Government of **Western Australia**
Department of **Commerce**

Building Commission

CLIMATE ZONE 4

BCA Energy and Water Efficiency Verification

Deemed-to-Satisfy Solutions for Class 1 and 10 Buildings and Structures

Building Details

Type of Building			
Lot Number			
Street Number			
Street Name			
Town or Suburb		**Postcode**	
Name of Owner			
Name of Builder			

Part 2.6.1 ALTERNATIVE VERIFICATION METHOD **THERMAL CALCULATION METHOD**	**Yes**
This building has been thermally assessed in accordance with **V2.6** and meets **P2.6.1**. A copy of the certificate or report is attached (go to Pages 3 & 4 and complete Sections **3.12.5**, **WA 1** and **WA 2**)	☐

Part 3.12.1 BUILDING FABRIC	**Yes**
3.12.1.1 Building fabric thermal insulation & 3.12.1.2 Roofs	
All required insulation will be installed in accordance with **3.12.1.1**, the Manufacturer's Specifications, and AS/NZS 4859.1	☐
The roof and/or ceiling that is part of the envelope will achieve the Total R-Value as specified in **Table 3.12.1.1**.	

Roof Construction Type (From **Figure 3.12.1.1**)	**R-Value of construction**	**Total R-Value Specified by Table 3.12.1.1**	**Total R-Value Required** (including any concessions and adjustments)	**R-Value of Insulation to be Installed**
		R3.5		

	N/A	**Yes**
For roof construction types that are not provided for by **Figure 3.12.1.1**, documentary evidence is attached which demonstrates the R-Value of the construction and any added insulation.	☐	☐
This building has recessed downlights and/or exhaust fans which results in a reduction of 1% or more of the ceiling insulation. The R-Value of the remaining ceiling insulation will be increased in accordance with **Table 3.12.1.1a** – documentary evidence is attached.	☐	☐
This building has a metal roof fixed to metal purlins, rafters or battens and either does not have a ceiling lining or the ceiling lining is attached to the same metal purlins, rafters or battens. Thermal breaks not less than R0.2 will be installed in accordance with **3.12.1.2(c)**.	☐	☐

Part 3.12.1 BUILDING FABRIC Continued				N/A	Yes
3.12.1.3 Roof lights					
There are no roof lights serving a habitable room or interconnecting space, or the aggregate area is less than 1.5% of the floor area of the space they serve.				☐	☐
The aggregate area of roof lights is between 1.5% and 10% of the floor area of the space they serve and will comply with the SHGC and total U-Value requirements of **Table 3.12.1.2** – see attached specifications.				☐	☐
The only provision for natural light is through roof lights that exceed 10% of the floor area. Attached are specifications verifying that the SHGC is not more than 0.25 and total U-Value is not more than 1.3				☐	☐
3.12.1.4 External walls					
An external wall that is part of the envelope will achieve a minimum total R-Value as specified in **Table 3.12.1.3** or satisfy one of the options as specified in **Table 3.12.1.3**.					
Wall Construction Type (From **Figure 3.12.1.3**)	**R-Value of construction**	**Total R-Value Specified by Table 3.12.1.3**	**R-Value of Insulation to be Installed**	**N/A**	**Yes**
		R2.2		☐	☐
The external walls have a surface density greater than 220kg/m^2 and R0.5 insulation will be added.				☐	☐
The external walls have a surface density greater than 220kg/m^2 and the floor is in contact with the ground or the internal walls are masonry. No further insulation is required.				☐	☐
For wall construction types that are not provided for by **Figure 3.12.1.3**, documentary evidence is attached demonstrating the R-Value of the construction and any added insulation.				☐	☐
The minimum total R-value stated in **Table 3.12.1.3** cannot be achieved, so instead the glazing performance has been increased in accordance with **3.12.1.4(c)** See attached calculations verifying compliance.				☐	☐
This building has lightweight external cladding such as weatherboards, fibre cement or metal sheeting fixed to a metal frame that does not have a wall lining or has a wall lining attached to the same metal frame. Thermal breaks of R0.2 will be installed in accordance with **3.12.1.4(d)**.				☐	☐
3.12.1.5 Floors (only applicable to floors forming part of the envelope)					
Suspended Floor Construction Type (From **Figure 3.12.1.4**)	**R-Value of construction**	**Total R-Value Specified by Table 3.12.1.4**	**R-Value of Insulation to be Installed**	**N/A**	**Yes**
				☐	☐
This building has a concrete slab on ground with no in-slab heating system. No further insulation is required.				☐	☐
This building has a suspended floor with an in-slab heating system. Insulation will be added in accordance with **3.12.1.5(a)**			**R1.0**	☐	☐
This building has a concrete slab on ground with in-slab heating system. Insulation will be added in accordance with **3.12.1.5(c)** and **(d)**.			**R1.0**	☐	☐
3.12.1.6 Class 10a buildings (if attached to a Class 1, it must satisfy ONE of the options in **3.12.1.6**)					
Roof, walls and floor of the class 10a part meet the same total R-Values required for the house				☐	☐
Class 10a part is separated from the house by construction that meets the same total R-Values required for the house				☐	☐
Class 10a part has masonry walls, is separated from the house by a masonry wall that extends to ceiling, and the roof meets the same total R-value required for the house.				☐	☐

Part 3.12.2 EXTERNAL GLAZING	Yes
All external glazing has been designed and will be installed in accordance with **3.12.2.1**. A copy of the calculations (ABCB glazing calculator or equivalent) is attached, verifying compliance.	☐

Part 3.12.3 BUILDING SEALING **Not applicable to ventilation openings for gas appliances, buildings that are conditioned only by an evaporative cooler, or buildings used for the accommodation of vehicles.**	N/A	Yes
All chimneys, flues and exhaust fans are fitted with dampers in accordance with **3.12.3.1**	☐	☐
All roof lights serving habitable rooms or conditioned spaces will be sealed in accordance with **3.12.3.2**	☐	☐
External windows and doors serving habitable rooms or conditioned spaces will be fitted with air infiltration seals in accordance with **3.12.3.3**	☐	☐
Exhaust fans serving habitable rooms or conditioned spaces will be sealed in accordance with **3.12.3.4**	☐	☐
Roofs, walls and floors that form part of the external fabric of habitable rooms or conditioned spaces will be constructed to minimise air leakage in accordance with **3.12.3.5**	☐	☐
Evaporative coolers serving habitable rooms or heated spaces will be fitted with dampers in accordance with **3.12.3.6**	☐	☐

Part 3.12.4 AIR MOVEMENT	N/A	Yes
Habitable rooms without ceiling fans have minimum ventilation openings of 10%	☐	☐
Habitable rooms with ceiling fans have minimum ventilation openings of 5%	☐	☐
Breeze paths are incorporated in accordance with **3.12.4.2**	☐	☐
All ceiling fans will be installed in accordance with **3.12.4.3**	☐	☐

Part 3.12.5 SERVICES	N/A	Yes
3.12.5.0 Hot water supply system(s) will be designed and installed in accordance with section 8 of AS/NZS 3500.4 or clause 3.38 of AS/NZS 3500.5 (Not applicable to solar water heaters in climate zone 3.)	☐	☐
Thermal insulation for central heating water piping and heating and cooling ductwork to be protected from weather and able to withstand temperature within piping or ductwork, in accordance with **3.12.5.1**	☐	☐
Central heating water piping that is not within a conditioned space will be insulated to achieve the minimum total R-values in accordance with **Table 3.12.5.1**	☐	☐
Heating and cooling ductwork will be designed, installed and insulated in accordance with **3.12.5.3**	☐	☐

WA 1 HOT WATER SYSTEMS	N/A	Yes
All hot water systems will be either:		
A solar hot water system, in accordance with **WA 1.2(a)**	☐	☐
A 5-star rated gas hot water system, in accordance with **WA 1.2(b)**	☐	☐
A heat pump hot water system, in accordance with **WA 1.2(c)**	☐	☐
WA 2 WATER USE **Only applies to houses using potable water supplied by a licensed operator**	**N/A**	**Yes**
WA 2.3.1 Water Use Efficiency		
All tap fittings (other than bath outlets and garden taps) will be a minimum 4-star WELS rated.	☐	☐
All showerheads will be a minimum 3-star WELS rated.	☐	☐
All sanitary flushing systems will be a minimum dual-flush, 4-stars WELS rated.	☐	☐
WA 2.3.2 Swimming Pool Covers and Blankets		
Any new outdoor swimming pool or spa will be supplied with a cover that reduces water evaporation and is accredited under the Smart Approved Watermark Scheme.	☐	☐
WA 2.3.3 Hot Water Use Efficiency		
All internal hot water outlets will be connected to a hot water system or a re-circulating hot water system with pipes installed and insulated in accordance with AS/NZS 3500: Plumbing and Drainage, Part 4 Heated Water Services.	☐	☐
The pipe from the hot water system or re-circulating hot water system to the furthest hot water outlet will be less than either 20 m in length or 2 litres of internal volume.	☐	☐

BCA Energy and Water Efficiency Verification Declaration

I declare that the details provided on these verification sheets (and any supporting documentation accompanying them), are true and correctly reflect the plans and specifications of the proposed building that has been submitted for a building licence.

Name of builder or representative			
Company Name			
Address			
Phone Number		**Fax**	
Email Address			
Signature	*Please print form and sign here*	**Date**	

NOTE: This verification sheet is designed to be used in conjunction with the Deemed-to-Satisfy (DTS) Provisions of the Building Code of Australia Part 3.12 and WA Additions. It should not replace the BCA.

For assistance in filling out this sheet, please contact your local government Building Surveyor.

Local governments must ensure that plans and specifications comply with the Building Code of Australia and any other relevant legislation before issuing a building licence.

The information contained in this verification sheet is intended for general guidance only and must not be relied upon in any particular set of circumstances.

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