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Nathers Thermal Performance assessments using Bers Pro Plus v4.4 & V5.0 Software
Commercial Buildings 'Section J' & JV3 Compliance Reports. Residential Deemed to Satisfy NCC 3.12
BASIX Certificates (NSW Energy and Water Efficiency)

REQUIREMENTS FOR NSW 7 STAR NATHERS & BASIX (NCC-2022)

| | |
|----------------|---|
| DATE | 21/11/2023 |
| ADDRESS | #761A Old Grattai Road Mudgee NSW 2850 Secondary Dwelling |
| DP # | 756884 |
| CLIMATE ZONE | 65 |
| WIND SHIELDING | OPEN |
| COMPANY | STROUD HOMES c/o Avalon Drafting |

Proposed Insulation: *(worst case scenario modelled where information not provided – as per tech notes)*

- Framing Material: Timber
- Roof colour: Shale Grey SA 0.44 - Light *(Solar absorptance <0.475)*
- Roof: Sarking under
- Ceilings: R5.0 Main Ceiling, R3.0 edge batts
- External wall material: FC sheet direct fix
- External wall colour: Medium *(Solar absorptance 0.475 < SA ≤ 0.70)*
- External walls: R2.5HD + Vapour permeable foil
- Internal walls: R2.0 to BATH
- Waffle pod slab: 300mm

Proposed Windows: **If alternative Glazing used to that modelled below, equal or lower U values & SHGC to be within 5% required*

Sliding Windows

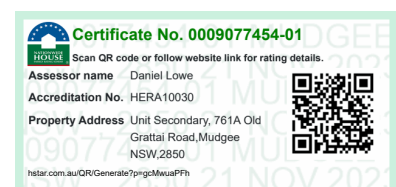
4.0 m² WID-006-13 A Wideline Uval 4.92 SHGC 0.62
Glass 6CS_Clr
Frame WID-006 Al Residential Sliding Window SG

Sliding Doors

13.2 m² WID-005-13 A Wideline Uval 4.67 SHGC 0.60
Glass 6CS_Clr
Frame WID-005 Al Residential Internal Sliding Door SG

Floor Coverings:

- Kitchen, Living, Meals: Vinyl Plank
- Hall: Vinyl Plank
- Bedrooms: Carpet + Rubber Underlay
- Wet Areas: Ceramic Tiles



Ceiling Penetrations:

Allowance for ceiling penetrations for recessed LED downlights, exhaust fans and flues has been made as per the electrical plan. (if there is no lighting plan the certificate will state clearly that the dwelling has been rated without downlights and clients need to know that the dwelling will need to be rated again if these features are present – assessors should price return jobs accordingly)

This adheres to BCA requirements for Ceiling penetration report. BCA 3.12.1

Avg qty's modelled

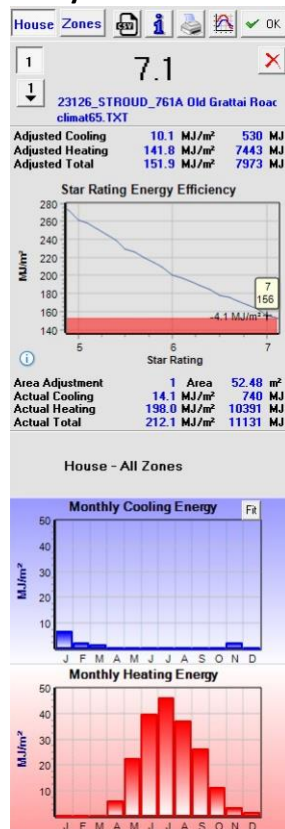
Building sealing requirements:

- All exhaust fans to be fitted with dampers as per NCC.
- External doors to be weather stripped and windows to comply with AS 2047.
- All gaps from service penetrations etc are to be sealed. As should internal doors to garage.
- All chimneys and flues to have dampers as per BCA requirements 3.12.3.1.

ABCB Nathers Heating & Cooling Load Limits *ABCB Standard 2022.*

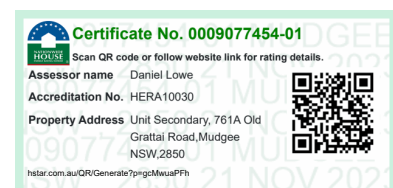
| CLIMATE ZONE # 65 | BASIX TARGETS CSOG | PROPOSED DWELLING |
|---------------------------|--------------------|-------------------|
| Nathers Star Rating Score | >7.0 STARS | 7.1 STARS |
| Cooling Loads MJ/m2.annum | <17.9 | 10.1 |
| Heating Loads MJ/m2.annum | <150 | 141.8 |
| Adjusted Total | <156 | 151.9 |

Analysis



Building Elements modelled

| Building Element Details | |
|--|-------------------------------|
| Project 23126_STROUD_761A Old Grattai Road Mudgee Run 0 Mudgee PC 2850 Lat -32.70 Long 149.60 Climate File Climat65.TXT | |
| Dwelling | 756884 |
| D P Number: | 756884 |
| Lot Number: | 761A |
| Street Number: | Secondary |
| Street Name: | Old Grattai Road |
| Development Name: | Mudgee |
| Suburb: | NSW |
| State: | 2850 |
| Postcode: | 1A |
| NCC Class: | |
| Plan | |
| Plan Reference: | Job No: 23126, Date: 08.11.23 |
| Prepared By: | Drawn: WP. Avalon Drafting |
| Assessor Details | |
| Assessor Name: | Daniel Lowe |
| AAO: | |
| Assessor Number: | HERA10030 |
| Summary | |
| Conditioned Area | 52.6 m² (52.5 m²) |
| Unconditioned Area | 5.1 m² (4.8 m²) |
| Glazed Common Area | 0.9 m² (0.0 m²) |
| Total Floor Area | 57.6 m² (57.3 m²) |
| Total Glazed Area | 17.2 m² |
| Total External Solid door Area | 0.0 m² |
| Glass to Floor Area | 29.8 % |
| Gross External Wall Area | 79.3 m² |
| Net External Wall Area | 62.1 m² |
| Window | |
| 4.0 m² WID-006-13 A Wideline Uval 4.92 SHGC 0.62 | |
| Glass 6CS.Clir | |
| Frame WID-006 A1 Residential Sliding Window SG | |
| 13.2 m² WID-005-13 A Wideline Uval 4.67 SHGC 0.60 | |
| Glass 6CS.Clir | |
| Frame WID-005 A1 Residential Internal Sliding Door SG | |
| External Wall | |
| 62.1 m² Fibro Timber Stud Frame Panel Direct Fix R2.50 Bulk Insulation | |
| Internal Wall | |
| 17.5 m² Timber Stud Frame, Direct Fix Plasterboard R 2.0 Bulk Insulation, No Air Gap | |
| 15.9 m² Timber Stud Frame, Direct Fix Plasterboard No Insulation | |
| External Floor | |
| 32.9 m² Waffle pod slab 300 mm 100mm Vinyl 3mm Waffle Pod 300mm | |
| 5.1 m² Waffle pod slab 300 mm 100mm Ceramic Tiles 8mm Waffle Pod 300mm | |
| 19.7 m² Waffle pod slab 300 mm 100mm Carpet+Rubber Underlay 18mm Waffle Pod 300mm | |
| External Ceiling | |
| 43.0 m² Plasterboard on Timber R5.0 Bulk Insulation Unventilated roofspace | |
| 14.7 m² Plasterboard on Timber R3.0 Bulk Insulation Unventilated roofspace | |
| Roof (Horizontal area) | |
| 57.6 m² Corrugated Iron Timber Frame Foil, Gap Above, Reflective Side Down, Anti-glare Up 22° slope Hip roof | |



Basix Water Requirements

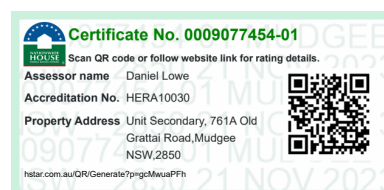
- Total Garden & Lawn area for this dwelling 200 m²
- Indigenous lower water use species 0 m²
- Fixtures -
 - * Shower Heads 4 Star (> 6 but <= 7.5 L/min)
 - * Toilets 4 Star
 - * Kitchen Taps 5 Star
 - * Bathroom Taps 5 Star
- Rainwater Tank Nil
- Alternative Water 20,000Litre Rainwater Tank, 75m² roof diverted
 - * Garden & Lawn Rainwater Tank
 - * All Toilets Rainwater Tank
 - * Laundry Rainwater Tank
 - * All Hot water Rainwater Tank
 - * Drinking & other household Rainwater Tank
- Pool & Spa N/A

| | | | |
|---------------------------|------------|-----------------------|------------|
| Basix Water Target | 30% | Dwelling Score | 42% |
|---------------------------|------------|-----------------------|------------|

Basix Energy Requirements

- Hot Water Gas Instantaneous – ≥5 Star
- Cooling systems
 - * Living room 1 Phase AC – ≥3 Star
 - * Bedroom 1 Phase AC – ≥3 Star
- Heating systems
 - * Living room 1 Phase AC – ≥3 Star
 - * Bedrooms 1 Phase AC – ≥3 Star
- Ventilation
 - * Bathrooms Exhaust Individual fan (*ducted to façade or roof*)
 - * Kitchen Exhaust Individual fan (*ducted to façade or roof*)
 - * Laundry Exhaust Individual fan (*ducted to façade or roof*)
- Natural Lighting
 - * Kitchen Skylight or window No
 - * Separate Bathroom/toilet(s) 1
- Artificial Lighting > Dedicate Fluorescent or LED fittings (Minimum 80% of light fittings)
- Pool & Spa N/A
- Alternate Energy Nil
- Other
 - * Cooktop/Oven Electric cooktop & electric oven
 - * Outdoor Clothes Drying Line Yes
 - * Indoor Clothes Drying Line No

| | | | |
|----------------------------|------------|-----------------------|------------|
| Basix Energy Target | 59% | Dwelling Score | 62% |
|----------------------------|------------|-----------------------|------------|



| *Office Use Only* | |
|-------------------|-----------|
| BASIX REFERENCE # | BSX-41544 |
| BERS PRO V5 RUN | Run 0 |