

BESS Report

Built Environment Sustainability Scorecard

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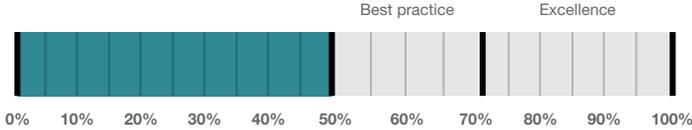
This BESS report outlines the sustainable design commitments of the proposed development at 63 Barber Dr Hoppers Crossing VIC 3029. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Wyndham City Council.

Note that where a Sustainability Management Plan is required, 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 Wyndham City Council. They are the most recent version as at the date shown below:

Date Plans Provided: 30/09/2021

PLEASE NOTE: The plan/s that are being provided to you may not reflect what is ultimately approved by Council however they are the most recent version as at the date shown below:

Your BESS Score



50%

Project details

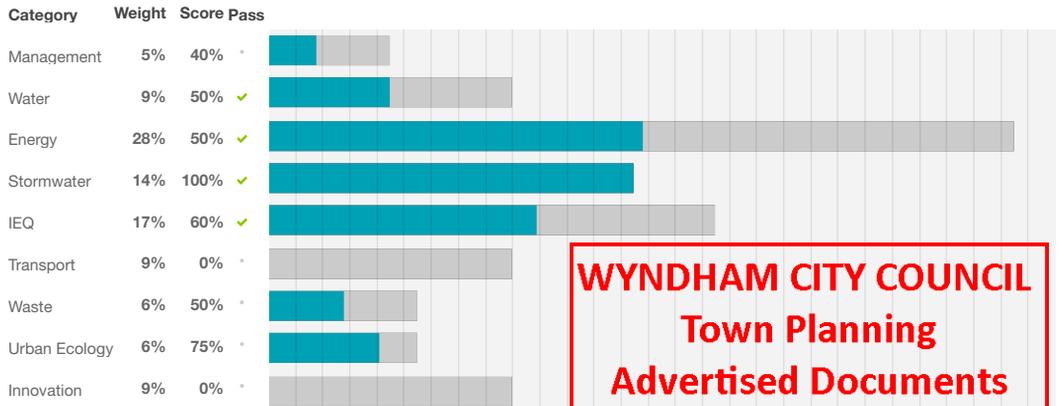
Address 63 Barber Dr Hoppers Crossing VIC 3029
Project no C7671390-R1
BESS Version BESS-6

Site type Multi dwelling (dual occupancy, townhouse, villa unit etc)
Account ljoesika@bigpond.com
Application no.
Site area 862 m²
Building floor area 479.0 m²
Date 24 June 2021
Software version 1.7.0-B.363



Performance by category

● Your development ● Maximum available



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Plan: 1 of 14

Dwellings & Non Res Spaces

Dwellings

Name	Quantity	Area	% of total area
Townhouse			
Unit 3	1	178 m ²	37%
Unit 2	1	173 m ²	36%
Unit 1	1	128 m ²	26%
Total	3	479 m²	100%

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Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Water 3.1	Water efficient garden annotated		-
Energy 3.3	External lighting sensors annotated		-
Energy 3.4	Clothes line annotated (if proposed)		-
Stormwater 1.1	Location of any stormwater management systems used in STORM or MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips)		-
IEQ 2.2	Dwellings meeting the requirements for having 'natural cross flow ventilation'		-
IEQ 3.2	Adjustable shading systems		-
IEQ 3.3	North-facing living areas		-
Waste 2.1	Location of food and garden waste facilities		-
Urban Ecology 2.1	Vegetated areas		-
Urban Ecology 2.4	Taps and floor waste on balconies / courtyards		-
Urban Ecology 3.1	Food production areas		-

Supporting evidence

Credit	Requirement	Response	Status
Management 2.2	Preliminary NatHERS assessments		-
Energy 3.5	Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.		-
Stormwater 1.1	STORM report or MUSIC model		-
IEQ 2.2	A list of dwellings with natural cross flow ventilation		-
IEQ 3.2	Reference to floor plans and elevations showing shading devices		-
IEQ 3.3	Reference to the floor plans showing living areas orientated to the north.		-

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Credit summary

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Date Plans Provided: 30/09/2021

Management Overall contribution 4.5%

Minimum required 50% 50% ✓ Pass			
1.1 Pre-Application Meeting			0%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential			0%
4.1 Building Users Guide			0%
Not required as building is standfor a small development			

Water Overall contribution 9.0%

Minimum required 50% 50% ✓ Pass			
1.1 Potable water use reduction			40%
3.1 Water Efficient Landscaping			100%

Energy Overall contribution 27.5%

Minimum required 50% 50% ✓ Pass			
1.2 Thermal Performance Rating - Residential			0%
2.1 Greenhouse Gas Emissions			100%
2.2 Peak Demand			0%
2.3 Electricity Consumption			100%
2.4 Gas Consumption			100%
2.5 Wood Consumption			N/A ✦ Scoped Out
No wood heating system present			
3.2 Hot Water			100%
3.3 External Lighting			100%
3.4 Clothes Drying			100%
3.5 Internal Lighting - Residential Single Dwelling			100%
4.4 Renewable Energy Systems - Other			N/A ⓧ Disabled
No other (non-solar PV) renewable energy is in use.			
4.5 Solar PV - Houses and Townhouses			N/A ⓧ Disabled
No solar PV renewable energy is in use.			

Stormwater Overall contribution 13.5%

Minimum required 100% 100% ✓ Pass			
1.1 Stormwater Treatment			100%

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IEQ Overall contribution 16.5%

		50%
		60% ✓ Pass
2.2 Cross Flow Ventilation		100%
3.1 Thermal comfort - Double Glazing		0%
3.2 Thermal Comfort - External Shading		100%
3.3 Thermal Comfort - Orientation		100%

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Transport Overall contribution 9.0%

		0%
1.1 Bicycle Parking - Residential		0%
1.2 Bicycle Parking - Residential Visitor		N/A ⚠ Scoped Out Not enough dwellings.
2.1 Electric Vehicle Infrastructure		N/A ⚠ Scoped Out
		N/

Waste Overall contribution 5.5%

		50%
1.1 - Construction Waste - Building Re-Use		0%
2.1 - Operational Waste - Food & Garden Waste		100%

Urban Ecology Overall contribution 5.5%

		75%
2.1 Vegetation		100%
2.2 Green Roofs		0%
2.3 Green Walls and Facades		0%
2.4 Private Open Space - Balcony / Courtyard Ecology		100%
3.1 Food Production - Residential		100%

Innovation Overall contribution 9.0%

		0%
1.1 Innovation		N/A ⊘ Disabled
		Please enter at least one innovation.

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Credit breakdown

Management Overall contribution 2%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 0.0% towards the category score.	
Criteria	Has any EBU professional been engaged to provide sustainability advice to the design/construction team? AND Has the EBU professional been involved in a pre-application meeting with Council?	
Question	Criteria Achieved ?	Date Plans Provided: 30/09/2021
Project	No	
2.2 Thermal Performance Modelling - Multi-Dwelling Residential		100%
Score Contribution	This credit contributes 40.0% towards the category score.	
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?	
Question	Criteria Achieved ?	
Townhouse	Yes	
4.1 Building Users Guide		N/A  Scoped Out
This credit was scoped out	Not required as building is standfor a small development	

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Water Overall contribution 4% Minimum required 50%

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Date Plans Provided: 30/09/2021 (>= 6.0 but <= 7.5)

Water Approach

What approach do you want to use for Water?

Project Water Profile Question

Do you have a reticulated third pipe or an on-site water recycling system?

Are you installing a swimming pool?

Are you installing a rainwater tank?

Water fixtures, fittings and connections

Showerhead

Bath

Kitchen Taps

Bathroom Taps

Dishwashers

WC

Urinals

Washing Machine Water Efficiency

Which non-potable water source is the dwelling/space connected to?

Non-potable water source connected to Toilets

Non-potable water source connected to Laundry (washing machine)

Non-potable water source connected to Hot Water System

Rainwater Tanks

What is the total roof area connected to the rainwater tank?

Tank Size

Irrigation area connected to tank

Is connected irrigation area a water efficient garden?

Other external water demand connected to tank?

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PLEASE NOTE: The plan/s that are being provided to you may not reflect what is ultimately approved by Council however they are the most recent version as at the date shown below:
Date Plans Provided: 30/09/2021

1.1 Potable water use reduction		40%
Score Contribution	This credit contributes 16.7% 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	430 kL	
Output	Proposed (excluding rainwater and recycled water use)	
Project	328 kL	
Output	Proposed (including rainwater and recycled water use)	
Project	272 kL	
Output	% Reduction in Potable Water Consumption	
Project	36 %	
Output	% of connected demand met by rainwater	
Project	100 %	
Output	How often does the tank overflow?	
Project	Very Often	
Output	Opportunity for additional rainwater connection	
Project	81 kL	
3.1 Water Efficient Landscaping		100%
Score Contribution	This credit contributes 16.7% towards the category score.	
Criteria	Will water efficient landscaping be installed?	
Question	Criteria Achieved ?	
Project	Yes	

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Energy Overall contribution 14% Minimum required 50%

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Date Plans Provided: 30/09/2021

Dwellings Energy Approach

What approach do you want to use for Energy?

Project Energy Profile Question

Are you installing any solar photovoltaic (PV) system(s)?

Are you installing any other renewable energy system(s)?

Gas supplied into building

Dwelling Energy Profiles

Below the floor is

Above the ceiling is

Exposed sides

NatHERS Annual Energy Loads - Heat

NatHERS Annual Energy Loads - Cool

NatHERS star rating

Type of Heating System

Heating System Efficiency

Type of Cooling System

Cooling System Efficiency

Type of Hot Water System

Central Hot Water System

% Contribution from solar hot water system

Clothes Line

Clothes Dryer

All
 Outside
 Unit 1 - Unit 3
 3
 Unit 2
 2
 Unit 1
 107 MJ/sqm
 Unit 2
 117 MJ/sqm
 Unit 3
 120 MJ/sqm
 Unit 1
 29.2 MJ/sqm
 Unit 2
 13.4 MJ/sqm
 Unit 3
 16.3 MJ/sqm
 Unit 1 - Unit 3
 6.0
 Unit 2
 6.2
 All
 B Gas central ducts
 All
 6 Star
 All
 Refrigerative space
 All
 4 Stars
 All
 A Electric Storage
 All
 No
 All
 90 %
 All
 D Private outdoor clothesline
 All
 A No clothes dryer

1.2 Thermal Performance Rating - Residential

0%

Score Contribution

This credit contributes 30.0% towards the category score.

Criteria

What is the average NatHERS rating?

Output

Average NATHERS Rating (Weighted)

Townhouse

6.1 Stars

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Date Plans Provided: 30/09/2021

2.1 Greenhouse Gas Emissions		100%
Score Contribution	This credit contributes 10.0% 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)	
Townhouse	22,007 kg CO2	
Output	Proposed Building with Proposed Services (Actual Building)	
Townhouse	10,595 kg CO2	
Output	% Reduction in GHG Emissions	
Townhouse	51 %	

2.2 Peak Demand		0%
Score Contribution	This credit contributes 5.0% towards the category score.	
Criteria	What is the % reduction in instantaneous (peak-hour) demand against the benchmark?	
Output	Peak Thermal Cooling Load - Baseline	
Townhouse	39.4 kW	
Output	Peak Thermal Cooling Load - Proposed	
Townhouse	39.2 kW	
Output	Peak Thermal Cooling Load - % Reduction	
Townhouse	0 %	

2.3 Electricity Consumption		100%
Score Contribution	This credit contributes 10.0% towards the category score.	
Criteria	What is the % reduction in annual electricity consumption against the benchmark?	
Output	Reference	
Townhouse	15,668 kWh	
Output	Proposed	
Townhouse	6,747 kWh	
Output	Improvement	
Townhouse	56 %	

2.4 Gas Consumption		100%
Score Contribution	This credit contributes 10.0% towards the category score.	
Criteria	What is the % reduction in annual gas consumption against the benchmark?	
Output	Reference	
Townhouse	117,215 MJ	
Output	Proposed	
Townhouse	72,239 MJ	
Output	Improvement	
Townhouse	38 %	

2.5 Wood Consumption		N/A
This credit was scoped out	No wood heating system present	Scoped Out

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Date Plans Provided: 30/09/2021

3.2 Hot Water		100%
Score Contribution	This credit contributes 5.0% towards the category score.	
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?	
Output	Reference	
Townhouse	9,312 kWh	
Output	Proposed	
Townhouse	3,309 kWh	
Output	Improvement	
Townhouse	64 %	

3.3 External Lighting		100%
Score Contribution	This credit contributes 5.0% towards the category score.	
Criteria	Is the external lighting controlled by a motion detector?	
Question	Criteria Achieved ?	
Townhouse	Yes	

3.4 Clothes Drying		100%
Score Contribution	This credit contributes 5.0% 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	
Townhouse	2,065 kWh	
Output	Proposed	
Townhouse	413 kWh	
Output	Improvement	
Townhouse	80 %	

3.5 Internal Lighting - Residential Single Dwelling		100%
Score Contribution	This credit contributes 5.0% towards the category score.	
Criteria	Does the development achieve a maximum illumination power density of 4W/sqm or less?	
Question	Criteria Achieved?	
Townhouse	Yes	

4.4 Renewable Energy Systems - Other		N/A	<input checked="" type="checkbox"/> Disabled
This credit is disabled	No other (non-solar PV) renewable energy is in use.		

4.5 Solar PV - Houses and Townhouses		N/A	<input checked="" type="checkbox"/> Disabled
This credit is disabled	No solar PV renewable energy is in use.		

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Stormwater Overall contribution 14% Minimum required 100%

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Date Plans Provided: 30/09/2021

Which stormwater modelling are you using?		Mapsource v16.00 SRM tool
1.1 Stormwater Treatment		40%
Score Contribution	This credit contributes 100.0% towards the category score.	
Criteria	Has best practice stormwater treatment been implemented?	
Question	Stormwater treatment	
Project	100	
Output	Min STORM Score	
Project	100	

IEQ Overall contribution 10% Minimum required 50%

2.2 Cross Flow Ventilation		100%
Score Contribution	This credit contributes 20.0% towards the category score.	
Criteria	Are all habitable rooms designed to achieve natural cross flow ventilation?	
Question	Criteria Achieved ?	
Townhouse	Yes	
3.1 Thermal comfort - Double Glazing		0%
Score Contribution	This credit contributes 40.0% towards the category score.	
Criteria	Is double glazing (or better) used to all habitable areas?	
Question	Criteria Achieved ?	
Townhouse	No	
3.2 Thermal Comfort - External Shading		100%
Score Contribution	This credit contributes 20.0% towards the category score.	
Criteria	Is appropriate external shading provided to east, west and north facing glazing?	
Question	Criteria Achieved ?	
Townhouse	Yes	
3.3 Thermal Comfort - Orientation		100%
Score Contribution	This credit contributes 20.0% towards the category score.	
Criteria	Are at least 50% of living areas orientated to the north?	
Question	Criteria Achieved ?	
Townhouse	Yes	

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Transport Overall contribution 0%

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Date Plans Provided: 30/09/2021

1.1 Bicycle Parking - Residential		0%
Score Contribution	This credit contributes 100.0% towards the category score.	
Criteria	How many secure bicycle spaces are there per dwelling for residents?	
Question	Bicycle Parking	
Townhouse	0	
1.2 Bicycle Parking - Residential Visitor		Scoped Out
This credit was scoped out	Not enough dwellings.	
2.1 Electric Vehicle Infrastructure		N/A
This credit was scoped out	N/A	

Waste Overall contribution 3%

1.1 - Construction Waste - Building Re-Use		0%
Score Contribution	This credit contributes 50.0% 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 50.0% towards the category score.	
Criteria	Are facilities provided for on-site management of food and garden waste?	
Question	Criteria Achieved ?	
Project	Yes	

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Urban Ecology Overall contribution 4%

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2.1 Vegetation		0%
Score Contribution	This credit contributes 50.0% towards the category score.	
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?	
Question	Criteria Achieved ?	
Project	35 %	
2.2 Green Roofs		0%
Score Contribution	This credit contributes 12.5% 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 12.5% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
2.4 Private Open Space - Balcony / Courtyard Ecology		100%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Is there a tap and floor waste on every balcony / in every courtyard?	
Question	Criteria Achieved ?	
Townhouse	Yes	
3.1 Food Production - Residential		100%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	What area of space per resident is dedicated to food production?	
Question	Food Production Area	
Townhouse	3.0 m²	
Output	Min Food Production Area	
Townhouse	3 m²	

Innovation Overall contribution 0%

1.1 Innovation	N/A	⊘ Disabled
This credit is disabled	Please enter at least one innovation	

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