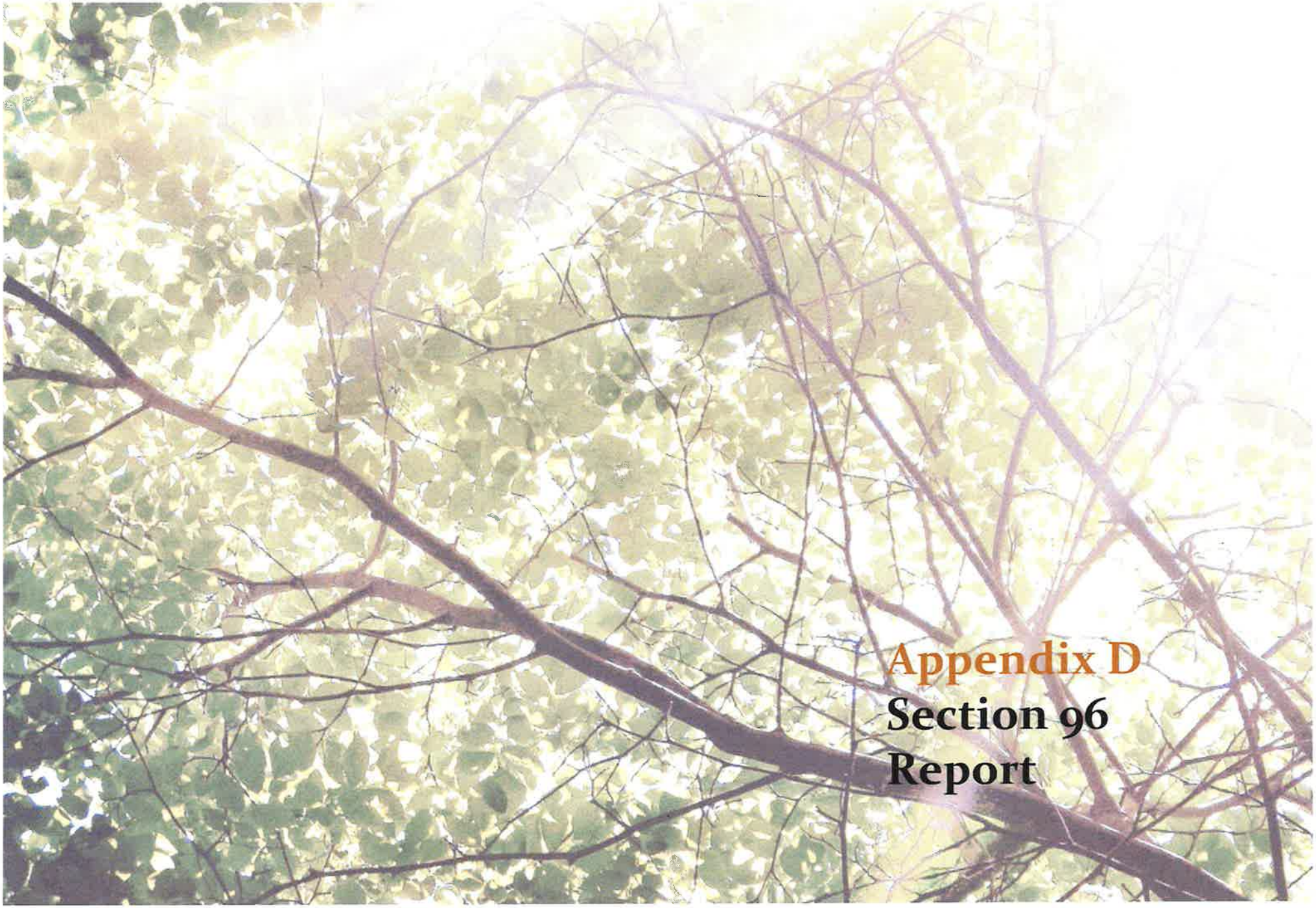
168 Walker Street
North Sydney

WOODS BAGOT

AQUALAND

Section 96 Report

REVISION A | 28.09.2017



Appendix D
Section 96 Report

Executive Summary
Introduction Statement

This design report has been prepared by Woods Bagot Architects on behalf of Aqualand.

This report forms part of a Section 96 Application to North Sydney Council. The report is prepared in relation to an approved Development Application for a site known as 168 Walker Street, North Sydney and which is identified as Lot 100 in Deposited Plan 11722421.

The proposed modifications are to DA 486/15 (Sydney East JRPP reference 2016SYE012 DA) which was the approval for demolition of an existing commercial building and construction of mixed use building comprising retail space and 415 apartments with basement parking for 375 vehicles, on 12 July 2016. The approval included a clause 4.6 variation to the height development standard on the basis that height and associated building bulk was redistributed around the site in order to improve the relationship/impact with adjoining properties, compared to a fully compliant height. Some sections of the building are approved to be over and some under the height control.

The proposal seeks to increase the number of apartments from 415 to 441, all within the approved built form envelope.

We confirm that in our professional opinion the proposed design achieves the intent of the design principles set out in State Environmental Planning Policy 65 - Design Quality of Residential Apartment Development and has been designed with regard to the Apartment Design Guide (SEPP 65 Amendment No. 3)

Design Response + Overview
Summary

The proposal would be achieved by:

- Maintaining the approved building heights, setbacks and envelope, with some very minor changes to regularise height at roof level where a curved roof form is approved. The absolute building heights, expressed as RLs do not change.

- Increasing the number of storeys by reducing approved floor-to-floor heights but maintaining 2.7m floor-to-ceiling heights for residential and the approved floor-to-ceiling heights for non-residential. For example the residential floors are proposed to have F-to-F of 3.03m, inclusive of highly documented details on how this can be achieved.

- Reduced level 1 floor-to-floor height to 3.53m

- Changing the approved roof level gym to residential and consolidating the gym within pool level residential amenities.

- Changing roof level plant on Pod 1 to residential and relocating to the roof of Pod 3.

- Consequential façade amendments to suit the new floor to floor and residential additions.

- Consequential car parking increase
- No changes to approved landscaping, tree retention etc.

The modification proposes height in storeys of the tower pods:
- Pod 1: 23 storeys
- Pod 2: 27 storeys inclusive of roof level community facilities;
- Pod 3: 29 storeys plus roof level plant; and
- Pod 4: 25 storeys

Site Area	4898m²
FSR	9.2:1 /9.5:1
Proposed GFA	45,052m² / 47,477m²
No. Levels	27 / 28
Building Height	94.5m
No. Apartments	415 /441
No. Carspaces	340 /361

NSDCP 2013 Mix:

Studio:	10-20%
1Bed:	25-35%
2Bed:	35-45%
3Bed:	10-20%

	Approved DA Mix:	Proposed Mix:
Studio:	7 (1.7%)	7 (1.6%)
1Bed:	147 (35.4%)	152 (34.5%)
2Bed:	193 (46.5%)	208 (47.2%)
3Bed:	59 (14.2%)	65 (14.7%)
Pent:	9 (2.2%)	9 (2.0%)
Total:	415 Apts	**441 Apts**

Summary:

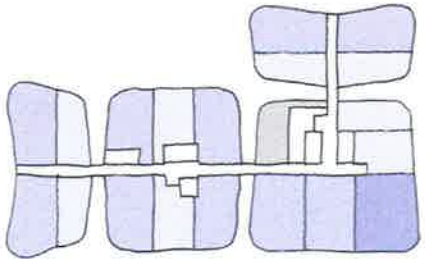
Public Realm:	3250m²
Retail:	1133m² (GFA)
Commercial:	1370m² (GFA)
Residential:	42554m² /44975m²

Design Description
Summary Plan Amendments

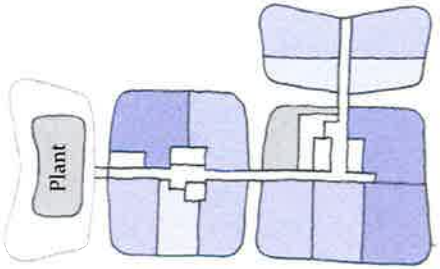
APPROVED SCHEME

Level 10 - 15
Current Mix

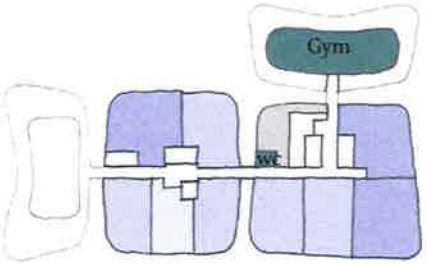
Studio	0
1 Bed	8
2 Bed	9
3 Bed	2



Level 22
Currently Plant room on the roof

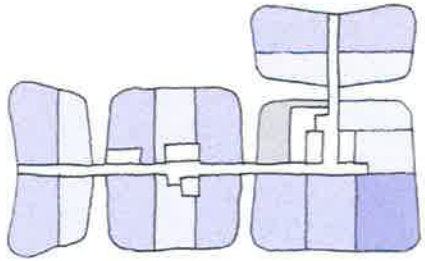


Level 24
Currently Sky Gym on the roof

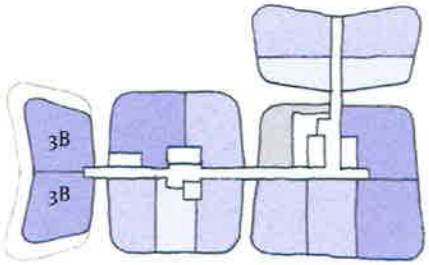


PROPOSED SCHEME

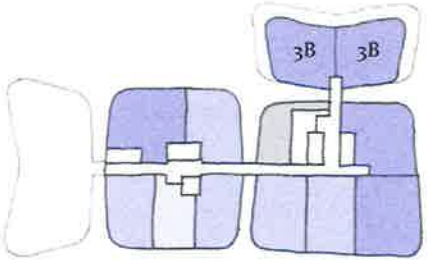
Level 10 -16
No Change, as per approved mix but with added additional typical floor plate.



Level 23
Level 22 becomes Level 23
2 x 3 Bedroom Apartments replace Plant room



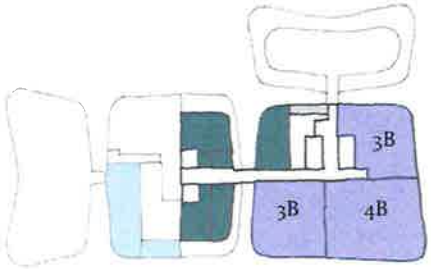
Level 25
Level 24 becomes Level 25
2 x 3 Bedroom Apartments replace Sky Gym



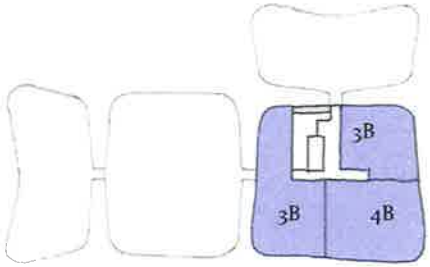
Design Description
Summary Plan Amendments

APPROVED SCHEME

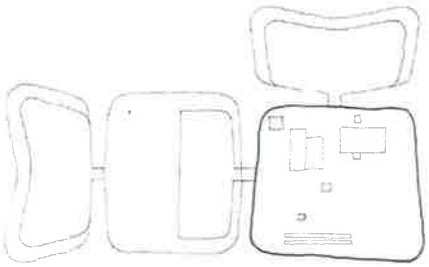
Level 25
Currently contains the roof top pool and amenities as well as
2 x 3 Bedroom penthouse apartments
1 x 4 Bedroom penthouse apartment



Level 26 -27
Currently contains
2 x 3 Bedroom penthouse apartments
1 x 4 Bedroom penthouse apartment

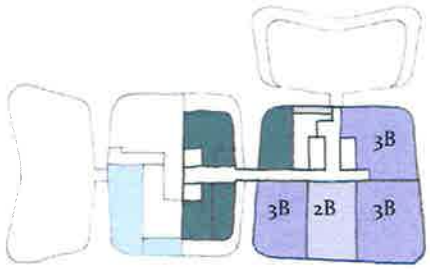


Level 28 - Roof
Currently mechanical equipment on roof

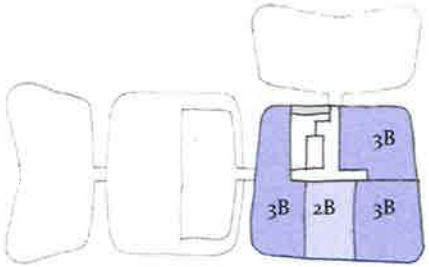


PROPOSED SCHEME

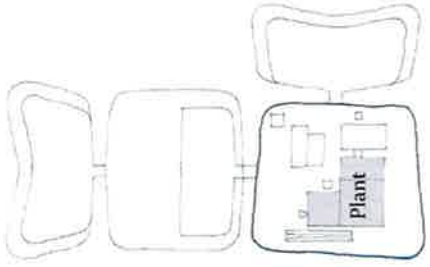
Level 26
Level 25 becomes Level 26
Typical pod floor plate repeated,
Revised mix to;
1 x 2 Bedroom apartment
3 x 3 Bedroom penthouse apartments



Level 27 -28
Level 26-27 becomes Level 27-28
Part of typical pod floor plate repeated, changing the mix to;
1 x 2 Bedroom apartment
3 x 3 Bedroom penthouse apartments



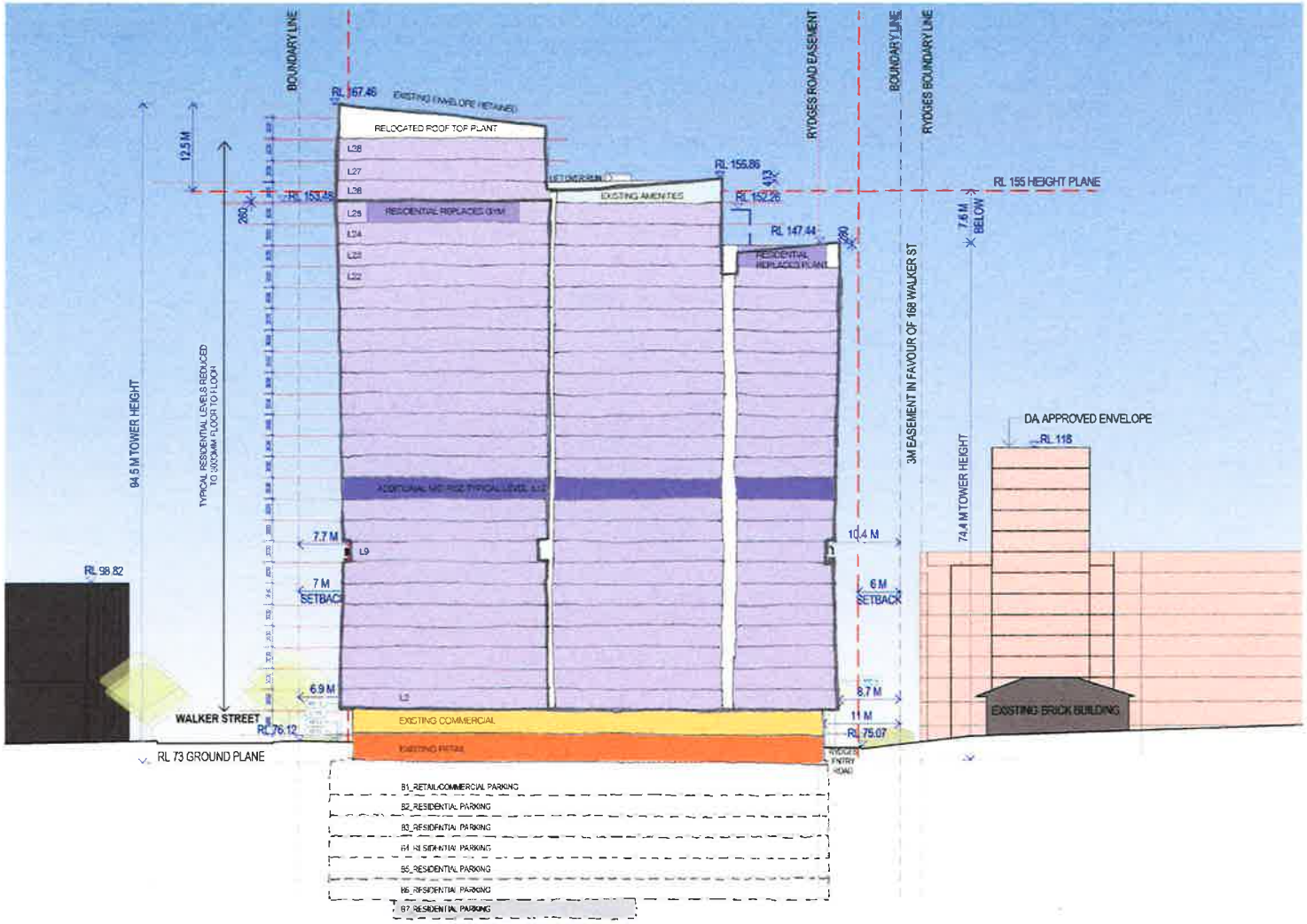
Level 29 - Roof
Level 28 becomes Level 29
Plant from Level 22 relocated to Level 29



Design Description
Envelope study

PROPOSED DEVELOPMENT SUMMARY:

Key Moves
- Envelope retained
- Reduced floor to floor height 3.1m to 3.03m
- Additional mid level provided
- Consolidated plant zone
- Rationalised amenity areas.
- Reduced Level 1 commercial fl to fl height
- Additional Basement Parking at B7



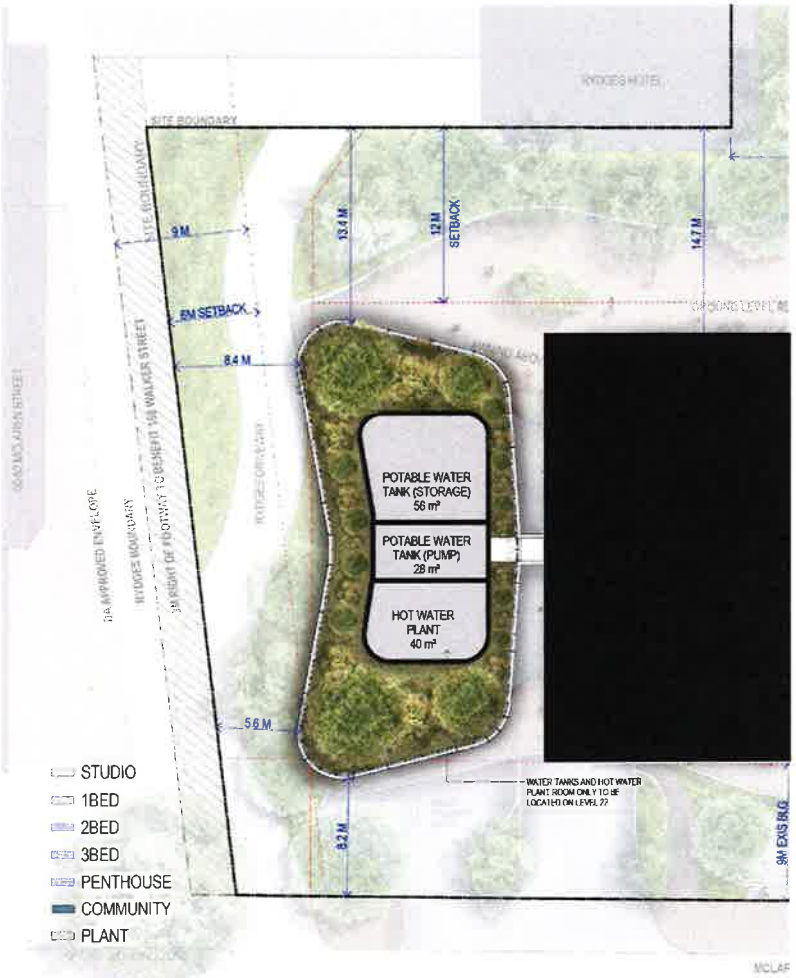
Key
- Approved Amenities
- Proposed Residential
- Approved Residential
- Approved Commercial
- Approved Retail
- Proposed Basement

Design Description
Crown Study

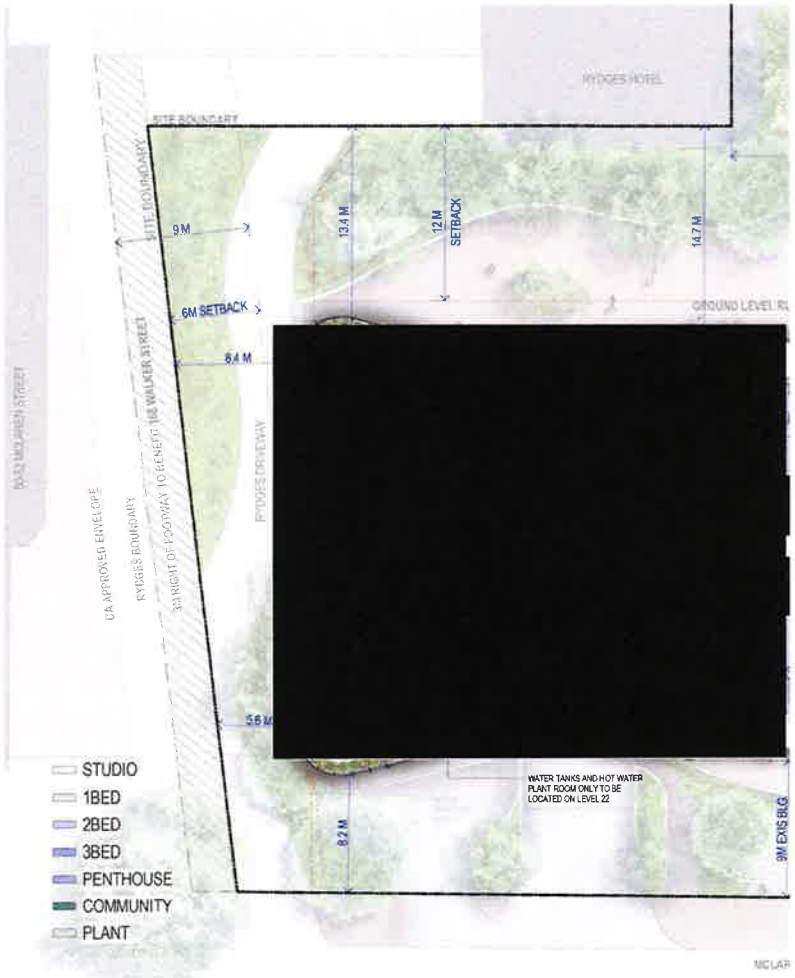
To retain the design intent and aesthetic language of the crown, the new apartment glazing line has been set back at levels 23 and 25 from the facade line, similar to that of the plant room and gym.

This set back zone forms the private external space for the apartments with integrated planting edge.

TRANSPARENT CROWN



APPROVED SCHEME



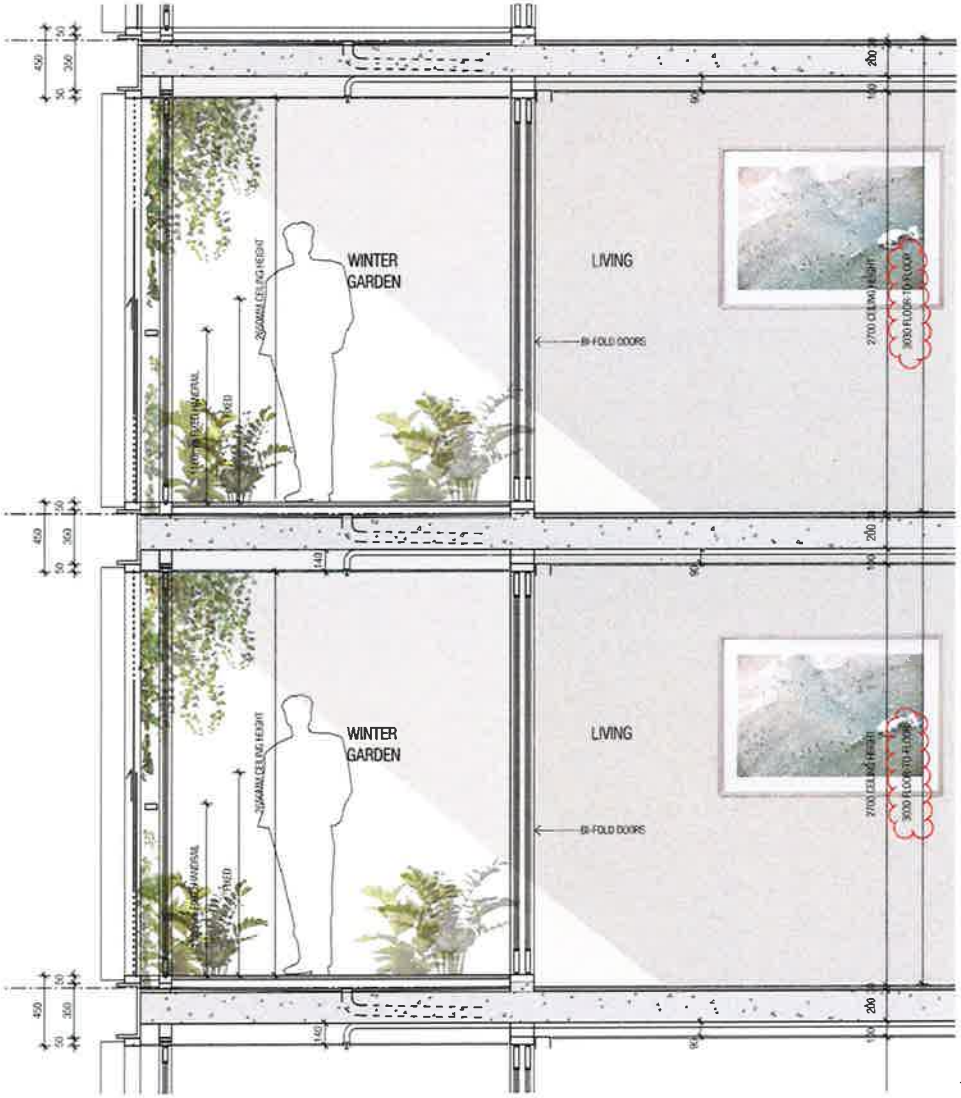
PROPOSED SCHEME

Facade + Materials
Sectional Study

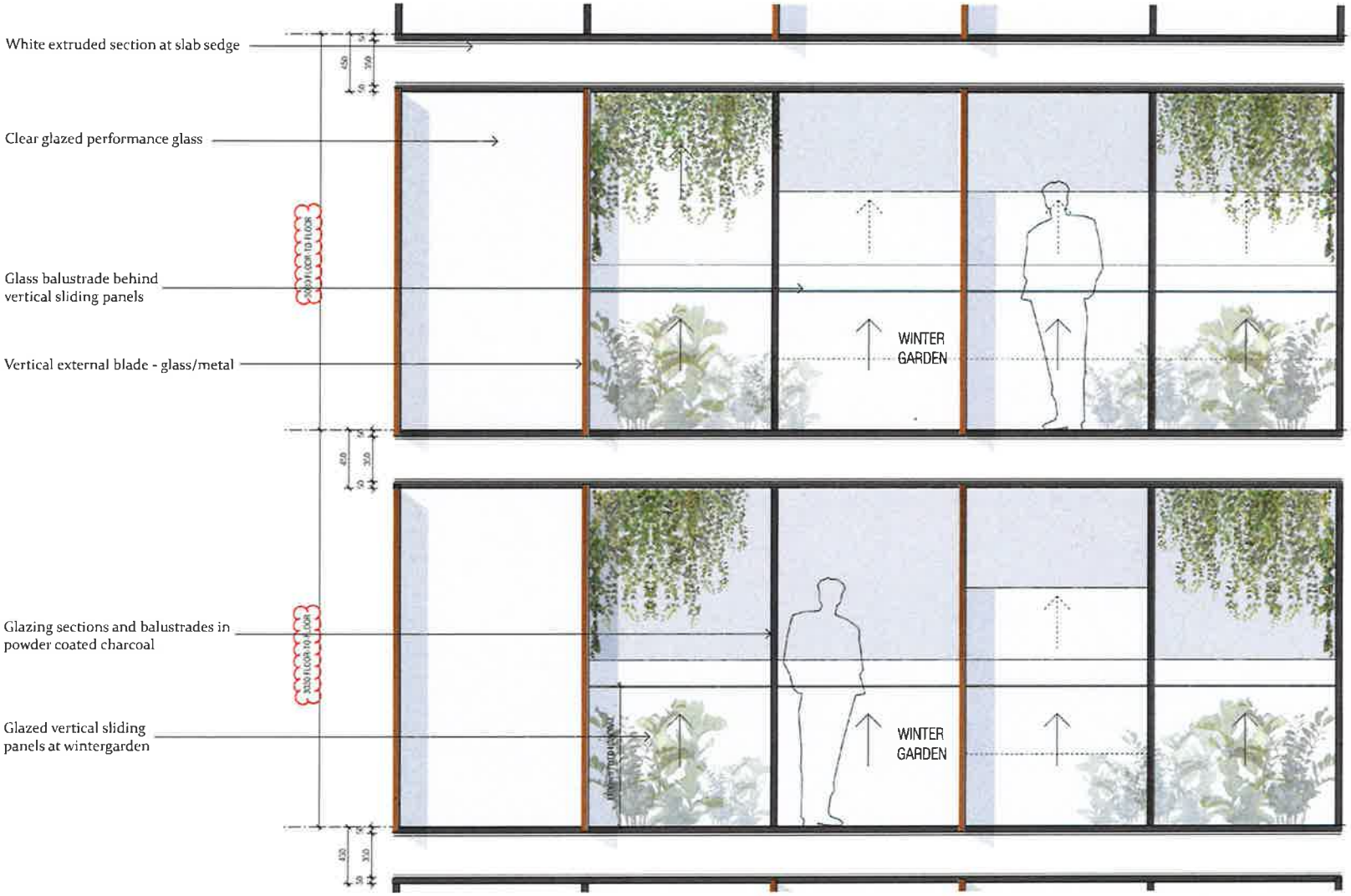
Most of the focus for the reduced floor to floor has been spent on detail design of services. This is to ensure that the heights proposed are sufficient to not only achieve ADG design criteria but to also maintain a premium standard of finish. Much of the design detail advice has been provided by specialist consultants along with technical product support.

The façade expression has been retained with the overall 70mm reduction in floor to floor height being deducted in the glazing rather than the band detail.

The key services & components reviewed were;
- Structure
- Mechanical
- Wet Fire
- Hydraulic
- Linings (ceiling framing & floor build-ups)



Facade + Materials
Elevational Study



Design Detail
Construction Detail Study

In summary the key strategies employed to achieve a reduced floor to floor height are;

Structure
A flat plate concrete slab with hob thresholds will be adopted in lieu of traditional concrete slab with balcony set down and back span beams.

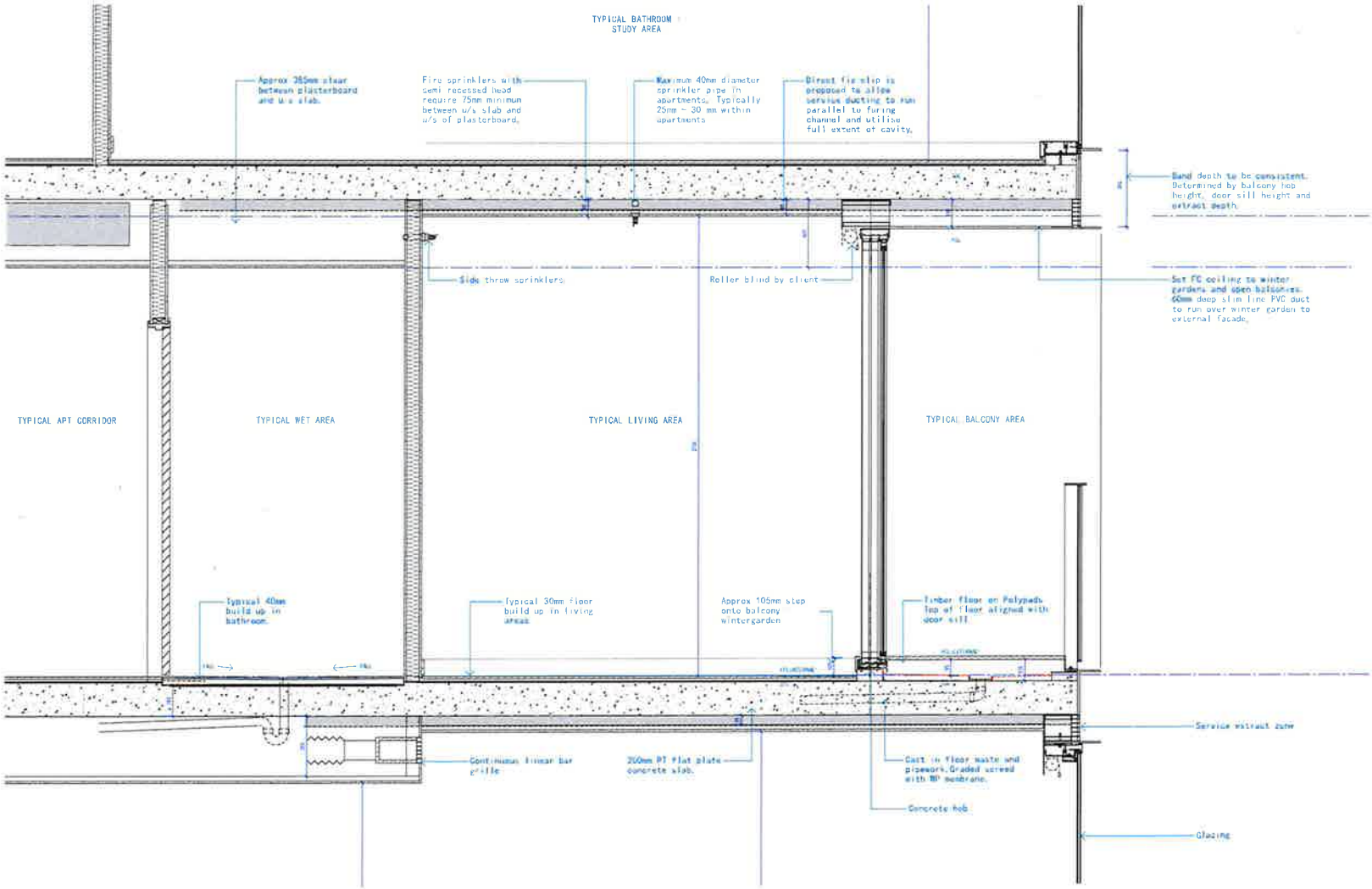
Mechanical
60mm PVC slimline mechanical ducts will be used in lieu of typical round mechanical duct profiles.

Wet Fire
The review of current semi-recessed sprinkler head products has confirmed that a high quality unit can be used within the ceiling zone proposed.

Hydraulic
Cast in balcony drainage pipes and stacked apartment planning ensure that hydraulic services are contained within minimum ceiling height zones.

Ceiling Framing
Appropriate ceiling framing alternatives have been recommended by product suppliers to give assurance that services and ceiling framing will not clash.

Details shown are subject to further refinement and design development.

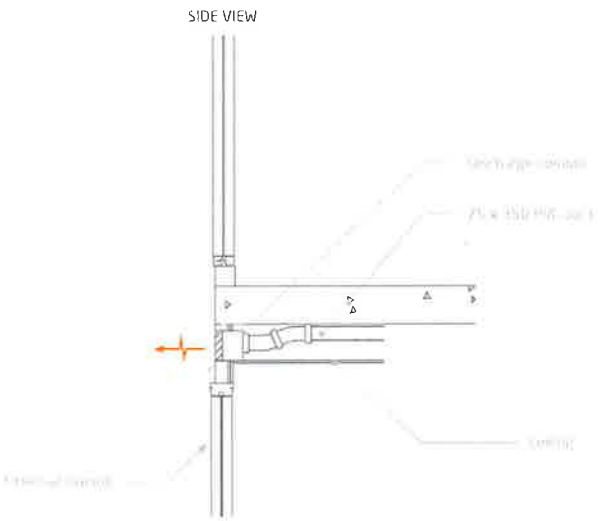


Design Detail
Mechanical | Ducting Strategy

The mechanical strategy adopts DuctTech's 60mm x 300mm slimline PVC duct for bathroom and rangehood mechanical extraction with a 2700mm floor to ceiling height. This strategy prevents the need for mechanical bulkheads.

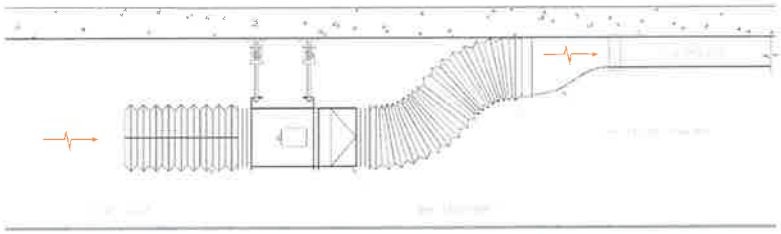
Where extract is discharged adjacent to living spaces, custom formed plenum boxes can be used.

Typical detail shown, final resolution subject to further design development.



TYPICAL WEATHERPROOF LOUVRE DETAIL C/W FLAT DUCT CONNECTION BEHIND

OPTIONAL PVC DUCT SYSTEM



TYPICAL IN LINE FAN MOUNTING DETAIL

ALTERNATIVE FABRICATED SLIMLINE DUCT

Design Detail
Ceilings | Framing Strategy

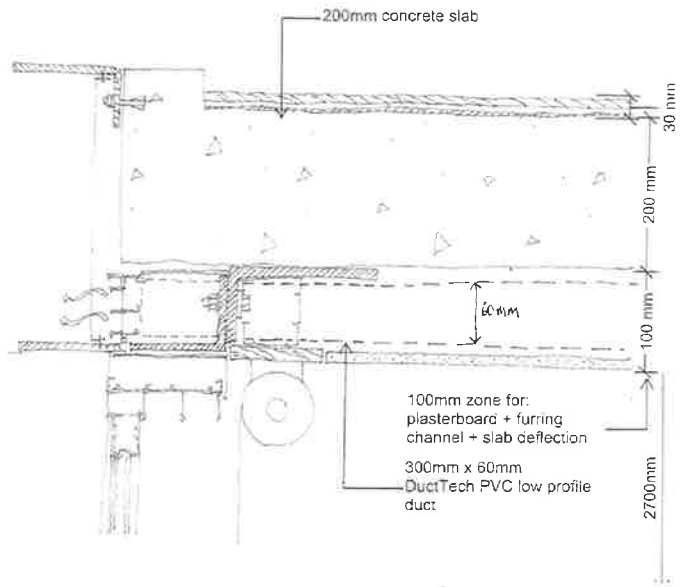
CSR have a number of suspended ceiling framing options which allow the duct zone to utilise the full extent of the ceiling void without the duct being interrupted by furring channel cross over.

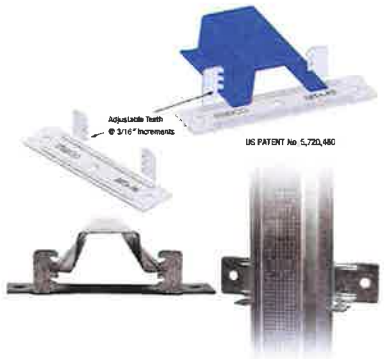
In locations where the full ceiling zone is required a BETAGRIP clip will be used to allow the framing to run parallel to the duct.

In all other locations typical ceiling framing can be used.

The CSR system can achieve a 65mm clear ceiling void.

Typical detail shown, final resolution subject to further design development.





Advice from CSR:

Hi Gavin

The below Rondo Betagrip clip options combined with either 308 or 129 furring's could be used to achieve a direct fix to underside of slab ceiling with a cavity of approximately 65mm.

The clip measures approximately 27mm from the bottom of the serrations to the top edge of the clip hence a 129 furring would sit approximately 2mm proud of the clip.

This would likely make the 50mm high BG02 the better option.

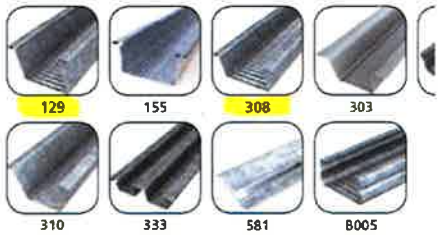
	through bolt
A239	FC Assembly Clip with adj. through bolt
BG01	BETAGRIP1 Standard Clip
BG02	BETAGRIP2 Long Clip
BG05	BETAFIL Double Membrane Insulation Clip

FURRING/BATTEN SECTIONS	
129	28mm Furring Channel
155	Wide Furring Channel with 10mm Express Joint
308	16mm Furring Channel
301	16mm Ceiling Batten
303	24mm Cyclonic Ceiling Batten
310	35mm Ceiling Batten
333	13mm Recessed Furring Channel
581	Resilient Channel
B005	Back Blocking Batten

SECTION JOINERS

125/127 128

FURRING/BATTEN SECTIONS



Regards,

Rex Farr | DesignLINK Technical Officer | CSR Lightweight Systems
Gyprock™ Plasterboard & Cemintel™ Fibre Cement Systems
General Enquiries T: 1800 621 117 | F: 1800 069 904 | E: designlink@csr.com.au
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Design Detail
Wet Fire | Apartment Sprinklers

The minimum ceiling zone clearance required for the semi recessed fire sprinklers is 75mm, refer to typical details below. This arrangement can be used for inside the apartments and on the balconies. The pendant residential sprinkler shown below has a maximum coverage of 6.1 m x 6.1 m, refer to the relevant data sheet with highlighted max. spacing.

If horizontal side wall sprinklers are required the maximum spacing is 4.9 m W x 6.1m L, the centre line of the sprinkler must be installed 100 to 300mm from the slab or ceiling above.

Both apartments and winter gardens will have set plasterboard with pendant sprinklers.

Typical detail shown, final resolution subject to further design development.

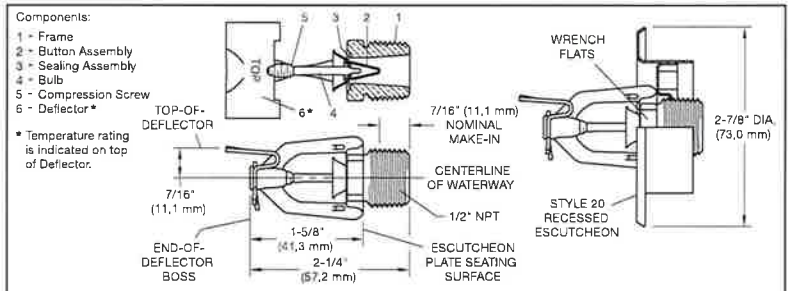


FIGURE 1
RAPID RESPONSE SERIES LFII RESIDENTIAL
HORIZONTAL SIDEWALL AND RECESSED HORIZONTAL SIDEWALL SPRINKLERS (TY1334)

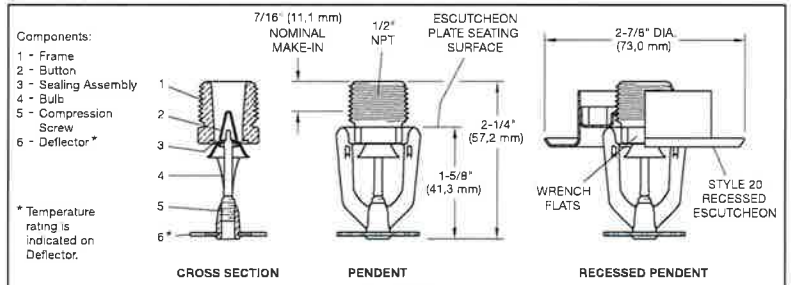
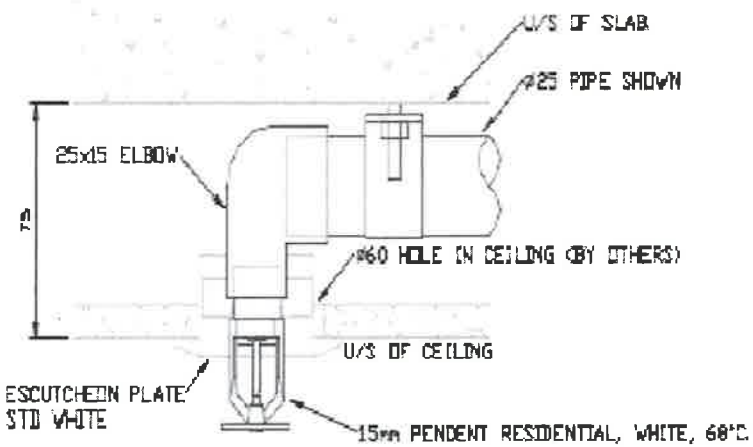


FIGURE 1
RAPID RESPONSE SERIES LFII RESIDENTIAL
4.9K PENDENT AND RECESSED PENDENT SPRINKLERS (TY2234)



SPRINKLER HEAD IN 75mm DEEP CEILING

Max. Coverage Area [a] Width x Length [d] Ft. x Ft. (m x m)	Max. Spacing Ft. (m)	WET PIPE SYSTEM Minimum Flow and Residual Pressure [b, c]				Deflector to Ceiling	Installation Type	Minimum Spacing Ft. (m)
		Ordinary Temp. Rating 155°F (68°C)		Intermediate Temp. Rating 175°F (79°C)				
		Flow GPM (L/min)	Pressure PSI (bar)	Flow GPM (L/min)	Pressure PSI (bar)			
12 x 12 (3,7 x 3,7)	12 (3,7)	12 (45,4)	8.2 (0,57)	12 (45,4)	8.2 (0,57)	4 to 6 inches	Recessed using Style 20 Escutcheon or non-recessed per NFPA 13D, 13R, or 13	8 (2,4)
14 x 14 (4,3 x 4,3)	14 (4,3)	14 (53,0)	11.1 (0,77)	16 (60,6)	14.5 (1,00)			
16 x 15 (4,9 x 4,9)	16 (4,9)	16 (60,6)	14.5 (1,00)	16 (60,6)	14.5 (1,00)			
16 x 18 (4,9 x 5,5)	16 (4,9)	19 (71,9)	20.5 (1,41)	19 (71,9)	20.5 (1,41)			
16 x 20 (4,9 x 6,1)	16 (4,9)	23 (87,1)	30.0 (2,07)	23 (87,1)	30.0 (2,07)			
12 x 12 (3,7 x 3,7)	12 (3,7)	13 (49,2)	9.6 (0,66)	13 (49,2)	9.6 (0,66)	6 to 12 inches		
14 x 14 (4,3 x 4,3)	14 (4,3)	17 (64,3)	16.4 (1,13)	18 (68,1)	18.4 (1,27)			
16 x 16 (4,9 x 4,9)	16 (4,9)	18 (68,1)	18.4 (1,27)	18 (68,1)	18.4 (1,27)			
16 x 18 (4,9 x 5,5)	16 (4,9)	21 (79,5)	25.0 (1,72)	21 (79,5)	25.0 (1,72)			
16 x 20 (4,9 x 6,1)	16 (4,9)	26 (98,4)	38.3 (2,64)	26 (98,4)	38.3 (2,64)			

(a) For coverage area dimensions less than or between those indicated, use the minimum required flow for the next highest coverage area for which hydraulic design criteria are stated.

(b) Requirement is based on minimum flow in GPM (LPM) from each sprinkler. The associated residual pressures are calculated using the nominal K-factor. Refer to Hydraulic Design under the Design Criteria section.

(c) For NFPA 13 residential applications, the greater of 0.1 gpm/ft² over the design area or the flow in accordance with the criteria in this table must be used.

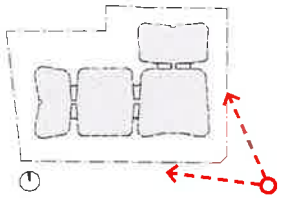
(d) The Width x Length dimension refers to the Width (backwall where the sprinkler is located) times the Length (horizontal throw of sprinkler).

TABLE A
WET PIPE SYSTEM
SERIES LFII RESIDENTIAL HORIZONTAL AND RECESSED HORIZONTAL SIDEWALL SPRINKLERS (TY1334)
NFPA 13D, 13R, AND 13 HYDRAULIC DESIGN CRITERIA

Perspective
McLaren & Walker Street

APPROVED SCHEME

PROPOSED SCHEME



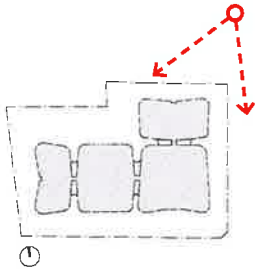
VIEW NORTH-WEST FROM MCLAREN & WALKER STREET INTERSECTION

WOODSBAGOT.COM

Perspective
Walker Street

APPROVED SCHEME

PROPOSED SCHEME

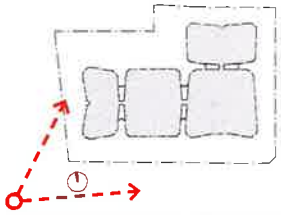


VIEW SOUTH FROM WALKER STREET
WOODSBAGOT.COM

Perspective
McLaren Street

APPROVED SCHEME

PROPOSED SCHEME

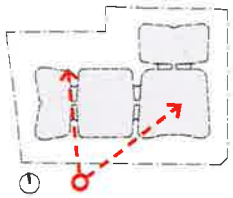


VIEW NORTH-EAST FROM MCLAREN STREET
WOODSBAGOT.COM

Perspective
McLaren Street Entry

APPROVED SCHEME

PROPOSED SCHEME



MCLAREN ST PEDESTRIAN ENTRY
WOODSBAGOT.COM

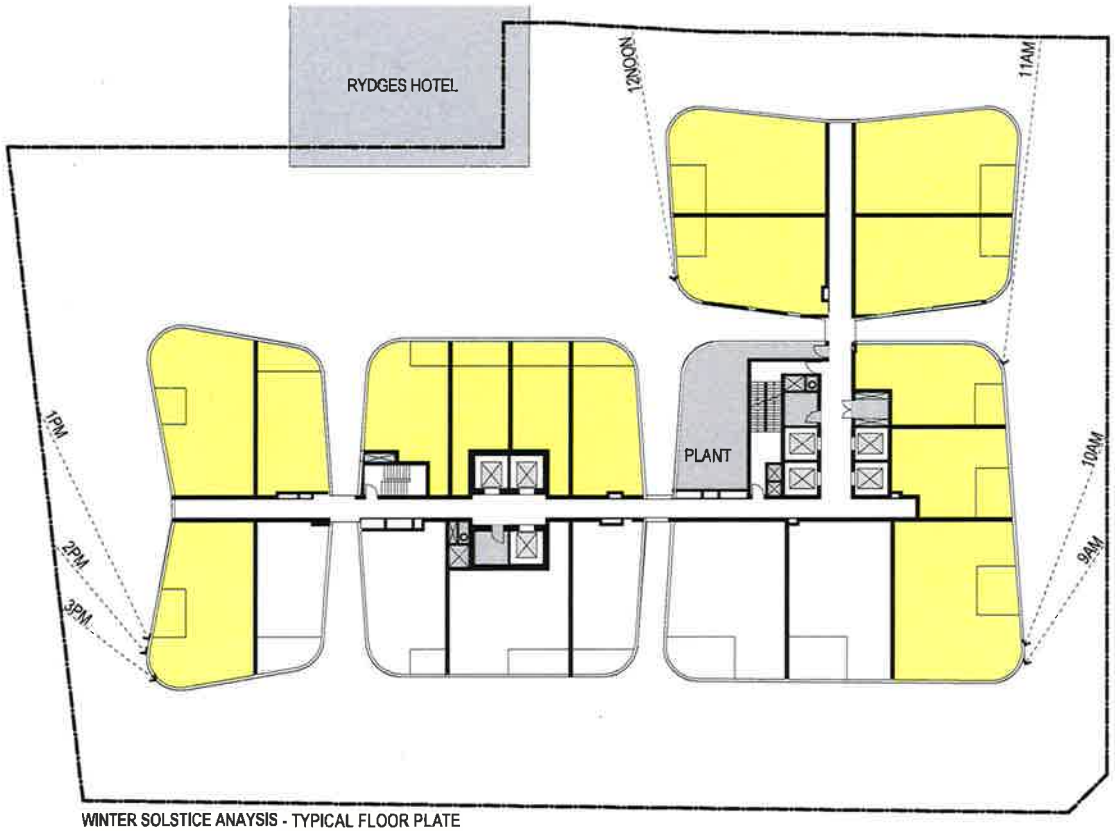
Amenity + Environment

New Adaptable Apartment Typology Located at L02, L03 & L04

Pre-Adaptation

Post-Adaptation

Amenity + Environment
Solar Analysis | Orientation



WINTER SOLSTICE ANAYSIS - TYPICAL FLOOR PLATE

ACHIEVES MIN 2HRS SUNLIGHT

65%

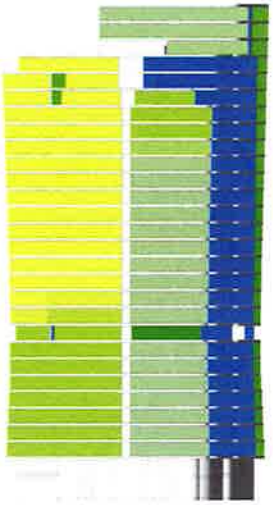
CURRENTLY APPROVED DEVELOPMENT APPLICATION

67%

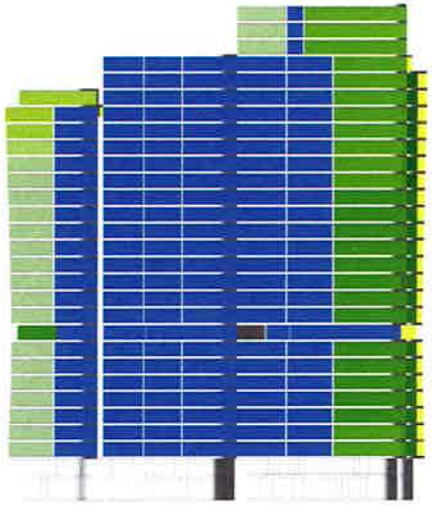
PROPOSED ADDITIONAL APARTMENTS RESULT IN A DEVELOPMENT EXCEEDING THE APPROVED DEVELOPMENT APPLICATION, COMPLYING WITH MID WINTER SOLAR ACCESS TO LIVING AREAS, BALCONY OR BOTH.

Amenity + Environment
Solar Analysis

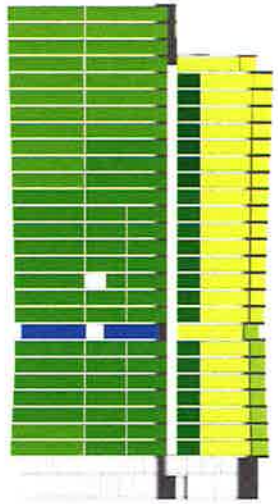
North Elevation



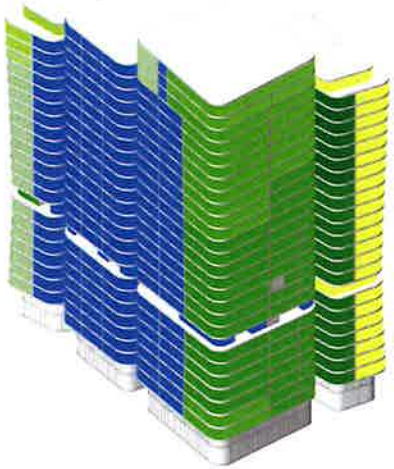
West Elevation



South Elevation



East Elevation



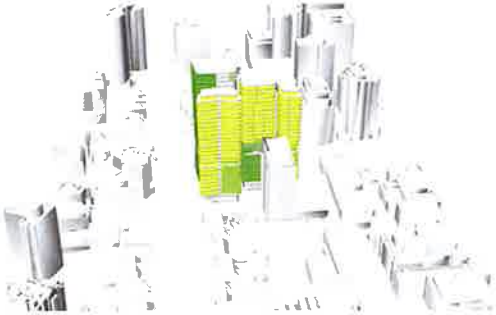
South East View

North West View

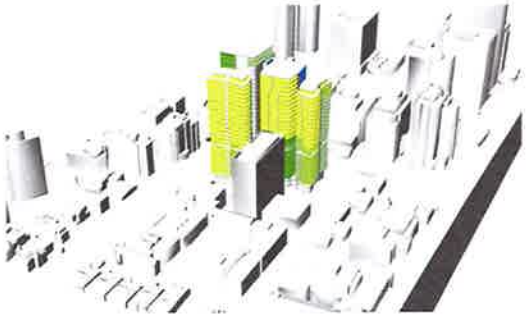
Amenity + Environment
View From the Sun | Winter Solstice

June 21 | 9am

June 21 | 10am


June 21 | 11am

June 21 | 12pm


June 21 | 1pm

June 21 | 2pm

June 21 | 3pm

Density + Yield
Apartment Summary Schedule

Type	Number	Size Range
Studio:	7 (1.6%)	45 sqm
1Bed:	152 (34.5%)	51-61 sqm
2Bed:	208 (47.2%)	70-100 sqm
3Bed:	65 (14.7%)	99-123 sqm
Pent:	9 (2.0%)	119-209 sqm
Total:	441 Apts	

SEPP65 Principle 3 - Density:

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

168 WALKER STREET | DEVELOPMENT SCHEDULE
28-09-2017 Rev.D

Site Area: 4898 m2

Level	Predominant Use	Floor Type	Height	RL	Apartment Mix: Studio	1Bed	2Bed	3Bed	P house	Total	Adaptable	Residential Parking Spaces	Other Parking Spaces	Storage Volume	GFA (sqm): Non- Resi*	Resi- Amenity	Resi
B7	Parking		3	50.3								21		371			
B6	Parking		3	53.3								70		763			
B5	Parking		3	56.3								70		763			
B4	Parking		3	59.3								70		763			
B3	Parking		3	62.3								70		763			
B2	Parking		3	65.3								60		489			
B1	Parking / Services		4.7	68.3	0	0		0	0	0	0	0	11	0		24.0	
0	Retail		3.97	73	0	0		0	0	0	0				1133		267
1	Commercial		3.53	76.97	0	0		0	0	0	0				1370		
2	Residential	A	3.03	80.5	1	7	9	2	0	19	5						1825
3	Residential	A	3.03	83.53	1	7	9	2	0	19	5						1814
4	Residential	A	3.03	86.56	1	7	9	2	0	19	5						1806
5	Residential	A	3.03	89.59	1	7	9	2	0	19	4						1799
6	Residential	A	3.03	92.62	1	7	9	2	0	19	4						1789
7	Residential	A	3.03	95.65	1	7	9	2	0	19	4						1784
8	Residential	A	3.03	98.68	1	7	9	2	0	19	4						1784
9	Residential	B	3.03	101.71	0	5	10	2	0	17	0						1474
10	Residential	C	3.03	104.74	0	8	9	2	0	19	3						1776
11	Residential	C	3.03	107.77	0	8	9	2	0	19	3						1787
12	Residential	C	3.03	110.8	0	8	9	2	0	19	3						1794
13	Residential	C	3.03	113.83	0	8	9	2	0	19	3						1800
14	Residential	C	3.03	116.86	0	8	9	2	0	19	3						1808
15	Residential	C	3.03	119.89	0	8	9	2	0	19	3						1814
16	Residential	C	3.03	122.92	0	8	9	2	0	19	3						1821
17	Residential	D	3.03	125.95	0	6	9	3	0	18	2						1828
18	Residential	D	3.03	128.98	0	6	9	3	0	18	2						1835
19	Residential	D	3.03	132.01	0	6	9	3	0	18	2						1842
20	Residential	D	3.03	135.04	0	6	9	3	0	18	2						1849
21	Residential	D	3.03	138.07	0	6	9	3	0	18	2						1857
22	Residential	E	3.03	141.1	0	5	8	4	0	17	1						1858
23	Residential	F	3.03	144.13	0	3	6	6	0	15	1						1863
24	Residential	G	3.03	147.16	0	3	6	4	0	13	1						1489
25	Residential	H	3.03	150.19	0	1	4	6	0	11	1						1488
26	Resi & Amenity	J	3.03	153.22	0	0	1	0	3	4	0					192	604
27	Penthouse	K	3.03	156.25	0	0	1	0	3	4	0						653
28	Penthouse	K	3.03	159.28	0	0	1	0	3	4	0						652
Roof	Plant			162.31													
Total					7	152	208	65	9	441	66	340	11	3541	2503	216	44759
					1.6%	34.5%	47.2%	14.7%	2.0%		15.0%				Total GFA:		47478
N.S.DCP 2013 Target					10-20%	25-35%	35-45%	10-20%			15%				2449		
Floor to flr (Typical)			3.03														

Density + Yield
Apartment Amenity Schedule

APARTMENT SUMMARY & AMENITY SCHEDULE
28 Sep 17

Quantity	Bedrooms 0	1	2	3	4	# Bathrooms	Study Cupboards	Study Rooms	Apartment Areas Internal (inclg GFA)	POS	Storage (m³) Within Apt	Basement	Total
Studio													
									35	8	Target 2		4
2	A01					1			46	0	3.2	0.8	4
1BED									Target 50	8	Target 3		6
20		B01				1			55	9	3.31	2.69	6
22		B02				1			52	9	5.38	0.62	6
22		B03				1			52	9	5.39	0.61	6
14		B04				1			53	9	2.7	3.3	6
14		B05				1		✓	58	11	3.64	2.36	6
23		B06				1			61	8	3.09	2.91	6
20		B07				1			56	8	3.31	2.69	6
1		B08				1			52	11	4.08	1.92	6
1		B09				1			58	12	5.1	0.9	6
1		B10				1			51	9	3.88	2.12	6
1		B11				1			58	12	5.45	0.55	6
1		B12				1			52	11	4.07	1.93	6
12		B13				1			60	9	4.48	1.52	6
2BED									Target 70-75	10	Target 4		8
20			C01			2			85	12	3.1	4.9	8
19			C02			1			73	10	4.19	3.81	8
12			C03			2	✓		93	14	8	0	8
22			C04			2			78	10	3.1	4.9	8
22			C05			2			78	10	3.14	4.86	8
7			C06			1			87	17	6.81	1.19	8
20			C07			2			80	11	4.05	3.95	8
7			C08			2			88	13	4.69	3.31	8
20			C09			2			84	12	3.14	4.86	8
1			C10			1			70	29	4.67	3.33	8
1			C11			1			73	11	4.08	3.92	8
1			C12			2			78	12	3.7	4.3	8
1			C13			1			70	26	4.67	3.33	8
1			C14			2	✓		100	35	4.82	3.18	8
1			C15			2			84	21	3	5	8
1			C16			2	✓		94	19	6.08	1.92	8
1			C17			2			80	12	3.24	4.76	8
1			C18			2			89	12	6.1	1.9	8
1			C19			1			70	27	4.65	3.35	8
11			C20			2			78	11	3.84	4.16	8
19			C21			2			87	17	5.09	2.91	8
16			C22			2			87	13	4.22	3.78	8
3			C23			2			77	11	4.21	3.79	8
3BED									Target 90-95	12	Target 5		10
26				D01		2			118	15	6.88	3.12	10
24				D02		2		✓	99	14	6.22	3.78	10
1				D03		2	✓		123	34	5.07	4.93	10
1				D04		2			104	26	5.59	4.41	10
10				D05		2			118	14	7.1	2.9	10
4				D06		2			118	15	6.81	3.19	10
1				D07		2			122	65	6.7	3.3	10
1				D08		2			122	65	6.7	3.3	10
1				D09		2			121	60	6.7	3.3	10
1				D10		2			121	60	6.7	3.3	10
PENTHOUSE									Target 90-100	12	Target 5	5	10
2				E03		2			119	14	5.41	4.59	10
2				E04		3		✓	165	15	5.45	4.55	10
TOTAL											[illegible]	[illegible]	[illegible]
341	2.6%	34.5%	47.2%	17%	4%								
Target	5-10%	10-30%	40-75%	0-100%							50%		

Traffic & Parking
New Basement 7

Standard Carpark Bay	15
Motorcycle Parking Bay	4
Adaptable / Accessible Carpark Bay	6
B2 CARPARKING TOTAL	21
B7 STORAGE VOLUME	389 m³

Name	Storage Volume
STORE	13.7 m²
STORE	13.3 m²
STORE	13.2 m²
STORE	13.2 m²
STORE	12.9 m²
STORE	12.1 m²
STORE	12.1 m²
STORE	12.0 m²
STORE	11.6 m²
STORE	11.6 m²
STORE	11.3 m²
STORE	11.0 m²
STORE	11.0 m²
STORE	10.7 m²
STORE	9.9 m²
STORE	9.6 m²
STORE	9.6 m²
STORE	9.3 m²
STORE	9.2 m²
STORE	8.5 m²
STORE	8.1 m²
STORE	7.7 m²
STORE	7.7 m²
STORE	7.7 m²
STORE	7.7 m²
STORE	7.4 m²
STORE	7.0 m²
STORE	7.0 m²
STORE	7.0 m²
STORE	7.0 m²
STORE	6.8 m²
STORE	6.5 m²
STORE	6.5 m²

Name	Storage Volume
STORE	6.5 m²
STORE	6.5 m²
STORE	6.5 m²
STORE	6.5 m²
STORE	6.4 m²
STORE	6.4 m²
STORE	6.3 m²
STORE	6.1 m²
TOTAL 41	371.3 m²

Traffic & Parking
Parking

Parking

All residents parking is proposed to be located in the secure basement area. The total number of spaces is 372 which includes residential parking, non-residential parking and car wash bays.

Accessible spaces have been provided at a rate of 15% of the total apartments, resulting in 66 accessible parking spaces.

Basement storage cages, of equal size to a class 1 bicycle locker, will be used for the purposes of bicycle storage.

A detailed breakdown of parking provision by use is contained within the accompanying Traffic Report by ASON Group.

Car Parking	
Residential	361 spaces
Comm/Retail	7 spaces
Car wash	2 spaces
Car share	2 spaces
Total	372 spaces

Bicycle	
Residential	441 Bicycles
Resi-visitor	42 Bicycles
Retail/Comm	17 Bicycles
Ret / Comm Vis	16 Bicycles
Total	516 spaces

Motorcycles	
Residential	36 spaces
Retail/Comm	1 spaces
Total	37.1 spaces

Residential Parking Summary
01-09-2017 Rev.C

Apartment Type	Apartment #	Parking Rates (max)	Parking Spaces	Bicycle Rates	Bicycle Spaces
Studio	7	0.5	3	1	7
1 Bed	152	0.5	76	1	152
2 Bed	208	1	208	1	208
3 Bed	65	1	65.00	1	65
Penthouse	9	1	9	1	9
Sub-total	441		361	1	441
Car Wash Bays			2		
Car Share			2		
Visitor		0	0	0.1	42
Accessible Bays included			66		
Total			365		483
Motor Cycle Parking		0.1	36.1		

Non-Residential Parking Summary
01-09-2017 Rev.C

Use	Area	Parking Rates (max)	Parking Spaces	Bicycle Rates (Occupants)	Bicycle Rates (Visitors)	Bicycle Spaces
Non Residential	2503	0.0025	6.25725			
Office premises	1370			1/150sqm	1/400sqm	12
Shop, restaurant, café	1132.9			1/150sqm	1/100sqm (+2)	21
Total			7	17	16	33
Motor Cycle Parking		0.1	1			