NatHERS Modelling Report

Block 8

**Frasers Property** 

**Prepared for** Fraser property

19 December 2013

Reference: 13015

Revision: 02

Surface Design

Document prepared by:

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#### **Document control**

Revision	Date	Revision details	Author	Verifier	Approver
01	18/10/13	DRAFT outline issued for information	BD		
02	19/12/2013	Final Report issued for Planning Application	GM		

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## 1. Introduction

#### 1.1 Purpose of Report

This document has been prepared to summarise the NatHERS modelling commitments and methodology for Block 8, Central Park Chippendale, NSW project. This document has been prepared to summarise the building fabric used in the NatHERS assessment and thermal loads for each dwelling for Planning Submission.

The residential dwellings within the building are to achieve a maximum annual heating load of 50 MJ/m<sup>2</sup>.year and 41 MJ/m<sup>2</sup>.year cooling load, or 3.5 stars to pass the BASIX thermal performance requirements. A 7 star average rating proposal has been put forward to the Director General. This rating will be targeted during the design development phase through refinements to the dwellings. The annual heating and cooling loads of each dwelling has been assessed with approved simulation software under the BASIX regulation by an ABSA accredited assessor.

The minimum constructions and glazing provisions that apply to the remodelled apartments undertaken by Surface Design Consulting in 2013 are detailed in the following Sections of this document.

#### 1.2 Project Description

Block 8 is located at the south western corner of the Central Park site and is bound by Irving Street and proposed student housing to the north, Central Park Avenue and Chippendale Green to the east, O'Connor Street and existing commercial and industrial development to the south, and Abercrombie Street and existing residential and mixed use development to the west.

The current Block 8 proposal is consistent with the Central Park approved Concept Plan (as modified) and comprises the following:

- o 13 storey mixed use building including residential and retail uses;
- o 178 apartments;
- o Terraces, balconies and/or loggias to all apartments;
- o Residents' lounge;
- o Ground floor retail tenancies;
- o Basement car parking; and
- o Public domain works.

Block 8 will provide a mix of much needed residential accommodation in an area well serviced by public transport, and in close proximity to the retail, work and education opportunities offered by the Sydney Central Business District and surrounds.

#### 1.3 References

The following documents have been referenced in preparation of this report:

Reference	Title	Revision or Date
DA 000	Location Plan	E
DA 001	Site Plan	E
DA 100	Basement 3 floor plans	D
DA 101	Basement 2 Floor Plans	D
DA 102	Basement 1 Floor Plans	D
DA 103	Ground Floor Plan	E
DA 104	Level 1 Floor Plan	E
DA 105	Level 2 Floor Plan	E
DA 106	Level 3-7 Floor Plan Typical	D
DA 107	Level 8 Floor Plan	E
DA 108	Level 9 Floor Plan	E

DA 109	Level 10 Floor Plan	E
DA 110	Level 11 Floor Plan	E
DA 111	Level 12 Floor Plan	D
DA 112	Roof Plan	D
DA 300	North Elevation	D
DA 301	South Elevation	D
DA 302	East Elevation	D
DA 303	West Elevation (Abercrombie St)	D
DA 400	SECTION AA	D
DA401	SECTOPM BB	D
-	Director General Requirements document	25 September 2012
Surface Design	ABSA Certificate	2012

#### 1.4 Definitions

The following definitions should be referenced as part of this report: ABSA – Association of Building Sustainability Assessors

BASIX – Building Sustainability Index

BCA – Building Code of Australia

NatHERS – Nationwide House Energy Rating Scheme

SHGC – Solar Heat Gain Coefficient

## 2. NatHERS Assessment

#### 2.1 Background

The annual heating and cooling loads of each residential dwelling were assessed with BERSPro, which is an approved 2<sup>nd</sup> Generation simulation software under the BASIX regulation. The simulation software forms part of the NatHERS scheme and is used to assess the potential of a residential development to have low heating and cooling energy requirements once operational. The NatHERS assessments were carried out by an ABSA accredited assessor.

#### 2.1.1 Clarification from ABSA

ABSA have provided guidance on two key issues regarding the loggia spaces and dual key apartments for modelling purposes. The following has been advised by our ABSA accredited assessor

- ABSA has confirmed that the loggia is to be treated as an external space.
- The external façade forms the environmental line with performance glass
- The internal glazing line to be treated as an internal opening
- Dual key apartments are to be treated as one two-bedroom dwelling and are to have only one BASIX certificate

#### 2.2 Modelling Details

The proposed constructions and glazing details modelled in the simulation software are detailed in Tables 1 and 2. References to drawings detailing the location of each glazing types can be found in the Appendix B. Architectural drawings show the location of each of the different wall types to each apartment which is reflected in the NatHERS models.

The schedule below has been prepared based on the various meeting held between Surface Design, Smart Design Studio and Frasers.

Wall types have been based on the information provided in Aconex ALC-GCOR-000009 on Acoustic performance. This covers wall types B, C, D. Wall type E has been based on Central Park Blocks 5 A and B.

No other drawings have been provide to confirm the walls type. Fire advice is required to confirm

Table 1: Wall, roof and floor Constructions that apply to the project with reference to project details and apartments (Fire requirements have not yet been advised).

Architectural Reference	Description	Location (Refer to Architectural drawings for full extents)	Minimum System R- Value	Acoustic Performance	Wall components and Proposed compliance method
External Perimeter	Walls				
Wall Type A	External Wall 250mm Concrete Block with external cladding and external insulation Internal Finish -plasterboard	Refer Aconex SDSGCOR 000202 16/10/13	R=2.8 MIN (3.2 achieved with makeup)	N/A refer Aconex ALC-GCOR- 000009	Aluminium Composite panel on top hat 50mm insulation (R2.0) 140mm concrete block 6mm Aircell reflective (R0.2) 13mm plasterboard on channel
Wall Type A-1	External Wall 250mm Concrete Block with external cladding and external insulation Internal Finish -tiles on cement board		R=2.8 MIN (3.2 achieved with makeup listed)	N/A refer Aconex ALC-GCOR- 000009	Aluminium Composite panel on top hat 50mm insulation (R2.0) 140mm concrete block 6mm Aircell reflective (R0.2) 13mm cement board on channel 6mm tiles
Wall Type A-2	External Wall 250mm Concrete wall and internal insulation Internal Finish -plasterboard		R=2.8 MIN (3.2 achieved with makeup listed)	N/A refer Aconex ALC-GCOR- 000009	Aluminium Composite panel on top hat 50mm insulation (R2.0) 180mm concrete wall 6mm Aircell reflective (R0.2) 13mm plasterboard on channel
Wall Type A-3	External Wall 250mm Concrete wall and internal insulation Internal Finishtiles on cement board		R=2.8 MIN (3.2 achieved with makeup listed)	N/A refer Aconex ALC-GCOR- 000009	Aluminium Composite panel on top hat 50mm insulation (R2.0) 180mm concrete wall 6mm Aircell reflective (R0.2)
Internal Wall Const	ructions				
Туре В	Internal inter-tenancy Wall Construction - 250mm thick Finish- Plaster board both sides	Refer Aconex SDSGCOR 000202 16/10/13	NA	Rw+Ctr 50	2*13MM Plaster board * 75mm Hebel *(fire engineer to confirm) 61mm air 64mm Stud with insulation 2*13mm Plaster board
Туре В1	Internal inter-tenancy Wall Construction - 250mm thick at structural Column		NA		2*13MM Plaster board 9mm air 180 thick concrete

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	Finish – plaster board both sides				9mm air 2*13mm Plaster board
Туре В2	Internal inter-tenancy Wall Construction - 250mm thick Finish- Tiles on cement board and opposite plasterboard		NA	Rw+Ctr 50	2*13MM Plaster board * 75mm Hebel *(fire engineer to confirm) 61mm air 64mm Stud with insulation 13mm cement board with tiles
Туре ВЗ	Internal inter-tenancy Wall Construction - 250mm thick Finish- Tiles and cement board both sides		NA	Rw+Ctr 50	<ul> <li>13mm cement board with tiles *</li> <li>75mm Hebel *(fire engineer to confirm)</li> <li>61mm air</li> <li>64mm Stud with insulation</li> <li>13mm cement board with tiles</li> </ul>
Туре С	Internal intra-tenancy Wall – internal partition( Construction - 100mm thick Nominal) Finish- Plaster board both sides	Refer Aconex SDSGCOR 000202 16/10/13	NA	N/A	13mm plaster board 64mm stud with insulation 13mm plasterboard (similar for wet area where finish to 6mm fibre cement in lieu of plasterboard)
Internal Wall Cons	structions to common areas				
Туре Е	Corridor Party wall Internal Common wall to hall / circulation spaces Construction - 250mm thick Finish- Plaster board both sides	Refer Aconex SDSGCOR 000202 16/10/13	R1.8 (calculated 2.2)	Rw 50	13mm plasterboard 75mm Hebel * (fire engineer to confirm) 100mm Air cavity 50mm insulation (R1.4) 13mm Plasterboard
Туре Е-1	Internal Common wall to hall Construction - 250mm thick Finish- Tile and cement board and opposite side Plasterboard		R1.8 (calculated 2.2)	Rw 50	13mm plasterboard 75mm Hebel * (fire engineer to confirm) 100mm Air cavity 50mm insulation (R1.4) 6mm fibre cement with tile
Туре D	Internal Common wall to lift / stair / riser / plant / services room Construction - 250mm thick Finish- Plaster board	Refer Aconex SDSGCOR 000202 16/10/13	R=1.8 MIN (calculated value 2.2)	Rw Ctr 50 (per sketch)	2*13mm Plaster board 64mm Stud with 50mm insulation 20mm air 200mm structural concrete
Туре D-1	Internal Common wall to lift / stair / riser / plant / services room Construction - 250mm thick Finish- Tile and cement board		R=1.8 MIN (calculated value 2.2)	Rw Ctr 50 (per sketch)	12mm fibre cement with tiles 64mm Stud with 50mm insulation 20mm air 200mm structural concrete

Floor and Roof Construction					
Typical Floor	200mm Concrete slab with timber flooring	Standard Floor agreed at meeting	NA	TBC	Timber floor Underlay / screed 200mm thick concrete
Typical Floor - wet areas	200mm Concrete slab with tiled finishes to wet areas and loggia	Standard Floor agreed at meeting	NA	TBC	Underlay / screed 200mm thick concrete
Floor Constructions	Exposed slabs & slabs above Car park		R3.0	TBC	Finishes to floor above 200mm thick concrete Insulation R2.8
Roof Construction					
Roof Constructions	Roof to communal deck or paved roof over		R3.0		Insulation

Architectural Reference	Description	Location (Refer to Architectural drawings for full extent)	% operable	System U- value	SHGC
External Glazing					
Туре А	3 full height panel sliding door systems with high performance low E DGU 2 slider and 1 fixed with open hand rail	To external line of loggia	60%	3.1	0.31
Туре А-1	<ul><li>4 full height panel sliding door systems with high performance low E DGU</li><li>2 slider and 1 fixed with open hand rail</li></ul>	To external line of loggia	60%	3.1	0.31
Туре В	3 full height panel sliding door systems with high performance low E DGU 2 slider and 1 fixed with open hand rail Sliders limited opening to 125mm *	To external line of bedrooms	50%	3.1	0.31
Туре В-2	1 full height panel sliding door systems with high performance low E DGU 1 slider with open hand rail Sliders limited opening to 125mm *	To external line of bedrooms	50%	3.1	0.31
Туре С	Awning window and fixed lower panel with high performance low E DGU Awning above 1.7m	To external line of bedrooms	30%	4	0.31
Type D	Awning window and fixed lower panel with high performance low E DGU Awning above 1.7m	To external line to corridor	To meet Mechanical requirements	4	0.31
Internal Glazing					
Туре Е	2 panel sliding door system with clear laminate	To internal line of loggia	50%	4.7	0.62
Туре F	3 panel sliding door system with clear laminate	To internal line of loggia	60%	4.7	0.62
Type E and F alternate option	2 panel sliding door system with clear laminate	To internal line of loggia	50%	3.1	0.47
Туре G	4 panel bifolding door with clear laminated glass	To internal line of loggia	90%	4.7	0.62

Table 2: Glazing system performance that applies to the project with reference to project details and apartments. (refer mark up of typical floor plans 8/11/13)

In all cases the U-value shall be met or exceeded by the Facade Contractors and the final glass Solar Heat Gain Coefficient shall be within plus / minus 10% of the value noted above to comply with ABSA provisions.

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#### Assumptions

In addition, the following modelling assumptions were made:

- All external walls were modelled with a 50% Solar Absorptance.
- We have assumed that the corridors are conditioned spaces

#### Sunshades

The external vertical louvres have been assessed and a percentage shading coefficient has been determined for each unit. These coefficients have been incorporated into the BERSPro modelling.

#### 2.3 Results

A summary of assessment result for each dwelling can be found in Table 3.

Where dwellings have failed to meet thermal load targets, additional treatments are required to pass the BASIX thermal performance requirements. This is typically in the form of reduced glazing areas, detailed in Table 4.

	Table 3: BERSPIO Inermai Loads							
Unit No.	Represented Units	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2.</sup> yr)	Pass/Fail			
001		North bedroom window to be moved to ensuite	19.1	17.5	Pass			
002		None	15.5	22.4	Pass			
003		None	13.6	33.1	Pass			
004		None	18.6	13.9	Pass			
005		None	16.0	13.3	Pass			
006		None	17.0	13.3	Pass			
007		None	17.6	18.2	Pass			
800		None	20.3	15.9	Pass			
101		None	23.9	17.2	Pass			
102		None	26.0	17.8	Pass			
103		None	28.1	20.5	Pass			
104		None	24.5	18.2	Pass			
105		None	11.1	21.8	Pass			
106		None	15.8	35.2	Pass			
107		None	14.1	33.9	Pass			
108		None	23.0	15.1	Pass			
109		None	31.8	27.7	Pass			
110		None	18.5	28.7	Pass			
111		None	19.4	22.6	Pass			
112		None	17.2	24.4	Pass			
113		None	15.9	25.1	Pass			

#### Table 3: BERSPro Thermal Loads

Unit No.	Represented Units	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2.</sup> yr)	Pass/Fail
114		None	32.0	21.1	Pass
115		None	18.3	32.6	Pass
201		None	18.4	18.7	Pass
202		None	20.2	19.2	Pass
203		None	22.5	22.4	Pass
204		None	18.6	19.8	Pass
205		None	23.5	18.1	Pass
206		None	15.2	25.7	Pass
207		None	12.7	28.0	Pass
208		None	14.7	26.1	Pass
209		None	10.8	26.3	Pass
210		None	16.7	25.8	Pass
211		None	16.6	19.9	Pass
212		None	17.1	21.2	Pass
213		None	18.6	21.0	Pass
214		None	29.8	25.0	Pass
215		None	18.8	28.5	Pass
216		None	19.7	22.5	Pass
217		None	17.5	24.3	Pass
218		None	17.1	25.3	Pass
219		None	26.8	22.3	Pass
220		None	16.0	24.2	Pass
301		None	18.7	18.6	Pass
302		None	20.4	19.3	Pass
303		None	22.8	22.3	Pass
304		None	18.8	19.6	Pass
305		None	18.7	13.8	Pass
306		None	15.4	25.6	Pass
307		None	13.0	27.5	Pass
308		None	10.2	23.2	Pass
309		None	10.5	18.8	Pass
310		None	15.7	17.8	Pass
311		None	14.1	18.6	Pass
312		None	18.0	19.4	Pass
313		None	14.5	15.0	Pass
314		None	30.2	24.5	Pass
315		None	19.1	28.7	Pass
316		None	19.9	22.0	Pass

Unit No.	Represented Units	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2.</sup> yr)	Pass/Fail
317		None	17.9	24.0	Pass
318		None	17.4	25.2	Pass
319		None	27.0	22.3	Pass
320		None	16.3	23.4	Pass
401		None	18.9	18.5	Pass
402		None	20.5	19.0	Pass
403		None	23.0	22.2	Pass
404		None	19.1	19.5	Pass
405		None	18.9	13.7	Pass
406		None	15.7	25.8	Pass
407		None	13.3	27.0	Pass
408		None	10.4	22.6	Pass
409		None	10.6	18.7	Pass
410		None	15.9	17.6	Pass
411		None	14.3	18.5	Pass
412		None	18.0	19.3	Pass
413		None	14.8	14.8	Pass
414		None	30.6	24.5	Pass
415		None	19.2	28.6	Pass
416		None	20.2	22.0	Pass
417		None	18.1	24.0	Pass
418		None	17.8	24.9	Pass
419		None	27.3	22.3	Pass
420		None	16.5	23.1	Pass
501		None	19.2	18.4	Pass
502		None	20.7	19.2	Pass
503		None	23.2	22.0	Pass
504		None	19.4	19.7	Pass
505		None	19.1	13.7	Pass
506		None	15.8	25.1	Pass
507		None	13.5	26.8	Pass
508		None	10.6	22.4	Pass
509		None	10.8	18.6	Pass
510		None	16.2	17.7	Pass
511		None	14.5	18.6	Pass
512		None	18.2	19.4	Pass
513		None	15.1	14.7	Pass
514		None	31.0	24.2	Pass

Unit No.	Represented Units	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2.</sup> yr)	Pass/Fail
515		None	19.4	28.6	Pass
516		None	20.5	21.5	Pass
517		None	18.5	24.3	Pass
518		None	18.1	24.9	Pass
519		None	27.7	22.3	Pass
520		None	16.8	22.9	Pass
601		None	19.3	18.5	Pass
602		None	20.9	19.4	Pass
603		None	23.4	22.1	Pass
604		None	19.6	19.4	Pass
605		None	19.3	13.5	Pass
606		None	16.0	25.3	Pass
607		None	13.7	26.3	Pass
608		None	10.7	22.5	Pass
609		None	10.9	17.6	Pass
610		None	16.4	17.6	Pass
611		None	14.7	18.6	Pass
612		None	18.4	19.3	Pass
613		None	15.2	14.7	Pass
614		None	31.3	24.1	Pass
615		None	19.6	28.6	Pass
616		None	20.7	21.4	Pass
617		None	18.7	24.0	Pass
618		None	18.3	24.7	Pass
619		None	27.9	22.2	Pass
620		None	17.0	22.7	Pass
701		None	19.4	18.3	Pass
702		None	21.0	19.2	Pass
703		None	23.6	22.2	Pass
704		None	19.7	19.4	Pass
705		None	19.4	13.3	Pass
706		None	16.1	25.2	Pass
707		None	13.8	26.3	Pass
708		None	16.5	24.6	Pass
709		None	16.9	19.9	Pass
710		None	17.4	18.4	Pass
711		None	15.8	19.8	Pass
712		None	18.5	20.5	Pass

Unit No.	Represented Units	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2.</sup> yr)	Pass/Fail
713		None	17.9	16.2	Pass
714		None	35.6	23.8	Pass
715		None	18.9	28.9	Pass
716		None	23.5	23.4	Pass
717		None	18.8	24.0	Pass
718		None	18.5	24.7	Pass
719		None	29.3	22.9	Pass
720		None	19.1	24.1	Pass
801		None	19.7	18.3	Pass
802		None	21.2	19.5	Pass
803		None	23.7	22.2	Pass
804		None	20.0	19.5	Pass
805		None	29.9	30.7	Pass
806		None	16.8	24.6	Pass
807		Reduced glazing	7.4	40.5	Pass
808		None	11.2	15.6	Pass
809	810	None	11.1	15.1	Pass
811		None	16.0	35.4	Pass
812		None	29.0	18.3	Pass
813		Reduced glazing	11.6	37.6	Pass
901		None	19.9	18.1	Pass
902		None	21.3	19.3	Pass
903		None	23.8	22.3	Pass
904		None	20.2	19.6	Pass
905		Reduced glazing	2.6	40.7	Pass
906		None	18.7	34.2	Pass
907		None	35.6	22.0	Pass
908		Reduced glazing	13.0	40.1	Pass
1001		None	8.1	12.9	Pass
1002		None	8.2	12.5	Pass
1003		None	9.3	39.9	Pass
1004		None	22.5	32.4	Pass
1005		None	33.2	24.7	Pass
1006		Reduced glazing	16.3	38.2	Pass
1007		Reduced glazing	18.0	39.3	Pass
1101		None	5.9	14.7	Pass
1102		None	5.9	13.4	Pass
1103		Reduced glazing	12.8	39.9	Pass

Unit No.	Represented Units	Additional Treatments Required	Heating Load (MJ/m <sup>2</sup> .yr)	Cooling Load (MJ/m <sup>2.</sup> yr)	Pass/Fail
1104		Reduced glazing	33.8	40.2	Pass
1105		Reduced glazing	22.6	40.7	Pass
1201		None	15.0	37.9	Pass
1202		None	9.0	39.1	Pass

#### **Reduced Glazing**

The changes made to dwellings where reduced glazing is required to pass BASIX thermal performance requirements is given in Table 4 below.

Unit No.	Orientation	Location	Original glazing area (m²)	Reduced area (m <sup>2</sup> )
807	E	Ground Bedroom	13.8	10.8
813	W	Living	19.2	16.2
905	E	Living	19.2	13.5
905	E	South Bedroom	7.8	5.7
908	W	Living	19.2	16.2
1006	S	Living	23.8	17.0
1007	W	Living	22.7	21.6
1103	E	Living	14.3	13.5
1104	S	Living	17.0	14.9
1105	W	Living	22.7	21.6

#### Table 4: Reduced glazing

## 3. Summary / Conclusion

As detailed in Table 3 the modelled apartments within the building are predicted to achieve thermal loads sufficient to comply with BASIX thermal performance requirements. The average total load achieved in this development is 41.36 MJ/m<sup>2</sup>.year, corresponding to a star rating of 5.5 stars.

# Appendix A

**ABSA** Certificate





NatHERS Rated 5.6 STARS\*



# **BUILDING ENERGY EFFICIENCY CERTIFICATE**

\*www.nathers.gov.au

Surface Design Consulting Pty Ltd ISSUED TO
2 Central Park Avenue Address
Site Lot 1
Chippendale
NSW
2008

#### 1006028045 CERTIFICATION NUMBER

9/12/2013	
ATE	
7	

BERS Professional - v4.2.110811/A (BERS Professional)

18.5 MJ/m<sup>2</sup> pa SIMULATED ENERGY CONSUMPTION - HEATING

22.8 MJ/m<sup>2</sup> pa SIMULATED ENERGY CONSUMPTION - COOLING

41.4 MJ/m<sup>2</sup> pa TOTAL SIMULATED ENERGY CONSUMPTION

# Adriana Segovia

20754 ASSESSOR NUMBER

Individual Contractor

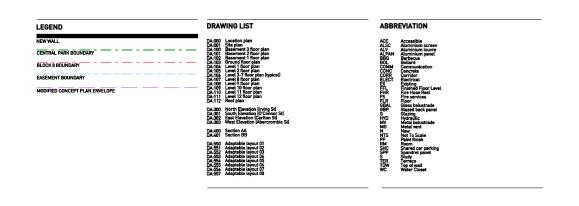
ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE ASSESSOR accredited by the Association of Building Sustainability Assessors to provide NatHERS house energy ratings.

This house energy rating has been based on information provided at the time of rating. Modifications made to the design or onsite substitution of materials may effect the rating. | ABSA-Version 1.1

# Appendix B

ABSA Stamped Drawings



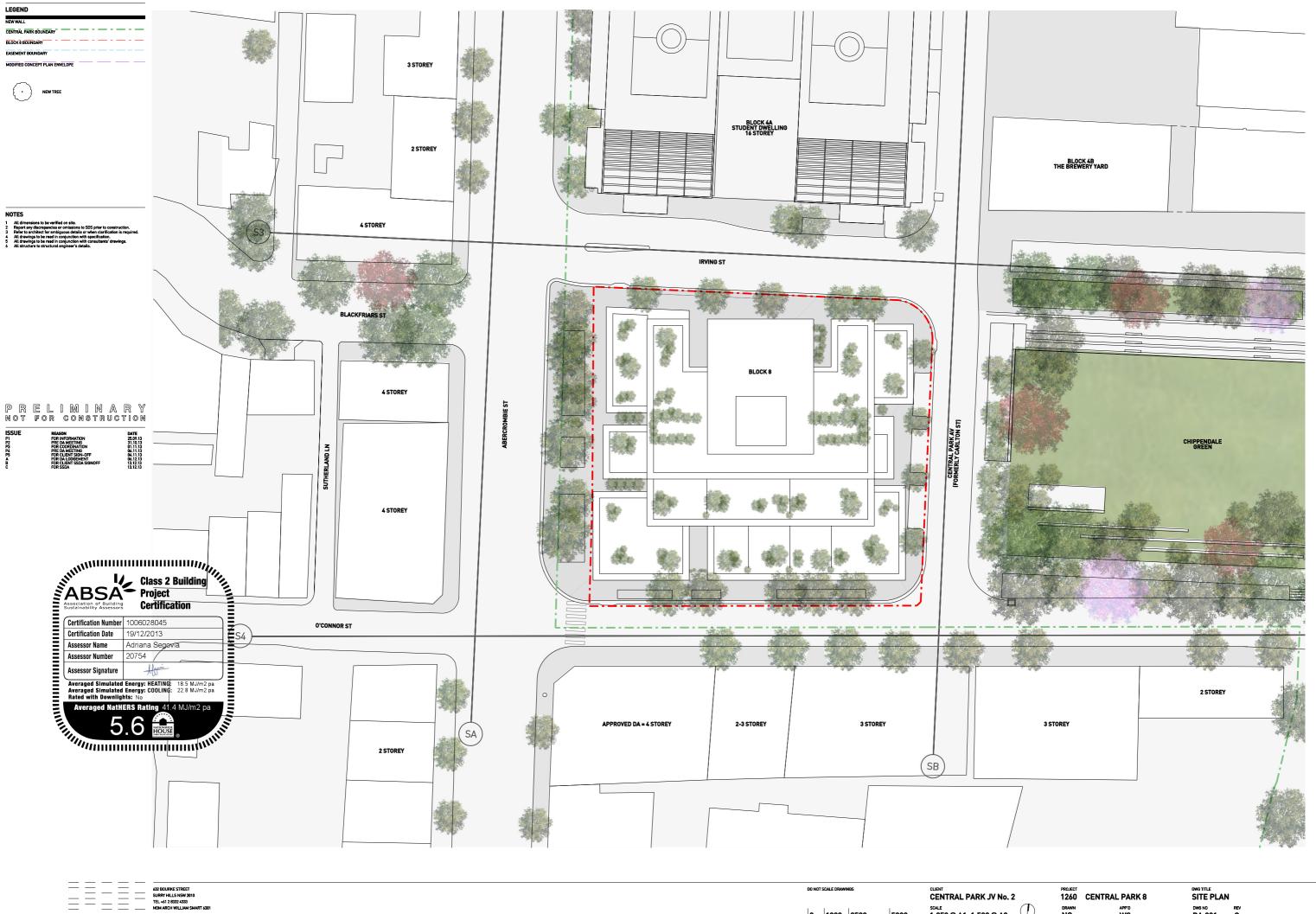






smart design studio	THIS DRAWING IS COPYRIGHT
	NOM ARCH WILLIAM SMART 6381
	TEL +61 2 8332 4333
	SURRY HILLS NSW 2010
	432 BOURKE STREET

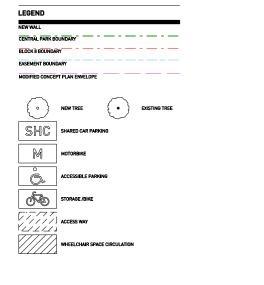
DO NOT SCALE DRAWINGS	CLIENT	PROJECT	DWG TITLE
	CENTRAL PARK JV No. 2	1260 CENTRAL PARK 8	LOCATION PLAN
0 10000 25000 50000	scale 1:1000 @ A1, 1:2000 @ A3 ①	HL WS	DWG NO REV DA:000 C

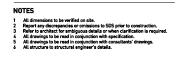


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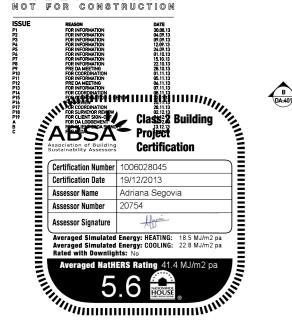
scale 1:250 @ A1, 1:500 @ A3 5000 0 1000 2500

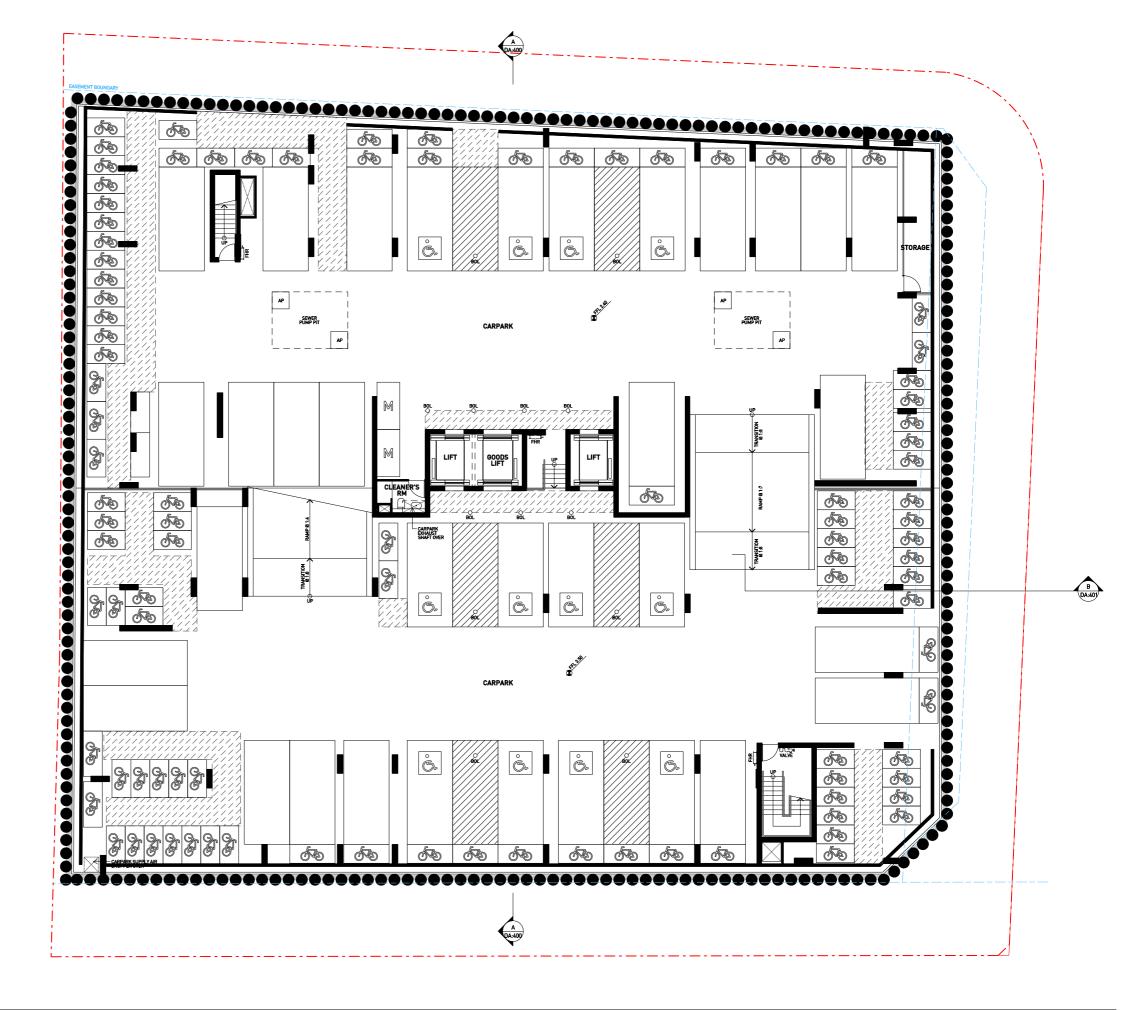
	PROJECT 1260	CENTRAL PARK 8	DWG TITLE SITE PLAN	l
$\bigcirc$	drawn	APP'D	DWG NO	REV
	NQ	WS	DA:001	C





#### PRELIMINARY NOT FOR CONSTRUCTION

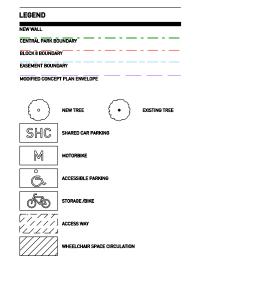


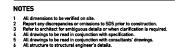


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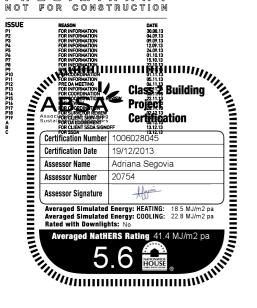
DO NOT SCALE DRAW CLIENT CENTRAL PARK JV No. scale 1:100 @ A1, 1:200 @ A3 0 1000 2500 5000

2	PROJECT 1260	CENTRAL PARK 8	DWG TITLE BASEMENT	3 FLOOR PLAN
$\bigcirc$	drawn HL	APP'D WS	DWG NO	rev C

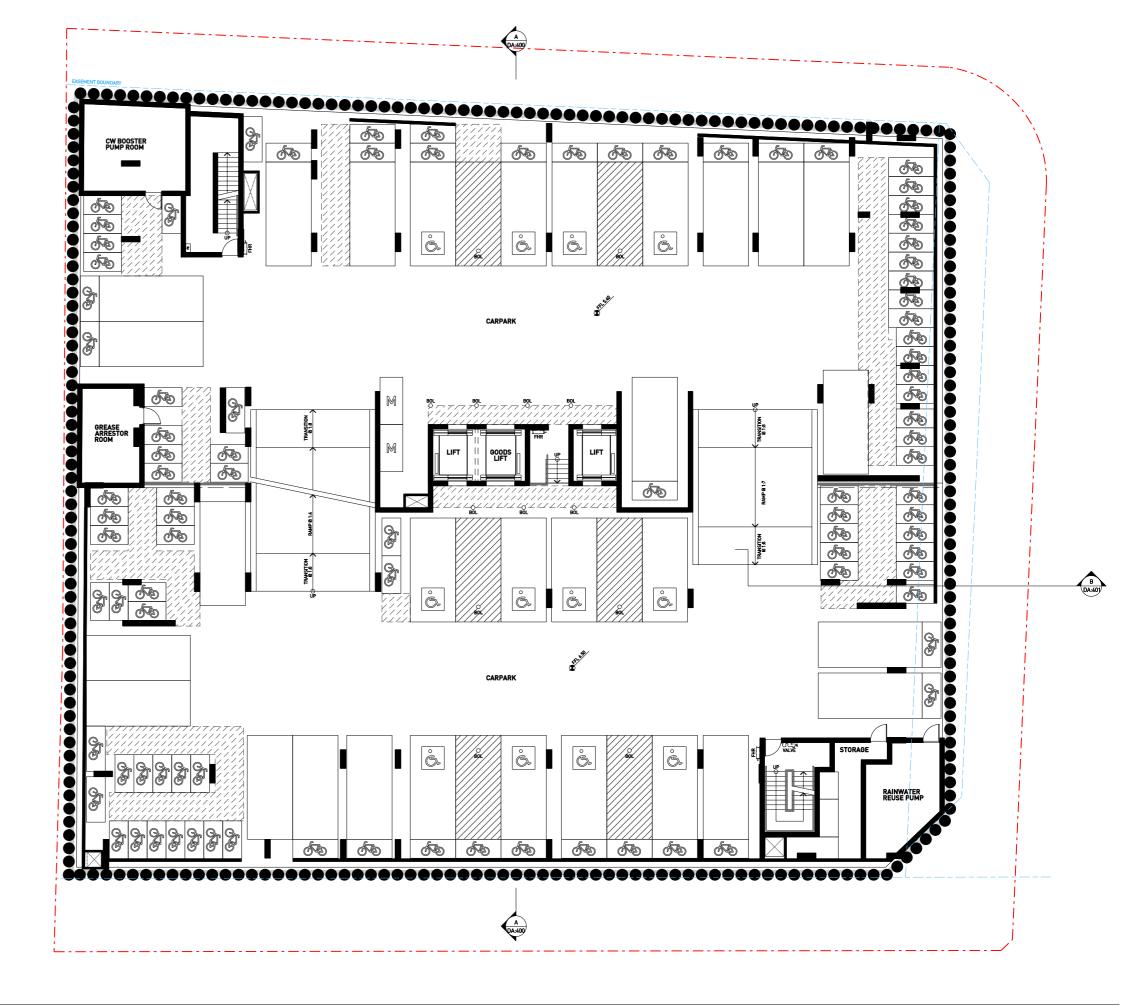




#### PRELIMINARY NOT FOR CONSTRUCTION

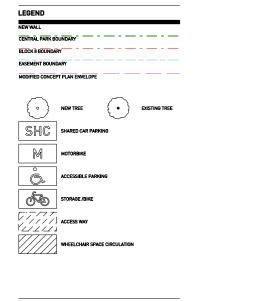


B (DA:401





. 2	PROJECT 1260 CEN	TRAL PARK 8	BASEMEN	2 FLOOR PLAN
$\bigcirc$	drawn	APP'D	DWG NO	REV
	HL	WS	DA:101	C



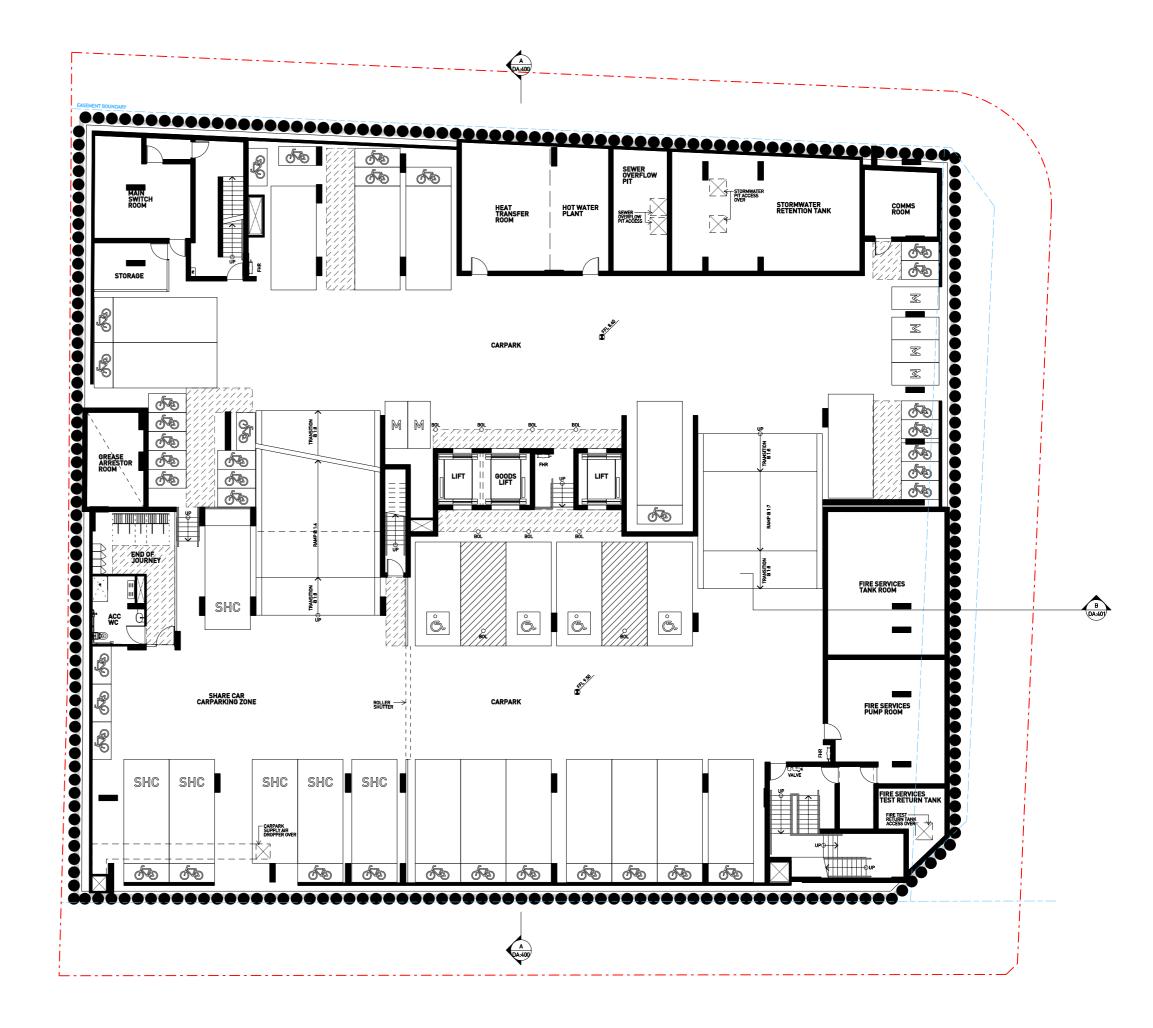






B (DA:401)

Certification Number	1006028045
Certification Date	19/12/2013
Assessor Name	Adriana Segovia
Assessor Number	20754
Assessor Signature	Algeria
Certification Number Certification Date Assessor Name Assessor Name Assessor Signature Averaged Simulated Averaged Simulated Rated with Downlig	1006028045 19/12/2013 Adriana Segovia 20754 Horrise Energy: COOLING: 18.5 MJ/m2 pr hts: No Ens Rating 41.4 MJ/m2 pa 6 Energy: 0.00000000000000000000000000000000000



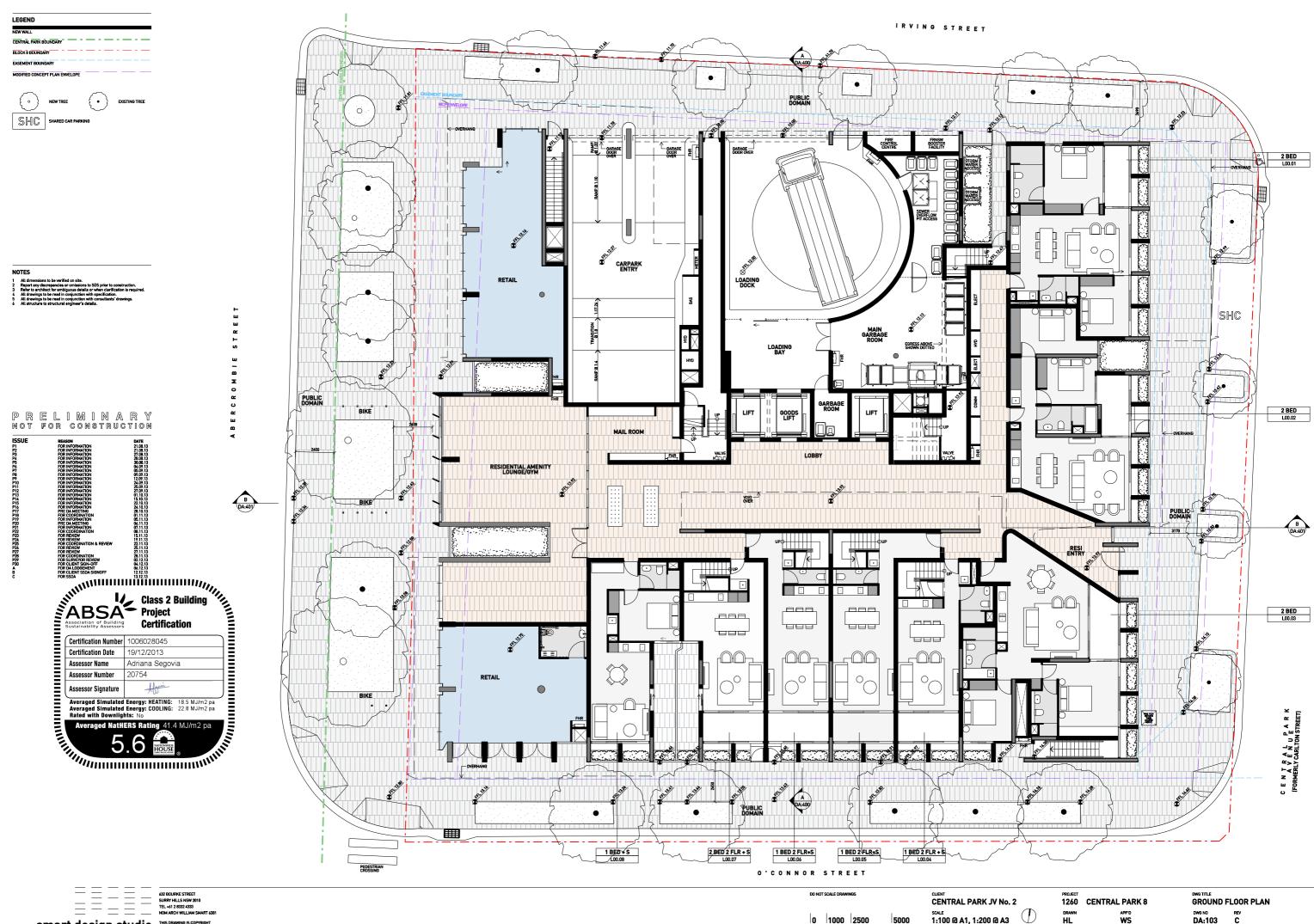
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 DO NOT SCALE DRAWINGS
 CLENT

 CENTRAL PARK JV No.
 CENTRAL PARK JV No.

 0
 1000
 2500
 5000
 1:100 @ A1, 1:200 @ A3

.2	PROJECT 1260	CENTRAL PARK 8	DWG TITLE	1 FLOOR PLAN
$\bigcirc$	drawn	APP'D	DWG NO	rev
	HL	WS	DA:102	C



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SCALE 1:100 @ A1, 1:200 @ A3 5000

. 2	1260	CENTRAL PARK 8	GROUND FLOOR PLAN	
$\square$	drawn	APP'D	DWG NO	rev
	HL	WS	DA:103	C



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. 2	PROJECT	CENTRAL PARK 8	DWG TITLE LEVEL 1 FLOOR PLAN	
$\bigcirc$	drawn	APP'D	DWG NO	REV
	HL	WS	DA:104	C



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. 2	PROJECT 1260 CENTRAL PARK 8		DWG TITLE LEVEL 2 FLOOR PLAN	
$\bigcirc$	drawn	APP'D	DWG NO	REV
	HL	WS	DA:105	C



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. 2	PROJECT 1260 CENTRAL PARK 8		DWG TITLE LEVEL 3-7 FLOOR PLAN - TYPICAL	
$\bigcirc$	drawn HL	APP'D WS	DWG NO	REV C



ACZ BOURKE STREET SURRY HILLS NEW 2010 TEL 401 2832 433 NON ARCH WILLIAM SMART & Smart design studio

2	PROJECT 1260 CEI	NTRAL PARK 8	DWG TITLE LEVEL 8 FI	DWG TITLE LEVEL 8 FLOOR PLAN		
$\bigcirc$	AC	APP'D WS	DWG NO DA:107	REV C		