

# BASIX<sup>®</sup>Certificate

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

## Single Dwelling

Certificate number: 1192044S\_02

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

Secretary

Date of issue: Monday, 19 July 2021

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



Planning,  
Industry &  
Environment

Project summary		
Project name	24-30 Reynolds Rd, Londonderry_02	
Street address	24-30 Reynolds Road Londonderry 2753	
Local Government Area	Penrith City Council	
Plan type and plan number	deposited 25981	
Lot no.	4	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	4	
Project score		
Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 50

### Certificate Prepared by

Name / Company Name: Eldahoud Enterprises

ABN (if applicable): 70613818901

# Description of project

## Project address

Project name	24-30 Reynolds Rd, Londonderry_02
Street address	24-30 Reynolds Road Londonderry 2753
Local Government Area	Penrith City Council
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Section no.	-

## Project type

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No. of bedrooms	4




## Site details

Site area (m <sup>2</sup> )	15000
Roof area (m <sup>2</sup> )	550
Conditioned floor area (m2)	287.0
Unconditioned floor area (m2)	17.93
Total area of garden and lawn (m2)	500

## Assessor details and thermal loads

Assessor number	n/a
Certificate number	n/a
Climate zone	n/a
Area adjusted cooling load (MJ/m <sup>2</sup> .year)	n/a
Area adjusted heating load (MJ/m <sup>2</sup> .year)	n/a
Ceiling fan in at least one bedroom	n/a
Ceiling fan in at least one living room or other conditioned area	n/a

## Project score

Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 50	Target 50

## Schedule of BASIX commitments

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

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Fixtures</b>			
The applicant must install showerheads with a minimum rating of 3 star (> 4.5 but <= 6 L/min) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
<b>Alternative water</b>			
<b>Rainwater tank</b>			
The applicant must install a rainwater tank of at least 5000 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the rainwater tank to collect rain runoff from at least 250 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✓	✓
The applicant must connect the rainwater tank to: <ul style="list-style-type: none"> <li>all toilets in the development</li> <li>at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)</li> </ul>		✓ ✓	✓ ✓

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>General features</b>			
The dwelling must not have more than 2 storeys.	✓	✓	✓
The conditioned floor area of the dwelling must not exceed 300 square metres.	✓	✓	✓
The dwelling must not contain open mezzanine area exceeding 25 square metres.	✓	✓	✓
The dwelling must not contain third level habitable attic room.	✓	✓	✓
<b>Floor, walls and ceiling/roof</b>			
The applicant must construct the floor(s), walls, and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.	✓	✓	✓

Construction	Additional insulation required (R-Value)	Other specifications
floor - suspended floor above enclosed subfloor, concrete	1.60 (or 2.2 including construction) (down)	
external wall - cavity brick	1.00 (or 1.67 including construction)	
internal wall shared with garage - plasterboard	nil	
ceiling and roof - flat ceiling / pitched roof	ceiling: 5.5 (up), roof: foil/sarking	unventilated; medium (solar absorptance 0.475-0.70)

Note	<ul style="list-style-type: none"> <li>Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.</li> </ul>
Note	<ul style="list-style-type: none"> <li>In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.</li> </ul>

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Windows, glazed doors and skylights</b>			
The applicant must install the windows, glazed doors and shading devices described in the table below, in accordance with the specifications listed in the table. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) which is not listed in the table.	✓	✓	✓
<p>The following requirements must also be satisfied in relation to each window and glazed door:</p> <ul style="list-style-type: none"> <li>• For the following glass and frame types, the certifier check can be performed by visual inspection. <ul style="list-style-type: none"> <li>- Aluminium single clear</li> <li>- Aluminium double (air) clear</li> <li>- Timber/uPVC/fibreglass single clear</li> <li>- Timber/uPVC/fibreglass double (air) clear</li> </ul> </li> <li>• For other glass or frame types, each window and glazed door must be accompanied with certification showing a U value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) within the range of those listed. Total system U values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. Frame and glass types shown in the table below are for reference only.</li> </ul>	✓	✓	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> </ul>
















Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
<b>North facing</b>					
W14	1200	970	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W12	600	610	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W13	1200	1570	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
<b>East facing</b>					

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W16	2410	600	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W15	2410	600	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
D01	2400	5410	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W17	1810	1200	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
<b>West facing</b>					
W08	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W03	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W10	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W01	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W07	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W02	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W05	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W09	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W06	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W11	2100	850	U-value: 2.2, SHGC: 0.351 - 0.429 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed
W04	2100	850	U-value: 2.2, SHGC: 0.288 - 0.352 (composite, double (argon), Lo-Tsol Low-e/clear)	eave 600 mm, 350 mm above head of window or glazed door	not overshadowed


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<b>Hot water</b>			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: electric heat pump with a performance of more than 45 STCs.	✓	✓	✓
<b>Cooling system</b>			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: airconditioning ducting only; Energy rating: n/a		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: airconditioning ducting only; Energy rating: n/a		✓	✓
<b>Heating system</b>			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: airconditioning ducting only; Energy rating: n/a		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: airconditioning ducting only; Energy rating: n/a		✓	✓
<b>Ventilation</b>			
<p>The applicant must install the following exhaust systems in the development:</p> <p>At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off</p> <p>Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off</p> <p>Laundry: individual fan, ducted to façade or roof; Operation control: manual switch on/off</p>		<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>
<b>Artificial lighting</b>			
<p>The applicant must ensure that the "primary type of artificial lighting" is fluorescent or light emitting diode (LED) lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent or light emitting diode (LED) lamps:</p> <ul style="list-style-type: none"> <li>• at least 6 of the bedrooms / study; dedicated</li> <li>• at least 4 of the living / dining rooms; dedicated</li> <li>• the kitchen;</li> </ul>		<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>	<p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p> <p style="text-align: center;">✓</p>





Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> <li>• all bathrooms/toilets;</li> <li>• the laundry;</li> <li>• all hallways;</li> </ul>		  	  
<b>Natural lighting</b>			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.			
The applicant must install a window and/or skylight in 3 bathroom(s)/toilet(s) in the development for natural lighting.			
<b>Other</b>			
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.			
The applicant must install a fixed outdoor clothes drying line as part of the development.			
The applicant must install a fixed indoor or sheltered clothes drying line as part of the development.			

## Legend

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

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

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

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