	28.3 sec	27.6 sec	31.4 sec	29.1 sec
Level 2	66.8 sec	51.7 sec	56.3 sec	56.7 sec	60.4 sec	58.2 sec

As shown above, the proposed one-way ramp system is expected to add an average of ~28 – 29 seconds of delay to vehicle trips originating on Level 1, and ~56 – 58 seconds of delay to vehicles originating on Level 2.

Providing the one-way arrangement for Level 1 including removing two (2) small car bays from the layout and replacing them on Basement 2. Swept paths have been included showing suitable vehicle ingress & egress from these revised parking spaces, and is included in **Appendix B**. Note this results in no overall change to the parking provision.

In addition to the above –

- *Swept paths for podium levels 1 and 2 show conflict between vehicles and the building core (NE and NW corners of building core)*
- *Swept paths also show conflict between vehicles and bollards adjacent the lifts (vehicle clearances not maintained)*
- *Revised swept paths shall be provided showing compliant vehicle circulation in podium levels 1 and 2, to resolve the above conflicts.*

Consistent with Planning Assessment's request for increased setbacks to be provided in the north of the site, any impacts to transport outcomes in this regard shall also be suitably addressed.

Stantec Response

The above items have been resolved within the swept path analysis and are included in **Appendix B**.

Item 6: Servicing

As identified in Council's Information Request, the proposed crossover on Armrick Avenue appears to conflict with the location of the existing on-street loading zone (would reduce the length of the loading zone)

The applicant was requested to demonstrate (through drawings) any impacts to the loading zone (i.e. show the loading zone on development drawings to identify its position relative to the proposed crossover, and provide a fully dimensioned concept plan showing any proposed modifications to the loading zone for consideration by council's Asset Custodian). This request has not been addressed.

Item of council's IR is reproduced below, for ease of reference. A full and complete response to this item shall be provided.

Of note, this information is critical to considering the proposal for on-street servicing for the proposed Food and drink outlet – it is unclear whether the reduced length of the loading zone would be sufficient to accommodate a 6.4 m SRV; in addition, options for relocating the loading zone (to retain its length) appear to be limited given its proximity to the roundabout.

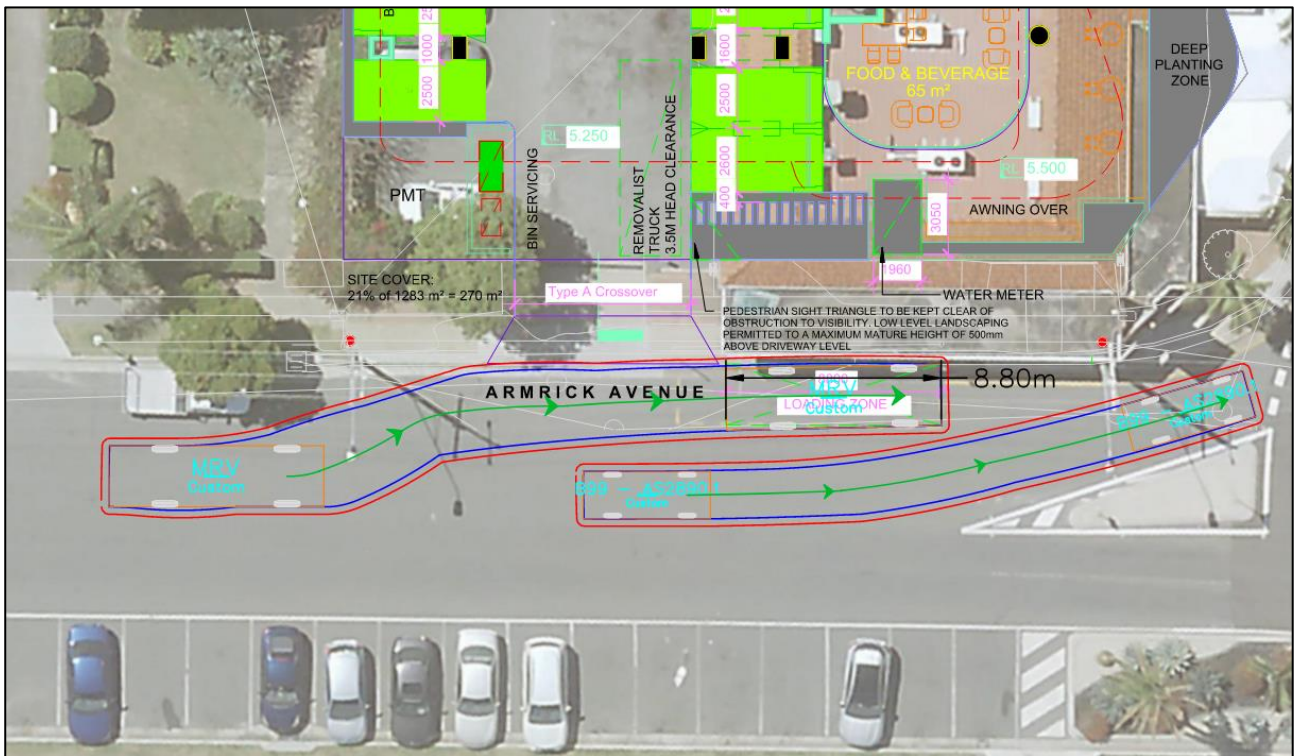
Stantec Response

Servicing operations have been reviewed and are shown in **Appendix B**. The on-street servicing bay will be shorted to a minimum of 8.8m long, which is compliant for MRV servicing in accordance with AS2890. Additionally, the loading bay is also suitable for servicing via a SRV service vehicle (6.4m required length). Whilst the width of the bay is acknowledged to 2.5m wide this is a suitable width given the:

- > sufficient width available for passing movements by local vehicles when servicing
- > adjacent footpath area available for servicing of goods to/from the vehicle
- > historic layout of the servicing bay

A swept path showing the suitable usage of the loading zone by an MRV and the length of the MRV bay is shown below in Figure 1-4.

Figure 1-4 Ground Level MRV Loading Zone



Summary

Stantec hope that Council consider the above responses and the suitability of the above outcomes in ensuring the proposed development accounts for a safe and efficient local traffic network.

Yours sincerely,

Robert Bakon
Traffic Engineer
for Stantec
Direct Line: 07 3877 6921
Email: robert.bakon@cardno.com.au
CC John Peace

Enc: **A) Updated Plans**
B) Swept paths
C) One-Way SIDRA Results

DEVELOPMENT SUMMARY		
99 & 101 OLD BURLEIGH ROAD, BROADBEACH		
46 STOREYS		
MIXED-USE DEVELOPMENT		
RPD	LOT 70 on B8383 & CP on BUP104138	
SITE AREA	1283 m ²	
DENSITY	1 per 6.415 m ² (200 Beds)	
GBA (UNDER ROOF)	28959	m ²
NSA	15948	m ²
TOTAL UNITS		
NUMBER OF UNITS		
3 Beds, 2.5 Baths + MPR	36	
4 Beds, 3.5 Baths + MPR	22	
4 Beds, 4.5 Baths + MPR	1	
Total Units	59	
PARKING		
REQUIRED		
3 Beds (1 per 1 unit)	36	
4 Beds (1 per 1 unit)	23	
Visitors (1 per 10 units)	5.9	
Food and Beverage (1 per 75m²)	1	
Total Required	65.9	
PROVIDED		
Residential Parking	120	
Visitor Parking	6	
Food & Beverage Parking	1	
Total Provided	127	
Bicycles (1 per Unit)	59	
Visitors	6	
Retail	1	
Total	66	
COMMUNAL SPACE		
PROVIDED	775.15 m ²	

DRAWINGS LIST			DRAWINGS LIST		
SHEET NUMBER	NAME	REVISION	SHEET NUMBER	NAME	REVISION
DA.001	DEVELOPMENT SUMMARY	E	IR.105	TOWER SEPARATION - SECTIONS	B
DA.097	BASEMENT 3	D	IR.106	TOWER SEPARATION - PERSPECTIVES	B
DA.098	BASEMENT 2	E	IR.201	PROTECTION OF AMENITY	B
DA.099	BASEMENT 1	E	IR.454	SHADOW ANALYSIS	A
DA.100	GROUND LEVEL	E	IR.455	SHADOW ANALYSIS - AO8.1	A
DA.101	LEVEL 1	E	IR.456	SHADOW ANALYSIS - AO8.2	A
DA.102	LEVEL 2	E	IR.457	SHADOW ANALYSIS - AO8.4	A
DA.103	LEVEL 3	D	IR.461	DOMINANCE - PODIUM	B
DA.104	LEVELS 4 - 21	D	IR.462	DOMINANCE - TOWER (WEST)	A
DA.122	LEVEL 22	D	IR.463	SCREENING DETAILS	A
DA.123	LEVEL 23 - 43	C			
DA.144	LEVEL 44	B			
DA.145	LEVEL 45	B			
DA.146	LEVEL 46	B			
DA.402	BUILDING FORM	C			
DA.403	BUILDING FORM	C			
DA.411	MATERIALITY	C			
DA.412	MATERIALITY	B			
DA.421	PERSPECTIVES	B			
DA.422	PERSPECTIVES	B			
DA.423	PERSPECTIVES	B			
DA.424	PERSPECTIVES	B			
DA.434	PERSPECTIVES	B			
DA.501	EAST ELEVATION	D			
DA.502	NORTH ELEVATION	D			
DA.503	SOUTH ELEVATION	D			
DA.504	WEST ELEVATION	D			
DA.601	SECTION A	D			
DA.602	SECTION B	C			

REVISION	DATE	DESCRIPTION
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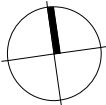
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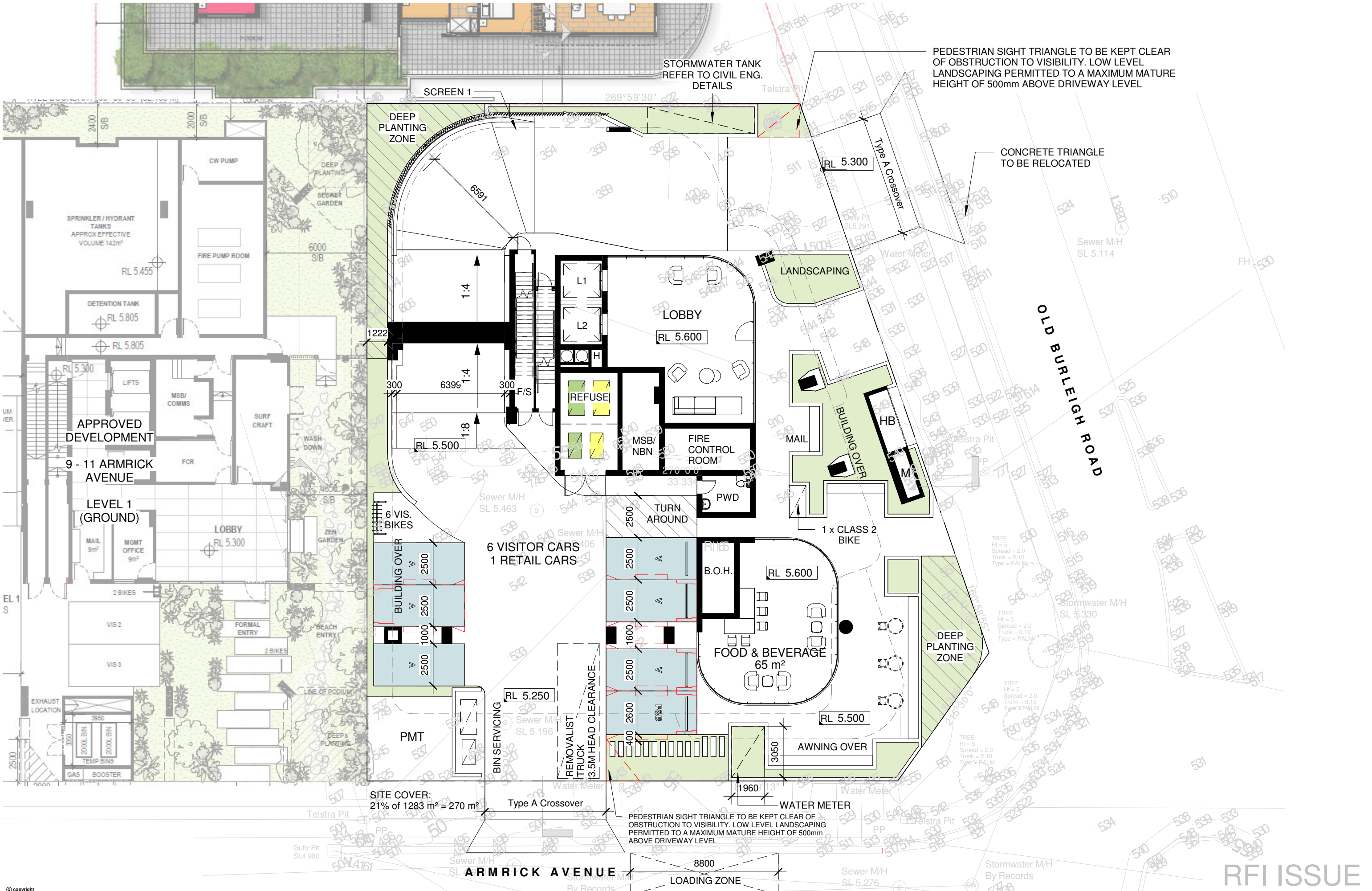
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DA.099

RFI ISSUE

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MIXED-USE DEVELOPMENT

99 & 101 OLD BURLEIGH ROAD, BROADBEACH

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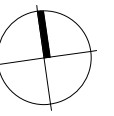
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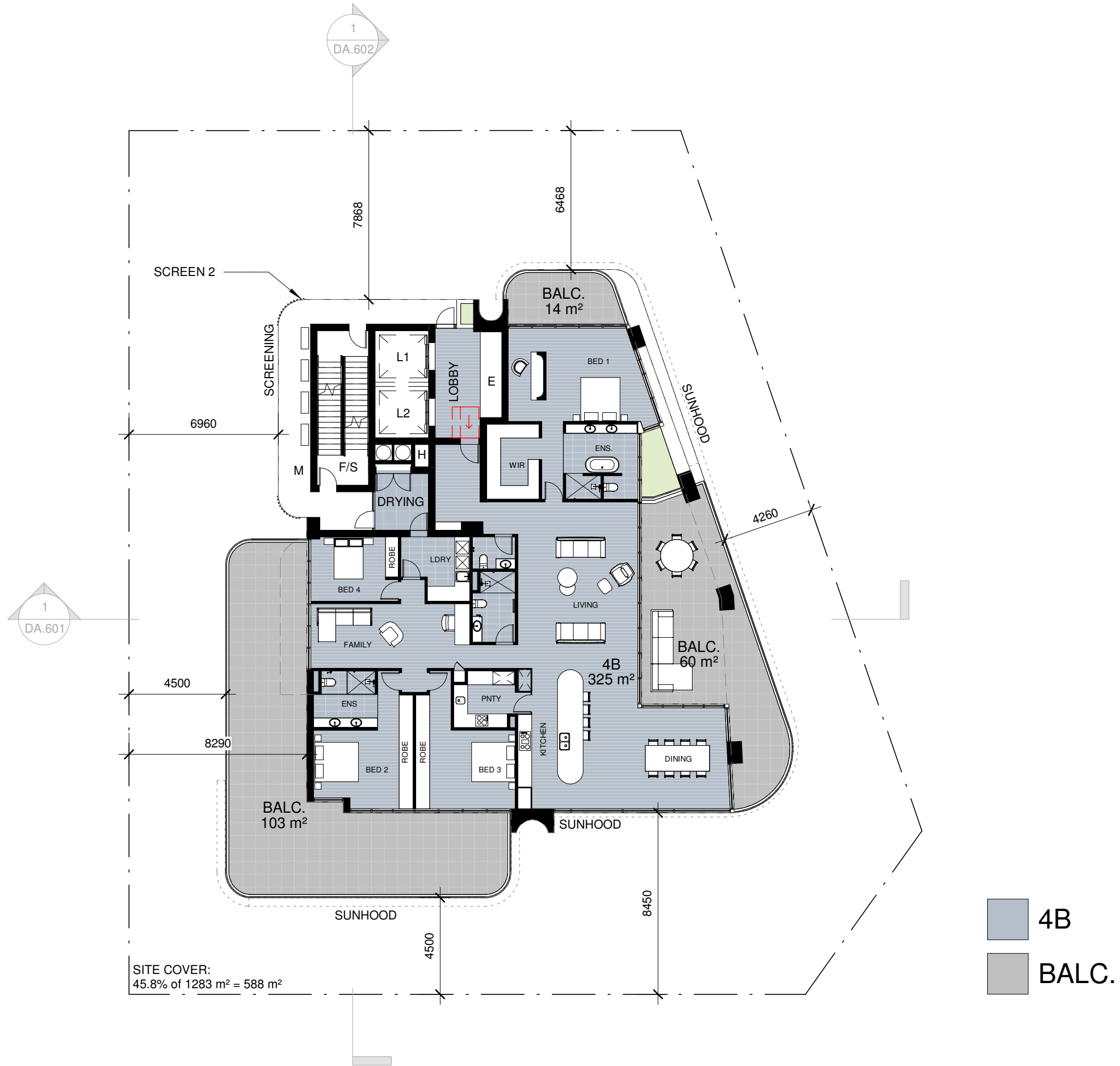
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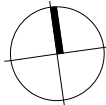
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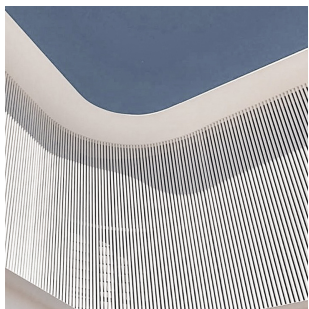
SCALE (A3) 1 : 200

REVISION **D**





SOUTH - EASTERN PODIUM



ALUMINIUM SCREEN



ALUMINIUM CLADDING



SUNHOOD & RECESSED PLANTER



ALUMINIUM SCREEN



NATURAL STONE



NORTH - EASTERN PODIUM

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MATERIALITY

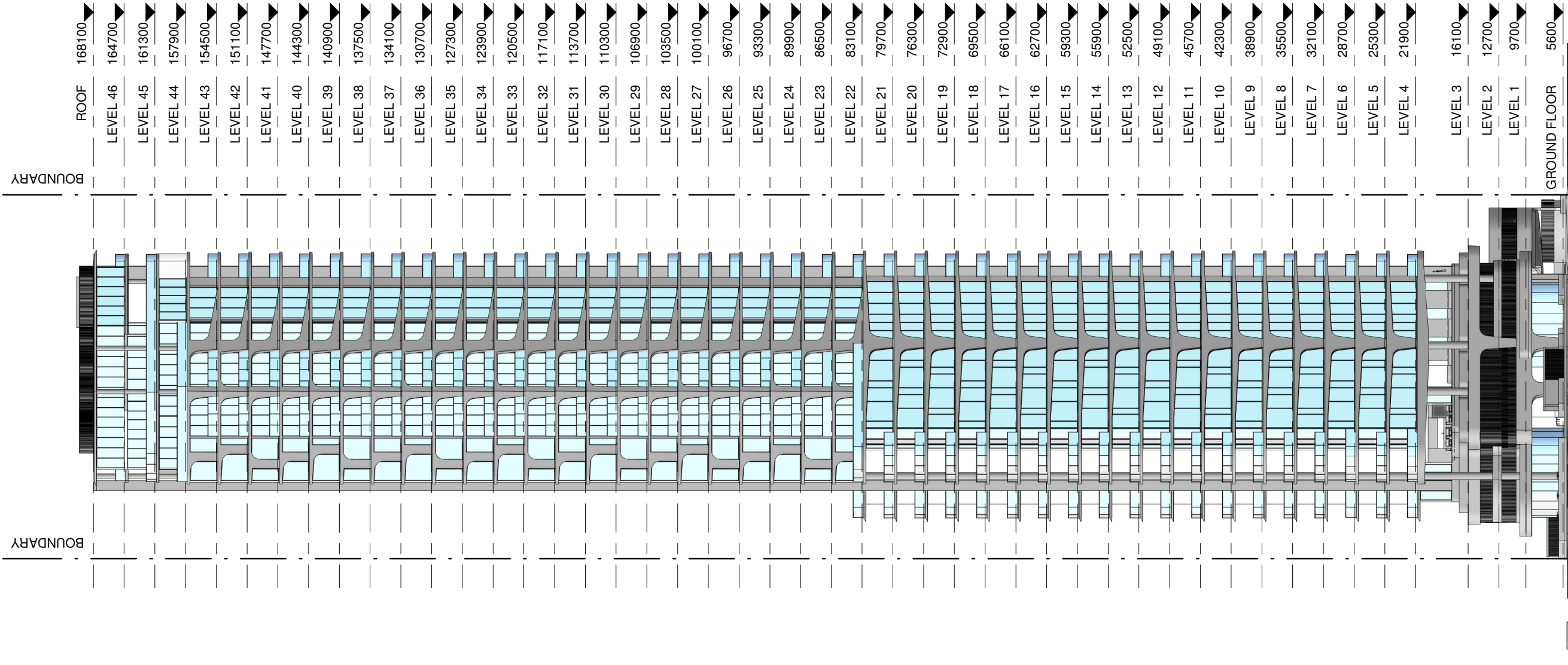
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REVISION

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EAST ELEVATION

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DA.501

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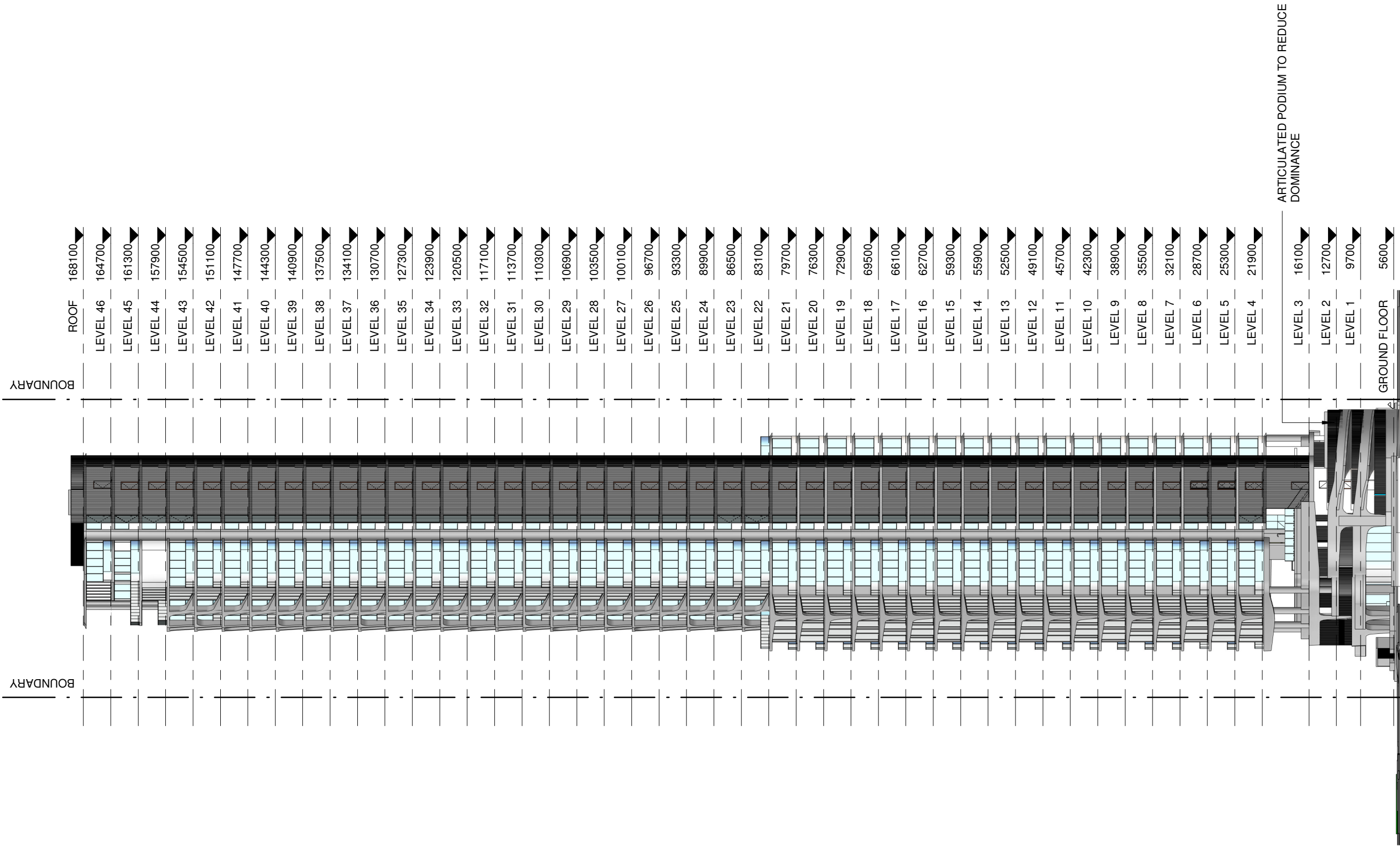
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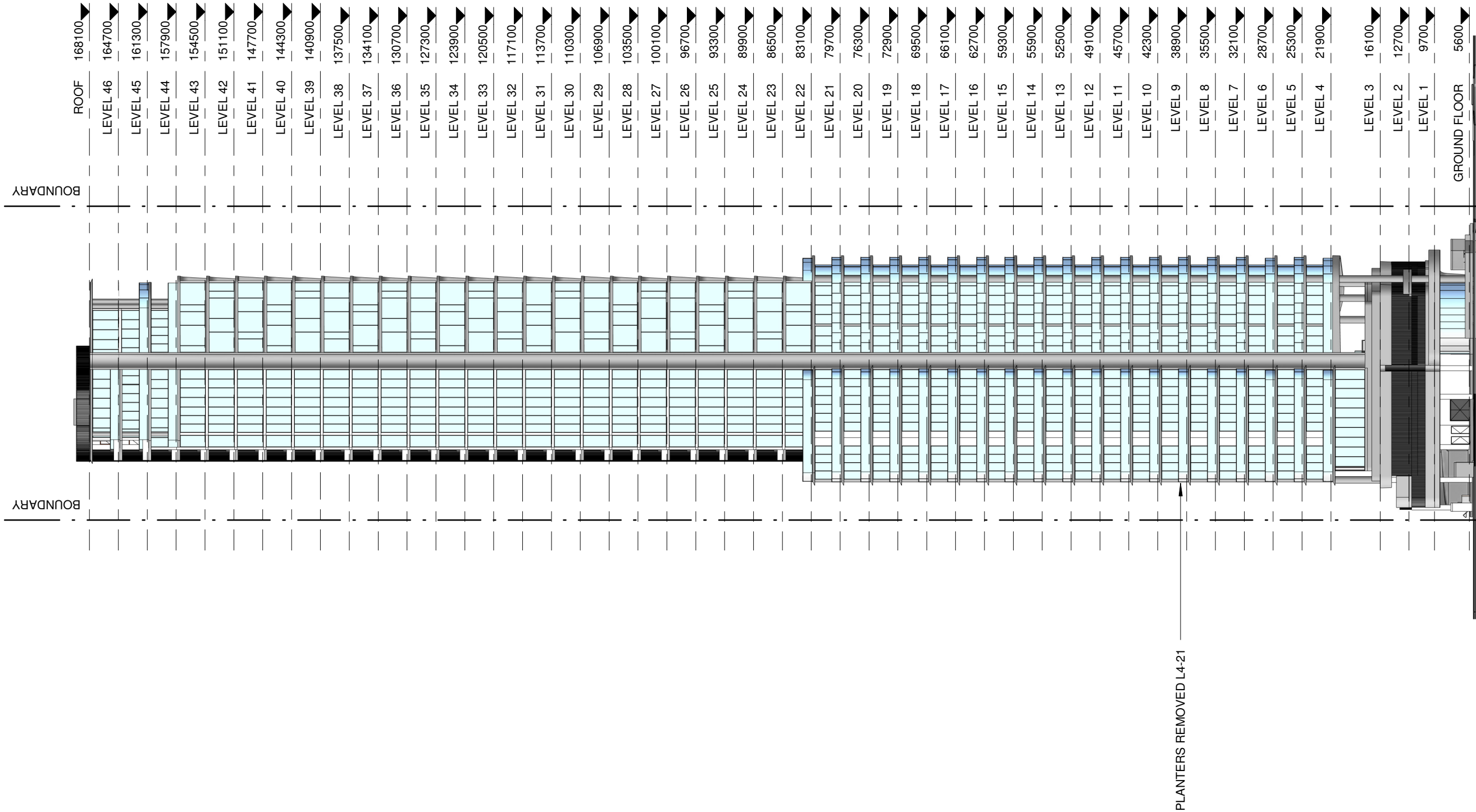
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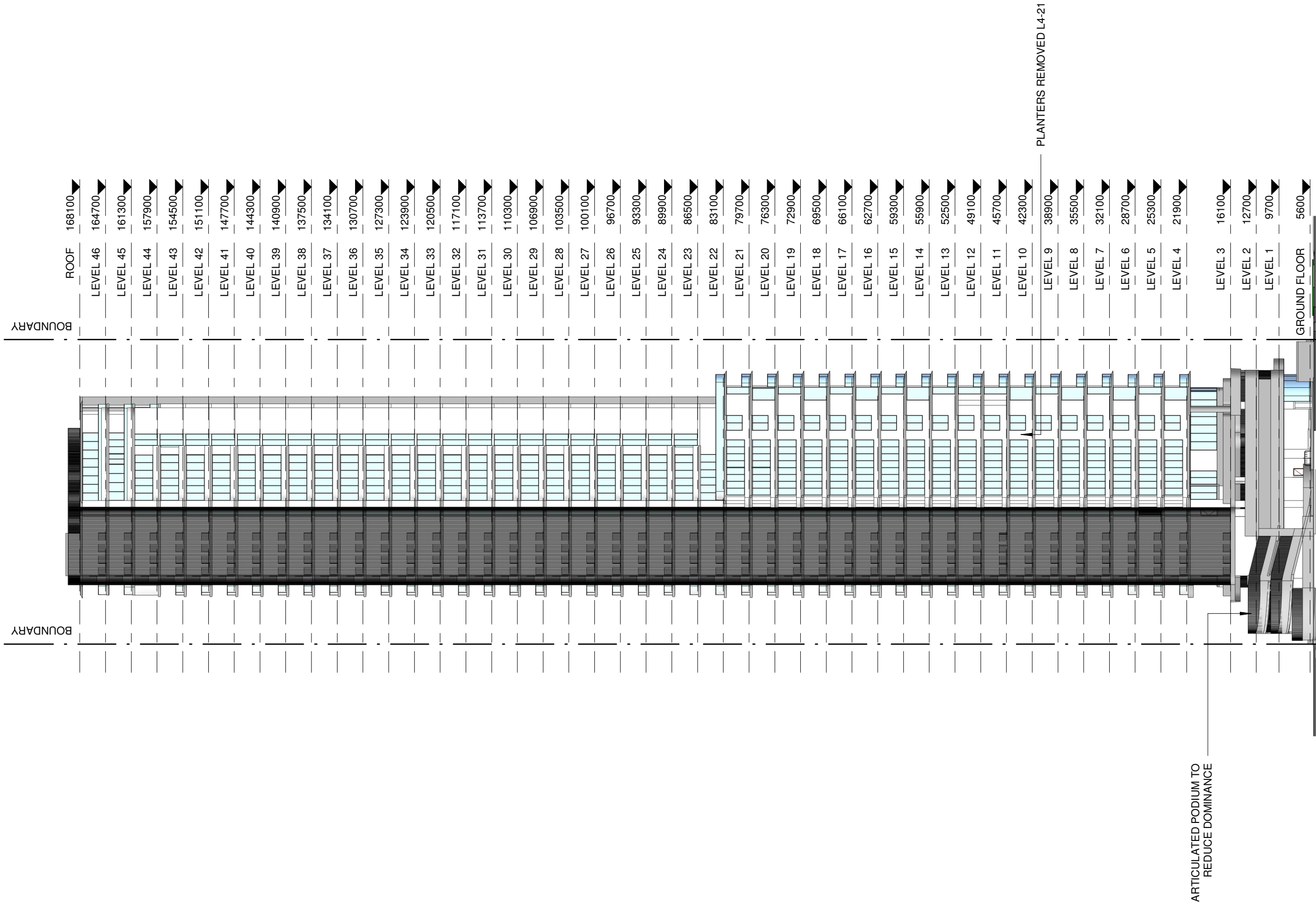
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DRAWING NUMBER
DA.503

RFI ISSUE

SCALE (A3)
1 : 500

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D



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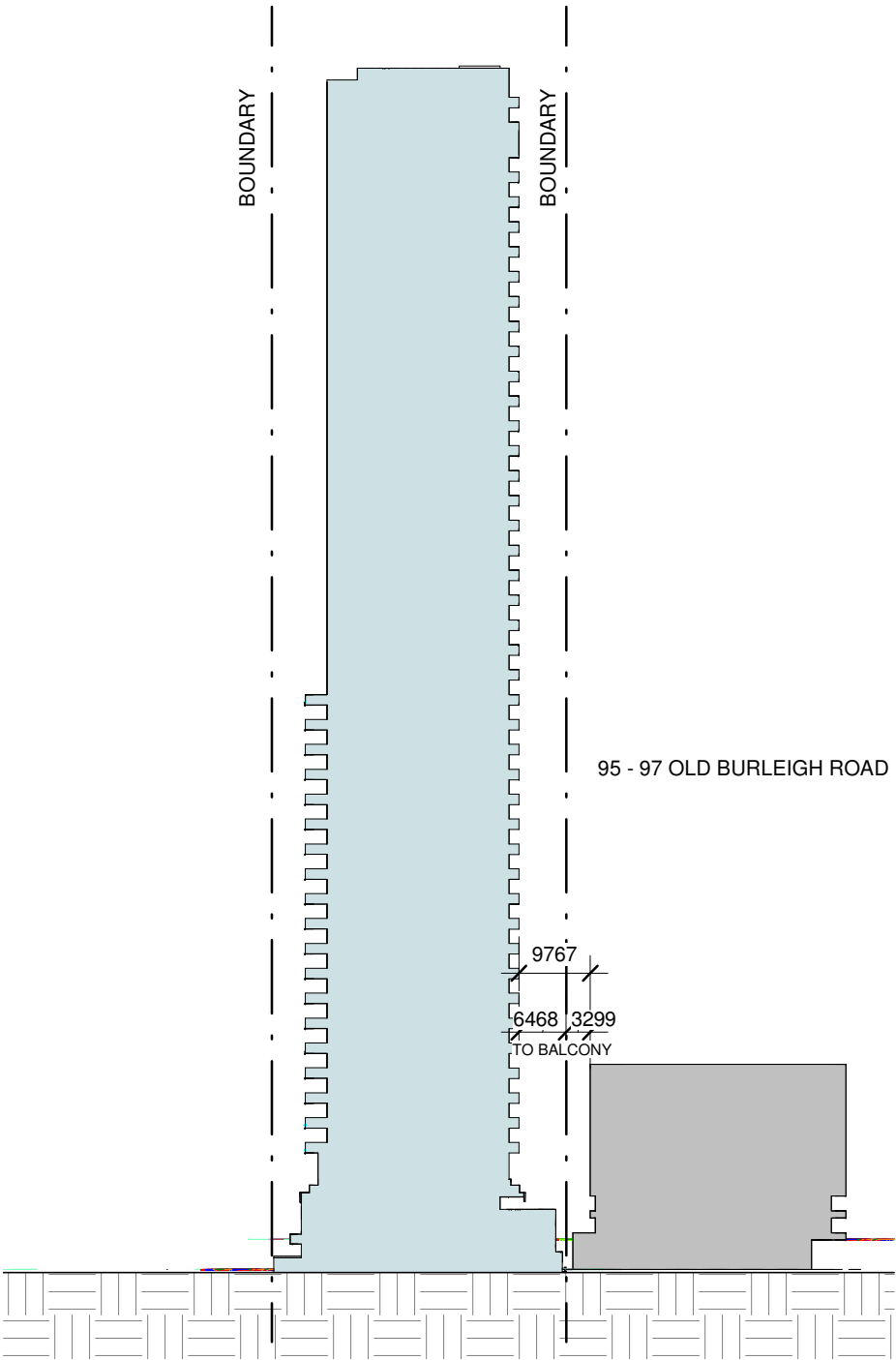
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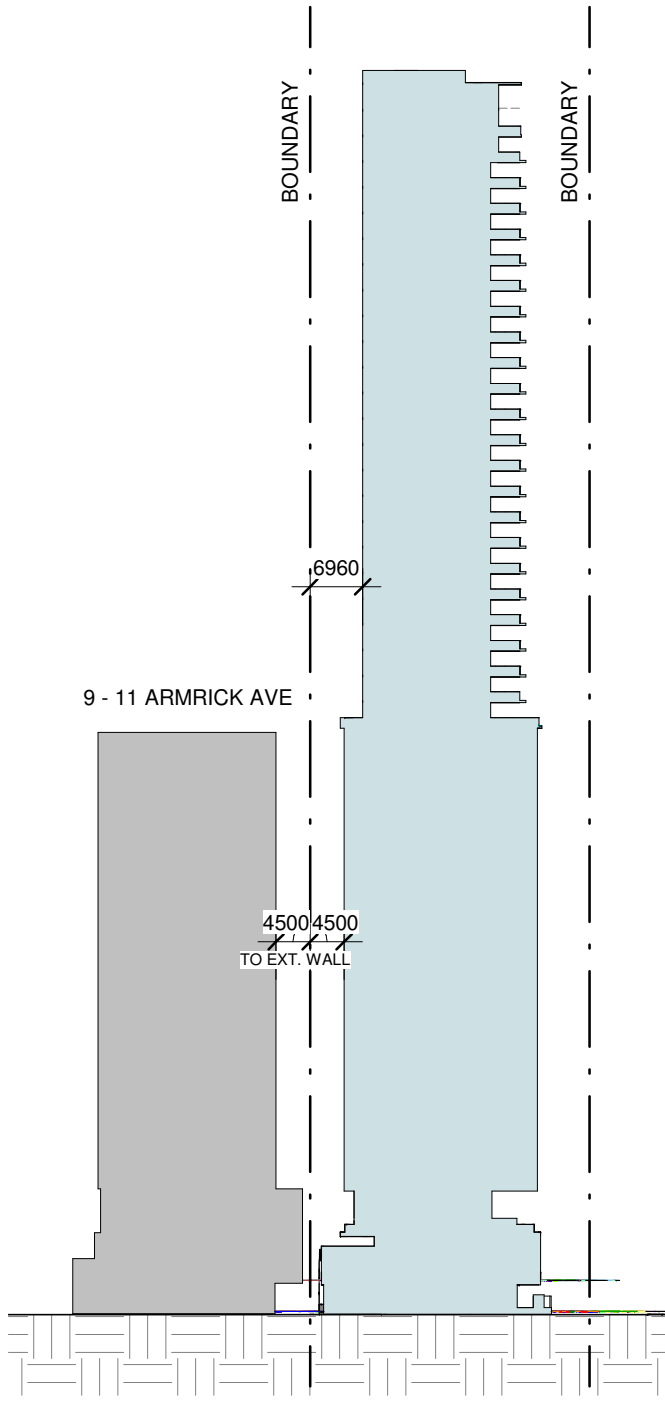
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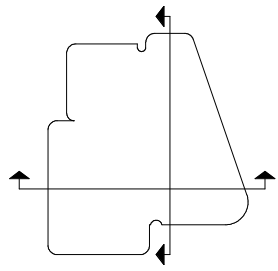
REVISION **D**



TOWER SEPARATION TO NORTH



TOWER SEPARATION TO WEST



Keyplan - Level 4

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TOWER SEPARATION - SECTIONS

DRAWING NUMBER
IR.105

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SCALE (A3) 1 : 1000

REVISION **B**



TOWER SEPARATION TO NORTH (95 OLD BURLEIGH ROAD)



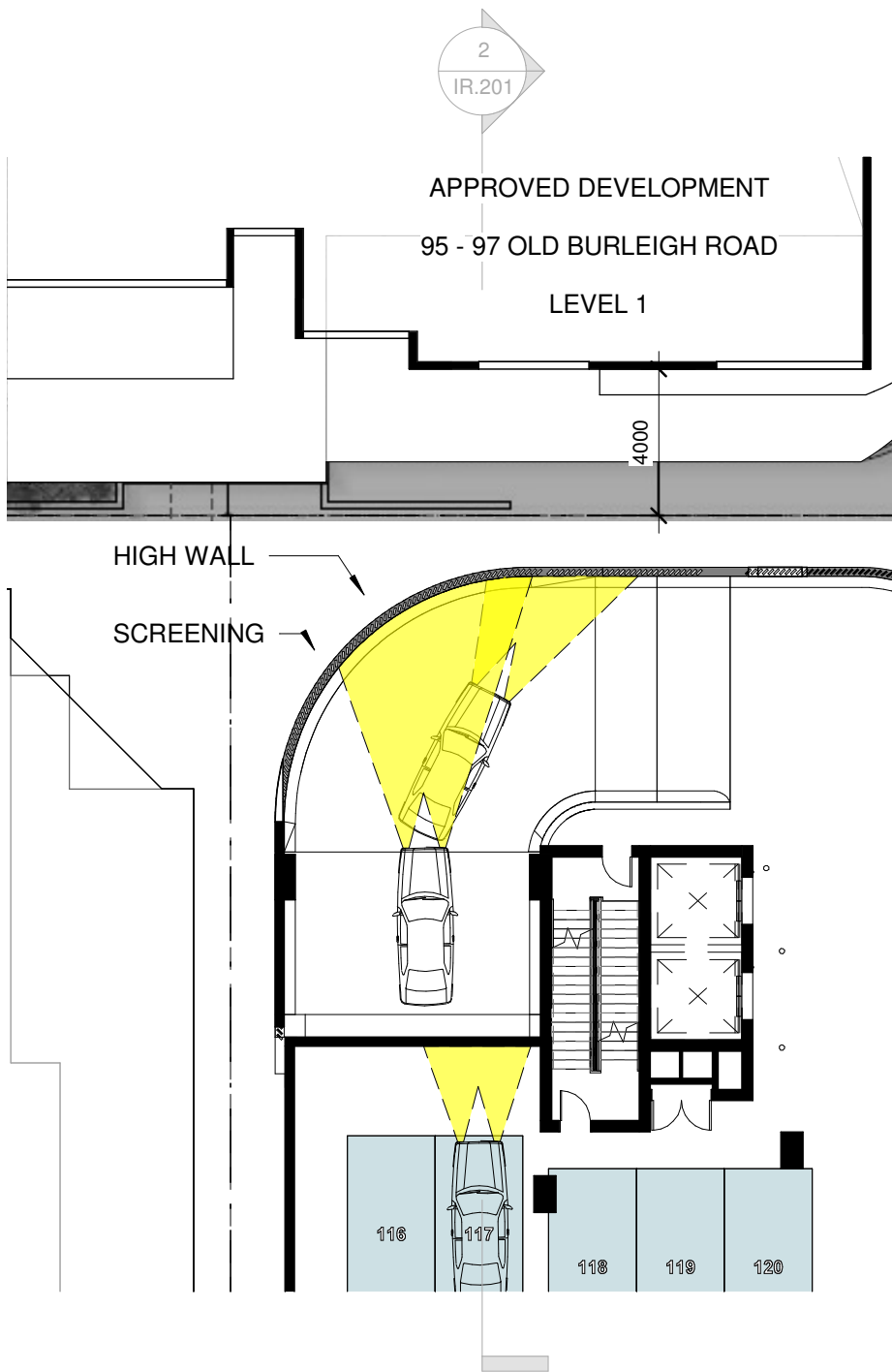
TOWER SEPARATION TO WEST (9-11 ARMRICK AVENUE)

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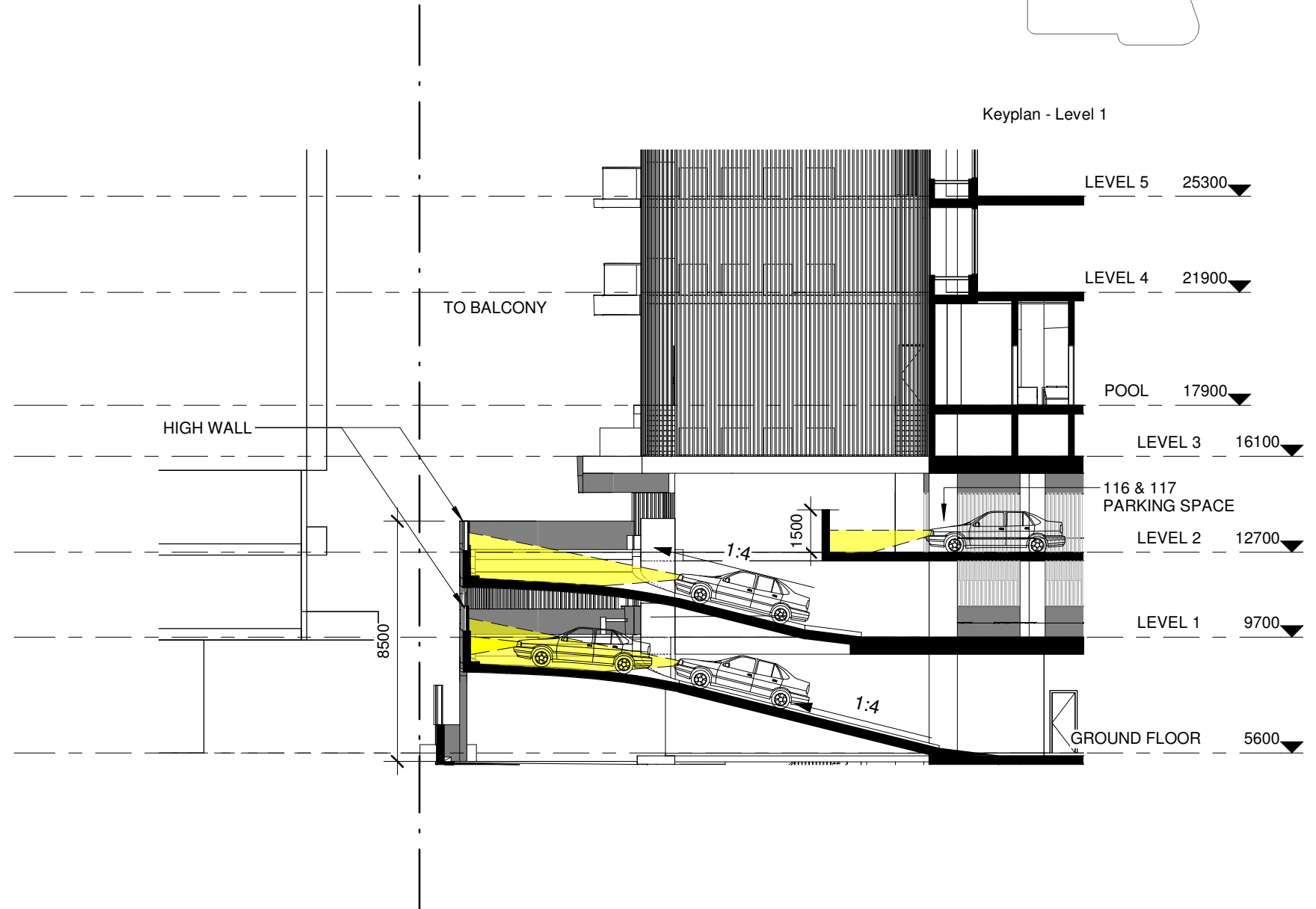
REVISION	DATE	DESCRIPTION
A	12.05.2022	RFI ISSUE
B	13.07.2022	RFI ISSUE

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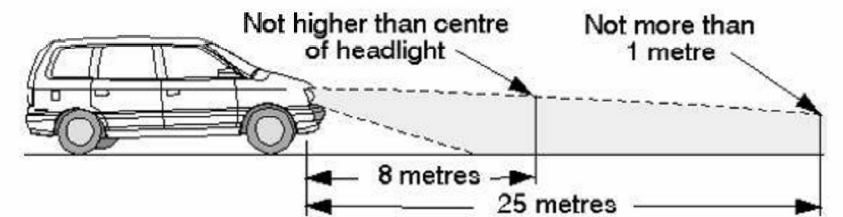
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LEVEL 1 - SCREEN PLAN



LEVEL 1 - SCREEN SECTION



HEADLIGHTS POSITION AS PER AUSTRALIAN LIGHT VEHICLE STANDARDS RULES 2015



PERSPECTIVE - PODIUM (NORTH)



PERSPECTIVE - PODIUM (EAST)



PERSPECTIVE - PODIUM (WEST)



PERSPECTIVE - PODIUM (SOUTH)

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architecture

MIXED-USE DEVELOPMENT

99 & 101 OLD BURLEIGH ROAD, BROADBEACH

REVISION	DATE	DESCRIPTION
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B	13.07.2022	RFI ISSUE

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DOMINANCE - PODIUM

DRAWING NUMBER
IR.461

RFI ISSUE

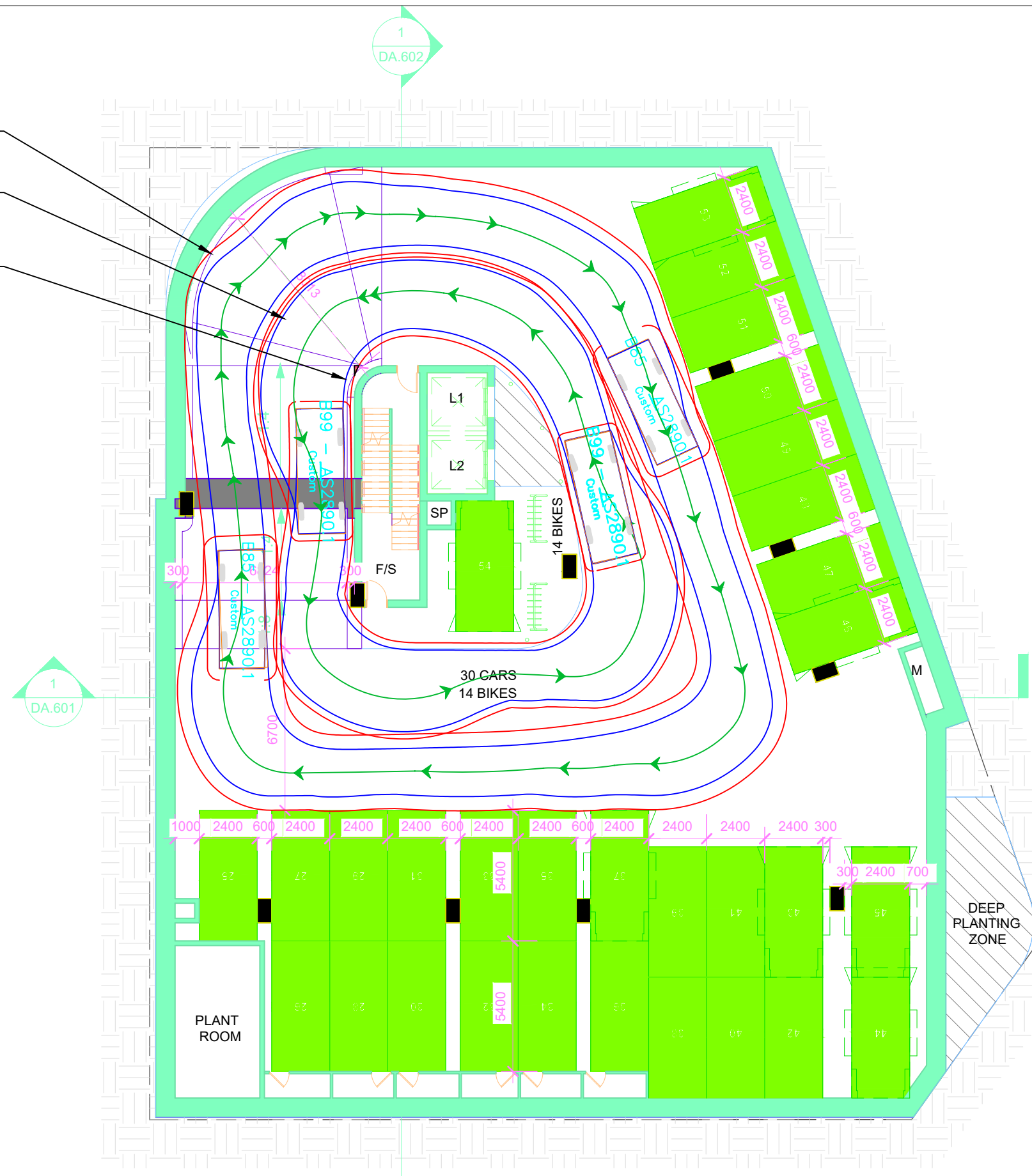
SCALE (A3)

REVISION

B

CAD File: \\labnet\501mb\Current\Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\6_ACAD\2022\0719 - SK01_SK11 - .dwg

- 500mm Ramp outer clearance
- 600mm Clearance between vehicles
- 300mm Ramp inner clearance



SWEPT PATH LEGEND

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE
- VEHICLE

B99 - AS2890.1		B85 - AS2890.1	
meters		meters	
Width	: 1.94	Width	: 1.87
Track	: 1.84	Track	: 1.77
Lock to Lock Time	: 6.0	Lock to Lock Time	: 6.0
Steering Angle	: 40.0	Steering Angle	: 40.0

SCALE 1:200 @ A3



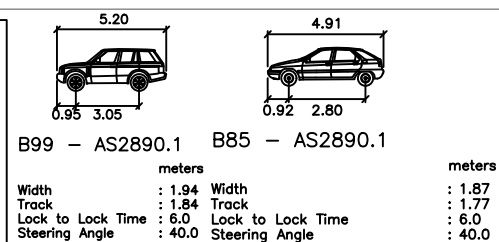
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Urbis
99-101 Old Burleigh Road, Broadbeach
Ramp Swept Paths
Basement 2

Drawn R Bakon	Date 17/07/2022	Scale 1:200	Size A3
Drawing Number T0921032 - SK02.1			Revision H

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE
- VEHICLE



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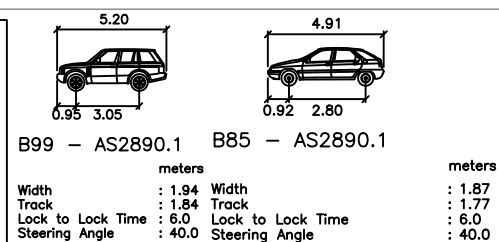
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Urbis
99-101 Old Burleigh Road, Broadbeach
Spaces 44 & 45 Swept Paths
Basement 2

Drawn R Bakon	Date 17/07/2022	Scale 1:200	Size A3
Drawing Number T0921032 - SK02.2			Revision H

- VEHICLE BODY
- FRONT TIRES
- VEHICLE PATH
- VEHICLE CLEARANCE
- VEHICLE

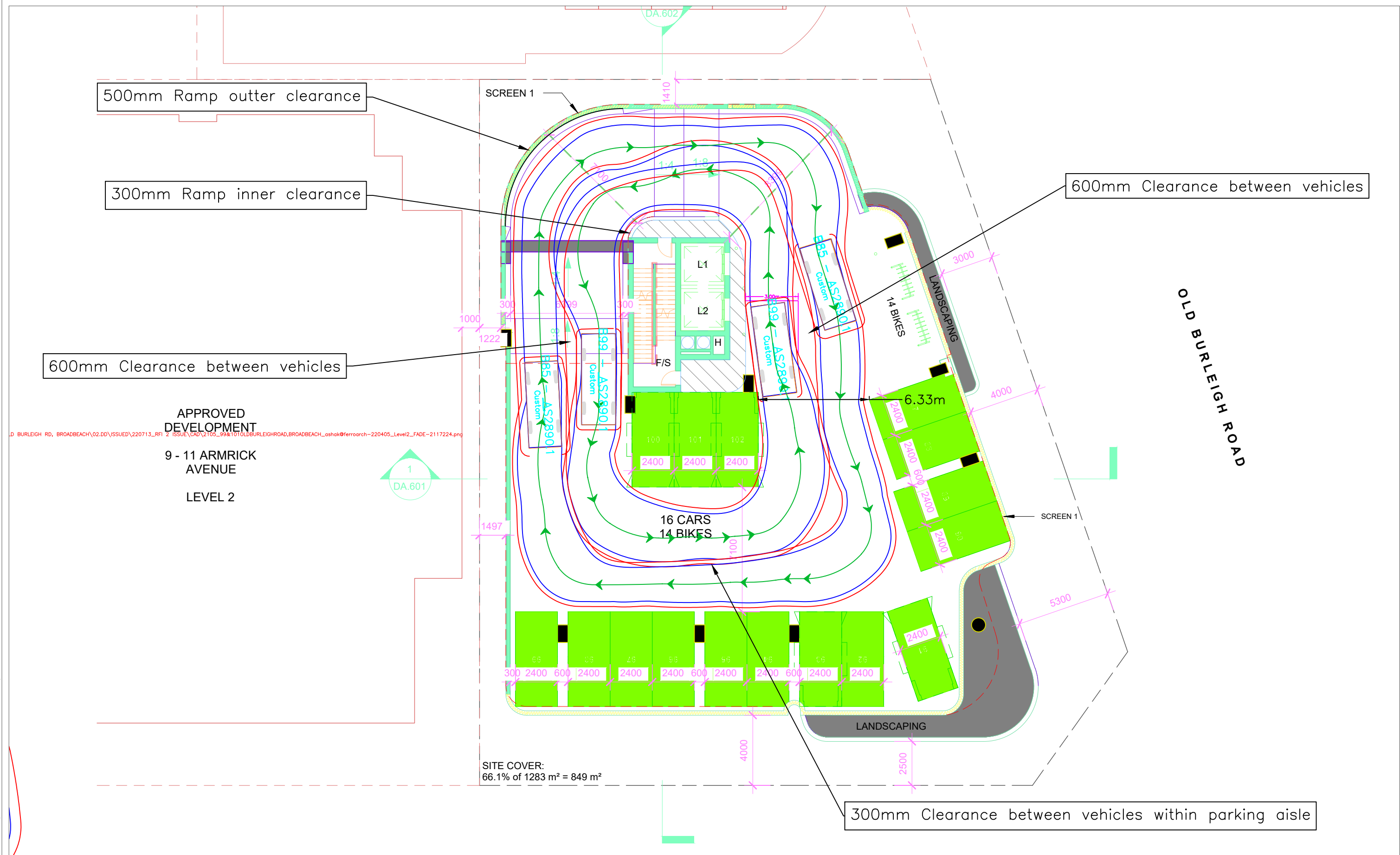


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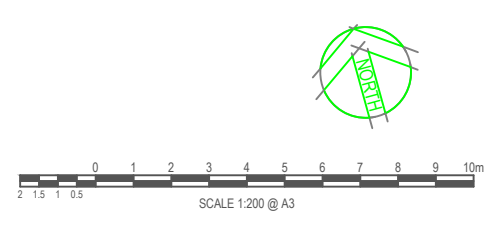
Urbis
99-101 Old Burleigh Road, Broadbeach
Tandem Bay Swept Paths
Basement 3

Drawn R Bakon	Date 17/07/2022	Scale 1:200	Size A3
Drawing Number T0921032 - SK03			Revision G



SWEPT PATH LEGEND	
	VEHICLE BODY
	FRONT TIRES
	VEHICLE PATH
	VEHICLE CLEARANCE
	VEHICLE

B99 - AS2890.1		B85 - AS2890.1	
	5.20		4.91
0.95	3.05	0.92	2.80
meters		meters	
Width	: 1.94	Width	: 1.87
Track	: 1.84	Track	: 1.77
Lock to Lock Time	: 6.0	Lock to Lock Time	: 6.0
Steering Angle	: 40.0	Steering Angle	: 40.0

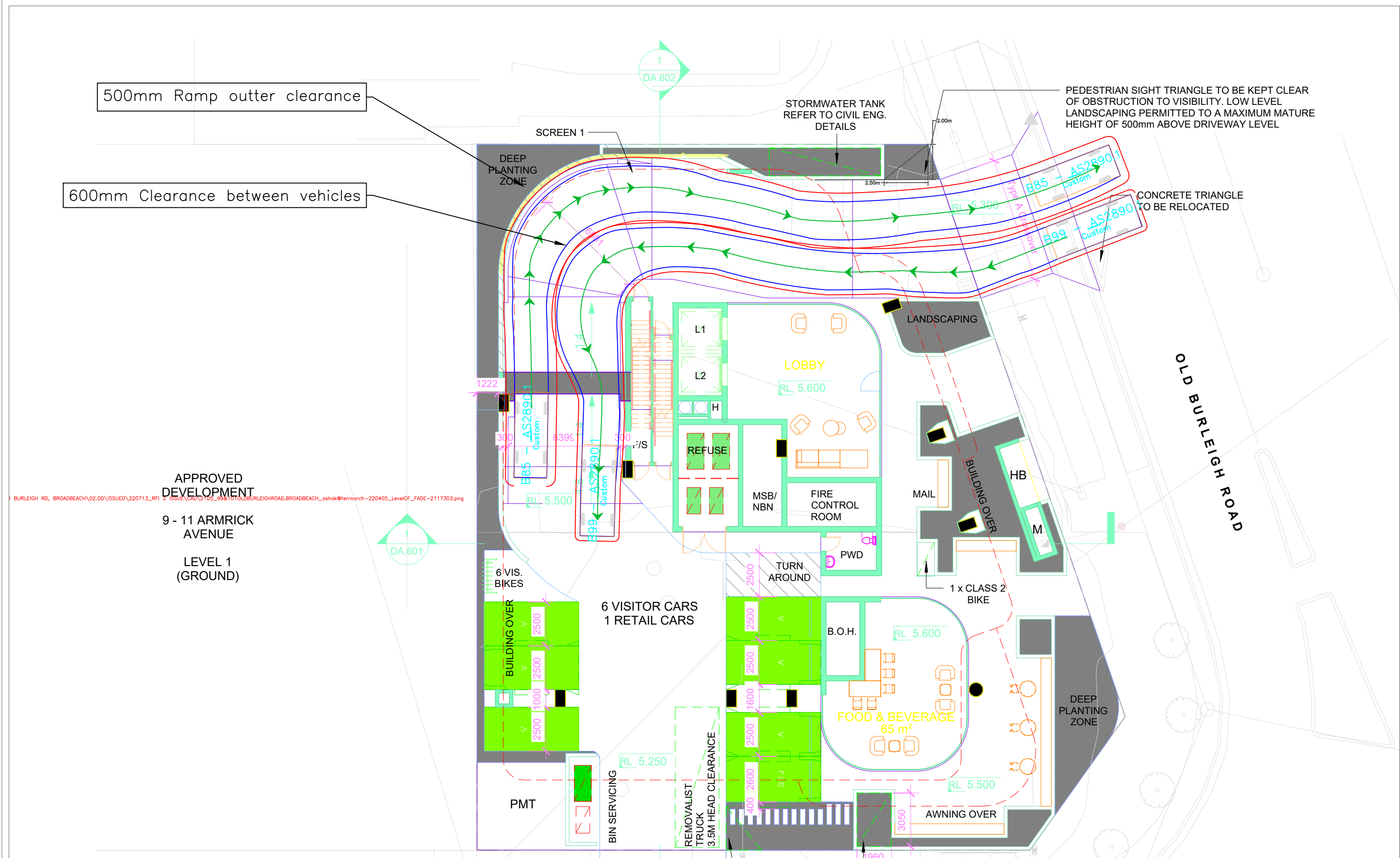


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Urbis 99-101 Old Burleigh Road, Broadbeach Ramp Swept Paths Level 1			
Drawn R Bakon	Date 17/07/2022	Scale 1:200	Size A3
Drawing Number T0921032 - SK04			Revision H

CAD File: \\labmedia5\mnt\Current\Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\6_ACAD\2022\0719 - SK01_SK11-.dwg



SWEEP PATH LEGEND	
	VEHICLE BODY
	FRONT TIRES
	VEHICLE PATH
	VEHICLE CLEARANCE
	VEHICLE

B99 - AS2890.1		B85 - AS2890.1	
meters		meters	
Width	: 1.94	Width	: 1.87
Track	: 1.84	Track	: 1.77
Lock to Lock Time	: 6.0	Lock to Lock Time	: 6.0
Steering Angle	: 40.0	Steering Angle	: 40.0



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Urbis 99-101 Old Burleigh Road, Broadbeach Turnaround Bay Swept Paths Ground Level			
Drawn R Bakon	Date 17/07/2022	Scale 1:200	Size A3
Drawing Number T0921032 - SK06			Revision H

CAD File: \\cardno\5151\m\Current\Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\6_ACAD\2022\07\19 - SK01_SK11-.dwg

P:\21\2105 - 99 & 101 OLD BURLEIGH RD, BROADBEACH\02.DD\ISSUED\220713_RFI 2 ISSUE\CAD\2105_99&101OLDBURLEIGHROAD,BROADBEACH_ashok@ferroarch-220405_LevelGF_FADE-2117303.png

APPROVED
DEVELOPMENT

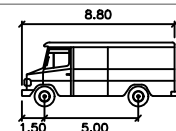
9 - 11 ARMRICK
AVENUE

LEVEL 1
(GROUND)



SWEPT PATH LEGEND

- VEHICLE BODY
- VEHICLE PATH
- VEHICLE CLEARANCE
- VEHICLE



MRV

Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 34.0

SCALE 1:200 @ A3

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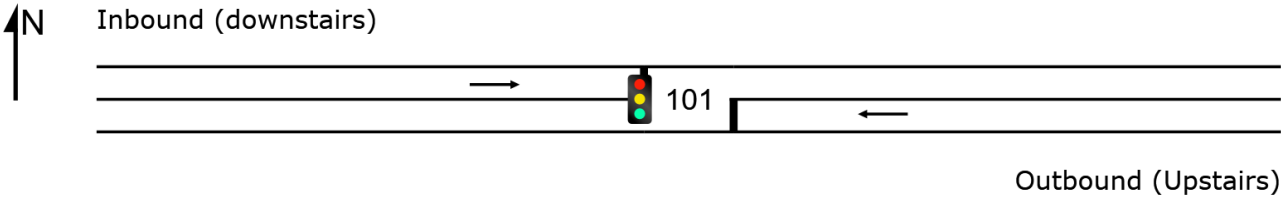
Urbis
99-101 Old Burleigh Road, Broadbeach
MRV Swept Path
Ground Floor
Drawn R. Bakon Date 17/07/2022 Scale 1:200 Size A3
Drawing Number T0921032 - SK08 Revision H

SITE LAYOUT

 **Site: 101 [2022 F1 AM (Site Folder: General)]**

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: \\aubnecfs05\tnt\$\Current Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\5_PROJECT ANALYSIS\Analysis\SIDRA\One-way Ramp Results.sip9

MOVEMENT SUMMARY

 **Site: 101 [2022 F1 AM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
East: Outbound (Upstairs)														
5	T1	9	0.0	10	0.0	* 0.018	25.9	LOS C	0.2	1.2	0.75	0.74	0.75	9.6
Approach		9	0.0	10	0.0	0.018	25.9	LOS C	0.2	1.2	0.75	0.74	0.75	9.6
West: Inbound (downstairs)														
11	T1	4	0.0	4	0.0	* 0.019	33.5	LOS C	0.1	0.7	0.90	0.67	0.90	9.4
Approach		4	0.0	4	0.0	0.019	33.5	LOS C	0.1	0.7	0.90	0.67	0.90	9.4
All Vehicles		13	0.0	14	0.0	0.019	28.3	LOS C	0.2	1.2	0.79	0.72	0.79	9.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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Project: \\aubnecfs05\tnt\$\Current Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\5_PROJECT ANALYSIS\Analysis\SIDRA\One-way Ramp Results.sip9

PHASING SUMMARY

 **Site: 101 [2022 F1 AM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Reference Phase: Phase A

Input Phase Sequence: A, B

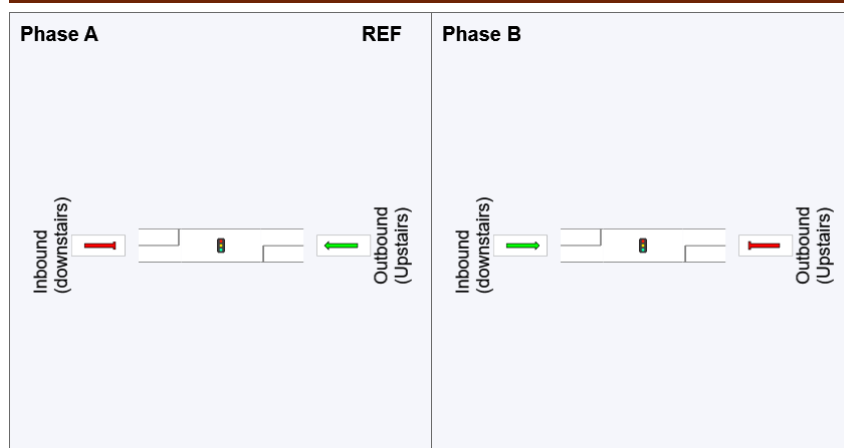
Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	29
Green Time (sec)	14	6
Phase Time (sec)	29	21
Phase Split	58%	42%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

MOVEMENT SUMMARY

 **Site: 101 [2022 F1 PM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
East: Outbound (Upstairs)														
5	T1	5	0.0	6	0.0	* 0.018	31.4	LOS C	0.1	0.8	0.86	0.69	0.86	9.5
Approach		5	0.0	6	0.0	0.018	31.4	LOS C	0.1	0.8	0.86	0.69	0.86	9.5
West: Inbound (downstairs)														
11	T1	8	0.0	9	0.0	* 0.019	27.6	LOS C	0.2	1.2	0.79	0.73	0.79	9.6
Approach		8	0.0	9	0.0	0.019	27.6	LOS C	0.2	1.2	0.79	0.73	0.79	9.6
All Vehicles		13	0.0	14	0.0	0.019	29.1	LOS C	0.2	1.2	0.82	0.71	0.82	9.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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PHASING SUMMARY

 **Site: 101 [2022 F1 PM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Reference Phase: Phase A

Input Phase Sequence: A, B

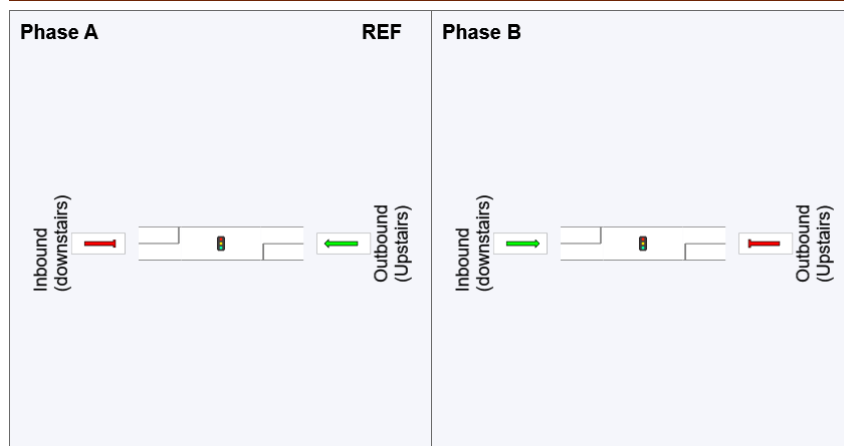
Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	23
Green Time (sec)	8	12
Phase Time (sec)	23	27
Phase Split	46%	54%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

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MOVEMENT SUMMARY

 **Site: 101 [2022 F2 AM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist m				
						v/c	sec							km/h
East: Outbound (Upstairs)														
5	T1	5	0.0	6	0.0	* 0.010	25.8	LOS C	0.1	0.7	0.74	0.72	0.74	9.6
Approach		5	0.0	6	0.0	0.010	25.8	LOS C	0.1	0.7	0.74	0.72	0.74	9.6
West: Inbound (downstairs)														
11	T1	2	0.0	2	0.0	* 0.009	33.3	LOS C	0.0	0.3	0.90	0.64	0.90	9.4
Approach		2	0.0	2	0.0	0.009	33.3	LOS C	0.0	0.3	0.90	0.64	0.90	9.4
All Vehicles		7	0.0	8	0.0	0.010	28.0	LOS C	0.1	0.7	0.79	0.70	0.79	9.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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Project: \\aubnecfs05\tnt\$\Current Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\5_PROJECT ANALYSIS\Analysis\SIDRA\One-way Ramp Results.sip9

PHASING SUMMARY

 **Site: 101 [2022 F2 AM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 50 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Reference Phase: Phase A

Input Phase Sequence: A, B

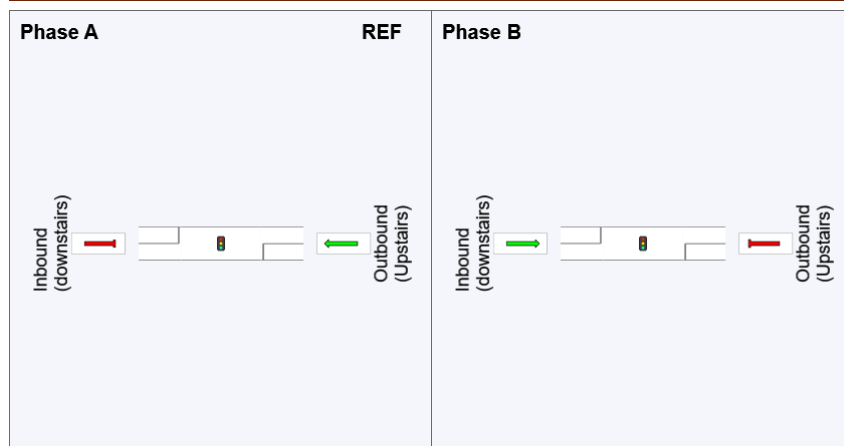
Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	29
Green Time (sec)	14	6
Phase Time (sec)	29	21
Phase Split	58%	42%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

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Project: \\aubnecfs05\tnt\$\Current Jobs\T0921032 - 101 Old Burleigh Rd, Broadbeach\5_PROJECT ANALYSIS\Analysis\SIDRA\One-way Ramp Results.sip9

MOVEMENT SUMMARY

 **Site: 101 [2022 F2 PM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 42 seconds (Site Optimum Cycle Time - Minimum Delay)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h	HV %	[Total veh/h	HV %				[Veh. veh	Dist] m				
						v/c	sec							km/h
East: Outbound (Upstairs)														
5	T1	3	0.0	3	0.0	* 0.012	29.0	LOS C	0.1	0.4	0.88	0.66	0.88	9.5
Approach		3	0.0	3	0.0	0.012	29.0	LOS C	0.1	0.4	0.88	0.66	0.88	9.5
West: Inbound (downstairs)														
11	T1	4	0.0	4	0.0	* 0.016	29.1	LOS C	0.1	0.6	0.88	0.67	0.88	9.5
Approach		4	0.0	4	0.0	0.016	29.1	LOS C	0.1	0.6	0.88	0.67	0.88	9.5
All Vehicles		7	0.0	8	0.0	0.016	29.1	LOS C	0.1	0.6	0.88	0.67	0.88	9.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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PHASING SUMMARY

 **Site: 101 [2022 F2 PM (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 42 seconds (Site Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Leading Right Turn

Reference Phase: Phase A

Input Phase Sequence: A, B

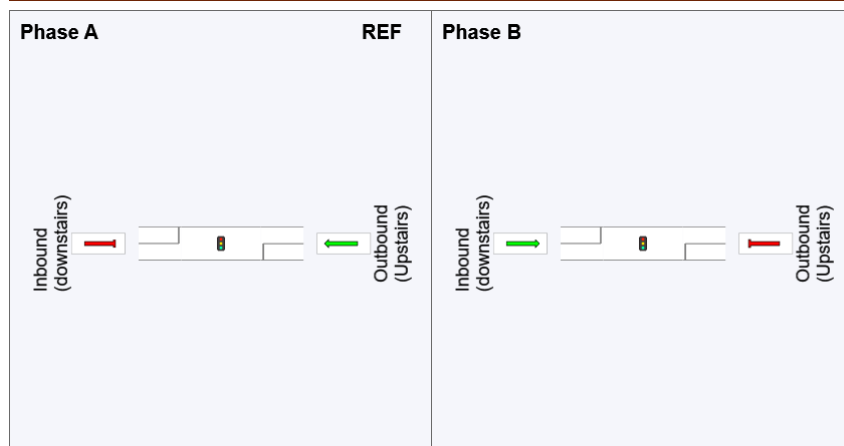
Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	21
Green Time (sec)	6	6
Phase Time (sec)	21	21
Phase Split	50%	50%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

 Normal Movement	 Permitted/Opposed
 Slip/Bypass-Lane Movement	 Opposed Slip/Bypass-Lane
 Stopped Movement	 Turn On Red
 Other Movement Class (MC) Running	 Undetected Movement
 Mixed Running & Stopped MCs	 Continuous Movement
 Other Movement Class (MC) Stopped	 Phase Transition Applied

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