

LEGEND

- 3. ADDITIONAL VEHICLE EXIT FROM BASEMENT 1 TO THE THOMAS STREET FRONTAGE - SK-003
- 4. RIGHT OF WAY FROM FLEET LANE - SK-002
- 15. BUILDING OUTLINE EXTENDED
- 18. FIRE EGRESS FROM TOWER RELOCATED
- 19. PUBLIC LIFTS AND STAIRS RELOCATED
- 29. RETAIL DELETED
- 30. PLANT DELETED
- 31. SWIMMING POOL /GYM RELOCATED FROM LEVEL 2 TO LEVEL 1
- 32. GLASS CANOPY REDUCED AND REDESIGNED
- 35. PRIVACY SCREENS TO LEVEL 3-5 AS PER SK-001 AND TO LEVELS 3-18 AS PER SK-010
- 36. FLOOR PLATE REDUCED
- 42. PLANT ROOM REDUCED
- 49. EA APPROVED BUILDING ENVELOPE
- 50. EA APPROVED HEIGHT RL199.9
- 54. FIRE EGRESS FROM RESIDENTIAL TOWER RELOCATED

Revisions

| | | |
|---|--------------------------------|----------|
| C | Section 75W Submission | 19.07.12 |
| B | EA Submission | 18.12.09 |
| A | submitted for Test of adequacy | 09.11.09 |

Do not scale from drawings. Verify all dimensions on site before commencing work. Copying or the reproduction of this drawing is strictly prohibited without the consent of PTW Architects P/L.

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Sydney NSW 2000

Architect
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Contractor

| | |
|-------------|---|
| Consultants | |
| Planner | - |
| Structural | - |
| Services | - |
| Landscape | - |
| Acoustics | - |
| Traffic | - |

MERITON THOMAS STREET

Thomas Street/ Albert Avenue
Chatswood NSW 2067

Project No. 212007
Scale: 1:250@A1;1:500@A3
Date: 10/9/2009
Drawn: AL/KP
Checked: EA
Approved: SP

BUILDING 1
ELEVATION - EAST
A-0123 C
SECTION 75 W SUBMISSION

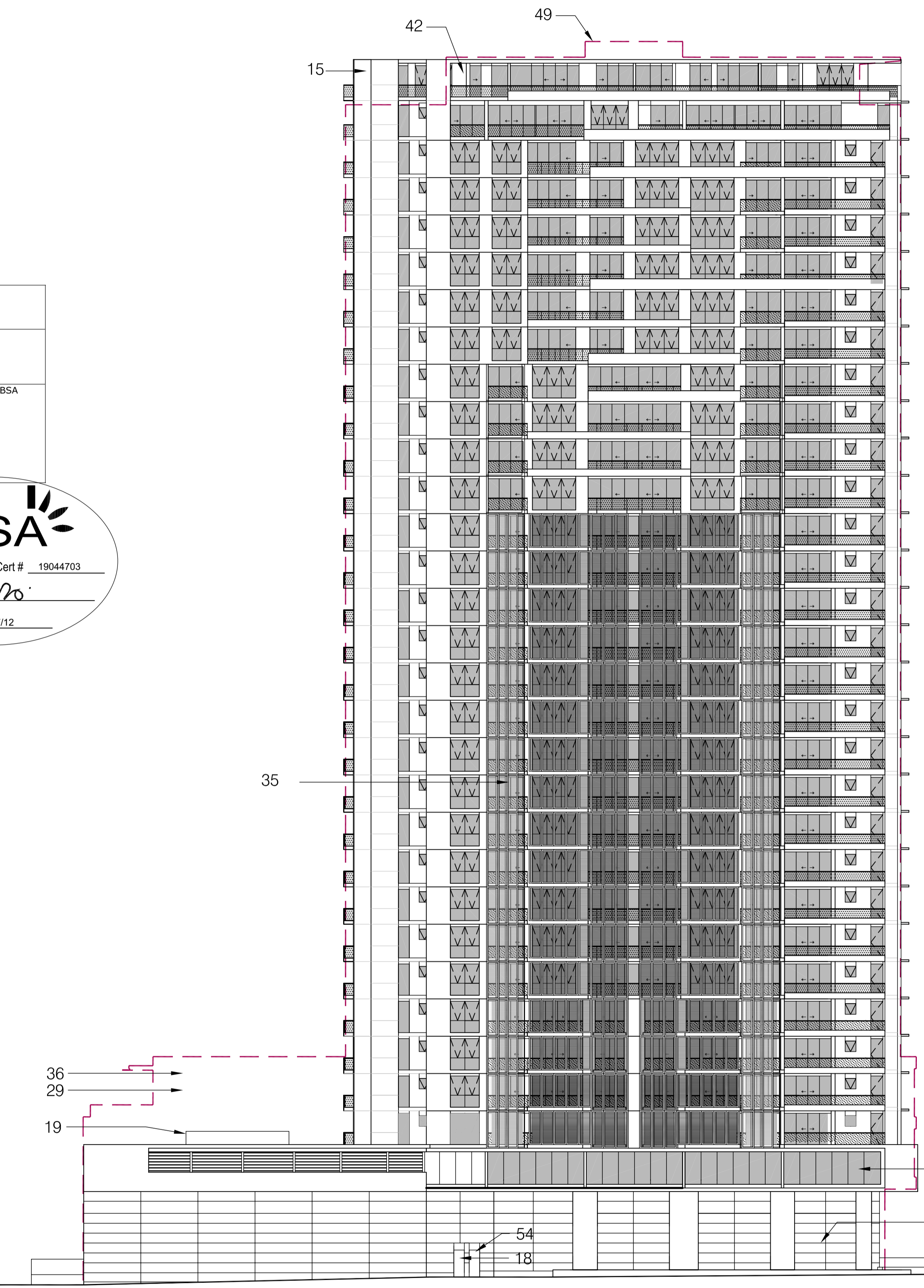
MERITON'S THERMAL COMFORT COMMITMENTS

| | |
|---------------------------|--|
| Glazing | Doors / windows: Single glazed, grey tint: U-value: 6.6 SHGC: 0.58 Unless noted otherwise on the ABSA certificate. |
| Roof / ceiling insulation | Roof: Light coloured, concrete slab roof with pebbles Plasterboard ceiling - R2.0 insulation to top floor units and R1.0 to those units with exposed balcony over. |
| Wall / floor insulation | External Wall: Pre-cast concrete, no insulation unless noted otherwise on the ABSA certificate. Internal walls within units: Plasterboard on studs - no insulation Inter-tenancy walls: Hebel - no insulation Floor: Concrete - no insulation unless noted otherwise on the ABSA certificate. |

Inclusions approved by:



| | | | | | |
|---|---|--|----------------------------------|-----------------------|----------------|
| Assessor # | 20101 | Certificate # | 19044703 | Issued: | 27/07/2012 |
| Thermal performance Specifications | | | | | |
| These are the Specifications upon which the Certificate Assessment is based. If details included in these Specifications vary from other drawings or written specifications, these Specifications shall take precedence. If only one specification option is detailed for a building element, that specification must apply to all instances of that element for the project. If alternate specifications are detailed for a building element, the location and extent of alternate specifications must be detailed below and / or clearly indicated on referenced documents. | | | | | |
| Windows | Product ID | Glass | Frame | U value SHGC | Area M2 Detail |
| Not specified | Single Grey tint | Aluminium | 6.6 0.58 | 21.9 | As per plans |
| | Double Grey tint | Aluminium | 4.19 0.52 | - | To unit 2908 |
| Skylights | Product ID | Glass | Frame | U value SHGC | Area M2 Detail |
| Any U and SHGC values specified on Certificates issued after 1 May 2007 are according to NRC. All values prior to this date are AS/NZS standard products may be used if their U value is lower, and the SHGC value is less than 10% higher or lower. | | | | | |
| External walls | Construction | Insulation | Colour - Solar Absorptancy | Detail | |
| Pre-cast Concrete | None | Not Specified | As per plans | As per plans | |
| | R1.0 | Not Specified | To units 2902, 2907 & 2908 | | |
| Internal walls | Construction | Insulation | Detail | | |
| Hebel | None | To inter-tenancy walls | | | |
| Plasterboard on studs | None | All walls within units | | | |
| Floors | Construction | Insulation | Covering | Detail | |
| Concrete slab floors through | None | Carpet to bedrooms & living areas as per plans | | | |
| | | Tiles to wet areas | as per plans (hatched) | | |
| Ceilings | Construction | Insulation | Detail | | |
| Plasterboard with concrete | None | where neighbouring units | | | |
| | | to top floor units | | | |
| | | to where balcony above | | | |
| Roof | Construction | Insulation | Colour - Solar Absorptancy | Detail | |
| Pebbles above concrete | None | Light -SA <0.475 | as per roof plans | | |
| Window Cover | Internal (curtains) | External (awnings, shutters, etc.) | | | |
| Not Specified | Not Specified | | | | |
| Fixed Shading | Awning (with/without gutters, height above windows) | Verandas, Pergolas (type, description) | | | |
| 0 | 0 Varying as per plans | Vertical blades | As per elevations | | |
| | | Perforated sliding metal sc | As per elevations | | |
| Overhead shading | Overhead shading structures | Overhead shading trees | | | |
| 5 storey building to NE side of building | N/A | | | | |
| Orientation, Exposure, Ventilation and Infiltration | | | | | |
| Orientation of nominal north: | 338 degrees | Living area open to entry: | Yes | Ventilated skylights: | No |
| Terrain category: | Suburban Living area separated by doors: | No | Open fire / unforced gas heater: | No | |
| Roof Ventilation: | Unventilated Stair open to heated areas: | No | Vented downlights: | No | |
| Cross Ventilation: | Standard Seats to windows and doors: | Yes | Wall and ceiling vents: | No | |
| Subfloor Ventilation: | Enclosed Exhaust fans without dampers: | No | | | |



| | | | |
|------------------------------|----------------------|-------------------------------------|-----------|
| ROOF LEVEL (APPROVED HEIGHT) | RL 199.90 | | |
| LEVEL 30 | EA APPROVED PROPOSED | LEVEL 29 | RL 194.9 |
| LEVEL 30 | | LEVEL 30 | RL 196.7 |
| LEVEL 29 | | | RL 193.40 |
| LEVEL 28 | | | RL 190.30 |
| LEVEL 27 | | | RL 187.20 |
| LEVEL 26 | | | RL 184.10 |
| LEVEL 25 | | | RL 181.00 |
| LEVEL 24 | | | RL 177.90 |
| LEVEL 23 | | | RL 174.80 |
| LEVEL 22 | | | RL 171.70 |
| LEVEL 21 | | | RL 168.60 |
| LEVEL 20 | | | RL 165.50 |
| LEVEL 19 | EA APPROVED | | RL 162.40 |
| LEVEL 18 | | 3.0m FLOOR TO FLOOR FROM LEVEL 3-UP | RL 159.30 |
| LEVEL 17 | | | RL 156.20 |
| LEVEL 16 | PROPOSED | | RL 153.10 |
| LEVEL 15 | | 3.1m FLOOR TO FLOOR FROM LEVEL 2 UP | RL 150.00 |
| LEVEL 14 | | | RL 146.90 |
| LEVEL 13 | | | RL 143.80 |
| LEVEL 12 | | | RL 140.70 |
| LEVEL 11 | | | RL 137.60 |
| LEVEL 10 | | | RL 134.50 |
| LEVEL 9 | | | RL 131.40 |
| LEVEL 8 | | | RL 128.30 |
| LEVEL 7 | | | RL 125.20 |
| LEVEL 6 | | | RL 122.10 |
| LEVEL 5 | | | RL 119.00 |
| LEVEL 4 | | | RL 115.90 |
| LEVEL 3 | EA APPROVED PROPOSED | LEVEL 3 | RL 116.9 |
| LEVEL 3 | | LEVEL 3 | RL 112.8 |
| LEVEL 2 | EA APPROVED PROPOSED | LEVEL 2 | RL 111.9 |
| LEVEL 2 | | LEVEL 2 | RL 109.7 |
| LEVEL 1 | EA APPROVED PROPOSED | LEVEL 1 | RL 106.9 |
| LEVEL 1 | | LEVEL 1 | RL 106.1 |
| GROUND LEVEL | | | RL 101.40 |
| RIGHT OF WAY | | | RL 99.30 |
| PARKING LEVEL 1 | | | |

1 BUILDING 1 ELEVATION-EAST
1:250



Efficient Living Pty Ltd
ABN: 82 116 346 082
ACN: 116 346 082

13/13 Lagoon St,
NARRABEEN NSW 2101

MERITON APARTMENTS

DA Application for:

Thomas Street Building 1

To be built at:

Thomas Street / Albert Avenue, CHATSWOOD

BASIX Assessment

Date of Issue: 02nd August, 2012

| Issue No. | Description | Author | Date |
|-----------|------------------------------|--------|----------|
| 01 | Assessment and certification | CB/TC | 02/08/12 |
| | | | |
| | | | |



This report has been prepared by Efficient Living Pty Ltd on behalf of our client Meriton Apartments. Efficient Living prepares all reports in accordance with the ASBA code of practice and is backed by professional indemnity insurance. This report takes into account our client's instructions and preferred building inclusions.



| PREPARED FOR : | PREPARED BY : |
|--|---|
| Meriton Apartments Pty. Ltd. Level 11/528 Kent Street Sydney NSW 2000 Contact : Phone : (02) 9287 2888 Fax : (02) 9287 2777 | Efficient Living 13/13 Lagoon St, Narrabeen NSW, 2101 Email: tracey@efficientliving.com.au Phone : (02) 9970 6181 Fax : (02) 9944 0293 |

| |
|---|
| COVER SHEET |
| TABLE OF CONTENTS |
| ANALYSIS WATER USAGE THERMAL COMFORT ENERGY USAGE |
| INCLUSIONS |
| ABSA CERTIFICATES |
| BASIX CERTIFICATES |



INTRODUCTION

Efficient Living has investigated the estimated thermal comfort, water and energy usage of the proposed development to be built at Thomas Street/ Albert Avenue, CHATSWOOD. Heating and cooling loads for the development have been determined using BERS thermal simulation software. The report is based on the architectural drawings provided by Meriton. For further details, refer to the individual BASIX certificates and ABSA reports respectively.

ANALYSIS

The BASIX assessment is divided into three sections, each independently measuring the efficiency of the development. These are Water, Thermal Comfort and Energy.

BASIX requires a minimum target of 40% for the Water section. A BERS pass or fail is required for the thermal comfort section and a minimum required target of 20% for the energy section.

WATER

The proposed development has achieved the BASIX Water target of 40%. The water usage of the development is calculated based on the number and efficiency of permanent fixtures and appliances such as: taps, showerheads and toilets, the dish washer and clothes washing machine. The size of the rain tank and number of connections has a huge impact on your water score as does the area of gardens and lawns and whether or not low-water plant species are incorporated.

THERMAL COMFORT

Thermal Comfort targets are set by the department of planning in the form of heating and cooling caps. The buildings thermal physics is measured using BERS thermal performance assessment tools. This equates an expected level of energy consumption to heat and cool each dwelling per annum expressed in MJ (mega joules) per square meter of floor area.

Each unit has individual heating and cooling caps and a weighted average heating and cooling load for the whole development. The weighted average caps are a lot harder to achieve than the individual unit caps.

ENERGY

The proposed development has achieved the energy target of 20% to pass this section. The energy usage of the development is calculated based on the efficiency of fixed appliances that will be used. This includes the air conditioning system, hot water system, lighting, exhaust fans and the cook top, oven, and clothes drying facilities.

BASIX Inclusions – Thomas Street

All units in building 1 have reached the targets as set for new dwellings in NSW.
The inclusions as outlined in the table below have been incorporated in each unit to allow them to reach their environmental sustainability targets.

| Construction general | |
|---|--|
| Glazing | Doors / windows: Single glazed, grey tint: U-value: 6.6 SHGC: 0.58 Unless noted otherwise on the ABSA certificate. |
| Roof / ceiling insulation | Roof: Light coloured, concrete slab roof with pebbles Plasterboard ceiling – R2.0 insulation to top floor units and R1.0 to those units with exposed balcony over. |
| Wall / floor insulation | External Wall: Pre-cast concrete, no insulation unless noted otherwise on the ABSA certificate. Internal walls within units: Plasterboard on studs - no insulation Inter-tenancy walls: Hebel - no insulation Floor: Concrete – no insulation unless noted otherwise on the ABSA certificate. |
| BASIX Water inclusions – Score 40/40 | |
| Fixtures (within units) | Showerheads: 3 star (>7.5 but <=9 L/min) Toilets: 4 star Kitchen taps: 4 star Bathroom taps: 4 star |
| Fixtures (within common areas) | Showerheads: 3 star (>7.5 but <=9 L/min) Toilets: 4 star Bathroom taps: 4 star |
| Appliances (within units) | Dishwashers: 3 star Clothes washers: At least 60% of all occupants are expected to provide clothes washing machines with a water efficiency of 2 stars or greater. |
| Central rainwater storage | Tank size: 20 000L Collect run-off from: 100% (980m ²) of Building 1 roof area Connected to: Irrigation of landscaping and 1 car washing bay |
| Pool & Spa | Pool to have a capacity no greater than 170kL Spa to have a capacity no greater than 6kL and must have a cover |
| BASIX Energy inclusions – Score Pass 20/20 | |
| Central hot water system | Central gas-fired boiler with R1.0 (~38mm) insulation to ringmain and supply risers |
| Lift motors | All lifts to have gearless traction with VVVF motor. |
| Appliances & other efficiency measures (within units) | Gas cooktop & electric oven Dishwashers: 3 star Clothes dryers: 2 star Well ventilated fridge space Clothes washers: At least 60% of all occupants are expected to provide clothes washing machines with an energy efficiency of 3 stars or greater. |

| | |
|--|--|
| Heating & cooling (within units) | All units to have individual single phase reverse cycle air conditioning: All 1 bedroom units: 2.0 star – Cooling and 2.5 star - Heating (zoned) [new rating] All 2 bedroom units: 2.0 star – Cooling and 2.5 star - Heating (zoned) [new rating] All 3 bedroom units: 2.0 star – Cooling and 3.0 star - Heating (zoned) [new rating] |
| Artificial lighting (within units) | Fluorescent lighting, with dedicated fittings, to be provided to all bedrooms, bathrooms and laundries. |
| Ventilation systems (within units) | Bathroom ventilation: Individual fan, ducted to roof or façade – manual on/manual off Laundry ventilation: Individual fan, ducted to roof or façade – manual on/manual off Kitchen ventilation: Individual fan, not ducted roof – manual switch on/off |
| Artificial lighting (within common areas) | Indoor pool/spa: compact fluorescent – manual on / manual off Gym: compact fluorescent – manual on / manual off Car park area: fluorescent – zoned switching with motion sensor Lifts: compact fluorescent – connected to lift call button Garbage rooms: fluorescent – manual on / manual off All plant areas: fluorescent – manual on / manual off Store rooms: fluorescent – manual on / manual off Office/security: compact fluorescent – manual on / manual off Lobbies: compact fluorescent – zoned switching with motion sensor Hallways: compact fluorescent – zoned switching with motion sensor |
| Ventilation systems (within common areas) | Indoor pool/spa: ventilation (supply + exhaust) – time clock or BMS controlled Gym: air conditioning system – time clock or BMS controlled Car park area: ventilation (supply + exhaust) - carbon monoxide monitor + VSD fan Garbage rooms: ventilation exhaust only – no efficiency measure required Western façade plant areas: no mechanical ventilation All other plant areas: ventilation exhaust only – interlocked to light Store rooms: ventilation supply only – interlocked to light Office/security: air conditioning system – time clock or BMS controlled Lobbies: ventilation supply only – none i.e. continuous Hallways: ventilation supply only – none i.e. continuous |
| Pool & Spa | Pool and spa heating systems: Electric heat pump Both pool and spa pumps to be controlled by a timer |
| Alternative energy | A 71kW photovoltaic system is required for the development |

Assessor Certificate

Multiple Dwellings

Certificate Version 6.1. Prior versions not valid after 1 March 2006

Issued in accordance with
BASIX Thermal Comfort Simulation Method.



| | | | |
|---------------------------------|---|------------------|--------------------------|
| Assessor | | | |
| Name: | Tracey Cools | Company: | Efficient Living Pty Ltd |
| Address: | 13/13 Lagoon St, NARRABEEN NSW 2101 | | |
| Phone: | 02 9970 6181 | Fax: | 02 9944 0293 |
| | Email: tracey@efficientliving.com.au | | |
| Declaration of interest: | None | | |
| Client | | | |
| Name: | David Watt | Company: | Meriton Apartments |
| Address: | Level 11, 528 Kent St, SYDNEY NSW 2000 | | |
| Phone: | 02 9287 2888 | Fax: | 02 9287 2568 |
| | Email: davidw@meriton.com.au | | |
| Project | | | |
| Address: | Thomas Street / Albert Avenue CHATSWOOD, NSW 2067 | | |
| Applicant: | Meriton Apartments Pty. Ltd. | LGA: | Willoughby City Council |
| Assessment | | | |
| Date: | 27/07/12 | File ref: | 6192 |
| | | Software: | BERS Pro 4.2 |
| | | Version: | V110811 |
| Documentation | | | |

All details, upon which this assessment has been based, are included in the project documentation that has been stamped and signed by the Assessor issuing this certificate, as identified below:

Affix assessor stamp

Thermal Performance Spec:

Attached, Affixed to drawings Page#: A-0123

Drawings: (Title, Ref.#, Revision, Issue date, etc)

A-000, A-0001, A-0002, A-0090, A-0100, A-0101, A-0102, A-0103, A-0104, A-0105, A-0106, A-0107, A-0108, A-0109, A-0110, A-0111, A-0112, A-0113, A-0114, A-0115, A-0121, A-0122, A-0123, A-0124, A-0125, A-0126, A-0131, A-0132, A-0140, A-0141, A-0142, A-0143, A-0150, A-0151, A-0201, A-0202, A-0203,

Building Specifications: (Title, Ref.#, Revision, Issue date, etc)

Thomas St – Project No. 212007 – July 2012 – Rev C



ABSA Assessor Certificate Assessor # 20101 Certificate # 19044703 Issued: 27/07/12

Thermal performance specifications

Page 1 of 6

| Unit number(s) | Certificate number | Floor area (M ²) | | Predict. loads (MJ/M ² /y) | | Concessions | Star Rating |
|----------------|--------------------|------------------------------|---------|---------------------------------------|-------------------|-------------|-------------|
| | | Cond. | Uncond. | Heat | Cool (Sens & Lat) | | |
| 201 | 19044703 | 60 | 0 | 49 | 28 | N/A | 4.0 |
| 202 | 84242773 | 70 | 6 | 38 | 24 | N/A | 5.0 |
| 203 | 13680714 | 73 | 7 | 26 | 20 | N/A | 6.0 |
| 204 | 24795606 | 95 | 0 | 22 | 17 | N/A | 7.0 |
| 205 | 24795606 | 95 | 0 | 22 | 17 | N/A | 7.0 |
| 206 | 82236956 | 88 | 0 | 33 | 31 | N/A | 5.0 |
| 207 | 79030960 | 76 | 7 | 56 | 32 | N/A | 4.0 |
| 208 | 19044703 | 60 | 0 | 49 | 28 | N/A | 4.0 |
| 301 | 47185893 | 60 | 0 | 45 | 23 | N/A | 4.5 |
| 302 | 83661419 | 70 | 6 | 43 | 17 | N/A | 5.0 |
| 303 | 55771891 | 73 | 7 | 30 | 15 | N/A | 6.0 |
| 304 | 29574648 | 95 | 0 | 25 | 14 | N/A | 6.5 |
| 305 | 29574648 | 95 | 0 | 25 | 14 | N/A | 6.5 |

Thermal performance specifications

| Unit number(s) | Certificate number | Floor area (M ²) | | Predict. loads (MJ/M ² /y) | | Concessions | Star Rating |
|----------------|--------------------|------------------------------|---------|---------------------------------------|-------------------|-------------|-------------|
| | | Cond. | Uncond. | Heat | Cool (Sens & Lat) | | |
| 306 | 80837507 | 88 | 0 | 38 | 25 | N/A | 5.0 |
| 307 | 58075420 | 76 | 7 | 56 | 25 | N/A | 4.0 |
| 308 | 47185893 | 60 | 0 | 45 | 23 | N/A | 4.5 |
| 401 | 47185893 | 60 | 0 | 45 | 23 | N/A | 4.5 |
| 402 | 83661419 | 70 | 6 | 43 | 17 | N/A | 5.0 |
| 403 | 12182710 | 73 | 7 | 29 | 16 | N/A | 6.5 |
| 404 | 29574648 | 95 | 0 | 25 | 14 | N/A | 6.5 |
| 405 | 29574648 | 95 | 0 | 25 | 14 | N/A | 6.5 |
| 406 | 80837507 | 88 | 0 | 38 | 25 | N/A | 5.0 |
| 407 | 58075420 | 76 | 7 | 56 | 25 | N/A | 4.0 |
| 408 | 47185893 | 60 | 0 | 45 | 23 | N/A | 4.5 |
| 501 | 47185893 | 60 | 0 | 45 | 23 | N/A | 4.5 |
| 502 | 83661419 | 70 | 6 | 43 | 17 | N/A | 5.0 |
| 503 | 65579285 | 73 | 7 | 27 | 16 | N/A | 6.5 |
| 504 | 71648391 | 95 | 0 | 27 | 15 | N/A | 6.5 |
| 505 | 71648391 | 95 | 0 | 27 | 15 | N/A | 6.5 |
| 506 | 80837507 | 88 | 0 | 38 | 25 | N/A | 5.0 |
| 507 | 58075420 | 76 | 7 | 56 | 25 | N/A | 4.0 |
| 508 | 47185893 | 60 | 0 | 45 | 23 | N/A | 4.5 |
| 601 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 602 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 603 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 604 | 56371180 | 64 | 0 | 38 | 15 | N/A | 5.5 |
| 605 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 606 | 56371180 | 64 | 0 | 38 | 15 | N/A | 5.5 |
| 607 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 608 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 609 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 701 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 702 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 703 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 704 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 705 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 706 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 707 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 708 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 709 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 801 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 802 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 803 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 804 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 805 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 806 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 807 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 808 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 809 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |

Thermal performance specifications

| Unit number(s) | Certificate number | Floor area (M ²) | | Predict. loads (MJ/M ² /y) | | Concessions | Star Rating |
|----------------|--------------------|------------------------------|---------|---------------------------------------|-------------------|-------------|-------------|
| | | Cond. | Uncond. | Heat | Cool (Sens & Lat) | | |
| 901 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 902 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 903 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 904 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 905 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 906 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 907 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 908 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 909 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1001 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1002 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1003 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1004 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1005 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1006 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1007 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1008 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1009 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1101 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1102 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1103 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1104 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1105 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1106 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1107 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1108 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1109 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1201 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1202 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1203 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1204 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1205 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1206 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1207 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1208 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1209 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1301 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1302 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1303 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1304 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1305 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1306 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1307 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1308 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1309 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1401 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |

Thermal performance specifications

| Unit number(s) | Certificate number | Floor area (M ²) | | Predict. loads (MJ/M ² /y) | | Concessions | Star Rating |
|----------------|--------------------|------------------------------|---------|---------------------------------------|-------------------|-------------|-------------|
| | | Cond. | Uncond. | Heat | Cool (Sens & Lat) | | |
| 1402 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1403 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1404 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1405 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1406 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1407 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1408 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1409 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1501 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1502 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1503 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1504 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1505 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1506 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1507 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1508 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1509 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1601 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1602 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1603 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1604 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1605 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1606 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1607 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1608 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1609 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1701 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1702 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1703 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1704 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1705 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1706 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1707 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1708 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1709 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1801 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1802 | 74349813 | 70 | 6 | 46 | 15 | N/A | 5.0 |
| 1803 | 96951907 | 73 | 7 | 30 | 14 | N/A | 6.5 |
| 1804 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1805 | 30590890 | 64 | 0 | 27 | 14 | N/A | 6.5 |
| 1806 | 75243575 | 64 | 0 | 30 | 16 | N/A | 6.0 |
| 1807 | 49189507 | 88 | 0 | 41 | 21 | N/A | 5.0 |
| 1808 | 37737150 | 76 | 7 | 60 | 22 | N/A | 4.0 |
| 1809 | 11982964 | 60 | 0 | 49 | 20 | N/A | 4.5 |
| 1901 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 1902 | 67118613 | 70 | 6 | 48 | 14 | N/A | 5.0 |

Thermal performance specifications

| Unit number(s) | Certificate number | Floor area (M ²) | | Predict. loads (MJ/M ² /y) | | Concessions | Star Rating |
|----------------|--------------------|------------------------------|---------|---------------------------------------|-------------------|-------------|-------------|
| | | Cond. | Uncond. | Heat | Cool (Sens & Lat) | | |
| 1903 | 91013940 | 73 | 7 | 32 | 13 | N/A | 6.0 |
| 1904 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 1905 | 64050738 | 64 | 0 | 22 | 20 | N/A | 6.5 |
| 1906 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 1907 | 14003867 | 88 | 0 | 43 | 20 | N/A | 5.0 |
| 1908 | 85364962 | 76 | 7 | 62 | 20 | N/A | 4.0 |
| 1909 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2001 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2002 | 67118613 | 70 | 6 | 48 | 14 | N/A | 5.0 |
| 2003 | 91013940 | 73 | 7 | 32 | 13 | N/A | 6.0 |
| 2004 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 2005 | 64050738 | 64 | 0 | 22 | 20 | N/A | 6.5 |
| 2006 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 2007 | 14003867 | 88 | 0 | 43 | 20 | N/A | 5.0 |
| 2008 | 85364962 | 76 | 7 | 62 | 20 | N/A | 4.0 |
| 2009 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2101 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2102 | 67118613 | 70 | 6 | 48 | 14 | N/A | 5.0 |
| 2103 | 91013940 | 73 | 7 | 32 | 13 | N/A | 6.0 |
| 2104 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 2105 | 64050738 | 64 | 0 | 22 | 20 | N/A | 6.5 |
| 2106 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 2107 | 14003867 | 88 | 0 | 43 | 20 | N/A | 5.0 |
| 2108 | 85364962 | 76 | 7 | 62 | 20 | N/A | 4.0 |
| 2109 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2201 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2202 | 67118613 | 70 | 6 | 48 | 14 | N/A | 5.0 |
| 2203 | 91013940 | 73 | 7 | 32 | 13 | N/A | 6.0 |
| 2204 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 2205 | 64050738 | 64 | 0 | 22 | 20 | N/A | 6.5 |
| 2206 | 92483924 | 64 | 0 | 31 | 25 | N/A | 5.5 |
| 2207 | 14003867 | 88 | 0 | 43 | 20 | N/A | 5.0 |
| 2208 | 85364962 | 76 | 7 | 62 | 20 | N/A | 4.0 |
| 2209 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2301 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2302 | 67118613 | 70 | 6 | 48 | 14 | N/A | 5.0 |
| 2303 | 91013940 | 73 | 7 | 32 | 13 | N/A | 6.0 |
| 2304 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |
| 2305 | 57597848 | 106 | 0 | 33 | 23 | N/A | 5.5 |
| 2306 | 54723784 | 110 | 0 | 41 | 20 | N/A | 5.0 |
| 2307 | 85364962 | 76 | 7 | 62 | 20 | N/A | 4.0 |
| 2308 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2401 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2402 | 67118613 | 70 | 6 | 48 | 14 | N/A | 5.0 |
| 2403 | 91013940 | 73 | 7 | 32 | 13 | N/A | 6.0 |
| 2404 | 14233572 | 64 | 0 | 28 | 25 | N/A | 5.5 |

Thermal performance specifications

| Unit number(s) | Certificate number | Floor area (M ²) | | Predict. loads (MJ/M ² /y) | | Concessions | Star Rating |
|----------------|--------------------|------------------------------|---------|---------------------------------------|-------------------|-------------|-------------|
| | | Cond. | Uncond. | Heat | Cool (Sens & Lat) | | |
| 2405 | 32294288 | 106 | 0 | 33 | 23 | N/A | 5.5 |
| 2406 | 54723784 | 110 | 0 | 41 | 20 | N/A | 5.0 |
| 2407 | 85364962 | 76 | 7 | 62 | 20 | N/A | 4.0 |
| 2408 | 98936852 | 60 | 0 | 51 | 21 | N/A | 4.5 |
| 2501 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2502 | 47691314 | 70 | 6 | 49 | 14 | N/A | 5.0 |
| 2503 | 92747848 | 73 | 7 | 33 | 13 | N/A | 6.0 |
| 2504 | 34910766 | 64 | 0 | 29 | 24 | N/A | 5.5 |
| 2505 | 32294288 | 106 | 0 | 33 | 23 | N/A | 5.5 |
| 2506 | 51959764 | 110 | 0 | 42 | 20 | N/A | 5.0 |
| 2507 | 68911858 | 76 | 7 | 63 | 19 | N/A | 4.0 |
| 2508 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2601 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2602 | 47691314 | 70 | 6 | 49 | 14 | N/A | 5.0 |
| 2603 | 92747848 | 73 | 7 | 33 | 13 | N/A | 6.0 |
| 2604 | 34910766 | 64 | 0 | 29 | 24 | N/A | 5.5 |
| 2605 | 32294288 | 106 | 0 | 33 | 23 | N/A | 5.5 |
| 2606 | 51959764 | 110 | 0 | 42 | 20 | N/A | 5.0 |
| 2607 | 68911858 | 76 | 7 | 63 | 19 | N/A | 4.0 |
| 2608 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2701 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2702 | 47691314 | 70 | 6 | 49 | 14 | N/A | 5.0 |
| 2703 | 92747848 | 73 | 7 | 33 | 13 | N/A | 6.0 |
| 2704 | 34910766 | 64 | 0 | 29 | 24 | N/A | 5.5 |
| 2705 | 32294288 | 106 | 0 | 33 | 23 | N/A | 5.5 |
| 2706 | 51959764 | 110 | 0 | 42 | 20 | N/A | 5.0 |
| 2707 | 68911858 | 76 | 7 | 63 | 19 | N/A | 4.0 |
| 2708 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2801 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2802 | 47691314 | 70 | 6 | 49 | 14 | N/A | 5.0 |
| 2803 | 92747848 | 73 | 7 | 33 | 13 | N/A | 6.0 |
| 2804 | 79056718 | 64 | 0 | 34 | 24 | N/A | 5.0 |
| 2805 | 79138413 | 106 | 0 | 34 | 22 | N/A | 5.5 |
| 2806 | 46765929 | 110 | 0 | 44 | 20 | N/A | 5.0 |
| 2807 | 97164411 | 76 | 7 | 66 | 19 | N/A | 4.0 |
| 2808 | 59559975 | 60 | 0 | 52 | 20 | N/A | 4.5 |
| 2901 | 44147750 | 60 | 0 | 64 | 20 | N/A | 4.0 |
| 2902 | 33915327 | 121 | 9 | 52 | 20 | N/A | 4.5 |
| 2903 | 18897085 | 121 | 9 | 56 | 23 | N/A | 4.0 |
| 2904 | 78830302 | 130 | 0 | 36 | 25 | N/A | 5.0 |
| 2905 | 25247560 | 64 | 0 | 17 | 25 | N/A | 6.5 |
| 2906 | 78830302 | 130 | 0 | 36 | 25 | N/A | 5.0 |
| 2907 | 53662459 | 131 | 7 | 62 | 15 | N/A | 4.0 |
| 2908 | 18581508 | 131 | 7 | 51 | 11 | N/A | 5.0 |
| 2909 | 44147750 | 60 | 0 | 64 | 20 | N/A | 4.0 |
| | | | | | | N/A | |

Assessor # 20101

Certificate # 19044703

Issued: 27/07/12

Thermal Performance Specifications

These are the Specifications upon which the Certified Assessment is based. If details included in these Specifications vary from other drawings or written specifications, these Specifications shall take precedence. If only one specification option is detailed for a building element, that specification must apply to all instances of that element for the project. If alternate specifications are detailed for a building element, the location and extent of alternate specifications must be detailed below and / or clearly indicated on referenced documents

| Windows | Product ID | Glass | Frame | U value | SHGC | Area M ² | Detail |
|---------|------------|------------------|-----------|---------|------|---------------------|--------------|
| | Generic | Single Grey tint | Aluminium | 6.6 | 0.58 | varies | As per plans |
| | Generic | Double Grey tint | Aluminium | 4.19 | 0.52 | varies | To unit 2908 |

| Skylights | Product ID | Glass | Frame | U value | SHGC | Area M ² | Detail |
|-----------|------------|-------|-------|---------|------|---------------------|--------|
|-----------|------------|-------|-------|---------|------|---------------------|--------|

Any U and SHGC values specified on Certificates Issued after 1 May 2007 are according to NFRC 100. All values prior to this date are ANAC. Alternate products may be used if their U value is lower, and the SHGC value is less than 10% higher or lower.

| External walls | Construction | Insulation | Colour – solar abs. | Detail |
|------------------|--------------|------------|---------------------|----------------------------|
| Precast Concrete | | None | Not specified | As per plans |
| Precast Concrete | | R1.0 | Not specified | To units 2902, 2907 & 2908 |

| Internal walls | Construction | Insulation | Detail |
|-----------------------|--------------|------------|-------------------------|
| Hebal | | None | To Inter-tenancy walls |
| Plasterboard on studs | | None | All walls with-in units |

| Floors | Construction | Insulation | Covering | Detail |
|---------------------------------|--------------|------------|--|------------------------|
| Concrete slab floors throughout | | None | Carpet to bedrooms & living areas as per plans | |
| | | | Tiles to wet areas | as per plans (hatched) |

| Ceilings | Construction | Insulation | Detail |
|---------------------------------|--------------|------------|------------------------------------|
| Plasterboard with concrete slab | | none | Where neighbouring units are above |
| Plasterboard with concrete slab | | R 2.0 | To top floor units |
| Plasterboard with concrete slab | | R 1.0 | To where balcony above |

| Roof | Construction | Insulation | Colour – solar abs. | Detail |
|------------------------|--------------|------------|---------------------|-------------------|
| Pebbles above concrete | | None | Light -SA <0.475 | as per roof plans |

| Window cover | Internal (curtains) | External (awnings, shutters, etc) |
|---------------|---------------------|--|
| Not specified | | Vertical blades – As per elevations |
| | | Perforated sliding metal screens – As per elevations |

| Fixed shading | Eaves (width - inc. gutters, h't above windows) | Verandahs, Pergolas (type, description) |
|--|---|---|
| Varying eaves widths and offsets, as per plans | | 100% Shaded Balconies – As per plans |
| | | Shading Structures – As per plans |

| Overshadowing | Overshadowing structures | Overshadowing trees |
|---------------|--------------------------|---------------------|
| N/A | | N/A |

Orientation, Exposure, Ventilation and Infiltration

| | |
|-------------------------------|------------------------------|
| Orientation of nominal north: | 338 degrees |
| Terrain category: | Suburban |
| Roof ventilation: | None |
| Cross ventilation: | Standard |
| Subfloor: | unit below |
| Living area open to entry: | Yes |
| Doors separate living areas: | No |
| Stair open to heated areas: | Yes, to top floor units only |
| Seals to windows and doors: | Yes |
| Exhaust fans without dampers: | No |
| Ventilated skylights: | No |
| Open fire, unflued gas heat: | No |
| Vented downlights: | No |
| Wall and ceiling vents: | No |

ABSA Assessor stamp



BASIX[®]Certificate

Building Sustainability Index www.basix.nsw.gov.au

Multi Dwelling

Certificate number: 439389M

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 29/06/2009 published by the Department of Planning. This document is available at www.basix.nsw.gov.au

Director-General

Date of issue: Thursday, 02 August 2012

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



| Project summary | | |
|--|------------------------------|-------------|
| Project name | Thomas Street | |
| Street address | Thomas Street Chatswood 2067 | |
| Local Government Area | Willoughby City Council | |
| Plan type and plan number | deposited 2983 | |
| Lot no. | 13 | |
| Section no. | - | |
| No. of residential flat buildings | 1 | |
| No. of units in residential flat buildings | 242 | |
| No. of multi-dwelling houses | 0 | |
| No. of single dwelling houses | 0 | |
| Project score | | |
| Water | ✓ 40 | Target 40 |
| Thermal Comfort | ✓ Pass | Target Pass |
| Energy | ✓ 20 | Target 20 |

Certificate Prepared by

Name / Company Name: Efficient Living Pty Ltd

ABN (if applicable): 82 116 346 082

Description of project

| Project address | |
|--|------------------------------|
| Project name | Thomas Street |
| Street address | Thomas Street Chatswood 2067 |
| Local Government Area | Willoughby City Council |
| Plan type and plan number | deposited 2983 |
| Lot no. | 13 |
| Section no. | - |
| Project type | |
| No. of residential flat buildings | 1 |
| No. of units in residential flat buildings | 242 |
| No. of multi-dwelling houses | 0 |
| No. of single dwelling houses | 0 |
| Site details | |
| Site area (m ²) | 4323 |
| Roof area (m ²) | 980 |
| Non-residential floor area (m ²) | 26157 |
| Residential car spaces | 166 |
| Non-residential car spaces | 338 |

| Common area landscape | | |
|---|----------|-------------|
| Common area lawn (m ²) | 78 | |
| Common area garden (m ²) | 238 | |
| Area of indigenous or low water use species (m ²) | 0 | |
| Assessor details | | |
| Assessor number | 20101 | |
| Certificate number | 19044703 | |
| Climate zone | 56 | |
| Project score | | |
| Water | ✓ 40 | Target 40 |
| Thermal Comfort | ✓ Pass | Target Pass |
| Energy | ✓ 20 | Target 20 |

Description of project

The tables below describe the dwellings and common areas within the project

Residential flat buildings - Building1, 242 dwellings, 30 storeys above ground

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 201 | 1 | 60.0 | 0.0 | 0 | 0 |
| 205 | 2 | 95.0 | 0.0 | 0 | 0 |
| 301 | 1 | 60.0 | 0.0 | 0 | 0 |
| 305 | 2 | 95.0 | 0.0 | 0 | 0 |
| 401 | 1 | 60.0 | 0.0 | 0 | 0 |
| 405 | 2 | 95.0 | 0.0 | 0 | 0 |
| 501 | 1 | 60.0 | 0.0 | 0 | 0 |
| 505 | 2 | 95.0 | 0.0 | 0 | 0 |
| 601 | 1 | 60.0 | 0.0 | 0 | 0 |
| 605 | 1 | 64.0 | 0.0 | 0 | 0 |
| 609 | 1 | 60.0 | 0.0 | 0 | 0 |
| 704 | 1 | 64.0 | 0.0 | 0 | 0 |
| 708 | 2 | 76.0 | 7.0 | 0 | 0 |
| 803 | 2 | 73.0 | 7.0 | 0 | 0 |
| 807 | 2 | 88.0 | 0.0 | 0 | 0 |
| 902 | 2 | 70.0 | 6.0 | 0 | 0 |
| 906 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1001 | 1 | 60.0 | 0.0 | 0 | 0 |
| 202 | 2 | 70.0 | 6.0 | 0 | 0 |
| 206 | 2 | 88.0 | 0.0 | 0 | 0 |
| 302 | 2 | 70.0 | 6.0 | 0 | 0 |
| 306 | 2 | 88.0 | 0.0 | 0 | 0 |
| 402 | 2 | 70.0 | 6.0 | 0 | 0 |
| 406 | 2 | 88.0 | 0.0 | 0 | 0 |
| 502 | 2 | 70.0 | 6.0 | 0 | 0 |
| 506 | 2 | 88.0 | 0.0 | 0 | 0 |
| 602 | 2 | 70.0 | 6.0 | 0 | 0 |
| 606 | 1 | 64.0 | 0.0 | 0 | 0 |
| 701 | 1 | 60.0 | 0.0 | 0 | 0 |
| 705 | 1 | 64.0 | 0.0 | 0 | 0 |
| 709 | 1 | 60.0 | 0.0 | 0 | 0 |
| 804 | 1 | 64.0 | 0.0 | 0 | 0 |
| 808 | 2 | 76.0 | 7.0 | 0 | 0 |
| 903 | 2 | 73.0 | 7.0 | 0 | 0 |
| 907 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1002 | 2 | 70.0 | 6.0 | 0 | 0 |
| 203 | 2 | 73.0 | 7.0 | 0 | 0 |
| 207 | 2 | 76.0 | 7.0 | 0 | 0 |
| 303 | 2 | 73.0 | 7.0 | 0 | 0 |
| 307 | 2 | 76.0 | 7.0 | 0 | 0 |
| 403 | 2 | 73.0 | 7.0 | 0 | 0 |
| 407 | 2 | 76.0 | 7.0 | 0 | 0 |
| 503 | 2 | 73.0 | 7.0 | 0 | 0 |
| 507 | 2 | 76.0 | 7.0 | 0 | 0 |
| 603 | 2 | 73.0 | 7.0 | 0 | 0 |
| 607 | 2 | 88.0 | 0.0 | 0 | 0 |
| 702 | 2 | 70.0 | 6.0 | 0 | 0 |
| 706 | 1 | 64.0 | 0.0 | 0 | 0 |
| 801 | 1 | 60.0 | 0.0 | 0 | 0 |
| 805 | 1 | 64.0 | 0.0 | 0 | 0 |
| 809 | 1 | 60.0 | 0.0 | 0 | 0 |
| 904 | 1 | 64.0 | 0.0 | 0 | 0 |
| 908 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1003 | 2 | 73.0 | 7.0 | 0 | 0 |
| 204 | 2 | 95.0 | 0.0 | 0 | 0 |
| 208 | 1 | 60.0 | 0.0 | 0 | 0 |
| 304 | 2 | 95.0 | 0.0 | 0 | 0 |
| 308 | 1 | 60.0 | 0.0 | 0 | 0 |
| 404 | 2 | 95.0 | 0.0 | 0 | 0 |
| 408 | 1 | 60.0 | 0.0 | 0 | 0 |
| 504 | 2 | 95.0 | 0.0 | 0 | 0 |
| 508 | 1 | 60.0 | 0.0 | 0 | 0 |
| 604 | 1 | 64.0 | 0.0 | 0 | 0 |
| 608 | 2 | 76.0 | 7.0 | 0 | 0 |
| 703 | 2 | 73.0 | 7.0 | 0 | 0 |
| 707 | 2 | 88.0 | 0.0 | 0 | 0 |
| 802 | 2 | 70.0 | 6.0 | 0 | 0 |
| 806 | 1 | 64.0 | 0.0 | 0 | 0 |
| 901 | 1 | 60.0 | 0.0 | 0 | 0 |
| 905 | 1 | 64.0 | 0.0 | 0 | 0 |
| 909 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1004 | 1 | 64.0 | 0.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 1005 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1009 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1104 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1108 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1203 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1207 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1302 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1306 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1401 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1405 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1409 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1504 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1508 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1603 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1607 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1702 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1706 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1801 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1805 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1809 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1904 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1908 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2003 | 2 | 73.0 | 7.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 1006 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1101 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1105 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1109 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1204 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1208 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1303 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1307 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1402 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1406 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1501 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1505 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1509 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1604 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1608 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1703 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1707 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1802 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1806 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1901 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1905 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1909 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2004 | 1 | 64.0 | 0.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 1007 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1102 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1106 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1201 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1205 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1209 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1304 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1308 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1403 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1407 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1502 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1506 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1601 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1605 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1609 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1704 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1708 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1803 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1807 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1902 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1906 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2001 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2005 | 1 | 64.0 | 0.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 1008 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1103 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1107 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1202 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1206 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1301 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1305 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1309 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1404 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1408 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1503 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1507 | 2 | 88.0 | 0.0 | 0 | 0 |
| 1602 | 2 | 70.0 | 6.0 | 0 | 0 |
| 1606 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1701 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1705 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1709 | 1 | 60.0 | 0.0 | 0 | 0 |
| 1804 | 1 | 64.0 | 0.0 | 0 | 0 |
| 1808 | 2 | 76.0 | 7.0 | 0 | 0 |
| 1903 | 2 | 73.0 | 7.0 | 0 | 0 |
| 1907 | 2 | 88.0 | 0.0 | 0 | 0 |
| 2002 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2006 | 1 | 64.0 | 0.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 2007 | 2 | 88.0 | 0.0 | 0 | 0 |
| 2102 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2106 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2201 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2205 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2209 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2304 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2308 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2404 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2408 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2504 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2508 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2604 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2608 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2704 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2708 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2804 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2808 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2904 | 3 | 130.0 | 0.0 | 0 | 0 |
| 2908 | 3 | 131.0 | 7.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 2008 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2103 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2107 | 2 | 88.0 | 0.0 | 0 | 0 |
| 2202 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2206 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2301 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2305 | 3 | 106.0 | 0.0 | 0 | 0 |
| 2401 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2405 | 3 | 106.0 | 0.0 | 0 | 0 |
| 2501 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2505 | 3 | 106.0 | 0.0 | 0 | 0 |
| 2601 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2605 | 3 | 106.0 | 0.0 | 0 | 0 |
| 2701 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2705 | 3 | 106.0 | 0.0 | 0 | 0 |
| 2801 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2805 | 3 | 106.0 | 0.0 | 0 | 0 |
| 2901 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2905 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2909 | 1 | 60.0 | 0.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 2009 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2104 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2108 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2203 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2207 | 2 | 88.0 | 0.0 | 0 | 0 |
| 2302 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2306 | 2 | 110.0 | 0.0 | 0 | 0 |
| 2402 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2406 | 2 | 110.0 | 0.0 | 0 | 0 |
| 2502 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2506 | 2 | 110.0 | 0.0 | 0 | 0 |
| 2602 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2606 | 2 | 110.0 | 0.0 | 0 | 0 |
| 2702 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2706 | 2 | 110.0 | 0.0 | 0 | 0 |
| 2802 | 2 | 70.0 | 6.0 | 0 | 0 |
| 2806 | 2 | 110.0 | 0.0 | 0 | 0 |
| 2902 | 3 | 121.0 | 9.0 | 0 | 0 |
| 2906 | 3 | 130.0 | 0.0 | 0 | 0 |

| Dwelling no. | No. of bedrooms | Conditioned floor area (m ²) | Unconditioned floor area (m ²) | Area of garden & lawn (m ²) | Indigenous species (min area m ²) |
|--------------|-----------------|--|--|---|---|
| 2101 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2105 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2109 | 1 | 60.0 | 0.0 | 0 | 0 |
| 2204 | 1 | 64.0 | 0.0 | 0 | 0 |
| 2208 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2303 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2307 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2403 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2407 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2503 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2507 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2603 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2607 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2703 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2707 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2803 | 2 | 73.0 | 7.0 | 0 | 0 |
| 2807 | 2 | 76.0 | 7.0 | 0 | 0 |
| 2903 | 3 | 121.0 | 9.0 | 0 | 0 |
| 2907 | 3 | 131.0 | 7.0 | 0 | 0 |

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of unit building - Building1

| Common area | Floor area (m ²) |
|---------------------------|------------------------------|
| Indoor pool &/or spa area | 305 |
| Lift car (No. 2) | - |
| Lobbies | 252 |

| Common area | Floor area (m ²) |
|------------------|------------------------------|
| Gym | 96 |
| Lift car (No. 3) | - |
| Hallways | 1940 |

| Common area | Floor area (m ²) |
|----------------------|------------------------------|
| Lift car (No. 1) | - |
| Western facade plant | 737 |

Common areas of the development (non-building specific)

| Common area | Floor area (m ²) |
|---------------|------------------------------|
| Car park area | 18353 |
| Store rooms | 190 |

| Common area | Floor area (m ²) |
|-----------------|------------------------------|
| Garbage rooms | 295 |
| Office/security | 56 |

| Common area | Floor area (m ²) |
|------------------------|------------------------------|
| Plant or service rooms | 297 |

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for multi-dwelling houses

3. Commitments for single dwelling houses

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

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.

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

| (i) Water | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|--|------------------|------------------------------|-----------------|
| (a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below. | | | |
| (b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table). | ✓ | ✓ | |
| (c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it. | | ✓ | ✓ |
| (d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below. | | ✓ | ✓ |
| (e) The applicant must install: <ul style="list-style-type: none"> (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling. | | ✓ | ✓ |
| (e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below. | ✓ | ✓ | |
| (f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both). | | ✓ | |
| (g) The pool or spa must be located as specified in the table. | ✓ | ✓ | |
| (h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified. | ✓ | ✓ | ✓ |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | | Individual spa | | |
|--|-------------------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|-------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 201, 202, 203, 204, 205, 206, 207, 208, 301, 302, 303, 304, 305, 306, 307, 308, 401, 402, 403, 404, 405, 406, 407, 408, 501, 502, 503, 504, 505, 506, 507, 508, 601, 602, 603, 604, 605, 606, 607, 608, | 3 star (> 7.5 but <= 9 L/min) | 4 star | 4 star | 4 star | - | - | 3 star | - | - | - | - | - | - | - |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | Individual spa | | | |
|--------------|------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|----------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 609, | | | | | | | | | | | | | | |
| 701, | | | | | | | | | | | | | | |
| 702, | | | | | | | | | | | | | | |
| 703, | | | | | | | | | | | | | | |
| 704, | | | | | | | | | | | | | | |
| 705, | | | | | | | | | | | | | | |
| 706, | | | | | | | | | | | | | | |
| 707, | | | | | | | | | | | | | | |
| 708, | | | | | | | | | | | | | | |
| 709, | | | | | | | | | | | | | | |
| 801, | | | | | | | | | | | | | | |
| 802, | | | | | | | | | | | | | | |
| 803, | | | | | | | | | | | | | | |
| 804, | | | | | | | | | | | | | | |
| 805, | | | | | | | | | | | | | | |
| 806, | | | | | | | | | | | | | | |
| 807, | | | | | | | | | | | | | | |
| 808, | | | | | | | | | | | | | | |
| 809, | | | | | | | | | | | | | | |
| 901, | | | | | | | | | | | | | | |
| 902, | | | | | | | | | | | | | | |
| 903, | | | | | | | | | | | | | | |
| 904, | | | | | | | | | | | | | | |
| 905, | | | | | | | | | | | | | | |
| 906, | | | | | | | | | | | | | | |
| 907, | | | | | | | | | | | | | | |
| 908, | | | | | | | | | | | | | | |
| 909, | | | | | | | | | | | | | | |
| 1001, | | | | | | | | | | | | | | |
| 1002, | | | | | | | | | | | | | | |
| 1003, | | | | | | | | | | | | | | |
| 1004, | | | | | | | | | | | | | | |
| 1005, | | | | | | | | | | | | | | |
| 1006, | | | | | | | | | | | | | | |
| 1007, | | | | | | | | | | | | | | |
| 1008, | | | | | | | | | | | | | | |
| 1009, | | | | | | | | | | | | | | |
| 1101, | | | | | | | | | | | | | | |
| 1102, | | | | | | | | | | | | | | |
| 1103, | | | | | | | | | | | | | | |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | | Individual spa | | |
|---|------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|-------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 1104, 1105, 1106, 1107, 1108, 1109, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1301, 1302, 1303, 1304, 1305 | | | | | | | | | | | | | | |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | | Individual spa | | |
|--|-------------------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|-------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 1306, 1307, 1308, 1309, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, | 3 star (> 7.5 but <= 9 L/min) | 4 star | 4 star | 4 star | - | 2 star | 3 star | - | - | - | - | - | - | - |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | | Individual spa | | |
|--------------|------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|-------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 1801, | | | | | | | | | | | | | | |
| 1802, | | | | | | | | | | | | | | |
| 1803, | | | | | | | | | | | | | | |
| 1804, | | | | | | | | | | | | | | |
| 1805, | | | | | | | | | | | | | | |
| 1806, | | | | | | | | | | | | | | |
| 1807, | | | | | | | | | | | | | | |
| 1808, | | | | | | | | | | | | | | |
| 1809, | | | | | | | | | | | | | | |
| 1901, | | | | | | | | | | | | | | |
| 1902, | | | | | | | | | | | | | | |
| 1903, | | | | | | | | | | | | | | |
| 1904, | | | | | | | | | | | | | | |
| 1905, | | | | | | | | | | | | | | |
| 1906, | | | | | | | | | | | | | | |
| 1907, | | | | | | | | | | | | | | |
| 1908, | | | | | | | | | | | | | | |
| 1909, | | | | | | | | | | | | | | |
| 2001, | | | | | | | | | | | | | | |
| 2002, | | | | | | | | | | | | | | |
| 2003, | | | | | | | | | | | | | | |
| 2004, | | | | | | | | | | | | | | |
| 2005, | | | | | | | | | | | | | | |
| 2006, | | | | | | | | | | | | | | |
| 2007, | | | | | | | | | | | | | | |
| 2008, | | | | | | | | | | | | | | |
| 2009, | | | | | | | | | | | | | | |
| 2101, | | | | | | | | | | | | | | |
| 2102, | | | | | | | | | | | | | | |
| 2103, | | | | | | | | | | | | | | |
| 2104, | | | | | | | | | | | | | | |
| 2105, | | | | | | | | | | | | | | |
| 2106, | | | | | | | | | | | | | | |
| 2107, | | | | | | | | | | | | | | |
| 2108, | | | | | | | | | | | | | | |
| 2109, | | | | | | | | | | | | | | |
| 2201, | | | | | | | | | | | | | | |
| 2202, | | | | | | | | | | | | | | |
| 2203, | | | | | | | | | | | | | | |
| 2204, | | | | | | | | | | | | | | |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | | Individual spa | | |
|--|------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|-------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 2205, 2206, 2207, 2208, 2209, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2701, 2702, 2703, | | | | | | | | | | | | | | |

| Dwelling no. | Fixtures | | | | | Appliances | | Individual pool | | | | Individual spa | | |
|---|------------------|-----------------------------|------------------|-------------------|-------------------------------|---------------------|------------------|---------------------|------------|---------------|-------------|---------------------|-----------|------------|
| | All shower-heads | All toilet flushing systems | All kitchen taps | All bathroom taps | HW recirculation or diversion | All clothes washers | All dish-washers | Volume (max volume) | Pool cover | Pool location | Pool shaded | Volume (max volume) | Spa cover | Spa shaded |
| 2704, 2705, 2706, 2707, 2708, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909 | | | | | | | | | | | | | | |

| Alternative water source | | | | | | | | | |
|--------------------------|----------------------------------|------|---------------|----------------------|-----------------------|--------------------|-------------|------------|--|
| Dwelling no. | Alternative water supply systems | Size | Configuration | Landscape connection | Toilet connection (s) | Laundry connection | Pool top-up | Spa top-up | |
| | | | | | | | | | |

| (ii) Energy | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|--|------------------|------------------------------|-----------------|
| (a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below. | | | |
| (b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system. | ✓ | ✓ | ✓ |

| (ii) Energy | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|---|-------------------------|---|------------------------|
| (c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table. | | ✓ | ✓ |
| (d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms. | | ✓ | ✓ |
| (e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting. | | ✓ | ✓ |
| (f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight. | ✓ | ✓ | ✓ |
| (g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump. | | ✓ ✓ | |
| (h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table. | | ✓ ✓ ✓ | ✓ |
| (i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated". | | ✓ | |

| | Hot water | Bathroom ventilation system | | Kitchen ventilation system | | Laundry ventilation system | |
|---------------|----------------------------|--|----------------------|----------------------------|----------------------|--|----------------------|
| Dwelling no. | Hot water system | Each bathroom | Operation control | Each kitchen | Operation control | Each laundry | Operation control |
| All dwellings | central hot water system 1 | individual fan, ducted to façade or roof | manual switch on/off | individual fan, not ducted | manual switch on/off | individual fan, ducted to façade or roof | manual switch on/off |

| | Cooling | | Heating | | Artificial lighting | | | | | | Natural lighting | |
|--|---|---|---|---|----------------------------|---------------------------------|--------------|-----------------------|-----------------|--------------|-------------------------------|--------------|
| Dwelling no. | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 2305, 2405, 2505, 2605, 2705, 2805, 2902, 2903, 2904, 2906, 2907, 2908 | 1-phase airconditioning 2 Star (new rating) (zoned) | 1-phase airconditioning 2 Star (new rating) (zoned) | 1-phase airconditioning 3 Star (new rating) (zoned) | 1-phase airconditioning 3 Star (new rating) (zoned) | 3 (dedicated) | 0 | no | yes (dedicated) | yes (dedicated) | no | 0 | no |

| Dwelling no. | Cooling | | Heating | | Artificial lighting | | | | | Natural lighting | | |
|---|---|---|---|---|----------------------------|---------------------------------|--------------|-----------------------|-----------------|------------------|-------------------------------|--------------|
| | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 201, 208, 301, 308, 401, 408, 501, 508, 601, 604, 605, 606, 609, 701, 704, 705, 706, 709, 801, 804, 805, 806, 809, 901, 904, 905, 906, 909, 1001, 1004, 1005, 1006, 1009, 1101, 1104, 1105, 1106, 1109, 1204, | 1-phase airconditioning 2 Star (new rating) (zoned) | 1-phase airconditioning 2 Star (new rating) (zoned) | 1-phase airconditioning 2.5 Star (new rating) (zoned) | 1-phase airconditioning 2.5 Star (new rating) (zoned) | 1 (dedicated) | 0 | no | yes (dedicated) | yes (dedicated) | no | 0 | no |

| Dwelling no. | Cooling | | Heating | | Artificial lighting | | | | | Natural lighting | | |
|---|--------------|---------------|--------------|---------------|----------------------------|---------------------------------|--------------|-----------------------|--------------|------------------|-------------------------------|--------------|
| | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 1205, 1206, 1209, 1301, 1304, 1305, 1306, 1309, 1401, 1404, 1405, 1406, 1409, 1501, 1504, 1505, 1506, 1509, 1601, 1604, 1605, 1606, 1609, 1701, 1704, 1705, 1706, 1709, 1801, 1804, 1805, 1806, 1809, 1901, 1904, 1905, 1906, 1909, 2001, | | | | | | | | | | | | |

| Dwelling no. | Cooling | | Heating | | Artificial lighting | | | | | Natural lighting | | |
|--|--------------|---------------|--------------|---------------|----------------------------|---------------------------------|--------------|-----------------------|--------------|------------------|-------------------------------|--------------|
| | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 2004, 2005, 2006, 2009, 2101, 2104, 2105, 2106, 2109, 2201, 2204, 2205, 2206, 2209, 2301, 2304, 2308, 2401, 2404, 2408, 2501, 2504, 2508, 2601, 2604, 2608, 2701, 2704, 2708, 2801, 2804, 2808, 2901, 2905, 2909 | | | | | | | | | | | | |

| Dwelling no. | Cooling | | Heating | | Artificial lighting | | | | | Natural lighting | | |
|--|---|---|---|---|----------------------------|---------------------------------|--------------|-----------------------|-----------------|------------------|-------------------------------|--------------|
| | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 202, 203, 204, 205, 206, 207, 302, 303, 304, 305, 306, 307, 402, 403, 404, 405, 406, 407, 502, 503, 504, 505, 506, 507, 602, 603, 607, 608, 702, 703, 707, 708, 802, 803, 807, 808, 902, 903, 907, | 1-phase airconditioning 2 Star (new rating) (zoned) | 1-phase airconditioning 2 Star (new rating) (zoned) | 1-phase airconditioning 2.5 Star (new rating) (zoned) | 1-phase airconditioning 2.5 Star (new rating) (zoned) | 2 (dedicated) | 0 | no | yes (dedicated) | yes (dedicated) | no | 0 | no |

| Dwelling no. | Cooling | | Heating | | Artificial lighting | | | | | Natural lighting | | |
|--|--------------|---------------|--------------|---------------|----------------------------|---------------------------------|--------------|-----------------------|--------------|------------------|-------------------------------|--------------|
| | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 908, 1002, 1003, 1007, 1008, 1102, 1103, 1107, 1108, 1201, 1202, 1203, 1207, 1208, 1302, 1303, 1307, 1308, 1402, 1403, 1407, 1408, 1502, 1503, 1507, 1508, 1602, 1603, 1607, 1608, 1702, 1703, 1707, 1708, 1802, 1803, 1807, 1808, 1902, | | | | | | | | | | | | |

| Dwelling no. | Cooling | | Heating | | Artificial lighting | | | | | Natural lighting | | |
|--|--------------|---------------|--------------|---------------|----------------------------|---------------------------------|--------------|-----------------------|--------------|------------------|-------------------------------|--------------|
| | living areas | bedroom areas | living areas | bedroom areas | No. of bedrooms &/or study | No. of living &/or dining rooms | Each kitchen | All bathrooms/toilets | Each laundry | All hallways | No. of bathrooms &/or toilets | Main kitchen |
| 1903, 1907, 1908, 2002, 2003, 2007, 2008, 2102, 2103, 2107, 2108, 2202, 2203, 2207, 2208, 2302, 2303, 2306, 2307, 2402, 2403, 2406, 2407, 2502, 2503, 2506, 2507, 2602, 2603, 2606, 2607, 2702, 2703, 2706, 2707, 2802, 2803, 2806, 2807 | | | | | | | | | | | | |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|--|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 201, 202, 203, 204, 205, 206, 207, 208, 301, 302, 303, 304, 305, 306, 307, 308, 401, 402, 403, 404, 405, 406, 407, 408, 501, 502, 503, 504, 505, 506, 507, 508, 601, 602, 603, 604, 605, 606, | - | - | - | - | gas cooktop & electric oven | - | yes | 3 star | - | 2 star | no | no |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|--|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 607, 608, 609, 701, 702, 703, 704, 705, 706, 707, 708, 709, 801, 802, 803, 804, 805, 806, 807, 808, 809, 901, 902, 903, 904, 905, 906, 907, 908, 909, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, | | | | | | | | | | | | |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|---|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 1009, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1301, 1302, 1303, 1304, 1305 | | | | | | | | | | | | |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|--|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 1306, 1307, 1308, 1309, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1701, 1702, 1703, 1704, 1705, 1706, 1707, | - | - | - | - | gas cooktop & electric oven | - | yes | 3 star | 3 star | 2 star | no | no |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|--|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 1708, 1709, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, | | | | | | | | | | | | |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|--|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2601, 2602, 2603, 2604, 2605, | | | | | | | | | | | | |

| Dwelling no. | Individual pool | | Individual spa | | Appliances & other efficiency measures | | | | | | | |
|---|---------------------|-------|--------------------|-------|--|--------------|------------------------------|------------|----------------|---------------|---|--|
| | Pool heating system | Timer | Spa heating system | Timer | Kitchen cooktop/oven | Refrigerator | Well ventilated fridge space | Dishwasher | Clothes washer | Clothes dryer | Indoor or sheltered clothes drying line | Private outdoor or unsheltered clothes drying line |
| 2606, 2607, 2608, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909 | | | | | | | | | | | | |

| | | | |
|--|-------------------------|---|------------------------|
| (iii) Thermal Comfort | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
| (a) 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 a final occupation certificate for the proposed development. | | | |

| (iii) Thermal Comfort | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|---|-------------------------|---|------------------------|
| (b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol. | | | |
| (c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below. | | | |
| (d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol 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. | | | |
| (e) 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. | | | |
| (f) 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. | | ✓ | ✓ |
| (g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab. | ✓ | ✓ | ✓ |
| (h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below. | ✓ | ✓ | ✓ |

| Thermal loads | | |
|----------------------|--|--|
| Dwelling no. | Area adjusted heating load (in mJ/m²/yr) | Area adjusted cooling load (in mJ/m²/yr) |
| 202 | 38 | 24 |
| 203 | 26 | 20 |
| 206 | 33 | 31 |
| 207 | 56 | 32 |
| 303 | 30 | 15 |
| 403 | 29 | 16 |
| 503 | 27 | 16 |
| 2206 | 31 | 25 |

| Dwelling no. | Thermal loads | |
|------------------------------|---|---|
| | Area adjusted heating load (in mJ/m ² /yr) | Area adjusted cooling load (in mJ/m ² /yr) |
| 2804 | 34 | 24 |
| 2805 | 34 | 22 |
| 2806 | 44 | 20 |
| 2807 | 66 | 19 |
| 2903 | 56 | 23 |
| 2905 | 17 | 25 |
| 2907 | 62 | 15 |
| 2908 | 51 | 11 |
| 201, 208 | 49 | 28 |
| 204, 205 | 22 | 17 |
| 504, 505 | 27 | 15 |
| 604, 606 | 38 | 15 |
| 2306, 2406 | 41 | 20 |
| 2901, 2909 | 64 | 20 |
| 2904, 2906 | 36 | 25 |
| 302, 402, 502 | 43 | 17 |
| 306, 406, 506 | 38 | 25 |
| 307, 407, 507 | 56 | 25 |
| 2504, 2604, 2704 | 29 | 24 |
| 2506, 2606, 2706 | 42 | 20 |
| 2507, 2607, 2707 | 63 | 19 |
| 304, 305, 404, 405 | 25 | 14 |
| 1905, 2005, 2105, 2205 | 22 | 20 |
| 1907, 2007, 2107, 2207 | 43 | 20 |
| 2502, 2602, 2702, 2802 | 49 | 14 |
| 2503, 2603, 2703, 2803 | 33 | 13 |
| 2305, 2405, 2505, 2605, 2705 | 33 | 23 |

| Dwelling no. | Thermal loads | |
|--|---|---|
| | Area adjusted heating load (in mJ/m ² /yr) | Area adjusted cooling load (in mJ/m ² /yr) |
| 301, 308, 401, 408, 501, 508 | 45 | 23 |
| 1902, 2002, 2102, 2202, 2302, 2402 | 48 | 14 |
| 1903, 2003, 2103, 2203, 2303, 2403 | 32 | 13 |
| 1908, 2008, 2108, 2208, 2307, 2407 | 62 | 20 |
| 1904, 1906, 2004, 2006, 2104, 2106, 2204, 2304, 2404 | 28 | 25 |
| 2501, 2508, 2601, 2608, 2701, 2708, 2801, 2808, 2902 | 52 | 20 |
| 1901, 1909, 2001, 2009, 2101, 2109, 2201, 2209, 2301, 2308, 2401, 2408 | 51 | 21 |
| 602, 702, 802, 902, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702, 1802 | 46 | 15 |
| 603, 703, 803, 903, 1003, 1103, 1203, 1303, 1403, 1503, 1603, 1703, 1803 | 30 | 14 |
| 605, 705, 805, 905, 1005, 1105, 1205, 1305, 1405, 1505, 1605, 1705, 1805 | 27 | 14 |
| 607, 707, 807, 907, 1007, 1107, 1207, 1307, 1407, 1507, 1607, 1707, 1807 | 41 | 21 |
| 608, 708, 808, 908, 1008, 1108, 1208, 1308, 1408, 1508, 1608, 1708, 1808 | 60 | 22 |
| 704, 706, 804, 806, 904, 906, 1004, 1006, 1104, 1106, 1204, 1206, 1304, 1306, 1404, 1406, 1504, 1506, 1604, 1606, 1704, 1706, 1804, 1806 | 30 | 16 |
| All other dwellings | 49 | 20 |

(b) Common areas and central systems/facilities

| (i) Water | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|---|-------------------------|---|------------------------|
| (a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table. | | ✓ | ✓ |
| (b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table. | ✓ | ✓ | ✓ |
| (c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table. | ✓ | ✓ | |
| (d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table. | | ✓ | |
| (e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table. | | ✓ | ✓ |
| (f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table. | | ✓ | ✓ |

| Common area | Showerheads rating | Toilets rating | Taps rating | Clothes washers rating |
|--------------------|-------------------------------|-----------------------|--------------------|-------------------------------|
| All common areas | 3 star (> 7.5 but <= 9 L/min) | 4 star | 4 star | no common laundry facility |

| Central systems | Size | Configuration | Connection (to allow for...) |
|------------------------|-----------------|---|-------------------------------------|
| Pool (No. 1) | Volume: 170 kLs | Location: Indoor pool &/or spa area Pool shaded: no | - |
| Spa (No. 1) | Volume: 6 kLs | Location: Indoor pool &/or spa area Spa shaded: no Spa cover: yes | - |

| (ii) Energy | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|--|-------------------------|---|------------------------|
| (a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified. | | ✓ | ✓ |

| (ii) Energy | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|---|------------------|------------------------------|-----------------|
| (b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified. | | ✓ | ✓ |
| (c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table. | ✓ | ✓ | ✓ |

| | Common area ventilation system | | Common area lighting | | |
|---------------------------|--------------------------------|--------------------------------|-------------------------------------|------------------------------------|-----------------------------|
| Common area | Ventilation system type | Ventilation efficiency measure | Primary type of artificial lighting | Lighting efficiency measure | Lighting control system/BMS |
| Indoor pool &/or spa area | ventilation (supply + exhaust) | time clock or BMS controlled | compact fluorescent | manual on / manual off | No |
| Gym | air conditioning system | time clock or BMS controlled | compact fluorescent | manual on / manual off | No |
| Lift car (No. 1) | - | - | compact fluorescent | connected to lift call button | No |
| Lift car (No. 2) | - | - | compact fluorescent | connected to lift call button | No |
| Lift car (No. 3) | - | - | compact fluorescent | connected to lift call button | No |
| Western facade plant | no mechanical ventilation | - | fluorescent | manual on / manual off | No |
| Lobbies | ventilation supply only | none ie. continuous | compact fluorescent | zoned switching with motion sensor | No |
| Hallways | ventilation supply only | none ie. continuous | compact fluorescent | zoned switching with motion sensor | No |

| Central energy systems | Type | Specification |
|------------------------|--------------------------------------|---|
| Lift (No. 1) | gearless traction with V V V F motor | Number of levels (including basement): 36 |
| Lift (No. 2) | gearless traction with V V V F motor | Number of levels (including basement): 36 |
| Lift (No. 3) | gearless traction with V V V F motor | Number of levels (including basement): 36 |

| Central energy systems | Type | Specification |
|------------------------|------------------------------------|-------------------------------|
| Pool (No. 1) | Heating source: electric heat pump | Pump controlled by timer: yes |
| Spa (No. 1) | Heating system: electric heat pump | Pump controlled by timer: yes |

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

| (i) Water | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|---|------------------|------------------------------|-----------------|
| (a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table. | | ✓ | ✓ |
| (b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table. | ✓ | ✓ | ✓ |
| (c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table. | ✓ | ✓ | |
| (d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table. | | ✓ | |
| (e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table. | | ✓ | ✓ |
| (f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table. | | ✓ | ✓ |

| Common area | Showerheads rating | Toilets rating | Taps rating | Clothes washers rating |
|------------------|-------------------------------|----------------|-------------|----------------------------|
| All common areas | 3 star (> 7.5 but <= 9 L/min) | 4 star | 4 star | no common laundry facility |

| Central systems | Size | Configuration | Connection (to allow for...) |
|--|-------|---|--|
| Central water tank - rainwater or stormwater (No. 1) | 20000 | To collect run-off from at least: - 980 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system). | - irrigation of 316 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site |

| (ii) Energy | Show on DA plans | Show on CC/CDC plans & specs | Certifier check |
|---|------------------|------------------------------|-----------------|
| (a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified. | | ✓ | ✓ |
| (b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified. | | ✓ | ✓ |
| (c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table. | ✓ | ✓ | ✓ |

| Common area | Common area ventilation system | | Common area lighting | | |
|------------------------|--------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-----------------------------|
| | Ventilation system type | Ventilation efficiency measure | Primary type of artificial lighting | Lighting efficiency measure | Lighting control system/BMS |
| Car park area | ventilation (supply + exhaust) | carbon monoxide monitor + VSD fan | fluorescent | zoned switching with motion sensor | No |
| Garbage rooms | ventilation exhaust only | - | fluorescent | manual on / manual off | No |
| Plant or service rooms | ventilation exhaust only | interlocked to light | fluorescent | manual on / manual off | No |
| Store rooms | ventilation supply only | interlocked to light | fluorescent | manual on / manual off | No |
| Office/security | air conditioning system | time clock or BMS controlled | compact fluorescent | manual on / manual off | No |

| Central energy systems | Type | Specification |
|----------------------------------|---------------------|--|
| Central hot water system (No. 1) | gas-fired boiler | Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm) |
| Alternative energy supply | Photovoltaic system | Rated electrical output (min): 71 peak kW |

Notes

| |
|--|
| 1. In these commitments, "applicant" means the person carrying out the development. |
| 2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate. |
| 3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes. |
| 4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building). |
| 5. If a star or other rating is specified in a commitment, this is a minimum rating. |
| 6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply. |

Legend

| |
|---|
| 1. 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). |
| 2. 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. |
| 3. Commitments identified with a "✓" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled). |



Efficient Living Pty Ltd
 13/13 Lagoon St
 NARRABEEN NSW 2101
 ABN: 82 116 346 802
 ACN: 116 346 082

BCA 2011 - Section J – Energy Efficiency Report – Class 3

| | | | | | |
|-----------------|--|------------------------|---------|--------------|---------|
| Project: | Typical Floor - Building 2 - Meriton Thomas Street - Thomas St & Albert Ave, CHATSWOOD | Climate Zone: | Zone 5 | Date: | 1/08/12 |
| Client: | Meriton Apartments Pty Ltd | Building Class: | Class 3 | | |

This review has been produced to determine the compliance to BCA Section J 2011 of the building located at the above address. The review has been based upon the following documents and information provided by clients, architects and consultants. Should these documents change then this review will require updating to reflect changes and may result in a non compliance with the BCA Section J.

| | |
|---------------------------------------|--|
| Architectural documents: | A-101 to A-109, A-121, A-122, A-124, A-126 |
| Electrical services documents: | None |
| Hydraulic documents: | None |
| Structural documents: | None |

At the completion of the review where the outcome results in compliance for all clauses this document can be utilized as the certification for the project. Compliance is achieved with the completion of the recommendations of this report. Compliance to Deemed-to-Satisfy Provisions is achieved by compliance with following clauses.

| Part : | Clause: | Compliance: |
|--|--------------|-------------|
| Part J1 – Building Fabric | J1.1 to J1.6 | Y |
| Part J2 – Glazing | J2.1 to J2.5 | Y |
| Part J3 - Building Sealing | J3.1 to J3.7 | Y |
| Part J4 - Air Movement – ***** Blank part | J4.1 to J4.4 | Y |
| Part J5 - Air Conditioning & Ventilation Systems | J5.1 to J5.5 | Y |
| Part J6 - Artificial Lighting | J6.1 to J6.6 | Y |
| Part J7 – Hot water supply | J7.1 to J7.4 | Y |
| Part J8 – Access for maintenance | J8.1 to J8.3 | Y |

| Prepared for: | Prepared by: |
|--|---|
| Meriton Apartments Pty Ltd Level 11/528 Kent St, NORTH SYDNEY NSW 2000 Contact Phone: 02 9287 2888 Fax: 02 9287 2768 | Efficient Living 13/13 Lagoon St, NARRABEEN NSW 2101 Contact Phone: 02 9944 0332 Email: sectionj@efficientliving.com.au |

Meriton Apartments Pty Ltd is to be ultimately responsible for the final built compliance of Section J - Energy Efficiency

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|----------------------------------|--------------------------------|--|--|---|---------------|-----------|
| NSW J(B)1 | Compliance with BCA provisions | Class 3 and Class 5 to 9 buildings must comply with all of the provisions of the national Section J that are applicable to the relevant classifications, except as varied by NSW J3.1 and NSW J8.2. | | - | Y | |
| Part J1 - Building Fabric | | | | | | |
| J1.1 | Application Of Part | The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 2 to 9 building. | Applicable - Building Class is 3. | - | Y | |
| J1.2 | Thermal construction | <p>(a) Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it— abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and does not affect the safe or effective operation of a service or fitting.</p> <p>(c) Where required, bulk insulation must be installed so that— it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50 mm.</p> | <p>Insulation to be installed in compliance with AS/NZS 4859.1</p> <p>Adjoining insulation must abut / overlap and butt up against studs, joists, noggings etc.</p> <p>It must form a continuous barrier.</p> <p>It must not interfere with the safe operation of services or fittings.</p> <p>Bulk insulation installed must maintain its position and thickness.</p> | Install: Bulk insulation to ceiling as per AS/NZS 4859.1 and comments. | Y with action | Meriton |
| J1.3 | Roof & Ceiling | <p>(a) A roof or ceiling that is part of the envelope must achieve the Total R-Value specified in Table J1.3a for the direction of heat flow.</p> <p>Table J1.3a [Climate Zone 5] achieves a minimum Total R-Value of R3.2 in a downwards direction.</p> <p>(c) Where, for operational or safety reasons associated with exhaust fans, flues or recessed downlights, the area of required ceiling insulation is reduced, the loss of insulation must be compensated for by increasing the R-Value of the insulation in the remainder of the ceiling in accordance with Table J1.3b</p> | <p>See Appendix – Insulation Calculations Worksheet at end of report for further details / calculations.</p> <p>Additional insulation required: R3.0 ceiling insulation</p> <p>NOTE: Calculations for loss of insulation due to recessed downlights, to be completed for penthouse units where insulation to be installed. Please provide lighting layouts for Levels 27-29</p> | Install: A minimum of R3.0 insulation at ceiling level to all penthouse apartments or where exposed balcony above. Install to AS/NZS 4859.1 standards & J1.2. | Y with action | Meriton |
| J1.4 | Roof Lights | N/A – No roof lights to be installed. | N/A | - | Y | |

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|--------------------------|---------------------|--|---|---|---------------|-----------|
| J1.5 | Walls | <p>(a) Each part of an external wall that is part of the envelope, other than of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building, must satisfy one of the options in Table J1.5a except for-</p> <p>(i) opaque non-glazing openings in external walls such as doors (including garage doors), vents, penetrations, shutters and the like; and</p> <p>(ii) glazing; and</p> <p>(iii) an earth retaining wall or earth-berm, in other than climate zone 8.</p> <p>Table J1.5a [Climate Zone 5] – Option (a) achieves a minimum Total R-Value of R2.8</p> | <p>Precast concrete panels Outdoor air film R0.04 Precast panels R0.09 20-40mm Cavity air-space R0.17 Plasteboard 0.06 Indoor air film 0.12</p> <p>Total R-Value: R0.48</p> <p>Additional R-Value calculations R0.48 – R0.17 = R0.31 R2.80 – R0.31 = R2.49</p> <p>Required additional insulation: R2.49</p> | Install: R2.5 bulk insulation to cavity / furring channel of precast concrete panels. | Y with action | Meriton |
| J1.6 | Floors | N/A – As no floors of Class 3 building parts, form part of the external envelope. | N/A | - | Y | Meriton |
| Part J2 - Glazing | | | | | | |
| J2.1 | Application Of Part | The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 2 to 9 building. | Applicable - Building Class is 3 | - | Y | |
| J2.2 | **** Blank clause | | | - | N/A | |
| J2.3 | **** Blank clause | | | - | N/A | |
| J2.4 | Glazing | <p>The glazing in each storey, including any mezzanine, of a building must be assessed separately in accordance with J2.4 (b) and (c) for –</p> <p>(i) glazing in the external fabric facing each orientation; and</p> <p>(ii) glazing in the internal fabric using the south orientation sector energy constants in Table J2.4b and shading multipliers in Table J2.4c and Table J2.4d</p> | <p>Refer to Appendix – ‘Glazing Calculator’ and corresponding window schedule.</p> <p>Glazing to meet the requirements of the U-values and SHGC in the Glazing Calculator.</p> | Install: Glazing to meet the requirements of the glazing calculators. | Y with action | Meriton |
| J2.5 | Shading | <p>Where shading is required to comply with J2.3 or J2.4, it must—</p> <p>(a) be provided by an external permanent projection, such as a verandah, balcony, fixed canopy, eaves or shading hood, which—</p> <p>(i) extends horizontally on both sides of the glazing for the same projection distance P in Figure J2.4; or</p> <p>(ii) provides the equivalent shading to (i) with a reveal or the like; or</p> | <p>Refer to ‘Glazing Calculator’ attached.</p> <p>Shading as per plans, no further shading required.</p> | - | Y | |

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|-----------------------------------|---------------------|---|--|--|---------------|-----------|
| Part J3 - Building Sealing | | | | | | |
| J3.1 | Application Of Part | The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 2 to 9 building. | Applicable - Building Class is 3. | - | Y | |
| J3.2 NSW J3.1 (f) | Chimneys & Flues | N/A – A no chimneys / flues are to be installed. | N/A | - | Y | |
| J3.3 | Roof Lights | N/A – No roof lights to be installed. | N/A | - | Y | |
| J3.4 | Windows & Doors | <p>(a) A seal to restrict air infiltration must be fitted to each edge of a door, openable window or the like forming part of –</p> <ul style="list-style-type: none"> (i) the envelope of a conditioned space; or (ii) the external fabric of a habitable room or public area in climate zones 4,5,6,7 and 7. <p>(b) The requirements of (a) do not apply to –</p> <ul style="list-style-type: none"> (i) a window complying with AS 2047; or (ii) a fire door or smoke door; or (iii) a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security. <p>(c) A seal required by (a) –</p> <ul style="list-style-type: none"> (i) for the bottom edge of an external swing door, must be a draft protection device; and (ii) for the other edges of an external door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like. <p>(d) An entrance to a building, if leading to a conditioned space, must have an airlock, self-closing door, revolving door or the like.</p> | <p>Window supplier to provide verification that all glazing is sealed to comply with BCA J3.4 or AS2047.</p> <p>Entrance doors to be automatic / self-closing doors or the like. All entry doors to be sealed.</p> | <p>Ensure: Entrance doors to have a self-closing mechanism installed. Doors to be sealed as per J3.4 (c).</p> <p>Confirm: Evidence that windows comply with AS 2047 else comply with J3.4.</p> | Y with action | Meriton |
| J3.5 | Exhaust Fans | <p>A miscellaneous exhaust fan, such as a bathroom or domestic kitchen exhaust fan, must be fitted with a sealing device such as a self-closing damper or the like when serving—</p> <ul style="list-style-type: none"> (a) a conditioned space; or (b) a habitable room in climate zones 4,5,6,7 and 8. | Any exhausts if serving a conditioned space, required to be fitted with a sealing device or damper. | Install: Ensure all exhausts are fitted with Dampers / sealing devices, if serving conditioned spaces. | Y with action | Meriton |

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|---|---------------------------------------|---|---|---|---------------|------------------------|
| J3.6 | Roof, Walls and Floors | (a) Roofs, ceilings, walls, floors and any opening such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of— (i) the envelope; or (ii) the external fabric of a habitable room or a public area in climate zones 4,6,7, and 8. (b) Construction required by (a) must be – (i) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or (ii) sealing by caulking, skirting, architraves, cornices or the like. | Construction forming elements of the envelope must be enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions or sealed by caulking, skirting, architraves, cornices or the like. These requirements do not apply to smoke hazard management openings. | - | Y | |
| J3.7 | Evaporative Cooler | N/A – No new evaporative coolers to be installed. | N/A | - | Y | |
| Part J4 - Air Movement - ***** Blank Part | | | | | | |
| Part J5 - Air Conditioning & Ventilation Systems | | | | | | |
| J5.1 | **** Blank clause | | | - | N/A | |
| J5.2 | Air-conditioning & Ventilation System | Please refer to BCA 2011 – Part J5.2 Air-Conditioning & Ventilation for full requirements. | Refer to Mechanical Design Certificate | To be specified by Mechanical Eng. | Y with action | Meriton Mech. Engineer |
| J5.3 | Time Switch | (a) A time switch in accordance with Specification J6 must be provided to control each of the following: (i) An air-conditioning system of more than 10 kW _r . (ii) A ventilation system with an air flow rate of more than 1000 L/s. (iii) A heating system of more than 10 kW _{heating} . | A time switch in accordance with Specification J6 will be required if the proposed packaged air-conditioning system fits the description in J5.3. Refer to Mechanical Design Certificate | Install: Time switch is required if system falls within requirements of J5.3. | Y with action | Meriton Mech. Engineer |
| J5.4 | Heating / Cooling Systems | Please refer to the BCA 2011 – Part J5.4 Heating / Cooling Systems for full requirements. | Refer to Mechanical Design Certificate | To be specified by Mechanical Eng. | Y with action | Meriton Mech. Engineer |

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|--------------------------------------|--|--|---|---|---------------|--------------------------------|
| J5.5 | Miscellaneous exhaust systems | <p>(a) A miscellaneous exhaust system with an air flow rate of more than 1000 L/s, that is associated with equipment having a variable demand such as a stove in a commercial kitchen or a chemical bath in a factory, must—</p> <p>(i) have the means for the operator to –</p> <p>(A) reduce the energy used, such as by a variable speed fan, and</p> <p>(B) stop the motor when the system is not needed, and</p> <p>(ii) be designed to minimize the exhausting of conditioned air.</p> <p>(b) The requirements of (a) do not apply –</p> <p>(ii) where additional exhaust ventilation is needed to balance the required outside air for ventilation; or</p> <p>(iii) where air flow must be maintained for safe operation.</p> | If installing an exhaust system with an air flow rate of more than 1000 L/s it must have a variable speed fan and be capable of allowing the operator to the stop the fan when not needed. | Confirm: If installing an exhaust system that falls within the requirements of J5.5, it must have a variable speed drive and be capable of being stopped. | Y with action | Meriton Mech. Engineer |
| Part J6 - Artificial Lighting | | | | | | |
| J6.1 | **** Blank clause | | | - | N/A | |
| J6.2 | Interior Artificial Lighting | Please refer BCA 2011 to – Part J6.2 Artificial Lighting for full requirements. | <p>NOTE: Provide lighting layouts for all levels to allow for assessment using ABCB Lighting calculator.</p> <p>To be confirmed by an Electrical Engineer</p> <p>Refer to Electrical Design Certificate</p> | Provide: Lighting layouts for all levels to allow for assessment using ABCB Lighting calculator. | Y with action | Meriton Electrician / Designer |
| J6.3 | Interior artificial lighting and power control | <p>(a) Artificial lighting of a room or space must be individually operated by a switch or other control device.</p> <p>(c) An artificial lighting switch or other control device in (a) must—</p> <p>(i) if an artificial lighting switch, be located in a visible position –</p> <p>(A) in the room or space being switched; or</p> <p>(B) in an adjacent room or space from where the lighting being switched is visible;</p> <p>If in a Class 3,6,7,8 or 9 building.</p> <p>The requirements of (a) & (c) do not apply to emergency lighting in accordance with Part E4 of the BCA.</p> | <p>Artificial lighting of a room or space to be individually switched or operated.</p> <p>These switches or devices must be located in a visible position.</p> <p>Refer to Electrical Design Certificate</p> | To be specified by Electrical Engineer | Y with action | Meriton Electrical Engineer |
| J6.4 | Interior decorative and display lighting | N/A – As no interior decorative and display lighting proposed. | N/A | - | Y | |

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|---|--|---|---|---|---------------|----------------------------------|
| J6.5 | Artificial lighting around the perimeter of a building | N/A – Not applicable to Class 3 parts of building. | N/A | - | Y | |
| J6.6 | Boiling water and chilled water storage units | N/A – As no boiling water and chilled water storage units proposed. | N/A | - | Y | |
| Part J7 – Hot water supply | | | | | | |
| J7.1 | **** Blank clause | - | - | - | N/A | |
| J7.2 | Hot water supply | A hot water supply system for food preparation and sanitary purposes, other than a solar hot water supply system in climate zones 1, 2 and 3, must be designed and installed in accordance with Section 8 of AS/NZS 3500.4. | Any hot water system for the building must be installed in accordance with Section 8 of AS/NZS 3500.4 | Install: All hot water systems in accordance with Section 8 of AS/NZS 3500.4 | Y with action | Client Installer Builder |
| J7.3 | Swimming Pool Heating & Pumping | N/A – As requirements outlined in accompanying Class 9 report. | - | - | - | |
| J7.4 | Spa Pool Heating & Pumping | N/A – As requirements outlined in accompanying Class 9 report. | - | - | - | |
| Part J8 – Access for maintenance | | | | | | |
| J8.1 | Application Of Part | The Deemed-to-Satisfy Provisions of this Part do not apply within a sole-occupancy unit of a Class 2 building or a Class 4 part of a building. | Applicable - Building Class is 3. | - | Y | |
| NSW J8.2 | Access for maintenance | Access for maintenance must be provided to— (a) adjustable or motorised shading devices. (b) time switches and motion detectors; and (c) room temperature thermostats; and (d) plant thermostats such as on boilers or refrigeration units; and (e) outside air dampers; and (f) reflectors, lenses and diffusers of light fittings; and (g) heat transfer equipment; and (h) plant that receives a concession under JV3(b) for the use of energy obtained from- (i) a source that is renewable on-site such as solar, geothermal or wind; or (ii) another process as reclaimed energy. | Safe and easy access must be provided to all air-conditioning equipment & components, light fittings, shading devices and exhaust equipment as specified in Part I2. As such the design of the building must incorporate this access or solutions provided for a safe working environment for anybody providing maintenance to such services. This also includes the provision of methods of access to all plant rooms, devices and equipment as part of the building design. Ensuring all access hatches, panels, doors and ladders etc have been provided as part of the design. | Ensure: All air-conditioning equipment & components, light fittings, shading devices and exhaust equipment have appropriate and safe methods of access. | Y with action | Meriton Building Designers |

| Clause | System | Requirements (applicable) | Comments | Actions | Compliance | Action By |
|--------|----------------------------------|---|---|--|---------------|----------------------------|
| J8.3 | Facilities for energy monitoring | <p>(b) A building with a floor area of more than 2,500 m² must have the facility to record individually the energy consumption of—</p> <ul style="list-style-type: none"> (i) air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and (ii) artificial lighting; and (iii) appliance power; and (iv) central hot water supply; and (v) internal transport devices including lifts, escalators and travelators where there is more than one serving the building; and (vi) other ancillary plant. | <p>Consideration must be given for the design of an approach to allow for the recording of the energy consumption of air-conditioning, artificial lighting, appliances, central hot water supply, lifts (as there is more than one for the development) and other ancillary plant.</p> <p>This clause is applicable to all building classes within the development.</p> | Ensure: All components mentioned in comments have a system / approach for recording the individual energy consumption. | Y with action | Meriton Building Designers |

Appendix 1 - Insulation Calculation Worksheet

J1.3

Metal Deck Roof - Penthouses

| Component | R-value |
|--------------------------------|---------|
| Outdoor air film | 0.04 |
| Metal roof | 0 |
| Roof airspace (non-reflective) | 0.28 |
| Plasterboard lining | 0.06 |
| Indoor air film | 0.16 |
| Total | 0.54 |

$R0.54$ (total) - 0.28 (air-space) = $R0.26$

$R3.2$ (required total) - $R0.26$ = $R2.94$ (additional insulation)

Required additional insulation (where indicated - orange) $R2.94$

Concrete Roof - Where balconies above

| Component | R-value |
|---|---------|
| Outdoor air film | 0.04 |
| Waterproof membrane | 0.03 |
| Solid concrete (200mm, 2400kg/m ³) | 0.14 |
| Ceiling airspace (100mm to 300mm, non reflective) | 0.22 |
| Plasterboard lining | 0.06 |
| Indoor air film | 0.12 |
| total | 0.61 |

$R0.58$ (total) - 0.22 (air-space) = $R0.36$

$R3.2$ (required total) - $R0.36$ = $R2.84$ (additional insulation)

Required additional insulation $R2.84$

BCA VOLUME ONE GLAZING CALCULATOR (first issued with BCA 2010)

Building name/description

Typical Floor - Building 2 - Meriton Thomas Street - Thomas St & Albert Ave, CHATSWOOD

Application

Class 3

Climate zone

5

Storey

1st

Facade areas

| | | | | | | | | |
|-------------------|----|---|----|-------------------|----|---|----|----------|
| N | NE | E | SE | S | SW | W | NW | internal |
| 140m ² | | | | 140m ² | | | | |
| | | | | | | | | n/a |

Option A

Option B

Glazing area (A) 96.8m² 105m²

Number of rows preferred in table below

31 (as currently displayed)

| GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS | | | | | | | | SHADING | | CALCULATED OUTCOMES OK (if inputs are valid) | | | | | | |
|--|------------------------|------------------|------------------|------------|-----------|------------------------|----------------------|-------------|---------------|--|---------|-------|---------------------------|---------------------------|-----------------------------|--------------------------------------|
| Glazing element | | Facing sector | | Size | | | Performance | | P&H or device | | Shading | | Multipliers | | Size | Outcomes |
| ID | Description (optional) | Option A facades | Option B facades | Height (m) | Width (m) | Area (m ²) | Total U-Value (AFRC) | SHGC (AFRC) | P (m) | H (m) | P/H | G (m) | Heating (S _H) | Cooling (S _C) | Area used (m ²) | Element share of % of allowance used |
| 1 | W01-1.1 | N | | 2.80 | 4.08 | | 6.6 | 0.31 | 0.600 | 2.800 | 0.21 | 0.00 | 0.95 | 0.80 | 11.42 | 19% of 99% |
| 2 | W01-1.2 | N | | 1.85 | 3.45 | | 6.6 | 0.31 | 0.600 | 1.850 | 0.32 | 0.00 | 0.90 | 0.69 | 6.38 | 8% of 99% |
| 3 | W02-1 | N | | 2.80 | 4.45 | | 6.6 | 0.31 | 2.000 | 2.800 | 0.71 | 0.00 | 0.45 | 0.40 | 12.46 | 4% of 99% |
| 4 | W04-1.1 | N | | 2.80 | 1.64 | | 6.6 | 0.31 | 0.600 | 2.800 | 0.21 | 0.00 | 0.95 | 0.80 | 4.59 | 8% of 99% |
| 5 | W04-1.2 | N | | 1.85 | 1.64 | | 6.6 | 0.31 | 0.600 | 1.850 | 0.32 | 0.00 | 0.90 | 0.69 | 3.03 | 4% of 99% |
| 6 | W02-2 | N | | 2.80 | 4.45 | | 6.6 | 0.31 | 2.000 | 2.800 | 0.71 | 0.00 | 0.45 | 0.40 | 12.46 | 4% of 99% |
| 7 | W04-2.1 | N | | 1.85 | 1.64 | | 6.6 | 0.31 | 0.600 | 1.850 | 0.32 | 0.00 | 0.90 | 0.69 | 3.03 | 4% of 99% |
| 8 | W04-2.2 | N | | 2.80 | 1.64 | | 6.6 | 0.31 | 0.600 | 2.800 | 0.21 | 0.00 | 0.95 | 0.80 | 4.59 | 8% of 99% |
| 9 | W02-3 | N | | 2.80 | 4.45 | | 6.6 | 0.31 | 2.000 | 2.800 | 0.71 | 0.00 | 0.45 | 0.40 | 12.46 | 4% of 99% |
| 10 | W04-3 | N | | 2.80 | 3.10 | | 6.6 | 0.31 | 0.600 | 2.800 | 0.21 | 0.00 | 0.95 | 0.80 | 8.68 | 14% of 99% |
| 11 | W01-2.1 | N | | 1.85 | 2.90 | | 6.6 | 0.31 | 0.600 | 1.850 | 0.32 | 0.00 | 0.90 | 0.69 | 5.37 | 7% of 99% |
| 12 | W01-2.2 | N | | 2.80 | 3.70 | | 6.6 | 0.31 | 0.600 | 2.800 | 0.21 | 0.00 | 0.95 | 0.80 | 10.36 | 17% of 99% |
| 13 | W06-1 | N | | 2.80 | 0.70 | | 6.6 | 0.31 | 2.500 | 2.800 | 0.89 | 0.00 | 0.16 | 0.32 | 1.96 | 0.1% of 99% |
| 14 | W06-2 | S | | 2.80 | 0.70 | | 2.3 | 0.55 | 2.500 | 2.800 | 0.89 | 0.00 | 0.76 | 0.66 | 1.96 | 2% of 100% |
| 15 | W01-3.1 | S | | 2.80 | 3.55 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 9.94 | 10% of 100% |
| 16 | W01-3.2 | S | | 1.85 | 1.43 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 2.65 | 3% of 100% |
| 17 | W01-3.3 | S | | 2.80 | 1.50 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 4.20 | 4% of 100% |
| 18 | W04-4.1 | S | | 2.80 | 1.65 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 4.62 | 5% of 100% |
| 19 | W04-4.2 | S | | 1.85 | 1.65 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 3.05 | 3% of 100% |
| 20 | W02-4 | S | | 2.80 | 4.45 | | 2.3 | 0.55 | 2.500 | 2.800 | 0.89 | 0.00 | 0.76 | 0.66 | 12.46 | 11% of 100% |
| 21 | W04-5.1 | S | | 2.80 | 1.65 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 4.62 | 5% of 100% |
| 22 | W04-5.2 | S | | 1.85 | 1.60 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 2.96 | 3% of 100% |
| 23 | W02-5 | S | | 2.80 | 4.45 | | 2.3 | 0.55 | 2.000 | 2.800 | 0.71 | 0.00 | 0.79 | 0.71 | 12.46 | 11% of 100% |
| 24 | W04-6.1 | S | | 2.80 | 1.65 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 4.62 | 5% of 100% |

| GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS | | | | | | | | SHADING | | CALCULATED OUTCOMES OK (if inputs are valid) | | | | | | |
|--|------------------------|------------------|------------------|------------|-----------|------------------------|----------------------|-------------|---------------|--|---------|-------|---------------------------|---------------------------|-----------------------------|--------------------------------------|
| Glazing element | | Facing sector | | Size | | | Performance | | P&H or device | | Shading | | Multipliers | | Size | Outcomes |
| ID | Description (optional) | Option A facades | Option B facades | Height (m) | Width (m) | Area (m ²) | Total U-Value (AFRC) | SHGC (AFRC) | P (m) | H (m) | P/H | G (m) | Heating (S _H) | Cooling (S _C) | Area used (m ²) | Element share of % of allowance used |
| 25 | W04-6.2 | S | | 1.85 | 1.60 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 2.96 | 3% of 100% |
| 26 | W02-6 | S | | 2.80 | 4.45 | | 2.3 | 0.55 | 2.000 | 2.800 | 0.71 | 0.00 | 0.79 | 0.71 | 12.46 | 11% of 100% |
| 27 | W01-4.1 | S | | 2.80 | 4.75 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 13.30 | 13% of 100% |
| 28 | W01-4.2 | S | | 1.85 | 2.65 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 4.90 | 5% of 100% |
| 29 | W10-1 | S | | 2.80 | 0.80 | | 2.3 | 0.55 | 2.500 | 2.800 | 0.89 | 0.00 | 0.76 | 0.66 | 2.24 | 2% of 100% |
| 30 | W11-1 | S | | 2.80 | 1.00 | | 2.3 | 0.55 | | | | 0.00 | 1.00 | 1.00 | 2.80 | 3% of 100% |
| 31 | W14-1 | S | | 2.80 | 0.90 | | 2.3 | 0.55 | 2.850 | 2.800 | 1.02 | 0.00 | 0.74 | 0.64 | 2.52 | 2% of 100% |

IMPORTANT NOTICE AND DISCLAIMER IN RESPECT OF THE GLAZING CALCULATOR

The Glazing Calculator has been developed by the ABCB to assist in developing a better understanding of glazing energy efficiency parameters.

While the ABCB believes that the Glazing Calculator, if used correctly, will produce accurate results, it is provided "as is" and without any representation or warranty of any kind, including that it is fit for any purpose or of merchantable quality, or functions as intended or at all.

Your use of the Glazing Calculator is entirely at your own risk and the ABCB accepts no liability of any kind.

if inputs are valid



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BCA VOLUME ONE GLAZING CALCULATOR (first issued with BCA 2010)

Building name/description

Typical Floor - Building 2 - Meriton Thomas Street - Thomas St & Albert Ave, CHATSWOOD

Application

Class 3

Climate zone

5

Storey

1st

Facade areas

| | | | | | | | | |
|---|----|------------------|----|---|----|-------------------|----|----------|
| N | NE | E | SE | S | SW | W | NW | internal |
| | | 75m ² | | | | 105m ² | | |
| | | | | | | | | n/a |

Option A

Option B

Glazing area (A) 22.3m² 66.6m²

Number of rows preferred in table below

18 (as currently displayed)

| GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS | | | | | | | | SHADING | | CALCULATED OUTCOMES OK (if inputs are valid) | | | | | | |
|--|------------------------|------------------|------------------|------------|-----------|------------------------|----------------------|-------------|---------------|--|---------|-------|---------------------------|---------------------------|-----------------------------|--------------------------------------|
| Glazing element | | Facing sector | | Size | | | Performance | | P&H or device | | Shading | | Multipliers | | Size | Outcomes |
| ID | Description (optional) | Option A facades | Option B facades | Height (m) | Width (m) | Area (m ²) | Total U-Value (AFRC) | SHGC (AFRC) | P (m) | H (m) | P/H | G (m) | Heating (S _H) | Cooling (S _C) | Area used (m ²) | Element share of % of allowance used |
| 1 | W03-1 | W | | 2.80 | 1.80 | | 2.5 | 0.18 | 4.450 | 2.800 | 1.59 | 0.00 | 0.08 | 0.31 | 5.04 | 6% of 100% |
| 2 | W03-2 | W | | 2.80 | 1.80 | | 2.5 | 0.18 | 4.450 | 2.800 | 1.59 | 0.00 | 0.08 | 0.31 | 5.04 | 6% of 100% |
| 3 | W03-3 | W | | 2.80 | 1.80 | | 2.5 | 0.18 | 4.450 | 2.800 | 1.59 | 0.00 | 0.08 | 0.31 | 5.04 | 6% of 100% |
| 4 | W05-1 | E | | 2.55 | 2.50 | | 7.0 | 0.33 | 2.050 | 2.800 | 0.73 | 0.25 | 0.77 | 0.67 | 6.38 | 23% of 98% |
| 5 | W07-1 | E | | 2.55 | 1.05 | | 7.0 | 0.33 | | | | 0.00 | 1.00 | 1.00 | 2.68 | 15% of 98% |
| 6 | W08-1 | E | | 1.55 | 1.35 | | 7.0 | 0.33 | | | | 0.00 | 1.00 | 1.00 | 2.09 | 12% of 98% |
| 7 | W08-2 | E | | 1.55 | 1.35 | | 7.0 | 0.33 | | | | 0.00 | 1.00 | 1.00 | 2.09 | 12% of 98% |
| 8 | W07-2 | E | | 2.55 | 1.05 | | 7.0 | 0.33 | | | | 0.00 | 1.00 | 1.00 | 2.68 | 15% of 98% |
| 9 | W05-2 | E | | 2.55 | 2.50 | | 7.0 | 0.33 | 2.050 | 2.800 | 0.73 | 0.25 | 0.77 | 0.67 | 6.38 | 23% of 98% |
| 10 | W03-4 | W | | 2.80 | 1.80 | | 2.5 | 0.18 | 4.450 | 2.800 | 1.59 | 0.00 | 0.08 | 0.31 | 5.04 | 6% of 100% |
| 11 | W03-5 | W | | 2.80 | 1.80 | | 2.5 | 0.18 | 4.450 | 2.800 | 1.59 | 0.00 | 0.08 | 0.31 | 5.04 | 6% of 100% |
| 12 | W03-6 | W | | 2.80 | 1.80 | | 2.5 | 0.18 | 4.450 | 2.800 | 1.59 | 0.00 | 0.08 | 0.31 | 5.04 | 6% of 100% |
| 13 | W09-1 | W | | 2.55 | 2.50 | | 2.5 | 0.18 | 2.050 | 2.800 | 0.73 | 0.25 | 0.78 | 0.67 | 6.38 | 10% of 100% |
| 14 | W12-1 | W | | 2.55 | 2.25 | | 2.5 | 0.18 | | | | 0.00 | 1.00 | 1.00 | 5.74 | 12% of 100% |
| 15 | W13-1 | W | | 2.55 | 2.85 | | 2.5 | 0.18 | 1.800 | 2.800 | 0.64 | 0.25 | 0.83 | 0.72 | 7.27 | 12% of 100% |
| 16 | W15-1 | W | | 2.55 | 2.45 | | 2.5 | 0.18 | | | | 0.00 | 1.00 | 1.00 | 6.25 | 13% of 100% |
| 17 | W16-1 | W | | 1.55 | 2.80 | | 2.5 | 0.18 | | | | 0.00 | 1.00 | 1.00 | 4.34 | 9% of 100% |
| 18 | W17-1 | W | | 2.55 | 2.50 | | 2.5 | 0.18 | 2.050 | 2.800 | 0.73 | 0.25 | 0.78 | 0.67 | 6.38 | 10% of 100% |

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if inputs are valid



6
7775
7
8550
8
8300
9

ALBERT LANE

2

