

# BASIX<sup>®</sup>Certificate

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

## Single Dwelling

Certificate number: 569114S\_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 18/09/2014 published by Planning & Infrastructure. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Director-General

Date of issue: Tuesday, 25 November 2014

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



Planning &  
Infrastructure



### Project summary

|                           |                                     |
|---------------------------|-------------------------------------|
| Project name              | Zhang 143686_02                     |
| Street address            | Empire Circuit Thornton Estate 2750 |
| Local Government Area     | Penrith City Council                |
| Plan type and plan number | deposited Unreg                     |
| Lot no.                   | 150                                 |
| Section no.               | 0                                   |
| Project type              | separate dwelling house             |
| No. of bedrooms           | 4                                   |

### Project score

|                 |        |             |
|-----------------|--------|-------------|
| Water           | ✓ 41   | Target 40   |
| Thermal Comfort | ✓ Pass | Target Pass |
| Energy          | ✓ 48   | Target 40   |

### Certificate Prepared by

Name / Company Name: Frys Energywise

ABN (if applicable): 61012522051

# Description of project

## Project address

|                           |                                         |
|---------------------------|-----------------------------------------|
| Project name              | Zhang 143686_02                         |
| Street address            | n/a Empire Circuit Thornton Estate 2750 |
| Local Government Area     | Penrith City Council                    |
| Plan type and plan number | Deposited Plan Unreg                    |
| Lot no.                   | 150                                     |
| Section no.               | 0                                       |

## Project type

|                 |                         |
|-----------------|-------------------------|
| Project type    | separate dwelling house |
| No. of bedrooms | 4                       |

## Site details

|                                    |     |
|------------------------------------|-----|
| Site area (m <sup>2</sup> )        | 332 |
| Roof area (m <sup>2</sup> )        | 134 |
| Conditioned floor area (m2)        | 174 |
| Unconditioned floor area (m2)      | 14  |
| Total area of garden and lawn (m2) | 145 |

## Assessor details and thermal loads

|                                                      |              |
|------------------------------------------------------|--------------|
| Assessor number                                      | BDAV/12/1441 |
| Certificate number                                   | 14412238     |
| Climate zone                                         | 28           |
| Area adjusted cooling load (MJ/m <sup>2</sup> .year) | 57           |
| Area adjusted heating load (MJ/m <sup>2</sup> .year) | 46           |

## Other

|      |     |
|------|-----|
| none | n/a |
|------|-----|

## Project score

|                 |        |             |
|-----------------|--------|-------------|
| Water           | ✓ 41   | Target 40   |
| Thermal Comfort | ✓ Pass | Target Pass |
| Energy          | ✓ 48   | Target 40   |

## 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 (> 7.5 but <= 9 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 6 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 3000 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 120 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>the cold water tap that supplies each clothes washer 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> |                  | ✓<br>✓<br>✓                  | ✓<br>✓<br>✓     |

| Thermal Comfort Commitments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|-----------------|
| <b>Simulation Method</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                              |                 |
| The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.                                                                                                          |                  |                              |                 |
| The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |                              |                 |
| The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate.                                                                                                                                                                                                                                                                                                                                                                                                              |                  |                              |                 |
| The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications. |                  |                              |                 |
| The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.                                                                                                                                                                                                                                                                                                                  |                  | ✓                            | ✓               |
| The applicant must construct the floors and walls of the dwelling in accordance with the specifications listed in the table below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ✓                | ✓                            | ✓               |

| Floor and wall construction                          | Area                                    |
|------------------------------------------------------|-----------------------------------------|
| floor - concrete slab on ground                      | All or part of floor area square metres |
| floor - new floor above another dwelling or building | All or part of floor area               |

| 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: gas instantaneous with a performance of 6 stars.                                                                                                                                                 | ✓                | ✓                            | ✓               |
| <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: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0                                                                                                                                      |                  | ✓                            | ✓               |
| The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0                                                                                                                                          |                  | ✓                            | ✓               |
| The cooling system must provide for day/night zoning between living areas and bedrooms.                                                                                                                                                                                                                                 |                  | ✓                            | ✓               |
| <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: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0                                                                                                                                      |                  | ✓                            | ✓               |
| The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 2.5 - 3.0                                                                                                                                          |                  | ✓                            | ✓               |
| The heating system must provide for day/night zoning between living areas and bedrooms.                                                                                                                                                                                                                                 |                  | ✓                            | ✓               |
| <b>Ventilation</b>                                                                                                                                                                                                                                                                                                      |                  |                              |                 |
| The applicant must install the following exhaust systems in the development:                                                                                                                                                                                                                                            |                  |                              |                 |
| At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: manual switch on/off                                                                                                                                                                                                                  |                  | ✓                            | ✓               |
| Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off                                                                                                                                                                                                                              |                  | ✓                            | ✓               |
| Laundry: natural ventilation only, or no laundry; Operation control: n/a                                                                                                                                                                                                                                                |                  | ✓                            | ✓               |
| <b>Artificial lighting</b>                                                                                                                                                                                                                                                                                              |                  |                              |                 |
| 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: |                  |                              |                 |
| • at least 4 of the bedrooms / study;                                                                                                                                                                                                                                                                                   |                  | ✓                            | ✓               |

| Energy Commitments                                                                                                                                                                                      | Show on DA plans                                                                    | Show on CC/CDC plans & specs                                                                                                                                                                                                                                                                                                                                                                                                                    | Certifier check                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at least 3 of the living / dining rooms;</li> <li>• the kitchen;</li> <li>• all bathrooms/toilets;</li> <li>• the laundry;</li> <li>• all hallways;</li> </ul> |                                                                                     | <br><br><br><br> | <br><br><br><br> |
| <b>Natural lighting</b>                                                                                                                                                                                 |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| The applicant must install a window and/or skylight in 2 bathroom(s)/toilet(s) in the development for natural lighting.                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                              |
| <b>Other</b>                                                                                                                                                                                            |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.                                                                                                                |                                                                                     |                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| The applicant must install a fixed outdoor 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.