

# 4-18 Doncaster Avenue Kensington NSW 2033

## BASIX Report

DA Issue

Prepared for: Next Constructions Pty Ltd

Date: 16/10/2020

Prepared by: Louis Manley

Ref: 47420-1

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# Revision

Revision	Date	Comment	Prepared By	Approved By
1	16/10/2020	DA Issue	LOM	NL

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## **Qualifications to this Report**

The following qualifications apply to this report:

- Information has been based on our understanding of the proposed building and documentation provided, as noted.
- This report outlines the scope of works required for BASIX compliance only. Additional requirements such as civil/stormwater, façade design and/or acoustic requirements should be coordinated with the relevant design consultants.
- As this project involves no detailed design or site supervision by Stantec, we advise that we will not prepare a Safety in Design report for this project. As detailed in our scope of work we will review the Safety in Design report prepared by the project designer and make comment as appropriate. We confirm that the responsibility for complying with the requirements of the state OS&H legislation remains with the project designer in conjunction with the project team and the client.

## **Disclaimer**

The energy models prepared for BASIX thermal comfort compliance provides an estimate of the base building's energy performance. This estimate is based on a necessarily simplified and idealised version of the building that does not and cannot fully represent all of the intricacies of the building and its operation. As a result, the energy model results only represent an interpretation of the potential performance of the building. No guarantee or warrantee of building performance in practice can be based on energy modelling results alone.



# 1. Executive Summary

In summary, we can confirm the following outcome of the BASIX analysis for the 4-18 Doncaster Avenue, Kensington development:

- It has been determined that the proposed new building on site have achieved a BASIX Certification with the following scores:
  - Water: 41% (Required target: 40%)
  - Thermal Comfort: pass (Required target: pass)
  - Energy: 48% (Required target: 45%)
- Further information regarding the thermal comfort and building fabric specification has been outlined within Section 5 of this report. Note this specification detail forms the basis of BASIX compliance and therefore must be documented within the project design/specification in order to achieve CC approval.
- The existing building on-site that is proposed to be refurbished has been assessed under the 'Alterations and Additions' BASIX protocol. The prescriptive requirements to meet this protocol are explained within this report.
- Our assessment works have been conducted based on the Architectural Plans drawings issued by Hayball on the 18/08/2020, "Issued for Construction Certificate CC1 & CC2", Rev05.



## 2. Introduction

Stantec have completed a Building Sustainability Index (BASIX) assessment for the proposed Class 3 Student Accommodation development located at 4-18 Doncaster Avenue, Kensington, NSW 2033. The BASIX assessment has been separated into two components, a BASIX new building assessment for the new building component, and a BASIX 'alterations and additions' assessment for the heritage building refurbishment. Due to the scope of works proposed for the heritage building, it is proposed that the alterations and additions protocol be utilised.

Based on information provided to date and the nominated architectural drawings (18.08.2020) the following outcome has been achieved:

- Water: 41% (Required target: 40%)
- Thermal Comfort: pass (Required target: pass)
- Energy: 48% (Required target: 45%)

### 2.1 Design Target

Based on the relevant Council requirements, we understand that the Project is required to demonstrate BASIX compliance in support of the application development approval (Class 3 Large Boarding House). From review of the Project, the development is divided into two separate components:

- The 'New Building' construction
- The 'Existing Heritage Building' refurbishment

For the new building component of works, the following BASIX targets are required to be met:

BASIX Target	
<b>Energy</b>	45
<b>Water</b>	40

**Table 1: BASIX Targets**

For the heritage building refurbishment, prescriptive requirements relating to the building fabric, fixtures and systems and lighting are required to be met. These are outlined in the following sections.

### 2.2 Building Sustainability Index (BASIX)

BASIX is implemented under the Environmental Planning and Assessment Act and applies to all residential dwelling types within NSW. BASIX forms both part of the development application and building certification process within the state of NSW.

BASIX sets water and greenhouse gas reduction targets relative to the NSW average benchmark for per person potable water consumption & greenhouse gas emissions within the residential sector. BASIX also sets the minimum performance levels for thermal comfort of the dwelling and replaces the NCC Energy Efficiency benchmarks within the state of NSW. Typically, Thermal comfort levels are assessed via a simulation method in accordance with the NatHERS House Energy Rating protocol. However, as this development is a Class 3 building, thermal comfort levels are not assessed in the BASIX assessment. The development will need to demonstrate thermal performance compliance via Section J NCC requirements. This compliance will need to be demonstrated prior to obtaining a construction certificate.



## 2.3 Development Overview

The proposed development includes:

- A newly constructed student accommodation building consisting of:
  - 199 student accommodation rooms
  - Communal areas
- A refurbished existing heritage listed building consisting of:
  - 2 clustered student accommodation rooms
- Underground car park with 55 car spaces, 55 motorcycle spaces and 150 bicycle spaces.



### 3. Design Documentation

The following assessment is based on all architectural drawings received from Hayball dated 18 August 2020, and associated design notes, including:

Drawing No.	Description
A02.00	GA Plan - Basement
A02.02	GA Plan – Ground Floor
A02.03	GA Plan – Level 1
A02.04	GA Plan – Level 2
A02.05	GA Plan – Roof Level
A06.01	External Elevations
A06.02	Internal Elevations
A06.03	Internal Elevations
A06.10	Sections
A06.11	Sections
TP05.01	Demolition Floor Plan-10&12 Doncaster Ave
TP05.02	Detail Floor Plans-10&12 Doncaster Ave
TP05.03	West Elevation-10&12 Doncaster Ave
TP05.04	South Elevation-10&12 Doncaster Ave
TP05.05	East Elevation-10&12 Doncaster Ave
TP05.06	North Elevation-10&12 Doncaster Ave

**Notes:**

**Changes to the design drawings and specifications will affect the outcome of this assessment and potentially the certification of the proposed building works. Any changes nominated by the design team are to be immediately communicated to Stantec as it may affect the outcome of the BASIX Compliance. We recommend any design changes be reviewed and approved prior to documentation.**



## 4. Thermal Comfort Design Assessment

### New Development

The development at 4-18 Doncaster Ave is considered a Class 3 Student Accommodation. As such, it is assessed in a different manner to typical Class 2 developments within the BASIX protocol.

If a large boarding house meets the following criteria:

- designed to accommodate more than 12 people, or the total floor area exceeds 300 m<sup>2</sup>
- at least 80% of the dwellings are less than 35 m<sup>2</sup>, and
- only comprises residential flat buildings.

BASIX require the development be assessed by the Large boarding house thermal comfort method.

As long as the project meets all the eligibility criteria listed above, the Tool will automatically enter values for heating and cooling loads equivalent to the heating and cooling caps in the climate zone of the project.

The development's thermal comfort will not need to be modelled as part of the BASIX assessment. Instead, the thermal comfort must be assessed at a later stage (i.e. the construction certificate stage) against the Section J requirements of the **National Construction Code (NCC) – Volume 1**. The BASIX Certificate will contain an additional commitment requiring an assessment against the Section J requirements of the NCC – Volume 1 prior to obtaining a construction certificate.

### Heritage Building Refurbishment

The existing heritage building that is proposed to be refurbished has been assessed under the 'Alterations and Additions' BASIX protocol. Through this protocol thermal comfort initiatives are prescribed via the BASIX calculator, and no thermal modelling is needed. Details of the thermal requirements for the heritage building refurbishment are detailed later in this report.



## 5. Design Specification

### 5.1 BASIX Compliant Design Specification

#### 5.1.1 Design Specification – FABRIC

##### **New Building**

As this is a Class 3 student accommodation, the Project meets the requirements and will be assessed as with the large boarding house thermal comfort method. Therefore, no building fabric design specifications have been used in this BASIX assessment. The Project will comply with NCC 2019 Section J requirements, which will be demonstrated prior to obtaining a construction certificate.

##### **Heritage Building Refurbishment**

Where any alterations or additions are made to the Heritage Building Refurbishment component of this Project, the alterations will comply with NCC 2019 Section J Requirements, except for the following scenarios:

- Where the area of new construction is less than 2m<sup>2</sup>
- Where insulation already exists of altered construction



## 5.1.2 Design Specification - WATER

Design Specification - WATER	
New Building	Heritage Component
<b>Alternative Water Supply</b>	
No alternative water supply is proposed for the Project	N/A
<b>Fixtures and Fittings</b>	
<p>We note that fixtures with the following WELS ratings have been included in the BASIX Assessment:</p> <p><b>Common Areas (as applicable) &amp; all dwellings:</b></p> <p>4 Star WELS minimum rated Showerheads (&gt;4.5 but &lt;= 6.0 L/min)</p> <p>4 Star WELS minimum rated Toilets</p> <p>6 Star WELS minimum rated Kitchen taps</p> <p>6 Star WELS minimum rated Bathroom taps</p> <p>3.5 Star WELS Clothes Washers</p> <p>3.0 Star WELS Dishwashers</p> <p>We note a reduction in the quality of these appliances will affect the water aspect of the BASIX rating.</p>	<p>New and altered showerheads must have a flow rate less than 9L/min, or a 3 Star water rating</p> <p>New and altered toilets must have a flow rate no greater than 4L/flush, or 3 Star water rating</p> <p>New and taps must have a flow rate no greater than 9L/min, or 3 Star water rating</p>



### 5.1.3 Design Specification - ENERGY:

Design Specification - ENERGY	
New Building	Heritage Component
<b>Alternative Energy Supply</b>	
A 60 kW Photovoltaic System (PV) has been specified within the BASIX Certificate.	N/A
<b>Air Leakage</b>	
Kitchen, bathroom and laundry exhaust will be ducted to the external façade or roof.  Back-draft dampers must be installed to prevent air infiltration.	N/A
<b>Hot Water System</b>	
A centralised hot water system (gas-fired storage) is to be installed to serve all dwellings.  Domestic Hot Water pipework is required to have minimum R1.0 insulation for external piping, R0.6 for internal piping.  <b>It should be noted that a less efficient hot water system will affect the rating of the BASIX Energy Target.</b>	Gas-fired storage
<b>Mechanical Ventilation Systems</b>	
<b>Common Areas:</b>  Car park – <b>Mechanical supply &amp; exhaust with carbon monoxide monitor + VSD fan</b>  Garbage Rooms, Bicycle Store, Cleaner Rooms, AWC, Stairwells - <b>Ventilation exhaust only</b>  Switch Room, Plant/Service Room, Communal Corridors – <b>No Mechanical Ventilation</b>  Gym, Community Rooms, Comms Rooms, Meeting Rooms, Admin Office, Lobby/Reception, Laundry – <b>Ventilation provided by air conditioning system</b>	N/A
<b>Dwelling Air-Conditioning Systems</b>	
Central Cooling System for cooling – VRV refrigerant volume units, air cooled condenser, COP <3.5  Central Cooling System for heating – VRV refrigerant volume units, electric driven compressor + air sourced evaporator, COP <3.5	N/A



Lighting	
<p><b>Common Areas:</b></p> <p>Car park, communal corridors, meeting rooms, community:  <b>LED with zoned switching and motion sensor control.</b></p> <p>Lifts: <b>LED connected to lift call button.</b></p> <p>Plant/service rooms, bicycle store, switch rooms, garbage rooms, stairwells - <b>LED with motion sensor control.</b></p> <p>AWC, cleaner rooms, comms rooms – <b>LED with Manual on/off switch</b></p> <p>Lobby/reception, admin office, laundry - <b>LED with time clock and motion sensor control.</b></p> <p><b>Dwellings:</b></p> <p>Dedicated fluorescent or LED Lamps.</p>	<p>40% of new or altered light fixtures must be fitted with fluorescent, compact fluorescent, or LED lamps</p>
Appliance Specifications	
<p>The following minimum energy performance specifications have been included within the BASIX assessment:</p> <p>electric cooktop and electric ovens to all dwellings.</p> <p>Dishwasher – <b>4 Star minimum Energy rating</b></p> <p>Clothes Dryer – <b>not specified</b></p> <p>Clothes Washer – <b>not specified</b></p> <p>Refrigerator – <b>4 Star minimum Energy rating</b></p> <p>Compliance Note: A reduction in the quality of any of these appliances will affect the energy aspect of the BASIX rating. Client to confirm which appliances are to be included within base-building design.</p>	<p>N/A</p>



## 6. BASIX Certification Details

### New Building:

Project Summary	
Project Name	4-18 Doncaster Avenue
Street Address	4-18 Doncaster Avenue, Kensington 2033
Local Government Area	Randwick City Council
Plan Type / Number	-
Lot No#	4-18
Section No#	-
No. of Residential Buildings	1
No. of units in Residential Flat Buildings	199
No. of multi-dwelling houses	0
No. of single dwelling houses	0
BASIX Certificate No#	11266664M
Water	41%
Thermal Comfort	Pass
Energy	48%



**Heritage Refurbishment:**

<b>Project Summary</b>	
Project Name	4-18 Doncaster Avenue
Street Address	4-18 Doncaster Avenue, Kensington 2033
Local Government Area	Randwick City Council
Plan Type / Number	-
Lot No#	4-18
BASIX Certificate No#	A391713
<b>Project Score</b>	
Water	Pass
Thermal Comfort	Pass
Energy	Pass



## 7. Appendix A: BASIX Certificates



# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 1126664M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Friday, 16 October 2020

To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary		
Project name	4-18 Doncaster Avenue - Main Building	
Street address	4 Doncaster Avenue Kensington 2033	
Local Government Area	Randwick City Council	
Plan type and plan number	deposited Multiple	
Lot no.	4-18	
Section no.	-	
No. of residential flat buildings	1	
No. of units in residential flat buildings	199	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	✓ 41	Target 40
Thermal Comfort	✓	concession Target Pass
Energy	✓ 48	Target 45

### Certificate Prepared by

Name / Company Name: Wood & Grieve Engineers

ABN (if applicable): 97137999609

# Description of project

Project address	
Project name	4-18 Doncaster Avenue - Main Building
Street address	4 Doncaster Avenue Kensington 2033
Local Government Area	Randwick City Council
Plan type and plan number	deposited Multiple
Lot no.	4-18
Section no.	-
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	199
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m <sup>2</sup> )	4276
Roof area (m <sup>2</sup> )	2250
Non-residential floor area (m <sup>2</sup> )	-
Residential car spaces	55
Non-residential car spaces	-

Common area landscape		
Common area lawn (m <sup>2</sup> )	305.0	
Common area garden (m <sup>2</sup> )	877.0	
Area of indigenous or low water use species (m <sup>2</sup> )	-	
Assessor details		
Assessor number	N/A	
Certificate number	N/A	
Climate zone	N/A	
Project score		
Water	 41	Target 40
Thermal Comfort		concessionTarget Pass
Energy	 48	Target 45

## Description of project

The tables below describe the dwellings and common areas within the project

### Residential flat buildings - Building1, 199 dwellings, 2 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
101	1	13.7	0.0	0.0	0.0
105	1	13.7	0.0	0.0	0.0
109	2	25.2	0.0	0.0	0.0
113	2	23.0	0.0	0.0	0.0
117	1	13.6	0.0	0.0	0.0
121	1	13.6	0.0	0.0	0.0
125	1	13.6	0.0	0.0	0.0
129	1	13.5	0.0	0.0	0.0
133	1	13.4	0.0	0.0	0.0
137	1	13.3	0.0	0.0	0.0
141	1	18.4	0.0	0.0	0.0
145	1	13.3	0.0	0.0	0.0
149	1	13.3	0.0	0.0	0.0
153	1	13.2	0.0	0.0	0.0
157	1	13.2	0.0	0.0	0.0
161	2	23.4	0.0	0.0	0.0
102	1	16.4	0.0	0.0	0.0
106	1	13.4	0.0	0.0	0.0
110	1	14.8	0.0	0.0	0.0
114	2	21.2	0.0	0.0	0.0
118	1	13.3	0.0	0.0	0.0
122	1	13.3	0.0	0.0	0.0
126	1	13.3	0.0	0.0	0.0
130	1	13.3	0.0	0.0	0.0
134	1	13.3	0.0	0.0	0.0
138	1	13.2	0.0	0.0	0.0
142	1	13.4	0.0	0.0	0.0
146	1	17.2	0.0	0.0	0.0
150	1	13.5	0.0	0.0	0.0
154	1	13.6	0.0	0.0	0.0
158	1	14.0	0.0	0.0	0.0
162	1	13.5	0.0	0.0	0.0
103	1	13.7	0.0	0.0	0.0
107	1	13.7	0.0	0.0	0.0
111	1	14.6	0.0	0.0	0.0
115	2	25.3	0.0	0.0	0.0
119	1	13.6	0.0	0.0	0.0
123	1	13.6	0.0	0.0	0.0
127	1	13.5	0.0	0.0	0.0
131	1	13.6	0.0	0.0	0.0
135	1	13.3	0.0	0.0	0.0
139	1	13.3	0.0	0.0	0.0
143	4 or more bedrooms	85.7	0.0	0.0	0.0
147	1	13.3	0.0	0.0	0.0
151	1	13.6	0.0	0.0	0.0
155	1	13.2	0.0	0.0	0.0
159	1	14.1	0.0	0.0	0.0
163	1	13.4	0.0	0.0	0.0
104	1	13.4	0.0	0.0	0.0
108	1	13.4	0.0	0.0	0.0
112	2	25.0	0.0	0.0	0.0
116	1	15.7	0.0	0.0	0.0
120	1	13.3	0.0	0.0	0.0
124	1	13.3	0.0	0.0	0.0
128	1	13.3	0.0	0.0	0.0
132	2	13.3	0.0	0.0	0.0
136	1	13.3	0.0	0.0	0.0
140	1	13.3	0.0	0.0	0.0
144	2	25.9	0.0	0.0	0.0
148	1	13.5	0.0	0.0	0.0
152	1	13.6	0.0	0.0	0.0
156	1	13.6	0.0	0.0	0.0
160	1	14.1	0.0	0.0	0.0
164	1	13.6	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
165	1	18.4	0.0	0.0	0.0
169	4 or more bedrooms	87.8	0.0	0.0	0.0
204	1	13.4	0.0	0.0	0.0
208	1	13.4	0.0	0.0	0.0
212	2	25.0	0.0	0.0	0.0
216	1	15.7	0.0	0.0	0.0
220	1	13.3	0.0	0.0	0.0
224	1	13.3	0.0	0.0	0.0
228	1	13.3	0.0	0.0	0.0
232	1	13.3	0.0	0.0	0.0
236	1	13.3	0.0	0.0	0.0
240	1	13.3	0.0	0.0	0.0
244	2	25.9	0.0	0.0	0.0
248	1	13.5	0.0	0.0	0.0
252	1	13.6	0.0	0.0	0.0
256	1	13.6	0.0	0.0	0.0
260	1	14.1	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
166	1	14.8	0.0	0.0	0.0
201	1	13.7	0.0	0.0	0.0
205	1	13.7	0.0	0.0	0.0
209	2	25.2	0.0	0.0	0.0
213	2	23.0	0.0	0.0	0.0
217	1	13.6	0.0	0.0	0.0
221	1	13.6	0.0	0.0	0.0
225	1	13.6	0.0	0.0	0.0
229	1	13.5	0.0	0.0	0.0
233	1	13.4	0.0	0.0	0.0
237	1	13.3	0.0	0.0	0.0
241	1	18.4	0.0	0.0	0.0
245	1	13.3	0.0	0.0	0.0
249	1	13.3	0.0	0.0	0.0
253	1	13.2	0.0	0.0	0.0
257	2	13.2	0.0	0.0	0.0
261	2	23.4	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
167	1	14.5	0.0	0.0	0.0
202	1	16.4	0.0	0.0	0.0
206	1	13.4	0.0	0.0	0.0
210	1	14.8	0.0	0.0	0.0
214	2	21.2	0.0	0.0	0.0
218	1	13.3	0.0	0.0	0.0
222	1	13.3	0.0	0.0	0.0
226	1	13.3	0.0	0.0	0.0
230	1	13.3	0.0	0.0	0.0
234	1	13.3	0.0	0.0	0.0
238	1	13.2	0.0	0.0	0.0
242	1	13.4	0.0	0.0	0.0
246	1	13.5	0.0	0.0	0.0
250	1	13.5	0.0	0.0	0.0
254	1	13.6	0.0	0.0	0.0
258	1	14.0	0.0	0.0	0.0
262	1	13.5	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
168	1	14.5	0.0	0.0	0.0
203	1	13.7	0.0	0.0	0.0
207	1	13.7	0.0	0.0	0.0
211	1	14.6	0.0	0.0	0.0
215	2	25.3	0.0	0.0	0.0
219	1	13.6	0.0	0.0	0.0
223	1	13.6	0.0	0.0	0.0
227	1	13.5	0.0	0.0	0.0
231	1	13.6	0.0	0.0	0.0
235	1	13.3	0.0	0.0	0.0
239	1	13.3	0.0	0.0	0.0
243	4 or more bedrooms	85.7	0.0	0.0	0.0
247	1	13.3	0.0	0.0	0.0
251	1	13.2	0.0	0.0	0.0
255	4 or more bedrooms	13.2	0.0	0.0	0.0
259	1	14.1	0.0	0.0	0.0
263	1	13.4	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
264	1	13.6	0.0	0.0	0.0
268	1	14.5	0.0	0.0	0.0
G03	1	13.8	0.0	0.0	0.0
G07	1	13.3	0.0	0.0	0.0
G11	1	13.3	0.0	0.0	0.0
G15	1	13.3	0.0	0.0	0.0
G19	1	13.3	0.0	0.0	0.0
G23	1	13.3	0.0	0.0	0.0
G27	1	13.3	0.0	0.0	0.0
G31	1	13.3	0.0	0.0	0.0
G35	2	22.9	0.0	0.0	0.0
G39	1	13.3	0.0	0.0	0.0
G42	1	13.3	0.0	0.0	0.0
G48	1	13.3	0.0	0.0	0.0
G51	1	14.2	0.0	0.0	0.0
G55	1	13.4	0.0	0.0	0.0
G59	1	14.5	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
265	1	18.4	0.0	0.0	0.0
269	4 or more bedrooms	87.8	0.0	0.0	0.0
G04	1	13.9	0.0	0.0	0.0
G08	1	13.3	0.0	0.0	0.0
G12	1	13.3	0.0	0.0	0.0
G16	1	13.3	0.0	0.0	0.0
G20	1	13.3	0.0	0.0	0.0
G24	1	13.3	0.0	0.0	0.0
G28	1	13.3	0.0	0.0	0.0
G32	1	15.0	0.0	0.0	0.0
G36	1	13.4	0.0	0.0	0.0
G4\$	1	13.3	0.0	0.0	0.0
G43	1	13.3	0.0	0.0	0.0
G49	1	13.3	0.0	0.0	0.0
G52	1	14.2	0.0	0.0	0.0
G56	1	13.6	0.0	0.0	0.0
G60	1	14.5	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
266	1	14.8	0.0	0.0	0.0
G01	2	143.9	0.0	0.0	0.0
G05	2	25.8	0.0	0.0	0.0
G09	1	13.3	0.0	0.0	0.0
G13	1	13.3	0.0	0.0	0.0
G17	1	13.3	0.0	0.0	0.0
G21	1	13.3	0.0	0.0	0.0
G25	1	13.3	0.0	0.0	0.0
G29	1	13.3	0.0	0.0	0.0
G33	1	14.4	0.0	0.0	0.0
G37	1	13.5	0.0	0.0	0.0
G40	1	13.3	0.0	0.0	0.0
G45	1	13.3	0.0	0.0	0.0
G4^	1	13.3	0.0	0.0	0.0
G53	2	23.6	0.0	0.0	0.0
G57	1	14.8	0.0	0.0	0.0
G61	4 or more bedrooms	87.1	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
267	1	14.5	0.0	0.0	0.0
G02	1	13.7	0.0	0.0	0.0
G06	1	13.3	0.0	0.0	0.0
G10	1	13.3	0.0	0.0	0.0
G14	1	13.3	0.0	0.0	0.0
G18	1	13.3	0.0	0.0	0.0
G22	1	13.3	0.0	0.0	0.0
G26	1	13.3	0.0	0.0	0.0
G30	1	13.2	0.0	0.0	0.0
G34	1	14.4	0.0	0.0	0.0
G38	1	13.3	0.0	0.0	0.0
G41	1	13.3	0.0	0.0	0.0
G47	1	13.3	0.0	0.0	0.0
G50	1	14.1	0.0	0.0	0.0
G54	1	13.4	0.0	0.0	0.0
G58	1	13.3	0.0	0.0	0.0

## Description of project

The tables below describe the dwellings and common areas within the project

### Common areas of unit building - Building1

Common area	Floor area (m <sup>2</sup> )
Gym (No. 1)	36.5
Lift car (No.1)	-
Garbage room (No. 1)	42.0
Plant or service room (No. 1)	31.0
AWC	11.0
Meeting Rooms	34.0
Laundry	17.0

Common area	Floor area (m <sup>2</sup> )
Car park area (No. 1)	1990.0
Lift car (No.2)	-
Community room	84.0
Stairwells	155.0
Comms Rooms	27.0
Admin office	20.0

Common area	Floor area (m <sup>2</sup> )
Bicycle Store	24.0
Switch room (No. 1)	12.0
Communal Dining Rooms	90.0
Cleaner Rooms	11.0
Communal Corridors	743.0
Lobby/Reception	39.0

# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - Building1

### (a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

### (b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

## 2. Commitments for multi-dwelling houses

## 3. Commitments for single dwelling houses

## 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

### 1. Commitments for Residential flat buildings - Building1

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: <ul style="list-style-type: none"> <li>(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and</li> <li>(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.</li> </ul>		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
143, 169, 243, 255, 269, G61	4 star (> 4.5 but <= 6 L/min)	4 star	6 star	6 star	no	-	3 star	-	-	-	-	-	-	-
All other dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	6 star	6 star	no	-	-	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	interlocked to light

Dwelling no.	Cooling		Heating		Artificial lighting					Natural lighting		
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	1	1	no	yes	no	no	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
143, 169, 243, 255, 269, G61	-	-	-	-	electric cooktop & electric oven	4 star	yes	4 star	-	-	no	no
All other dwellings	-	-	-	-	electric cooktop & electric oven	4 star	yes	-	-	-	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The development will be a Class 3 building. The applicant must include in the documentation accompanying the application for a construction certificate (or complying development certificate, if applicable), a report demonstrating that the development will meet Section J of the National Construction Code - Volume 1.	✔	✔	✔

**(b) Common areas and central systems/facilities**

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	6 star	3.5 star

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 1)	-	-	-

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Gym (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / manual off	Yes
Car park area (No. 1)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	Yes
Bicycle Store	ventilation exhaust only	none ie. continuous	light-emitting diode	motion sensors	Yes
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	Yes
Switch room (No. 1)	no mechanical ventilation	-	light-emitting diode	motion sensors	Yes
Garbage room (No. 1)	ventilation exhaust only	-	light-emitting diode	manual on / manual off	Yes
Community room	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	Yes
Communal Dining Rooms	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	Yes
Plant or service room (No. 1)	no mechanical ventilation	-	light-emitting diode	motion sensors	Yes
Stairwells	ventilation exhaust only	none ie. continuous	light-emitting diode	motion sensors	Yes
Cleaner Rooms	ventilation exhaust only	interlocked to light	light-emitting diode	manual on / manual off	Yes
AWC	ventilation exhaust only	interlocked to light	light-emitting diode	manual on / manual off	Yes
Comms Rooms	air conditioning system	none ie. continuous	light-emitting diode	manual on / manual off	Yes
Communal Corridors	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	Yes

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Meeting Rooms	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	Yes
Admin office	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes
Lobby/Reception	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	Yes
Laundry	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired storage (manifolded)	Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R0.6 (~25 mm)
Central cooling system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: air cooled condenser Unit efficiency (min): low - COP < 3.5
Central heating system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency: low - COP < 3.5
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 4
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 3

#### 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

##### (b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	6 star	3.5 star

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 60.0 peak kW
Other	Building management system installed?: yes Common area electric/gas clothes dryer rating: 3 star Common area clothes washer rating: 3 star	-

## Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

## Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Alterations and Additions

Certificate number: A391713

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Alterations and Additions Definitions" dated 06/10/2017 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Friday, 16, October 2020

To be valid, this certificate must be lodged within 3 months of the date of issue.



Planning,  
Industry &  
Environment

## Description of project

Project address	
Project name	4-18 Doncaster Avenue - Heritage Dwelling
Street address	4-18 Doncaster Avenue Kensington 2033
Local Government Area	Randwick City Council
Plan type and number	Deposited Plan -
Lot number	4-18
Section number	
Project type	
Dwelling type	Attached dwelling house
Type of alteration and addition	My renovation work is valued at \$50,000 or more, and does not include a pool (and/or spa).

**Certificate Prepared by** (please complete before submitting to Council or PCA)

Name / Company Name: Wood & Grieve Engineers

ABN (if applicable): 97137999609

Fixtures and systems	Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
<b>Hot water</b>			
The applicant must install the following hot water system in the development: gas storage.	✓	✓	✓
<b>Lighting</b>			
The applicant must ensure a minimum of 40% of new or altered light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.		✓	✓
<b>Fixtures</b>			
The applicant must ensure new or altered showerheads have a flow rate no greater than 9 litres per minute or a 3 star water rating.		✓	✓
The applicant must ensure new or altered toilets have a flow rate no greater than 4 litres per average flush or a minimum 3 star water rating.		✓	✓
The applicant must ensure new or altered taps have a flow rate no greater than 9 litres per minute or minimum 3 star water rating.		✓	

Construction			Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
<b>Insulation requirements</b>					
<p>The applicant must construct the new or altered construction (floor(s), walls, and ceilings/roofs) in accordance with the specifications listed in the table below, except that a) additional insulation is not required where the area of new construction is less than 2m<sup>2</sup>, b) insulation specified is not required for parts of altered construction where insulation already exists.</p>			✓	✓	✓
Construction	Additional insulation required (R-value)	Other specifications			
concrete slab on ground floor.	nil				
external wall: brick veneer	R1.16 (or R1.70 including construction)				
external wall: brick veneer	R1.16 (or R1.70 including construction)				
external wall: brick veneer	R1.16 (or R1.70 including construction)				
external wall: brick veneer	R1.16 (or R1.70 including construction)				
flat ceiling, pitched roof	ceiling: R2.50 (up), roof: foil/sarking	medium (solar absorptance 0.475 - 0.70)			
flat ceiling, flat roof: framed	ceiling: R1.08 (up), roof: foil backed blanket (75 mm)	medium (solar absorptance 0.475 - 0.70)			

Glazing requirements							Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
<b>Windows and glazed doors</b>									
<p>The applicant must install the windows, glazed doors and shading devices, in accordance with the specifications listed in the table below. Relevant overshadowing specifications must be satisfied for each window and glazed door.</p> <p>The following requirements must also be satisfied in relation to each window and glazed door:</p> <p>Each window or glazed door with standard aluminium or timber frames and single clear or toned glass may either match the description, or, have a U-value and a Solar Heat Gain Coefficient (SHGC) no greater than that listed in the table below. Total system U-values and SHGCs must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions.</p> <p>Overshadowing buildings or vegetation must be of the height and distance from the centre and the base of the window and glazed door, as specified in the 'overshadowing' column in the table below.</p>							✓	✓	✓
<b>Windows and glazed doors glazing requirements</b>									
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing		Shading device	Frame and glass type			
			Height (m)	Distance (m)					
W1	N	0.8	9.3	5.7	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)			
W2	N	0.8	6.2	5.7	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)			
W3	E	0.8	9.3	3.72	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)			
W4	E	0.8	9.3	3.72	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)			
W5	E	0.8	6.2	3.72	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)			
W6	E	0.8	6.2	3.72	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)			
W7	S	0.8	9.3	4.8	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)	✓	✓	✓

Glazing requirements						Show on DA Plans	Show on CC/CDC Plans & specs	Certifier Check
Window / door no.	Orientation	Area of glass inc. frame (m2)	Overshadowing Height (m)	Overshadowing Distance (m)	Shading device	Frame and glass type		
W8	S	0.8	6.2	4.8	none	standard aluminium, single toned, (or U-value: 7.57, SHGC: 0.57)		

## Legend

In these commitments, "applicant" means the person carrying out the development.

Commitments identified with a "✓" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).

Commitments identified with a "✓" in the "Show on CC/CDC plans & specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.

Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate for the development may be issued.

Design with  
community in mind

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