The team have designed a combined basement to service both the block 1 and block 4N towers, there is allowance to also link the basement into the adjacent Block 4S basement to the South in the future.

The basement floors are arranged over 5 levels, with ground floor entrance rampways arriving at the first basement level B-00. Subsequent basement levels continue lower with levels B-01, B-02, B-03 and B-04. Typical floor to floor heights are 3.1m to these levels.

The basement accommodates a commercial service dock with access from Abercrombie Street to the West, and a separate rampway entrance for residential/ commercial/ retail/ childcare vehicles accessed off Central Park Avenue to the South.

In total the combined basement provides carparking with the following allocations:

Block 1
Residential carpark bays: 138
Residential accessible carpark bays: 42
Residential small carpark bays: 14
Car share carpark bays: 10
Retail carpark bays: 5
Service car bays: 7
Total Block 1: 216

Block 4N
Residential carpark bays: 25
Residential accessible carpark bays: 7
Commercial carpark bays: 28
Hotel carpark bays: 56
Retail carpark bays: 5
Service car bays: 4
Child care carpark bays: 5
Total Block 4N: 130

Brewery Yard
Brewery Yard bays: 10

In addition there are; bicycle storage, motorcycle bays & car - wash facilities.

The basement levels offer the following facilities to each level:

Basement Level B-00
Vehicle rampway arrival point, visitor bikes storage;
Block 1 plant and services rooms. Combined fire service rooms;
Block 1 Retail, Service and Brewery Yard carparks;
Generator and Grease arrestor rooms.

Basement Level B-01
Commercial loading dock rampway arrival point and dock spaces, manager and security offices;
Block 4N plant and services rooms;
Energy Transfer system rooms;
Future link to block 4S basement;
End of journey facilities and bike storage;
Bin rooms and mechanical plant rooms;
Block 1 Service,Residential and Car share and Block 4N Retail carparks;

Basement Level B-02
Block 1 Residential storage cages
Block 1 Residential and Block 4N Hotel, Child Care, Residential and Retail carparks;
Mechanical plant rooms.

Basement Level B-03
Block 1 Residential storage cages
Block 1 Residential and Block 4N Commercial, Residential and Hotel carparks;
Mechanical plant rooms.

Basement Level B-04
Block 1 Residential storage cages
Block 1 Residential carparks;
Mechanical plant rooms and diesel storage room.

BLOCK 1		
	Residential Adaptable	42
	Residential Normal	138
	Car Share	10
	Residential Small	14
	Retail	5
	Service	7
TOTAL		216
BLOCK 4N		
	Residential Adaptable	7
	Residential Normal	25
	Child Care	5
	Hotel	56
	Retail	5
	Commercial	28
	Service	4
TOTAL		130
BREWERY YARD BUILDING		
	Parking	10
TOTAL		10

	BLOCK 1	BLOCK 4N	BREWERY YARD
BASEMENT 00			
Residential Normal	0	0	
Retail	5	0	
Brewery Yard	0	0	10
Service	4	0	
BASEMENT 01			
Residential Normal	6	0	
Residential Adaptable	4	0	
Residential Small	14	0	
Service	3	4	
Car Share	10	0	
Retail	0	2	
BASEMENT 02			
Residential Normal	32	3	
Residential Adaptable	14	0	
Hotel	0	52	
Commercial	0	0	
Child Care	0	5	
Retail	0	3	
BASEMENT 03			
Residential Normal	30	22	
Residential Adaptable	16	7	
Hotel	0	4	
Commercial	0	28	
BASEMENT 04			
Residential Normal	70	0	
Residential Adaptable	8	0	
TOTAL			
	216	130	10

Frasers Broadway - Block 1 & 4N
101-102 Broadway Sydney NSW 2000

The commercial office area lighting will be divided into 100m^2 zones per floor and is to be controlled via a lighting control system with time scheduled programmes and timed overrides for after hours and cleaners use.

Perimeter areas near the façade will be provided with daylight sensors to dim the perimeter area of light fittings. The final extent of areas that can be treated for daylight harvesting will be reviewed during the design period. The lighting control system can also be extended by future tenants to add additional controls such as switches or occupancy sensors.

Time schedule programmes and occupancy sensor controls and local switching will be used for car parks, back of house and amenity areas to suit the usage.

Childcare

The childcare floors will be provided with distribution boards, and provision for associated tenant electricity retailer energy metering will be made as required.

A separate energy metering monitoring system will be provided for monitoring and reporting on the energy usage of the buildings, thus meeting the requirements of Green Star.

The childcare areas are provided with high efficiency light fittings generally utilising T5 fluorescent lamps or compact fluorescent lamps with electronic ballasts.

The childcare area lighting will be divided into 100m^2 zones per floor and is to be controlled via a lighting control system with time scheduled programmes and timed overrides for after hours and cleaners use.

Perimeter areas near the façade will be provided with daylight sensors to dim the perimeter area of light fittings. The final extent of areas that can be treated for daylight harvesting will be reviewed during the design period. The lighting control system can also be extended by future tenants to add additional controls such as switches or occupancy sensors.

Time schedule programmes and occupancy sensor controls and local switching will be used for car parks, back of house and amenity areas to suit the usage.

Residential

Each apartment shall contain a dedicated distribution board located within an apartment cupboard space. Each apartment shall be separately metered. Distribution boards shall be of the single or three-phase if required, surface mounted, insulated load centre type. Distribution Boards shall be of minimum 100Amp rating and 18 pole capacity.

Lighting for apartments shall be selected in accordance with BASIX requirements and shall be designed to meet the lighting levels nominated in AS1680. The lighting will be installed to ensure that the thermal envelope is not compromised at junctions with the building insulation (e.g. where downlights are to be installed under roof slabs).

Hotel

A separate energy metering monitoring system will be provided for monitoring and reporting on the energy usage of the buildings, thus meeting the requirements of NABERS Energy and Green Star. The metering system shall also facilitate sub-billing of dedicated restaurants and bar areas.

The hotel accommodation areas shall be provided with high efficiency light fittings generally utilising recessed LED downlights and compact fluorescent lamp sources where deemed appropriate.

Entry lobbies and other front of house areas shall be provided with high efficiency downlights, wall lights and recessed pelmet lighting where applicable. Luminaires shall be provided with LED lamp sources that have high colour rendering characteristics to enhance the visual appeal of the space.

All front of house areas shall utilise a programmable control system to further enhance visual appeal and design flexibility, whist facilitating the reduction in energy consumption.

Appendix E | Glazing Calculator Inputs

RETAIL LOWER

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: Block 4N Retail Lower

Application: other

Climate zone: 5

Storey: 0

Facade areas

	N	NE	E	SE	S	SW	W	NW	Internal
Option A			16.8m²						
Option B									

Glazing area (A) 16.8m²

Number of rows preferred in table below: 10 *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	R.E1	E		3.00	5.60		4.0	0.50	device		2.00	0.00	0.00	0.25	16.80	100% of 95%
2																
3																
4																
5																
6																
7																
8																
9																
10																

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if inputs are valid

RETAIL UPPER

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: **Block 4N Retail Upper**

Application: **other**

Climate zone: **5**

Storey: **2**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	70.71m²		24.81m²		82.02m²		30.51m²		
Option B									na
Glazing area (A)	*47m²*	.....	*24.7m²*	.....	*14.5m²*	.....	*30.4m²*		

Number of rows preferred in table below: **13** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance			P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)		P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	RU.N1 (Bottom, Cl)	N		0.61	15.75		4.0	0.50		device		2.00	0.00	0.00	0.19	9.64	20% of 23%
2	RU.N2 (Middle, Cl)	N		1.28	15.75		4.0	0.50		device		2.00	0.00	0.00	0.19	20.08	43% of 23%
3	RU.N3 (Top, Cl)	N		1.10	15.75		4.0	0.50		device		2.00	0.00	0.00	0.19	17.33	37% of 23%
4	RU.W1 (Bottom, Ti)	W		0.61	10.17		3.0	0.17		0.560	0.612	0.92	0.00	0.41	0.47	6.22	16% of 95%
5	RU.W2 (Middle, Cl)	W		1.28	10.17		3.0	0.17		0.560	1.275	0.44	0.00	0.77	0.70	12.97	40% of 95%
6	RU.W3 (Top, Cl)	W		1.10	10.17		3.0	0.17		0.560	1.935	0.29	0.84	0.98	0.96	11.19	44% of 95%
7	RU.S1 (Bot., Cl, Uncov.)	S		0.61	4.84		4.0	0.50		0.560	0.612	0.92	0.00	0.75	0.66	2.96	20% of 25%
8	RU.S2 (Mid., Cl, Uncov.)	S		1.28	4.84		4.0	0.50		0.560	1.275	0.44	0.00	0.86	0.80	6.17	42% of 25%
9	RU.S3 (Top., Cl, Uncov.)	S		1.10	4.84		4.0	0.50		0.560	1.935	0.29	0.84	0.98	0.97	5.32	38% of 25%
10	RU.E1 (Bottom, Cl)	E		0.61	8.27		4.0	0.50		device		2.00	0.00	0.00	0.25	5.06	20% of 94%
11	RU.E2 (Middle, Cl)	E		1.28	8.27		4.0	0.50		device		2.00	0.00	0.00	0.25	10.54	43% of 94%
12	RU.E3 (Top, Cl)	E		1.10	8.27		4.0	0.50		device		2.00	0.00	0.00	0.25	9.10	37% of 94%
13																	

if inputs are valid

CHILDCARE LEVEL 3

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: **Block 4N Childcare L3**

Application: **other**

Climate zone: **5**

Storey: **3**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	31.6m²				31.6m²		118m²		
Option B									
Glazing area (A)	*14.2m²*				*14.2m²*		*42.7m²*		

Number of rows preferred in table below: **10** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	L3.N1	N		1.80	7.90		4.0	0.45	10.680	3.045	3.51	1.25	0.56	0.36	14.22	100% of 37%
2	L3.W1	W		1.80	23.70		4.0	0.45	4.110	4.000	0.00	2.20	1.00	1.00	42.66	100% of 96%
3	L3.S1	S		1.80	7.90		4.0	0.45	10.534	3.045	3.46	1.25	0.84	0.74	14.22	100% of 62%
4																
5																
6																
7																
8																
9																
10																

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if inputs are valid

CHILDCARE LEVEL 4

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: **Block 4N Childcare L4**

Application: **other**

Climate zone: **5**

Storey: **4**

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	107m²	15.2m²	63.2m²	15.2m²	107m²	15.2m²	180m²	15.2m²	
Option B									
Glazing area (A)	*57.3m²*	*6.54m²*	*27.2m²*	*6.54m²*	*57.3m²*	*6.54m²*	*95.9m²*	*6.54m²*	

Number of rows preferred in table below: **20** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	L4.N1	N		1.20	14.98		4.0	0.45	0.650	1.200	0.54	0.00	0.72	0.50	17.97	55% of 41%
2	L4.N2	N		0.52	14.98		4.0	0.45	0.270	0.520	0.52	0.00	0.74	0.52	7.79	25% of 41%
3	L4.E1	E		1.20	15.80		4.0	0.45	0.650	1.200	0.54	0.00	0.68	0.63	18.96	69% of 79%
4	L4.E2	E		0.52	15.80		4.0	0.45	0.270	0.520	0.52	0.00	0.69	0.64	8.22	31% of 79%
5	L4.S1	S		1.20	14.98		4.0	0.45	0.650	1.200	0.54	0.00	0.83	0.76	17.97	24% of 97%
6	L4.S2	S		0.52	14.98		4.0	0.45	0.270	0.520	0.52	0.00	0.83	0.77	7.79	11% of 97%
7	L4.W1	W		1.20	26.24		4.0	0.45	0.650	1.200	0.54	0.00	0.70	0.64	31.49	34% of 93%
8	L4.W2	W		0.52	26.24		4.0	0.45	0.270	0.520	0.52	0.00	0.72	0.65	13.64	15% of 93%
9	L4.NE1	NE		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.70	0.58	4.56	69% of 84%
10	L4.NE2	NE		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.72	0.60	1.98	31% of 84%
11	L4.NW1	NW		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.74	0.57	4.56	69% of 67%
12	L4.NW2	NW		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.76	0.59	1.98	31% of 67%
13	L4.SE1	SE		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.72	0.64	4.56	70% of 71%
14	L4.SE2	SE		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.73	0.65	1.98	30% of 71%
15	L4.SW1	SW		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.77	0.67	4.56	70% of 64%
16	L4.SW2	SW		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.78	0.68	1.98	30% of 64%
17	Terrace Glazing	W		2.70	18.82		6.0	0.60	11.700	2.700	4.33	0.00	0.00	0.26	50.81	51% of 93%
18	Terrace Glazing	N		2.70	11.70		6.0	0.60	18.800	2.700	6.96	0.00	0.00	0.19	31.59	20% of 41%
19	Terrace Glazing	S		2.70	11.70		6.0	0.60	18.800	2.700	6.96	0.00	0.64	0.54	31.59	65% of 97%
20																

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if inputs are valid

OFFICE LEVELS 5—10

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: Block 4N Office L5

Application: other

Climate zone: 5

Storey: 5

Facade areas

	N	NE	E	SE	S	SW	W	NW	Internal
Option A	59.9m²	15.2m²	63.2m²	15.2m²	59.9m²	15.2m²	180m²	15.2m²	
Option B									
Glazing area (A)	*25.8m²*	*6.54m²*	*27.2m²*	*6.54m²*	*25.8m²*	*6.54m²*	*77.5m²*	*6.54m²*	

Number of rows preferred in table below: 20 *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	L5.N1	N		1.20	14.98		4.0	0.45	0.650	1.200	0.54	0.00	0.72	0.50	17.97	69% of 58%
2	L5.N2	N		0.52	14.98		4.0	0.45	0.270	0.520	0.52	0.00	0.74	0.52	7.79	31% of 58%
3	L5.E1	E		1.20	15.80		4.0	0.45	0.650	1.200	0.54	0.00	0.68	0.63	18.96	69% of 79%
4	L5.E2	E		0.52	15.80		4.0	0.45	0.270	0.520	0.52	0.00	0.69	0.64	8.22	31% of 79%
5	L5.S1	S		1.20	14.98		4.0	0.45	0.650	1.200	0.54	0.00	0.83	0.76	17.97	70% of 61%
6	L5.S2	S		0.52	14.98		4.0	0.45	0.270	0.520	0.52	0.00	0.83	0.77	7.79	30% of 61%
7	L5.W1	W		1.20	45.06		4.0	0.45	0.650	1.200	0.54	0.00	0.70	0.64	54.07	69% of 78%
8	L5.W2	W		0.52	45.06		4.0	0.45	0.270	0.520	0.52	0.00	0.72	0.65	23.43	31% of 78%
9	L5.NE1	NE		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.70	0.58	4.56	69% of 84%
10	L5.NE2	NE		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.72	0.60	1.98	31% of 84%
11	L5.NW1	NW		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.74	0.57	4.56	69% of 67%
12	L5.NW2	NW		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.76	0.59	1.98	31% of 67%
13	L5.SE1	SE		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.72	0.64	4.56	70% of 71%
14	L5.SE2	SE		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.73	0.65	1.98	30% of 71%
15	L5.SW1	SW		1.20	3.80		4.0	0.45	0.650	1.200	0.54	0.00	0.77	0.67	4.56	70% of 64%
16	L5.SW2	SW		0.52	3.80		4.0	0.45	0.270	0.520	0.52	0.00	0.78	0.68	1.98	30% of 64%
17																
18																
19																
20																

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if inputs are valid

HOTEL—GROUND FLOOR

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: Block 4N Level 00 Hotel

Application: other

Climate zone: 5

Storey: 0

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	95.9m²		226m²		80.5m²		81.9m²		
Option B									n/a
Glazing area (A)	*62.7m²*		*139m²*		*53.7m²*		*49m²*		

Number of rows preferred in table below: 26 *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS | **SHADING** | **CALCULATED OUTCOMES OK (if inputs are valid)**

Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	G.E1 (Outer Main)	E		3.10	24.50		2.7	0.34	device		2.00	0.00	0.00	0.25	75.95	28% of 78%
2	G.E1 (Inner Main)	E		3.10	1.60		2.7	0.34	device		2.00	0.00	0.00	0.25	4.96	2% of 78%
3	G.W2 (Lift Lobby)	W		3.10	6.00		2.7	0.34	device		2.00	0.00	0.00	0.26	18.60	28% of 72%
4	G.S1	S		3.10	15.16		2.7	0.34	4.500	5.500	0.00	2.40	1.00	1.00	47.00	75% of 76%
5	G.S2 (Door)	S		3.10	2.17		6.3	0.71	4.500	5.500	0.00	2.40	1.00	1.00	6.73	25% of 76%
6	G.E Door	E		3.10	4.86		6.3	0.71	device		2.00	0.00	0.00	0.25	15.07	11% of 78%
7	G.N1 Restaurant	N		3.65	8.20		2.7	0.34	4.500	5.500	0.00	1.85	1.00	1.00	29.93	75% of 100%
8	G.E1 (Main) Restaurant	E		3.10	11.43		3.0	0.38	4.500	5.500	0.00	2.40	1.00	1.00	35.43	50% of 78%
9	G.E1 (Door) Restaurant	E		3.10	2.44		2.7	0.34	4.500	5.500	0.00	2.40	1.00	1.00	7.56	9% of 78%
10	G.W1 Restaurant	W		3.10	9.80		2.7	0.34	4.500	4.000	1.13	0.90	0.80	0.69	30.38	72% of 72%
11		N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
12	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
13	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
14	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
15	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
16	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
17	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
18	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
19	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
##	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
21	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
##	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
##	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
##	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
##	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%
##	G.N1 Restaurant	N		0.22	9.30		2.7	0.34	0.165	0.220	0.75	0.00	0.39	0.38	2.05	2% of 100%

if inputs are valid ✓

HOTEL LEVEL 1

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: Block 4N Level 01 C9b

Application: other

Climate zone: 5

Storey: 1

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	77.3m²		217m²		77.3m²		84m²		
Option B									
Glazing area (A)	*26.6m²*		*70m²*		*26.6m²*		*13.9m²*		

Number of rows preferred in table below: 10 *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance			P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)		P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	L1.N1 (Clear)	N		1.52	17.48		4.0	0.60		0.600	1.550	0.39	0.03	0.87	0.62	26.57	100% of 86%
2	L1.E1 (Clear)	E		1.52	46.07		4.0	0.60		0.600	1.550	0.39	0.03	0.80	0.73	70.03	100% of 91%
3	L1.S1 (Tinted)	S		1.52	17.50		4.0	0.60		0.600	1.550	0.39	0.03	0.87	0.82	26.59	100% of 46%
4	L1.W1 (Kitchen)	W		3.75	1.85		4.0	0.60		0.619	3.750	0.17	0.00	0.93	0.89	6.94	50% of 50%
5	L1.W2 (Bathroom)	W		3.75	1.85		4.0	0.60		0.619	3.750	0.17	0.00	0.93	0.89	6.94	50% of 50%
6																	
7																	
8																	
9																	
10																	

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if inputs are valid

HOTEL LEVEL 2

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: **Block 4N Level 2 C3**

Application: **Class 3**

Climate zone: **5**

Storey: **2**

Facade areas

	N	NE	E	SE	S	SW	W	NW	Internal
Option A	74.88m²		142.1m²		74.88m²		66.12m²		
Option B									
Glazing area (A)	*21.8m²*		*28.6m²*		*21.4m²*		*26.8m²*		

Number of rows preferred in table below: **13** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance			P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)		P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	L2.N2 (2nd Bottom)	N		0.43	15.97		3.0	0.17		0.600	0.430	1.40	0.00	0.00	0.22	6.87	
2	L2.N3 (3rd Bottom)	N		0.43	15.97		3.0	0.17		0.600	0.430	1.40	0.00	0.00	0.22	6.87	
3	L2.N4 (Top)	N		0.48	16.73		3.0	0.17					0.00	1.00	1.00	8.03	100% of 21%
4	L2.E2 (2nd Bottom)	E		0.43	21.35		3.0	0.17		0.600	0.430	1.40	0.00	0.04	0.33	9.18	20% of 26%
5	L2.E3 (3rd Bottom)	E		0.43	21.35		3.0	0.17		0.600	0.430	1.40	0.00	0.04	0.33	9.18	20% of 26%
6	L2.E5 (Top)	E		0.48	21.35		3.0	0.17					0.00	1.00	1.00	10.25	60% of 26%
7	L2.S2 (2nd Bottom)	S		0.43	15.97		3.0	0.30		0.600	0.430	1.40	0.00	0.69	0.59	6.87	32% of 59%
8	L2.S3 (3rd Bottom)	S		0.43	15.97		3.0	0.30		0.600	0.430	1.40	0.00	0.69	0.59	6.87	32% of 59%
9	L2.S4 (Top)	S		0.48	15.97		3.0	0.30					0.00	1.00	1.00	7.67	37% of 59%
10	L2.W1 (2nd Bottom)	W		0.43	20.00		3.0	0.17		0.619	3.100	0.00	2.67	1.00	1.00	8.60	32% of 91%
11	L2.W1 (3rd Bottom)	W		0.43	20.00		3.0	0.17		0.619	3.100	0.00	2.67	1.00	1.00	8.60	32% of 91%
12	L2.W1 (Top)	W		0.48	20.00		3.0	0.17		0.619	3.100	0.00	2.62	1.00	1.00	9.60	36% of 91%
13																	

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if inputs are valid

HOTEL LEVEL 3

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: Block 4N Level 3 C9b

Application: other

Climate zone: 5

Storey: 3

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	121m²		244m²		121m²		106m²		
Option B									n/a
Glazing area (A)	62.3m²	.....	145m²	.....	64.2m²	.....	19.3m²		

Number of rows preferred in table below: 27 *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS									SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	L3.N1 (Bottom)	N		0.98	15.00		4.0	0.39	0.250	0.984	0.25	0.00	0.93	0.76	14.76	38% of 60%
2	L3.N2 (2nd from Bottom	N		0.45	15.00		4.0	0.39	0.250	0.453	0.55	0.00	0.71	0.50	6.79	10% of 60%
3	L3.N3 (3rd from Bottom)	N		0.45	15.00		4.0	0.39	0.250	0.453	0.55	0.00	0.71	0.50	6.79	10% of 60%
4	L3.N4 (4th from Bottom)	N		0.45	15.00		4.0	0.39	0.250	0.453	0.55	0.00	0.71	0.50	6.79	10% of 60%
5	L3.N5 (5th from Bottom)	N		0.45	15.00		4.0	0.39	0.250	0.453	0.55	0.00	0.71	0.50	6.79	10% of 60%
6	L3.N6 (3rd Top)	N		0.45	15.00		4.0	0.39	0.250	0.453	0.55	0.00	0.71	0.50	6.79	10% of 60%
7	L3.N7 (2nd Top)	N		0.45	15.00		4.0	0.39	0.250	0.453	0.55	0.00	0.71	0.50	6.79	10% of 60%
8	L3.N8 (Top)	N		0.45	15.00		4.0	0.39	2.000	0.453	4.42	0.00	0.00	0.19	6.79	2% of 60%
9	L3.E1 (Bottom)	E		0.98	46.01		4.0	0.39	0.250	0.984	0.25	0.00	0.88	0.83	45.28	39% of 100%
10	L3.E2 (2nd from Bottom	E		0.45	46.01		4.0	0.39	0.250	0.453	0.55	0.00	0.67	0.62	20.84	13% of 100%
11	L3.E3 (3rd from Bottom)	E		0.45	46.01		4.0	0.39	0.250	0.453	0.55	0.00	0.67	0.62	20.84	13% of 100%
12	L3.E4 (4th from Bottom)	E		0.45	46.01		4.0	0.39	0.250	0.453	0.55	0.00	0.67	0.62	20.84	13% of 100%
13	L3.E5 (5th from Bottom)	E		0.45	20.49		4.0	0.39	0.250	0.453	0.55	0.00	0.67	0.62	9.28	6% of 100%
14	L3.E6 (3rd Top)	E		0.45	20.49		4.0	0.39	0.250	0.453	0.55	0.00	0.67	0.62	9.28	6% of 100%
15	L3.E7 (2nd Top)	E		0.45	20.49		4.0	0.39	0.250	0.453	0.55	0.00	0.67	0.62	9.28	6% of 100%
16	L3.E8 (Top)	E		0.45	20.49		4.0	0.39	2.000	0.453	4.42	0.00	0.00	0.25	9.28	3% of 100%
17	L3.S1 (Bottom)	S		0.98	15.45		4.0	0.39	0.250	0.984	0.25	0.00	0.92	0.88	15.20	24% of 76%
18	L3.S2 (2nd from Bottom	S		0.45	15.45		4.0	0.39	0.250	0.453	0.55	0.00	0.82	0.76	7.00	11% of 76%
19	L3.S3 (3rd from Bottom)	S		0.45	15.45		4.0	0.39	0.250	0.453	0.55	0.00	0.82	0.76	7.00	11% of 76%
##	L3.S4 (4th from Bottom)	S		0.45	15.45		4.0	0.39	0.250	0.453	0.55	0.00	0.82	0.76	7.00	11% of 76%
21	L3.S5 (5th from Bottom)	S		0.45	15.45		4.0	0.39	0.250	0.453	0.55	0.00	0.82	0.76	7.00	11% of 76%
##	L3.S6 (3rd Top)	S		0.45	15.45		4.0	0.39	0.250	0.453	0.55	0.00	0.82	0.76	7.00	11% of 76%
##	L3.S7 (2nd Top)	S		0.45	15.45		4.0	0.39	0.250	0.453	0.55	0.00	0.82	0.76	7.00	11% of 76%
##	L3.S8 (Top)	S		0.45	15.45		4.0	0.39	2.000	0.453	4.42	0.00	0.64	0.54	7.00	11% of 76%
##	L3.W1 (Change Room)	W		5.30	1.82		4.0	0.39	1.724	5.300	0.33	0.00	0.84	0.78	9.65	50% of 35%
##	L3.W2 (Corridor)	W		5.30	1.82		4.0	0.39	1.724	5.300	0.33	0.00	0.84	0.78	9.65	50% of 35%
27																

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if inputs are valid

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HOTEL LEVEL 4-18

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description: **Block 4N Hotel L4**

Application: **Class 3**

Climate zone: **5**

Storey: **4**

Facade areas

	N	NE	E	SE	S	SW	W	NW	Internal
Option A	75.62m²		155.5m²		75.62m²		66.33m²		
Option B									n/a
Glazing area (A)	*37.9m²*		*76.7m²*		*37.9m²*		*15.7m²*		

Number of rows preferred in table below: **14** *(as currently displayed)*

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS									SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
Glazing element		Facing sector		Size			Performance		P&H or device		Shading	Multipliers			Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S_H)	Cooling (S_C)	Area used (m²)	Element share of % of allowance used
1	4.01 W2 (Textured)	N		1.75	2.25		3.0	0.17				0.00	1.00	1.00	3.95	12% of 83%
2	4.01 W3 (Clear)	N		1.75	2.97		3.0	0.17				0.00	1.00	1.00	5.20	16% of 83%
3	4C.01,02 W2 (Textured)	W		2.40	3.40		3.0	0.17				0.00	1.00	1.00	8.16	54% of 51%
4	4.02,19 W2 (Textured)	W		1.75	2.32		3.0	0.17	0.270	1.814	0.15	0.06	0.94	0.90	4.07	25% of 51%
5	4.02,19 W3 (Clear)	W		1.75	2.01		3.0	0.17	0.270	1.814	0.15	0.06	0.94	0.90	3.52	21% of 51%
6	4.02-04 N_All (Textured)	N		1.75	8.80		3.0	0.17	0.270	1.814	0.15	0.06	0.97	0.86	15.39	38% of 83%
7	4.02-04 N_All (Clear)	N		1.75	7.62		3.0	0.17	0.270	1.814	0.15	0.06	0.97	0.86	13.34	33% of 83%
8	4.04-17 E_All (Textured)	E		1.75	23.50		3.0	0.17	0.270	1.814	0.15	0.06	0.94	0.90	41.12	54% of 94%
9	4.04-17 E_All (Clear)	E		1.75	20.34		3.0	0.17	0.270	1.814	0.15	0.06	0.94	0.90	35.60	46% of 94%
10	4.20 W2 (Textured)	S		1.75	2.25		3.0	0.40				0.00	1.00	1.00	3.95	11% of 100%
11	4.20 W3 (Clear)	S		1.75	2.97		3.0	0.40				0.00	1.00	1.00	5.20	14% of 100%
12	4.17-19 S_All (Textured)	S		1.75	8.80		3.0	0.40	0.270	1.814	0.15	0.06	0.96	0.93	15.39	40% of 100%
13	4.17-19 S_All (Clear)	S		1.75	7.62		3.0	0.40	0.270	1.814	0.15	0.06	0.96	0.93	13.34	35% of 100%
14																

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if inputs are valid

Appendix F | Class type definition

3.0 BUILDING CODE OF AUSTRALIA ASSESSMENT

3.1 Classification (A3.2)

The proposed building consists of a mixture of classifications, as follows.

Basement	Basement 04 - 02:	Class 7a Carpark
	Basement 01:	Class 7a Carpark Class 7b Loading dock
	Basement 00:	Class 3 Hotel (ancillary) Class 5 Office Class 7a carpark
Hotel	Level 00:	Class 6 Restaurant Class 9b Assembly
	Level 01:	Class 9b Conference
	Level 02:	Class 3 Hotel Class 5 Office
	Level 03:	Class 9b Assembly
	Level 04 & H5- H18:	Class 3 Hotel
	Roof level:	Class 3 Ancillary plant
Office/Child Care/ Residential	Level 00:	Class 5 Office Class 9b Child care Class 6 Retail
	Level 01:	Class 6 Retail
	Level 02:	Class 6 Retail
	Level 03 - 04:	Class 9b Childcare
	Level 05 - 10:	Class 5 Office
	Level 11 - 16:	Class 2 Residential
	Roof level:	Plant
Australian Hotel	Level 00:	Class 6 Retail
	Level 01:	Class 6 Retail
	Level 02:	Class 6 Retail
Terraces	Level 00:	Retail Use
	Level 01:	Retail Use

Appendix G | Ineligibility confirmation from the GBCA

Dimitriou, Angeliki

From: Green Star <greenstar@gbca.org.au>
Sent: Tuesday, 23 September 2014 9:46 AM
To: Thai, Andrew
Cc: karl.desai@gbca.org.au
Subject: Your Green Star Query (Eligibility response)

Categories: Important Info Project Related

Dear Andrew,

The following is the response to your recent Eligibility Query.

This response must be included with the registration for your proposed Green Star project, and in any subsequent submissions. Please also include any additional documentation that was submitted with this query.

If this query does not relate to documentation requirements, all documentation is to be provided as per the relevant Technical Manual or Submission Guidelines.

This response is project specific and does not set precedence for any future submissions. Please see the Green Star Rulings page on the GBCA website for information on rulings that are applicable to all projects.

Please contact your Case Manager if you have any questions about this query response.

Kind Regards,

The Green Star Team

Green Star

Eligibility Query Response

Eligibility Query Request

Please write a general description of the proposed project?

Block 4N is a part of the Central Park Precinct development.

The proposed development is a mixed used building with the following breakdown in areas:
- Hotel: 14,000m2 which represents 54% of the total building GFA
- Commercial Office: 6,000m2 which represents 23% of the total building GFA
- Residential: 3,500m2 which represents 14% of the total building GFA
- Child Care: 1,100m2 which represents 4% of the total building GFA
- Retail (new): 300m2 which represents 1% of the total building GFA
- Existing Abercrombie Hotel and Terraces (Retail): 900m2 which represents 3% of the total building GFA

Total building GFA: 25,800m2

Do any of the buildings have shared services? (e.g. car parking, cyclist facilities, building services, infrastructure)

N/A

What is the spatial relationship between the buildings? (i.e. Do the buildings have separate entrances and/or separate street addresses? Are they connected via a concourse level?) If so, please detail

N/A

Which Eligibility Criteria is the project seeking clarification on? Please explain?

Space Use Criterion.

Block 4N does not have any spaces greater than 80% of the building's GFA to meet the Space Use criterion.

The design team wish to confirm that this development is non-eligible under any pre-existing Green Star Tool including Mutli-Unit Residential v1, Office v3 and Retail v1.

Eligibility Query Response

The Green Building Council of Australia has reviewed the eligibility query for the Block 4N project, part of the Central Park Precinct Development, and deems the project **ineligible** to be rated under the Green Star – Multi Unit Residential v1, Office v3 or Retail Centre v1 rating tools. This ruling is based on the project's space use breakdown not meeting any of these rating tools' Space Use Eligibility criterion, as follows:

- Green Star – Multi Unit Residential v1

  - Buildings with two or more residential units and with a minimum of 80% of the building's GFA (measured to exclude internal car parks) comprised of any combination of BCA Class 2 and 1a (ii).

  - The project does not meet this Space Use Eligibility Criteria.
- Green Star – Office v3

  - Buildings with a minimum of 80% of the building's GFA (measured to exclude internal car parks) comprised of BCA Class 5.

  - The project does not meet this Space Use Eligibility Criteria.
- Green Star – Retail Centre v1

  - Retail centres with a minimum of 80% of the building's GFA (measured to exclude internal car parks) comprised of BCA Class 6.

  - The project does not meet this Space Use Eligibility Criteria.

Despite the project not meeting the eligibility criterion for Space Use under any of the current Green Star rating tools, the project can be rated using the Green Star – Design & As Built rating tool, to be released in October, 2014. Additional information regarding the rating tool can be found here: http://www.gbca.org.au/green-star/green-star-design-as-built/

Otherwise, the project can be rated using the Green Star – Custom rating tool. Additional information regarding the rating tool can be found here: http://www.gbca.org.au/green-star/green-star-custom/3092.htm

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