



## Watershed Design Proposed Residential Development

To be built at 12 Peronne Avenue, Clontarf

| Issue | File Ref | Description                                  | Author | Date     |
|-------|----------|--|--------|----------|
| A     | 20-0101  | NatHERS Thermal Comfort and BASIX Assessment | MP     | 28/02/20 |
| B     | -        | NatHERS Thermal Comfort and BASIX Update     | MP     | 27/03/20 |

This report has been prepared by Efficient Living Pty Ltd on behalf of our client Watershed Design. Efficient Living prepares all reports in accordance with the BASIX Thermal Comfort Protocol and is backed by professional indemnity insurance. This report takes into account our Client's instructions and preferred building inclusions.

If there is a change to this specification during design or construction phases, please contact Efficient Living and quote the above file reference for advice, and to obtain an updated Certificate if required.



**Assessor:** Manoela Place  
**Email:** manoela@efficientliving.com.au

**License Holder:** Tracey Cools  
**Accreditation Number:** HERA10033

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#### **BASIX Details:**

NatHERS Certificate Number: 0004636247-01

BASIX adjusted conditioned area: 291 m<sup>2</sup>

BASIX adjusted un-conditioned area: 28m<sup>2</sup>

Area adjusted heating load: 40.4MJ/ m<sup>2</sup>/pa

Area adjusted cooling load: 23.9MJ/ m<sup>2</sup>/pa

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#### **Specification**

Heating and cooling loads for the development have been determined using BERS Pro Plus 4.4 thermal comfort simulation software, and assessed under the thermal simulation method of the BASIX Protocol.

The following specification was used to achieve the thermal performance values. Modelling proxies are used at times and if the buildings element details vary the thermal performance specification below shall take precedence.

If there is a change to this specification during design or construction phases, please contact Efficient Living for advice and if required an updated Certificate will be issued.

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#### **Floors**

Concrete slab on ground with Kingspan K3 insulation or R1.9 equivalent.

Suspended concrete with R3.0 insulation (insulation only value) to open suspended areas

Concrete between levels, no insulation required where habitable rooms are above and below

Concrete between levels, R3.0 insulation between garage and floor above

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#### **External Walls**

Cavity brick with Kingspan K8 cavity board or Rt3.1 (total system value) must be achieved

Metal wall cladding on framed walls with Kingspan K12 framing board or Rt3.2 (total system value) must be achieved

Note: No insulation is required to external Garage walls

**External Colour:** Default

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#### **Walls within dwellings**

Plasterboard on studs with R2.5 insulation between Garage and habitable areas

Plasterboard on studs with R2.5 insulation between external lounge and habitable rooms

Plasterboard on studs with R2.5 insulation between wet areas and habitable rooms

Plasterboard on studs, no insulation required to all remainder internal walls

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### Glazing Doors/Windows

High performance glazing with aluminum frame to all windows (excluding louvres)

U-value: 3.50 (equal to or lower than) SHGC: 0.64 ( $\pm 10\%$ )

Low-E glazing and aluminium frames to all louvre windows:

U-value: 4.30 (equal to or lower than) SHGC: 0.53 ( $\pm 10\%$ )

Given values are AFRC total window system values (glass and frame)

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### Skylights

Double glazing

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### Ceilings

Plasterboard ceiling with R5.0 insulation (insulation only value) where metal roof above

Plasterboard ceiling with R4.0 insulation (insulation only value) where concrete roof above

### Ceiling Penetrations

Ceiling penetrations as per NatHERS certificate

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### Roof

Concrete with waterproof membrane

Metal roof with foil backed blanket ( $R_{u1.3}$  and  $R_{d1.3}$ )

### External Colour

Dark ( $SA > 0.7$ )

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### Floor coverings

Carpet to bedrooms, timber to hallways and family, tiles to bathroom and laundry, polished concrete to remainder areas.

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### External Shading

Eave lines as per stamped plans

Operable external shading screens to all west facing windows

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### Ventilation

All external doors have weather seals, all exhaust fans and chimneys have dampers, and down lights proposed will have capped fittings

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# Nationwide House Energy Rating Scheme\* Certificate

Certificate number: 0004636247-01

Certificate Date: 26 Mar 2020

★ Star rating: 5.2



## Assessor details

Accreditation number: **HERA10033**  
Name: **Tracey Cools**  
Organisation: **Efficient Living Pty Ltd**  
Email: **admin@efficientliving.com.au**  
Phone: **02 9970 6181**  
Declaration of interest: **None**  
Software: **BERS Pro v4.4.0.0 (3.21)**  
AAO: **HERA**

## Overview

### Dwelling details

Street: **12 Peronne Avenue**  
Suburb: **Clontarf**  
State: **NSW** Postcode: **2093**  
Type: **New Dwelling** NCC Class: **1A**  
NatHERS climate zone: **56**  
Lot/DP number: **A/344469** Exposure: **Open**

### Key construction and insulation materials

(see following pages for details)

Construction: **Cavity Brick**  
**Waterproofing Membrane**  
**Concrete Slab on Ground**  
Insulation: **R2.1 wall insulation**  
**R4.0 ceiling insulation**  
**R3.0 floor insulation**  
Glazing: **ALM-004-03 A Aluminium B DG Air Fill**  
**High Solar Gain low-E -Clear**

### Net floor area (m<sup>2</sup>)

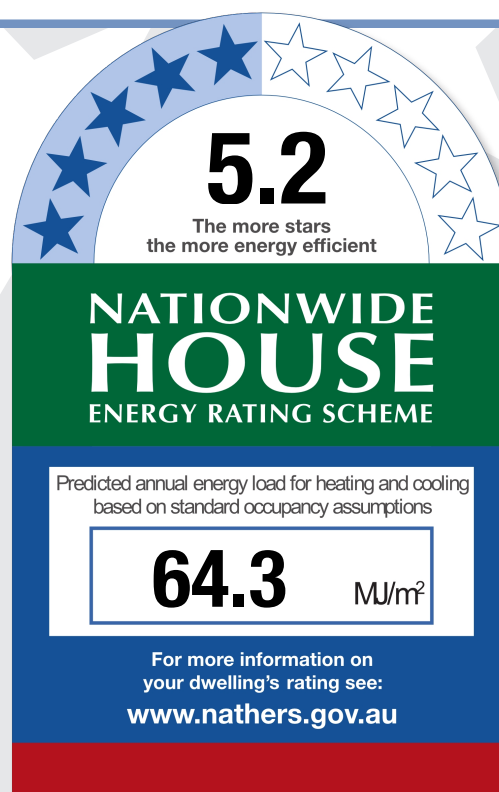
Conditioned: **291.0**  
Unconditioned: **89.0**  
Garage: **48.0**  
TOTAL: **380.0**

### Annual thermal performance loads (MJ/m<sup>2</sup>)

Heating: **40.4**  
Cooling: **23.9**  
TOTAL: **64.3**

### Plan documents

Plan ref/date: **20-0101**  
Prepared by: **Watershed Design**



### Ceiling penetrations

(see following pages for details)

Sealed: **68**  
Unsealed: **0**  
TOTAL:\*\* **68**

\*\*NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. **If this number is exceeded in construction then this certificate IS NOT VALID and a new certificate is required.** Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Principle downlight type: **LED**

### Window selection - default windows only

Note on allowable window values:  
Only a 5% tolerance to the nominated SHGC window values shown on page 2 can be used with this rating.

Note: Only a +/- 5% SHGC tolerance is allowed with this rating.

NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

**If any of windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.**

Scan to access this certificate online and confirm this is valid.





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## Building features

### Window type and performance value

| Window ID    | Window type   | U-value | SHGC |
|--------------|---|---------|------|
| ATB-006-01 B | ATB-006-01 B AI Thermally Broken B DG Argon Fill Clear-Clear      | 3.5     | 0.64 |
| ALM-004-03 A | ALM-004-03 A Aluminium B DG Air Fill High Solar Gain low-E -Clear | 4.3     | 0.53 |

### Window schedule

| Location       | Window ID    | Window no. | Height (mm) | Width (mm) | Orientation | Outdoor shade |
|----------------|--------------|------------|-------------|------------|-------------|---------------|
| GF Lobby       | ATB-006-01 B | n/a        | 2700        | 1200       | W           | No Shading    |
| GF Lobby       | ATB-006-01 B | n/a        | 950         | 2400       | W           | No Shading    |
| GF Lobby       | ATB-006-01 B | n/a        | 2700        | 850        | N           | No Shading    |
| GF Lobby       | ALM-004-03 A | n/a        | 2700        | 350        | N           | No Shading    |
| GF Corridor    | ATB-006-01 B | n/a        | 1500        | 2400       | E           | No Shading    |
| GF Corridor    | ATB-006-01 B | n/a        | 2400        | 1700       | E           | No Shading    |
| Living GF      | ALM-004-03 A | n/a        | 2600        | 520        | S           | No Shading    |
| Living GF      | ATB-006-01 B | n/a        | 2650        | 6100       | W           | No Shading    |
| Bedroom Guest  | ALM-004-03 A | n/a        | 2400        | 1200       | E           | No Shading    |
| Bedroom Guest  | ALM-004-03 A | n/a        | 2400        | 600        | E           | No Shading    |
| Ldy            | ALM-004-03 A | n/a        | 2400        | 920        | E           | No Shading    |
| WC             | ALM-004-03 A | n/a        | 900         | 1200       | E           | No Shading    |
| Kitchen/Living | ATB-006-01 B | n/a        | 2700        | 4000       | W           | No Shading    |
| Kitchen/Living | ATB-006-01 B | n/a        | 2700        | 7200       | W           | No Shading    |
| Kitchen/Living | ATB-006-01 B | n/a        | 2700        | 850        | N           | No Shading    |
| Kitchen/Living | ALM-004-03 A | n/a        | 2700        | 350        | N           | No Shading    |
| Kitchen/Living | ATB-006-01 B | n/a        | 2700        | 2400       | E           | No Shading    |
| Kitchen/Living | ATB-006-01 B | n/a        | 2700        | 4000       | E           | No Shading    |
| WC             | ALM-004-03 A | n/a        | 2700        | 350        | N           | No Shading    |
| Stairs         | ALM-004-03 A | n/a        | 2700        | 350        | N           | No Shading    |
| Stairs         | ATB-006-01 B | n/a        | 2700        | 850        | N           | No Shading    |
| Stairs         | ATB-006-01 B | n/a        | 2600        | 2400       | E           | No Shading    |
| Pantry         | ALM-004-03 A | n/a        | 1900        | 900        | E           | No Shading    |
| Bedroom 4      | ALM-004-03 A | n/a        | 2600        | 350        | N           | No Shading    |
| Bedroom 4      | ATB-006-01 B | n/a        | 2600        | 2300       | W           | No Shading    |
| Bedroom 4      | ALM-004-03 A | n/a        | 2600        | 900        | W           | No Shading    |
| Bedroom 3      | ATB-006-01 B | n/a        | 2600        | 2300       | W           | No Shading    |
| Bedroom 3      | ALM-004-03 A | n/a        | 2600        | 900        | W           | No Shading    |
| Bedroom 2      | ATB-006-01 B | n/a        | 2600        | 2300       | W           | No Shading    |
| Bedroom 2      | ALM-004-03 A | n/a        | 2600        | 900        | W           | No Shading    |
| Bedroom 1      | ALM-004-03 A | n/a        | 1700        | 850        | E           | No Shading    |
| Bedroom 1      | ATB-006-01 B | n/a        | 2600        | 3500       | W           | No Shading    |
| Bedroom 1      | ALM-004-03 A | n/a        | 2600        | 900        | W           | No Shading    |
| Ensuite        | ALM-004-03 A | n/a        | 2400        | 423        | SW          | No Shading    |
| Ensuite        | ALM-004-03 A | n/a        | 2400        | 640        | SW          | No Shading    |
| Second Floor   | ALM-004-03 A | n/a        | 2600        | 350        | N           | No Shading    |
| Second Floor   | ATB-006-01 B | n/a        | 2600        | 850        | N           | No Shading    |
| Second Floor   | ATB-006-01 B | n/a        | 2600        | 2400       | E           | No Shading    |
| Second Floor   | ATB-006-01 B | n/a        | 1600        | 1300       | E           | No Shading    |
| Second Floor   | ALM-004-03 A | n/a        | 1700        | 850        | E           | No Shading    |
| Bathroom       | ALM-004-03 A | n/a        | 1700        | 1800       | E           | No Shading    |

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## Building features continued

|        |              |     |      |      |   |            |
|--------|--------------|-----|------|------|---|------------|
| lounge | ALM-004-03 A | n/a | 2700 | 3200 | S | No Shading |
| lounge | ATB-006-01 B | n/a | 1650 | 2600 | W | No Shading |

## Roof window and skylight type and performance value

| ID          | Window type                                     | U-value | SHGC |
|-------------|---|---------|------|
| GEN-04-008a | Double-glazed clear, Timber and Aluminium Frame | 0.0     | 0.00 |

## Roof window and skylight schedule

| Location | ID          | Roof window/skylight no. | Area (m <sup>2</sup> ) | Orientation | Outdoor shade | Indoor shade/diffuser |
|----------|-------------|--------------------------|------------------------|-------------|---------------|-----------------------|
| Ensuite  | GEN-04-008a | 1                        | 0.5                    | E           | None          | No                    |
| Bathroom | GEN-04-008a | 1                        | 0.5                    | E           | None          | No                    |

## External wall type

| ID   | Wall type                            | Insulation   | Wall wrap or foil |
|------|--------------------------------------|--|-------------------|
| EW-1 | Cavity Brick                         | Foil reflective both sides of the Bulk Insulation R2.1 | Yes               |
| EW-2 | Weatherboard Cavity Panel Direct Fix | Foil reflective both sides of the Bulk Insulation R2.5 | Yes               |
| EW-3 | Metal Clad Cavity Panel Direct Fix   | Foil reflective both sides of the Bulk Insulation R2.5 | Yes               |
| EW-4 | Metal Clad Cavity Panel Direct Fix   | Foil reflective both sides of the Bulk Insulation R2.3 | Yes               |

## External wall schedule

| Location       | ID   | Width (mm) | Height (mm) | Orientation | Fixed Shade | Eaves (mm) |
|----------------|------|------------|-------------|-------------|-------------|------------|
| Garage         | EW-1 | 5890       | 3600        | W           | No          | 3100       |
| GF Lobby       | EW-1 | 2745       | 3600        | W           | No          | 1400       |
| GF Lobby       | EW-1 | 6925       | 3600        | N           | No          | 0          |
| GF Corridor    | EW-1 | 4225       | 2400        | N           | No          | 0          |
| GF Corridor    | EW-1 | 2595       | 2400        | E           | No          | 0          |
| GF Corridor    | EW-1 | 2995       | 2400        | E           | No          | 4100       |
| Living GF      | EW-1 | 3095       | 3600        | S           | No          | 0          |
| Living GF      | EW-1 | 2625       | 3600        | S           | No          | 0          |
| Living GF      | EW-1 | 6345       | 3600        | W           | No          | 3100       |
| Bedroom Guest  | EW-1 | 4195       | 2400        | E           | No          | 0          |
| Bedroom Guest  | EW-1 | 4095       | 2400        | S           | No          | 0          |
| Ldy            | EW-1 | 2590       | 2400        | E           | No          | 0          |
| WC             | EW-1 | 1995       | 2400        | E           | No          | 0          |
| WC             | EW-1 | 2995       | 2400        | S           | No          | 2900       |
| Kitchen/Living | EW-1 | 6800       | 2700        | S           | No          | 0          |
| Kitchen/Living | EW-2 | 11800      | 2700        | W           | No          | 1200       |
| Kitchen/Living | EW-1 | 1190       | 2700        | N           | No          | 0          |
| Kitchen/Living | EW-3 | 700        | 2700        | E           | No          | 2400       |
| Kitchen/Living | EW-3 | 600        | 2700        | S           | No          | 7800       |
| Kitchen/Living | EW-3 | 7900       | 2700        | E           | No          | 800        |

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## Building features continued

|              |      |      |      |    |    |       |
|--------------|------|------|------|----|----|-------|
| WC           | EW-1 | 2820 | 2700 | N  | No | 0     |
| Stairs       | EW-1 | 4225 | 2700 | N  | No | 0     |
| Stairs       | EW-3 | 2495 | 2700 | E  | No | 0     |
| Pantry       | EW-3 | 3295 | 2700 | E  | No | 0     |
| Pantry       | EW-3 | 2395 | 2700 | S  | No | 1200  |
| Bedroom 4    | EW-4 | 4025 | 2600 | N  | No | 0     |
| Bedroom 4    | EW-4 | 800  | 2600 | S  | No | 11075 |
| Bedroom 4    | EW-4 | 3200 | 2600 | W  | No | 1100  |
| Bedroom 3    | EW-4 | 3290 | 2600 | W  | No | 1900  |
| Bedroom 2    | EW-4 | 3290 | 2600 | W  | No | 1900  |
| Bedroom 1    | EW-4 | 2290 | 2600 | E  | No | 800   |
| Bedroom 1    | EW-4 | 3395 | 2600 | S  | No | 375   |
| Bedroom 1    | EW-4 | 1965 | 2600 | S  | No | 364   |
| Bedroom 1    | EW-4 | 4600 | 2600 | W  | No | 600   |
| Bedroom 1    | EW-4 | 3500 | 2600 | N  | No | 9800  |
| Ensuite      | EW-4 | 1795 | 2600 | E  | No | 800   |
| Ensuite      | EW-4 | 1100 | 2600 | S  | No | 400   |
| Ensuite      | EW-4 | 424  | 2600 | SE | No | 354   |
| Ensuite      | EW-4 | 424  | 2600 | SW | No | 354   |
| Ensuite      | EW-4 | 1700 | 2600 | S  | No | 400   |
| Ensuite      | EW-4 | 500  | 2600 | SE | No | 340   |
| Ensuite      | EW-4 | 635  | 2600 | SW | No | 250   |
| Second Floor | EW-4 | 4225 | 2600 | N  | No | 0     |
| Second Floor | EW-4 | 2495 | 2600 | E  | No | 0     |
| Second Floor | EW-4 | 3595 | 2600 | E  | No | 800   |
| Bathroom     | EW-4 | 3695 | 2600 | E  | No | 0     |
| Bathroom     | EW-4 | 2995 | 2600 | S  | No | 0     |
| lounge       | EW-2 | 4195 | 2700 | S  | No | 500   |
| lounge       | EW-2 | 2600 | 2700 | W  | No | 1600  |
| lounge       | EW-1 | 4195 | 2700 | N  | No | 0     |
| Lift 02      | EW-1 | 1250 | 2700 | N  | No | 0     |
| Lift 01      | EW-1 | 1250 | 3600 | N  | No | 0     |
| Lift 03      | EW-4 | 1250 | 2600 | N  | No | 0     |

## Internal wall type

| Wall type   | Area (m²) | Insulation                       | Wall wrap or foil |
|---|-----------|----------------------------------|-------------------|
| IW-1 - Single Skin Brick                                | 72.0      | Bulk Insulation, No Air Gap R2.5 | No                |
| IW-2 - Single Skin Brick                                | 37.0      | No insulation                    | No                |
| IW-3 - Cavity wall, direct fix plasterboard, single gap | 146.0     | No insulation                    | No                |
| IW-4 - Cavity wall, direct fix plasterboard, single gap | 67.0      | Bulk Insulation, No Air Gap R2.5 | No                |

## Floors

| Location | Construction | Area (m²) | Sub floor | Added | Covering |
|----------|--------------|-----------|-----------|-------|----------|
|----------|--------------|-----------|-----------|-------|----------|

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## Building features continued

|                               |                                   |      | ventilation  | insulation   |
|-------------------------------|-----------------------------------|------|--------------|--|
| Garage                        | Concrete Slab on Ground 200mm     | 48.0 | None         | Bulk Insulation Bare in Contact with Floor R1.9                        |
| GF Lobby                      | Concrete Slab on Ground 200mm     | 19.0 | None         | Bulk Insulation Ceramic Tiles in Contact with 8mm Floor R1.9           |
| GF Corridor                   | Concrete Slab on Ground 200mm     | 23.3 | None         | Bulk Insulation Cork Tiles or in Contact with Parquetry 8mm Floor R1.9 |
| Living GF                     | Concrete Slab on Ground 200mm     | 35.2 | None         | Bulk Insulation Cork Tiles or in Contact with Parquetry 8mm Floor R1.9 |
| Bedroom Guest                 | Concrete Slab on Ground 200mm     | 16.8 | None         | Bulk Insulation Carpet 10mm in Contact with Floor R1.9                 |
| Ldy                           | Concrete Slab on Ground 200mm     | 7.4  | None         | Bulk Insulation Ceramic Tiles in Contact with 8mm Floor R1.9           |
| WC                            | Concrete Slab on Ground 200mm     | 5.8  | None         | Bulk Insulation Ceramic Tiles in Contact with 8mm Floor R1.9           |
| Kitchen/Living /Garage        | Concrete Above Plasterboard 200mm | 31.5 |              | Bulk Insulation Bare R3  |
| Kitchen/Living /GF Lobby      | Concrete Above Plasterboard 200mm | 5.9  |              | No Insulation Bare   |
| Kitchen/Living /GF Corridor   | Concrete Above Plasterboard 200mm | 13.3 |              | No Insulation Bare   |
| Kitchen/Living /Living GF     | Concrete Above Plasterboard 200mm | 18.6 |              | No Insulation Bare   |
| Kitchen/Living /Bedroom Guest | Concrete Above Plasterboard 200mm | 17.1 |              | No Insulation Bare   |
| Kitchen/Living /Ldy           | Concrete Above Plasterboard 200mm | 0.5  |              | No Insulation Bare   |
| Kitchen/Living /WC            | Concrete Above Plasterboard 200mm | 0.8  |              | No Insulation Bare   |
| WC/GF Lobby                   | Concrete Above Plasterboard 150mm | 5.2  |              | No Insulation Ceramic Tiles 8mm  |
| Stairs/GF Corridor            | Concrete Above Plasterboard 200mm | 10.4 |              | No Insulation Bare   |
| Pantry/Ldy                    | Concrete Above Plasterboard 200mm | 7.0  |              | No Insulation Ceramic Tiles 8mm  |
| Pantry/WC                     | Concrete Above Plasterboard 200mm | 1.4  |              | No Insulation Ceramic Tiles 8mm  |
| Bedroom 4/Kitchen/Living      | Concrete Above Plasterboard 200mm | 7.4  |              | No Insulation Carpet 10mm  |
| Bedroom 4/WC                  | Concrete Above Plasterboard 200mm | 5.4  |              | No Insulation Carpet 10mm  |
| Bedroom 3/Kitchen/Living      | Concrete Above Plasterboard 200mm | 14.6 |              | No Insulation Carpet 10mm  |
| Bedroom 2/Kitchen/Living      | Concrete Above Plasterboard 200mm | 14.6 |              | No Insulation Carpet 10mm  |
| Bedroom 1/Kitchen/Living      | Concrete Above Plasterboard 200mm | 20.0 |              | No Insulation Carpet 10mm  |
| Bedroom 1                     | Suspended Concrete Slab 200mm     | 11.3 | Totally Open | Bulk Insulation Carpet 10mm in Contact with Floor R3                   |
|                               |                                   | 7.6  |              | No Insulation  |



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## Building features continued

|                             |                                   |      |              |  |                   |
|-----------------------------|-----------------------------------|------|--------------|--|-------------------|
| Ensuite/Kitchen/Living      | Concrete Above Plasterboard 150mm |      |              |  | Ceramic Tiles 8mm |
| Second Floor/Kitchen/Living | Concrete Above Plasterboard 200mm | 12.1 |              | No Insulation                              | Carpet 10mm       |
| Second Floor/Stairs         | Concrete Above Plasterboard 200mm | 10.3 |              | No Insulation                              | Carpet 10mm       |
| Bathroom/Kitchen/Living     | Concrete Above Plasterboard 150mm | 1.1  |              | No Insulation                              | Ceramic Tiles 8mm |
| Bathroom/Pantry             | Concrete Above Plasterboard 150mm | 8.8  |              | No Insulation                              | Ceramic Tiles 8mm |
| Bathroom                    | Suspended Concrete Slab 150mm     | 0.9  | Totally Open | Bulk Insulation in Contact with Floor R3   | Ceramic Tiles 8mm |
| lounge/GF Lobby             | Concrete Above Plasterboard 150mm | 7.5  |              | No Insulation                              | Ceramic Tiles 8mm |
| lounge                      | Suspended Concrete Slab 150mm     | 3.3  | Totally Open | Bulk Insulation in Contact with Floor R3   | Ceramic Tiles 8mm |
| Lift 02/Lift 01             | Concrete Above Plasterboard 200mm | 1.7  |              | No Insulation                              | Carpet 10mm       |
| Lift 01                     | Concrete Slab on Ground 200mm     | 1.7  | None         | Bulk Insulation in Contact with Floor R1.9 | Ceramic Tiles 8mm |
| Lift 03/Lift 02             | Concrete Above Plasterboard 200mm | 1.7  |              | No Insulation                              | Carpet 10mm       |

## Ceiling type

| Location       | Construction                | Added insulation   | Roof space above |
|----------------|-----------------------------|--------------------|------------------|
| Garage         | Concrete, Plasterboard      | No insulation      | No               |
| Garage         | Concrete Above Plasterboard | Bulk Insulation R3 | No               |
| GF Lobby       | Concrete, Plasterboard      | Bulk Insulation R4 | No               |
| GF Lobby       | Concrete Above Plasterboard | No Insulation      | No               |
| GF Corridor    | Concrete, Plasterboard      | Bulk Insulation R4 | No               |
| GF Corridor    | Concrete Above Plasterboard | No Insulation      | No               |
| Living GF      | Concrete, Plasterboard      | Bulk Insulation R4 | No               |
| Living GF      | Concrete Above Plasterboard | No Insulation      | No               |
| Bedroom Guest  | Concrete, Plasterboard      | Bulk Insulation R4 | No               |
| Bedroom Guest  | Concrete Above Plasterboard | No Insulation      | No               |
| Ldy            | Concrete, Plasterboard      | Bulk Insulation R4 | No               |
| Ldy            | Concrete Above Plasterboard | No Insulation      | No               |
| WC             | Concrete, Plasterboard      | Bulk Insulation R4 | No               |
| WC             | Concrete Above Plasterboard | No Insulation      | No               |
| Kitchen/Living | Concrete, Plasterboard      | Bulk Insulation R4 | No               |

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## Building features continued

|                |                             |                    |     |
|----------------|-----------------------------|--------------------|-----|
| Kitchen/Living | Concrete Above Plasterboard | No Insulation      | No  |
| WC             | Concrete, Plasterboard      | Bulk Insulation R4 | No  |
| WC             | Concrete Above Plasterboard | No Insulation      | No  |
| Stairs         | Concrete, Plasterboard      | Bulk Insulation R4 | No  |
| Stairs         | Concrete Above Plasterboard | No Insulation      | No  |
| Pantry         | Concrete, Plasterboard      | Bulk Insulation R4 | No  |
| Pantry         | Concrete Above Plasterboard | No Insulation      | No  |
| Bedroom 4      | Plasterboard                | Bulk Insulation R5 | Yes |
| Bedroom 3      | Plasterboard                | Bulk Insulation R5 | Yes |
| Bedroom 2      | Plasterboard                | Bulk Insulation R5 | Yes |
| Bedroom 1      | Plasterboard                | Bulk Insulation R5 | Yes |
| Ensuite        | Plasterboard                | Bulk Insulation R5 | Yes |
| Second Floor   | Plasterboard                | Bulk Insulation R5 | Yes |
| Bathroom       | Plasterboard                | Bulk Insulation R5 | Yes |
| lounge         | Concrete, Plasterboard      | Bulk Insulation R4 | No  |
| Lift 02        | Concrete, Plasterboard      | Bulk Insulation R4 | No  |
| Lift 02        | Concrete Above Plasterboard | No Insulation      | No  |
| Lift 01        | Concrete, Plasterboard      | Bulk Insulation R4 | No  |
| Lift 01        | Concrete Above Plasterboard | No Insulation      | No  |
| Lift 03        | Plasterboard                | Bulk Insulation R5 | Yes |

## Ceiling penetrations

| Location       | Number | Type             | Diameter (mm) | Sealed/unsealed |
|----------------|--------|------------------|---------------|-----------------|
| GF Lobby       | 3      | Downlights - LED | 150           | Sealed          |
| GF Corridor    | 4      | Downlights - LED | 150           | Sealed          |
| Living GF      | 7      | Downlights - LED | 150           | Sealed          |
| Bedroom Guest  | 3      | Downlights - LED | 150           | Sealed          |
| Ldy            | 1      | Downlights - LED | 150           | Sealed          |
| Ldy            | 1      | Exhaust Fans     | 300           | Sealed          |
| WC             | 1      | Downlights - LED | 150           | Sealed          |
| WC             | 1      | Exhaust Fans     | 300           | Sealed          |
| Kitchen/Living | 17     | Downlights - LED | 150           | Sealed          |
| Kitchen/Living | 1      | Exhaust Fans     | 300           | Sealed          |
| WC             | 1      | Downlights - LED | 150           | Sealed          |
| WC             | 1      | Exhaust Fans     | 300           | Sealed          |
| Stairs         | 1      | Downlights - LED | 150           | Sealed          |

## Nationwide House Energy Rating Scheme\* Certificate

Certificate number: **0004636247-01**

Certificate Date:

**26 Mar 2020**

★ Star rating:

**5.2**



### Building features continued

|              |   |                  |     |        |
|--------------|---|------------------|-----|--------|
| Pantry       | 1 | Downlights - LED | 150 | Sealed |
| Bedroom 4    | 2 | Downlights - LED | 150 | Sealed |
| Bedroom 3    | 3 | Downlights - LED | 150 | Sealed |
| Bedroom 2    | 3 | Downlights - LED | 150 | Sealed |
| Bedroom 1    | 6 | Downlights - LED | 150 | Sealed |
| Ensuite      | 1 | Downlights - LED | 150 | Sealed |
| Ensuite      | 1 | Exhaust Fans     | 300 | Sealed |
| Second Floor | 4 | Downlights - LED | 150 | Sealed |
| Bathroom     | 2 | Downlights - LED | 150 | Sealed |
| Bathroom     | 1 | Exhaust Fans     | 300 | Sealed |
| lounge       | 2 | Downlights - LED | 150 | Sealed |

### Ceiling fans

| Location     | Number | Diameter (mm) |
|--------------|--------|---------------|
| None Present |        |               |

### Roof type

| Construction           | Added insulation                             | Roof colour |
|------------------------|--|-------------|
| Waterproofing Membrane | No Added Insulation, No air Gap              | Medium      |
| Corrugated Iron        | Bulk, Reflective Side Down, Anti-glare Up R1 | Dark        |

# Nationwide House Energy Rating Scheme\* Certificate

Certificate number: 0004636247-01

Certificate Date: 26 Mar 2020

★ Star rating: 5.2



## Additional information

## Explanatory notes

### About this report

Residential energy ratings address the quality of the building fabric i.e. walls, windows, floors and roof/ceilings. Ratings do not cover the energy or water efficiency of appliances including heating and cooling, hot water, dishwashers, ovens, fridges, TVs etc. or solar panel or water tank requirements. The efficiency or specification of these items is generally covered by other regulations, standards or guidelines.

### General Information

A NatHERS House Energy Rating is a comprehensive, dynamic computer modelling evaluation of the floorplans, elevations and specifications to predict an energy load of a home. Not all of us use our homes in the same way, so ratings are generated using standard assumptions. This means homes can be compared across the country.

The actual energy consumption of your home may vary significantly from the predicted energy load figures in the report depending on issues such as the size of your household and your personal preferences, e.g. in terms of heating or cooling.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparative purposes between different house designs and for demonstrating that the design meets the required regulatory compliance.

Homes that are energy efficient use less energy, are warmer in winter, cooler in summer and cost less to run. The higher the star rating the more energy efficient.

This NatHERS House Energy Rating report was carefully prepared by your assessor on the basis of comprehensive modelling using standard procedures to rate your home using the underlying engine developed by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

All information relating to energy loads presented in this report is based on a range of standard assumptions in order to allow for comparisons with reports prepared for other homes and to demonstrate minimum regulatory compliance.

The standard assumptions include figures for occupancy, indoor air temperature and are based on a unique climate file for your region.

### Accredited Assessors

To ensure you get a high-quality, professional NatHERS House Energy Rating report, you should always use an accredited assessor, accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

AAOs have specific quality assurance processes in place and continuing professional development requirements to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any on-going training requirements.

If you have any questions or concerns about this report, please direct them to your assessor in the first instance.

If your assessor is unable to address your questions or concerns, please contact their AAO listed under 'assessor details'. You can also find a range of information about accredited assessors on the AAO websites.

### Disclaimer

The energy values quoted are for comparison purposes only; they are not a prediction of actual energy use. This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached drawing set that bears a stamp with the same number as this certificate. Changes to any of these details could affect the rating.

### Contact

For more information on the Nationwide House Energy Rating Scheme (NatHERS), visit [www.nathers.gov.au](http://www.nathers.gov.au)

For more information on energy efficient design and insulation visit [www.yourhome.gov.au](http://www.yourhome.gov.au)

# BASIX<sup>®</sup>Certificate

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

## Single Dwelling

Certificate number: 1080860S\_04

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 06/10/2017 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Friday, 27 March 2020

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



Planning,  
Industry &  
Environment

### Project summary

|                           |                                 |
|---------------------------|---------------------------------|
| Project name              | 12 Peronne Avenue, Clontarf_04  |
| Street address            | 12 Peronne Avenue Clontarf 2093 |
| Local Government Area     | Northern Beaches Council        |
| Plan type and plan number | deposited 344469                |
| Lot no.                   | A                               |
| Section no.               | -                               |
| Project type              | separate dwelling house         |
| No. of bedrooms           | 5                               |

### Project score

|                 |        |             |
|-----------------|--------|-------------|
| Water           | ✓ 40   | Target 40   |
| Thermal Comfort | ✓ Pass | Target Pass |
| Energy          | ✓ 52   | Target 50   |

### Certificate Prepared by

Name / Company Name: Efficient Living Pty Ltd

ABN (if applicable): 82116346082



# Description of project

## Project address

|                           |                                 |
|---------------------------|---------------------------------|
| Project name              | 12 Peronne Avenue, Clontarf_04  |
| Street address            | 12 Peronne Avenue Clontarf 2093 |
| Local Government Area     | Northern Beaches Council        |
| Plan type and plan number | Deposited Plan 344469           |
| Lot no.                   | A                               |
| Section no.               | -                               |

## Project type

|                 |                         |
|-----------------|-------------------------|
| Project type    | separate dwelling house |
| No. of bedrooms | 5                       |

## Site details

|                                    |       |
|------------------------------------|-------|
| Site area (m <sup>2</sup> )        | 911   |
| Roof area (m <sup>2</sup> )        | 180   |
| Conditioned floor area (m2)        | 291.0 |
| Unconditioned floor area (m2)      | 28.0  |
| Total area of garden and lawn (m2) | 250   |

## Assessor details and thermal loads

|  |               |
|--|---------------|
| Assessor number                                      | HERA10033     |
| Certificate number                                   | 0004636247-01 |
| Climate zone   | 56            |
| Area adjusted cooling load (MJ/m <sup>2</sup> .year) | 24            |
| Area adjusted heating load (MJ/m <sup>2</sup> .year) | 40            |

## Project score

|                 |        |             |
|-----------------|--------|-------------|
| Water           | ✓ 40   | Target 40   |
| Thermal Comfort | ✓ Pass | Target Pass |
| Energy          | ✓ 52   | 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>Landscape</b>   |                  |                              |                 |
| The applicant must plant indigenous or low water use species of vegetation throughout 160 square metres of the site.   | ✓                | ✓                            |                 |
| <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 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 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 180 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> <li>a tap that is located within 10 metres of the swimming pool in the development</li> </ul> |                  | ✓<br>✓<br>✓                  | ✓<br>✓<br>✓     |
| <b>Swimming pool</b>   |                  |                              |                 |
























| Water Commitments  | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|--|------------------|------------------------------|-----------------|
| The swimming pool must not have a volume greater than 26 kilolitres. | ✓                | ✓                            |                 |
| The swimming pool must be outdoors.                                  | ✓                | ✓                            |                 |

| 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       | 113.0 square metres       |
| floor - suspended floor/open subfloor | 16.0 square metres        |
| floor - suspended floor above garage  | 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 5 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 3.0 - 3.5  |                  | ✓                            | ✓               |
| The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: ceiling fans + 3-phase airconditioning; Energy rating: EER 3.0 - 3.5   |                  | ✓                            | ✓               |
| 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 3.5 - 4.0  |                  | ✓                            | ✓               |
| 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 3.5 - 4.0  |                  | ✓                            | ✓               |
| 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: individual fan, ducted to façade or roof; Operation control: manual switch on/off  |                  | ✓                            | ✓               |
| <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: |                  |                              |                 |
| <ul style="list-style-type: none"> <li>at least 5 of the bedrooms / study; dedicated</li> </ul>   |                  | ✓                            | ✓               |





| 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; dedicated</li> <li>the kitchen; dedicated</li> <li>all bathrooms/toilets; dedicated</li> <li>the laundry; dedicated</li> <li>all hallways; dedicated</li> </ul> |   | <br><br><br><br> | <br><br><br><br> |
| <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 4 bathroom(s)/toilet(s) in the development for natural lighting.   |    |    |    |
| <b>Swimming pool</b>  |   |   |   |
| The applicant must install the following heating system for the swimming pool in the development (or alternatively must not install any heating system for the swimming pool): gas  |   |    |   |
| The applicant must install a timer for the swimming pool pump in the development.   |   |    |   |
| <b>Alternative energy</b>   |   |   |   |
| The applicant must install a photovoltaic system with the capacity to generate at least 2 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.              |  |    |    |
| <b>Other</b>  |   |   |   |
| The applicant must install an induction 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.