RENYi
AUSTRALIAN ENGINEERING CONSULTANTS FOR SUSTAINABLE BUILDINGS

20 Carrington Road Castle Hill – 29 Apr 2026
BASIX and Thermal Comfort Specifications

BASIX Water Item	Proposed for Development
Site area	13647 m2 approx
Car parks	674 car spaces (45 Visitor, 629 Resident)
Rainwater Tank	Yes – Tank Size 20kL
Rainwater or Stormwater Re-use	Yes
Landscape Area	5458 m2
Showers	4 star (>6 but ≤ 7.5 L/min)
Toilets	4 star, or better
Kitchen Taps	5 star, or better
Bathroom Taps	6 star, or better
Dishwashers	4 star, or better
Clothes washers	Not supplied
BASIX Common Energy Item	**Proposed for Development**
Photovoltaic Solar Power	Yes (25kW)
Building management system (BMS)	No
Active power factor correction (PFC)	No
Common washing/drying	No
Hot Water	Gas Fires Boiler (R1 added to ringmain & supply risers)
Lifts	Gearless, VVVF motor
Car Park Ventilation	Mech. supply/exhaust - with CO monitors, variable speed fans
Wellness Room	AC with timers or BMS
Storage rooms	No Mech. ventilation
Switch rooms	Mech. supply only + thermostatically controlled
Plant rooms	Mech. supply only + thermostatically controlled
Air Exhaust Plant rooms	No mech. supply
Garbage Ventilation	Mech. exhaust only - continuous
Ground floor Lobby Ventilation	Ventilation supply only + time clock or BMS controlled
Hallway Ventilation	Ventilation supply only + time clock or BMS controlled
Sauna	AC with timers or BMS
Bike Storage	No mech. ventilation
Outdoor Pool Heating System	Electric Heat Pump

BASIX SPECIFICATIONS	
BASIX Common Energy Item (continued)	**Proposed for Development**
Car Park Lights	LEDs + motion sensors + zoning
Lift Lights	LEDs + connection to lift-call buttons
Garbage Room Lights	LEDs + motion sensors
Communal space Lights	LEDs + timers and motion sensors
Switch rooms Lights	LEDs + manual on/off
Plant rooms Lights	LEDs + manual on/off
Air Exhaust Plant rooms Lights	LEDs + manual on/off
Storage rooms Lights	LEDs + motion sensors + zoning
Hallway Lights	LEDs + motion sensors + zoning
Ground floor lobby Lights	LEDs + motion sensors + zoning
BASIX Apartment Energy Item	**Proposed for Development**
Kitchen Exhaust	Fan to façade/roof - manual switch
Bathroom Exhaust	Fan to façade/roof - manual switch
Laundry Exhaust	Fan to façade/roof – manual switch
Lighting for Living/Dining	LEDs ≥80% fittings (not dedicated)
Lighting for Kitchen	LEDs ≥80% fittings (not dedicated)
Lighting for Hallways	LEDs ≥80% fittings (not dedicated)
Lighting for Bathrooms/Toilets	LEDs ≥80% fittings (not dedicated)
Lighting for Laundry	LEDs ≥80% fittings (not dedicated)
Lighting for Living	LEDs ≥80% fittings (not dedicated)
Heating for Dwellings	1 phase HVAC non-ducted 3.5 star
Cooling for Dwellings	1 phase HVAC non-ducted 3.5 star
Clothes lines	No indoor clothes lines (balcony, bathroom, etc)
Cooking	Induction cooktop & electric oven
Clothes washers	Not supplied
Clothes dryers	2 stars, or better
Dishwashers	4.5 stars, or better

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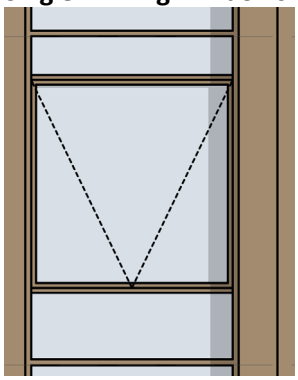
BASIX and Thermal Comfort Specifications

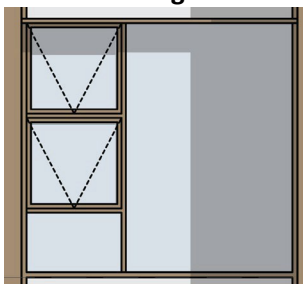
Thermal Comfort Item	Details
External Walls 1	Metal stud frame with lightweight aluminum cladding + R2.7 added
External Walls 2	Brick Veneer + R2.7 added
Walls next to halls/lobbies	Plasterboard + optional acoustic insulation
Walls next to other units (party walls)	Plasterboard + optional acoustic insulation
Walls next to lifts and fire stairs	Concrete with plasterboard lining
Internal Walls	Plasterboard on Studs or concrete as shown
Internal Floors	Concrete floors, with neighbour below
External Floors	Concrete slab with air / basement below + R2 added
Floor Finishes	Tiles -wet areas, carpet -bedrooms, timber -other areas – as shown
Roof under small/med balcony	Concrete roof + R3 under and plasterboard
Roof under Terrace, Penthouse Roofs or 100% roof above	Concrete roof + R5 under and plasterboard
Roof Colour	Medium roof colour
Downlights near Insulation	LED downlights (sealed LEDs, so small or no holes in insul.)
Skylights	U4.2, SHGC 0.72 ± 5%
Window Shading	As shown (overhangs, eaves, devices as shown)
Weather Stripping	All external doors and windows
1. Windows/glazed doors (SINGLE AWNING)	Aluminium double-glazed with low E
Windows - U-value	≤ 3.7
Windows – SHGC	0.32 ± 5%
2. Windows/glazed doors (DOUBLE AWNING)	Aluminium double-glazed with low E
Windows - U-value	≤ 4
Windows – SHGC	0.3 ± 5%
3. Windows (FIXED)	Aluminium double-glazed with low E
Windows - U-value	≤ 3.1
Windows – SHGC	0.38± 5%
4. Windows/glazed doors (SLIDERS)	Aluminium double-glazed with low E
Windows - U-value	≤ 3.3
Windows - SHGC	0.38 ± 5%

Thermally Broken Sliders	
1. Windows/glazed doors (SLIDERS)	Thermally broken Aluminium double-glazed with low E
Windows - U-value	≤ 2.7
Windows - SHGC	0.38 ± 5%

Single Awning Windows

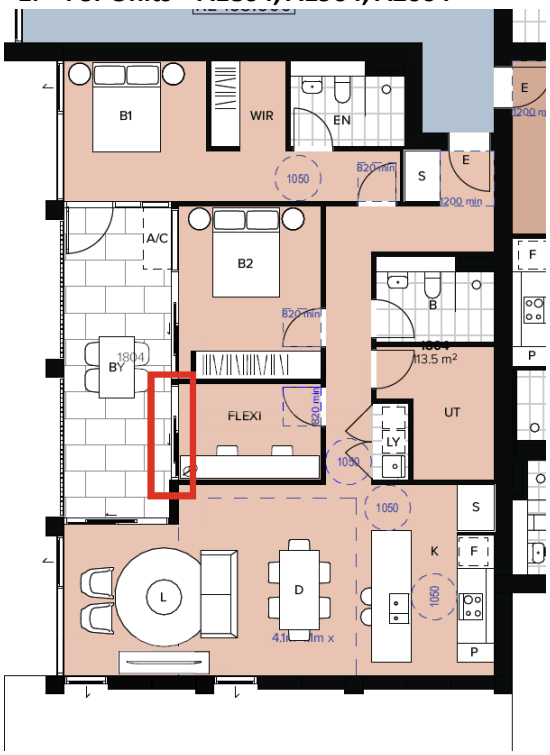


Double Awning Windows



Special Case Units:
A1804, A1904, A2004 – Thermally broken sliding windows in Study
B1209, B1216, C731, C831, C931 – Thermally broken sliding windows

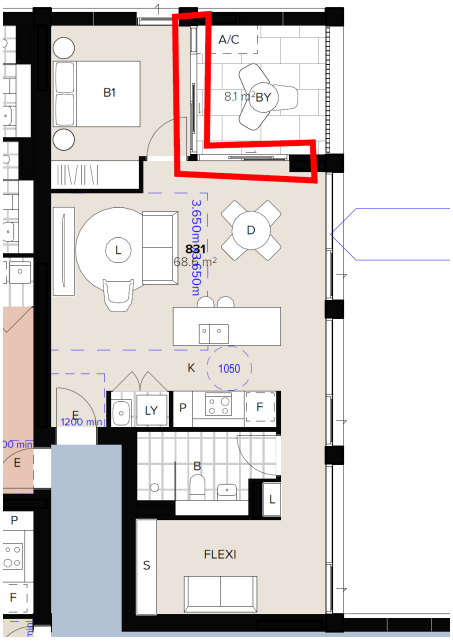
1. **For Units – A1804, A1904, A2004**



2. For Unit B1209

3. For Unit B1216

4. For Units – C731, C831, C931



Simulation notes:

- Concrete type and width may need updating at CC stage with construction details (generic values assumed)
- No RCP prepared yet, so generic holes assumed for all downlights (may need extra checking and rerunning at CC stage)
- No RCP prepared yet, so generic holes assumed for exhaust fans (may need extra checking and rerunning at CC stage)
- Window sizes used from elevations and sections (and this may need re-checking at CC stage if shop drawings require window changes). The modelling will check shop drawings and other CC drawings and refine glazing values, if required.
- Neighbours modelled as shown on drawings (N,E,S,W) but no tree preservations in place and not modelled
- Project is to meet the glazing U-value and SHGC numerical targets and can ignore the other description.