Sustainable Management Plan

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51-53 Hope & 66-76 Autumn Street, Geelong West

Proposed Multi Dwelling Development

Hope & Autumn Pty Ltd

4 September 2026

GIW26036

REV B

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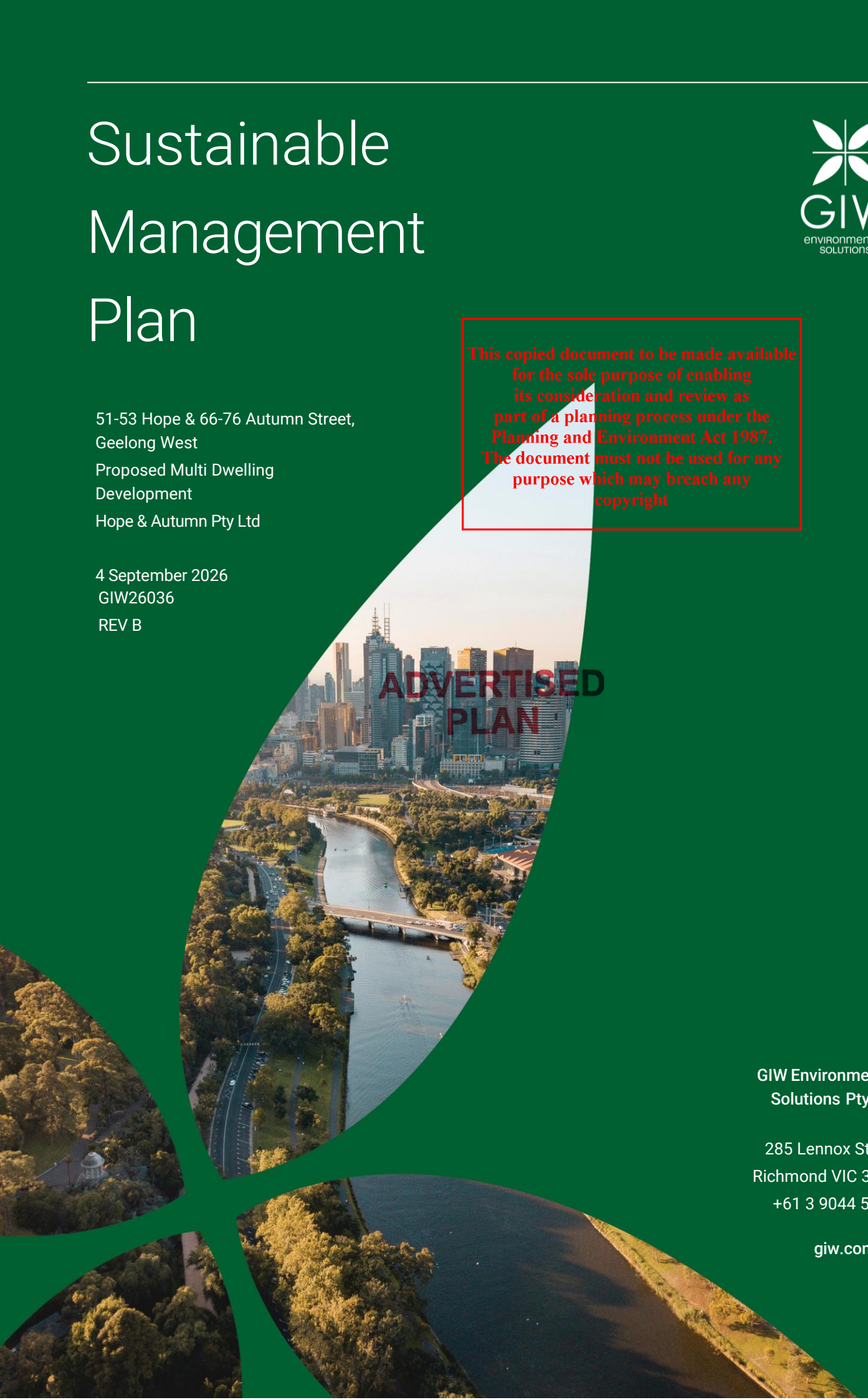

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Revision History

Revision	Date	Author	Approved	Comments
A	04/09/2026	[redacted]		Draft
B	04/09/2026			Final

Report Prepared by:
Project Consultant

Report Approved by:
Project Team Leader

[redacted]

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Introduction

Project Information

The proposed development at 51-53 Hope & 66 - 76 Autumn Street, Geelong West will include 88 apartments constructed over 2 buildings plus basement carpark and will consist of the following:

- 4 x studio apartments
- 27 x 1-bedroom apartments
- 46 x 2-bedroom apartments
- 11 x 3-bedroom apartments

The site has an approximate surface area of 4,245m^2 and is currently the location of multiple single level dwellings. Distance from the site to Melbourne CBD is approximately 73.9km.



Figure 1 - Pre-existing sites at 51-53 Hope & 66-76 Autumn Street, Geelong West.

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Statutory Requirements

This SMP has been prepared in response to the following Planning Scheme requirements:

Planning Scheme Clause	Application Requirement	Example Tools
City of Greater Geelong Planning Scheme - Clause 15.01-2L Environmentally Sustainable Development.	Sustainability Management Plan (SMP)	BESS Green Star MUSIC STORM / Blue Factor
City of Greater Geelong Planning Scheme - Clause 53.18 Stormwater Management in Urban Development	Meet the current best practice performance objectives for stormwater quality as contained in the *Urban Stormwater - Best Practice Environmental Management Guidelines* (Victorian Stormwater Committee, 1999).	MUSIC STORM / Blue Factor
City of Greater Geelong Planning Scheme - Clause 15.01-2S	N/A	N/A

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Built Environment Sustainability Scorecard (BESS)

The development has been assessed using the Built Environment Sustainability Scorecard (BESS).



Figure 2 - BESS Environmental Categories (www.bess.net.au)

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Responsibilities & Implementation

The Hope & Autumn Pty Ltd shall bear sole responsibility for the implementation of all requirements set forth in this Report throughout the design and development phases. In the event of a sale or transfer of the subject property, such responsibility shall pass in its entirety to the incoming proprietor by operation of the transfer. Upon engagement of a builder or head contractor, responsibility for implementation shall vest in that party for the duration of the construction phase. Following the grant of an occupancy certificate, the Owners Corporation and all individual lot and unit owners and tenants shall be jointly and severally responsible for the proper operation and use of all installed equipment and systems in strict accordance with the Building User's Guide.

Sources of Information

The following 'Sources of Information' have been used to guide the design solutions:

- Austin Maynard Architects – Project No. 240516 – Drawing No. TP – Amendment Rev C dated 04/09/2026
- Municipal Association of Victoria - SDAPP Explained; Building Design for a Sustainable Future
- Built Environment Sustainability Scorecard (BESS)
- CSIRO 1999, Urban Stormwater – Best Practise Environmental Management Guidelines

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Key ESD Initiatives

The project achieves a total BESS score of 60% with no mandatory category (IEQ, Operational Energy, IWM) below 50%.

- Water efficient fittings and fixtures are applied throughout.
- A 10,000 litre rainwater tank and 14,000 litre rainwater tank will harvest rainwater from all roofs. These tanks will be connected to all WCs.
- A Blue Factor rating of 104% is achieved.
- Landscape irrigation demand will be connected to the rainwater tanks.

- The development is to achieve an average 7.5 Star NatHERS Energy Rating result.
- The development is to utilise individual electric instantaneous hot water systems
- A 25kW Solar PV system is to be located on the Autumn building roof of the development.

- 66%of the development's apartments are effectively naturally ventilated.
- The development complies with the BESS Daylight built-in calculation method. The summary result is as follows:
  - 88% of the living rooms achieve the daylight criteria
  - 97% of the bedrooms achieve the daylight criteria
- The development is provided with a comprehensive shading strategy.

- 18 bicycle spaces are to be provided for residents.
- 10 bicycle spaces are to be provided for residential visitors.

- At least 80% of the waste generated during construction and demolition will be diverted from landfill.
- Separate general, recycling, glass and organic waste storage will be provided in the basement bin room.

- 582.6m2 of communal space will be provided at the Ground Floor and Level 4 Communal Terrace.
- The total area of vegetation is 28% of the site area.

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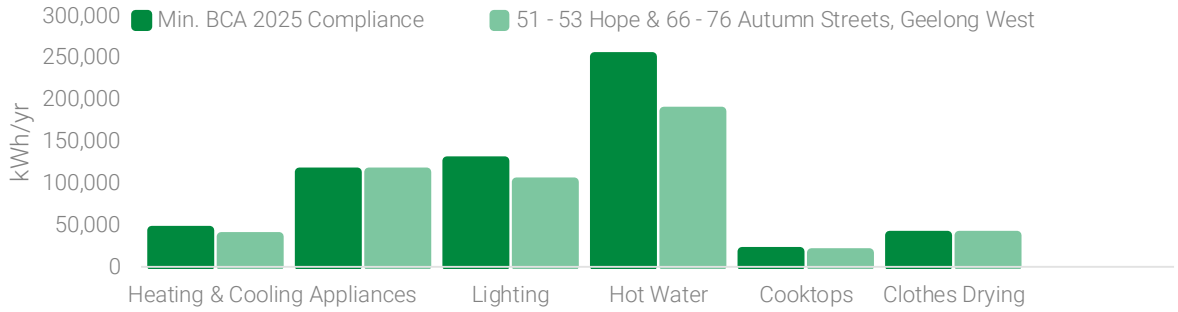
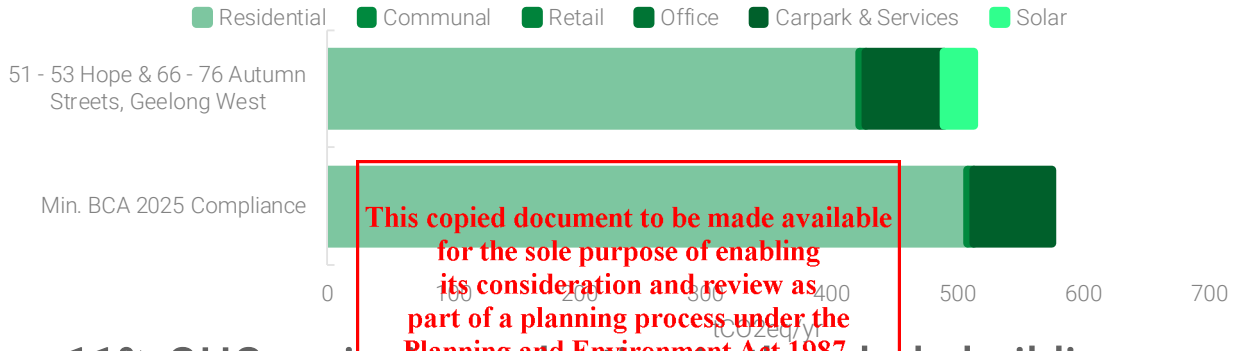
Building Performance Summary



99,611 kWh/yr of residential energy reduction.



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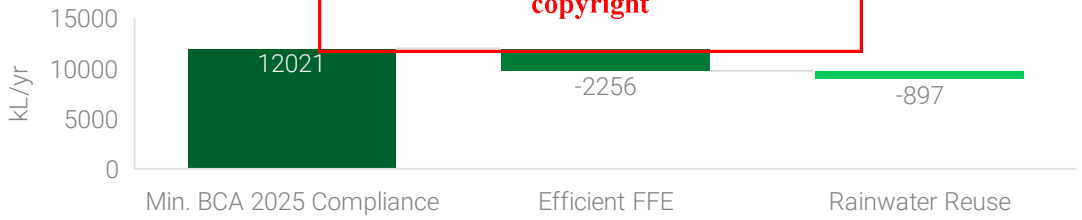
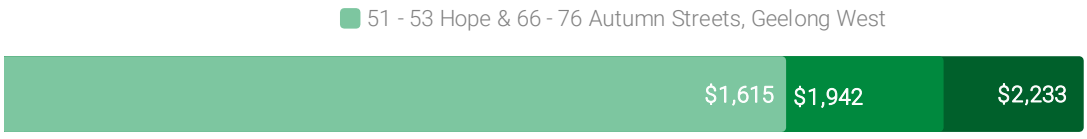
11% GHG emission reduction in the whole building.



26% of potable water reduction.



$327 of operating cost reduction per apartment per year compared to minimum BCA 2025 Compliance.

$617 of operating cost reduction per apartment per year compared to the Existing Building Stock

**All results are indicative only, based on preliminary assumptions.*

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ESD Assessment

Management

Council ESD objectives:

- To encourage a holistic and integrated design and construction process and ongoing high performance.

Council Best Practice Standard

Criteria		Construction and Building Management Actions
Pre-Application Meeting	To ensure appropriate sustainable design principles and strategies are considered from the preliminary design stage of each development.	Per the previous SMP Rev 05 prepared by ADP Consulting (dated: 13/02/2025) a pre-application meeting has been undertaken with Council for the proposed development.
Metering	To provide building users with information that allows monitoring of energy and water consumption	Electricity and cold water metering is to be provided to each individual apartment. Lighting and general power to common areas is to be separately metered to quantify energy used for common areas spaces.
Building User's Guide	To encourage and recognise initiatives that will help building users to use the building more efficiently.	A Building User's Guide will be provided to all occupants explaining the main sustainable design initiatives, systems and processes that building users will interact with.

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Integrated Water Management

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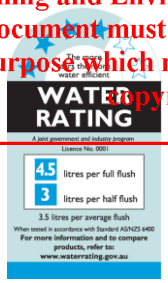
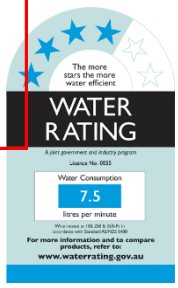
Council ESD objectives:

- To reduce total operating potable water.
- To encourage the appropriate use of alternative water sources (including greywater, rainwater and stormwater).
- To incorporate best practice water sensitive urban design to improve the quality of stormwater runoff and reduce impacts on water systems and water bodies.

Council Best Practice Standard

Criteria		Development Provision
Stormwater Treatment	To minimise negative environmental impacts of stormwater runoff and maximise onsite re-use of stormwater.	A Blue Factor rating of 104% is achieved via the following: • Rainwater is to be collected from the Hope building's roofs and directed into a 10,000 litre rainwater tank. Rainwater collected of the Autumn building's roofs is to be directed into a 14,000 litre rainwater tank. All WC's and landscape irrigation is to be connected to the rainwater tanks. Refer Appendix A – WSUD Response
Potable Water Reduction	To reduce total potable water use due through the use of efficient fixtures, appliances, and the use of rainwater.	WELS 4 Star - Toilets  WELS 5 Star - Taps  WELS 4 Star - Showerhead  WELS 5 Star - Dishwasher 
Rainwater Collection & Reuse		A 10,000 litre rainwater tank and 14,000 litre rainwater tank will harvest rainwater from all roofs. These tanks will be connected to all WCs. Stormwater drainage mechanism is to be determined by the hydraulics services engineer at the design development phase. Refer Appendix A – WSUD Response.
Landscape Irrigation	To ensure the efficient use of water and to reduce total operating potable water use through encouraging water efficient	Landscape irrigation demand will be connected to the rainwater tanks.

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Council Best Practice Standard

Criteria		Development Provision
	landscape design.	
Building System Water Use Reduction	Ensure the efficient use of water, to reduce total operating potable water use and to encourage the appropriate use of alternative water sources for cooling and fire testing systems.	>80% of fire test water (e.g. hydrant pump test water or SCV annubar test) is to be reused on site, either within the fire test system itself, irrigation, toilet flushing, or other non-potable uses. Final coordination and confirmation of these options will occur with the fire engineer at a later stage. The proposed development is to incorporate air-cooled HVAC systems for both the residential and non-residential areas within the development.

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Operational Energy

Council ESD objectives:

- To reduce both energy use and energy peak demand through design measures.

Council Best Practice Standard

Criteria		Development Provision
Thermal Performance Rating - Residential	To reduce energy needed to achieve thermal comfort in summer and winter - improving comfort, reducing greenhouse gas emissions, energy consumption, and maintenance costs.	The National Construction Code (NCC) Class 2 – Sole Occupancy Unit(s) residential building component is to be designed in accordance with NCC Section J (2025) NatHERS requirements. The residential units must achieve an average 7.5 Star rating, with no unit achieving below 6.0 Stars and no units exceeding the maximum allowed cooling load of 22MJ/m2 (BADS). Refer Appendix B – Preliminary Energy Rating Results & Certificates.
Electrification	To support the transition to renewable energy sources.	The development will be all-electric with no gas connection.
HVAC System	To ensure the efficient use of energy and to reduce consumption of electricity.	Inverter split systems are to be installed and sized to maintain conditions of the habitable rooms of each apartment. Heating and cooling systems are to have an Energy Efficiency Ratios (EER) not less than 85% of the EER of the most efficient equivalent unit available (type & capacity).
Hot Water System	To ensure the efficient use of energy and to reduce consumption and greenhouse emissions from water heating.	The development is to utilise individual electric instantaneous hot water systems
Car Park Ventilation	To ensure the efficient use of energy, reduce	Carpark ventilation fans are driven by a VSD motor connected to CO sensors within the carpark.

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Council Best Practice Standard

Criteria		Development Provision
	total operating greenhouse gas emissions and to reduce energy peak demand.	The mechanical services engineer is responsible for the design and specification of the system. The contractor is to procure and install the specified system. Maintenance requirements of the CO sensor system are to be included in the O&M manual.
Internal Lighting - Residential	To ensure the efficient use of energy, to reduce energy consumption, greenhouse emissions associated with artificial lighting, and to reduce energy peak demand.	The maximum illumination power density (W/sqm) is at least 20% lower than NCC 2025 requirements. Lighting power density shall be as follows: • Dwellings: No greater than average 4W/m^2 • POS: No greater than average 3.2W/m^2 • Back of house and indoor car parks: No greater than average 1.6W/m2 All common area, external and carpark lighting is to be controlled with daylight, motion sensors or timers (whichever is deemed appropriate).
Renewable Energy Systems - Solar	To encourage on-site renewable energy generation and reduce greenhouse emissions.	A 25kW Solar PV system is to be located on the Autumn building roof of the proposed development. The system is expected to generate approximately 27,271kWh and will be connected to common area lighting and power. Refer Appendix C – Renewable Energy

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Indoor Environment Quality

Council ESD objectives:

- To achieve a healthy indoor environment quality for the wellbeing of building occupants.
- To provide a naturally comfortable indoor environment will lower the need for building services, such as artificial lighting, mechanical ventilation and cooling and heating devices.

Council Best Practice Standard

Criteria		Development Provision
Daylight Access - Residential	To provide a high level of amenity and energy efficiency through design for natural light.	The in-built BESS daylight calculator has been utilised to demonstrate compliance under BESS – IEQ 1.1 and 1.2. The summary result is as follows: • 88% of the living rooms achieve the daylight criteria • 97% of the bedrooms achieve the daylight criteria
Winter Sunlight	To provide a high level of amenity and reduce need for artificial heating in winter.	49% (43 out of 88) of apartments achieve at least 3 hours of sunlight.
Minimal Internal Bedrooms	90% of bedrooms have an external window.	NIL internal bedrooms.
Effective Natural Ventilation	To provide fresh air and passive cooling opportunities.	66% (58 out of 88) of the development's apartments are effectively naturally ventilated. Apartments are provided with windows on opposite or adjacent facades or are effective single sided ventilated. Refer Appendix D – Natural Ventilation
Thermal Comfort	To provide comfortable indoor spaces and reduce energy needed for heating and cooling.	The development is provided with a comprehensive shading strategy: • Protruding balconies shade north facing living rooms. • Fixed awnings to exposed bedroom windows on all façade of both buildings. • Operable awnings to exposed living room windows on the north façade of the Hope and Autumn buildings • Fixed awnings to exposed living room windows on the east façade of both buildings.

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Transport

Council ESD objectives:

- To promote the use of walking, cycling and public transport, in that order; and minimise car dependency.
- To promote the use of low emissions vehicle technologies and supporting infrastructure.

Council Best Practice Standard

Criteria		Development Provision
Bicycle Parking – Residential & Residential Visitors	To encourage and recognise initiatives that facilitate cycling.	18 bicycle spaces are to be provided for residents. This will provide a ratio of approximately 1 resident bicycle space for every 5 apartments. 10 bicycle spaces are to be provided for residential visitors. This will provide a ratio of approximately 1 visitor bicycle space for every 9 apartments.
Electric Vehicle Infrastructure	To minimise car dependency and to ensure that the built environment is designed to promote the use of public transport, walking and cycling.	One charging point for electrical vehicles is integrated in the proposed development. Future infrastructure for electrical charging points is incorporated in the services design for 100% of the car parking spaces associated with a Class 2 building.

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Materials

ESD objectives:

- Use of low embodied energy materials.
- Encourage use of recycled and reusable materials in building construction and undertake adaptive reuse of buildings, where practical.

Council Best Practice Standard

Criteria		Development Provision
Embodied Energy	Limited use of high embodied energy materials	The design will seek to limit the use of high embodied energy metal finishes. Concrete mixes used within the project will seek to reduce Portland cement and aggregate content where deemed appropriate by the structural engineer.
Structural and Reinforcing Steel	Commitment to source structural and reinforcing steel from a responsible steel maker	The building's steel (by mass) is to be sourced from a Responsible Steel Maker with: • a currently valid and certified ISO 14001 Environmental Management System (EMS) in place; or • is a member of the World Steel Association's (WSA) Climate Action Program here (CAP)
Sustainable Timber	Commitment to source timber from sustainably managed source	Where timber is to be used, such timbers are to accord with the GBCA's 'Essential' criteria for forest certification (FSC or PEFC). Alternatively, recycled timber will be used.
PVC	Commitment to source best practice PVC products	Permanent formwork, pipes, flooring, blinds and cables in the project will seek to comply with the following: • Meet the GBCA's Best Practice Guidelines for PVC. or; • The supplier holds a valid ISO140001 certification.
Sustainable Products	Commitment to source products that meet the transparency and sustainability requirements	The project will incorporate products that meet the transparency and sustainability requirements where deemed appropriate. This includes the following: reused products, recycled content products, environmental product declarations, third party certified and stewardship programs.

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Waste & Resource Recovery

Council ESD objectives:

- To promote waste avoidance, reuse and recycling during the design, construction and operation stages of development.
- To encourage use of durable and reuseable building materials.
- To ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities.

Council Best Practice Standard

Criteria		Development Provision
Building Re-use	To ensure waste avoidance, reuse and recycling during the design.	None of the existing structure is re-used.
Construction and Demolition Waste	To reduce construction waste going to landfill	At least 80% of the waste generated during construction and demolition will be diverted from landfill.
Food & Garden Waste	To ensure waste avoidance, reuse and recycling during the operational life of the building.	Green waste storage is provided in the basement bin room.
Convenience of Recycling	To ensure waste avoidance, reuse and recycling during the operational life of the building.	Separate general, recycling, glass and organic waste storage will be provided in the basement bin room. Each apartment is to be provided with separate general, recycling and food and organics waste bins. This requirement is to be included in the owner's corporation rules or lease agreement. Kitchen joinery for the residential units is to provide appropriate spatial allowance for food and organics, general and recycling waste collection.

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Urban Ecology

Council ESD objectives:

- To protect and enhance biodiversity.
- To reduce urban heat island effects.
- To encourage the provision of space for productive gardens, particularly in larger residential developments.

Council Best Practice Standard

Criteria		Development Provision
Communal Space	To encourage and recognise initiatives that facilitate interaction between building occupants.	582.6m^2 of communal space will be provided at the Ground Floor and Level 4 Communal Terrace. Communal space will include the following amenities: landscaping, guest suite, garden shed, wellness room, BBQ area, and terrace kitchen and dining.
Vegetation	To encourage and recognise the use of vegetation and landscaping within and around developments.	Planter boxes are to be located on the level 4 communal terrace. Landscaped areas are located at ground floor throughout the site. The total area of vegetation is 28% of the site area.
Private Open Space - Balcony / Courtyard Ecology	To encourage plants in a healthy ecological context to be grown on balconies and in courtyards.	All balconies or private open space have been provided with a tap and floor waste allowing residents to cultivate their own gardens.
Heat Island Effect	To reduce the contribution of the project site to the 'heat island effect	Roofs are to have a three-year SRI of minimum 60. Unshaded hard-scaping elements are to have a three-year SRI of minimum 40.

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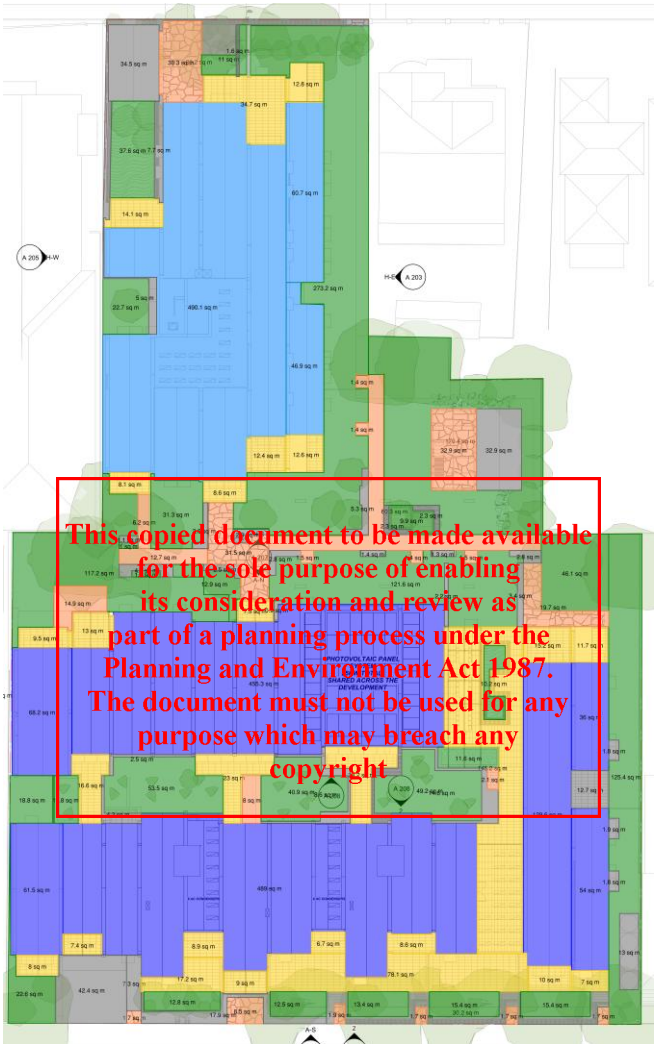
Appendix A – WSUD Response.

Site layout Plan

The following architectural mark-up illustrates the rainwater collection and impervious areas of the proposed development site.



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Legend

Description	Quantity	Unit
Autumn Building Roofs	1,293.5	sq m
Hope Building Roofs	597.7	sq m
Impervious Area	311.9	sq m
Impervious Pavers	242.8	sq m
Landscape	1,269.1	sq m
Trafficable Areas (Roof Terrace, Open Corridor, Balcony)	530.3	sq m

Figure 3- Mark-up of water catchment and impervious areas

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Blue Factor Rating

A Blue Factor rating of ≥100% can be achieved by implementing the following initiatives:

- Rainwater is to be collected from the Hope building's roofs and directed into a 10,000 litre rainwater tank. Rainwater collected of the Autumn building's roofs is to be directed into a 14,000 litre rainwater tank. All WC's and landscape irrigation is to be connected to the rainwater tanks.

Blue Factor was developed by Microburst Software with support from DEECA. as a method of simplifying the analysis of stormwater treatment methods. The Blue Factor Calculator displays the amount of treatment that is required to meet best practice targets, using WSUD treatment measures.

The best practice standards have been set out in the Urban Stormwater Best Practice Environmental Management Guidelines (Victoria Stormwater Committee, 1999) for reduction in total suspended solids (TSS), total phosphorus (TP) and total nitrogen (TN) loads.

Note: Blue Factor provides a 'deemed to comply' pathway for low-risk developments. Under this pathway, a project meets the minimum planning requirement for total nitrogen but may not achieve all on-site stormwater flow management objectives. A development is considered 'deemed to comply' when it attains a Blue Factor rating of ≥100%.

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WSUD Strategy

The development will include the provision of a 10,000 litre and 14,000 litre rainwater tanks and associated pump in the basement garage. The rainwater tanks are to be connected to all WC's and landscape irrigation.

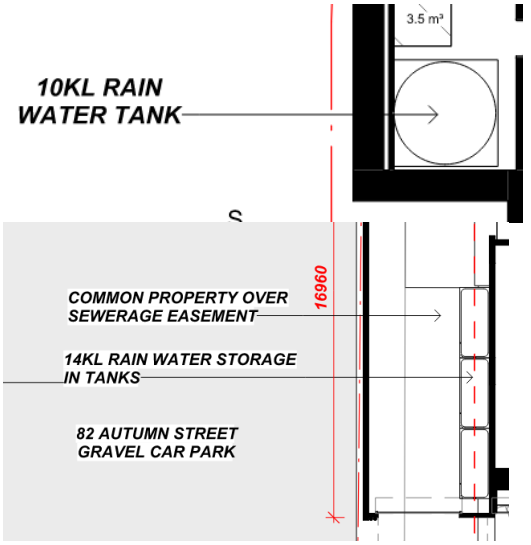

Figure 4 – Location Rainwater Tank

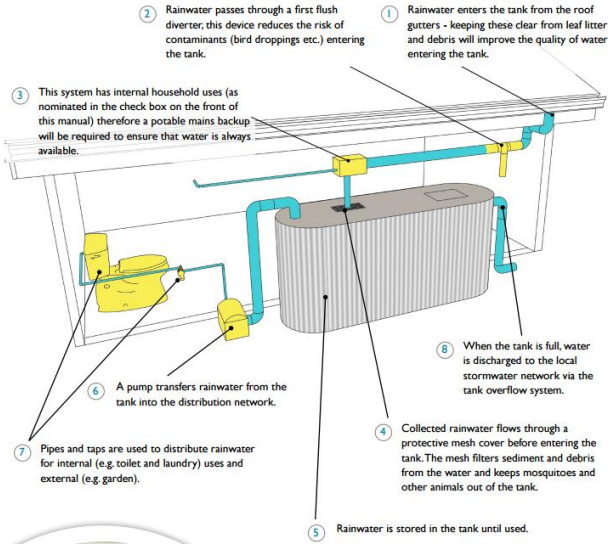

Figure 5 – Cross-section Tank (City of Port Phillip)

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Rainwater Reuse

Inputs

Catchment Area	1891 sqm
Number of Bedrooms	157
Number of Occupants	0
Bin Washout	No
Irrigation Area	1203 sqm
Tank Capacity	24,000 Litre

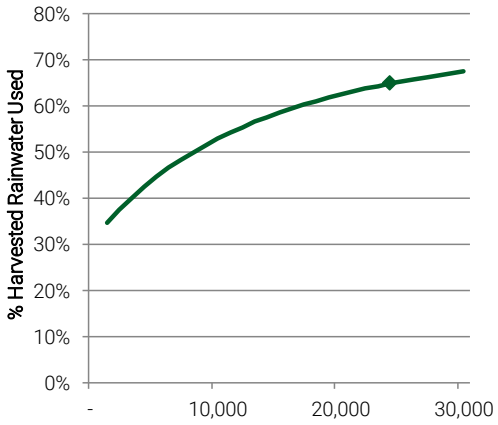
Outputs

% Served by Rainwater	25.3%
% Harvested Rainwater Used	65.2%
Total Potable Water Saved	609 kL/yr

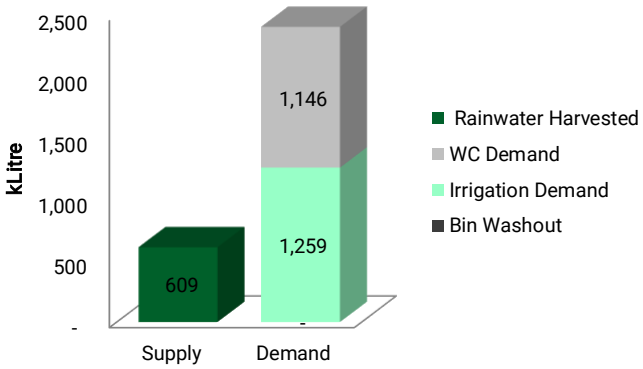
Rainwater Balance (Monthly Averages)

Month	Rainwater Harvested (L)	Irrigation Demand (L)	WC Demand (L)	Bin Washout (L)
Jan	39,936	186,197	97,340	0
Feb	47,432	168,672	87,920	0
Mar	43,401	86,523	97,340	0
Apr	51,621	82,830	94,200	0
May	48,306	85,468	97,340	0
Jun	50,880	38,947	94,200	0
Jul	40,091	39,681	97,340	0
Aug	51,860	39,681	97,340	0
Sep	55,009	113,844	94,200	0
Oct	54,766	115,992	97,340	0
Nov	73,339	113,128	94,200	0
Dec	52,587	187,638	97,340	0
Total	**609,228**	**1,258,599**	**1,146,100**	**0**

Tank Sizing



Supply-Demand



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Site Management Statement

Prevention of litter, sediments and pollution entering the stormwater system in the construction phase is to be addressed through introduction of the following initiatives:

- Buffer strips to pervert stormwater runoff.
- Gravel sausage filters at stormwater inlets to prevent silt, mud or any other site contaminant from entering the stormwater system.
- Silt fences under grates at surface entry inlets to prevent sediment from entering the stormwater system.
- Temporary rumble grids to vibrate mud and dirt off vehicles prior to leaving the site.
- The site is to be kept clean from any loose rubbish or rubble.
- Introduction of offsite construction for building elements where deemed appropriate.

The builder is to include these initiatives in the construction management plan and address these during site induction of relevant contractors.

Maintenance Program

The following maintenance requirements are to be programmed to ensure the rainwater tank operates effectively:

Item	Description	Maintenance Interval
Gutters and downpipes	Eave and box gutters are to be inspected and cleaned to prevent large debris from being washed into rainwater tank.	3 monthly
First flush system (as applicable)	Inspect and clean excess sediment from diverter chamber to prevent blockages.	3 monthly
Tank contents	Siphon the tank to inspect contents. If sludge is present, a plumber will be required to drain tank contents and clean the tank.	2 to 3 years
Tank structure	Inspect tank externally for leaks	Yearly
Pump system	Inspect pump wiring, plumbing and check for smooth operation.	6 monthly
Plumbing	Plumbing and fixtures connected to the rainwater tank is to be inspected for leaks.	Yearly

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Blue Factor Report

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Project # AFB33A0F
V2: 53 Hope & 66 - 76 Autumn Streets, Geelong West Split buildings
Gary Wertheimer - info@giw.com.au
53 Hope St, Geelong West VIC 3218, Australia
03 September 2026 9:51 a.m.

BLUE FACTOR®

53 Hope & 66 - 76 Autumn Streets, Geelong West Split buildings

Nitrogen reduction target has been met, and a small low-risk project is deemed to comply. Higher risk projects need to meet all targets.

104%
SCORE

Project details

Name	V2: 53 Hope & 66 - 76 Autumn Streets, Geelong West Split buildings
Project ID	AFB33A0F
Street address	53 Hope St, Geelong West VIC 3218, Australia
Municipality	Greater Geelong
Site area	4245 m^2
Planning Number	

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Results

Item	Result	Target
Total suspended solids (%)	48%	>80%
Total phosphorus (%)	48%	>45%
Total nitrogen (%)	46%	>45%
Total gross pollutants (%)	62%	>70%
Mean annual runoff volume harvested or evapotranspired (%)	46%	>32%
Mean annual runoff volume infiltrated or filtered (%)	63%	>3%

For small low-risk sites, Total Nitrogen has been used as a proxy for other pollutants indicating compliance has been adequately met for many years. This has meant that if the Blue Factor score meets 100% based on Nitrogen, the Responsible Authority has the discretion to accept stormwater management design responses that do not meet all the individual pollutant load reduction targets on small low-risk sites.

Larger, high-risk projects, with roads, car parks or activities that may yield higher than typical pollutant loads, must meet all water quality targets fully. All projects should manage flow volume reductions through harvesting and evapotranspiration as well as infiltration to a level that is reasonably practicable.

Additional considerations

Flow and other pollutant load reductions should also be considered. The EPA Urban stormwater management guidelines (EPA - Publication 1739.1) are referenced in the VPPs as a policy document and support compliance with the General Environmental Duty.

You can use the guidelines to help minimise risks from urban stormwater so far as reasonably practicable (epa.vic.gov.au/about-epa/laws ew-laws/what-is-reasonablypracticable). Doing what is reasonably practicable means putting in proportionate controls to minimise the risk of harm to human health and the environment relative to the values being protected and risks presented by the site.

A completed small-scale low risk site with no public roads or external user parking areas will usually generate very little sediment, referred to as total suspended solids (TSS). It is common that the 80% TSS target will not easily be achieved for this type of site.

Other sites may generate significant total suspended solids (TSS) as well as litter, referred to as gross pollutants and should meet all targets.

The generation of sediment and litter during the construction phase is a significant problem and must be addressed effectively for all developments.

You should demonstrate what appropriate controls will be used to ensure the generation of litter and sediment is prevented and controlled during construction to minimise risk of harm.

Blue Factor is designed to support a range of developments of less than 10,000 square metres including small scale residential, apartment developments, small scale commercial and small public use developments which must meet planning requirements including stormwater management quality objectives in the EPA Urban stormwater management guidelines (EPA - Publication 1739.1) It is recommended that MUSIC is used for larger and more complex projects to demonstrate compliance.

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Water treatment

Configuration 1



Autumn Roofs 1293.5m2



Rainwater Tank 1
Rainwater tank retention volume in kilolitres: 14



Autumn Residential Apartment, 114 bedroom(s)

Configuration 2



Hope Roof 597.7m2



Rainwater Tank 2
Rainwater tank retention volume in kilolitres: 10



Hope Residential Apartment, 43 bedroom(s)

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Catchments



Impervious Paved, 311.9m2 — Untreated



Impervious Pavers Paved, 242.8m2 — Untreated



Landscape Pervious (garden and lawn), 1269m2



Hope Roof 597.7m2



Autumn Roofs 1293.5m2



Roof Terraces, Open Corridors, Balconies Paved, 530.3m2

Untreated

Treatments



Rainwater Tank 1
Rainwater tank retention volume in kilolitres: 14

156%



Rainwater Tank 2
Rainwater tank retention volume in kilolitres: 10

180%

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Buildings & dwellings



Autumn Residential Apartment, 114 bedroom(s)

Water sources	I want to calculate my water use based on fixtures and fittings
Basin taps - Primary water source	Mains water
Basin taps - Efficiency	5 star WELS rating
Showers - Primary water source	Mains water
Showers - Efficiency	3 star WELS rating (> 6 but < 7.5 litres per minute)
Clothes Washer - Primary water source	Mains water
Clothes Washer - Efficiency	3 star WELS rating (minimum requirement)
Toilets connected to mains water	0
Toilets connected to rainwater	92
Toilets connected to recycled water	0
Toilets efficiency	4 star WELS rating
Garden water use	Garden water demands are in use
Garden primary water source	Rainwater
Irrigated garden area supplied by:	
• **Mains**	0 m^2
• **Rainwater Tank**	601.75 m^2
• **Recycled Water**	0 m^2
Garden water use efficiency	Medium

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Hope Residential Apartment, 43 bedroom(s)

Water sources	I want to calculate my water use based on fixtures and fittings
Basin taps - Primary water source	Mains water
Basin taps - Efficiency	5 star WELS rating
Showers - Primary water source	Mains water
Showers - Efficiency	3 star WELS rating (> 6 but < 7.5 litres per minute)
Clothes Washer - Primary water source	Mains water
Clothes Washer - Efficiency	3 star WELS rating (minimum requirement)
Toilets connected to mains water	0
Toilets connected to rainwater	33
Toilets connected to recycled water	0

Toilets efficiency	4 star WELS rating
Garden water use	Garden water demands are in use
Garden primary water source	Rainwater
Irrigated garden area supplied by:	
• **Mains**	0 m^2
• **Rainwater Tank**	601.75 m^2
• **Recycled Water**	0 m^2
Garden water use efficiency	Medium

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Appendix B – Preliminary Energy Rating Results & Certificates.

The National Construction Code (NCC) Class 2 – Sole Occupancy Unit(s) residential building component is to be designed in accordance with NCC Section J (2025) NatHERS requirements. The residential units must achieve an average 7.5 Star rating, with no unit achieving below 6.0 Stars.

Note: The NCC 2025 Class 2 residential energy efficiency requirements adopt the provisions introduced in NCC 2022.

Further to this the development will need to comply with the following heating and cooling load limits:

Climate Zone	Heating load limits (MJ/m^2)	Cooling load limits (MJ/m^2)
60 Tullamarine	Maximum: 103	Maximum: 22 (BADS)

The apartments are currently achieving a 7.5 Star average. The below sample ratings demonstrate the developments ability to achieve these requirements.

Apartment No.	ACE Total MJ/M^2	ACE Heating MJ/M^2	ACE Cooling MJ/M^2	ACE NCFA M^2	Star Rating
H-G04	96.0	89.1	6.9	41.2	7.1
A-G10	98.6	96.6	2.0	61.2	7.0
H-106	67.0	64.1	2.9	73.2	8.1
A-103	70.9	66.9	4.0	76.2	7.9
A-108	84.5	65.5	19.0	44.5	7.4
A-215	87.4	78.3	9.1	42.8	7.4
H-302	93.6	76.0	17.6	109.6	7.2
A-401	73.8	65.9	7.9	74.7	7.8
Average	**84.0**	**75.3**	**8.7**	**65.4**	**7.5**

*Apartments are assessed using FirstRate5 v5.5.5

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Construction assumptions for preliminary FirstRate5 ratings are listed below. Note, these assumptions are based on the sample of apartments assessed and may vary throughout the development. These assumptions are not to be relied upon for any other purpose beyond Town Planning assessment.

Element	Material	Insulation Value
Floor	Suspended Concrete Slab	R2.75
External Walls	Concrete/brick	R2.7
External Walls	Lightweight	R2.7
Internal Walls	Concrete	R2.7
Internal Walls	Plasterboard	R2.7
Roof	Pitched Metal Framed Deck	R5.0 + R1.3
Roof	Metal Framed Deck	R4.0 + R1.3

Element	Material	Insulation Value
Roof	Metal Framed Deck (below gutter)	R1.3
Roof	Flat Concrete Roof	R3.2
Fixed Windows	Aluminium framed, Double glazed, Argon filled, Low-e, Clear	Total System: – U-Value: 2.71 – SHGC: 0.58
Sliding Doors	Aluminium framed, Double glazed, Argon filled, Low-e, Clear	Total System: – U-Value: 2.96 – SHGC: 0.48
Awning Windows	Aluminium framed, Double glazed, Argon filled, Low-e, Clear	Total System: – U-Value: 4.42 – SHGC: 0.4
Hinged Door	Aluminium framed, Double glazed, Argon filled, Low-e, Clear	Total System: – U-Value: 3.6 – SHGC: 0.44

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Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	A-208, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	44.5	suburban
Unconditioned*	6	**NatHERS climate zone**
Total	50.5	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

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





Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	65.5	19
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNREVISED PLAN

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLANS

Room *schedule*

Room	Zone Type	Area [m²]
Kitchen/Living	kitchen	26.7
Bathroom	unconditioned	6
Bedroom 1	bedroom	10.6
Entry Corridor	dayTime	7.2

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

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ADVERTISED PLAN

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	CAP-061-06 A	LKD AW	1800	1200	awning	60.0	E	No
Kitchen/Living	CAP-018-05 A	LKD SL	2500	2700	sliding	45.0	N	Yes
Bedroom 1	CAP-061-06 A	Bed 1 AW	1800	1200	awning	60.0	E	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

*Refer to glossary.

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Entry Corridor	2550	1000	100.0	W

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External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade colour	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
2	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
3	GIW26036 - External FC wall - corridor	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Kitchen/Living	1	3000	6087	W	0	No
Kitchen/Living	2	3000	6087	E	0	Yes
Kitchen/Living	2	3000	4387	N	0	Yes
Bathroom	2	3000	1983	E	0	Yes
Bedroom 1	1	3000	2421	S	0	No
Bedroom 1	2	3000	3611	E	0	Yes
Entry Corridor	1	3000	3522	W	0	No
Entry Corridor	3	3000	2144	W	2097	Yes

*Refer to glossary.

Entry Corridor	1	3000	1840	S	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	39.9	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitchen/Living	FR5 - 200mm concrete slab	24.7	Enclosed	R0.0	Timber
Kitchen/Living	FR5 - 200mm concrete slab	2.1	Enclosed	R0.0	Timber
Bathroom	FR5 - 200mm concrete slab	6	Enclosed	R0.0	Tiles
Bedroom 1	FR5 - 200mm concrete slab	10.6	Enclosed	R0.0	Carpet
Entry Corridor	FR5 - 200mm concrete slab	5.4	Enclosed	R0.0	Timber
Entry Corridor	FR5 - 200mm concrete slab	1.8	Enclosed	R0.0	Timber

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Kitchen/Living	Plasterboard	R6.3	No
Kitchen/Living	Plasterboard	R1.3	No
Bathroom	Plasterboard	R6.3	No
Bedroom 1	Plasterboard	R6.3	No
Entry Corridor	Plasterboard	R6.3	No
Entry Corridor	Plasterboard	R1.3	No

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Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Kitchen/Living	10	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	80	80	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Bedroom 1	4	Downlights	80	80	Sealed
Entry Corridor	2	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

*Refer to glossary.

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	1.3	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

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Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured 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.

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 the certificate 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 load, 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 using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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PREVIEW PREVIEW PREVIEW

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	A-401, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	70	open
Unconditioned*	4.6	**NatHERS climate zone**
Total	74.6	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

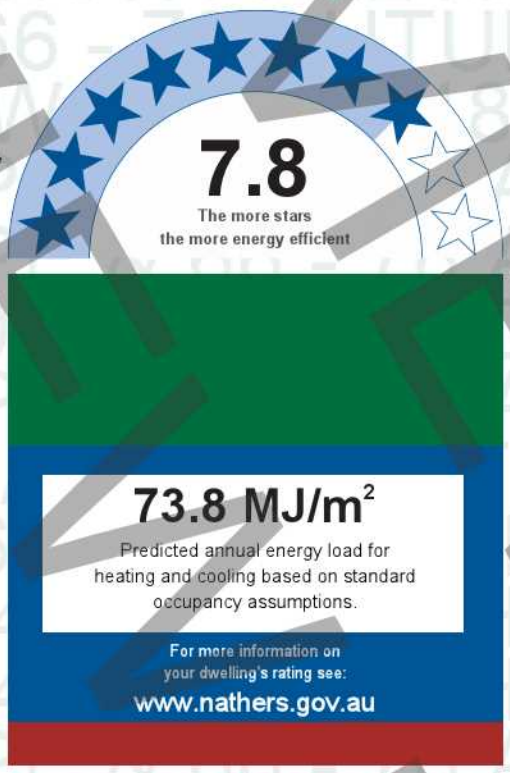
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	65.9	7.9
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLANS

Room *schedule*

Room	Zone Type	Area [m²]
Bed 1	nightTime	15.7
Bed 2	bedroom	12.1
Living	kitchen	32.7
Circulation	dayTime	4.7
WC	unconditioned	4.6
Ensuite	nightTime	4.8

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

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Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bed 1	CAP-061-06 A	Opening 2	2500	1200	awning	60.0	N	No
Bed 2	CAP-061-06 A	Opening 1	2500	1200	awning	60.0	S	No
Living	CAP-018-05 A	Opening 3	2500	3016	sliding	45.0	N	Yes

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit

*Refer to glossary.

No Data Available

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Living	2100	950	100.0	S

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External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
2	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
3	GIW26036 - External FC wall - corridor	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
4	GIW26036 - External Concrete Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Bed 1	1	3000	3403	N	0	No
Bed 1	1	3000	3322	W	0	Yes
Bed 1	2	3000	3886	E	0	No
Bed 2	3	3000	3343	S	0	Yes
Bed 2	2	3000	3626	E	0	No

*Refer to glossary.

Living	1	3000	3626	N	0	Yes
Living	4	3000	9420	W	0	Yes
Living	3	3000	3647	S	0	Yes
WC	2	3000	1805	E	0	No
Ensuite	2	3000	2856	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	72	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bed 1	FR5 - 225mm concrete slab	15.7	Enclosed	R0.0	Carpet
Bed 2	FR5 - 225mm concrete slab	12.1	Enclosed	R0.0	Carpet
Living	FR5 - 225mm concrete slab	30.1	Enclosed	R0.0	Timber
Living	FR5 - 225mm concrete slab	1.3	Enclosed	R0.0	Timber
Living	FR5 - 225mm concrete slab	1.3	Enclosed	R0.0	Timber
Circulation	FR5 - 225mm concrete slab	1.4	Enclosed	R0.0	Timber
Circulation	FR5 - 225mm concrete slab	3.6	Enclosed	R0.0	Timber
Circulation	FR5 - 225mm concrete slab	0.7	Enclosed	R0.0	Timber
WC	FR5 - 225mm concrete slab	4.6	Enclosed	R0.0	Tiles
Ensuite	FR5 - 225mm concrete slab	4.8	Enclosed	R0.0	Tiles

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Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Bed 1	Plasterboard	R6.3	No
Bed 2	Plasterboard	R6.3	No
Living	Plasterboard	R6.3	No
Living	Plasterboard	R1.3	Yes
Living	Plasterboard	R1.3	Yes
Circulation	Plasterboard	R6.3	No
Circulation	Plasterboard	R1.3	Yes
WC	Plasterboard	R6.3	No
Ensuite	Plasterboard	R6.3	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bed 1	6	Downlights	80	80	Sealed

*Refer to glossary.

Bed 2	5	Downlights	80	80	Sealed
Living	12	Downlights	80	80	Sealed
Living	1	Exhaust Fans	250	250	Sealed
Circulation	2	Downlights	80	80	Sealed
Circulation	1	Exhaust Fans	250	250	Sealed
WC	2	Downlights	80	80	Sealed
WC	1	Exhaust Fans	250	250	Sealed
Ensuite	2	Downlights	80	80	Sealed
Ensuite	1	Exhaust Fans	250	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

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PLANNING

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT, mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

*Refer to glossary.

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

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ADVERTISED PLAN

PREVIEW PREVIEW PREVIEW

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured 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.

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 the certificate 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 load, 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 using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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ADVERTISED PLAN

PREVIEW

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	A-G10, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	61.2	suburban
Unconditioned*	5.5	**NatHERS climate zone**
Total	66.7	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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ADVERTISED PLAN

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

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



98.6 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

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

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	96.6	2
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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ADVERTISED PLAN

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNPUBLISHED PLAN

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLANS

Room *schedule*

Room	Zone Type	Area [m²]
Shared 1	basementCarPark	3117.5
Kitchen/Living	kitchen	32.6
Passage	dayTime	4.8
Bedroom 1	bedroom	11.8
Bedroom 2	bedroom	12
Bathroom	unconditioned	5.5

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42

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ADVERTISED PLAN

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	CAP-018-05 A	Opening 14	2500	3000	sliding	45.0	S	No
Bedroom 1	CAP-061-06 A	Opening 13	1800	1200	awning	90.0	N	No
Bedroom 2	CAP-061-06 A	Opening 12	1800	1200	awning	90.0	S	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit

*Refer to glossary.

No Data Available

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Kitchen/Living	2560	900	100.0	N

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ADVERTISED PLAN

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - Retaining walls	0.5	Medium		No
2	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
3	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
4	GIW26036 - Internal Concrete Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Shared 1	1	2400	19570	W	0	No
Shared 1	1	2400	3760	S	0	No
Shared 1	1	2400	32960	W	0	No
Shared 1	1	2400	8920	N	0	No
Shared 1	1	2400	37400	W	0	No
Shared 1	1	2400	18800	S	0	No

*Refer to glossary.

Shared 1	1	2400	3000	E	0	No
Shared 1	1	2400	31960	S	0	No
Shared 1	1	2400	34400	E	0	No
Shared 1	1	2400	8218	N	0	No
Shared 1	1	2400	20105	E	0	No
Shared 1	1	2400	16195	N	0	No
Shared 1	1	2400	32425	E	0	No
Shared 1	1	2400	21217	N	0	No
Kitchen/Living	2	3000	3625	S	2046	Yes
Kitchen/Living	3	3000	2960	E	0	No
Kitchen/Living	4	3000	4994	E	0	No
Kitchen/Living	2	3000	4382	N	0	Yes
Bedroom 1	2	3000	3245	N	2027	Yes
Bedroom 1	2	3000	3638	W	3575	Yes
Bedroom 2	2	3000	3043	W	3500	Yes
Bedroom 2	2	3000	3962	S	0	Yes
Bedroom 2	2	3000	1946	E	3504	Yes
Bathroom	2	3000	2890	W	3433	Yes

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ADVERTISED PLAN

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	53.8	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Shared 1	FR5 - 200mm concrete slab	3117.5	Enclosed	R0.0	none
Kitchen/Living	FR5 - 200mm concrete slab	32.6	Enclosed	R2.8	Timber
Passage	FR5 - 200mm concrete slab	4.8	Enclosed	R2.8	Timber
Bedroom 1	FR5 - 200mm concrete slab	11.8	Enclosed	R2.8	Carpet
Bedroom 2	FR5 - 200mm concrete slab	12	Enclosed	R2.8	Carpet
Bathroom	FR5 - 200mm concrete slab	5.5	Enclosed	R2.8	Tiles

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Shared 1	FR5 - 200mm concrete slab	R2.8	No
Shared 1	Plasterboard	R0.0	No

Ceiling *penetrations**

*Refer to glossary.

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Kitchen/Living	12	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed
Passage	2	Downlights	80	80	Sealed
Bedroom 1	4	Downlights	80	80	Sealed
Bedroom 2	4	Downlights	80	80	Sealed
Bathroom	2	Downlights	80	80	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

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ADVERTISED PLAN

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

*Refer to glossary.

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

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ADVERTISED PLAN

PREVIEW PREVIEW PREVIEW

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured 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.

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 the certificate 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 load, 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 using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type/window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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ADVERTISED PLAN

PREVIEW PREVIEW PREVIEW

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	H-G04, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	41.2	suburban
Unconditioned*	5.2	**NatHERS climate zone**
Total	46.4	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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ADVERTISED PLAN

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

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



96 MJ/m²

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

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

Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	89.1	6.9
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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ADVERTISED PLAN

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNPUBLISHED PLAN

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLAN

*Refer to glossary.

Room *schedule*

Room	Zone Type	Area [m²]
Shared 1	basementCarPark	3117.5
Kitchen/Living	kitchen	24.8
Bathroom	unconditioned	5.2
Bedroom entry	dayTime	3.7
Bedroom 1	bedroom	12.8

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

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ADVERTISED PLAN

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	CAP-061-06 A	Opening 1	2550	1200	awning	60.0	S	No
Kitchen/Living	CAP-018-05 A	Opening 2	2550	2700	sliding	45.0	E	No
Bedroom 1	CAP-061-06 A	Opening 3	2550	1200	awning	60.0	E	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

*Refer to glossary.

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

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External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade colour	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - Retaining walls	0.5	Medium		No
2	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
3	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Shared 1	1	2400	19570	W	0	No
Shared 1	1	2400	3760	S	0	No
Shared 1	1	2400	32960	W	0	No
Shared 1	1	2400	8920	N	0	No
Shared 1	1	2400	37400	W	0	No
Shared 1	1	2400	18800	S	0	No
Shared 1	1	2400	3000	E	0	No
Shared 1	1	2400	31960	S	0	No
Shared 1	1	2400	34400	E	0	No
Shared 1	1	2400	8218	N	0	No

*Refer to glossary.

Shared 1	1	2400	20105	E	0	No
Shared 1	1	2400	16195	N	0	No
Shared 1	1	2400	32425	E	0	No
Shared 1	1	2400	21217	N	0	No
Kitchen/Living	2	3000	977	S	0	Yes
Kitchen/Living	2	3000	803	E	0	Yes
Kitchen/Living	2	3000	3669	S	600	Yes
Kitchen/Living	2	3000	3484	E	3550	Yes
Kitchen/Living	3	3000	5949	W	0	No
Bathroom	3	3000	2690	N	0	No
Bathroom	3	3000	1944	W	0	No
Bedroom entry	3	3000	1864	N	0	No
Bedroom 1	2	3000	3382	S	3619	Yes
Bedroom 1	2	3000	3782	E	0	Yes
Bedroom 1	3	3000	3382	N	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	30.5	

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Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Shared 1	FR5 - 200mm concrete slab	3147.5	Enclosed	R0.0	none
Kitchen/Living	FR5 - 200mm concrete slab	24.8	Enclosed	R2.8	Timber
Bathroom	FR5 - 200mm concrete slab	5.2	Enclosed	R2.8	Tiles
Bedroom entry	FR5 - 200mm concrete slab	3.7	Enclosed	R2.8	Carpet
Bedroom 1	FR5 - 200mm concrete slab	12.8	Enclosed	R2.8	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Shared 1	FR5 - 200mm concrete slab	R2.8	No
Shared 1	Plasterboard	R0.0	No

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Kitchen/Living	10	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed
Bathroom	2	Downlights	80	80	Sealed

*Refer to glossary.

Bathroom	1	Exhaust Fans	250	250	Sealed
Bedroom entry	1	Downlights	80	80	Sealed
Bedroom 1	4	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

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Appliance *schedule*

(not applicable if a Whole of Home performance assessment is conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

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ADVERTISED PLAN

Explanatory Notes

About this report

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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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

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Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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ADVERTISED PLAN

PREVIEW PREVIEW PREVIEW

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	H-106, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	73.2	suburban
Unconditioned*	2.6	**NatHERS climate zone**
Total	75.8	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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ADVERTISED PLAN

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

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





Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	64.1	2.9
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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*Refer to glossary.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNPUBLISHED PLAN

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLAN

Room *schedule*

Room	Zone Type	Area [m²]
Bedroom 1	bedroom	11.8
Bedroom 2	bedroom	11.9
Bathroom	dayTime	7.1
Laundry	unconditioned	2.6
Entry Corridor	dayTime	10.1
Hallway 2	dayTime	2.8
Kitchen/Living	kitchen	29.5

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

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ADVERTISED PLAN

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	CAP-061-06 A	Bed 1 AW	2500	1200	awning	60.0	N	No
Bedroom 2	CAP-061-06 A	Bed 2 AW	2500	1000	awning	60.0	N	No
Kitchen/Living	CAP-018-05 A	LKD SL	2500	3000	sliding	45.0	S	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Substitution tolerance ranges

*Refer to glossary.

Window ID	Window description	Maximum U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

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ADVERTISED PLAN

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - External Concrete Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
2	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
3	GIW26036 - Internal Concrete Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
4	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Bedroom 1	1	3000	3334	W	0	Yes
Bedroom 1	2	3000	3537	N	0	Yes
Bedroom 2	3	3000	2523	N	0	No

*Refer to glossary.

Bedroom 2	2	3000	1045	N	0	Yes
Bathroom	3	3000	2603	E	0	No
Bathroom	3	3000	2439	N	0	No
Laundry	1	3000	1209	W	0	Yes
Entry Corridor	4	3000	5396	S	0	No
Entry Corridor	3	3000	1960	E	0	No
Hallway 2	4	3000	2506	E	0	No
Kitchen/Living	1	3000	7417	W	0	Yes
Kitchen/Living	2	3000	4397	S	2295	Yes
Kitchen/Living	4	3000	4851	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	76.8	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	FR5 - 200mm concrete slab	11.8	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - 200mm concrete slab	11.9	Enclosed	R0.0	Carpet
Bathroom	FR5 - 200mm concrete slab	7.1	Enclosed	R0.0	Tiles
Laundry	FR5 - 200mm concrete slab	2.6	Enclosed	R0.0	Tiles
Entry Corridor	FR5 - 200mm concrete slab	10.1	Enclosed	R0.0	Timber
Hallway 2	FR5 - 200mm concrete slab	2.8	Enclosed	R0.0	Timber
Kitchen/Living	FR5 - 200mm concrete slab	29.5	Enclosed	R0.0	Timber

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Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
No Data Available			

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bedroom 1	4	Downlights	80	80	Sealed
Bedroom 2	4	Downlights	80	80	Sealed
Bathroom	2	Downlights	80	80	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	80	80	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Entry Corridor	4	Downlights	80	80	Sealed

*Refer to glossary.

Hallway 2	1	Downlights	80	80	Sealed
Kitchen/Living	12	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

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Appliance *schedule*

(not applicable if a Whole of Home performance assessment conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

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ADVERTISED PLAN

PREVIEW

Explanatory Notes

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Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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PREVIEW PREVIEW PREVIEW

*Refer to glossary.

Nationwide House Energy Rating Scheme® NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	A-103, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	76.2	suburban
Unconditioned*	1.2	**NatHERS climate zone**
Total	77.4	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

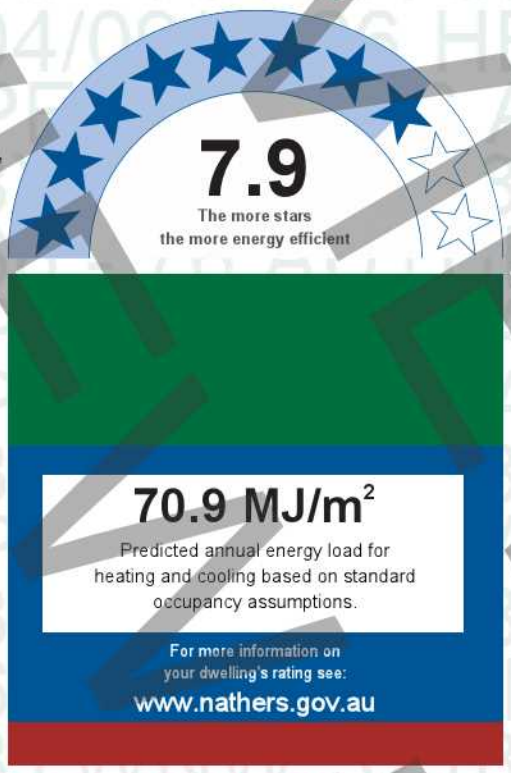
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	66.9	4
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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ADVERTISED PLAN

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNREVISED PLAN

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLAN

Room *schedule*

Room	Zone Type	Area [m²]
Bedroom 1	bedroom	13.2
Ensuite	nightTime	5
Bed 1 Hallway	dayTime	2.2
Bathroom	dayTime	5.1
Hallway	dayTime	3.3
Kitchen/Living	kitchen	35.1
Laundry	unconditioned	1.2
Bedroom 2	bedroom	12.3

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-048-06 A	200 Hinged Door into 400 Narrowline DG DG 6EA-12Ar-6	3.6	0.44	0.42	0.46
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

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ADVERTISED PLAN

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	CAP-061-06 A	Opening 10	1800	1200	awning	60.0	N	No
Kitchen/Living	CAP-048-06 A	LKD Hinged	2550	1000	casement	90.0	S	No
Kitchen/Living	CAP-061-06 A	LKD AW	2550	1000	awning	60.0	S	No
Kitchen/Living	CAP-018-05 A	LKD SL	2500	2700	sliding	20.0	N	No
Bedroom 2	CAP-061-06 A	Bed 2 AW	2550	1200	awning	60.0	S	No

Roof window* *type and performance value*

Default* roof windows

Substitution tolerance ranges

*Refer to glossary.

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges: SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges: SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

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External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
2	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
3	GIW26036 - External FC wall - corridor	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No

External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Bedroom 1	1	3000	3978	W	0	No

*Refer to glossary.

Bedroom 1	2	3000	3293	E	3580	Yes
Bedroom 1	2	3000	3323	N	0	Yes
Ensuite	1	3000	2931	W	0	No
Bathroom	1	3000	1893	W	0	No
Kitchen/Living	2	3000	745	S	0	Yes
Kitchen/Living	2	3000	217	W	0	Yes
Kitchen/Living	3	3000	3095	S	1965	Yes
Kitchen/Living	1	3000	9703	E	0	No
Kitchen/Living	2	3000	3775	N	2533	Yes
Bedroom 2	1	3000	3668	W	0	No
Bedroom 2	2	3000	3347	S	0	Yes

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	83	

Floor *type*

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Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	FR5 - 200mm concrete slab	13.2	Enclosed	R0.0	Carpet
Ensuite	FR5 - 200mm concrete slab	5	Enclosed	R0.0	Tiles
Bed 1 Hallway	FR5 - 200mm concrete slab	2.2	Enclosed	R0.0	Carpet
Bathroom	FR5 - 200mm concrete slab	5.1	Enclosed	R0.0	Tiles
Hallway	FR5 - 200mm concrete slab	3.3	Enclosed	R0.0	Timber
Kitchen/Living	FR5 - 200mm concrete slab	35.1	Enclosed	R0.0	Timber
Laundry	FR5 - 200mm concrete slab	1.2	Enclosed	R0.0	Tiles
Bedroom 2	FR5 - 200mm concrete slab	12.3	Enclosed	R0.0	Carpet

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
No Data Available			

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bedroom 1	5	Downlights	80	80	Sealed
Ensuite	2	Downlights	80	80	Sealed
Ensuite	1	Exhaust Fans	250	250	Sealed
Bed 1 Hallway	1	Downlights	80	80	Sealed
Bathroom	2	Downlights	80	80	Sealed

*Refer to glossary.

Bathroom	1	Exhaust Fans	250	250	Sealed
Hallway	1	Downlights	80	80	Sealed
Kitchen/Living	14	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed
Laundry	1	Downlights	80	80	Sealed
Laundry	1	Exhaust Fans	250	250	Sealed
Bedroom 2	4	Downlights	80	80	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

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Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

*Refer to glossary.

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

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ADVERTISED PLAN

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured 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.

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 the certificate 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 load, 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 using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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ADVERTISED PLAN

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	A-216, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	42.8	suburban
Unconditioned*	6.1	**NatHERS climate zone**
Total	48.9	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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ADVERTISED PLAN

NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

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





Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	78.3	9.1
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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ADVERTISED PLAN

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNREVISED PLAN

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLAN

Room *schedule*

Room	Zone Type	Area [m²]
Bedroom 1	bedroom	11.1
Bathroom	unconditioned	6.1
Entry Corridor	dayTime	8
Kitchen/Living	kitchen	23.7

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

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ADVERTISED PLAN

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	CAP-061-06 A	Bed 1 1 AW	1800	1200	awning	60.0	N	No
Kitchen/Living	CAP-018-05 A	LKD SL	2500	3015	sliding	45.0	S	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

*Refer to glossary.

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - External Concrete Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
2	GIW26036 - External FC wall - corridor	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No
3	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
4	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No

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External wall *schedule*

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Bedroom 1	1	3000	3932	W	0	No
Bedroom 1	2	3000	2932	N	0	Yes
Bathroom	1	3000	1942	W	0	No
Entry Corridor	3	3000	4601	E	0	No
Entry Corridor	3	3000	495	S	0	No
Entry Corridor	2	3000	1416	E	7361	Yes
Entry Corridor	2	3000	1721	N	0	Yes
Kitchen/Living	1	3000	5556	W	0	No

*Refer to glossary.

Kitchen/Living	4	3000	4263	S	2164	Yes
Kitchen/Living	1	3000	1734	E	3588	Yes
Kitchen/Living	3	3000	3822	E	0	No

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	39.9	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	FR5 - 200mm concrete slab	11.1	Enclosed	R0.0	Carpet
Bathroom	FR5 - 200mm concrete slab	6.1	Enclosed	R0.0	Tiles
Entry Corridor	FR5 - 200mm concrete slab	8	Enclosed	R0.0	Timber
Kitchen/Living	FR5 - 200mm concrete slab	23.7	Enclosed	R0.0	Timber

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
No Data Available			

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ADVERTISED PLAN

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bedroom 1	4	Downlights	80	80	Sealed
Bathroom	2	Downlights	80	80	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed
Entry Corridor	3	Downlights	80	80	Sealed
Kitchen/Living	9	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Slab:Slab - Suspended Slab : 200mm: 200mm Suspended Slab	0.0	0.5	Medium

Thermal bridging *schedule for steel frame elements*

*Refer to glossary.

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

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ENDORSED PLAN

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

*Refer to glossary.

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured 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.

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 the certificate 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 load, 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 using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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ADVERTISED PLAN

PREVIEW

*Refer to glossary.

Nationwide House Energy Rating Scheme®
NatHERS® Certificate

Generated on 4 Sep 2026 using FirstRate5: 5.5.5a (3.22)

Property

Address	H-302, 51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West, Geelong West , VIC, 3218
Lot/DP	-
NCC Class*	Class 2
Floor/all Floors	
Type	New Home

Plans

Main plan	240516/ 31.08.26
Prepared by	Austin Maynard Architects

Construction and environment

Assessed floor area [m²]*		**Exposure type**
Conditioned*	112.3	open
Unconditioned*	3.2	**NatHERS climate zone**
Total	115.5	60 Tullamarine
Garage	-	

Accredited assessor

Name	Gary Wertheimer
Business name	GIW Environmental Solutions
Email	gary@giw.com.au
Phone	0390445111
Accreditation No.	DMN/10/2024
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	No

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NCC Requirements

NCC provisions	Volume 1
State/Territory variation	Yes

National Construction Code (NCC) requirements

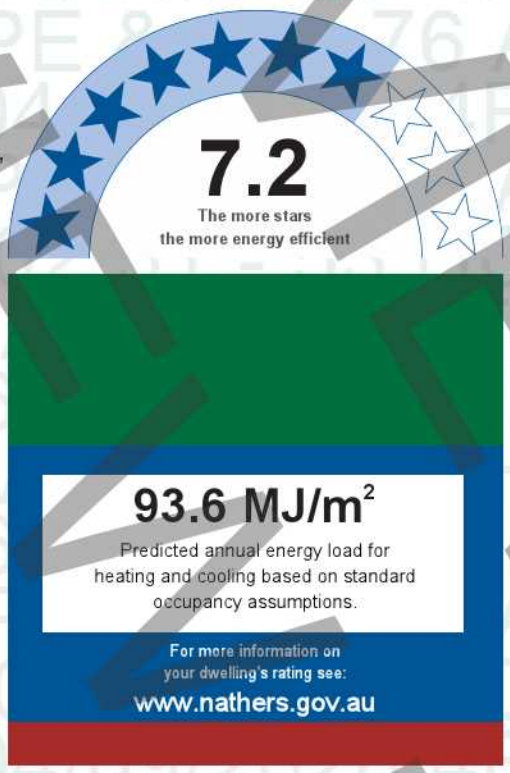
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	76	17.6
Load limits	103	49

Features determining load limits

Floor type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	Y
Outdoor living area	N/A
Outdoor living area ceiling fan	N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit When using either link, ensure you are visiting www.fr5.com.au.

*Refer to glossary.

About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

- CSOG – Concrete Slab on Ground
- SF – Suspended Floor (or a mixture of CSOG and SF)
- NA – Not Applicable

NCC climate Zone 1 or 2:

- Yes
- No
- NA – not applicable

Outdoor living area:

- Yes
- No
- NA – not applicable

Outdoor living area ceiling fan:

- Yes
- No
- NA – not applicable

Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:

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ADVERTISED PLAN

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in *'Window and glazed door schedule'* and *'Roof window schedule'* tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the *'Window and glazed door type and performance'* and *'Roof window type and performance'* tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the *'External wall type'* table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Floor type'* table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the *'quantity'* and *'type'* of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling penetrations'* table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the *'Ceiling type'* table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the *'Roof type'* table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.	☐	☐		☐	☐
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NAtHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

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UNPLANNED

*Refer to glossary.

Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the *'Appliance schedule'* on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the *'Onsite Renewable Energy schedule'* on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in *'Additional notes'* table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes

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RELEASED PLAN

Room *schedule*

Room	Zone Type	Area [m²]
Entry	dayTime	7.4
Pantry	dayTime	2.9
Ensuite	nightTime	6.1
Bedroom 1	bedroom	13.5
Kitchen/Living	kitchen	51.1
Bedroom 2	bedroom	13.5
C'dor	unconditioned	3.2
Bedroom 3	bedroom	12.4
Bathroom	dayTime	5.6

Window and glazed door *type and performance*

Default* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

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ADVERTISED PLAN

Custom* windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CAP-061-06 A	Capral 50 Series Awning in 400 Series DG 6EA-12Ar-6	4.42	0.4	0.38	0.42
CAP-018-05 A	Genesis Sliding Door DG 5LBrdg-8Ar-5	2.96	0.48	0.46	0.5

Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Ensuite	CAP-061-06 A	Opening 3	1800	1200	awning	60.0	E	No
Bedroom 1	CAP-061-06 A	Opening 1	1800	1200	awning	60.0	E	No
Kitchen/Living	CAP-061-06 A	Opening 4	1800	1200	awning	60.0	E	No
Kitchen/Living	CAP-061-06 A	Opening 5	1800	1200	awning	60.0	E	No
Kitchen/Living	CAP-018-05 A	Opening 6	2500	2400	sliding	45.0	N	Yes
Kitchen/Living	CAP-018-05 A	Opening 7	2500	2700	sliding	45.0	E	No
Kitchen/Living	CAP-018-05 A	Opening 8	2500	2700	sliding	45.0	N	Yes
Bedroom 2	CAP-061-06 A	Opening 9	1800	1200	awning	90.0	N	No
Bedroom 3	CAP-061-06 A	Opening 11	1800	1200	awning	90.0	W	No

*Refer to glossary.

Bathroom	CAP-061-06 A	Opening 10	1800	1200	awning	90.0	W	No

Roof window* *type and performance value*

Default* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Custom* roof windows

Window ID	Window description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
No Data Available					

Roof window* *schedule*

Location	Window ID	Window no.	Opening %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* *type and performance*

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

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ADVERTISED PLAN

Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orient-ation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	GIW26036 - Internal Plasterboard/ Intertenancy	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R1.8)	No
2	GIW26036 - External Brick Wall	0.5	Medium	Glass fibre batt (k = 0.044 density = 12 kg/m3) (R2.7)	No

External wall *schedule*

*Refer to glossary.

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature* (yes/no)
Entry	1	3000	1806	W	0	No
Pantry	1	3000	1207	W	0	No
Pantry	1	3000	2032	S	0	No
Ensuite	2	3000	3111	E	150	Yes
Bedroom 1	1	3000	2941	W	0	No
Bedroom 1	1	3000	4608	S	0	No
Bedroom 1	2	3000	2924	E	150	Yes
Kitchen/Living	2	3000	5797	E	137	Yes
Kitchen/Living	2	3000	3712	N	0	Yes
Kitchen/Living	2	3000	4073	E	150	Yes
Kitchen/Living	2	3000	3235	N	0	Yes
Kitchen/Living	1	3000	1257	W	0	No
Bedroom 2	2	3000	3987	N	0	No
Bedroom 2	2	3000	3023	W	148	Yes
Bedroom 3	2	3000	2907	W	150	Yes
Bedroom 3	1	3000	4234	S	0	No
Bathroom	2	3000	2382	W	130	Yes

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ADVERTISED PLAN

Internal wall *type*

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	103.2	

Floor *type*

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Entry	FR5 - 200mm concrete slab	3.1	Enclosed	R0.0	Timber
Entry	FR5 - 200mm concrete slab	3.2	Enclosed	R0.0	Timber
Entry	FR5 - 200mm concrete slab	1.2	Enclosed	R0.0	Timber
Pantry	FR5 - 200mm concrete slab	2.9	Enclosed	R0.0	Timber
Ensuite	FR5 - 200mm concrete slab	6.1	Enclosed	R0.0	Tiles
Bedroom 1	FR5 - 200mm concrete slab	8.9	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - 200mm concrete slab	3.5	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - 200mm concrete slab	1.1	Enclosed	R0.0	Carpet
Kitchen/Living	FR5 - 200mm concrete slab	31.2	Enclosed	R0.0	Timber
Kitchen/Living	FR5 - 200mm concrete slab	2.2	Enclosed	R0.0	Timber
Kitchen/Living	FR5 - 200mm concrete slab	17.7	Enclosed	R0.0	Timber
Bedroom 2	FR5 - 200mm concrete slab	9.4	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - 200mm concrete slab	2.4	Enclosed	R0.0	Carpet

*Refer to glossary.

Bedroom 2	FR5 - 200mm concrete slab	1.5	Enclosed	R0.0	Carpet
C'dor	FR5 - 200mm concrete slab	1.1	Enclosed	R0.0	Timber
C'dor	FR5 - 200mm concrete slab	1.4	Enclosed	R0.0	Timber
C'dor	FR5 - 200mm concrete slab	0.8	Enclosed	R0.0	Timber
Bedroom 3	FR5 - 200mm concrete slab	8.9	Enclosed	R0.0	Carpet
Bedroom 3	FR5 - 200mm concrete slab	2.3	Enclosed	R0.0	Carpet
Bedroom 3	FR5 - 200mm concrete slab	1.2	Enclosed	R0.0	Carpet
Bathroom	FR5 - 200mm concrete slab	5.6	Enclosed	R0.0	Tiles

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Entry	Plasterboard	R6.3	No
Entry	Plasterboard	R6.3	No
Entry	Plasterboard	R1.3	No
Pantry	Plasterboard	R6.3	No
Ensuite	Plasterboard	R6.3	No
Bedroom 1	Plasterboard	R6.3	No
Bedroom 1	Plasterboard	R6.3	No
Bedroom 1	Plasterboard	R1.3	No
Kitchen/Living	Plasterboard	R6.3	No
Kitchen/Living	Plasterboard	R1.3	No
Kitchen/Living	Plasterboard	R6.3	No
Bedroom 2	Plasterboard	R6.3	No
Bedroom 2	Plasterboard	R6.3	No
Bedroom 2	Plasterboard	R1.3	No
C'dor	Plasterboard	R6.3	No
C'dor	Plasterboard	R6.3	No
C'dor	Plasterboard	R1.3	No
Bedroom 3	Plasterboard	R6.3	No
Bedroom 3	Plasterboard	R6.3	No
Bedroom 3	Plasterboard	R1.3	No
Bathroom	Plasterboard	R6.3	No

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ADVERTISED PLAN

Ceiling *penetrations**

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Entry	2	Downlights	80	80	Sealed
Pantry	1	Downlights	80	80	Sealed
Ensuite	2	Downlights	80	80	Sealed

*Refer to glossary.

Ensuite	1	Exhaust Fans	250	250	Sealed
Bedroom 1	5	Downlights	80	80	Sealed
Kitchen/Living	20	Downlights	80	80	Sealed
Kitchen/Living	1	Exhaust Fans	250	250	Sealed
Bedroom 2	5	Downlights	80	80	Sealed
C'dor	1	Downlights	80	80	Sealed
Bedroom 3	5	Downlights	80	80	Sealed
Bathroom	2	Downlights	80	80	Sealed
Bathroom	1	Exhaust Fans	250	250	Sealed

Ceiling *fans*

Location	Quantity	Diameter [mm]
No Data Available		

Roof *type*

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	0.0	0.5	Medium
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium

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PLANNING PLAN

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT, mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

*Refer to glossary.

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	

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ADVERTISED PLAN

PREVIEW PREVIEW PREVIEW

Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

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 heating and cooling energy loads and energy value* of the whole home. 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 generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured 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.

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 the certificate 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 load, 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 using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to receive heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
COP	Coefficient of performance
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.

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*Refer to glossary.

STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

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Appendix C – Renewable Energy.

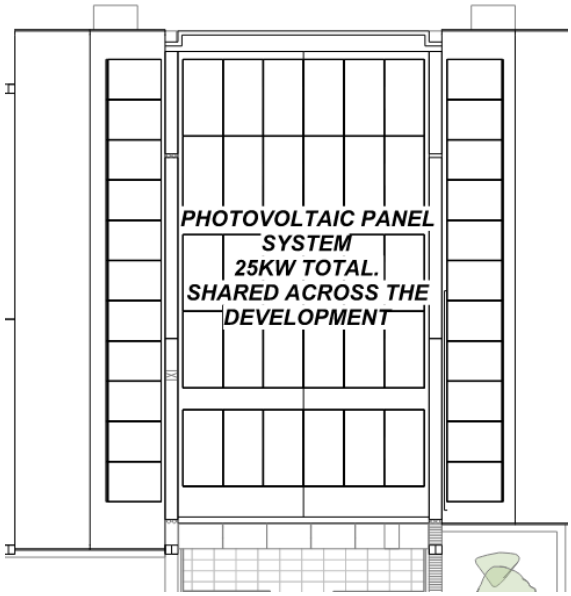

Figure 6 - Location Solar PV System

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PVWatts Calculator

West facing panels

RESULTS

Print Results

5,066 kWh/Year*

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	5.82	724
February	5.09	579
March	3.78	482
April	2.52	312
May	1.57	201
June	1.19	147
July	1.48	193
August	2.12	279
September	3.09	391
October	3.92	503
November	4.63	574
December	5.42	680
Annual	3.39	5,065

User Comments

Type here to add optional comments to printout

Download Results: Monthly | Hourly

Find A Local Installer

* Caution: The PVWatts energy estimate is based on an hourly performance simulation using a typical-year weather file that represents a multi-year historical period for 53 hope street geelong west for a Fixed (open rack) photovoltaic system.

These results assume suggested default values for the remaining parameters and represent typical characteristics of the project you are modeling.

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Location and Station Identification

Requested Location	53 hope street geelong west
Solar Resource Data Location	NSRDB Lat/Lng: -38.15, 144.34
Latitude	38.15° S
Longitude	144.34° E

PV System Specifications

DC System Size	5.3 kW
Module Type	Standard
Array Type	Fixed (open rack)
System Losses	14.08%
Array Tilt	45°
Array Azimuth	262°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4
Albedo	*From weather file*
Bifacial	No (0)
Monthly Irradiance Loss	Jan 0% Feb 0% Mar 0% Apr 0% May 0% June 0% July 0% Aug 0% Sept 0% Oct 0% Nov 0% Dec 0%

Performance Metrics

DC Capacity Factor	10.9%

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East facing panels

RESULTS

Print Results

4,862 kWh/Year*

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	5.49	678
February	4.57	516
March	3.66	468
April	2.42	302
May	1.70	220
June	1.22	151
July	1.67	220
August	2.23	296
September	2.96	375
October	3.77	485
November	4.04	498
December	5.21	652
Annual	3.25	4,861

User Comments

Type here to add optional comments to printout.

Download Results: Monthly | Hourly

Find A Local Installer

* Caution: The PVWatts energy estimate is based on an hourly performance simulation using a typical-year weather file that represents a multi-year historical period for 53 hope street geelong west for a fixed (open rack) photovoltaic system.

These results may not accurately represent the long-term average performance typical characteristics of the project you are modeling.

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Location and Station Identification	
Requested Location	53 hope street geelong west
Solar Resource Data Location	NSRDB Lat/Lng: -38.15, 144.34
Latitude	38.15° S
Longitude	144.34° E
PV System Specifications	
DC System Size	5.3 kW
Module Type	Standard
Array Type	Fixed (open rack)
System Losses	14.08%
Array Tilt	45°
Array Azimuth	97°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4
Albedo	*From weather file*
Bifacial	No (0)
Monthly Irradiance Loss	Jan 0% Feb 0% Mar 0% Apr 0% May 0% June 0% July 0% Aug 0% Sept 0% Oct 0% Nov 0% Dec 0%
Performance Metrics	
DC Capacity Factor	10.5%

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North facing panels

RESULTS

Print Results

17,343 kWh/Year*

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	7.05	2,375
February	6.20	1,914
March	4.83	1,684
April	3.28	1,121
May	2.17	767
June	1.67	571
July	2.07	738
August	2.84	1,024
September	3.94	1,360
October	4.97	1,738
November	5.41	1,814
December	6.58	2,238
Annual	4.25	17,344

User Comments

Type here to add optional comments to printout.

Download Results: Monthly Hourly

Find a Local Installer

*Caution: The PVWatts energy estimate is based on an hourly performance simulation using a typical-year weather file for the nearest location to the requested location for a Fixed (open rack) photovoltaic system.

These results are based on the system parameters you have selected. It is your responsibility to verify the accuracy of these parameters and their appropriateness to the technical characteristics of the project you are modeling.

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Location and Station Identification

Requested Location	53 Hope Street Geelong West
Solar Resource Data Location	NSRDB Lat, Lng: -38.15, 144.34
Latitude	-38.15° S
Longitude	144.34° E

PV System Specifications

DC System Size	14.4 kW
Module Type	Standard
Array Type	Fixed (open rack)
System Losses	14.08%
Array Tilt	2°
Array Azimuth	7°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4
Albedo	*From weather file*
Bifacial	No (0)
Monthly Irradiance Loss	Jan 0% Feb 0% Mar 0% Apr 0% May 0% June 0% July 0% Aug 0% Sept 0% Oct 0% Nov 0% Dec 0%

Performance Metrics

DC Capacity Factor	13.7%

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Appendix D – Natural Ventilation



Figure 7: Natural cross-ventilated apartment – Ground floor



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Figure 8: Natural cross-ventilated apartment – 1st floor



Figure 9: Natural cross-ventilated apartment – 2nd floor

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Figure 10: Natural cross-ventilated apartment – 3rd floor

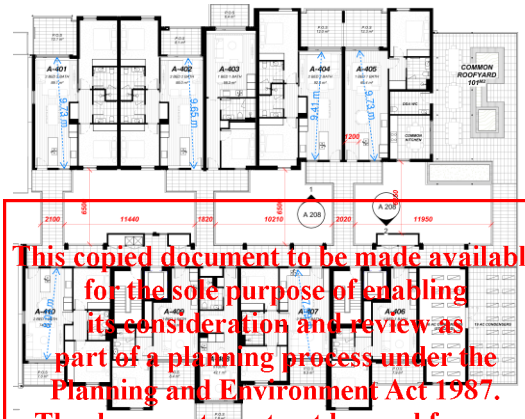

Figure 11: Natural cross-ventilated apartment – 4th floor

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Overall Building Results

Floor Level	Cross-ventilated	Single Sided ventilated	Non-compliant	Total Compliant
G	11	0	5	11
1	14	0	8	14
2	15	0	7	15
3	12	0	6	12
4	6	0	4	6
Total	58	0	30	58

Percentage of development naturally ventilated
66%

Appendix E – BESS Assessment

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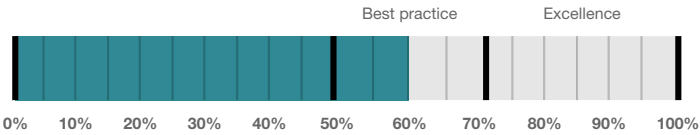
BESS Buildings Report

Built Environment Sustainability Scorecard

This BESS report outlines the sustainable design commitments of the proposed development at 53 Hope St Geelong West Victoria 3218. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Greater Geelong City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score



60%

Project details

Name	51 - 53 Hope & 66 - 76 Autumn Streets, Geelong West
Address	53 Hope St Geelong West Victoria 3218
Project ID	733D3D66-R1
BESS Version	BESS-10
Date	04 September 2026
Software version	2.3.0-B.655
Site type	Multi unit development (apartment building)
Account	info@giw.com.au
Application no.	
Site area	4,245 m²
Building floor area	7,520 m²

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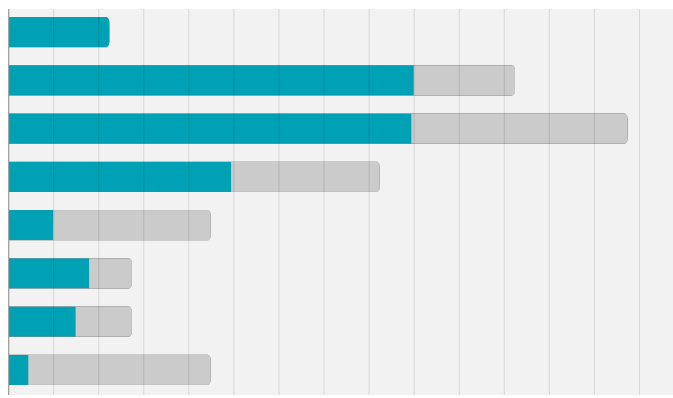
Performance by category



Category	Weight	Score	Pass
Management	5%	100%	
Integrated Water Management	23%	80%	✓
Operational Energy	28%	65%	✓
Indoor Environment Quality	17%	60%	✓
Transport	9%	22%	
Waste & Resource Recovery	6%	66%	
Urban Ecology	6%	55%	
Innovation	9%	10%	



Buildings

Name	Height	Footprint	% of total footprint
Hope	4	690 m²	29%
Autumn	5	1,646 m²	70%

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Dwellings & Non Res Spaces

Dwellings

Name	Quantity	Area	Building	% of total area
Apartment				
A-102, A-105, A-106, A-107, A-202, A-205, A-206, A-207, A-302, A-303, A-305, A-306	12	86.0 m²	Autumn	13%
A-110, A-112, A-115, A-210, A-212, A-215, A-310, A-313	8	86.0 m²	Autumn	9%
A-111, A-113, A-114, A-217, A-211, A-213, A-214, A-310, A-311, A-312	10	66.0 m²	Autumn	8%
A-G02, A-G03, A-G04, A-G05, A-G10, A-G13, A-G15	7	86.0 m²	Autumn	8%
A-402, A-404, A-407, A-410	4	86.0 m²	Autumn	4%
H-302, H-303	2	129 m²	Hope	3%
A-108, A-109	2	129 m²	Autumn	3%
A-104, A-204, A-304	3	86.0 m²	Autumn	3%
H-103, H-203	2	129 m²	Hope	3%
A-G06, A-G07	2	129 m²	Autumn	3%
405, 406	2	86.0 m²	Autumn	2%
A-403, A-408, A-409	3	66.0 m²	Autumn	2%
A-307, A-308	2	86.0 m²	Autumn	2%
H-106, H-206	2	86.0 m²	Hope	2%
H-105, H-205	2	86.0 m²	Hope	2%
H-104, H-204	2	86.0 m²	Hope	2%
H-102, H-202	2	86.0 m²	Hope	2%
A-208	1	86.0 m²	Autumn	1%
A-401	1	86.0 m²	Autumn	1%
A-314	1	86.0 m²	Autumn	1%
H-304	1	86.0 m²	Hope	1%
A-116, A-216	2	66.0 m²	Autumn	1%
A-101, A-201	2	66.0 m²	Autumn	1%
H-101, H-201	2	66.0 m²	Hope	1%
A-G14, A-G16	2	66.0 m²	Autumn	1%
A-G01	1	129 m²	Autumn	1%
H-G05	1	129 m²	Hope	1%
H-G03	1	86.0 m²	Hope	1%
H-G02	1	129 m²	Hope	1%
A-209	1	66.0 m²	Autumn	< 1%
A-301	1	65.0 m²	Autumn	< 1%
H-301	1	66.0 m²	Hope	< 1%

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H-G04	1	66.0 m²	Hope	< 1%
H-G01	1	66.0 m²	Hope	< 1%
Total	**88**	**7,520 m²**	**100%**	

Supporting Evidence

Shown on Floor Plans

Credit	Requirement	Response	Status
Management 3.1	Annotation: Individual utility meters to be provided to all individual dwellings		-
Management 3.3	Annotation: Sub-meters to be provided to all major common area services (list each)		-
Integrated Water Management 2.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
Operational Energy 4.2	Location and size of solar photovoltaic system		-
Indoor Environment Quality 2.1	Dwellings meeting the requirements for being 'naturally ventilated'		-
Transport 2.1	Location of electric vehicle charging infrastructure		-
Waste & Resource Recovery 2.1	Location of food and garden waste facilities		-
Waste & Resource Recovery 2.2	Location of recycling facilities		-
Urban Ecology 1.1	Location and size of communal spaces		-
Urban Ecology 2.1	Location and size of vegetated areas		-
Urban Ecology 2.4	Location of taps and floor wastes on balconies / courtyards		-

Supporting Documentation

Credit	Requirement	Response	Status
Management 2.2	Preliminary NatHERS assessments		-
Integrated Water Management 2.1	STORM report or MUSIC model		-
Operational Energy 3.6	Average lighting power density and lighting type(s) to be used		-
Operational Energy 4.2	Specifications of the solar photovoltaic system(s)		-
Indoor Environment Quality 1.1	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 1.2	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 2.1	A list of naturally ventilated dwellings		-

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Credit summary

Management Overall contribution 4.5%

		100%
1.1 Pre-Application Meeting		100%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential		100%
3.1 Metering - Residential		100%
3.3 Metering - Common Areas		100%
4.1 Building Users Guide		100%

IWM Overall contribution 22.5%

		80% ✔ Pass
1.1 Potable Water Use	41%	✔ Achieved
2.1 Stormwater Treatment	100%	✔ Achieved
3.1 Water Efficient Landscaping	N/A	✣ Scoped Out
	Landscape irrigation connected to RWT	
4.1 Building Systems Water Use	100%	

Operational Energy Overall contribution 27.5%

	Minimum required 50%	65% ✔ Pass
1.2 Thermal Performance Rating - Residential	50%	✔ Achieved
2.1 Greenhouse Gas Emissions	0%	
2.6 Electrification	100%	
2.7 Energy consumption	100%	
3.1 Carpark Ventilation	N/A	✣ Scoped Out
	More than 40 car parks.	
3.4 Clothes Drying	0%	
3.6 Internal Lighting - Apartments	100%	
4.2 Renewable Energy Systems - Solar	100%	
4.4 Renewable Energy Systems - Other	N/A	✣ Scoped Out
	No other (non-solar PV) renewable energy is in use.	

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IEQ Overall contribution 16.5%

Minimum required 50%	60%	✔ Pass
1.1 Daylight Access - Living Areas	66%	✔ Achieved
1.2 Daylight Access - Bedrooms	66%	✔ Achieved
1.3 Winter Sunlight	0%	
1.5 Daylight Access - Main Living Areas	N/A	Scoped Out
	Spatial daylight autonomy metric not in use	
1.6 Daylight Access - Secondary Habitable Rooms	N/A	Scoped Out
	Spatial daylight autonomy metric not in use	
2.1 Ventilation - Natural - Apartments	66%	

Transport Overall contribution 9.0%

	22%	
1.1 Bicycle Parking - Residential	0%	
1.2 Bicycle Parking - Residential Visitor	0%	
1.3 Bicycle Parking - Convenience Residential	0%	Disabled
	Credit 1.1 must be achieved first.	
2.1 Electric Vehicle Infrastructure	100%	
2.2 Car Share Scheme	0%	
2.3 Motorbikes / Mopeds	0%	

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Waste & Resource Recovery Overall contribution 5.5%

	66%	
1.1 Construction Waste - Building Re-Use	0%	
2.1 Operational Waste - Food & Garden Waste	100%	
2.2 Operational Waste - Convenience of Recycling	100%	

Urban Ecology Overall contribution 5.5%

	55%	
1.1 Communal Spaces	100%	
2.1 Vegetation	75%	
2.2 Green Roofs	0%	
2.3 Green Walls and Facades	0%	
2.4 Balconies, Courtyards & Roof terraces	100%	
3.1 Food Production - Residential	0%	

Innovation Overall contribution 9.0%

	10%
1.1 Innovation	10%

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Credit breakdown

Management Overall contribution 4.5%

	100%

1.1 Pre-Application Meeting		100%
Score Contribution	This credit contributes 37.5% towards the category score.	
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?	
Question	Criteria Achieved ?	
Project	Yes	
2.2 Thermal Performance Modelling - Multi Dwelling Residential		100%
Score Contribution	This credit contributes 25% towards the category score.	
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?	
Question	Criteria Achieved ?	
Apartment	Yes	
3.1 Metering - Residential		100%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Have utility meters been provided for all individual dwellings?	
Question	Criteria Achieved ?	
Apartment	Yes	
3.3 Metering - Common Areas		100%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Have all major common area services been separately submetered?	
Question	Criteria Achieved ?	
Apartment	Yes	
4.1 Building Users Guide		100%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Will a building users guide be produced and issued to occupants?	
Question	Criteria Achieved ?	
Project	Yes	

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IWM Overall contribution 22.5%

80% ✔ Pass

Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No

Stormwater profile

Which stormwater modelling software are you using?:	Blue Factor
Blue Factor score achieved?:	104
Flow:	-
Total Suspended Solids:	-
Total Phosphorus:	-
Total Nitrogen:	-

Rainwater tank profile

What is the total roof area connected to the rainwater tank?:	
Rainwater Tank 1	1,891 m²
	-
Tank Size:	
Rainwater Tank 1	24,000 Litres
	-
Irrigation area connected to tank:	
Rainwater Tank 1	1,203 m²
	-
Is connected irrigation area a water efficient garden?:	
Rainwater Tank 1	No
	-
Other external water demand connected to tank?:	
Rainwater Tank 1	0.0 Litres/Day
	-

Fixtures, fittings & connections profile

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Building:	
H-G01 H-G02 H-G03 H-G04 H-G05 H-101, H-201 H-102, H-202 H-103, H-203 H-104, H-204 H-105, H-205 H-106, H-206 H-301 H-302, H-303 H-304	Hope
A-G01 A-G02, A-G03, A-G04, A-G05, A-G10, A-G13, A-G15 A-G06, A-G07 A-G14, A-G16 A-101, A-201 A-102, A-105, A-106, A-107, A-202, A-205, A-206, A-207, A-302, A-303, A-305, A-306 A-104, A-204, A-304 A-108, A-109 A-110, A-112, A-115, A-210, A-212, A-215, A-310, A-313 A-111, A-113, A-114, A-217, A-211, A-213, A-214, A-216 A-311, A-312 A-116, A-216 A-301 A-307, A-308 A-314 A-401 A-402, A-404, A-407, A-410 A-403, A-408, A-409 405, 406 A-208 A-209	Autumn
Showerhead: All	4 Star WELS (>= 6.0 but <= 7.5)
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	>= 5 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Occupant to Install
Which non-potable water source is the dwelling/space connected to?: All	Rainwater Tank 1
Non-potable water source connected to Toilets: All	Yes
Non-potable water source connected to Laundry (washing machine): All	No

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Non-potable water source connected to Hot Water System: All No		
1.1 Potable Water Use	41%	✔ Achieved
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.	
Output	Reference	
Project	12021 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	9765 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	8868 kL	
Output	% Reduction in Potable Water Consumption	
Project	26 %	
Output	% of connected demand met by rainwater	
Project	48 %	
Output	How often does the tank overflow?	
Project	Never / Rarely	
Output	Opportunity for additional rainwater connection	
Project	4292 kL	
2.1 Stormwater Treatment	100%	✔ Achieved
Score Contribution	This credit contributes 60% towards the category score.	
Criteria	Has best practice stormwater management been demonstrated?	
Output	Min Blue Factor Score	
Project	100	
Output	Blue Factor Score	
Project	104	
3.1 Water Efficient Landscaping	N/A	✧ Scoped Out
	Landscape irrigation connected to RWT	
This credit was scoped out	Landscape irrigation connected to RWT	
4.1 Building Systems Water Use	100%	
Score Contribution	This credit contributes 6.7% towards the category score.	
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?	
Question	Criteria Achieved ?	
Project	Yes	

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Operational Energy Overall contribution 27.5%

		Minimum required 50%	65%	✔ Pass

Are you installing any renewable energy system(s) (other than solar photovoltaic)?:	No
Energy Supply:	All-electric
Solar Photovoltaic system profile	
System Size (lesser of inverter and panel capacity):	
Solar Photovoltaic system 1	5.3 kW peak
Solar Photovoltaic system 2	5.3 kW peak
Solar Photovoltaic system 3	14.4 kW peak
Orientation (which way is the system facing)?:	
Solar Photovoltaic system 1	East
Solar Photovoltaic system 2	West
Solar Photovoltaic system 3	North
Inclination (angle from horizontal):	
Solar Photovoltaic system 1	45.0 Angle (degrees)
Solar Photovoltaic system 2	45.0 Angle (degrees)
Solar Photovoltaic system 3	2.0 Angle (degrees)
Dwellings profile	

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Building:	
H-G01	Hope
H-G02	
H-G03	
H-G04	
H-G05	
H-101, H-201	
H-102, H-202	
H-103, H-203	
H-104, H-204	
H-105, H-205	
H-106, H-206	
H-301	
H-302, H-303	
H-304	
A-G01	Autumn
A-G02, A-G03, A-G04, A-G05, A-G10, A-G13, A-G15	
A-G06, A-G07	
A-G14, A-G16	
A-101, A-201	
A-102, A-105, A-106, A-107, A-202, A-205, A-206, A-207, A-302, A-303, A-305, A-306	
A-104, A-204, A-304	
A-108, A-109	
A-110, A-112, A-115, A-210, A-212, A-215, A-310, A-313	
A-111, A-113, A-114, A-217, A-211, A-213, A-214, A-314, A-311, A-312	
A-116, A-216	
A-301	
A-307, A-308	
A-314	
A-401	
A-402, A-404, A-407, A-410	
A-403, A-408, A-409	
405, 406	
A-208	
A-209	

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Below the floor is:	
H-G01	Another Occupancy
H-G02	
H-G03	
H-G04	
H-G05	
H-101, H-201	
H-102, H-202	
H-103, H-203	
H-104, H-204	
H-105, H-205	
H-106, H-206	
A-101, A-201	
A-102, A-105, A-106, A-107, A-202, A-205, A-206, A-207, A-302, A-303, A-305, A-306	
A-104, A-204, A-304	
A-108, A-109	
A-110, A-112, A-115, A-210, A-212, A-215, A-310, A-313	
A-111, A-113, A-114, A-217, A-211, A-213, A-214, A-310, A-311, A-312	
A-116, A-216	
H-301	
H-302, H-303	
H-304	
A-301	
A-307, A-308	
A-314	
A-401	
A-402, A-404, A-407, A-410	
A-403, A-408, A-409	
405, 406	
A-208	
A-209	
A-G01	Ground or Carpark
A-G02, A-G03, A-G04, A-G05, A-G10, A-G13, A-G15	
A-G06, A-G07	
A-G14, A-G16	

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Above the ceiling is:	
H-G01	Another Occupancy
H-G02	
H-G03	
H-G04	
H-G05	
A-G01	
A-G02, A-G03, A-G04, A-G05, A-G10, A-G13, A-G15	
A-G06, A-G07	
A-G14, A-G16	
H-101, H-201	
H-102, H-202	
H-103, H-203	
H-104, H-204	
H-105, H-205	
H-106, H-206	
A-101, A-201	
A-102, A-105, A-106, A-107, A-202, A-205, A-206, A-207, A-302, A-303, A-305, A-306	
A-104, A-204, A-304	
A-108, A-109	
A-110, A-112, A-115, A-210, A-212, A-215, A-310, A-313	
A-111, A-113, A-114, A-217, A-211, A-213, A-214, A-310, A-311, A-312	
A-116, A-216	
H-301	
H-302, H-303	
H-304	
A-307, A-308	
A-301	Outside
A-314	
A-401	
A-402, A-404, A-407, A-410	
A-403, A-408, A-409	
405, 406	
A-208	
A-209	

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Exposed sides:	
H-G01 H-G05 H-101, H-201 H-106, H-206 A-101, A-201 A-108, A-109 A-116, A-216 H-301 H-302, H-303 H-304 A-301 A-307, A-308 A-314 A-401 A-402, A-404, A-407, A-410 405, 406 A-208 A-209	3
H-G02 H-G03 H-G04 A-G01 A-G02, A-G03, A-G04, A-G05, A-G10, A-G13, A-G15 A-G06, A-G07 A-G14, A-G16 H-102, H-202 H-103, H-203 H-104, H-204 A-102, A-105, A-106, A-107, A-202, A-205, A-206, A-207, A-302, A-303, A-305, A-306 A-104, A-204, A-304 A-110, A-112, A-115, A-210, A-212, A-215, A-310, A-313 A-111, A-113, A-114, A-217, A-211, A-213, A-214, A-310, A-311, A-312 A-403, A-408, A-409	2
H-105, H-205	1
NatHERS Annual Energy Loads - Heat: All	75.3 MJ/sqm
NatHERS Annual Energy Loads - Cool: All	8.7 MJ/sqm
NatHERS star rating: All	7.5
Type of Heating System: All	Reverse cycle space
Heating System Efficiency: All	2.5 Stars (2019 MEPS)
Type of Cooling System: All	Refrigerative space
Cooling System Efficiency: All	4 Stars (2019 MEPS)
Type of Hot Water System: All	Electric Instantaneous
Is the hot water system shared by multiple dwellings?: All	No
% Contribution from solar hot water system: All	0 %
Clothes Line: All	No drying facilities
Clothes Dryer: All	Occupant to install

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1.2 Thermal Performance Rating - Residential		50% ✔ Achieved
Score Contribution	This credit contributes 18.8% towards the category score.	
Criteria	What is the average NatHERS rating?	
Output	Average NATHERS Rating (Weighted)	
Apartment	7.5 Stars	

2.1 Greenhouse Gas Emissions		0%
Score Contribution	This credit contributes 18.8% towards the category score.	
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?	
Output	Reference Building with Reference Services (BCA only)	
Apartment	167,629 kg CO2	
Output	Proposed Building with Proposed Services (Actual Building)	
Apartment	193,993 kg CO2	
Output	% Reduction in GHG Emissions	
Apartment	-16 %	

2.6 Electrification		100%
Score Contribution	This credit contributes 18.8% towards the category score.	
Criteria	Is the development all-electric?	
Question	Is this a [illegible]?	
Project	Yes	

2.7 Energy consumption		100%
Score Contribution	This credit contributes 25% towards the category score.	
Criteria	What is the % reduction in annual energy consumption against the benchmark?	
Output	Reference Building with Reference Services (BCA only)	
Apartment	1,535,667 MJ	
Output	Proposed Building with Proposed Services (Actual Building)	
Apartment	895,352 MJ	
Output	% Reduction in total energy	
Apartment	41 %	

3.1 Carpark Ventilation		N/A ✧ Scoped Out
		More than 40 car parks.
This credit was scoped out	More than 40 car parks.	

3.4 Clothes Drying		0%

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Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) from a combination of clothes lines and efficient driers against the benchmark?
Output	Reference
Apartment	37,513 kWh
Output	Proposed
Apartment	37,513 kWh
Output	Improvement
Apartment	0 %

3.6 Internal Lighting - Apartments 100%

Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by clause J7D3(1)(a) and Table J6.2a of the NCC 2022 Vol 1 (Class 2-9)?
Question	Criteria Achieved ?
Apartment	Yes

4.2 Renewable Energy Systems - Solar 100%

Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?
Output	Solar Power - Energy Generation per year
Apartment	27,133 kWh
Output	% of Building's Energy
Apartment	10 %

4.4 Renewable Energy Systems - Other N/A Scoped Out

No other (non-solar PV) renewable energy is in use.

This credit was scoped out	No other (non-solar PV) renewable energy is in use.

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IEQ Overall contribution 16.5%

		Minimum required 50%	60%	✔ Pass

What metric do you want to use for daylight to apartments?:	Daylight factor
Daylight Factor: use the BESS Deemed to Satisfy (DtS) method?:	No
Daylight Factor: what calculation approach do you want to use?:	Use the built in calculation tools

Rooms

Room Designation:	
All DTS compliant living areas H-G05 A-G07 A-G09 A-G11 H-102 / H-202 H-105 H-106 A-109 A-111 / A-112 / A-309 / A-406 A-114 / A-214 / A-312 / A-409 H-205 H-206 H-304	Living
A-113 / A-213 / A-311 / A-408 All DTS compliant bedrooms	Bedroom

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	Quantity:	
68	All DTS compliant living areas	1 H-G05 A-G07 A-G09 A-G11 H-105 H-106 A-109 H-205 H-206 H-304
2	H-102 / H-202	4 A-111 / A-112 / A-309 / A-406 A-113 / A-213 / A-311 / A-408 A-114 / A-214 / A-312 / A-409
152	All DTS compliant bedrooms	2

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Auto-Pass:	
All DTS compliant living areas All DTS compliant bedrooms	Yes
H-G05 A-G07 A-G09 A-G11 H-102 / H-202 H-105 H-106 A-109 A-111 / A-112 / A-309 / A-406 A-113 / A-213 / A-311 / A-408 A-114 / A-214 / A-312 / A-409 H-205 H-206 H-304	No

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Room Floor Area:	
23.7 m²	All DTS compliant living areas
41.5 m²	H-G05
37.5 m²	A-G07
	A-109
23.0 m²	A-G09
	A-G11
	A-111 / A-112 / A-309 / A-406
	A-114 / A-214 / A-312 / A-409
26.5 m²	H-102 / H-202
31.1 m²	H-105
	H-205
28.2 m²	H-106
	H-206
	H-304
6.3 m²	A-113 / A-213 / A-311 / A-408
0.0 m²	All DTS compliant bedrooms

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Vertical Angle:	
All DTS compliant living areas All DTS compliant bedrooms	0.0 Angle (degrees)
H-G05 H-105 H-106 A-113 / A-213 / A-311 / A-408	0.1 Angle (degrees)
A-G07 A-G09 A-G11 A-109 A-111 / A-112 / A-309 / A-406	37.0 Angle (degrees)
H-102 / H-202	35.5 Angle (degrees)
A-114 / A-214 / A-312 / A-409	19.0 Angle (degrees)
H-205 H-206 H-304	2.0 Angle (degrees)
Horizontal Angle:	
All DTS compliant living areas All DTS compliant bedrooms	0.0 Angle (degrees)
H-G05 A-113 / A-213 / A-311 / A-408	0.1 Angle (degrees)
A-G07	37.0 Angle (degrees)
A-G09	64.0 Angle (degrees)
A-G11	43.1 Angle (degrees)
H-102 / H-202	35.5 Angle (degrees)
H-105	38.6 Angle (degrees)
H-106	37.5 Angle (degrees)
A-109	37.1 Angle (degrees)
A-111 / A-112 / A-309 / A-406	64.0 Angle (degrees)
A-114 / A-214 / A-312 / A-409	51.0 Angle (degrees)
H-205	59.0 Angle (degrees)
H-206 H-304	57.0 Angle (degrees)

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Window Area:	
All DTS compliant living areas All DTS compliant bedrooms	0.0 m²
H-G05 A-G07 H-105 H-106 A-109 H-205 H-206 H-304	7.5 m²
A-G09	7.0 m²
A-G11 A-114 / A-214 / A-312 / A-409	9.0 m²
H-102 / H-202 A-111 / A-112 / A-309 / A-406	6.8 m²
A-113 / A-213 / A-311 / A-408	2.9 m²
Window Orientation:	
All DTS compliant living areas All DTS compliant bedrooms	-
H-G05 A-G07 A-G09 A-G11 H-105 H-106 A-109 A-111 / A-112 / A-309 / A-406 A-113 / A-213 / A-311 / A-408 A-114 / A-214 / A-312 / A-409 H-205 H-206 H-304	South
H-102 / H-202	North

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Glass Type:	
All DTS compliant living areas All DTS compliant bedrooms	-
H-G05 A-G07 A-G09 A-G11 H-102 / H-202 H-105 H-106 A-109 A-111 / A-112 / A-309 / A-406 A-113 / A-213 / A-311 / A-408 A-114 / A-214 / A-312 / A-409 H-205 H-206 H-304	Clear Low-E Double (VLT 0.73)

Daylight Criteria Achieved?:	
All DTS compliant living areas A-G07 A-G09 A-G11 H-102 / H-202 A-109 A-111 / A-112 / A-309 / A-406	Yes
All DTS compliant bedrooms H-G05 H-105 H-106 A-113 / A-213 / A-311 / A-408 A-114 / A-214 / A-312 / A-409 H-205 H-206 H-304	No

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1.1 Daylight Access - Living Areas		66%	✔ Achieved
Score Contribution	This credit contributes 30% towards the category score.		
Criteria	What % of living areas achieve the daylight criteria?		
Output	Calculated percentage		
Apartment	88 %		

1.2 Daylight Access - Bedrooms		66%	✔ Achieved
Score Contribution	This credit contributes 30% towards the category score.		
Criteria	What % of bedrooms achieve the daylight criteria?		
Output	Calculated percentage		
Apartment	97 %		

1.3 Winter Sunlight	0%

Score Contribution	This credit contributes 10% towards the category score.
Criteria	Do 70% of dwellings receive at least 3 hours of direct sunlight in all Living areas between 9am and 3pm in mid-winter?
Question	Criteria Achieved ?
Apartment	No

1.5 Daylight Access - Main Living Areas		N/A Scoped Out
		Spatial daylight autonomy metric not in use

This credit was scoped out	Spatial daylight autonomy metric not in use

1.6 Daylight Access - Secondary Habitable Rooms		N/A Scoped Out
		Spatial daylight autonomy metric not in use

This credit was scoped out	Spatial daylight autonomy metric not in use

2.1 Ventilation - Natural - Apartments		66%

Score Contribution	This credit contributes 30% towards the category score.
Criteria	What % of dwellings are effectively naturally ventilated?
Question	Percentage Achieved?
Apartment	66 %

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Transport Overall contribution 9.0%

		22%

1.1 Bicycle Parking - Residential		0%
Score Contribution	This credit contributes 22.2% towards the category score.	
Criteria	How many secure and undercover bicycle spaces are there for residents?	
Question	Bicycle Spaces Provided ?	
Apartment	18	
Output	Min Bicycle Spaces Required	
Apartment	88	

1.2 Bicycle Parking - Residential Visitor		0%
Score Contribution	This credit contributes 22.2% towards the category score.	
Criteria	How many secure bicycle spaces are there for visitors?	
Question	Visitor Bicycle Spaces Provided ?	
Apartment	10	
Output	Min Visitor Bicycle Spaces Required	
Apartment	18	

1.3 Bicycle Parking - Convenient Residential		0% ⊘ Disabled
		Credit 1.1 must be achieved first.
This credit is disabled	Credit 1.1 must be achieved first.	

2.1 Electric Vehicle Infrastructure		100%
Score Contribution	This credit contributes 22.2% towards the category score.	
Criteria	Are provisions provided for the recharging of electric vehicles?	
Question	Criteria Achieved ?	
Project	Yes	

2.2 Car Share Scheme		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Has a formal car sharing scheme been integrated into the development?	
Question	Criteria Achieved ?	
Project	No	

2.3 Motorbikes / Mopeds		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?	
Question	Criteria Achieved ?	
Project	No	

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Waste & Resource Recovery Overall contribution 5.5%

66%

1.1 Construction Waste - Building Re-Use	0%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?
Question	Criteria Achieved ?
Project	No

2.1 Operational Waste - Food & Garden Waste	100%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are facilities provided for on-site management of food and garden waste?
Question	Criteria Achieved ?
Project	Yes

2.2 Operational Waste - Convenience of Recycling	100%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?
Question	Criteria Achieved ?
Project	Yes

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Urban Ecology Overall contribution 5.5%

55%

1.1 Communal Spaces		100%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?	
Question	Common space provided	
Apartment	583 m²	
Output	Minimum Common Space Required	
Apartment	119 m²	
2.1 Vegetation		75%
Score Contribution	This credit contributes 44.4% towards the category score.	
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?	
Question	Percentage Achieved ?	
Project	28 %	
2.2 Green Roofs		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	No	
2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
2.4 Balconies, Courtyards & Roof terraces		100%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Is there a tap and floor waste on every balcony and courtyard (including any roof terraces)?	
Question	Criteria Achieved ?	
Apartment	Yes	
3.1 Food Production - Residential		0%

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Score Contribution	This credit contributes 11.1% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Apartment	0.0 m²
Output	Min Food Production Area
Apartment	48 m²

Innovation Overall contribution 9.0%

	10%

Project Initiative	
Initiative: Low VOC and formaldehyde materials	O
Description: Low VOC and formaldehyde materials	All paints, adhesives, sealants and carpets (if installed) applied on-site as part of the proposed works shall meet the maximum Total Volatile Organic Compound (TVOC) limits outlined in Paints, Adhesive, Sealants and Carpets. > All engineered wood products including particleboard, plywood, Medium Density Fibreboard (MDF), Laminated Veneer Lumber (LVL), High-Pressure Laminate (HPL), Compact Laminate and decorative overlaid wood panels used as part of the proposed works shall meet the Formaldehyde emission limits outlined in Engineered Wood Products.
Points Targeted: Low VOC and formaldehyde materials	1
Points: Low VOC and formaldehyde materials	-

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1.1 Innovation	10%
Score Contribution	This credit contributes 100% towards the category score.
Criteria	What percentage of the innovation points have been claimed (10 points maximum)?

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