

ESD Report - Ecologically Sustainable Development

23-29 Marquet Street, Rhodes, NSW 2138



Prepared for
Twenty Three Marquet
Street Pty Ltd

Prepared by
GREENPERCH PTY LTD

April 2026



Prepared on behalf of
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4 (21/04/2026)	MP and checked VG	SSDA SET – April 2026 – SJB Architects 13/04/2026

I, Martin Pinson (GreenPerch), confirm this report addresses the requirement of SEAR No. 15 with SSD-67636458 and relevant State and local legislation, policies, and guidelines including BASIX v4 2024, NatHERS Protocol and Rhodes West DCP (Development Control Plan). I further confirm that none of the information contained in this "ESD and BASIX Report" is deliberately false or misleading. Signed, Martin Pinson: *Martin Pinson*

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1. Introduction and Summary

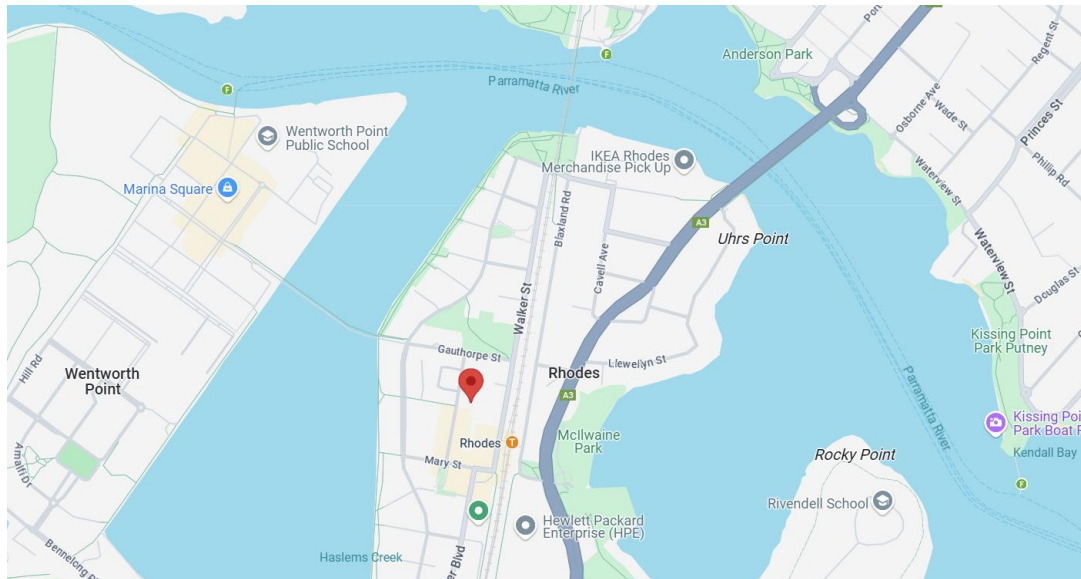
1.1 Introduction

This ESD report has been prepared by GREENPERCH to accompany a State Significant Development Application (**SSDA**) which seeks development consent for a new mixed use development at 23-29 Marquet Street, Rhodes, NSW 2138.

The project will involve:

- Relocating the existing retail ramp on Marquet Street to Walker Street.
- Construction of one (1) 39 storey mixed-use development including 15% infill affordable housing and a maximum building height of RL143.55m.
- Provision of 2,420.66m² of publicly accessible space.
- Residential vehicle access from Marquet Street. Retail vehicle access and loading from Walker Street.

This development forms Stage 3 of the Rhodes Central precinct. Refer to EIS for further details.



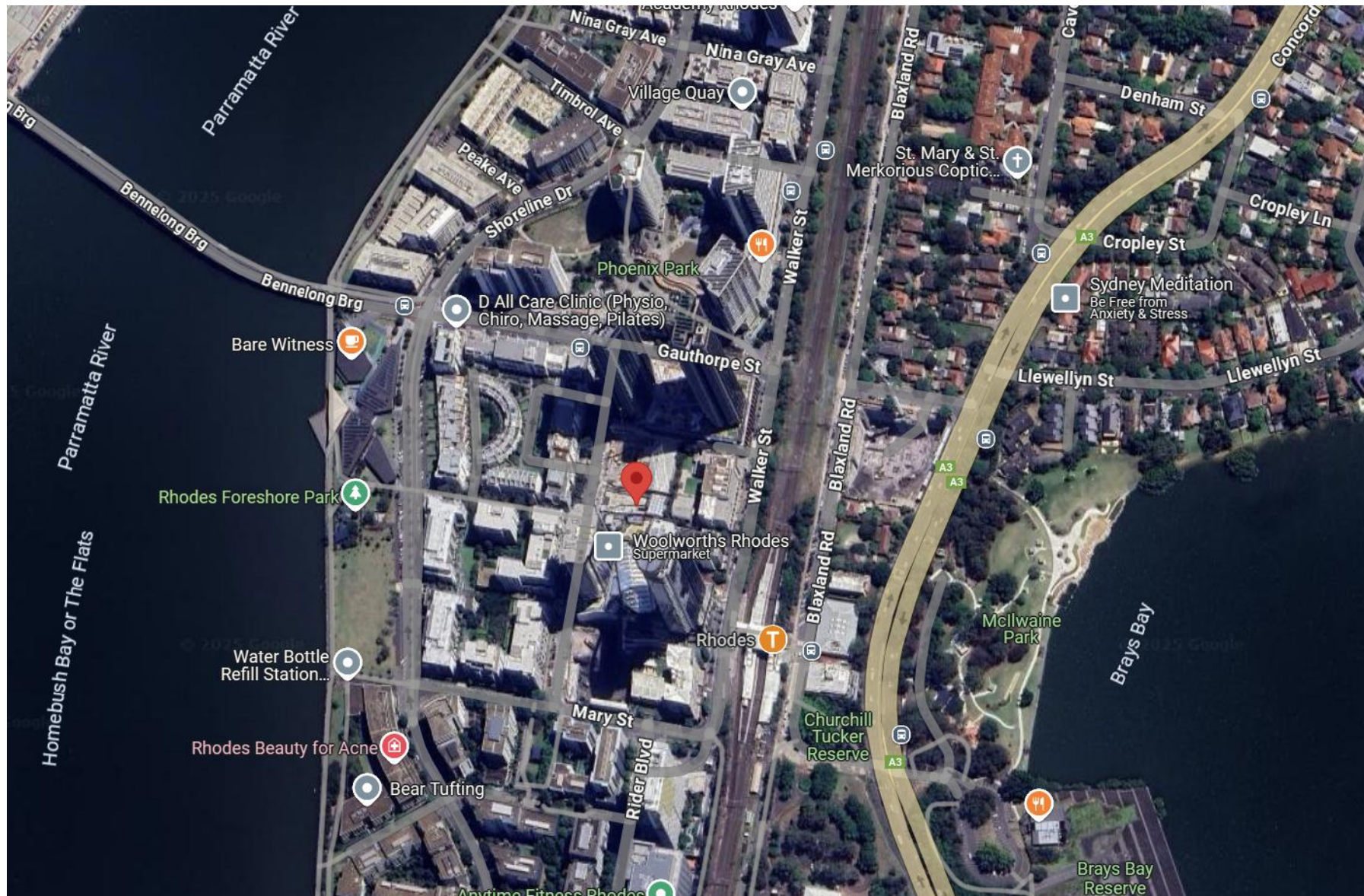
Application number	SSD-67636458
Project name	Mixed-use development with affordable housing – 23-29 Marquet Street, Rhodes
Location	23-29 Marquet Street, Rhodes within City of Canada Bay
Applicant	TWENTY THREE MARQUET STREET PTY LTD
Date of issue	14 February 2025



Site Location - 23-29 Marquet Street, Rhodes, 2138



Site Context Photo - Proposed Development - 23-29 Marquet Street, Rhodes, NSW 2138



Site Location for Proposed Development - 23-29 Marquet Street, Rhodes, NSW 2138

This report accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act), in support of a State Significant Development Application (SSDA) for the construction of the proposed residential flat building, reference SSD-67636458. The design used the SEARS targets from the SSDA, as discussed. It also used the Rhodes West Development Control Plan (DCP) and designs have aimed to meet these ESD targets and more.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-67636458). This report concludes that the proposed development is suitable, warrants approval, and satisfies SEAR 15 - Ecologically Sustainable Development (ESD), as shown below. This report discusses the mitigation measures implemented within the design such as water, energy, materials, thermal comfort and ESD strategies (as discussed in this report).

SEAR 15. Ecologically Sustainable Development (ESD)	SEAR 15. Ecologically Sustainable Development (ESD)
Identify how ESD principles (as defined in section 193 of the EP&A Regulation) are incorporated in the design and ongoing operation of the development.	Principles of ecologically sustainable development and ESD approaches are discussed in pages 17-41 (ESD analysis and report). The Principles of Ecologically Sustainable Development were all embraced with the selected ESD options, and these include: (a) the precautionary principle, (b) inter-generational equity, (c) conservation of biological diversity and ecological integrity, and (d) improved valuation, pricing and incentive mechanisms. The elevated scores & extra ESD options testify to the strong commitment. Please see pages 17-26 for ESD specifications and Appendix A for highly-scoring assessments.
Where relevant, provide an assessment of the development against the standards for non-residential development set out in Chapter 3 of State Environmental Planning Policy (Sustainable Buildings) 2022.	For non-residential, the principles of ESD are discussed in pages 17-41 (refer to ESD specifications and ESD discussion). This includes shared water tanks and PV solar power. Furthermore, Section J will be undertaken for energy assessment for the whole building (especially the conditioned retail). Non-residential and residential parts of SEPP are applied, for commercial or non-residential. Please see the discussions within this 'ESD Summary Report' and Appendices for compliant certificates, with elevated scores for all aspects, including NatHERS, water, energy and thermal comfort. Embodied Emissions are also assessed in detail. The testing and reporting estimates (with limited DA details), the quantities of materials and associated emissions. Good materials and design were used to ensure that embodied emissions are minimised (including some recycled content and low emissions materials). The NABERS embodied emissions materials form has been prepared with the DA information.



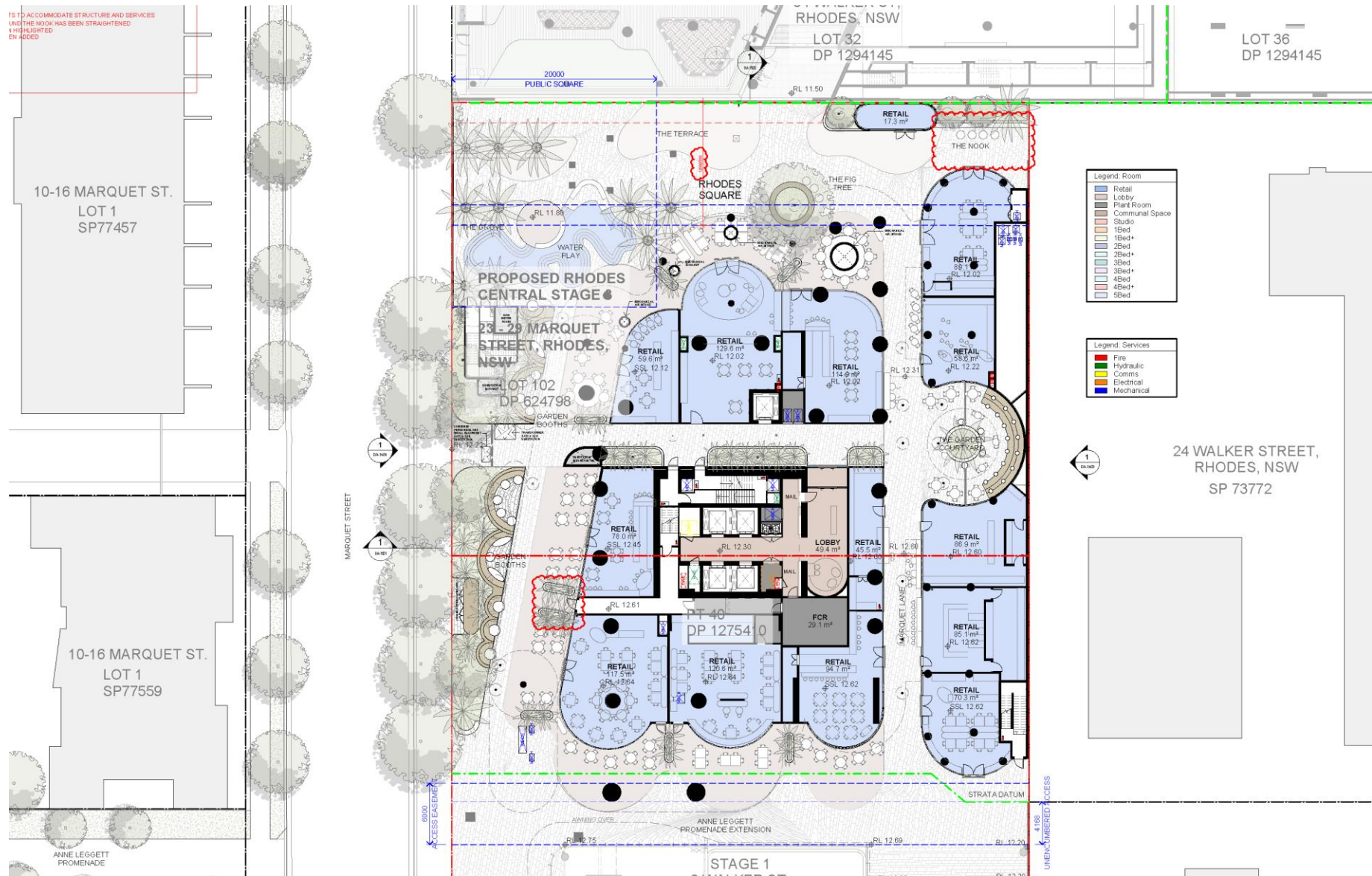
3D Render - 23-29 Marquet Street, Rhodes, NSW 2138

The GreenPerch team have worked closely with the design team, to ensure a high level of energy-efficiency and environmental sustainability. As always, a very strong emphasis was placed on the passive efficiency of the building (including passive heating, passive cooling, natural lighting and natural ventilation). The architects were careful to ensure that these passive systems are working effectively, through a well-balanced blend of innovative architectural design, versatile features and numerous passive thermal comfort techniques.

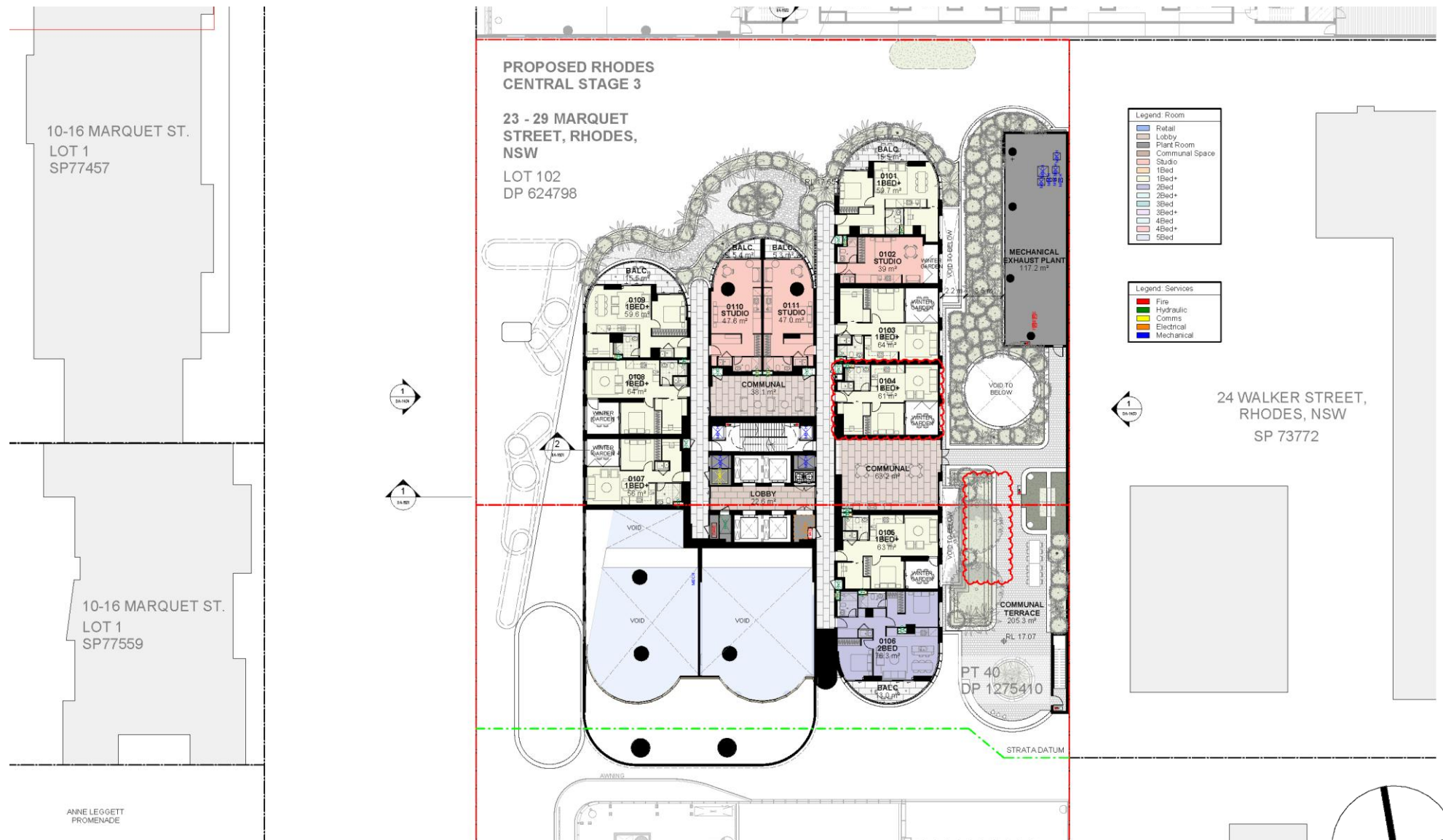
For example, the use of building articulation and orientation was used to enhance natural lighting, passive heating and cross ventilation. These techniques are very often neglected in buildings of this scale, especially similar buildings with predominantly single-aspect dwellings. The very good thermal comfort results are a testament to the success of this excellent architectural design. The intelligent and high-tech facades have greatly helped this achievement, including shading devices, overhangs and high-performance glazing specifications for all windows and glazed doors (including double glazing and performance metal frames for all dwellings).

Site Perspective by SJB - 23-29 Marquet Street, Rhodes, NSW 2138





PLANS Level GROUND - 23-29 Marquet Street, Rhodes, NSW 2138



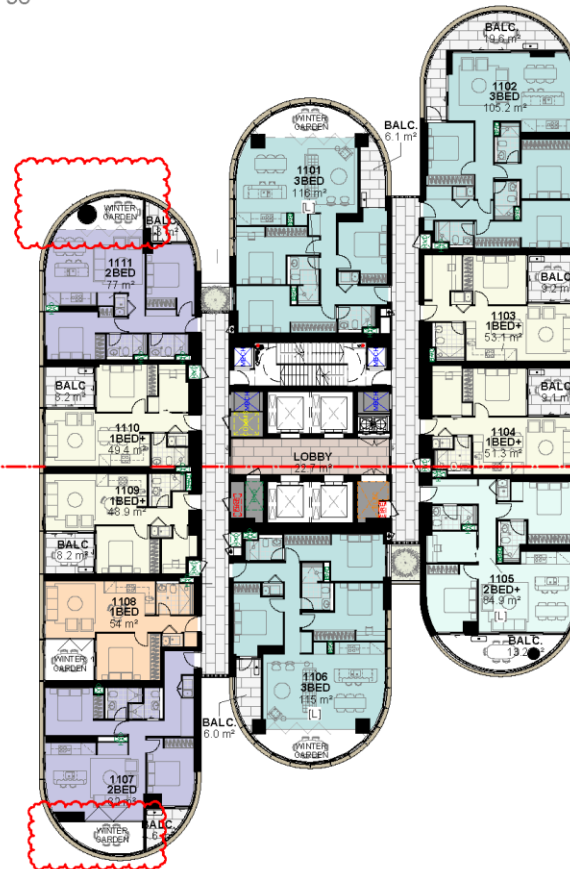
PLANS Level 1 - 23-29 Marquet Street, Rhodes, NSW 2138

10-16 MARQUET ST.
LOT 1
SP77457

**PROPOSED RHODES
CENTRAL STAGE 3**

**23 - 29 MARQUET
STREET, RHODES,
NSW**

LOT 102
DP 624798



PT 40
DP 1275410

Legend: Room

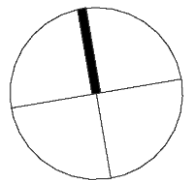
Blue	Retail
Light Blue	Lobby
Dark Blue	Plant Room
Light Green	Communal Space
Medium Green	Studio
Dark Green	1Bed
Light Yellow	1Bed+
Medium Yellow	2Bed
Dark Yellow	2Bed+
Light Blue	3Bed
Medium Blue	3Bed+
Dark Blue	4Bed
Light Green	4Bed+
Medium Green	5Bed

Legend: Services

Red	Fire
Green	Hydraulic
Yellow	Comms
Blue	Electrical
Purple	Mechanical



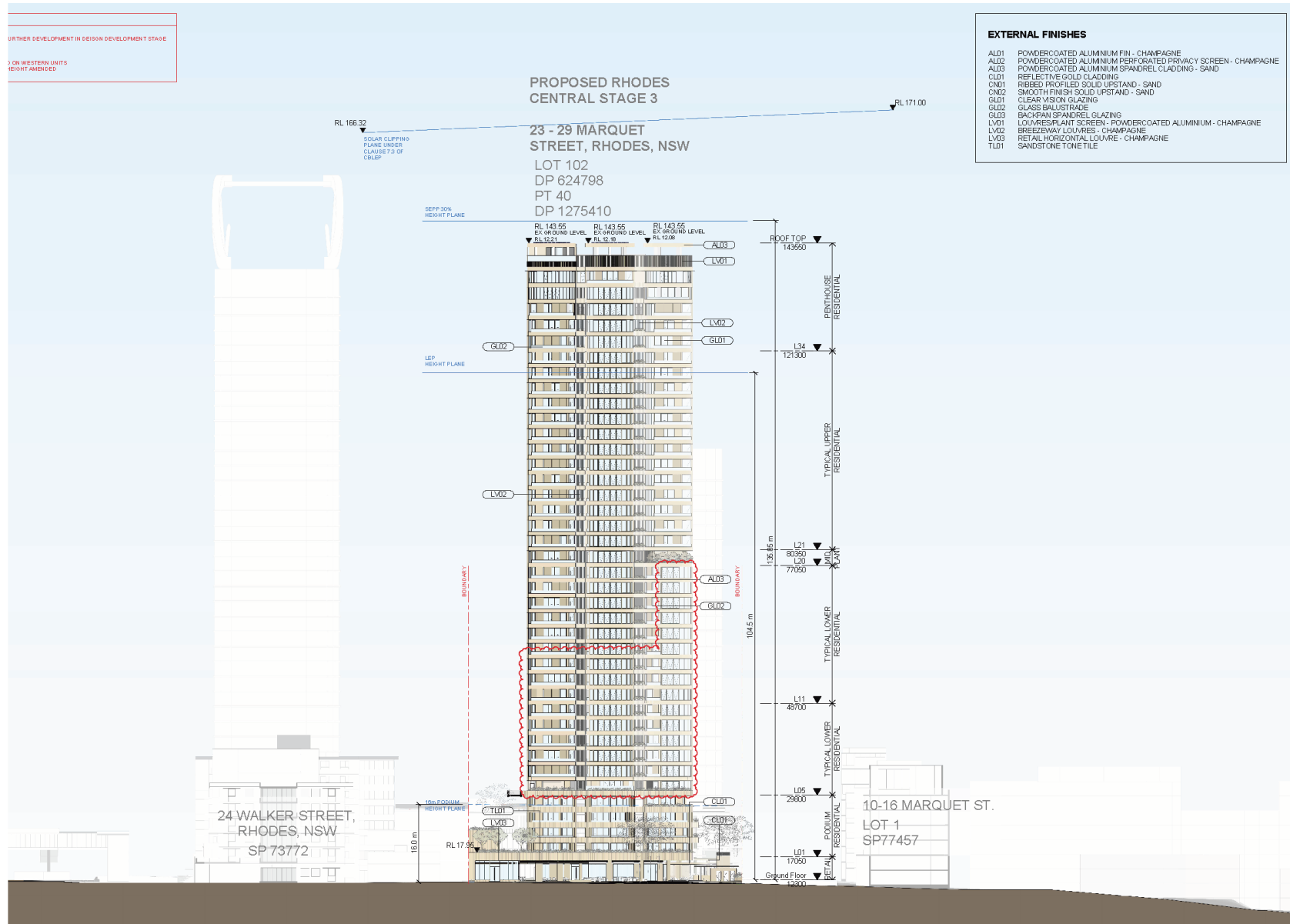
24 WALKER STREET,
RHODES, NSW
SP 73772

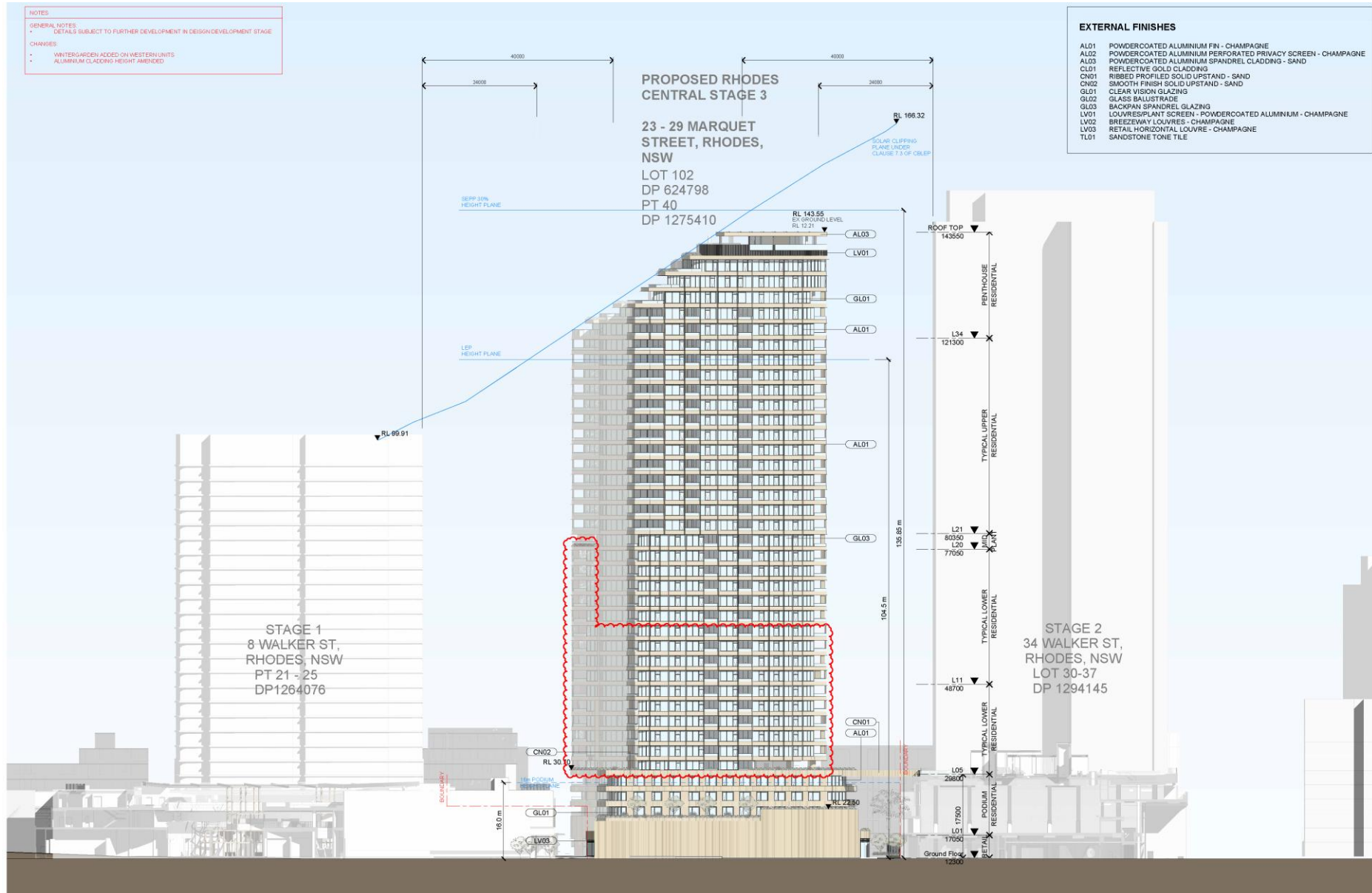


10-16 MARQUET ST.
LOT 1
SP77559

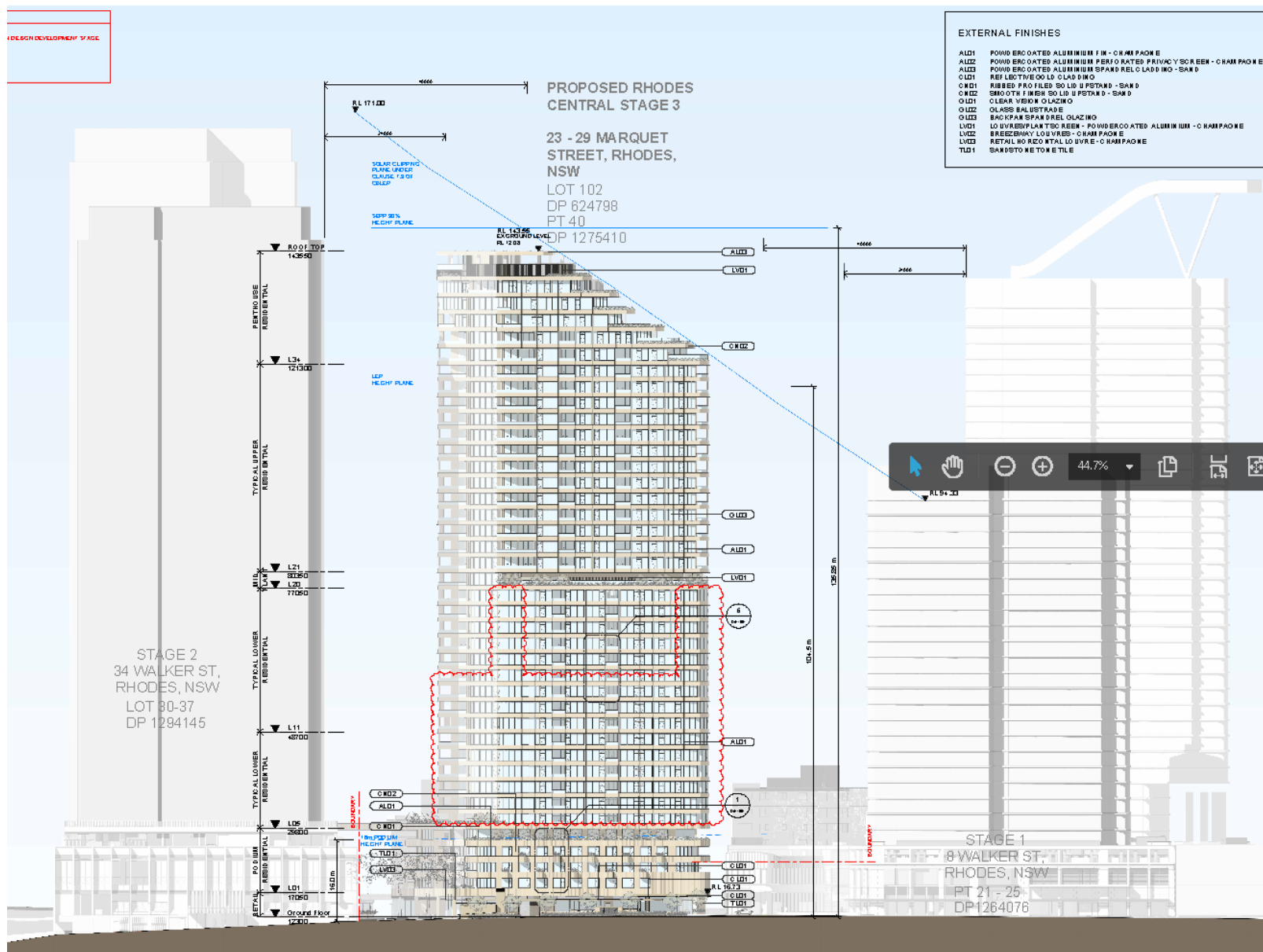
Typical plan layout (level 10-19) - 23-29 Marquet Street, Rhodes, NSW 2138







ELEVATION EAST (by SJB Architects) - 23-29 Marquet Street, Rhodes, NSW 2138



1.2 ESD Summary and Mitigation Measures

Some of the main ESD categories (for residential and non-residential) will be targeted as follows:

1. ESD - An ecologically sustainable design (ESD) consultant was part of the design team. GreenPerch have suggested and tested numerous effective ESD options. GreenPerch has many decades of experience and includes engineers, architects and energy experts.
2. Climate Resilience – Approaches have included: designing for extreme rainfall events; inclusion of low-level and rooftop shade structures; use of cross ventilation for night-time flushing; cross-ventilation for fresh air and respite from extreme heat; materials selection (including generous thermal mass) which is supportive of passive cooling; drought-tolerant landscaping; and careful building design to cope with extended heatwave conditions. Passive cooling processes were also used cleverly, throughout the buildings, such as thermal mass, good glass, performance frames, shading devices, dual-aspect designs, overhangs, eaves and large window openings.
3. Passive Design - The buildings express a strong commitment to passive design (such as optimal orientation, shading devices, cross ventilation, thermal, mass and open plan living). Performance glazing is also proposed for all the development, including double glazing, appropriate tinting and high-performance frames. Importantly, the intelligent use of facades, rather than just ceiling fans should give an optimum summer performance, for the base building. That said, the ceiling fans, where proposed, are adding extra stars to the NatHERS scores and these are rewarded (correctly) as ‘passive systems’, since they are so energy-efficient.
4. Energy efficiency - To minimise energy use, the residential buildings have many low-energy initiatives, as discussed in the Energy and BASIX sections of this report. These include items such as PV solar power; generous insulation; performance glazing; shading devices; low-energy HVAC; efficient appliances; efficient lighting; timers/sensors; electric heat-pump hot water; and metering systems.
5. Waste reduction - Waste management plans will be prepared for the construction and the operational phases. These plans will demonstrate the application of principles of the waste management hierarchy of waste: avoid use, reduction, re-use and recycling. In particular high levels of recycling of construction and demolition waste will be targeted (over 80% waste). The project will also target a high proportion of operational waste to be diverted from landfill including compostable organics and green waste.
6. Water efficiency - Rainwater for irrigation is proposed. Water fixtures and fittings are also highly rated, including close-to-best ratings for taps, showers and toilets. Furthermore, a good portion of plants will be locally indigenous or low-water species.
7. Eco Transport – Good access to public transport, car-sharing, electric car chargers and bicycle storage has been proposed. Electric car-charging switchboards are proposed, with flexibility for current and future scenarios. Travel information kits for building users will also be generated later. This will encourage public transport, walking, bicycles and carshare schemes (over private motor vehicle use).

Some of the other ESD initiatives are listed below. These are also listed later in the report, in regard to water, energy, ESD and BASIX:

- PV solar power to provide power for common lighting or other uses – 50 kW or more
- Energy-efficient whitegoods (high-rated dryers, dishwashers, etc)
- Rainwater reuse for irrigation and car wash (20 kL minimum rainwater storage)
- Water-efficient fixtures (very high ratings for toilets, showers and taps) and reduced flow to sewer
- Partial recycling and reusing of water from fire pump testing.
- Efficient irrigation such as drip irrigation, timers and moisture -sensors for planters and gardens.
- At least 70% use by area of locally indigenous or “one-drop” water-efficient plants
- Generous deep-soil allocation and planter bed gardens.
- Recycling of construction and demolition waste (over 80% of total waste by mass).
- The use of re-usable formwork for internal floors and core walls on site.
- Paints and floor-coverings with low VOCs, wherever possible.
- Wood products with low formaldehyde (and VOCs), wherever possible.
- Water-based and low-emission paints where possible, for internal 'low-sheen' areas.
- Low-emission and (where practical) water-based paints for internal gloss or semi-gloss finishes.
- Intent to research and include, where possible, some products/materials certified by GreenTag/GECA.
- Specification of sustainable-timber, where possible, using FSC or PEFC (for structure, trims, etc).
- Motion-sensors and time-based controllers (time clocks) for lights, ventilation, etc.
- Air quality (CO/CO2) monitors for the car park ventilation system control and efficient VSD fans.
- Light-colour roofs, generous vegetation and passive cooling to reduce “urban heat-island effects”.
- Sensible access to train and bus transport as well as an extensive network of bike paths.
- Generous Bicycle Parking and proposed ‘Travel Kits’ to educate residents
- Use of “Carshare” schemes, electric-car charging and other efficient-vehicle-alternatives
- Reduced topsoil removal, ecosystem renewal and many low-water or locally indigenous plants
- Reduced Operating Costs (water, gas, electricity) due to the good ESD, BASIX and NatHERS scores

1.3 Thermal Comfort Summary

The development has achieved the following NatHERS scores:

- Average NatHERS rating > 7.5 stars
- Average cooling load < 14.6 MJ/m².year (permitted average is 20 MJ/m².year)
- Average heating load < 10.9 MJ/m².year (permitted average is 28 MJ/m².year)

NatHERS - Thermal Comfort for Units	Proposed Specifications
External Walls 1	Concrete wall +R2.5 and foil added + thermal break R0.2
External Walls 2	Colorback glass +R2.5 and foil added + thermal break R0.2
External Walls 3	Metal cladding +R2.5 and foil added + thermal break R0.2
Unit Walls next to halls/lobbies 1 - open	Concrete wall +R2.5 and foil added + thermal break R0.2
Unit Walls next to halls/lobbies 2 – encl. hall	Hebel wall +R1.7 acoustic insulation if lobby is enclosed
Party walls 1	Plasterboard + 75mm Hebel + optional insulation
Party walls 2	Conc. columns + plasterboard + optional insulation
Walls next to lifts	Concrete ≥150mm and plasterboard
Walls next to stairs	Concrete ≥150mm and plasterboard
Internal Walls	Plasterboard (some concrete columns)
Internal Floors 1	Concrete floors, with plasterboard (optional insul except few units below)
Internal Floors 2 (colder units need insul. in ceiling above)	Concrete floor, with plasterboard +R2.9 & foil- 504,606-2006,2105-3405,3406
External Floors	Concrete slab with open air (or other conditioned) below
External Floor Insulation over Basement	Not applicable for apartments
External Floor Insulation over open air / open lobby /plant	R2.9 added insulation (rigid board, direct stick)
Floor Finishes in units	Tiles - wet areas, carpet - bedrooms, timber - living/dining
1. Upper Levels also 1907,3505, 3705)	Concrete roof + R4.8 and foil + plasterboard + thermal break R0.2
2. Roofs –units below small balcony zones only	Concrete roof + R2.9 and foil + plasterboard + thermal break R0.2
Skylights	None proposed for apartments
Roof Colour	Light colour top roofs (but some medium for tiles/balcs/terrace etc)

Ceilings fans – in all units except extra in those below	1400 diam. each living +1200 diam. in beds/study +900 diam. in wintergardens
Ceilings fans hotter units 3405, 3406, 3505, 3604	As above but 2 living 1400 fans for 3405, 3406, 3505, 3604
Window Shading and Devices	Eaves + screens as shown (and fixed horizontal / vert blades)
Weather Stripping	All external doors and windows
Winter Gardens	Wintergardens all conditioned spaces with AC allowance (to avoid overheating)
Window restrictors	WGs avoid restrictor in podiums (L1-4) if needed later maybe need darker glass
Ceiling Penetrations Lights	LED downlights - generic holes assumed, as per NatHERS protocol (TBC at CC)
Ceiling Penetrations Fans	Bathroom, laundry, kitchen: generic holes from NatHERS protocol (TBC at CC)
WINDOWS – Specifications	WINDOWS for residential
Window estimated type	Aluminium frames and double-glazed with light tint
Windows - U-value	≤ 2.2 fixed ≤ 3.0 slider ≤ 3.1 awning/hinged
Windows – SHGC	0.36 fixed, 0.35 slider, 0.39 awning/hinge (all within 5%)
WINDOWS – few colder units 2106-3406, 3505, 3705	≤ 2.3 U-value slider for some units (and SHGC 0.48 ± 5%)

Simulation Notes:

- No RCP provided at DA so generic holes assumed for all downlights (must have extra checking and rerunning at CC stage).
- No RCP provided at DA so generic holes assumed for exhaust fans (must have extra checking and rerunning at CC stage).
- Concrete walls and floor thickness need checking at CC stage, due to complexity of the proposed construction.
- Concrete slabs approx 200mm thick and concrete columns may be added in alter (must be rechecked at CC or earlier).
- All wall types, ceiling types, floor types need checking at CC stage, due to complexity of the proposed construction.
- Window sizes used from elevations, sections and plans (plans take priority and all this needs re-checking at CC stage).
- Windows hidden (with no size or operability shown) are assumed as full height and fixed (this needs re-checking at CC stage).
- Neighbours modelled as shown on drawings but no tree preservations in place and trees are not modelled.
- All are adjustable shading devices – measure from elevations, sections and plans and (these details may need re-checking at CC stage).
- Glazing values are indicative for DA – pending final insulation, shading, wall types and RCPs these glazing values may change.
- Colours for walls and roofs are approximated using the elevations and sections provided. More details and SRIs must be added at CC.
- Door sizes used from sections and plans and hollow core + generic size used, if not clear (will need more re-checking at CC stage).

1.4 BASIX Summary

The following specifications are proposed for BASIX water and energy items:

BASIX Item – Water	Proposed Specifications
Rainwater Tank	20 kL or more collects most of main roof >500 m2
Rainwater Tank use	Rainwater for irrigation and car wash (other uses are optional)
Stormwater onsite reuse	None proposed
Blackwater/Greywater reuse	None proposed
Fire Sprinklers	Sprinklers in basements and buildings
Fire Sprinkler Test Water	Fire test water not fully reused in closed loops
Showers	4 stars ≤ 7.5 L/min (mid-flow range in BASIX)
Toilets	4 stars
Kitchen Taps	5 stars
Bathroom Taps	5 stars
On demand hot recirculation	No
Clothes washers	4 stars WELS or better
Dishwashers	4 stars WELS or better
Planting & lawn (respectively)	<1,943 m2 total = <0 m2 lawn and <1,943 m2 planting
Planting – low water species	70% plants area = locally indigenous or 1-drop lowest water = 1,360 m2
Spas and Pool	No common facility
Pools private	No private pools

BASIX Item – Energy	Proposed Specifications
Hot Water	Electric Heat Pumps, medium/high COP (>3.0 COP and <3.5)
Hot Water Pipe insulation	R1.0 to ringmains +supply risers
AC zoning (day or night)	Not assessed by BASIX
Heating for Units -Beds	Central – VRV unit (electric compressor + air-sourced + medium COP 3.5 to 4.5)
Heating for Units -Living	Central – VRV unit (electric compressor + air-sourced + medium COP 3.5 to 4.5)
Cooling for Units -Beds	Central – VRV unit (electric compressor + air-sourced + medium COP 3.5 to 4.5)
Cooling for Units -Living	Central – VRV unit (electric compressor + air-sourced + medium COP 3.5 to 4.5)
Bathroom Exhaust	Fan to façade/roof, manual on/off
Laundry Exhaust	Fan to façade/roof, manual on/off
Kitchen Exhaust	Fan to façade/roof, manual on/off
Lighting for Apartments – Each Room	LEDs ≥80% fittings all rooms (dedicated)
Cooking	Induction cooktop & electric oven
Vented fridge-spaces	Not assessed by BASIX
Private fixed clothes lines	None for private dwellings
Dryers	8 stars energy
Dishwashers	4 stars energy
Clothes washers	4 stars energy
Fridges	Not assessed by BASIX
Lifts	VVVF gearless traction (with regenerative drives)
Lifts capacity	Mid-range – 1,001 to 1,500 kg
PFC, Power Factor Correction	Optional
BMS	Yes - included in some form
Spas and Pool	No common facility
Pools private	No private pools
PV Solar Power	50 kW – minimum peak output

Common area name	Select the ventilation system type *	Select the efficiency measure *
Undercover car park	ventilation (supply + exhaust) ▾	carbon monoxide monitor + VSD fan ▾
Loading dock	no mechanical ventilation ▾	n/a
Garbage rooms	ventilation exhaust only ▾	n/a
Resi waste rooms	ventilation exhaust only ▾	n/a
Gym and communal rooms	air conditioning system ▾	time clock or BMS controlled ▾
Pump & Plant rooms	ventilation (supply + exhaust) ▾	time clock or BMS controlled ▾
Service rooms shared	ventilation (supply + exhaust) ▾	time clock or BMS controlled ▾
Service rooms rooftop	no mechanical ventilation ▾	n/a
Carpark supply & exhaust rooms	no mechanical ventilation ▾	n/a
Substation	ventilation (supply + exhaust) ▾	time clock or BMS controlled ▾
Bike storage	ventilation supply only ▾	time clock or BMS controlled ▾
Basement lift lobby	ventilation supply only ▾	time clock or BMS controlled ▾
Basement storage	air conditioning system ▾	time clock or BMS controlled ▾
Switch MSB rooms	ventilation supply only ▾	none i.e., continuous ▾
Ground floor lobbies residential	air conditioning system ▾	time clock or BMS controlled ▾
Hallway/lobby open air	no mechanical ventilation ▾	n/a
Hallway/lobby enclosed	ventilation supply only ▾	time clock or BMS controlled ▾

Common area name	Primary lighting system type * 	Efficiency measure *	Lighting control system / BMS 
Lift bank (No. 1)	light-emitting diode 	connected to lift call button 	☐ Yes ☒ No
Lift bank (No. 2)	light-emitting diode 	connected to lift call button 	☐ Yes ☒ No
Undercover car park	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Loading dock	light-emitting diode 	motion sensors 	☐ Yes ☒ No
Garbage rooms	light-emitting diode 	motion sensors 	☐ Yes ☒ No
Resi waste rooms	light-emitting diode 	motion sensors 	☐ Yes ☒ No
Gym and communal rooms	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Pump & Plant rooms	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Service rooms shared	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Service rooms rooftop	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Carpark supply & exhaust rooms	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Substation	light-emitting diode 	motion sensors 	☐ Yes ☒ No
Bike storage	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Basement lift lobby	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Basement storage	light-emitting diode 	manual on / manual off 	☐ Yes ☒ No
Switch MSB rooms	light-emitting diode 	manual on / manual off 	☐ Yes ☒ No
Ground floor lobbies residential	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Hallway/lobby open air	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No
Hallway/lobby enclosed	light-emitting diode 	zoned switching with motion 	☐ Yes ☒ No



3D Render Details 2 (by SJB) - 23-29 Marquet Street, Rhodes, NSW 2138

1.5 EER – Energy Efficiency Report

The mechanisms for energy assessment will be Section J (for Residential and Common Areas) and BASIX with NatHERS (for residential). The energy strategies below were implemented. Some of these items were listed previously in this BASIX report.

Greenhouse-gas reduction and energy-efficiency initiatives include:

- Development has well-surpassed the BASIX Energy Target
- Project scoring an average >7.5-star NatHERS rating across the development. This is above the minimum required to pass BASIX and this contributed towards the excellent energy performance.
- Average cooling load <10.9 MJ/m².year (permitted average is 20 MJ/m².year)
- Average heating load <14.6 MJ/m².year (permitted average is 28 MJ/m².year)
- PV solar power to provide power for common lighting or other uses
- Lighting throughout the development will use LED technology (or high efficiency CFL's where appropriate).
- Fixtures, fittings and HVAC are very low-energy and include highly rated whitegoods and energy-efficient AC for units
- A building engineer/manager will be used to undertake building commissioning, for required systems, upon completion.
- Unit design included effective cross-ventilation, generous insulation, operable glazing and suitable shading devices. In particular, the corner dwellings, the dual aspect dwellings, the thermal mass and the large openings (such as sliders) all helped the passive cooling and heating.
- Glazing was appropriately designed to reduce heat losses in winter, and to give opportunities for natural cooling in summer. Furthermore, performance glazing is proposed for all of the development, including double-glazing for all apartments, retail and commercial areas.
- External walls, floors and roofs will all contain very generous added insulation, to help reduce the reliance on mechanical heating & cooling.
- Good Section J results were achieved, due to generous insulation, shading, thermal mass and high-end double-glazing throughout.

2. ESD Mitigation Measures (Environmentally Sustainable Development)

This project will be designed and built in accordance with many best practice principles of "Ecologically Sustainable Development" (ESD). This following ESD discussion describes some of the initiatives relating to governance, indoor environmental quality, energy, water, transport, emissions, ecology, materials and community.

2.1 Governance

The proposed development will establish and maintain strong governance practices. These, in turn, will promote engagement, transparency and resilience to the conditions of a changing climate.

Good environmental management practices will be adopted, including enhanced commissioning, ongoing tuning and the production of building-user information. Best practice construction environmental management processes will also be implemented. Furthermore, waste diversion from landfill will be targeted, through intensive recycling of construction and operational waste, wherever possible. Metering and monitoring strategies will also ensure operational performance can be tracked and optimised, for water, energy and HVAC.

2.1.1 Commissioning and Tuning

Relevant subcontractors will undertake detailed commissioning and building tuning for all major systems in the building. These systems will relate to water, energy and HVAC.

2.1.2 Adaptation and Resilience

Climate change adaptation and resilience have been considered in detail. This "futureproofing" strategy will enable the building to adapt to potential climate change challenges and future extreme weather events (with the intention of minimising both risk and disruption to the occupants, the building and the community). In particular, the use of rainwater tanks will help reduce the impact of drought periods, for irrigation. The use of performance glass, generous insulation and other thermal comfort techniques will help to deal with changes in climatic conditions, without the excessive reliance on AC. Light colours, shading and generous planting will also reduce heat-island effects.



2.1.3 Building Information

Building operation and maintenance information will be provided and this information may be used to educate building occupants and visitors on the sustainability features of the buildings and how to use these features effectively, in order to reduce potential environmental impacts.

2.1.4 Metering and Monitoring

A metering and monitoring strategy will be implemented to track energy and water use. This system will also monitor progress against performance targets and assist with the identification of leaks, faults or excessive consumption. Sub-metering will be provided for major energy and water uses, supplying data to a Data Collection Point and/or a Building Management System (BMS). Energy sub-metering will be provided for end users. Likewise, water sub-metering may be provided for a variety of uses, pending the final design.

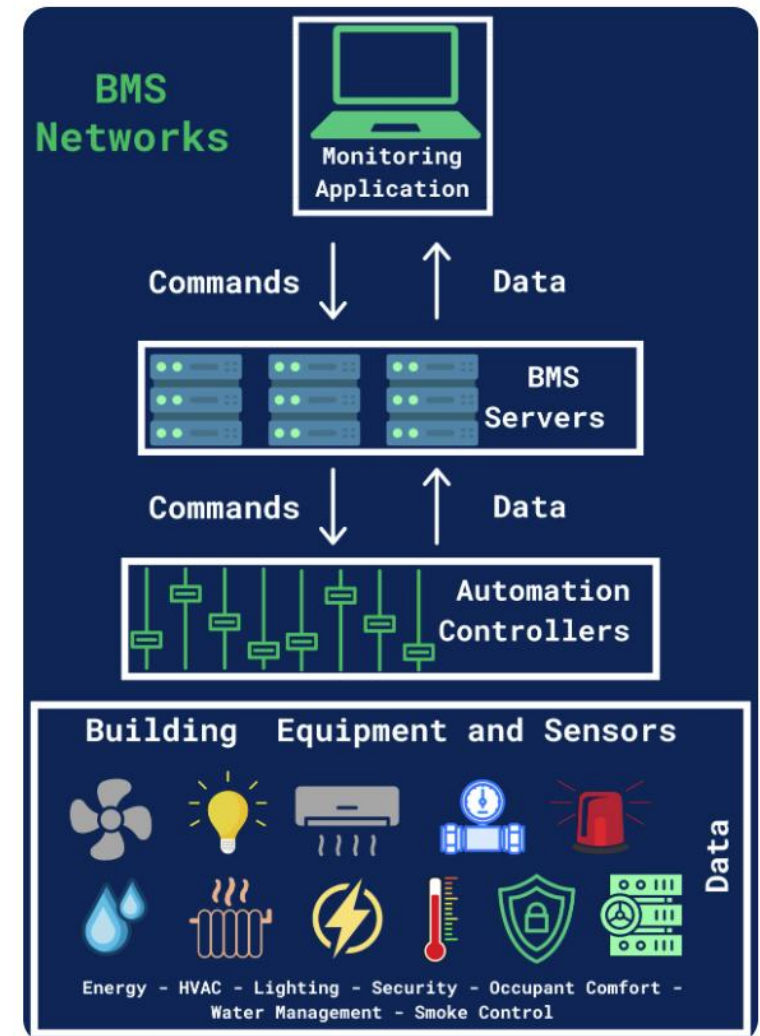
2.1.5 Construction Environmental Management

A Construction Environmental Management Plan (CEMP) will be developed and implemented by the head contractor. This CEMP will be critical to assist with managing the environmental performance, conditions, and impacts arising from excavations, the demolition work and the construction of the proposed buildings.

2.1.6 Operational Waste

Facilities will be provided for the collection, storage and separation of distinct waste streams for collection by the relevant waste contractors. A Waste Management Plan (WMP) will be provided for building operations. In addition, strategies such as well-located recycling facilities (for both the residential and retail/commercial zones) will be incorporated, to increase the ease of recycling.

A detailed operational waste management plan (OWMP) has also been prepared. This OWMP details all recycling and waste management for the various building zones, during the operational phase.



2.2 Indoor Environmental Quality

Indoor Environmental Quality (IEQ) will be improved through consideration of indoor air quality, acoustic conditions, thermal comfort, visual comfort, daylighting and external views. The various IEQ strategies are outlined in more detail below.

2.2.1 Indoor Air Quality

The ventilation system for the building will be designed under the guidance of ASHRAE Standards, for issues such as separation distances between pollution sources and air intakes. Ductwork will also be protected during construction to ensure it remains free of moisture and debris prior to occupation.

Preference will be given to paints, adhesives, sealants, floor coverings and engineered wood products with low Volatile Organic Compound (VOC) emissions and low formaldehyde emissions. This will help to minimise indoor air contamination and to promote occupant health. For products with potential VOC emissions, priority will be given to E0 and Super E0, where possible, since these have significantly lower emissions than products with E2 ratings and below.

2.2.2 Acoustic Comfort

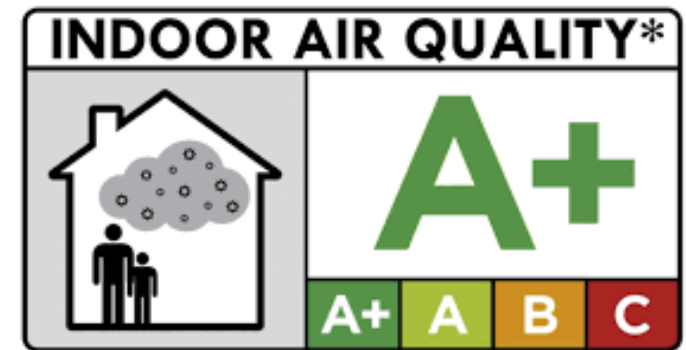
The design has considered acoustic comfort in detail, including general noise levels, reverberation and noise separation. For example, acoustic insulation has been proposed between apartments and corridors, and this was selected to provide both acoustic and thermal comfort benefits.

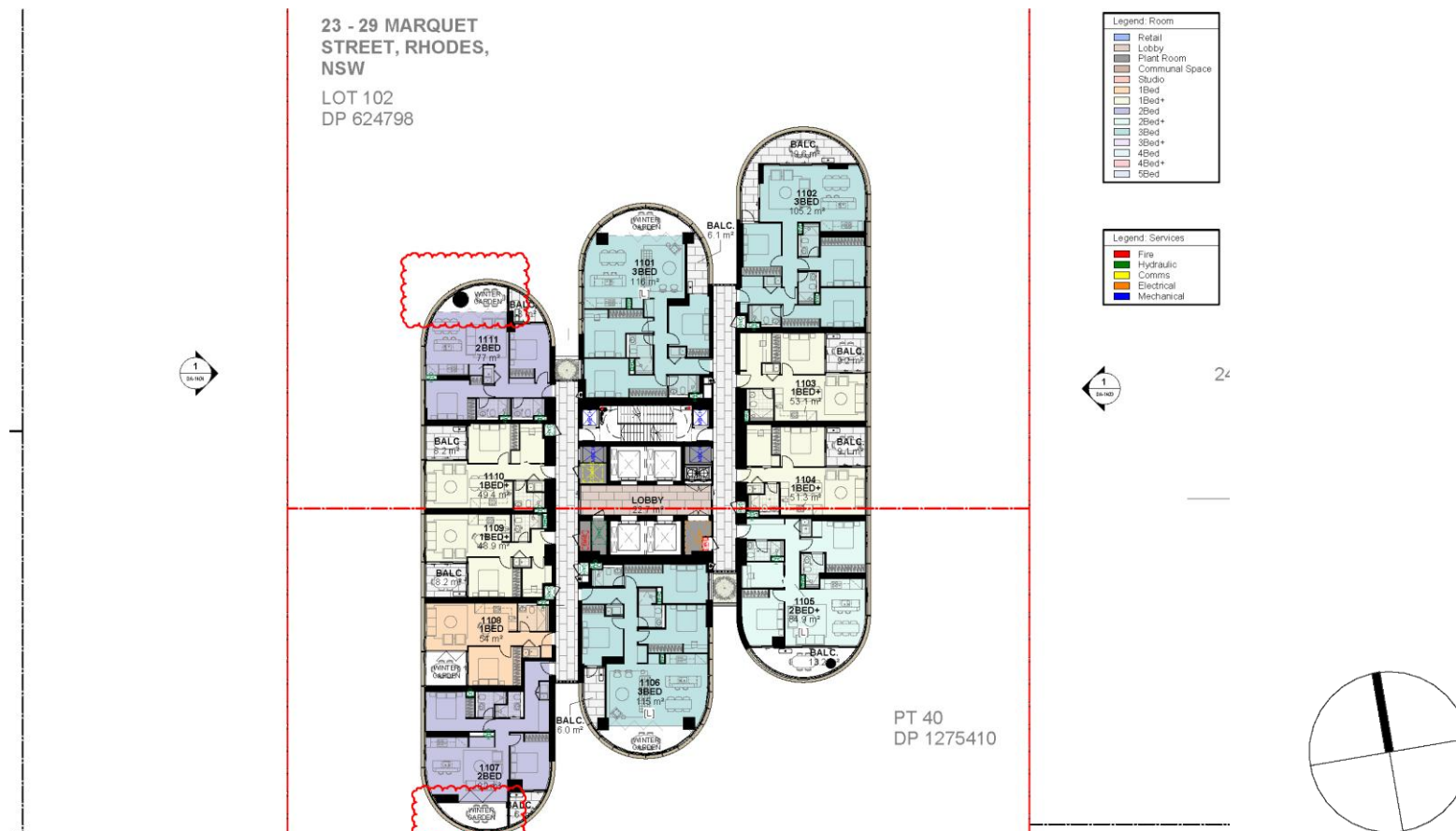
2.2.3 Visual Comfort

Glare control mechanisms such as internal blinds and shading devices will assist in maximizing visual comfort for the occupants. The design has also carefully considered the availability of daylight and external views. Furthermore, artificial lighting will consider appropriate colour perception and lighting levels, reduced glare from lamps and uniformity.

2.2.4 Daylighting

Simulations by the design team have shown excellent solar access to most dwellings, across the building. The fortunate position, orientation and surrounding environment, have allowed for this. The increased daylighting will improve the indoor environment and reduce the reliance on electric lighting. It will also improve productivity, health and overall well-being. The good thermal comfort results have shown that daylighting was not implemented at the expense of overheating. The NatHERS results were excellent, and cooling estimates were very good, as discussed.





Solar Access through sensible plan layout and form (typical level) - 23-29 Marquet Street, Rhodes, NSW 2138

2.2.5 Thermal Comfort

Performance glazing with some external shading will be utilised intelligently to improve thermal comfort for the occupants. Indeed, passive heating, passive cooling and natural ventilation have been carefully considered. To balance daylighting and views with thermal comfort, various performance-glazing products have been proposed (such as double-glazing for all apartments and priority zones). The glazing specifications were based on BASIX thermal comfort scores, to ensure that the correct glass is utilised for various orientations and building types.



It is also recognised that thermal comfort is extremely important for BASIX and sustainable design, however the windows also affect other important ESD issues. Therefore, a very careful and deliberate balance was made by the design team, to ensure good thermal comfort, minimal glare, good daylighting and connection to external views.

For example, the use of some darker tinting was implemented for thermal comfort, privacy and glare reduction. However, too much tinting can make rooms unnecessarily dark (and less effective with passive heating in winter) so lighter tints were often selected, if they were passing BASIX targets. The use of glazed balustrades was also implemented, to create exciting building aesthetics and to optimise passive heating and daylighting, through the building facades.

2.3 Energy

The design will seek to reduce energy consumption and greenhouse gas (GHG) emissions, by combining a well-designed building envelope and high-efficiency systems and services. Furthermore, smart controls, meters and automation will ensure that the major building services only operate when needed. Passive design principles have also been integrated (as discussed above) to reduce the demand for active systems such as HVAC and lighting.

2.3.1 National Construction Code Section J for Energy Efficiency

The NCC's Section J (National Construction Code) determines the minimum energy performance requirements for all new developments in Australia. The proposed design will meet all the NCC's Section J energy efficiency requirements. A detailed Section J summary report will be prepared, to demonstrate the design strategies to comply with NCC Section J, under the DTS assessment. Section J DTS testing has indicated that the retail zones will pass comfortably, since generous insulation and performance glazing are also being proposed in these zones, similar to the apartment designs.

The Section J report has also been prepared, and this looks in detail at each of the following energy categories:

- o Part J1 Energy efficiency performance requirements
- o Part J2 Energy efficiency
- o Part J3 Elemental provisions for a sole-occupancy unit of a Class 2 or Class 4
- o Part J4 Building fabric
- o Part J5 Building sealing
- o Part J6 Air-conditioning and ventilation
- o Part J7 Artificial lighting and power
- o Part J8 Heated water supply and swimming pool and spa pool plant
- o Part J9 Energy monitoring and on-site distributed energy resources

Importantly, the "conditioned" zones will include the retail and apartment zones (but not hallways, plant rooms, pool rooms or back-of-house zones such as plant rooms or fire stairs). Even if air-conditioning is not proposed for some "habitable" parts of those building types, those zones will still be classified as "conditioned", for the purpose of the DTS analysis. This will ensure that all those high-importance areas have an excellent level of passive thermal comfort.

2.3.2 Energy reduction strategies

The following strategies have been embraced to improve energy efficiency:

- Use of renewable energy sources including generous PV solar power.
- Low-carbon hot water systems (electric heat pumps, air-sourced)
- Efficient heating, ventilation and cooling (HVAC) systems including:
 - High efficiency condensers, pumps, fans, etc
 - Sensors or BMS to monitor and control building systems
 - Ventilation with efficiency controls such as zoning and occupancy sensors
 - Carbon Monoxide sensors and variable VSD fans in basement levels
 - Common area ventilation with zoning, motion sensors and time clock controls



- Passive systems such as passive heating, passive cooling and natural ventilation (through the intelligent use and positioning of thermal mass, window openings, glazing, shading devices, etc).
- Efficient lighting, sensors and efficiency controls (with mainly LED lights). This includes internal, external and public domain lighting.
- Efficient whitegoods, fixtures and fittings for energy. In particular, the whitegoods have a huge influence (on per capita energy use) so excellent dryers and dishwashers will be provided (to educate the residents and also to boost the already high BASIX scores).
- Some areas with shut-off switches for lights and non-essential power to be turned off when unoccupied.
- Appliances and whitegoods (as listed previously) will have very high energy efficiency ratings.
- Efficient taps, showers and water-consuming whitegoods, which will hence reduce the hot water use, per capita.
- Minimised infiltration through weather stripping for doors and windows, dampers for exhaust fans and compliance with Section J.

These energy strategies will also contribute to reducing peak electrical demand from the development. This factor is very important when it comes to reducing the stress on the surrounding energy networks and infrastructure.

2.4 Transport

The following alternative transport initiatives are being proposed to improve amenity, to promote occupant health and to reduce transport related GHG emissions.

2.4.1 Active Transport Facilities

Secured bicycle parking and associated facilities have been provided for patrons and visitors. Travel information kits for residents and workers will be generated later. This will encourage public transport, walking, bicycles and carshare schemes (over private motor vehicle use). The provision of shared bathroom facilities has also been implemented for non-residential components of the building, and this will encourage staff to cycle to work.



2.4.2 Walkable Neighbourhood & Public Transport

The site is located close to numerous amenities, with a 'walk score' of 10 (see below). The transit score is good as well, as shown below.

Walk Score's mission is to promote walkable neighborhoods. Walkable neighborhoods and good site selections are one of the "simplest and best solutions for the environment, our health, and our economy" according to Walkscore.

23 Marquet Street

Rhodes, Sydney, 2138

Commute to **Downtown Sydney**

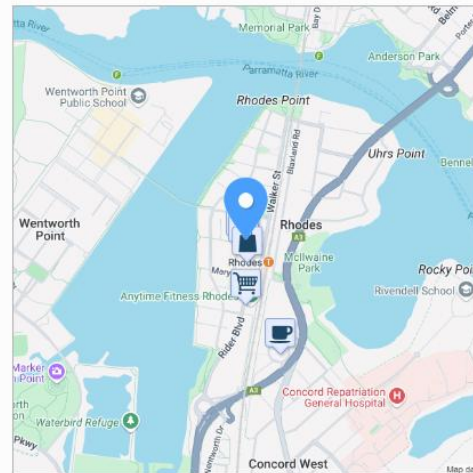
🚗 27 min 🚌 46 min 🚲 60+ min 🚶 60+ min View Routes

Favorite Map Nearby Apartments

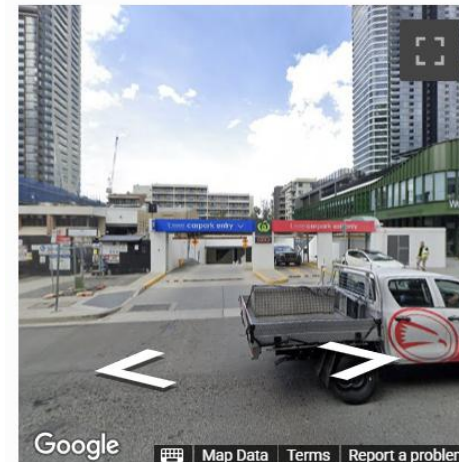
Walk Score 10
Car-Dependent
Almost all errands require a car.

Transit Score 54
Good Transit
Many nearby public transportation options.

About your score
Add scores to your site



About this Location



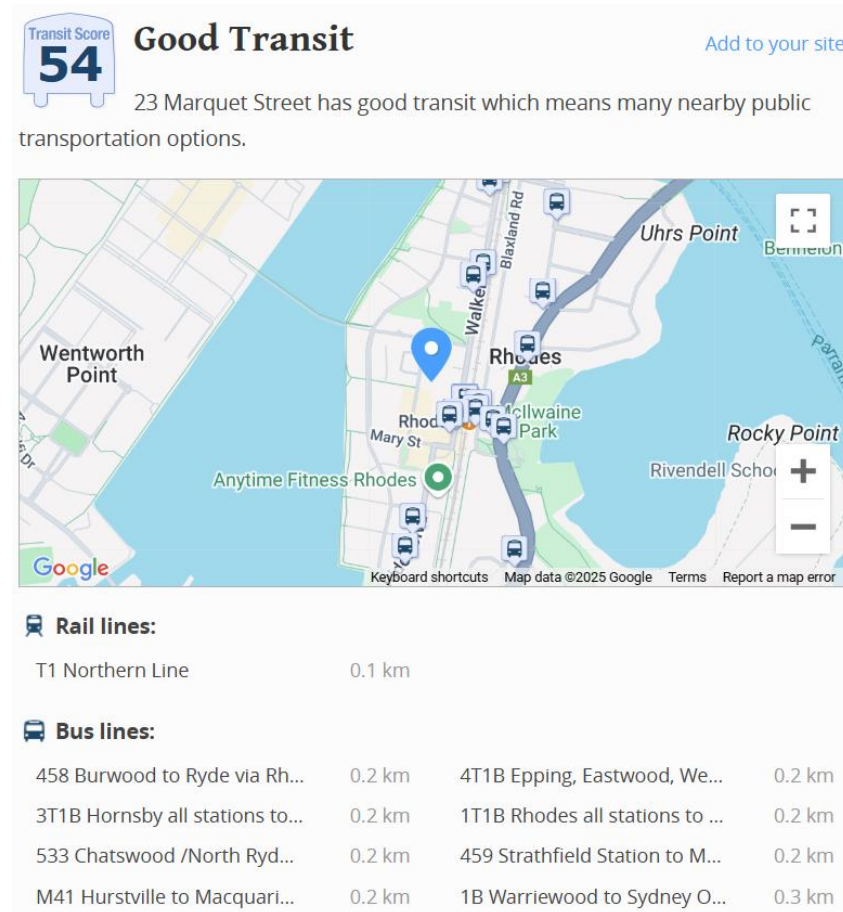
23 Marquet Street has a Walk Score of 10 out of 100. This location is a Car-Dependent neighborhood so almost all errands require a car.

23 Marquet Street is a four minute walk from the T1 Northern Line at the Rhodes Station Platform 1 stop.

This location is in the Rhodes neighborhood in Sydney. Nearby parks include Peg Paterson Park, Brays Bay Reserve and Rhodes Park.

Consequently, the project has been designed to optimise connectivity and pedestrian links within the site itself for "enhanced walkability". This will allow access to the numerous features within the site itself. The corner aspect of the site has been taken advantage of and there are now numerous (easily accessed) entrance zones to the buildings.

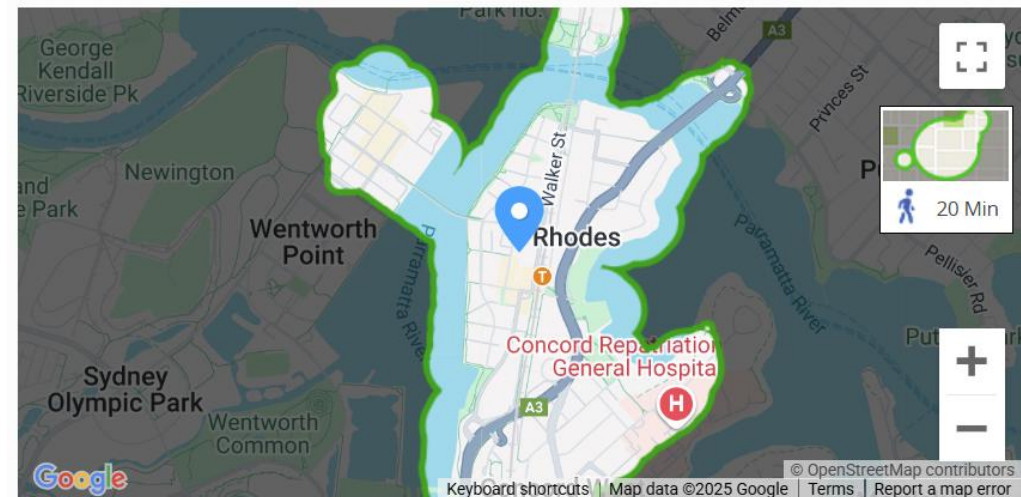
The convenience, aesthetics and safety of the design have been carefully considered to encourage users to walk and cycle, rather than driving cars.



Travel Time Map

[Add to your site](#)

Explore how far you can travel by car, bus, bike and foot from 23 Marquet Street.



2.4.3 Electric car recharging stations

To encourage sustainable motor-vehicles, electric-car recharging facilities have been carefully considered, for future installation. Electric car-charging capabilities have been proposed for the development (with charging facilities and switchboards to be compliant with the new NCC 2022 Section J provisions). Travel information kits for residents and workers will also be generated later.

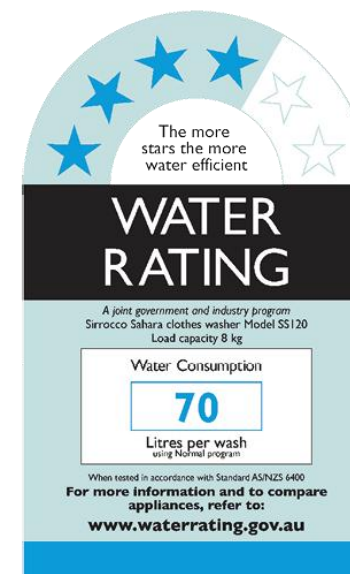
2.5 Water

Potable water consumption will be minimised for the project by selecting very water-efficient fittings, fixtures and appliances. As shown by the BASIX specifications, products were generally selected within 1 star of the top star rating (using the WELS website). For example, toilets can be awarded up to 5 stars, so the architects chose 4-star ratings. Importantly, the top ratings can be very difficult from a cost, availability or functionality perspective. For example, a 5-star toilet requires a basin above the toilet cistern, and this is clearly not suitable for most designs.

2.5.1 Water strategies

The following strategies will be used to reduce potable water consumption. These initiatives may change slightly as detailed design is developed.

- Water efficient fittings and fixtures (especially taps, showers and toilets)
- Water efficient appliances (especially dishwashers)
- Rainwater harvesting and re-use on the site (20 kL minimum, for rainwater storage)
- Rainwater reuse for irrigation and car wash
- Some recycling and reuse water required for fire testing (not fully closed loop)
- Efficient irrigation such as drip irrigation to planters and gardens
- At least 70% use by area of locally indigenous or “one-drop” water-efficient plants
- Generous deep-soil allocation
- Generous garden areas and green-roof gardens/planters, with low-water species



2.6 Materials

2.6.1 Material Selection

Materials used in the building industry are responsible for significant waste generation, resource depletion, GHG emissions and water consumption. To minimise these environmental impacts, the following principles will be considered for material selection on the site, as the design progresses:

- Selection of certified timbers, especially those with FSC-certification
- Consider Best Practice PVC products (or aim for avoidance of PVC, if possible)
- Design major building components for longevity, adaptation, disassembly, re-use and recycling
- Local procurement to support the local economy and reduce transport emissions
- Design for robustness - review the design and the materials to ensure durability for high-traffic surfaces and high-use fittings.
- Specification of sustainable products where appropriate, such as those with recycled content or potential for recycling
- Specification of products with third-party certifications (e.g., GECA or GreenTag) or those with EPDs (Environmental Product Declarations)
- Consider and implement 'green steel products', where feasible, from accredited steel makers and fabricators
- Consider and implement cement-replacements in concrete, where feasible, by using low-carbon options and fly ash. Detailed studies will be undertaken in design development to maximise this low-carbon approach.



2.6.2 Waste minimisation

A Waste Minimisation Plan has also been prepared to outline best practice waste management during the design, construction and operation of the project. The proposed waste strategy looks at issues such as:

- Establish waste targets (including minimum construction and demolition waste recycling targets).
- ‘Design out’ waste: Reduce the amount of materials used in the construction processes, wherever practical
- Implement best practice construction waste management plans and engage with the supply chain.
- Provide infrastructure and clear guidance (for the building users) to maximise waste recycling during operation.

The design team will develop a Construction Waste Management Plan (CWMP) in accordance with waste targets and this will:

- Define responsibilities and actions to prevent, reduce and recover waste
- Strive to recycle >80% by weight of construction and demolition waste
- High proportion of operational waste to be diverted from landfill including green waste.
- Identify the waste arising from construction and detail waste reuse and recycling routes
- Record waste movements and quantities during construction and benchmark the results against best practice targets



2.7 Land Use & Ecology

The project will enhance existing ecological value by reusing a previously developed site. Consequently, the objective of the landscaping and ecology strategies will be to restore the ecological value of the site and use locally indigenous species around the site. This will help to reduce water consumption and also to enhance biodiversity and the restoration of native flora and fauna in the area.

2.8 Emissions

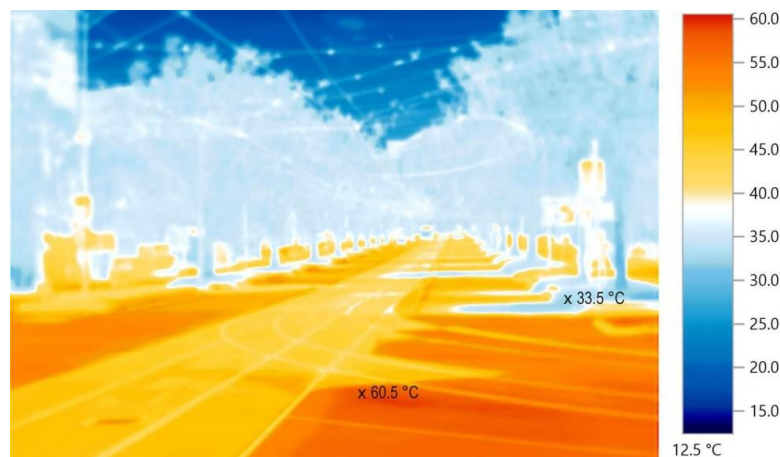
Emissions to water, soil and the sky will be minimised during construction and operation. A CEMP will be prepared for the site demolition and construction, and the emissions will be addressed in this document.

2.8.1 Reduced Peak Discharge to Stormwater

The post-development peak event stormwater discharge from the site will be minimised (to be very close to pre-development peak event stormwater discharge). Stormwater discharged from the site will be designed to achieve high levels of pollution removal for all pollutants such as gross litter, total suspended solids, total nitrogen and total phosphorus. Please refer to the Water management Plan and Report for details.

2.8.2 Light Pollution

Outdoor lighting on the project will generally be designed in accordance with AS 4282:1997 and external light pollution will be minimised. The reduction in light pollution will alleviate the risk of impacts on neighbours and wildlife. In particular, lights be designed to face predominantly downwards. Lights with upspill or uplighting will be avoided.



2.8.3 Heat Island Effect

Lighter-coloured pavements, walls and roofs (and generous planting) have been proposed, in most locations, as shown in the plans, sections, renders and elevations. This strategy was mainly conceived in order to reduce the potential heat island effect on the site and surrounding areas. Furthermore, this strategy will also improve internal thermal comfort, significantly, in summer.

2.8.4 Refrigerant impacts

Refrigerants will be selected to try and target an Ozone Depletion Potential (ODP) of zero. This includes most air conditioning systems and other refrigeration equipment. This may entail various HVAC&R systems and cold/freezer rooms found on the premises.

Environmental impacts from refrigerants leaking into the atmosphere must be minimised as far as possible, in order for this objective to be achieved.

2.8.5 Solar Reflectivity

Please refer to the detailed report (for Reflectivity). Glass surfaces (and some other cladding materials) can be highly reflective. Various measures will be used to negate this effect and, in particular, low-reflectivity glass will be used, in accordance with council requirements. The main issues with reflectivity will typically occur at the lower levels, since this is where motorists, pedestrians and public transport operators will be focusing their gaze. The Windtech report has addressed all of these issues and recommended suitable reflectivity levels of under 20%.

2.9 Community

The project will be designed to maximise community benefit. In particular, it will encourage active lifestyles, maintain good pedestrian and cyclist linkages and facilitate ample, safe social interaction. The project will also be designed to minimise other undesirable impacts on the community such as glare and light pollution.

The following strategies will be considered:

- Marketing and education strategies to convey the numerous sustainability practices to wider audiences
- Ensuring that the design and the building materials do not lead to hazardous, undesirable or uncomfortable glare to pedestrians, motorists or occupants of surrounding buildings
- Minimise light spill to the sky.
- Promotion of healthy and active living through various design and education strategies (for example, with cycling storage and facilities)
- Incorporation of crime prevention through environmental design (CPTED)

3. Conclusion

The numerous initiatives outlined in this report demonstrate how the proposed development will incorporate best practice ESD initiatives into its design, construction and ongoing operation. Through a combination of energy, water and other ESD strategies, the project will indeed exceed the minimum requirements for sustainable development.

It is acknowledged that some strategies will need further refinement, during the latter stages of design. These evolving strategies will include:

- Refinement of renewable energy design (such as final PV type and sizing, to optimise all available space – but currently 50 kW or more)
- Energy-efficient building fabric and services to deliver optimal energy savings
- Energy-efficient windows (double-glazing and performance frames) to maximise thermal comfort, natural daylighting and views
- Careful lighting design (further refinement for both energy efficiency and "indoor environment quality")
- Selection of non-toxic materials, finishes, adhesives and products to improve Indoor Environmental Quality (IEQ)
- Final brand and model selection for efficient fittings, fixtures and appliances (noting that better options may be available in 1-2 years)
- Water-reuse balance, with an intelligent synergy between the reuse strategies for rainwater and future treated-wastewater supply
- Active transport facilities to encourage healthier living while reducing carbon emissions from transport
- Selective procurement of materials and internal finishings (to minimise any possible environmental and social impacts)
- Management and governance procedures (which will improve sustainability outcomes during operation).

As detailed earlier, the project was designed under the guidance of BASIX, NatHERS, NCC's Section J Energy Efficiency and also the Rhodes West Development Control Plan (DCP). This report concludes that the proposed development is suitable, warrants approval, and satisfies SEAR 9 - Ecologically Sustainable Development (ESD), as discussed previously. The report also detailed the many mitigation measures implemented within the design such as water, energy, materials, thermal comfort and ESD strategies (as discussed in this report).

4. Appendix A – BASIX and ESD Certificates

BASIX™ Certificate

Building Sustainability Index

www.planningportal.nsw.gov.au/development-and-assessment/basix

Multi Dwelling

Certificate number: 1819790M_04

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.planningportal.nsw.gov.au/definitions

Secretary

Date of issue: Tuesday, 21 April 2026

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate 0011785560.

Project summary

Project name	23-29 MARQUET STREET RHODES SSDA_04
Street address	23-29 MARQUET STREET RHODES 2138
Local Government Area	CANADA BAY
Plan type and plan number	Deposited Plan 1275410
Lot No.	40
Section no.	-
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	361
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

Project score

Water	✓ 45	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 64	Target 63
Materials	✓ -100	Target n/a

Certificate Prepared by

Name / Company Name: GREENPERCH PTY LTD

ABN (if applicable): 81679640825

Description of project

Project address	
Project name	23-29 MARQUET STREET RHODES SSDA_04
Street address	23-29 MARQUET STREET RHODES 2138
Local Government Area	CANADA BAY
Plan type and plan number	Deposited Plan 1275410
Lot No.	40
Section no.	-
Project type	
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	361
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m²)	4535
Roof area (m²)	614
Non-residential floor area (m²)	1585
Residential car spaces	356
Non-residential car spaces	26

Common area landscape		
Common area lawn (m²)	0	
Common area garden (m²)	1943	
Area of indigenous or low water use species (m²)	1360	
Assessor details and thermal loads		
Assessor number	DMN/19/1921	
Certificate number	0011785560	
Climate zone	56	
Project score		
Water	✓ 45	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 64	Target 63
Materials	✓ -100	Target n/a

Description of project

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

Residential flat buildings - Building1, 361 dwellings, 40 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)
u1001	2	117	0	0	0
u1005	2	85	0	0	0
u1009	1	49	0	0	0
u102	1	40	0	0	0
u106	2	76	0	0	0
u110	1	46	0	0	0
u1104	1	54	0	0	0
u1108	1	55	0	0	0
u1111	2	77	0	0	0
u1204	1	54	0	0	0
u1208	1	55	0	0	0
u1301	2	117	0	0	0
u1305	2	85	0	0	0
u1309	1	49	0	0	0
u1402	3	106	0	0	0
u1406	2	116	0	0	0
u1410	1	49	0	0	0
u1503	1	54	0	0	0
u1507	2	83	0	0	0
u1511	2	72	0	0	0
u1604	1	54	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)
u1002	3	106	0	0	0
u1006	2	116	0	0	0
u101	1	58	0	0	0
u103	1	64	0	0	0
u107	1	60	0	0	0
u1101	2	117	0	0	0
u1105	2	85	0	0	0
u1109	1	49	0	0	0
u1201	2	117	0	0	0
u1205	2	85	0	0	0
u1209	1	49	0	0	0
u1302	3	106	0	0	0
u1306	2	116	0	0	0
u1310	1	49	0	0	0
u1403	1	54	0	0	0
u1407	2	83	0	0	0
u1411	2	77	0	0	0
u1504	1	54	0	0	0
u1508	1	55	0	0	0
u1601	2	117	0	0	0
u1605	2	88	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)
u1003	1	54	0	0	0
u1007	2	83	0	0	0
u1010	1	49	0	0	0
u104	1	64	0	0	0
u108	1	63	0	0	0
u1102	3	106	0	0	0
u1106	2	116	0	0	0
u111	1	46	0	0	0
u1202	3	106	0	0	0
u1206	2	116	0	0	0
u1210	1	49	0	0	0
u1303	1	54	0	0	0
u1307	2	83	0	0	0
u1311	2	77	0	0	0
u1404	1	54	0	0	0
u1408	1	55	0	0	0
u1501	2	117	0	0	0
u1505	2	88	0	0	0
u1509	1	51	0	0	0
u1602	3	109	0	0	0
u1606	2	116	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)
u1004	1	54	0	0	0
u1008	1	55	0	0	0
u1011	2	77	0	0	0
u105	1	64	0	0	0
u109	1	58	0	0	0
u1103	1	54	0	0	0
u1107	2	83	0	0	0
u1110	1	49	0	0	0
u1203	1	54	0	0	0
u1207	2	83	0	0	0
u1211	2	77	0	0	0
u1304	1	54	0	0	0
u1308	1	55	0	0	0
u1401	2	117	0	0	0
u1405	2	85	0	0	0
u1409	1	49	0	0	0
u1502	3	109	0	0	0
u1506	2	116	0	0	0
u1510	1	52	0	0	0
u1603	1	54	0	0	0
u1607	2	83	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)
u1608	1	55	0	0	0
u1701	2	117	0	0	0
u1705	2	88	0	0	0
u1709	1	51	0	0	0
u1802	3	109	0	0	0
u1806	2	116	0	0	0
u1810	1	52	0	0	0
u1903	1	54	0	0	0
u1907	2	83	0	0	0
u1911	2	72	0	0	0
u2004	1	54	0	0	0
u202	1	40	0	0	0
u206	1	64	0	0	0
u210	1	67	0	0	0
u2104	3	105	0	0	0
u2108	3	105	0	0	0
u214	1	63	0	0	0
u2201	3	117	0	0	0
u2205	3	116	0	0	0
u2301	2	117	0	0	0
u2305	2	116	0	0	0
u2401	2	117	0	0	0
u2405	2	116	0	0	0
u2501	2	117	0	0	0
u2505	2	116	0	0	0
u2601	2	117	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)
u1609	1	51	0	0	0
u1702	3	109	0	0	0
u1706	2	116	0	0	0
u1710	1	52	0	0	0
u1803	1	54	0	0	0
u1807	2	83	0	0	0
u1811	2	72	0	0	0
u1904	1	54	0	0	0
u1908	1	55	0	0	0
u2001	1	90	0	0	0
u2005	2	88	0	0	0
u203	1	64	0	0	0
u207	2	76	0	0	0
u2101	3	117	0	0	0
u2105	3	116	0	0	0
u211	1	54	0	0	0
u215	1	58	0	0	0
u2202	3	109	0	0	0
u2206	3	109	0	0	0
u2302	3	109	0	0	0
u2306	3	109	0	0	0
u2402	3	109	0	0	0
u2406	3	109	0	0	0
u2502	3	109	0	0	0
u2506	3	109	0	0	0
u2602	3	109	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)
u1610	1	52	0	0	0
u1703	1	54	0	0	0
u1707	2	83	0	0	0
u1711	2	72	0	0	0
u1804	1	54	0	0	0
u1808	1	55	0	0	0
u1901	2	117	0	0	0
u1905	2	88	0	0	0
u1909	1	51	0	0	0
u2002	3	109	0	0	0
u2006	2	116	0	0	0
u204	1	61	0	0	0
u208	1	36	0	0	0
u2102	3	109	0	0	0
u2106	3	109	0	0	0
u212	1	59	0	0	0
u216	1	46	0	0	0
u2203	2	88	0	0	0
u2207	2	88	0	0	0
u2303	2	88	0	0	0
u2307	2	88	0	0	0
u2403	2	88	0	0	0
u2407	2	88	0	0	0
u2503	2	88	0	0	0
u2507	2	88	0	0	0
u2603	2	88	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)
u1611	2	72	0	0	0
u1704	1	54	0	0	0
u1708	1	55	0	0	0
u1801	2	117	0	0	0
u1805	2	88	0	0	0
u1809	1	51	0	0	0
u1902	3	109	0	0	0
u1906	2	116	0	0	0
u1910	1	52	0	0	0
u2003	1	54	0	0	0
u201	1	58	0	0	0
u205	1	60	0	0	0
u209	1	36	0	0	0
u2103	2	88	0	0	0
u2107	2	88	0	0	0
u213	1	60	0	0	0
u217	1	46	0	0	0
u2204	3	105	0	0	0
u2208	3	105	0	0	0
u2304	3	105	0	0	0
u2308	3	105	0	0	0
u2404	3	105	0	0	0
u2408	3	105	0	0	0
u2504	3	105	0	0	0
u2508	3	105	0	0	0
u2604	3	105	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u2605	2	116	0	0	0
u2701	2	117	0	0	0
u2705	2	116	0	0	0
u2801	2	117	0	0	0
u2805	2	116	0	0	0
u2901	2	117	0	0	0
u2905	2	116	0	0	0
u3001	2	117	0	0	0
u3005	2	116	0	0	0
u301	1	58	0	0	0
u305	1	60	0	0	0
u309	1	36	0	0	0
u3103	2	88	0	0	0
u3107	2	88	0	0	0
u313	1	60	0	0	0
u317	1	46	0	0	0
u3204	2	105	0	0	0
u3208	3	105	0	0	0
u3304	3	105	0	0	0
u3308	3	105	0	0	0
u3404	3	105	0	0	0
u3408	3	105	0	0	0
u3504	3	105	0	0	0
u3601	3	117	0	0	0
u3605	2	84	0	0	0
u3704	4+	155	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u2606	3	109	0	0	0
u2702	3	109	0	0	0
u2706	3	109	0	0	0
u2802	3	109	0	0	0
u2806	3	109	0	0	0
u2902	3	109	0	0	0
u2906	3	109	0	0	0
u3002	3	109	0	0	0
u3006	3	109	0	0	0
u302	1	40	0	0	0
u306	1	64	0	0	0
u310	2	76	0	0	0
u3104	3	105	0	0	0
u3108	3	105	0	0	0
u314	1	63	0	0	0
u3201	3	117	0	0	0
u3205	3	116	0	0	0
u3301	3	117	0	0	0
u3305	3	116	0	0	0
u3401	3	117	0	0	0
u3405	3	118	0	0	0
u3501	3	117	0	0	0
u3505	2	86	0	0	0
u3602	3	151	0	0	0
u3701	4+	217	0	0	0
u3705	3	147	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u2607	2	88	0	0	0
u2703	2	88	0	0	0
u2707	2	88	0	0	0
u2803	2	88	0	0	0
u2807	2	88	0	0	0
u2903	2	88	0	0	0
u2907	2	88	0	0	0
u3003	2	88	0	0	0
u3007	2	88	0	0	0
u303	1	64	0	0	0
u307	2	76	0	0	0
u3101	3	117	0	0	0
u3105	3	116	0	0	0
u311	1	54	0	0	0
u315	1	58	0	0	0
u3202	3	109	0	0	0
u3206	3	109	0	0	0
u3302	3	109	0	0	0
u3306	3	109	0	0	0
u3402	3	109	0	0	0
u3406	2	88	0	0	0
u3502	3	109	0	0	0
u3506	3	133	0	0	0
u3603	3	150	0	0	0
u3702	4+	197	0	0	0
u3706	3	149	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u2608	3	105	0	0	0
u2704	3	105	0	0	0
u2708	3	105	0	0	0
u2804	3	105	0	0	0
u2808	3	105	0	0	0
u2904	3	105	0	0	0
u2908	3	105	0	0	0
u3004	3	105	0	0	0
u3008	3	105	0	0	0
u304	1	61	0	0	0
u308	1	36	0	0	0
u3102	3	109	0	0	0
u3106	3	109	0	0	0
u312	1	59	0	0	0
u316	1	46	0	0	0
u3203	2	88	0	0	0
u3207	2	88	0	0	0
u3303	2	88	0	0	0
u3307	2	88	0	0	0
u3403	2	88	0	0	0
u3407	2	88	0	0	0
u3503	2	88	0	0	0
u3507	3	104	0	0	0
u3604	3	104	0	0	0
u3703	4+	223	0	0	0
u401	1	58	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u402	1	40	0	0	0
u406	1	64	0	0	0
u410	2	69	0	0	0
u414	1	55	0	0	0
u501	1	53	0	0	0
u505	2	83	0	0	0
u509	2	77	0	0	0
u604	1	54	0	0	0
u608	1	55	0	0	0
u701	3	117	0	0	0
u705	2	85	0	0	0
u709	1	49	0	0	0
u802	3	106	0	0	0
u806	3	116	0	0	0
u810	1	49	0	0	0
u903	1	54	0	0	0
u907	2	83	0	0	0
u911	2	77	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u403	1	64	0	0	0
u407	2	76	0	0	0
u411	1	43	0	0	0
u415	1	51	0	0	0
u502	1	54	0	0	0
u506	1	55	0	0	0
u601	2	117	0	0	0
u605	2	85	0	0	0
u609	1	49	0	0	0
u702	3	106	0	0	0
u706	3	116	0	0	0
u710	1	49	0	0	0
u803	1	54	0	0	0
u807	2	83	0	0	0
u811	2	77	0	0	0
u904	1	54	0	0	0
u908	1	55	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u404	1	61	0	0	0
u408	1	36	0	0	0
u412	1	47	0	0	0
u416	1	46	0	0	0
u503	2	85	0	0	0
u507	1	49	0	0	0
u602	3	106	0	0	0
u606	3	116	0	0	0
u610	1	49	0	0	0
u703	1	54	0	0	0
u707	2	83	0	0	0
u711	2	77	0	0	0
u804	1	54	0	0	0
u808	1	55	0	0	0
u901	3	117	0	0	0
u905	2	85	0	0	0
u909	1	49	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
u405	1	60	0	0	0
u409	1	36	0	0	0
u413	1	48	0	0	0
u417	1	46	0	0	0
u504	3	116	0	0	0
u508	1	49	0	0	0
u603	1	54	0	0	0
u607	2	83	0	0	0
u611	2	77	0	0	0
u704	1	54	0	0	0
u708	1	55	0	0	0
u801	3	117	0	0	0
u805	2	85	0	0	0
u809	1	49	0	0	0
u902	3	106	0	0	0
u906	3	116	0	0	0
u910	1	49	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 (m²)
Lift bank (No. 1)	-
Loading dock	194
Gym and communal rooms	476
Service rooms rooftop	373
Bike storage	346
Switch MSB rooms	72
Hallway/lobby enclosed	852

Common area	Floor area (m²)
Lift bank (No. 2)	-
Garbage rooms	165
Pump & Plant rooms	364
Carpark supply & exhaust rooms	491
Basement lift lobby	262
Ground floor lobbies residential	94

Common area	Floor area (m²)
Undercover car park	15621
Resi waste rooms	391
Service rooms shared	1892
Substation	158
Basement storage	771
Hallway/lobby open air	3710

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building1

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

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

(b) Common areas and central systems/facilities

(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) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above open subfloor, frame: suspended concrete slab	8435	foil-foam composite board	-
floors above habitable rooms, frame: suspended concrete slab	45860	-	-
suspended floor above enclosed subfloor, frame: suspended concrete slab	135	foil-foam composite board	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete panel/ plasterboard, frame: light steel frame	19130	-	fibreglass batts or roll
External wall type 2	framed (metal clad), frame: light steel frame	12325	-	fibreglass batts or roll

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	75 mm AAC panel, frame:light steel frame	16420	-
Internal wall type 2	plasterboard, frame:light steel frame	95830	-

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
yes	5235	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	614	-	foil-foam composite board

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
0	15135	0	15135	0	0	0	0

(b) 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: (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.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	4 star	4 star	-	-	-	-	-	-	-

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

(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.	✓	✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 1)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
u1001, u1002, u1005, u1006, u1007, u1011, u106, u1101, u1102, u1105, u1106, u1107, u1111, u1201, u1202, u1205, u1206, u1207, u1211, u1301, u1302, u1305, u1306, u1307, u1311, u1401, u1402, u1405, u1406, u1407, u1411, u1501, u1502, u1505, u1506, u1507, u1511, u1601, u1602, u1605,	Central cooling system (No. 1)	Central cooling system (No. 1)	Central heating system (No. 1)	Central heating system (No. 1)	0	yes

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
u1606, u1607, u1611, u1701, u1702, u1705, u1706, u1707, u1711, u1801, u1802, u1805, u1806, u1807, u1811, u1901, u1902, u1905, u1906, u1907, u1911, u2001, u2002, u2005, u2006, u207, u210, u2101, u2102, u2105, u2106, u2201, u2202, u2205, u2206, u2301, u2302, u2305, u2306, u2401, u2402, u2405, u2406, u2501, u2502, u2505, u2506, u2601, u2602, u2605, u2606, u2701, u2702, u2705, u2706, u2801, u2802, u2805, u2806, u2901, u2902, u2905, u2906, u3001, u3002, u3005, u3006, u307, u310, u3101, u3102, u3105, u3106, u3201, u3202, u3205, u3206, u3301, u3302, u3305, u3306, u3401,						

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
u3402, u3405, u3406, u3501, u3502, u3505, u3601, u3604, u3702, u3705, u3706, u407, u410, u503, u504, u505, u509, u601, u602, u605, u606, u607, u611, u701, u702, u705, u706, u707, u711, u801, u802, u805, u806, u807, u811, u901, u902, u905, u906, u907, u911						
All other dwellings	Central cooling system (No. 1)	Central cooling system (No. 1)	Central heating system (No. 1)	Central heating system (No. 1)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	8.0 star	no	no

(iii) Thermal Performance	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.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u1001	12.40	18.20	30.600
u1002	11.10	9.10	20.200
u1003	12.70	8.70	21.400
u1004	12.90	8.80	21.700
u1005	19.30	8.60	27.900
u1006	22.60	9.20	31.800
u1007	17.10	13.00	30.100
u1008	4.40	16.30	20.700

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u1009	13.30	13.10	26.400
u101	11.20	11.20	22.400
u1010	14.10	11.80	25.900
u1011	10.00	13.80	23.800
u102	9.60	7.20	16.800
u103	8.20	6.40	14.600
u104	8.90	8.00	16.900
u105	7.40	7.60	15.000
u106	19.00	9.10	28.100
u107	3.10	9.50	12.600
u108	3.30	7.20	10.500
u109	5.10	16.70	21.800
u110	2.50	5.60	8.100
u1101	12.70	17.10	29.800
u1102	11.50	8.70	20.200
u1103	13.20	8.60	21.800
u1104	13.30	9.00	22.300
u1106	23.10	8.80	31.900
u1107	17.60	13.00	30.600
u1108	4.60	16.30	20.900
u1109	13.90	13.30	27.200
u111	7.60	7.20	14.800
u1110	14.50	11.60	26.100
u1111	10.20	13.90	24.100
u1201	13.00	16.80	29.800
u1202	11.80	8.80	20.600
u1203	13.30	8.60	21.900
u1204	13.60	9.00	22.600
u1205	20.20	8.30	28.500
u1206	23.40	8.70	32.100
u1207	17.90	12.60	30.500

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u1208	4.60	16.10	20.700
u1209	14.10	13.30	27.400
u1210	14.80	11.70	26.500
u1211	10.40	13.40	23.800
u1301	13.20	16.70	29.900
u1302	12.00	8.60	20.600
u1303	13.20	8.50	21.700
u1304	13.90	9.00	22.900
u1305	20.50	8.30	28.800
u1306	23.70	8.60	32.300
u1307	18.20	12.60	30.800
u1308	4.80	16.00	20.800
u1309	14.50	13.10	27.600
u1310	15.20	11.60	26.800
u1311	10.60	13.50	24.100
u1401	13.40	16.30	29.700
u1402	12.30	8.60	20.900
u1403	13.60	8.40	22.000
u1404	14.20	8.80	23.000
u1405	20.90	8.20	29.100
u1406	24.00	8.50	32.500
u1407	18.30	12.50	30.800
u1408	4.90	15.10	20.000
u1409	14.80	12.90	27.700
u1410	15.20	11.70	26.900
u1411	10.80	13.20	24.000
u1501	13.70	16.50	30.200
u1502	12.00	8.30	20.300
u1503	15.90	8.70	24.600
u1504	14.10	8.50	22.600
u1505	19.00	8.80	27.800

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
u1506	23.10	9.90	33.000
u1507	18.60	12.30	30.900
u1508	4.70	15.90	20.600
u1509	20.10	8.90	29.000
u1510	15.40	11.70	27.100
u1511	10.90	13.10	24.000
u1601	14.00	16.20	30.200
u1602	12.10	8.20	20.300
u1603	16.00	8.50	24.500
u1604	14.20	8.50	22.700
u1605	19.20	8.80	28.000
u1606	23.30	10.10	33.400
u1607	18.90	12.10	31.000
u1608	4.70	15.60	20.300
u1609	20.30	9.00	29.300
u1610	15.70	11.80	27.500
u1611	11.20	12.80	24.000
u1701	14.20	15.80	30.000
u1702	12.40	8.30	20.700
u1703	16.30	8.20	24.500
u1704	14.50	8.50	23.000
u1705	19.50	8.50	28.000
u1706	23.60	9.90	33.500
u1707	19.20	12.20	31.400
u1708	4.90	15.50	20.400
u1709	20.50	9.00	29.500
u1710	16.10	11.50	27.600
u1711	11.20	12.90	24.100
u1801	14.30	15.70	30.000
u1802	12.70	8.40	21.100
u1803	16.70	8.20	24.900

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u1804	14.80	8.50	23.300
u1806	23.90	9.60	33.500
u1807	19.50	11.80	31.300
u1808	5.00	15.70	20.700
u1809	20.70	9.00	29.700
u1810	16.30	11.50	27.800
u1811	11.40	12.90	24.300
u1901	16.40	15.30	31.700
u1902	12.90	8.30	21.200
u1903	16.80	8.20	25.000
u1904	15.20	8.20	23.400
u1905	20.00	8.60	28.600
u1906	24.00	9.70	33.700
u1907	22.80	13.70	36.500
u1908	11.00	18.40	29.400
u1909	28.10	9.80	37.900
u1910	23.90	13.10	37.000
u1911	17.50	14.00	31.500
u2001	14.30	19.80	34.100
u2002	13.20	8.20	21.400
u2003	17.70	8.50	26.200
u2004	16.00	8.10	24.100
u2005	24.70	11.20	35.900
u2006	25.20	9.70	34.900
u201	5.70	15.30	21.000
u202	6.90	8.50	15.400
u204	3.00	9.70	12.700
u205	8.80	6.10	14.900
u206	4.00	7.50	11.500
u207	18.40	10.30	28.700
u208	11.40	8.80	20.200

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u209	12.90	10.30	23.200
u210	19.30	14.30	33.600
u2101	15.80	15.10	30.900
u2102	13.30	8.30	21.600
u2103	14.90	7.90	22.800
u2104	17.20	7.60	24.800
u2105	24.60	9.20	33.800
u2106	22.6	15.40	38.000
u2107	22.10	8.30	30.400
u2108	17.40	7.60	25.000
u211	1.50	11.00	12.500
u212	2.90	9.70	12.600
u213	1.70	7.30	9.000
u214	0.80	7.00	7.800
u215	4.20	17.20	21.400
u216	2.70	5.50	8.200
u217	8.00	7.10	15.100
u2201	15.00	15.60	30.600
u2202	13.40	8.10	21.500
u2203	14.50	7.80	22.300
u2204	17.00	7.700	24.700
u2205	24.70	9.30	34.000
u2206	16.70	16.30	33.000
u2207	15.70	9.70	25.400
u2208	13.50	8.70	22.200
u2301	15.10	15.50	30.600
u2302	13.50	8.20	21.700
u2303	14.50	8.00	22.500
u2304	17.20	7.50	24.700
u2305	24.90	9.10	34.000
u2306	16.80	16.10	32.900

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u2307	15.90	9.40	25.300
u2308	13.80	8.50	22.300
u2401	15.30	14.90	30.200
u2402	13.70	8.20	21.900
u2403	14.60	7.90	22.500
u2404	17.50	7.50	25.000
u2405	25.20	9.00	34.200
u2406	17.10	15.80	32.900
u2407	16.20	9.50	25.700
u2408	14.00	8.80	22.800
u2501	15.40	15.20	30.600
u2502	13.80	8.10	21.900
u2503	14.90	7.70	22.600
u2504	17.60	7.40	25.000
u2505	25.30	8.90	34.200
u2506	17.20	15.80	33.000
u2507	16.30	9.60	25.900
u2508	14.20	8.70	22.900
u2601	15.50	15.40	30.900
u2602	14.00	7.80	21.800
u2603	15.20	7.80	23.000
u2604	17.90	7.50	25.400
u2605	25.50	9.00	34.500
u2606	17.40	15.60	33.000
u2607	16.40	9.20	25.600
u2608	14.30	8.90	23.200
u2701	15.70	15.50	31.200
u2702	14.20	7.90	22.100
u2704	18.10	7.50	25.600
u2705	25.60	8.80	34.400
u2706	17.60	15.50	33.100

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u2707	16.50	9.50	26.000
u2708	14.40	8.70	23.100
u2801	15.90	14.90	30.800
u2802	14.30	8.00	22.300
u2804	18.20	7.50	25.700
u2805	25.90	8.80	34.700
u2806	17.80	15.40	33.200
u2807	16.80	9.00	25.800
u2808	14.70	8.50	23.200
u2901	16.00	15.30	31.300
u2902	14.40	8.00	22.400
u2903	15.60	7.50	23.100
u2904	18.40	7.70	26.100
u2905	26.00	8.70	34.700
u2906	17.90	15.30	33.200
u2907	16.90	9.00	25.900
u2908	14.70	8.60	23.300
u3001	16.00	15.90	31.900
u3002	14.50	7.90	22.400
u3003	15.80	7.50	23.300
u3004	18.50	7.70	26.200
u3005	26.20	8.50	34.700
u3006	18.00	15.70	33.700
u3007	17.00	8.90	25.900
u3008	14.80	8.70	23.500
u301	5.80	16.00	21.800
u302	6.50	8.60	15.100
u303	3.40	7.200	10.600
u304	3.20	9.10	12.300
u306	3.10	7.60	10.700
u307	19.10	10.10	29.200

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u308	10.40	8.80	19.200
u309	11.70	10.10	21.800
u310	15.50	16.20	31.700
u3101	16.10	16.70	32.800
u3102	14.70	7.60	22.300
u3103	15.90	7.40	23.300
u3104	18.60	7.70	26.300
u3105	26.20	8.70	34.900
u3106	18.10	15.40	33.500
u3107	17.20	8.90	26.100
u311	2.70	11.70	14.400
u312	3.40	10.80	14.200
u313	4.00	10.00	14.000
u314	2.10	7.80	9.900
u315	9.10	20.50	29.600
u316	3.10	5.60	8.700
u317	8.40	7.10	15.500
u3201	16.20	17.10	33.300
u3202	14.80	7.50	22.300
u3203	16.00	7.60	23.600
u3204	18.80	7.50	26.300
u3205	26.30	8.70	35.000
u3206	18.30	15.60	33.900
u3207	17.30	8.80	26.100
u3301	16.30	17.20	33.500
u3302	15.00	7.50	22.500
u3303	16.10	7.30	23.400
u3305	26.50	8.80	35.300
u3306	18.70	15.70	34.400
u3307	17.60	8.90	26.500
u3308	15.30	8.70	24.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u3401	19.20	12.70	31.900
u3402	15.30	8.40	23.700
u3403	15.60	7.40	23.000
u3405	21.90	13.70	35.600
u3406	24.00	14.00	38.000
u3407	18.20	10.00	28.200
u3408	15.30	8.60	23.900
u3501	18.70	13.90	32.600
u3502	15.40	8.50	23.900
u3503	16.20	7.70	23.900
u3504	25.30	6.90	32.200
u3505	29.90	7.60	37.500
u3506	18.70	16.10	34.800
u3507	18.00	8.90	26.900
u3601	18.30	15.30	33.600
u3602	8.20	9.90	18.100
u3603	17.20	14.80	32.000
u3604	19.80	17.80	37.600
u3605	18.60	7.30	25.900
u3701	20.20	6.60	26.800
u3702	20.00	14.30	34.300
u3703	19.70	5.50	25.200
u3704	29.30	7.80	37.100
u3705	23.50	13.30	36.800
u3706	19.80	11.50	31.300
u401	12.30	20.20	32.500
u402	9.90	10.60	20.500
u403	9.90	9.30	19.200
u404	6.50	17.00	23.500
u405	4.50	7.90	12.400
u406	3.60	7.60	11.200

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u407	24.30	12.50	36.800
u408	16.70	11.90	28.600
u409	19.10	12.20	31.300
u410	15.30	14.20	29.500
u411	4.40	10.60	15.000
u412	4.00	8.50	12.500
u413	5.20	8.70	13.900
u414	2.70	7.00	9.700
u415	13.50	19.70	33.200
u416	8.10	7.60	15.700
u417	13.10	10.50	23.600
u501	13.80	9.00	22.800
u502	10.90	9.20	20.100
u503	16.90	8.80	25.700
u504	20.50	10.50	31.000
u505	15.60	14.80	30.400
u506	3.40	19.90	23.300
u508	12.40	13.40	25.800
u509	9.90	15.30	25.200
u601	11.80	20.20	32.000
u602	14.10	8.10	22.200
u603	11.10	8.70	19.800
u604	11.40	9.20	20.600
u605	17.40	8.80	26.200
u606	21.00	10.20	31.200
u607	15.70	14.10	29.800
u608	3.60	19.20	22.800
u610	12.50	13.30	25.800
u611	9.10	14.70	23.800
u701	11.50	19.30	30.800
u702	10.20	9.00	19.200

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u703	11.60	8.70	20.300
u704	11.80	9.00	20.800
u705	18.00	8.70	26.700
u706	21.40	9.80	31.200
u707	16.10	13.70	29.800
u708	3.80	18.30	22.100
u709	12.10	13.90	26.000
u710	12.90	12.40	25.300
u711	9.30	14.50	23.800
u801	11.90	19.10	31.000
u802	10.60	9.00	19.600
u803	12.10	8.70	20.800
u804	12.30	9.00	21.300
u805	18.50	8.60	27.100
u806	21.90	9.50	31.400
u807	16.50	13.40	29.900
u808	4.10	17.20	21.300
u809	12.60	13.20	25.800
u810	13.40	12.30	25.700
u811	9.60	14.10	23.700
u901	12.10	18.40	30.500
u902	10.90	8.90	19.800
u903	12.40	8.70	21.100
u904	12.60	8.90	21.500
u905	18.90	8.60	27.500
u906	22.30	9.40	31.700
u907	16.70	13.20	29.900
u908	4.20	16.70	20.900
u909	13.00	13.20	26.200
u910	13.70	12.20	25.900
u911	9.80	14.10	23.900

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
u1105, u1805	19.80	8.50	28.300
u203, u305	3.50	7.30	10.800
u2703, u2803	15.40	7.60	23.000
u3108, u3208	15.00	8.70	23.700
u3304, u3404	23.20	6.50	29.700
All other dwellings	11.60	13.60	25.200

(c) 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	4 star (> 6 but <= 7.5 L/min)	4 star	5 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: - 500 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 1943 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site
Fire sprinkler system (No. 1)	-	-	-
Fire sprinkler system (No. 2)	-	-	-

(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 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
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	no
Undercover car park	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Loading dock	no mechanical ventilation	-	light-emitting diode	motion sensors	no
Garbage rooms	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Resi waste rooms	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Gym and communal rooms	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no
Pump & Plant rooms	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no
Service rooms shared	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no
Service rooms rooftop	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	no
Carpark supply & exhaust rooms	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	no
Substation	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	motion sensors	no
Bike storage	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no
Basement lift lobby	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no

	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
Basement storage	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / manual off	no
Switch MSB rooms	ventilation supply only	none i.e., continuous	light-emitting diode	manual on / manual off	no
Ground floor lobbies residential	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no
Hallway/lobby open air	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	no
Hallway/lobby enclosed	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor and regenerative drive	Number of levels with apartments served by a lift: 37 number of levels from the bottom of the lift shaft to the top of the lift shaft: 47 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Lift bank (No. 2)	gearless traction with V V V F motor and regenerative drive	Number of levels with apartments served by a lift: 36 number of levels from the bottom of the lift shaft to the top of the lift shaft: 46 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: $3.0 < \text{COP} \leq 3.5$
Central cooling system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: air cooled condenser Unit efficiency (min): medium – COP 3.5 – 5.5
Central heating system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency medium – COP 3.5 – 5.5

2. 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	4 star (> 6 but <= 7.5 L/min)	4 star	5 star	no common laundry facility

(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.	✓	✓	✓

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 50 peak kW
Other	Building management system installed?: yes	-

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).

Nationwide House Energy Rating Scheme®

Class 2 Summary

NatHERS® Certificate No. 0011785560

Generated on 21 Apr 2026 using BERS Pro v5.2.4 (3.23)

Property

Address 23-29 Marquet Street,
Rhodes , NSW , 2138

Lot/DP Lot 40 DP 1275410

NatHERS Climate Zone 56 Mascot (Sydney Airport)



Accredited assessor

Name Martin Pinson

Business name GREENPERCH

Email consulting@greenperch.com.au

Phone 0422144603

Accreditation No. DMN/19/1921

Assessor Accrediting Organisation
Design Matters National

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=zXOxyUevc. When using either link, ensure you are visiting hstar.com.au



National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) [MJ/m ² /p.a.]	Cooling load (load limit) [MJ/m ² /p.a.]	Total load [MJ/m ² /p.a.]	Star Rating	Whole of Home Rating
0012126637-04	101	11.2 (N/A)	11.2 (N/A)	22.4	7.8	0
0012126603-10	102	9.6 (N/A)	7.2 (N/A)	16.8	8.4	0

Thermal performance star rating



NCC heating and cooling maximum loads (MJ/m²/p.a.)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled block average	14.6	10.9
Maximum block limit	N/A	N/A

Whole of Home performance rating

No Whole of Home performance rating conducted for this summary certificate or not completed for all dwellings



Summary of all dwellings (continued)

Certificate number and link	Unit Number	Heating load (load limit) [MJ/m ² /p.a.]	Cooling load (load limit) [MJ/m ² /p.a.]	Total load [MJ/m ² /p.a.]	Star Rating	Whole of Home Rating
0012126629-10	103	8.2 (N/A)	6.4 (N/A)	14.7	8.7	0
0012126611-11	104	8.9 (N/A)	8.0 (N/A)	16.9	8.4	0
0012126645-10	105	7.4 (N/A)	7.6 (N/A)	15.0	8.6	0
0012126694-04	106	19.0 (N/A)	9.1 (N/A)	28.0	7.2	0
0012126728-02	107	3.1 (N/A)	9.5 (N/A)	12.6	8.9	0
0012126751-02	108	3.3 (N/A)	7.2 (N/A)	10.5	9.3	0
0012126785-02	109	5.1 (N/A)	16.7 (N/A)	21.8	7.9	0
0012126819-03	110	2.5 (N/A)	5.6 (N/A)	8.1	9.7	0
0012126843-03	111	7.6 (N/A)	7.2 (N/A)	14.8	8.7	0
0012126876-05	201	5.7 (N/A)	15.3 (N/A)	21.0	8	0
0012126900-04	202	6.9 (N/A)	8.5 (N/A)	15.3	8.6	0
0012126934-09	203	3.5 (N/A)	7.3 (N/A)	10.8	9.2	0
0012126967-12	204	3.0 (N/A)	9.7 (N/A)	12.7	8.9	0
0012126991-05	205	8.8 (N/A)	6.1 (N/A)	14.9	8.6	0
0012127023-10	206	4.0 (N/A)	7.5 (N/A)	11.6	9.1	0
0012127056-05	207	18.4 (N/A)	10.3 (N/A)	28.7	7.1	0
0012127080-05	208	11.4 (N/A)	8.8 (N/A)	20.2	8.1	0
0012127114-05	209	12.9 (N/A)	10.3 (N/A)	23.2	7.7	0
0012127148-07	210	19.3 (N/A)	14.3 (N/A)	33.6	6.6	0
0012127171-03	211	1.5 (N/A)	11.0 (N/A)	12.6	8.9	0
0012127205-03	212	2.9 (N/A)	9.7 (N/A)	12.5	8.9	0
0012127213-03	213	1.7 (N/A)	7.3 (N/A)	9.0	9.5	0
0012126652-03	214	0.8 (N/A)	7.0 (N/A)	7.8	9.7	0
0012126678-03	215	4.2 (N/A)	17.2 (N/A)	21.5	7.9	0
0012126702-04	216	2.7 (N/A)	5.5 (N/A)	8.2	9.6	0
0012126736-04	217	8.0 (N/A)	7.1 (N/A)	15.1	8.6	0
0012126769-04	301	5.8 (N/A)	16.0 (N/A)	21.8	7.9	0
0012126793-07	302	6.5 (N/A)	8.6 (N/A)	15.1	8.6	0
0012126827-06	303	3.4 (N/A)	7.2 (N/A)	10.6	9.2	0
0012126868-10	304	3.2 (N/A)	9.1 (N/A)	12.3	8.9	0
0012126892-05	305	3.5 (N/A)	7.3 (N/A)	10.8	9.2	0
0012126918-09	306	3.1 (N/A)	7.6 (N/A)	10.7	9.2	0
0012126942-03	307	19.1 (N/A)	10.1 (N/A)	29.1	7.1	0
0012126983-03	308	10.4 (N/A)	8.8 (N/A)	19.2	8.2	0



<u>0012127015-03</u>	309	11.7 (N/A)	10.1 (N/A)	21.8	7.9	0
<u>0012127049-06</u>	310	15.5 (N/A)	16.2 (N/A)	31.7	6.8	0
<u>0012127072-02</u>	311	2.7 (N/A)	11.7 (N/A)	14.4	8.7	0
<u>0012127106-02</u>	312	3.4 (N/A)	10.8 (N/A)	14.2	8.7	0
<u>0012127130-02</u>	313	4.0 (N/A)	10.0 (N/A)	14.0	8.8	0
<u>0012127163-02</u>	314	2.1 (N/A)	7.8 (N/A)	9.9	9.4	0
<u>0012127197-02</u>	315	9.1 (N/A)	20.5 (N/A)	29.5	7.1	0
<u>0012126660-03</u>	316	3.1 (N/A)	5.6 (N/A)	8.6	9.6	0
<u>0012126686-03</u>	317	8.4 (N/A)	7.1 (N/A)	15.5	8.6	0
<u>0012126710-04</u>	401	12.3 (N/A)	20.2 (N/A)	32.5	6.7	0
<u>0012126744-04</u>	402	9.9 (N/A)	10.6 (N/A)	20.5	8.1	0
<u>0012126777-11</u>	403	9.9 (N/A)	9.3 (N/A)	19.2	8.2	0
<u>0012126801-10</u>	404	6.5 (N/A)	17.0 (N/A)	23.5	7.7	0
<u>0012126835-03</u>	405	4.5 (N/A)	7.9 (N/A)	12.4	8.9	0
<u>0012126850-09</u>	406	3.6 (N/A)	7.6 (N/A)	11.2	9.1	0
<u>0012126884-04</u>	407	24.3 (N/A)	12.5 (N/A)	36.9	6.1	0
<u>0012126926-03</u>	408	16.7 (N/A)	11.9 (N/A)	28.6	7.1	0
<u>0012126959-03</u>	409	19.1 (N/A)	12.2 (N/A)	31.2	6.9	0
<u>0012126975-06</u>	410	15.3 (N/A)	14.2 (N/A)	29.5	7.1	0
<u>0012127007-03</u>	411	4.4 (N/A)	10.6 (N/A)	15.0	8.6	0
<u>0012127031-03</u>	412	4.0 (N/A)	8.5 (N/A)	12.4	8.9	0
<u>0012127064-03</u>	413	5.2 (N/A)	8.7 (N/A)	13.9	8.8	0
<u>0012127098-03</u>	414	2.7 (N/A)	7.0 (N/A)	9.6	9.4	0
<u>0012127122-02</u>	415	13.5 (N/A)	19.7 (N/A)	33.1	6.6	0
<u>0012127155-03</u>	416	8.1 (N/A)	7.6 (N/A)	15.7	8.5	0
<u>0012127189-03</u>	417	13.1 (N/A)	10.5 (N/A)	23.7	7.7	0
<u>0012851192-03</u>	501	13.8 (N/A)	9.0 (N/A)	22.8	7.8	0
<u>0012851226-03</u>	502	10.9 (N/A)	9.2 (N/A)	20.1	8.1	0
<u>0012851994-05</u>	503	16.9 (N/A)	8.8 (N/A)	25.7	7.4	0
<u>0012852000-05</u>	504	20.5 (N/A)	10.5 (N/A)	31.0	6.9	0
<u>0012847679-07</u>	505	15.6 (N/A)	14.8 (N/A)	30.4	6.9	0
<u>0012851663-03</u>	506	3.4 (N/A)	19.9 (N/A)	23.3	7.7	0
<u>0012851374-03</u>	507	11.6 (N/A)	13.6 (N/A)	25.2	7.4	0
<u>0012851572-03</u>	508	12.4 (N/A)	13.4 (N/A)	25.7	7.4	0
<u>0012847851-06</u>	509	9.9 (N/A)	15.3 (N/A)	25.3	7.4	0
<u>0012852034-04</u>	601	11.8 (N/A)	20.2 (N/A)	32.0	6.8	0
<u>0012847794-09</u>	602	14.1 (N/A)	8.1 (N/A)	22.2	7.9	0
<u>0012851473-03</u>	603	11.1 (N/A)	8.7 (N/A)	19.8	8.1	0



<u>0012851259-03</u>	604	11.4 (N/A)	9.2 (N/A)	20.6	8	0
<u>0012851747-05</u>	605	17.4 (N/A)	8.8 (N/A)	26.3	7.4	0
<u>0012851739-05</u>	606	21.0 (N/A)	10.2 (N/A)	31.2	6.9	0
<u>0012847695-06</u>	607	15.7 (N/A)	14.1 (N/A)	29.8	7	0
<u>0012851689-03</u>	608	3.6 (N/A)	19.2 (N/A)	22.8	7.8	0
<u>0012851408-03</u>	609	11.6 (N/A)	13.6 (N/A)	25.2	7.4	0
<u>0012851598-03</u>	610	12.5 (N/A)	13.3 (N/A)	25.7	7.4	0
<u>0012847893-06</u>	611	9.1 (N/A)	14.7 (N/A)	23.8	7.7	0
<u>0012852059-04</u>	701	11.5 (N/A)	19.3 (N/A)	30.8	6.9	0
<u>0012851762-05</u>	702	10.2 (N/A)	9.0 (N/A)	19.2	8.2	0
<u>0012851507-03</u>	703	11.6 (N/A)	8.7 (N/A)	20.3	8.1	0
<u>0012851283-03</u>	704	11.8 (N/A)	9.0 (N/A)	20.9	8	0
<u>0012851754-05</u>	705	18.0 (N/A)	8.7 (N/A)	26.7	7.3	0
<u>0012851770-05</u>	706	21.4 (N/A)	9.8 (N/A)	31.3	6.8	0
<u>0012847711-06</u>	707	16.1 (N/A)	13.7 (N/A)	29.8	7	0
<u>0012851705-03</u>	708	3.8 (N/A)	18.3 (N/A)	22.1	7.9	0
<u>0012851424-03</u>	709	12.1 (N/A)	13.9 (N/A)	25.9	7.4	0
<u>0012851614-03</u>	710	12.9 (N/A)	12.4 (N/A)	25.4	7.4	0
<u>0012847919-06</u>	711	9.3 (N/A)	14.5 (N/A)	23.8	7.7	0
<u>0012852091-04</u>	801	11.9 (N/A)	19.1 (N/A)	31.0	6.9	0
<u>0012851788-05</u>	802	10.6 (N/A)	9.0 (N/A)	19.6	8.1	0
<u>0012851523-03</u>	803	12.1 (N/A)	8.7 (N/A)	20.8	8	0
<u>0012851325-03</u>	804	12.3 (N/A)	9.0 (N/A)	21.3	7.9	0
<u>0012851796-05</u>	805	18.5 (N/A)	8.6 (N/A)	27.2	7.3	0
<u>0012851804-05</u>	806	21.9 (N/A)	9.5 (N/A)	31.4	6.8	0
<u>0012847745-06</u>	807	16.5 (N/A)	13.4 (N/A)	29.9	7	0
<u>0012851721-03</u>	808	4.1 (N/A)	17.2 (N/A)	21.3	7.9	0
<u>0012851432-03</u>	809	12.6 (N/A)	13.2 (N/A)	25.8	7.4	0
<u>0012851630-03</u>	810	13.4 (N/A)	12.3 (N/A)	25.7	7.4	0
<u>0012847950-06</u>	811	9.6 (N/A)	14.1 (N/A)	23.7	7.7	0
<u>0012852018-04</u>	901	12.1 (N/A)	18.4 (N/A)	30.6	6.9	0
<u>0012851838-05</u>	902	10.9 (N/A)	8.9 (N/A)	19.8	8.1	0
<u>0012851549-03</u>	903	12.4 (N/A)	8.7 (N/A)	21.0	8	0
<u>0012851358-03</u>	904	12.6 (N/A)	8.9 (N/A)	21.5	7.9	0
<u>0012851820-05</u>	905	18.9 (N/A)	8.6 (N/A)	27.5	7.3	0
<u>0012851812-05</u>	906	22.3 (N/A)	9.4 (N/A)	31.6	6.8	0
<u>0012847760-06</u>	907	16.7 (N/A)	13.2 (N/A)	29.8	7	0
<u>0012851184-03</u>	908	4.2 (N/A)	16.7 (N/A)	20.9	8	0



<u>0012851457-03</u>	909	13.0 (N/A)	13.2 (N/A)	26.2	7.4	0
<u>0012851655-03</u>	910	13.7 (N/A)	12.2 (N/A)	25.9	7.4	0
<u>0012847968-06</u>	911	9.8 (N/A)	14.1 (N/A)	23.9	7.6	0
<u>0012852042-04</u>	1001	12.4 (N/A)	18.2 (N/A)	30.6	6.9	0
<u>0012851861-05</u>	1002	11.1 (N/A)	9.1 (N/A)	20.2	8.1	0
<u>0012851564-03</u>	1003	12.7 (N/A)	8.7 (N/A)	21.4	7.9	0
<u>0012851382-03</u>	1004	12.9 (N/A)	8.8 (N/A)	21.7	7.9	0
<u>0012851853-05</u>	1005	19.3 (N/A)	8.6 (N/A)	27.9	7.2	0
<u>0012851846-05</u>	1006	22.6 (N/A)	9.2 (N/A)	31.8	6.8	0
<u>0012847786-06</u>	1007	17.1 (N/A)	13.0 (N/A)	30.2	6.9	0
<u>0012851234-03</u>	1008	4.4 (N/A)	16.3 (N/A)	20.6	8	0
<u>0012851481-03</u>	1009	13.3 (N/A)	13.1 (N/A)	26.4	7.4	0
<u>0012851671-03</u>	1010	14.1 (N/A)	11.8 (N/A)	25.9	7.4	0
<u>0012847836-06</u>	1011	10.0 (N/A)	13.8 (N/A)	23.9	7.6	0
<u>0012852075-04</u>	1101	12.7 (N/A)	17.1 (N/A)	29.9	7	0
<u>0012851895-05</u>	1102	11.5 (N/A)	8.7 (N/A)	20.2	8.1	0
<u>0012851580-03</u>	1103	13.2 (N/A)	8.6 (N/A)	21.8	7.9	0
<u>0012851390-03</u>	1104	13.3 (N/A)	9.0 (N/A)	22.3	7.8	0
<u>0012851887-05</u>	1105	19.8 (N/A)	8.5 (N/A)	28.3	7.2	0
<u>0012851879-05</u>	1106	23.1 (N/A)	8.8 (N/A)	31.8	6.8	0
<u>0012847802-06</u>	1107	17.6 (N/A)	13.0 (N/A)	30.6	6.9	0
<u>0012851267-03</u>	1108	4.6 (N/A)	16.3 (N/A)	20.8	8	0
<u>0012851499-03</u>	1109	13.9 (N/A)	13.3 (N/A)	27.2	7.3	0
<u>0012851697-03</u>	1110	14.5 (N/A)	11.6 (N/A)	26.2	7.4	0
<u>0012847869-06</u>	1111	10.2 (N/A)	13.9 (N/A)	24.1	7.6	0
<u>0012852026-04</u>	1201	13.0 (N/A)	16.8 (N/A)	29.8	7	0
<u>0012851929-05</u>	1202	11.8 (N/A)	8.8 (N/A)	20.5	8.1	0
<u>0012851606-03</u>	1203	13.3 (N/A)	8.6 (N/A)	21.9	7.9	0
<u>0012851416-03</u>	1204	13.6 (N/A)	9.0 (N/A)	22.6	7.8	0
<u>0012851911-05</u>	1205	20.2 (N/A)	8.3 (N/A)	28.5	7.2	0
<u>0012851903-05</u>	1206	23.4 (N/A)	8.7 (N/A)	32.1	6.7	0
<u>0012847810-06</u>	1207	17.9 (N/A)	12.6 (N/A)	30.5	6.9	0
<u>0012851291-03</u>	1208	4.6 (N/A)	16.1 (N/A)	20.8	8	0
<u>0012851515-03</u>	1209	14.1 (N/A)	13.3 (N/A)	27.4	7.3	0
<u>0012851713-03</u>	1210	14.8 (N/A)	11.7 (N/A)	26.6	7.3	0
<u>0012847885-06</u>	1211	10.4 (N/A)	13.4 (N/A)	23.8	7.7	0
<u>0012852067-04</u>	1301	13.2 (N/A)	16.7 (N/A)	29.9	7	0
<u>0012851945-05</u>	1302	12.0 (N/A)	8.6 (N/A)	20.7	8	0



<u>0012851622-03</u>	1303	13.2 (N/A)	8.5 (N/A)	21.7	7.9	0
<u>0012851440-03</u>	1304	13.9 (N/A)	9.0 (N/A)	22.9	7.8	0
<u>0012851952-05</u>	1305	20.5 (N/A)	8.3 (N/A)	28.8	7.1	0
<u>0012851937-05</u>	1306	23.7 (N/A)	8.6 (N/A)	32.3	6.7	0
<u>0012847828-06</u>	1307	18.2 (N/A)	12.6 (N/A)	30.8	6.9	0
<u>0012851317-03</u>	1308	4.8 (N/A)	16.0 (N/A)	20.8	8	0
<u>0012851531-03</u>	1309	14.5 (N/A)	13.1 (N/A)	27.6	7.2	0
<u>0012851200-03</u>	1310	15.2 (N/A)	11.6 (N/A)	26.8	7.3	0
<u>0012847927-06</u>	1311	10.6 (N/A)	13.5 (N/A)	24.1	7.6	0
<u>0012852083-04</u>	1401	13.4 (N/A)	16.3 (N/A)	29.6	7	0
<u>0012851978-05</u>	1402	12.3 (N/A)	8.6 (N/A)	20.9	8	0
<u>0012851648-03</u>	1403	13.6 (N/A)	8.4 (N/A)	22.0	7.9	0
<u>0012851465-03</u>	1404	14.2 (N/A)	8.8 (N/A)	23.0	7.8	0
<u>0012851986-05</u>	1405	20.9 (N/A)	8.2 (N/A)	29.1	7.1	0
<u>0012851960-05</u>	1406	24.0 (N/A)	8.5 (N/A)	32.5	6.7	0
<u>0012847729-06</u>	1407	18.3 (N/A)	12.5 (N/A)	30.8	6.9	0
<u>0012851341-03</u>	1408	4.9 (N/A)	15.1 (N/A)	20.0	8.1	0
<u>0012851556-03</u>	1409	14.8 (N/A)	12.9 (N/A)	27.7	7.2	0
<u>0012851218-03</u>	1410	15.2 (N/A)	11.7 (N/A)	27.0	7.3	0
<u>0012847943-06</u>	1411	10.8 (N/A)	13.2 (N/A)	24.0	7.6	0
<u>0011787991-02</u>	1501	13.7 (N/A)	16.5 (N/A)	30.2	6.9	0
<u>0011788569-02</u>	1502	12.0 (N/A)	8.3 (N/A)	20.4	8.1	0
<u>0011788023-01</u>	1503	15.9 (N/A)	8.7 (N/A)	24.5	7.6	0
<u>0011788056-01</u>	1504	14.1 (N/A)	8.5 (N/A)	22.6	7.8	0
<u>0011788080-01</u>	1505	19.0 (N/A)	8.8 (N/A)	27.8	7.2	0
<u>0011788114-02</u>	1506	23.1 (N/A)	9.9 (N/A)	33.0	6.6	0
<u>0012847737-06</u>	1507	18.6 (N/A)	12.3 (N/A)	31.0	6.9	0
<u>0011788171-02</u>	1508	4.7 (N/A)	15.9 (N/A)	20.5	8.1	0
<u>0011788205-01</u>	1509	20.1 (N/A)	8.9 (N/A)	29.0	7.1	0
<u>0012851242-03</u>	1510	15.4 (N/A)	11.7 (N/A)	27.1	7.3	0
<u>0012847844-06</u>	1511	10.9 (N/A)	13.1 (N/A)	24.0	7.6	0
<u>0011788296-02</u>	1601	14.0 (N/A)	16.2 (N/A)	30.2	6.9	0
<u>0011787892-03</u>	1602	12.1 (N/A)	8.2 (N/A)	20.3	8.1	0
<u>0011788320-01</u>	1603	16.0 (N/A)	8.5 (N/A)	24.5	7.6	0
<u>0011788353-01</u>	1604	14.2 (N/A)	8.5 (N/A)	22.7	7.8	0
<u>0011788395-01</u>	1605	19.2 (N/A)	8.8 (N/A)	27.9	7.2	0
<u>0011788429-02</u>	1606	23.3 (N/A)	10.1 (N/A)	33.4	6.6	0
<u>0012847752-06</u>	1607	18.9 (N/A)	12.1 (N/A)	31.1	6.9	0



<u>0011788486-02</u>	1608	4.7 (N/A)	15.6 (N/A)	20.3	8.1	0
<u>0011788502-01</u>	1609	20.3 (N/A)	9.0 (N/A)	29.3	7.1	0
<u>0012851275-03</u>	1610	15.7 (N/A)	11.8 (N/A)	27.5	7.3	0
<u>0012847877-06</u>	1611	11.2 (N/A)	12.8 (N/A)	23.9	7.6	0
<u>0011785854-02</u>	1701	14.2 (N/A)	15.8 (N/A)	29.9	7	0
<u>0011787926-02</u>	1702	12.4 (N/A)	8.3 (N/A)	20.7	8	0
<u>0011785896-01</u>	1703	16.3 (N/A)	8.2 (N/A)	24.5	7.6	0
<u>0011785912-01</u>	1704	14.5 (N/A)	8.5 (N/A)	23.1	7.7	0
<u>0011785946-01</u>	1705	19.5 (N/A)	8.5 (N/A)	28.0	7.2	0
<u>0011785979-02</u>	1706	23.6 (N/A)	9.9 (N/A)	33.4	6.6	0
<u>0012847703-06</u>	1707	19.2 (N/A)	12.2 (N/A)	31.4	6.8	0
<u>0011786035-05</u>	1708	4.9 (N/A)	15.5 (N/A)	20.4	8.1	0
<u>0011786068-01</u>	1709	20.5 (N/A)	9.0 (N/A)	29.5	7.1	0
<u>0012851309-03</u>	1710	16.1 (N/A)	11.5 (N/A)	27.6	7.2	0
<u>0012847901-06</u>	1711	11.2 (N/A)	12.9 (N/A)	24.1	7.6	0
<u>0011786159-02</u>	1801	14.3 (N/A)	15.7 (N/A)	29.9	7	0
<u>0011787959-02</u>	1802	12.7 (N/A)	8.4 (N/A)	21.0	8	0
<u>0011786183-01</u>	1803	16.7 (N/A)	8.2 (N/A)	24.9	7.5	0
<u>0011786217-01</u>	1804	14.8 (N/A)	8.5 (N/A)	23.3	7.7	0
<u>0011786241-01</u>	1805	19.8 (N/A)	8.5 (N/A)	28.4	7.2	0
<u>0011786274-02</u>	1806	23.9 (N/A)	9.6 (N/A)	33.5	6.6	0
<u>0012847687-06</u>	1807	19.5 (N/A)	11.8 (N/A)	31.3	6.8	0
<u>0011786332-02</u>	1808	5.0 (N/A)	15.7 (N/A)	20.7	8	0
<u>0011786365-01</u>	1809	20.7 (N/A)	9.0 (N/A)	29.7	7	0
<u>0012851333-03</u>	1810	16.3 (N/A)	11.5 (N/A)	27.9	7.2	0
<u>0012847935-06</u>	1811	11.4 (N/A)	12.9 (N/A)	24.3	7.6	0
<u>0011786456-02</u>	1901	16.4 (N/A)	15.3 (N/A)	31.7	6.8	0
<u>0011787983-02</u>	1902	12.9 (N/A)	8.3 (N/A)	21.2	7.9	0
<u>0011786480-01</u>	1903	16.8 (N/A)	8.2 (N/A)	25.0	7.5	0
<u>0011786514-01</u>	1904	15.2 (N/A)	8.2 (N/A)	23.4	7.7	0
<u>0011786548-01</u>	1905	20.0 (N/A)	8.6 (N/A)	28.6	7.1	0
<u>0011786571-02</u>	1906	24.0 (N/A)	9.7 (N/A)	33.7	6.5	0
<u>0012847778-06</u>	1907	22.8 (N/A)	13.7 (N/A)	36.4	6.2	0
<u>0011786639-02</u>	1908	11.0 (N/A)	18.4 (N/A)	29.4	7.1	0
<u>0011786662-01</u>	1909	28.1 (N/A)	9.8 (N/A)	37.8	6	0
<u>0012851366-03</u>	1910	23.9 (N/A)	13.1 (N/A)	37.1	6.1	0
<u>0012847976-06</u>	1911	17.5 (N/A)	14.0 (N/A)	31.5	6.8	0
<u>0011786753-02</u>	2001	14.3 (N/A)	19.8 (N/A)	34.1	6.4	0



<u>0011788015-02</u>	2002	13.2 (N/A)	8.2 (N/A)	21.4	7.9	0
<u>0011786787-01</u>	2003	17.7 (N/A)	8.5 (N/A)	26.3	7.4	0
<u>0011786811-01</u>	2004	16.0 (N/A)	8.1 (N/A)	24.1	7.6	0
<u>0011786837-01</u>	2005	24.7 (N/A)	11.2 (N/A)	36.0	6.3	0
<u>0011786860-02</u>	2006	25.2 (N/A)	9.7 (N/A)	34.9	6.4	0
<u>0011786894-02</u>	2101	15.8 (N/A)	15.1 (N/A)	30.9	6.9	0
<u>0011788049-02</u>	2102	13.3 (N/A)	8.3 (N/A)	21.6	7.9	0
<u>0011786928-01</u>	2103	14.9 (N/A)	7.9 (N/A)	22.8	7.8	0
<u>0011786951-01</u>	2104	17.2 (N/A)	7.6 (N/A)	24.8	7.5	0
<u>0011786985-02</u>	2105	24.6 (N/A)	9.2 (N/A)	33.8	6.5	0
<u>0011787017-02</u>	2106	22.6 (N/A)	15.4 (N/A)	38.0	6	0
<u>0011787041-01</u>	2107	22.1 (N/A)	8.3 (N/A)	30.5	6.9	0
<u>0011787074-01</u>	2108	17.4 (N/A)	7.6 (N/A)	25.0	7.5	0
<u>0011787108-02</u>	2201	15.0 (N/A)	15.6 (N/A)	30.6	6.9	0
<u>0011788072-02</u>	2202	13.4 (N/A)	8.1 (N/A)	21.5	7.9	0
<u>0011787132-01</u>	2203	14.5 (N/A)	7.8 (N/A)	22.3	7.8	0
<u>0011787165-01</u>	2204	17.0 (N/A)	7.7 (N/A)	24.7	7.5	0
<u>0011787199-02</u>	2205	24.7 (N/A)	9.3 (N/A)	34.0	6.5	0
<u>0011787223-01</u>	2206	16.7 (N/A)	16.3 (N/A)	33.0	6.6	0
<u>0011787256-01</u>	2207	15.7 (N/A)	9.7 (N/A)	25.5	7.4	0
<u>0011787280-01</u>	2208	13.5 (N/A)	8.7 (N/A)	22.2	7.9	0
<u>0011787314-02</u>	2301	15.1 (N/A)	15.5 (N/A)	30.7	6.9	0
<u>0011788106-02</u>	2302	13.5 (N/A)	8.2 (N/A)	21.7	7.9	0
<u>0011787348-01</u>	2303	14.5 (N/A)	8.0 (N/A)	22.4	7.8	0
<u>0011787371-01</u>	2304	17.2 (N/A)	7.5 (N/A)	24.7	7.5	0
<u>0011787405-02</u>	2305	24.9 (N/A)	9.1 (N/A)	34.0	6.5	0
<u>0011787439-01</u>	2306	16.8 (N/A)	16.1 (N/A)	32.9	6.6	0
<u>0011787462-01</u>	2307	15.9 (N/A)	9.4 (N/A)	25.3	7.4	0
<u>0011787496-01</u>	2308	13.8 (N/A)	8.5 (N/A)	22.3	7.8	0
<u>0011787512-02</u>	2401	15.3 (N/A)	14.9 (N/A)	30.3	6.9	0
<u>0011788130-02</u>	2402	13.7 (N/A)	8.2 (N/A)	21.9	7.9	0
<u>0011787546-01</u>	2403	14.6 (N/A)	7.9 (N/A)	22.5	7.8	0
<u>0011787579-01</u>	2404	17.5 (N/A)	7.5 (N/A)	25.0	7.5	0
<u>0011787611-02</u>	2405	25.2 (N/A)	9.0 (N/A)	34.2	6.4	0
<u>0011787645-01</u>	2406	17.1 (N/A)	15.8 (N/A)	32.9	6.6	0
<u>0011787678-01</u>	2407	16.2 (N/A)	9.5 (N/A)	25.7	7.4	0
<u>0011787702-01</u>	2408	14.0 (N/A)	8.8 (N/A)	22.8	7.8	0
<u>0011787736-02</u>	2501	15.4 (N/A)	15.2 (N/A)	30.6	6.9	0



<u>0011788163-02</u>	2502	13.8 (N/A)	8.1 (N/A)	21.9	7.9	0
<u>0011787769-01</u>	2503	14.9 (N/A)	7.7 (N/A)	22.5	7.8	0
<u>0011787793-01</u>	2504	17.6 (N/A)	7.4 (N/A)	25.1	7.4	0
<u>0011787827-02</u>	2505	25.3 (N/A)	8.9 (N/A)	34.2	6.4	0
<u>0011787850-01</u>	2506	17.2 (N/A)	15.8 (N/A)	33.0	6.6	0
<u>0011787884-01</u>	2507	16.3 (N/A)	9.6 (N/A)	25.8	7.4	0
<u>0011787918-01</u>	2508	14.2 (N/A)	8.7 (N/A)	22.9	7.8	0
<u>0011787942-02</u>	2601	15.5 (N/A)	15.4 (N/A)	30.9	6.9	0
<u>0011788197-02</u>	2602	14.0 (N/A)	7.8 (N/A)	21.9	7.9	0
<u>0011787975-01</u>	2603	15.2 (N/A)	7.8 (N/A)	23.0	7.8	0
<u>0011788007-01</u>	2604	17.9 (N/A)	7.5 (N/A)	25.5	7.4	0
<u>0011788031-02</u>	2605	25.5 (N/A)	9.0 (N/A)	34.4	6.4	0
<u>0011788064-01</u>	2606	17.4 (N/A)	15.6 (N/A)	32.9	6.6	0
<u>0011788098-01</u>	2607	16.4 (N/A)	9.2 (N/A)	25.6	7.4	0
<u>0011788122-01</u>	2608	14.3 (N/A)	8.9 (N/A)	23.1	7.7	0
<u>0011788155-02</u>	2701	15.7 (N/A)	15.5 (N/A)	31.2	6.9	0
<u>0011788221-02</u>	2702	14.2 (N/A)	7.9 (N/A)	22.0	7.9	0
<u>0011788189-01</u>	2703	15.4 (N/A)	7.6 (N/A)	23.0	7.8	0
<u>0011788213-01</u>	2704	18.1 (N/A)	7.5 (N/A)	25.6	7.4	0
<u>0011788247-02</u>	2705	25.6 (N/A)	8.8 (N/A)	34.5	6.4	0
<u>0011788270-01</u>	2706	17.6 (N/A)	15.5 (N/A)	33.1	6.6	0
<u>0011788304-01</u>	2707	16.5 (N/A)	9.5 (N/A)	25.9	7.4	0
<u>0011788338-01</u>	2708	14.4 (N/A)	8.7 (N/A)	23.2	7.7	0
<u>0011788361-02</u>	2801	15.9 (N/A)	14.9 (N/A)	30.8	6.9	0
<u>0011788288-02</u>	2802	14.3 (N/A)	8.0 (N/A)	22.3	7.8	0
<u>0011788387-01</u>	2803	15.4 (N/A)	7.6 (N/A)	23.0	7.8	0
<u>0011788411-01</u>	2804	18.2 (N/A)	7.5 (N/A)	25.7	7.4	0
<u>0011788445-02</u>	2805	25.9 (N/A)	8.8 (N/A)	34.7	6.4	0
<u>0011788478-01</u>	2806	17.8 (N/A)	15.4 (N/A)	33.1	6.6	0
<u>0011788494-01</u>	2807	16.8 (N/A)	9.0 (N/A)	25.8	7.4	0
<u>0011785847-01</u>	2808	14.7 (N/A)	8.5 (N/A)	23.2	7.7	0
<u>0011785862-02</u>	2901	16.0 (N/A)	15.3 (N/A)	31.2	6.9	0
<u>0011788254-02</u>	2902	14.4 (N/A)	8.0 (N/A)	22.4	7.8	0
<u>0011785888-01</u>	2903	15.6 (N/A)	7.5 (N/A)	23.2	7.7	0
<u>0011785920-01</u>	2904	18.4 (N/A)	7.7 (N/A)	26.0	7.4	0
<u>0011785953-02</u>	2905	26.0 (N/A)	8.7 (N/A)	34.7	6.4	0
<u>0011785987-01</u>	2906	17.9 (N/A)	15.3 (N/A)	33.2	6.6	0
<u>0011786019-01</u>	2907	16.9 (N/A)	9.0 (N/A)	25.9	7.4	0



<u>0011786043-01</u>	2908	14.7 (N/A)	8.6 (N/A)	23.3	7.7	0
<u>0011786076-02</u>	3001	16.0 (N/A)	15.9 (N/A)	31.9	6.8	0
<u>0011788312-02</u>	3002	14.5 (N/A)	7.9 (N/A)	22.5	7.8	0
<u>0011786100-01</u>	3003	15.8 (N/A)	7.5 (N/A)	23.3	7.7	0
<u>0011786134-01</u>	3004	18.5 (N/A)	7.7 (N/A)	26.2	7.4	0
<u>0011786167-02</u>	3005	26.2 (N/A)	8.5 (N/A)	34.6	6.4	0
<u>0011786191-01</u>	3006	18.0 (N/A)	15.7 (N/A)	33.7	6.5	0
<u>0011786225-01</u>	3007	17.0 (N/A)	8.9 (N/A)	25.9	7.4	0
<u>0011786258-01</u>	3008	14.8 (N/A)	8.7 (N/A)	23.5	7.7	0
<u>0011786282-02</u>	3101	16.1 (N/A)	16.7 (N/A)	32.8	6.7	0
<u>0011788346-02</u>	3102	14.7 (N/A)	7.6 (N/A)	22.2	7.9	0
<u>0011786316-01</u>	3103	15.9 (N/A)	7.4 (N/A)	23.3	7.7	0
<u>0011786340-01</u>	3104	18.6 (N/A)	7.7 (N/A)	26.3	7.4	0
<u>0011786373-02</u>	3105	26.2 (N/A)	8.7 (N/A)	35.0	6.4	0
<u>0011786407-01</u>	3106	18.1 (N/A)	15.4 (N/A)	33.5	6.6	0
<u>0011786431-01</u>	3107	17.2 (N/A)	8.9 (N/A)	26.1	7.4	0
<u>0011786464-01</u>	3108	15.0 (N/A)	8.7 (N/A)	23.7	7.7	0
<u>0011786498-02</u>	3201	16.2 (N/A)	17.1 (N/A)	33.3	6.6	0
<u>0011788379-02</u>	3202	14.8 (N/A)	7.5 (N/A)	22.3	7.8	0
<u>0011786522-01</u>	3203	16.0 (N/A)	7.6 (N/A)	23.6	7.7	0
<u>0011786555-01</u>	3204	18.8 (N/A)	7.5 (N/A)	26.2	7.4	0
<u>0011786589-02</u>	3205	26.3 (N/A)	8.7 (N/A)	35.0	6.4	0
<u>0011786613-02</u>	3206	18.3 (N/A)	15.6 (N/A)	33.9	6.5	0
<u>0011786647-01</u>	3207	17.3 (N/A)	8.8 (N/A)	26.1	7.4	0
<u>0011786670-01</u>	3208	15.0 (N/A)	8.7 (N/A)	23.7	7.7	0
<u>0011786704-02</u>	3301	16.3 (N/A)	17.2 (N/A)	33.5	6.6	0
<u>0011788403-02</u>	3302	15.0 (N/A)	7.5 (N/A)	22.5	7.8	0
<u>0011786720-01</u>	3303	16.1 (N/A)	7.3 (N/A)	23.4	7.7	0
<u>0011786761-01</u>	3304	23.2 (N/A)	6.5 (N/A)	29.7	7	0
<u>0011786795-02</u>	3305	26.5 (N/A)	8.8 (N/A)	35.2	6.4	0
<u>0011788593-01</u>	3306	18.7 (N/A)	15.7 (N/A)	34.4	6.4	0
<u>0011786845-01</u>	3307	17.6 (N/A)	8.9 (N/A)	26.5	7.4	0
<u>0011786878-01</u>	3308	15.3 (N/A)	8.7 (N/A)	24.0	7.6	0
<u>0011786902-02</u>	3401	19.2 (N/A)	12.7 (N/A)	32.0	6.8	0
<u>0011788437-02</u>	3402	15.3 (N/A)	8.4 (N/A)	23.8	7.7	0
<u>0011786936-01</u>	3403	15.6 (N/A)	7.4 (N/A)	23.0	7.8	0
<u>0011786969-01</u>	3404	23.2 (N/A)	6.5 (N/A)	29.7	7	0
<u>0011786993-02</u>	3405	21.9 (N/A)	13.7 (N/A)	35.6	6.3	0



<u>0011787025-01</u>	3406	24.0 (N/A)	14.0 (N/A)	38.0	6	0
<u>0011787058-01</u>	3407	18.2 (N/A)	10.0 (N/A)	28.1	7.2	0
<u>0011787082-01</u>	3408	15.3 (N/A)	8.6 (N/A)	23.9	7.6	0
<u>0011787116-02</u>	3501	18.7 (N/A)	13.9 (N/A)	32.6	6.7	0
<u>0011788460-02</u>	3502	15.4 (N/A)	8.5 (N/A)	23.9	7.6	0
<u>0011787140-01</u>	3503	16.2 (N/A)	7.7 (N/A)	23.8	7.7	0
<u>0011787173-01</u>	3504	25.3 (N/A)	6.9 (N/A)	32.2	6.7	0
<u>0011787207-01</u>	3505	29.9 (N/A)	7.6 (N/A)	37.5	6.1	0
<u>0011787231-01</u>	3506	18.7 (N/A)	16.1 (N/A)	34.8	6.4	0
<u>0011787264-01</u>	3507	18.0 (N/A)	8.9 (N/A)	26.8	7.3	0
<u>0011787298-02</u>	3601	18.3 (N/A)	15.3 (N/A)	33.6	6.6	0
<u>0011787322-01</u>	3602	8.2 (N/A)	9.9 (N/A)	18.1	8.3	0
<u>0011787355-01</u>	3603	17.2 (N/A)	14.8 (N/A)	32.0	6.8	0
<u>0011787389-01</u>	3604	19.8 (N/A)	17.8 (N/A)	37.6	6.1	0
<u>0011787413-01</u>	3605	18.6 (N/A)	7.3 (N/A)	25.9	7.4	0
<u>0011787447-02</u>	3701	20.2 (N/A)	6.6 (N/A)	26.9	7.3	0
<u>0011787470-02</u>	3702	20.0 (N/A)	14.3 (N/A)	34.3	6.4	0
<u>0011787504-02</u>	3703	19.7 (N/A)	5.5 (N/A)	25.2	7.4	0
<u>0011787538-02</u>	3704	29.3 (N/A)	7.8 (N/A)	37.1	6.1	0
<u>0011787561-02</u>	3705	23.5 (N/A)	13.3 (N/A)	36.8	6.2	0
<u>0011787595-02</u>	3706	19.8 (N/A)	11.5 (N/A)	31.3	6.8	0

Explanatory notes

About this ratings

The thermal performance star rating in this Certificate is the average rating of all NCC Class 2 dwellings in an apartment block. Individual unit ratings are listed in the ‘Summary of all dwellings’ section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home’s energy efficiency and performance. They use localised climate

data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home’s building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads.

For more details about an individual dwelling’s assessment, refer to the individual dwelling’s NatHERS Certificate (accessible via link).

Accredited Assessors

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

**Disclaimer**

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical

Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.