

Sir Moses Montefiore Jewish Home

Montefiore
19-25 College Cr, St Ives
BASIX summary report

June 2026



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Montefiore 19-25 College Cr, St Ives BASIX summary report

Sir Moses Montefiore Jewish Home

WSP
Level 27, 680 George Street
Sydney NSW 2000
GPO Box 5394
Sydney NSW 2001

Tel: +61 2 9272 5100
Fax: +61 2 9272 5101
wsp.com

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Prepared by:	D Adlington	11/06/2026	
Reviewed by:	C Woinarski	11/06/2026	
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We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Executive summary

An ESD strategy has been developed for the proposed development at Montefiore 19-25 College Cr, St Ives. This report demonstrates how the proposed development meets the statutory requirements for single occupancy dwellings under BASIX and Section J.

For this proposed development, the following benchmarks must be met when assessed in the online BASIX tool:

Water—Minimum target of 40% potable water use reduction compared to the NSW average

Thermal comfort—Meeting a set of NatHERS modelled maximum heating, cooling and total loads determined under the Sustainable Buildings SEPP, according to the development type and climate zone.

Energy—The following energy use reduction compared to the NSW average

- For multi-unit buildings 4 or 5 storeys above ground, a minimum target of 61%
- For multi-unit buildings 6-20 storeys above ground, a minimum target of 60%

The proposed buildings achieve the following BASIX scores

Building	Energy Score	Water Score	Thermal Performance
Building A	64	40	Pass
Building C	64	40	Pass
Building D	64	40	Pass

Energy

Energy consumption in multi-unit residential buildings is heavily influenced by the utilisation and servicing of the common areas. HVAC and electric lighting systems in the lobbies and common areas as applicable has been carefully designed to reduce energy demands. Simple energy efficiency measures, such as the provision of efficient fittings and fixtures, deliver energy consumption reductions in the dwellings.

Energy efficiency measure in the development include:

- Central heating and cooling system to dwellings
- Central air sourced heat pump DHW systems
- LED lighting with controls to limit unnecessary usage
- Induction cooktops, electric ovens and minimum 2.5 Star dishwasher installed in each unit
- Efficient fans and controls, basement car parks using VSDs & CO monitoring

Water

Water efficiency in the buildings has been achieved through the following:

- High efficiency (high WELS rating) water fixtures & fittings
- Water efficient dishwashers (4 Star WELS) installed in apartments
- Capture of rainwater from Building A and Building B roof area, with at least 15kL central storage capacity, with rainwater reuse for irrigation of buildings' landscaping and car washing in 1 car wash bay on site.

Thermal Comfort Performance

NatHERS modelling has been conducted to evaluate thermal comfort performance of the residential dwellings, and the results of this modelling demonstrate that the architectural design is able to manage thermal loads within the apartments to meet the minimum BASIX benchmarks for this location. High performance double glazed façade selection, appropriate levels of insulation, shading design and operable windows are key to the residential design meeting the thermal comfort requirements.

1 Introduction

An ESD strategy has been developed for the proposed seniors housing development at Montefiore 19-25 College Cr, St Ives. This report demonstrates how the development meets the statutory requirements for sole occupancy dwellings under BASIX and Section J.

The proposed development comprises:

- Site preparation and demolition of existing structures.
- Construction of four buildings ranging in heights from five to eight storeys comprising:
 - approximately one hundred and twenty-six (126) Independent Living Units
 - approximately forty-eight (48) residential care beds,
 - a range of resident amenities and facilities, and
 - basement car parking containing approximately 260 spaces.
- Vehicular and pedestrian access from Link Road and College Crescent.
- Associated landscaping works.

The requirements within this report are for the Independent Living Units (ILU) and any associated Class 2 residential common areas within these buildings. Areas that fall outside of the NCC Building Class 2 classification are not assessed in the BASIX.

1.1 BASIX

BASIX is an online tool that is used to rate the energy and water efficiency and thermal comfort performance of residential dwellings in NSW, in accordance with NSW planning legislation, including the Sustainable Buildings SEPP (SB SEPP).

The tool sets minimum energy and water reduction targets which must be met through the design of the building in its context and the selection of fixtures and fittings.

BASIX assessment applies to all new dwellings including single dwellings, townhouses and low-rise, mid-rise and high-rise developments in NSW.

Design inputs including location, size, construction and glazing materials, water sources, equipment and fittings are used to determine the potential energy and water consumption of a new home or dwelling.

BASIX assesses four main categories:

- 1 Water
- 2 Thermal Comfort Performance
- 3 Energy
- 4 Materials

Thermal comfort is assessed by simulation in accordance with the BASIX Thermal Performance Protocol and NatHERS Technical Note. This requires the modelling and certification of each assessable dwelling by an accredited assessor, working with NatHERS accredited software.

NatHERS modelling assesses the potential of the dwelling to provide thermal comfort passively, thereby reducing energy requirements for heating and cooling. The annual heating and cooling loads calculated are input to the BASIX tool to determine if the dwelling satisfies the maximum heating, cooling and total load limits set for the dwellings and building in the relevant climate zone.

The heating and cooling loads can also affect the BASIX Energy score, with more efficient dwellings contributing a small improvement in Energy score. The BASIX Energy score is also influenced by other factors including efficiency of appliances, heating and cooling system selections, hot water systems, electric lighting efficiency and factors such as use of renewable energy systems.

1.1.1 Sources of Information

This BASIX assessment has relied on the following documentation for inputs and methodology:

- Architectural drawing set for SSDA (frozen) issued by Jackson Teece on 15/05/2026
- Correspondence with Jackson Teece
- Correspondence and coordination with Equity DM team and project design team
- NatHERS Technical note – version 20241023
- BASIX Thermal Performance Protocol June 2024

1.2 Accredited NatHERS Software

Hero software is accredited for simulating the thermal performance of dwellings in Australian climates under the NatHERS software accreditation protocol.

Hero version 4.1 has been used in the assessment of this project, in accordance with the NatHERS Technical Note version 20241023 and the BASIX Thermal Performance Protocol.

Inputs including dwelling geometry, glazing position/type/dimensions, space uses, orientation, climate zone, building materials & finishes and shading from adjacencies, architectural features and obstructions are used to calculate heating and cooling loads for the dwelling.

Resulting loads that are within the heating, cooling and total thresholds set by the SB SEPP will satisfy compliance with the thermal comfort targets of BASIX.

1.3 Application of NCC Volume 1 Section J

The thermal performance requirements for a building's envelope are addressed through Section J – Energy Efficiency of the National Construction Code (NCC) 2022 Volume 1 (as required for the NCC2025):

Part J4 – Building Fabric

Part J5 – Building Sealing

The residential part of this project is regulated under BASIX for energy efficiency compliance.

For each Sole Occupancy Unit (SOU) of a Class 1a or Class 2 building, BASIX determines the building envelope requirements of Section J.

The prescriptive provisions of Section J are therefore not directly applicable to each SOU under this assessment approach. The relevant Performance Requirements have been stated as the maximum thermal comfort heating, cooling and total loads stipulated for BASIX. The non-SOU parts of Class 2 buildings must satisfy the prescriptive provisions of Section J as a minimum.

The architect must take responsibility for specifying and documenting the Performance Requirements of the building fabric, glazing and building sealing performance, as required under BASIX, including those non-SOU parts of the building.

The relevant consultant(s) must take responsibility for specifying the Performance Requirements of the mechanical, electrical and hydraulic services design, as required under the relevant parts of Section J.

2 BASIX

The purpose of the BASIX analysis is to benchmark the proposed development against average NSW residential performance parameters for Water, Thermal Comfort, Energy and Materials. The BASIX benchmarks are determined by development type and climate zone. For this project, the following BASIX benchmarks are to be met:

Water

Minimum target of **40% potable water use reduction** compared to the NSW average

Thermal comfort

Meeting a set of NatHERS modelled maximum heating, cooling and total loads determined for the BASIX tool under the SB SEPP, according to the development type and climate zone. For this development, the thresholds are as follows:

Building Type	Thermal Comfort Scope	Heating (MJ/m ²)	Cooling (MJ/m ²)	Total (MJ/m ²)
Multi-unit buildings up to 5 storeys	Individual Dwelling	32.9	20.4	-
	Building Average	29.7	21.2	-
Multi-unit building 6 or more storeys	Individual Dwelling	34.4	21.4	38.0
	Building Average	20	28.1	30

Energy

- For multi-unit buildings 4 or 5 storeys above ground, a minimum target of **61% energy use reduction** compared to the NSW average
- For multi-unit buildings 6-20 storeys above ground, a minimum target of **60% energy use reduction** compared to the NSW average

Materials

Complete and report the Materials embodied carbon emissions record of construction materials to be employed in the residential buildings, addressing roofs/ceilings, walls and floors and including glazing and insulation materials.

The proposed buildings achieve the following BASIX scores

Building	Energy Score	Water Score	Thermal Performance
Building A	64	40	Pass
Building C	64	40	Pass
Building D	64	40	Pass

The BASIX certificates for the development are included in Appendix A.

2.1 Water

Water efficiency in the building has been achieved through the following:

- Water efficient fittings as shown in Table 2.1
- Capture of rainwater from buildings, per Table 2.2

Table 2.1 Water Fixtures Performance

Fitting / Fixture	WELS rating	Flow rate
Toilets	4 Star	Average 3.5L/flush
Bathroom taps	6 Star	4.5L/min
Kitchen taps	5 Star	6L/min
Shower heads	4 Star	>6.0 but ≤ 7.5 L/min
Washing Machines	-	Not supplied
Dishwashers	4 Star	

Table 2.2 Rainwater strategy

Water Item	Strategy	
Minimum rainwater tank capacity, for use in landscape irrigation and car washing in 1 car washing bay	To be collected from Building A and Building B roof (minimum 1,300 m ² of roof area minimum)	Minimum 15kL total capacity, supplied by roof area capture from each building

2.2 Thermal Comfort

Thermal comfort (NatHERS) modelling is employed in accordance with the BASIX Thermal Performance protocol, to determine heating and cooling loads attributed to achieving acceptable thermal comfort in each dwelling. The results of NatHERS modelling demonstrate that the architectural design can manage thermal loads in the dwellings to meet and exceed the minimum benchmark for the St Ives location.

The maximum allowable thermal loads for a development in this location are shown in Table 2.3. The average thermal loads achieved in this development are shown in the same table for comparison.

Table 2.3 NatHERS Thermal Comfort Performance targets

Building Type	Thermal Comfort Scope	Heating (MJ/m ²)	Cooling (MJ/m ²)	Total (MJ/m ²)
BASIX requirements for multi-unit buildings up to 5 storeys	Individual Dwelling	32.9	20.4	-
	Building Average	29.7	21.2	-
Building C results	Building Average	12.7	10.8	21.7

BASIX requirements for multi-unit building 6 or more storeys	Individual Dwelling	34.4	21.4	38.0
	Building Average	20.0	28.1	30.0
Building A results	Building Average	12.3	12.9	25.2
Building D results	Building Average	10.9	10.8	21.7

2.2.1 NatHERS Modelling Inputs

This section identifies the inputs for windows, shading and constructions used for the NatHERS modelling of the dwellings.

Glazing

Table 2.4 identifies the glazing properties (whole of window system values including frame and glass) used in the NatHERS models.

Table 2.4 Glazing properties

Location		Type	Glass	Frame	U-value	SHGC
All Units	Fixed and sliding windows / doors	Double glazed aluminium frame performance glazing	Double glazing, high solar gain low-E clear	Aluminium	4.3	0.53
	Awning sash and other high-frame-ratio windows					0.47

Any substitution of glazing needs to ensure the system U-value is less than or equal to, and SHGC is within +/-5% of the glazing system values described above.

Note there are exceptions to the above glazing targets for the dwellings and typologies listed in Table 2.5 below

Table 2.5 Glazing – exception cases

Location	Type	Glass	Frame	U-value	SHGC
For Unit numbers:					
Building A: A01-04, A06-01					
Building D: D05-02, D06-02					
the following glazing targets apply:					
Fixed and sliding windows / doors	Double glazed thermally broken aluminium frame performance glazing	Double glazing, high solar gain, low-E clear	Thermally Broken Aluminium	3.1	0.49
Awning sash and other high-frame-ratio windows					0.39

Shading

Shading of the external building fabric alters the impact of solar loads on the internal conditions of each dwelling. NatHERS modelling accounts for sources of fixed shading that can impact each dwelling. Modelling accounted for the following:

- The overhang of any balconies above each dwelling and other self-shading from the building structure.
- Vertical and horizontal shading elements applied to windows and balconies as indicated on stamped plans, including opaque balustrades and low walls.
- Overshadowing from adjacent buildings and fixed obstructions.

- Projecting balcony separator walls and other ‘wing-wall’-type geometry between dwellings.

As required by the modelling protocols, holland blinds have been modelled to all windows, but are not required to be installed as part of the development.

Constructions

Table 2.6 identifies the wall, floor, ceiling and roof construction properties used as part of the NatHERS models.

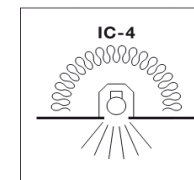
Table 2.6 Construction Properties

Element	Construction	Insulation	Detail
External wall 1	Brick, steel frame and plasterboard internal lining.	Minimum R2.5 rated added bulk insulation to stud frame cavity, with thermal breaks.	Minimum R0.2 rated thermal break to be applied between frame and cladding.
External wall 2	Compressed fibre-cement, steel frame and plasterboard internal lining	Minimum R2.5 rated added bulk insulation to stud frame cavity, with thermal breaks.	Minimum R0.2 rated thermal break to be applied between frame and cladding.
External wall 3 (top level)	Steel cladding, steel frame and plasterboard internal lining	Minimum R2.5 rated added bulk insulation to stud frame cavity, with thermal breaks.	Minimum R0.2 rated thermal break to be applied between frame and cladding.
Party walls	Plasterboard lining, steel frame	Minimum R2.0 rated added bulk insulation to stud frame cavity, with thermal breaks.	Modelled as neighbouring adjacency

Element	Construction	Insulation	Detail
Internal walls (Walls to corridors / common areas)	Plasterboard lining, steel frame	Minimum R2.0 rated added bulk insulation to stud frame cavity, with thermal breaks.	Modelled as neighbouring adjacency
Internal walls (Walls within dwellings)	Plasterboard and light steel stud cavity partition walls	No added insulation required	13mm plasterboard lining, steel studs
Dwelling walls to stairwells/lift cores	250 mm concrete, plasterboard lining	No added insulation required	Modelled as neighbouring
Walls to riser cores and garbage rooms	190 mm concrete block, plasterboard lining	No added insulation required	Modelled as neighbouring
Roof	Suspended 200mm slab roof, cavity below and plasterboard ceiling.	Minimum R3.57 rated added insulation to slab soffit	
Suspended floors	Suspended concrete slab, min. 200mm thick	R2.0 added rigid soffit insulation, exposed floors only	
Ceilings	Plasterboard ceiling linings with cavity beneath slab.	No added insulation for apartments – refer Roof.	Ceilings between levels are uninsulated.

Other inclusions

- Downlights have not been modelled. If downlights are to be fitted, they are to be sealed and rated compliant to allow for continuous installation of insulation over the fitting without resultant penetrations in the insulation or air transfer to the ceiling cavity. An IC-4 fitting rating must be sought in accordance with AS/NZS 60598.2.2 for this purpose.
- Provisions for installation of exhaust fans and association ceiling penetrations have been made in the kitchen and all other wet areas including cupboard laundries. Exhaust fan penetrations are assumed 250mm x 250mm and sealed when not in use.
- Floor coverings:
 - Bedrooms: Carpet
 - Bathrooms/Wet Areas: Tiles
 - Kitchen: Timber
 - Living/Dining: Timber
 - Study: Timber



2.2.2 Modelling Results

This section describes the results from NatHERS modelling. In summary, the dwelling designs as identified and annotated in the stamped drawings can achieve the minimum thermal comfort requirements of BASIX without amendments.

Area adjusted heating and cooling loads and star ratings for each building within the development are summarised in Table 2.7.

Table 2.7 Area adjusted heating and cooling average loads for each building within the development

Building	Heating (MJ/m ²)	Cooling (MJ/m ²)	Total (MJ/m ²)	Star Rating
Building A area weighted average	12.3	12.9	25.2	7.5
Building C area weighted average	12.7	9.2	21.9	7.9
Building D area weighted average	10.9	10.8	21.7	7.9

The above complies with the average building requirements for the BASIX tool under the SB SEPP. The weighted average shown above is calculated according to the conditioned floor area of a dwelling as required for the BASIX too under the SB SEPP. This is different to the building average shown on the NatHERS Group Certificates as NatHERS doesn't require a weighted average based on the conditioned floor area.

A detailed listing of individual area adjusted heating and cooling loads for all dwellings is provided in Appendix D, and these are also reflected in the NatHERS group certificate.

2.2.3 Thermal Comfort Modelling Conclusion

The results of NatHERS modelling demonstrate the apartments, individually and as a building average, can meet the minimum requirements of the Thermal Comfort section of BASIX.

The NatHERS group Universal Certificate(s) are included in Appendix B.
Stamped plans for submission in conjunction with the BASIX Certificate are included in Appendix C.

2.3 Energy

2.3.1 Common Areas

Energy consumption in multi-unit residential buildings is heavily influenced by the utilisation and servicing of the common areas. Domestic hot water (DHW), HVAC and lighting systems in spaces such as car parks and lobbies need to be carefully designed to reduce energy demands.

The common areas will use:

- High efficiency LED light fittings
- Lighting control systems in all spaces such as motion sensors where appropriate, timeclock and BMS control
- Efficient mechanical systems with appropriate controls to avoid overuse
- Car park mechanical ventilation controlled by carbon monoxide sensors and VSD fans

Details of the proposed energy strategy for the common areas of the residential portion of the building are summarised in Table 2.8.

Table 2.8 Energy strategies for common areas & central systems

Energy Item	Strategy
DHW heating system	Central hot water system, electric heat pump air sourced, with unit efficiency of 2.0 < COP <=2.5 and internal piping insulation R0.6 (~25 mm)

Energy Item	Strategy
Lift motors	Gearless traction with VVVF motors
Lighting	Car Park— LED; zoned switching with motion sensor Lifts—LED; connected to lift call button Hallways—LED; motion sensors
Ventilation	Car park —ventilation exhaust only; carbon monoxide monitor + VSD fan Hallways—no mechanical ventilation Communal areas—air conditioning system, time clock or BMS controlled
Solar PV	0 kW (not required for BASIX, however PV is included in the design)

2.3.2 Dwellings

Space heating and comfort cooling can account for up to 60% of the energy use of an average residential dwelling. Targeting these systems as a priority supports the greatest energy consumption reductions. Simple energy efficiency measures such as the provision of efficient fittings and fixtures can deliver energy consumption reductions.

The dwellings will include the following initiatives:

- Lighting will consist of dedicated LED light fittings
- Outdoor or unsheltered clothes drying lines will be provided to each dwelling
- Ceiling fans

Table 2.9 Energy strategies for the dwellings

Energy Item	Strategy
Appliances	Cooktop - Induction Oven – Electric Appliances to meet the following Energy Star ratings: Dishwashers minimum 2.5 star (new rating)
Central cooling system	Central system: chilled water fan coil units with electric driven compressor and cooling tower (to represent water cooled chiller) Unit efficiency: low – COP <3.5
Central heating system	Central system: variable refrigerant volume units with electric driven compressor and air sourced evaporator. Unit efficiency: low – COP <3.5
Domestic Hot Water	Central hot water system, electric heat pump air sourced. Unit efficiency: $2.0 < \text{COP} \leq 2.5$ Internal piping insulation: R0.6 (~25 mm)
Lighting	LED throughout
Ventilation	Bathroom, Laundry and Kitchen exhausts - individual fan ducted to facade; manual switched

2.4 BASIX Materials

The Materials embodied impacts section of BASIX has been completed to represent the average quantity of materials used in each of the main construction elements of the buildings (floors, internal and external walls, ceiling and roofs, glazing), based on the calculated areas of those elements from representative NatHERS models and the additional common areas.

The inputs to the materials section of the BASIX certificate are used for data reporting purposes only, and there is no compliance target to be achieved for Materials.

3 Limitations

The results from the NatHERS modelling in this report are limited in accuracy by factors including the following:

- Actual energy consumption to achieve thermal comfort will be affected by variations in the climate, installed equipment, occupants and their behaviour which modelling does not account for.
- Construction details being consistent with the design documentation provided.
- Orientation and apartment layout being as shown on the drawings.

Results should not be interpreted for any purpose other than for assessing the thermal comfort section of BASIX.

Appendix A

BASIX Certificates



BASIX™ Certificate

Building Sustainability Index

www.planningportal.nsw.gov.au/development-and-assessment/basix

Multi Dwelling

Certificate number: 1850850M

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.planningportal.nsw.gov.au/definitions

Secretary

Date of issue: Thursday, 11 June 2026

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate HR-YN7MXX-01.

Project summary

Project name	Montefiore St Ives
Street address	19-25 COLLEGE CRESCENT ST IVES 2075
Local Government Area	KU-RING-GAI
Plan type and plan number	Strata Plan -
Lot no.	-
Section no.	-
No. of residential flat buildings	3
Residential flat buildings: no. of dwellings	126
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

Project score

Water	✓ 40	Target 40
Thermal Performance (Simulation method)	✓ Pass	Target Pass
Energy	✓ 64	Target 61
Materials	✓ -100	Target n/a

Certificate Prepared by

Name / Company Name: WSP Australia Pty Ltd

ABN (if applicable): 80078004798

Description of project

Project address	
Project name	Montefiore St Ives
Street address	19-25 COLLEGE CRESCENT ST IVES 2075
Local Government Area	KU-RING-GAI
Plan type and plan number	Strata Plan -
Lot no.	-
Section no.	-
Project type	
No. of residential flat buildings	3
Residential flat buildings: no. of dwellings	126
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m²)	14497
Roof area (m²)	3733
Non-residential floor area (m²)	-
Residential car spaces	226
Non-residential car spaces	56

Common area landscape		
Common area lawn (m²)	364	
Common area garden (m²)	5388	
Area of indigenous or low water use species (m²)	0	
Assessor details and thermal loads		
Assessor number	DMN/19/1903	
Certificate number	HR-YN7MXX-01	
Climate zone	56	
Project score		
Water	✓ 40	Target 40
Thermal Performance (Simulation method)	✓ Pass	Target Pass
Energy	✓ 64	Target 61
Materials	✓ -100	Target n/a

Description of project

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

Residential flat buildings - Building A, 36 dwellings, 8 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A1-01	2	121.4	0	0	0
A1-05	3	124.4	0	0	0
A2-04	3	133.6	0	0	0
A3-02	3	130.7	0	0	0
A3-06	2	100.6	0	0	0
A4-04	3	133.7	0	0	0
A5-02	3	130.7	0	0	0
A5-06	2	100.6	0	0	0
A6-04	3	124.8	0	0	0
A1-02	3	130.7	0	0	0
A2-01	2	121.6	0	0	0
A2-05	3	124.4	0	0	0
A3-03	2	103.8	0	0	0
A4-01	2	121.6	0	0	0
A4-05	3	124.7	0	0	0
A5-03	2	104.3	0	0	0
A6-01	3	149.1	0	0	0
A6-05	2	100.6	0	0	0
A1-03	2	103.8	0	0	0
A2-02	3	130.7	0	0	0
A2-06	2	100.6	0	0	0
A3-04	3	133.7	0	0	0
A4-02	3	130.7	0	0	0
A4-06	2	100.6	0	0	0
A5-04	3	133.7	0	0	0
A6-02	2	104.3	0	0	0
A7-01	3	179.9	0	0	0
A1-04	3	133.3	0	0	0
A2-03	2	103.8	0	0	0
A3-01	2	121.6	0	0	0
A3-05	3	124.7	0	0	0
A4-03	2	104.3	0	0	0
A5-01	2	121.6	0	0	0
A5-05	3	124.7	0	0	0
A6-03	3	133.7	0	0	0
A7-02	3	174.1	0	0	0

Residential flat buildings - Building C, 35 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C1-01	2	102	0	0	0
C1-05	2	110	0	0	0
C2-01	2	102	0	0	0
C2-05	2	110	0	0	0
C1-02	3	125	0	0	0
C1-06	2	123	0	0	0
C2-02	3	125	0	0	0
C2-06	2	123	0	0	0
C1-03	3	121	0	0	0
C1-07	3	138	0	0	0
C2-03	3	121	0	0	0
C2-07	3	138	0	0	0
C1-04	2	112	0	0	0
C1-08	2	96	0	0	0
C2-04	2	112	0	0	0
C2-08	2	96	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C3-01	2	102	0	0	0
C3-05	2	110	0	0	0
C4-01	2	103	0	0	0
C4-05	3	133	0	0	0
CG-03	3	121	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C3-02	2	113	0	0	0
C3-06	2	123	0	0	0
C4-02	3	147	0	0	0
C4-06	2	96	0	0	0
CG-04	1	90	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C3-03	2	108	0	0	0
C3-07	3	138	0	0	0
C4-03	2	114	0	0	0
CG-01	1	85	0	0	0
CG-05	2	103	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C3-04	2	112	0	0	0
C3-08	2	96	0	0	0
C4-04	2	117	0	0	0
CG-02	2	117	0	0	0

Residential flat buildings - Building D, 55 dwellings, 9 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
D1-01	2	117	0	0	0
D1-05	2	117.2	0	0	0
D2-01	2	117.0	0	0	0
D2-05	2	117.2	0	0	0
D3-01	2	117.0	0	0	0
D3-05	2	117.2	0	0	0
D4-01	2	117.0	0	0	0
D4-05	2	117.2	0	0	0
D5-01	2	117.0	0	0	0
D5-05	2	99.0	0	0	0
D6-01	2	153.3	0	0	0
D6-05	3	99.3	0	0	0
D8-03	3	98.3	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
D1-02	3	97.6	0	0	0
D1-06	3	99.0	0	0	0
D2-02	3	97.6	0	0	0
D2-06	3	99.0	0	0	0
D3-02	3	97.6	0	0	0
D3-06	3	99.0	0	0	0
D4-02	3	97.6	0	0	0
D4-06	3	99.0	0	0	0
D5-02	3	97.6	0	0	0
D5-06	3	110.3	0	0	0
D6-02	3	162.8	0	0	0
D6-06	2	110.8	6.43	0	0
DG-01	3	108.6	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
D1-03	3	108.6	0	0	0
D1-07	2	110.3	0	0	0
D2-03	3	108.6	0	0	0
D2-07	2	110.3	0	0	0
D3-03	3	108.6	0	0	0
D3-07	2	110.3	0	0	0
D4-03	3	108.6	0	0	0
D4-07	2	110.3	0	0	0
D5-03	3	108.6	0	0	0
D5-07	2	165.4	0	0	0
D6-03	2	190.5	0	0	0
D8-01	3	131.5	0	0	0
DG-02	2	127.7	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
D1-04	2	127.7	0	0	0
D1-08	2	131.1	0	0	0
D2-04	2	127.7	0	0	0
D2-08	2	131.1	0	0	0
D3-04	2	127.7	0	0	0
D3-08	2	131.1	0	0	0
D4-04	2	127.7	0	0	0
D4-08	2	131.1	0	0	0
D5-04	2	160.7	0	0	0
D5-08	2	97.3	0	0	0
D6-04	2	117.3	0	0	0
D8-02	3	118.0	0	0	0
DG-03	2	117.2	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
DG-04	3	99.0	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
DG-05	2	110.3	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
DG-06	2	131.1	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)

Description of project

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

Common areas of unit building - Building A

Common area	Floor area (m ²)	Common area	Floor area (m ²)
1st Floor - ILU Communal - Type A	104	Hallway/lobby type - Type A	595

Common areas of unit building - Building C

Common area	Floor area (m ²)	Common area	Floor area (m ²)
Higher Floors - Lobby/Hallway - Type C	420	Ground floor lobby type - Type C	140

Common areas of unit building - Building D

Common area	Floor area (m ²)	Common area	Floor area (m ²)	Common area	Floor area (m ²)
Lift bank (No. 1)	-	Lift bank (No. 2)	-	Lift bank (No. 3)	-
Higher Floors - Lobby/Hallway - Type D	733	Ground floor lobby type - Type D	132		

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Undercover car park area (No. 1)	10800

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building A

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

2. Commitments for Residential flat buildings - Building C

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

3. Commitments for Residential flat buildings - Building D

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

- (ii) Energy

- (iii) Thermal Performance

- (c) Common areas and central systems/facilities

- (i) Water

- (ii) Energy

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

- (a) Buildings 'Other'

- (i) Materials

- (b) Common areas and central systems/facilities

- (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 - Building A

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	2529	-	-
floors above habitable rooms, frame: suspended concrete slab	7868	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer, frame: light steel frame	638	-	-
External wall type 2	framed (fibre cement sheet or boards), frame: light steel frame	1488	-	-

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	9290	-
Internal wall type 2	Concrete, frame:no frame	1640	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
yes	522	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
framed - metal roof, frame: light steel frame	823	-	-
concrete - plasterboard internal, frame: no frame	924	-	-

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	1417	-	1417	-	-	-	-

(b) 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: (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 (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.		✓ ✓	✓ ✓
(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.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	6 star	-	not specified	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.		✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 1)	individual fan, ducted to façade	manual switch on/off	individual fan, ducted to façade	manual switch on/off	individual fan, ducted to façade	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 1)	Central cooling system (No. 1)	Central heating system (No. 1)	Central heating system (No. 1)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	2.5 star	not specified	no	no

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
A1-01	22.6	14.1	36.700
A1-02	20.5	13.9	34.400
A1-03	5	9.6	14.600
A1-04	25.3	9.7	35.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
A1-05	13.7	12.1	25.800
A2-01	11	13.1	24.100
A2-02	10.8	14.1	24.900
A2-03	5.4	9.7	15.100
A2-04	16.7	12.4	29.100
A2-05	10.5	13.1	23.600
A2-06	5.6	17.1	22.700
A3-01	12.3	11.9	24.200
A3-02	13.9	11.9	25.800
A3-03	7.1	8.1	15.200
A3-04	20.4	11.4	31.800
A3-05	13.5	11.7	25.200
A3-06	7.9	15	22.900
A4-01	12.3	11.8	24.100
A4-02	13.7	14.1	27.800
A4-03	6.1	8.9	15.000
A4-04	14.8	18.9	33.700
A4-05	9.6	12.7	22.300
A4-06	7.8	15.4	23.200
A5-01	13	9	22.000
A5-02	12	10.7	22.700
A5-03	6.3	9.3	15.600
A5-04	13.2	19.1	32.300
A5-05	9.9	12.9	22.800
A5-06	7.8	15.2	23.000
A6-01	18.5	11.1	29.600
A6-02	7.4	9.4	16.800
A6-03	12.0	13.6	25.600
A6-04	8.9	12	20.900
A6-05	8.6	15.8	24.400
A7-01	13.60	14.7	28.300

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
All other dwellings	12.7	14.8	27.500

(c) 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	no common facility	no common facility	no common laundry facility

(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.	✓	✓	✓

	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
1st Floor - ILU Communal - Type A	air conditioning system	time clock or BMS controlled	light-emitting diode	time clocks	yes
Hallway/lobby type - Type A	no mechanical ventilation	-	light-emitting diode	motion sensors	yes

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 7 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower 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
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R0.6 (~25 mm) (c) Unit Efficiency: $2.0 < \text{COP} \leq 2.5$

2. Commitments for Residential flat buildings - Building C

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	2529	-	-
floors above habitable rooms, frame: suspended concrete slab	7868	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer, frame: light steel frame	638	-	-
External wall type 2	framed (fibre cement sheet or boards), frame: light steel frame	1488	-	-

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame: light steel frame	9290	-
Internal wall type 2	Concrete, frame: no frame	1640	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
yes	522	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
framed - metal roof, frame: light steel frame	823	-	-
concrete - plasterboard internal, frame: no frame	924	-	-

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	1417	-	1417	-	-	-	-

(b) 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: (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 (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.		✓ ✓	✓ ✓
(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.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	6 star	-	not specified	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.		✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 2)	individual fan, ducted to façade	manual switch on/off	individual fan, ducted to façade	manual switch on/off	individual fan, ducted to façade	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 2)	Central cooling system (No. 2)	Central heating system (No. 2)	Central heating system (No. 2)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	2.5 star	not specified	no	no

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
C1-01	15.5	5.5	21.000
C1-02	4.1	7.1	11.200
C1-03	7.7	17	24.700
C1-04	7.3	5.9	13.200

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
C1-05	5	7.9	12.900
C1-06	12.4	19.2	31.600
C1-07	26.6	7.3	33.900
C1-08	11.6	5.7	17.300
C2-01	12.7	5.8	18.500
C2-02	3.9	7	10.900
C2-03	6.1	15.9	22.000
C2-04	8.3	5.5	13.800
C2-05	5.2	7.1	12.300
C2-06	9.3	16.8	26.100
C2-07	17.4	6.2	23.600
C2-08	10.6	6.3	16.900
C3-01	15.6	5.1	20.700
C3-02	7.7	8.1	15.800
C3-03	9.3	14.3	23.600
C3-04	12.3	5.4	17.700
C3-05	8.5	5.7	14.200
C3-06	17.5	13.4	30.900
C3-07	24.8	5.6	30.400
C3-08	13.1	6.3	19.400
C4-01	23.2	4.9	28.100
C4-02	9.3	10.9	20.200
C4-03	22.3	10.1	32.400
C4-04	13.8	10.5	24.300
C4-05	29.8	8.2	38.000
C4-06	18	6.8	24.800
CG-01	21.2	5.9	27.100
CG-02	5.5	8.6	14.100
CG-03	6.5	17.5	24.000
CG-04	9.7	10.1	19.800
All other dwellings	9.4	12.6	22.000

(c) 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	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	15000	To collect run-off from at least: - 1300 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 5603.62 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site

(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.		✓	✓

(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 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
Higher Floors - Lobby/ Hallway - Type C	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Ground floor lobby type - Type C	no mechanical ventilation	-	light-emitting diode	motion sensors	yes

Central energy systems	Type	Specification
Lift bank (No. 2)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 5 number of levels from the bottom of the lift shaft to the top of the lift shaft: 7 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central cooling system (No. 2)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): low – COP < 3.5
Central heating system (No. 2)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency low – COP < 3.5
Central hot water system (No. 2)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R0.6 (~25 mm) (c) Unit Efficiency: $2.0 < \text{COP} \leq 2.5$

3. Commitments for Residential flat buildings - Building D

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	2529	-	-
floors above habitable rooms, frame: suspended concrete slab	7868	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer, frame: light steel frame	638	-	-
External wall type 2	framed (fibre cement sheet or boards), frame: light steel frame	1488	-	-

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame: light steel frame	9290	-
Internal wall type 2	Concrete, frame: no frame	1640	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m ³)	Low emissions option
yes	522	-

Ceiling and roof types			
Ceiling and roof type	Area (m ²)	Roof Insulation	Ceiling Insulation
framed - metal roof, frame: light steel frame	823	-	-
concrete - plasterboard internal, frame: no frame	924	-	-

Glazing types			Frame types				
Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
-	1417	-	1417	-	-	-	-

(b) 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: (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 (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.		✓ ✓	✓ ✓
(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.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	6 star	-	not specified	4 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.		✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 3)	individual fan, ducted to façade	manual switch on/off	individual fan, ducted to façade	manual switch on/off	individual fan, ducted to façade	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 3)	Central cooling system (No. 3)	Central heating system (No. 3)	Central heating system (No. 3)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	2.5 star	not specified	no	no

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
D1-01	8.1	5.7	13.800
D1-02	17.9	14.6	32.500
D1-03	10.4	21.3	31.700
D1-04	5.4	10.2	15.600

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
D1-05	5.5	16.7	22.200
D1-06	5.5	18.9	24.400
D1-07	7.2	14.9	22.100
D1-08	7.9	5.8	13.700
D2-01	9.8	3.9	13.700
D2-02	22.5	7.0	29.500
D2-03	19.6	9.4	29.000
D2-04	8.5	6.2	14.700
D2-05	8.9	8.2	17.100
D2-06	6.4	18.9	25.300
D2-07	5.3	15.3	20.600
D2-08	8.1	4.9	13.000
D3-01	7.8	4.7	12.500
D3-02	19.7	12.7	32.400
D3-03	15.9	16.8	32.700
D3-04	8.0	7.0	15.000
D3-05	7.2	13.1	20.300
D3-06	8.9	15.3	24.200
D3-07	7.6	14.5	22.100
D3-08	10.5	4.3	14.800
D4-01	7.4	4.7	12.100
D4-02	19.8	13.3	33.100
D4-03	16.5	16.3	32.800
D4-04	8.5	7.2	15.700
D4-05	7.6	12.7	20.300
D4-06	10.8	15.3	26.100
D4-07	8.1	15.2	23.300
D4-08	10.6	4.6	15.200
D5-01	7.0	4.7	11.700
D5-02	18.3	10.1	28.400
D5-03	19.3	15.7	35.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
D5-04	9.1	6.9	16.000
D5-05	8.1	12.3	20.400
D5-06	12.0	14.9	26.900
D5-07	10.5	14.5	25.000
D5-08	10.7	4.7	15.400
D6-01	8.2	5.0	13.200
D6-02	19.1	8.2	27.300
D6-03	10.7	7.0	17.700
D6-04	10.2	13.1	23.300
D6-05	6.4	12.8	19.200
D6-06	13.5	4.5	18.000
D8-01	23.0	11.2	34.200
D8-02	17.1	10.8	27.900
D8-03	14.7	12.6	27.300
DG-01	15.3	16.7	32.000
DG-02	8.3	18.0	26.300
DG-03	10.9	12.7	23.600
DG-04	7.9	16.6	24.500
DG-05	6.4	13.3	19.700
All other dwellings	7.4	5.5	12.900

(c) 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	no common facility	no common facility	no common laundry facility

(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.	✓	✓	✓

	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
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 3)	-	-	light-emitting diode	connected to lift call button	no
Higher Floors - Lobby/ Hallway - Type D	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Ground floor lobby type - Type D	no mechanical ventilation	-	light-emitting diode	motion sensors	yes

Central energy systems	Type	Specification
Lift bank (No. 3)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central cooling system (No. 3)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): low – COP < 3.5
Central heating system (No. 3)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency low – COP < 3.5
Central hot water system (No. 3)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R0.6 (~25 mm) (c) Unit Efficiency: $2.0 < \text{COP} \leq 2.5$

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

(a) Buildings 'Other'

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	1	-	-
floors above habitable rooms, frame: suspended concrete slab	1	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer,frame:light steel frame	1	-	-
External wall type 2	framed (fibre cement sheet or boards),frame:light steel frame	1	-	-

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
-	-	-	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m ³)	Low emissions option
-	-	-

Ceiling and roof types			
Ceiling and roof type	Area (m ²)	Roof Insulation	Ceiling Insulation
-	-	-	

Glazing types			Frame types				
Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
-	-	-	-	-	-	-	-

(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	no common facility	no common facility	no common laundry facility

(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.	✓	✓	✓

	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
Undercover car park area (No. 1)	ventilation exhaust only	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	yes

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 0 peak kW
Other	Building management system installed?: yes Common area electric / gas clothes dryer rating: not specified Common area clothes washer rating: not specified	-

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).

Appendix B

NatHERS Group Universal Certificates



Nationwide House Energy Rating Scheme® Class 2 Summary

NatHERS® Certificate No. #HR-YN7MXX-01

Generated on 04 Jun 2026 using Hero 4.1

Property

Address 19-25 College Crescent, St Ives, NSW, 2075

Lot/DP

NatHERS climate zone 56 - Mascot AMO



Accredited assessor

Name Christie Woinarski
Business name WSP
Email christie.woinarski@wsp.com
Phone +61 428937977
Accreditation No. DMN/19/1903
Assessor Accrediting Organisation DMN

Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-YN7MXX-01>.

When using either link, ensure you are visiting <http://www.hero-software.com.au>



National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m².yr)	Cooling load (load limit) (MJ/m².yr)	Total load (MJ/m².yr)	Star Rating	Whole of Home Rating
HR-4JFQTI-01	A01-01	22.6 (34)	14.1 (21)	36.7	6.2	n/a
HR-P0RKMM-01	A01-02	20.5 (34)	13.9 (21)	34.4	6.4	n/a
HR-B6O626-01	A01-03	5.0 (34)	9.6 (21)	14.6	8.7	n/a

Thermal performance Star rating



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME®

The rating above is the average of all dwellings in this summary.

For more information on your dwelling's rating see:
www.nathers.gov.au

NCC heating and cooling maximum loads MJ/m².yr

Limits taken from ABCB Standard 2022

	Heating	Cooling
Average load	11.9	12.8
Maximum load	25.3	19.1
Average limit	28.1	20.0
Maximum limit	34.4	21.4

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate or not completed for all dwellings.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-3ICFGQ-01	A01-04	25.3 (34)	9.7 (21)	35.0	6.4	n/a
HR-KKQT1Y-01	A01-05	13.7 (34)	12.1 (21)	25.8	7.4	n/a
HR-0Y5RID-01	A02-01	11.0 (34)	13.1 (21)	24.2	7.6	n/a
HR-4DAZ7D-01	A02-02	10.8 (34)	14.1 (21)	24.9	7.5	n/a
HR-YO485F-01	A02-03	5.4 (34)	9.7 (21)	15.1	8.6	n/a
HR-LU5IZX-01	A02-04	16.7 (34)	12.4 (21)	29.1	7.1	n/a
HR-0KPOQI-01	A02-05	10.5 (34)	13.1 (21)	23.6	7.7	n/a
HR-KNAX4O-01	A02-06	5.6 (34)	17.1 (21)	22.7	7.8	n/a
HR-DUON3W-01	A03-01	12.3 (34)	11.9 (21)	24.2	7.6	n/a
HR-X1VXYB-01	A03-02	13.9 (34)	11.9 (21)	25.8	7.4	n/a
HR-1N9FH9-01	A03-03	7.1 (34)	8.1 (21)	15.2	8.6	n/a
HR-GB9YBV-01	A03-04	20.4 (34)	11.4 (21)	31.8	6.8	n/a
HR-AGLEU8-01	A03-05	13.5 (34)	11.7 (21)	25.3	7.4	n/a
HR-9IVPDN-01	A03-06	7.9 (34)	15.0 (21)	22.9	7.8	n/a
HR-0DFMPC-01	A04-01	12.3 (34)	11.8 (21)	24.0	7.6	n/a
HR-XIOXBJ-01	A04-02	13.7 (34)	14.1 (21)	27.8	7.2	n/a
HR-1IOTNV-01	A04-03	6.1 (34)	8.9 (21)	15.1	8.6	n/a
HR-0M0Y66-01	A04-04	14.8 (34)	18.9 (21)	33.8	6.5	n/a
HR-F25UP5-01	A04-05	9.6 (34)	12.7 (21)	22.3	7.8	n/a
HR-2EKN CZ-01	A04-06	7.8 (34)	15.4 (21)	23.2	7.7	n/a
HR-ACQS81-01	A05-01	13.0 (34)	9.0 (21)	22.0	7.9	n/a
HR-X4XUR3-01	A05-02	12.0 (34)	10.7 (21)	22.7	7.8	n/a
HR-9BCVV0-01	A05-03	6.3 (34)	9.3 (21)	15.6	8.5	n/a
HR-MJF7LW-01	A05-04	13.2 (34)	19.1 (21)	32.3	6.7	n/a
HR-4CS71F-01	A05-05	9.9 (34)	12.9 (21)	22.8	7.8	n/a
HR-ZVXG6F-01	A05-06	7.8 (34)	15.2 (21)	23.0	7.8	n/a
HR-9A8PVY-01	A06-01	18.5 (34)	11.1 (21)	29.6	7.0	n/a
HR-A8LE6A-01	A06-02	7.4 (34)	9.4 (21)	16.9	8.4	n/a
HR-B7HCHK-01	A06-03	10.2 (34)	15.2 (21)	25.4	7.4	n/a

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-PPHC7F-01	A06-04	8.9 (34)	12.0 (21)	20.9	8.0	n/a
HR-49COHA-01	A06-05	8.6 (34)	15.8 (21)	24.5	7.6	n/a
HR-Y6TI8A-01	A07-01	13.6 (34)	14.7 (21)	28.2	7.2	n/a
HR-F9ELTS-01	A07-02	12.7 (34)	14.8 (21)	27.5	7.3	n/a
Averages	36x (Total)	11.9	12.8	24.7	7.6	n/a
Maximum Loads and Minimum Ratings		25.3	19.1	36.7	6.2	n/a

Explanatory notes

About the ratings

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. The Whole of Home performance rating in this Certificate is the lowest rating for the apartment block. Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the home's societal cost. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Nationwide House Energy Rating Scheme® Class 2 Summary

NatHERS® Certificate No. #HR-99MUMG-01

Generated on 04 Jun 2026 using Hero 4.1

Property

Address 19-25 College Crescent, St Ives, NSW, 2075

Lot/DP

NatHERS climate zone 56 - Mascot AMO



Accredited assessor

Name Christie Woinarski
Business name WSP
Email christie.woinarski@wsp.com
Phone +61 428937977
Accreditation No. DMN/19/1903
Assessor Accrediting Organisation DMN

Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-99MUMG-01>.

When using either link, ensure you are visiting <http://www.hero-software.com.au>



National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME®

The rating above is the average of all dwellings in this summary.

For more information on your dwelling's rating see:
www.nathers.gov.au

NCC heating and cooling maximum loads MJ/m².yr

Limits taken from ABCB Standard 2022

	Heating	Cooling
Average load	12.6	9.0
Maximum load	29.8	19.2
Average limit	29.7	21.2
Maximum limit	32.9	20.4

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate or not completed for all dwellings.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m².yr)	Cooling load (load limit) (MJ/m².yr)	Total load (MJ/m².yr)	Star Rating	Whole of Home Rating
HR-21WZ2T-01	C01-01	15.5 (33)	5.5 (20)	20.9	8.0	n/a
HR-TMPPVY-01	C01-02	4.1 (33)	7.1 (20)	11.2	9.1	n/a
HR-MAT56J-01	C01-03	7.7 (33)	17.0 (20)	24.7	7.5	n/a

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-2DAU0N-01	C01-04	7.3 (33)	5.9 (20)	13.1	8.9	n/a
HR-F2AXYR-01	C01-05	5.0 (33)	7.9 (20)	12.9	8.9	n/a
HR-ZD0XXN-01	C01-06	12.4 (33)	19.2 (20)	31.7	6.8	n/a
HR-75WRQM-01	C01-07	26.6 (33)	7.3 (20)	33.9	6.5	n/a
HR-NG9U07-01	C01-08	11.6 (33)	5.7 (20)	17.3	8.4	n/a
HR-XKX56M-01	C02-01	12.7 (33)	5.8 (20)	18.5	8.3	n/a
HR-V0BO1U-01	C02-02	3.9 (33)	7.0 (20)	10.8	9.2	n/a
HR-FC24UU-01	C02-03	6.1 (33)	15.9 (20)	22.0	7.9	n/a
HR-1XI71I-01	C02-04	8.3 (33)	5.5 (20)	13.9	8.8	n/a
HR-5ZNYWI-01	C02-05	5.2 (33)	7.1 (20)	12.3	8.9	n/a
HR-XAX37R-01	C02-06	9.3 (33)	16.8 (20)	26.0	7.4	n/a
HR-8O58FS-01	C02-07	17.4 (33)	6.2 (20)	23.6	7.7	n/a
HR-R4G1BF-01	C02-08	10.6 (33)	6.3 (20)	16.9	8.4	n/a
HR-0TXN1B-01	C03-01	15.6 (33)	5.1 (20)	20.7	8.0	n/a
HR-4UACC6-01	C03-02	7.7 (33)	8.1 (20)	15.7	8.5	n/a
HR-5RB1A7-01	C03-03	9.3 (33)	14.3 (20)	23.6	7.7	n/a
HR-6JM5CE-01	C03-04	12.3 (33)	5.4 (20)	17.7	8.3	n/a
HR-1QWTXX-01	C03-05	8.5 (33)	5.7 (20)	14.2	8.7	n/a
HR-WEZD63-01	C03-06	17.5 (33)	13.4 (20)	30.9	6.9	n/a
HR-FT4W6G-01	C03-07	24.8 (33)	5.6 (20)	30.4	6.9	n/a
HR-24ABXA-01	C03-08	13.1 (33)	6.3 (20)	19.4	8.2	n/a
HR-SSN5Z3-01	C04-01	23.2 (33)	4.9 (20)	28.1	7.2	n/a
HR-FHOLHB-01	C04-02	9.3 (33)	10.9 (20)	20.2	8.1	n/a
HR-V4UGHQ-01	C04-03	22.3 (33)	10.1 (20)	32.4	6.7	n/a
HR-IVL65K-01	C04-04	13.8 (33)	10.5 (20)	24.3	7.6	n/a
HR-OQL2ML-01	C04-05	29.8 (33)	8.2 (20)	38.0	6.0	n/a
HR-K4806K-01	C04-06	18.0 (33)	6.8 (20)	24.8	7.5	n/a
HR-8KEMPQ-01	CG-01	21.2 (33)	5.9 (20)	27.2	7.3	n/a
HR-72XKRH-01	CG-02	5.5 (33)	8.6 (20)	14.1	8.7	n/a

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-IVOYMC-01	CG-03	6.5 (33)	17.5 (20)	24.0	7.6	n/a
HR-8EGXGN-01	CG-04	9.7 (33)	10.1 (20)	19.7	8.1	n/a
HR-I89DHW-01	CG-05	9.4 (33)	12.6 (20)	22.0	7.9	n/a
Averages	35x (Total)	12.6	9.0	21.6	7.9	n/a
Maximum Loads and Minimum Ratings		29.8	19.2	38.0	6.0	n/a

Explanatory notes

About the ratings

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. The Whole of Home performance rating in this Certificate is the lowest rating for the apartment block. Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the homes societal cost.

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Disclaimer

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The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

Nationwide House Energy Rating Scheme® Class 2 Summary

NatHERS® Certificate No. #HR-KZBM8L-01

Generated on 04 Jun 2026 using Hero 4.1

Property

Address 19-25 College Crescent, St Ives, NSW, 2075

Lot/DP

NatHERS climate zone 56 - Mascot AMO



Accredited assessor

Name Christie Woinarski
Business name WSP
Email christie.woinarski@wsp.com
Phone +61 428937977
Accreditation No. DMN/19/1903
Assessor Accrediting Organisation DMN

Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-KZBM8L-01>.

When using either link, ensure you are visiting <http://www.hero-software.com.au>



National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m².yr)	Cooling load (load limit) (MJ/m².yr)	Total load (MJ/m².yr)	Star Rating	Whole of Home Rating
HR-2Q0TUB-01	D01-01	8.1 (34)	5.7 (21)	13.8	8.8	n/a
HR-6R9TJF-01	D01-02	17.9 (34)	14.6 (21)	32.4	6.7	n/a
HR-TXF4MA-01	D01-03	10.4 (34)	21.3 (21)	31.7	6.8	n/a

Thermal performance Star rating



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME®

The rating above is the average of all dwellings in this summary.

For more information on your dwelling's rating see:
www.nathers.gov.au

NCC heating and cooling maximum loads MJ/m².yr

Limits taken from ABCB Standard 2022

	Heating	Cooling
Average load	11.0	11.1
Maximum load	23.0	21.3
Average limit	28.1	20.0
Maximum limit	34.4	21.4

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate or not completed for all dwellings.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-CNLQAC-01	D01-04	5.4 (34)	10.2 (21)	15.6	8.6	n/a
HR-IUVCHO-01	D01-05	5.5 (34)	16.7 (21)	22.2	7.9	n/a
HR-RPL3JK-01	D01-06	5.5 (34)	18.9 (21)	24.4	7.6	n/a
HR-4WKUGL-01	D01-07	7.2 (34)	14.9 (21)	22.1	7.9	n/a
HR-PJ3K4E-01	D01-08	7.9 (34)	5.8 (21)	13.7	8.8	n/a
HR-08UCM6-01	D02-01	9.8 (34)	3.9 (21)	13.7	8.8	n/a
HR-VECTVK-01	D02-02	22.5 (34)	7.0 (21)	29.5	7.0	n/a
HR-FXY8KZ-01	D02-03	19.6 (34)	9.4 (21)	29.0	7.1	n/a
HR-6BV86L-01	D02-04	8.5 (34)	6.2 (21)	14.6	8.7	n/a
HR-RSCCB6-01	D02-05	8.9 (34)	8.2 (21)	17.1	8.4	n/a
HR-99QKRD-01	D02-06	6.4 (34)	18.9 (21)	25.3	7.4	n/a
HR-GIUG4K-01	D02-07	5.3 (34)	15.3 (21)	20.6	8.0	n/a
HR-T3QNON-01	D02-08	8.1 (34)	4.9 (21)	13.0	8.9	n/a
HR-PBNOAA-01	D03-01	7.8 (34)	4.7 (21)	12.5	8.9	n/a
HR-T5JAND-01	D03-02	19.7 (34)	12.7 (21)	32.4	6.7	n/a
HR-GI3QBD-01	D03-03	15.9 (34)	16.8 (21)	32.7	6.7	n/a
HR-YQC2B1-01	D03-04	8.0 (34)	7.0 (21)	15.1	8.6	n/a
HR-C3Z78A-01	D03-05	7.2 (34)	13.1 (21)	20.3	8.1	n/a
HR-2KITN5-01	D03-06	8.9 (34)	15.3 (21)	24.2	7.6	n/a
HR-9FVATC-01	D03-07	7.6 (34)	14.5 (21)	22.1	7.9	n/a
HR-0JWCU5-01	D03-08	10.5 (34)	4.3 (21)	14.8	8.6	n/a
HR-TY209D-01	D04-01	7.4 (34)	4.7 (21)	12.1	8.9	n/a
HR-7UPI33-01	D04-02	19.8 (34)	13.3 (21)	33.1	6.6	n/a
HR-SOFLQY-01	D04-03	16.5 (34)	16.3 (21)	32.8	6.6	n/a
HR-7CWOX7-01	D04-04	8.5 (34)	7.2 (21)	15.7	8.5	n/a
HR-EF2WCK-01	D04-05	7.6 (34)	12.7 (21)	20.3	8.1	n/a
HR-6Z7GV0-01	D04-06	10.8 (34)	15.3 (21)	26.0	7.4	n/a
HR-UX7UE0-01	D04-07	8.1 (34)	15.2 (21)	23.2	7.7	n/a
HR-SST9OY-01	D04-08	10.6 (34)	4.6 (21)	15.2	8.6	n/a

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) (MJ/m ² .yr)	Cooling load (load limit) (MJ/m ² .yr)	Total load (MJ/m ² .yr)	Star Rating	Whole of Home Rating
HR-2CA5SJ-01	D05-01	7.0 (34)	4.7 (21)	11.7	9.0	n/a
HR-MUU3V9-01	D05-02	18.3 (34)	10.1 (21)	28.4	7.2	n/a
HR-2X8AFR-01	D05-03	19.3 (34)	15.7 (21)	35.0	6.4	n/a
HR-G4HKSX-01	D05-04	9.1 (34)	6.9 (21)	16.0	8.5	n/a
HR-IH80GE-01	D05-05	8.1 (34)	12.3 (21)	20.4	8.1	n/a
HR-OM0FS0-01	D05-06	12.0 (34)	14.9 (21)	26.9	7.3	n/a
HR-URCZCT-01	D05-07	10.5 (34)	14.6 (21)	25.1	7.4	n/a
HR-PELFAI-01	D05-08	10.7 (34)	4.7 (21)	15.4	8.6	n/a
HR-UJMRGI-01	D06-01	8.2 (34)	5.0 (21)	13.2	8.9	n/a
HR-0DPE1N-01	D06-02	19.1 (34)	8.2 (21)	27.4	7.3	n/a
HR-2Z7O16-01	D06-03	10.7 (34)	7.0 (21)	17.7	8.3	n/a
HR-L9K6HC-01	D06-04	10.2 (34)	13.1 (21)	23.3	7.7	n/a
HR-A43HFA-01	D06-05	6.4 (34)	12.8 (21)	19.2	8.2	n/a
HR-ZS4HGC-01	D06-06	13.5 (34)	4.5 (21)	18.0	8.3	n/a
HR-DE2UHL-01	D07-01	23.0 (34)	11.2 (21)	34.2	6.4	n/a
HR-2QT5GT-01	D07-02	17.1 (34)	10.9 (21)	27.9	7.2	n/a
HR-MRN5ST-01	D07-03	14.7 (34)	12.6 (21)	27.3	7.3	n/a
HR-CEN4NN-01	DGF-01	15.3 (34)	16.7 (21)	32.0	6.7	n/a
HR-ITJANC-01	DGF-02	8.3 (34)	18.0 (21)	26.3	7.4	n/a
HR-7638XV-01	DGF-03	10.9 (34)	12.7 (21)	23.6	7.7	n/a
HR-NB1M6N-01	DGF-04	7.9 (34)	16.6 (21)	24.4	7.6	n/a
HR-RLD7HC-01	DGF-05	6.4 (34)	13.3 (21)	19.6	8.1	n/a
HR-5AECVN-01	DGF-06	7.4 (34)	5.5 (21)	12.9	8.9	n/a
Averages	55x (Total)	11.0	11.1	22.1	7.8	n/a
Maximum Loads and Minimum Ratings		23.0	21.3	35.0	6.4	n/a

Explanatory notes

About the ratings

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. The Whole of Home performance rating in this Certificate is the lowest rating for the apartment block. Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate.

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Appendix C

BASIX Stamped Drawings

(provided separately due to file size)



Appendix D

Detailed NatHERS results



D1 Individual Dwellings, Heating, Cooling, Total loads

D1.1 Building A

Table D.1 Area adjusted heating and cooling loads for individual dwellings in Building A

DWELLING	HEATING LOAD (MJ/M ²)	COOLING LOAD (MJ/M ²)	TOTAL LOAD (MJ/M ²)	STAR RATING
A01-01	22.6	14.1	36.7	6.2
A01-02	20.5	13.9	34.4	6.4
A01-03	5.0	9.6	14.6	8.7
A01-04	25.3	9.7	35.0	6.4
A01-05	13.7	12.1	25.8	7.4
A02-01	11.0	13.1	24.1	7.6
A02-02	10.8	14.1	24.9	7.5
A02-03	5.4	9.7	15.1	8.6
A02-04	16.7	12.4	29.1	7.1
A02-05	10.5	13.1	23.6	7.7
A02-06	5.6	17.1	22.7	7.8
A03-01	12.3	11.9	24.2	7.6
A03-02	13.9	11.9	25.8	7.4
A03-03	7.1	8.1	15.2	8.6
A03-04	20.4	11.4	31.8	6.8
A03-05	13.5	11.7	25.2	7.4
A03-06	7.9	15.0	22.9	7.8

DWELLING	HEATING LOAD (MJ/M ²)	COOLING LOAD (MJ/M ²)	TOTAL LOAD (MJ/M ²)	STAR RATING
A04-01	12.3	11.8	24.1	7.6
A04-02	13.7	14.1	27.8	7.2
A04-03	6.1	8.9	15.0	8.6
A04-04	14.8	18.9	33.7	6.5
A04-05	9.6	12.7	22.3	7.8
A04-06	7.8	15.4	23.2	7.7
A05-01	13.0	9.0	22.0	7.9
A05-02	12.0	10.7	22.7	7.8
A05-03	6.3	9.3	15.6	8.5
A05-04	13.2	19.1	32.3	6.7
A05-05	9.9	12.9	22.8	7.8
A05-06	7.8	15.2	23.0	7.8
A06-01	18.5	11.1	29.6	7.0
A06-02	7.4	9.4	16.8	8.4
A06-03	10.2	15.2	25.4	7.4
A06-04	8.9	12.0	20.9	8.0
A06-05	8.6	15.8	24.4	7.6
A07-01	13.6	14.7	28.3	7.2
A07-02	12.7	14.8	27.5	7.3
AVERAGE	12.3	12.9	25.2	7.5

D1.2 Building C

Table D.2 Area adjusted heating and cooling loads for individual dwellings in Building C

DWELLING	HEATING LOAD (MJ/M ²)	COOLING LOAD (MJ/M ²)	TOTAL LOAD (MJ/M ²)	STAR RATING
CGF-01	21.2	5.9	27.1	7.3
CGF-02	5.5	8.6	14.1	8.7
CGF-03	6.5	17.5	24.0	7.6
CGF-04	9.7	10.1	19.8	8.1
CGF-05	9.4	12.6	22.0	7.9
C01-01	15.5	5.5	21.0	8
C01-02	4.1	7.1	11.2	9.1
C01-03	7.7	17	24.7	7.5
C01-04	7.3	5.9	13.2	8.9
C01-05	5	7.9	12.9	8.9
C01-06	12.4	19.2	31.6	6.8
C01-07	26.6	7.3	33.9	6.5
C01-08	11.6	5.7	17.3	8.4
C02-01	12.7	5.8	18.5	8.3
C02-02	3.9	7	10.9	9.2
C02-03	6.1	15.9	22.0	7.9
C02-04	8.3	5.5	13.8	8.8
C02-05	5.2	7.1	12.3	8.9
C02-06	9.3	16.8	26.1	7.4
C02-07	17.4	6.2	23.6	7.7

DWELLING	HEATING LOAD (MJ/M ²)	COOLING LOAD (MJ/M ²)	TOTAL LOAD (MJ/M ²)	STAR RATING
C02-08	10.6	6.3	16.9	8.4
C03-01	15.6	5.1	20.7	8
C03-02	7.7	8.1	15.8	8.5
C03-03	9.3	14.3	23.6	7.7
C03-04	12.3	5.4	17.7	8.3
C03-05	8.5	5.7	14.2	8.7
C03-06	17.5	13.4	30.9	6.9
C03-07	24.8	5.6	30.4	6.9
C03-08	13.1	6.3	19.4	8.2
C04-01	23.2	4.9	28.1	7.2
C04-02	9.3	10.9	20.2	8.1
C04-03	22.3	10.1	32.4	6.7
C04-04	13.8	10.5	24.3	7.6
C04-05	29.8	8.2	38.0	6
C04-06	18	6.8	24.8	7.5
AVERAGE	12.7	9.2	21.6	7.9

D1.3 Building D

Table D.3 Area adjusted heating and cooling loads for individual dwellings in Building D

DWELLING	HEATING LOAD (MJ/M ²)	COOLING LOAD (MJ/M ²)	TOTAL LOAD (MJ/M ²)	STAR RATING
DGF-01	15.3	16.7	32.0	6.7

DWELLING	HEATING LOAD (MJ/M²)	COOLING LOAD (MJ/M²)	TOTAL LOAD (MJ/M²)	STAR RATING
DGF-02	8.3	18.0	26.3	7.4
DGF-03	10.9	12.7	23.6	7.7
DGF-04	7.9	16.6	24.5	7.6
DGF-05	6.4	13.3	19.7	8.1
DGF-06	7.4	5.5	12.9	8.9
D01-01	8.1	5.7	13.8	8.8
D01-02	17.9	14.6	32.5	6.7
D01-03	10.4	21.3	31.7	6.8
D01-04	5.4	10.2	15.6	8.6
D01-05	5.5	16.7	22.2	7.9
D01-06	5.5	18.9	24.4	7.6
D01-07	7.2	14.9	22.1	7.9
D01-08	7.9	5.8	13.7	8.8
D02-01	9.8	3.9	13.7	8.8
D02-02	22.5	7.0	29.5	7.0
D02-03	19.6	9.4	29.0	7.1
D02-04	8.5	6.2	14.7	8.7
D02-05	8.9	8.2	17.1	8.4
D02-06	6.4	18.9	25.3	7.4
D02-07	5.3	15.3	20.6	8.0
D02-08	8.1	4.9	13.0	8.9
D03-01	7.8	4.7	12.5	8.9
D03-02	19.7	12.7	32.4	6.7
D03-03	15.9	16.8	32.7	6.7

DWELLING	HEATING LOAD (MJ/M²)	COOLING LOAD (MJ/M²)	TOTAL LOAD (MJ/M²)	STAR RATING
D03-04	8.0	7.0	15.0	8.6
D03-05	7.2	13.1	20.3	8.1
D03-06	8.9	15.3	24.2	7.6
D03-07	7.6	14.5	22.1	7.9
D03-08	10.5	4.3	14.8	8.6
D04-01	7.4	4.7	12.1	8.9
D04-02	19.8	13.3	33.1	6.6
D04-03	16.5	16.3	32.8	6.6
D04-04	8.5	7.2	15.7	8.5
D04-05	7.6	12.7	20.3	8.1
D04-06	10.8	15.3	26.1	7.4
D04-07	8.1	15.2	23.3	7.7
D04-08	10.6	4.6	15.2	8.6
D05-01	7.0	4.7	11.7	9.0
D05-02	18.3	10.1	28.4	7.2
D05-03	19.3	15.7	35.0	6.4
D05-04	9.1	6.9	16.0	8.5
D05-05	8.1	12.3	20.4	8.1
D05-06	12.0	14.9	26.9	7.3
D05-07	10.5	14.5	25.0	7.4
D05-08	10.7	4.7	15.4	8.6
D06-01	8.2	5.0	13.2	8.9
D06-02	19.1	8.2	27.3	7.3
D06-03	10.7	7.0	17.7	8.3

DWELLING	HEATING LOAD (MJ/M²)	COOLING LOAD (MJ/M²)	TOTAL LOAD (MJ/M²)	STAR RATING
D06-04	10.2	13.1	23.3	7.7
D06-05	6.4	12.8	19.2	8.2
D06-06	13.5	4.5	18.0	8.3
D07-01	23.0	11.2	34.2	6.4
D07-02	17.1	10.8	27.9	7.2
D07-03	14.7	12.6	27.3	7.3
AVERAGE	10.9	10.8	21.7	7.9