



Shop Top Housing 72-88 Water St Strathfield South SSDA ESD Report

72-88 Water Street, Strathfield South, NSW 2191

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E-LAB Consulting

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Sustainability



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EXECUTIVE SUMMARY

This ESD Report has been prepared to support a State Significant Development Application (SSDA) for the proposed mixed-use development at 72-88 Water Street, Strathfield South (the site).

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-85617958) and demonstrates how the development incorporates Ecologically Sustainable Development (ESD) principles across energy, water, materials, indoor environment quality, sustainable transport, waste, and urban heat mitigation.

This report concludes that the proposed mixed-use development is suitable and warrants approval subject to the implementation of the measures discussed in Section 3.

Following the implementation of the chosen ESD measures, the remaining impacts are considered appropriate.



1 INTRODUCTION

The SSDA application seeks development consent for a proposed mixed-use residential building, including in-fill affordable housing at 72–88 Water St, Strathfield South. The proposed works include demolition of existing structures, site preparation works, excavation and construction of the building and associated landscaping works.

The proposed development includes a mixed-use shop top housing scheme including a full-line supermarket at the ground floor and residential units above. In summary, the proposed development includes:

- Demolition of existing structures.
- Construction of a shop top housing building between four (4) and eight (8) storeys, comprising 132 residential apartments, including a minimum 10% affordable housing.
- Provision for approximately 4,000m² retail Gross Floor Area (GFA) at lower levels, including a supermarket and specialty shops.
- Five (5) levels of basement parking (servicing residential, visitor and retail uses).
- Removal of trees.
- Extensive new landscaping across the site.
- Public domain works, including embellishment of the interface to the existing pedestrian laneway to the northern boundary of the site.
- Associated utility and stormwater connections.

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) issues for the project dated July 2, 2025. Specifically, this report has been prepared to respond to the requirements issued below.

ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD) REQUIREMENTS	RESPONSE
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.	Refer to Section 3.1 for the project's response to the principles of the EPA regulation.
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.	Refer to Taylor Smith Consulting's BASIX Report dated 08/11/2025. Certificate No.: 1820918M.



1.1 SUBJECT SITE

The site is located at 72-88 Water Street, Strathfield South, and comprises a total of nine (9) allotments located north of Punchbowl Road to the western side of Water Street. The site is located within the Strathfield Local Government Area (LGA) and is in proximity to the Canterbury Bankstown LGA, located to the south across Punchbowl Road. The site is irregular in shape, with a total area of approximately 5,088m² and currently accommodates a series of nine (9) single detached dwellings.

ADRESS	LOT	DP	AREA
72 Water Street, Strathfield South	Z	402256	636m ²
74 Water Street, Strathfield South	A	319354	544m ²
76 Water Street, Strathfield South	S	394194	513m ²
78 Water Street, Strathfield South	C	319354	509m ²
80 Water Street, Strathfield South	6	253882	605m ²
82 Water Street, Strathfield South	5	253882	593m ²
84 Water Street, Strathfield South	4	253882	561m ²
86 Water Street, Strathfield South	3	253882	562m ²
88 Water Street, Strathfield South	2	253882	565m ²
Total Site Area (Approx.)			5,088m ²



Figure 1 - Site Location

1.2 SURROUNDING CONTEXT

The site is located within the R3 Medium Density Residential zone, adjoining areas zoned R2 Low Density Residential, E1 Local Centre and RE1 Public Recreation. Surrounding development is varied, with a mix of 1-2 storey buildings along Burwood Road and taller developments up to 8 storeys nearby.

The site forms part of the Strathfield South Centre, which includes local shops along Burwood Road and Punchbowl Road. It is within walking distance of community facilities such as places of worship, Strathfield South RSL, the Bowling Club, and local open space, such as Bark Huts Reserve and Ford Park along the Cooks River.

While not a heritage item or within a conservation area, the site is close to the locally listed “Claireville” (61 Water Street). It is also well connected by public transport, with frequent bus services to Strathfield and Campsie Stations, and rail access via Belmore and Strathfield stations.

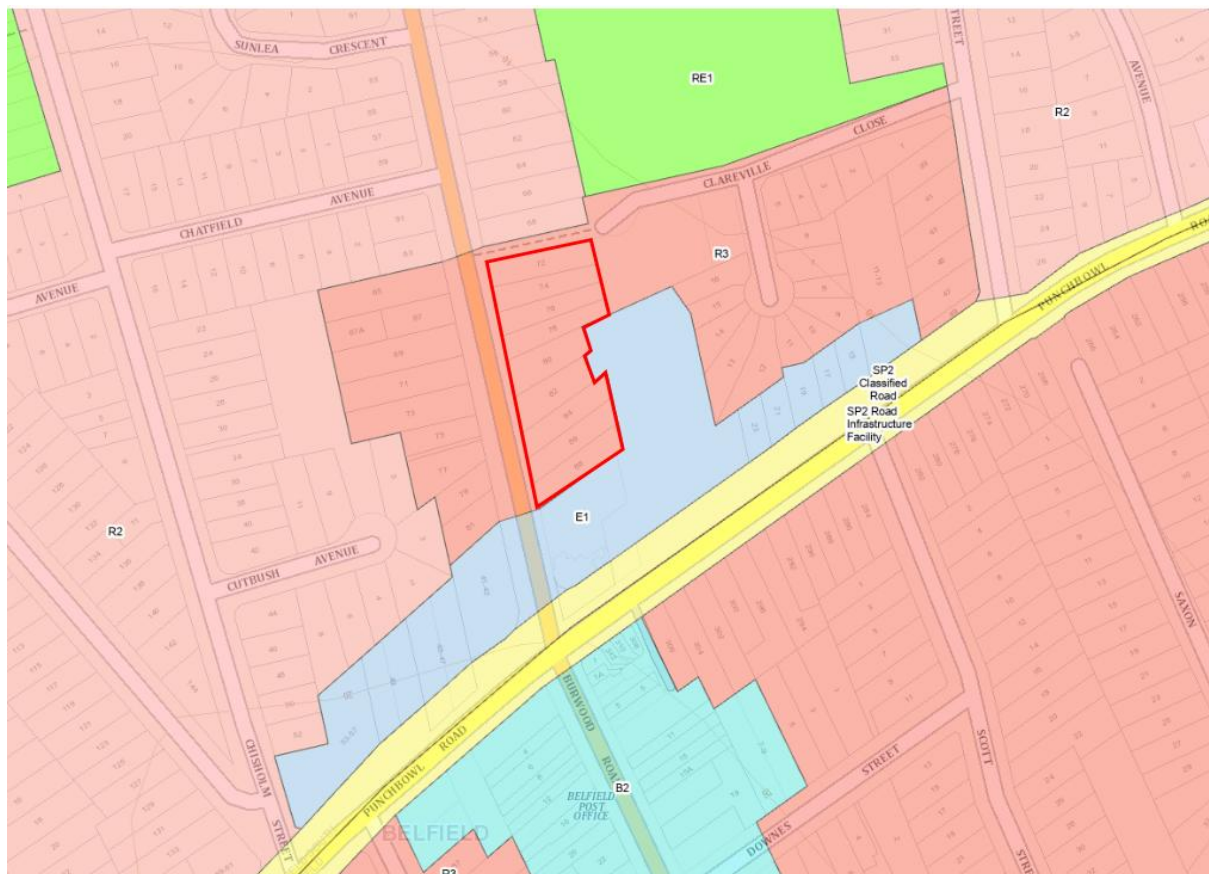


Figure 2 – NSW E-Planning Spatial Viewer (Source: NSW Planning Portal)

2 SUSTAINABILITY FRAMEWORKS

The proposed development's sustainability outcomes are influenced by the following key frameworks:

- BASIX including energy, water and thermal comfort targets
- Strathfield Local Environmental Plan 2012; and
- Strathfield Consolidated Development Control Plan 2005.

Notwithstanding, DCPs do not apply to SSD as per Section 2.10 of State Environmental Planning Policy (Planning Systems) 2021. The DCP has been utilised to guide the implementation of ESD principles throughout the development.

2.1 STRATHFIELD LOCAL ENVIRONMENTAL PLAN 2012

The site is currently zoned R3 – Medium Density Residential under the Strathfield Local Environmental Plan 2012. However, the proposal is subject to a current rezoning request seeking to amend the zoning to E1 – Local Centre. As such, consideration has been given to the objectives of the E1 zone, outlined below:

- To provide a range of retail, business and community uses that serve the needs of people who live in, work in or visit the area.
- To encourage investment in local commercial development that generates employment opportunities and economic growth.
- To enable residential development that contributes to a vibrant and active local centre and is consistent with the Council's strategic planning for residential development in the area.
- To encourage business, retail, community and other non-residential land uses on the ground floor of buildings.

2.2 STRATHFIELD CONSOLIDATED DEVELOPMENT CONTROL PLAN 2005

The Strathfield Consolidated DCP outlines the sustainable development objectives new developments in the Strathfield LGA must consider. In particular, Part C requires all new multi-unit housing developments to meet the following relevant objectives:

- To maximise solar access and privacy to existing and proposed developments.
- To preserve existing mature vegetation and encourage the planting of native vegetation suitable for the area.
- To ensure that an adequate number of on-site car parking spaces are provided for residents and visitors.
- To ensure that adequate provision is made for landscaped open space for the enjoyment of residents.
- To promote high quality landscaped areas which complement the overall development, and which assist in maintaining existing streetscape quality.

2.3 STATE ENVIRONMENTAL PLANNING POLICY (SUSTAINABLE BUILDINGS) 2022

NSW has whole-of-economy targets to reduce greenhouse gas emissions by 50 per cent by 2030 compared to 2005 levels, and net zero emissions by 2050. Achieving these targets will require all new and existing buildings in NSW to be operating at net zero well before 2050. Energy efficiency, conserving potable water and improving thermal performance are also high priorities.

The NSW Government has introduced the State Environmental Planning Policy (Sustainable Buildings) 2023 to ensure new and renovated buildings are sustainable and resilient for future climate and bring NSW towards net zero emissions. This policy covers all types of buildings from residential to key types of non-residential.

Table 1 below presents the applicable requirements for 72–88 Water Street. All requirements have been met. Refer to Taylor Smith Consulting's BASIX report dated 08/11/2025 (Certificate No. 1820918M) for verification.



Table 1 Sustainable Buildings SEPP - Residential Development Requirements

COMPONENT	REQUIREMENT
Residential	BASIX Energy Target 67% BASIX Water Target 40% BASIX Thermal Comfort - Individual apartment NatHERS rating no less than 6 Stars - Average apartment NatHERS rating of 7 Stars

2.4 BASIX MATERIALS INDEX

Reporting of embodied emissions in residential buildings is required under the BASIX Materials Index however there are no targets set. The BASIX Materials Index is still in development however will be able to calculate the embodied emissions of construction materials used to build a home and compare it to a benchmark. This benchmark will be calculated by estimating the volume of different materials used in the home's construction and applying an emissions factor for that material.

Whilst embodied emissions reporting is not currently required for 72–88 Water St, the following best practice initiatives are recommended to help reduce the embodied emissions of the development:

- Optimize systems for material efficiency
- Specify low carbon concrete
- Specify materials that naturally sequester carbon
- Specify materials manufactured with renewable energy
- Design for durability
- Get to know the supply chain for your specified project.
- Use salvaged and/or recycled materials

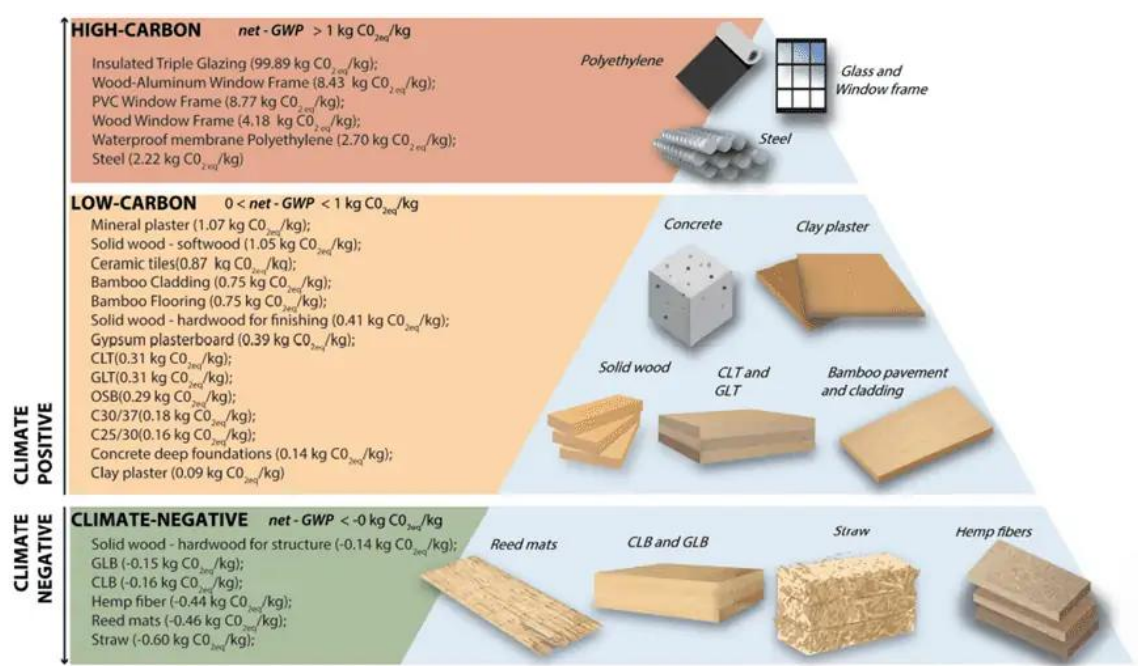


Figure 3 Material classification according to the net-GWP value (Source: Environ. Sci. Techno. 2022, 56, 5213-5223)

2.5 PERFORMANCE STANDARDS FOR NET ZERO READY ENERGY BUILDINGS

In alignment with best practice, the development's commitment to sustainability, the project proposes to be ready for net zero carbon emissions.

This includes the following strategies:

- Reducing energy loads and usage
- Explore opportunities for the on-site generation of renewable energy where possible to non-trafficable roof area
- Explore opportunities for electrification



3 PROJECT DESIGN RESPONSE

3.1 NSW EPA Regulation 2021

The proposed development will follow the golden standard in sustainability principals throughout the development. This includes the design, construction, and operational elements of the project. The key overarching principals are aligned with the definition of Ecologically Sustainable Development as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2021. These include:

The Precautionary Principle:

Philosophy: Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Project Response: The project is committed to incorporating elements to minimise impacts on the environment, as outlined below in this section of this report. A commitment to improvement on minimum benchmarks demonstrates the development's commitment to sustainability.

The Principle of Inter-generational Equity:

Philosophy: The present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations.

Project Response: The project is committed to incorporating careful selections into the project design. The design team will address key elements such as energy, potable water, and material consumption to do what is within the project's control to allow each following generation to have an opportunity for ecological equality.

The Principle of the conservation of biological diversity and ecological integrity:

Philosophy: Conservation of biological diversity and ecological integrity should be a fundamental consideration

Project Response: The project is committed to planting native vegetation and using integrated landscaping to enhance the overall ecological and biodiversity of the site. Rainwater reuse is not required for OSD/WSUD purposes.

Principles relating to improved valuation, pricing, and incentive mechanisms:

Philosophy: Environmental factors should be included in the valuation of assets and services. The users of goods and services should pay prices based on the full life cycle costs of providing goods and service.

Project Response: The project will target a construction waste diversion target of 90%, as well as developed specific project waste management strategies. These combine to ensure the project pays for the waste and damage it creates.

The Principle of Waste Minimisation:

Philosophy: All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.

Project Response: The project will target a construction waste diversion target of 90%, as well as developed specific project waste management strategies. Construction materials are chosen to be low impact in their manufacture, including best practice PVC and FSC/PeFC timber throughout where possible. This impacts waste both created by the site, as well as upstream and downstream waste categories.

The above principles are addressed by 5 key themes, being **Sea, Land, Water, Air and People**. These 5 key themes are centred around reducing harm as far as practicable across the practice of buildings and infrastructure, both in their construction and operation.



3.2 Sustainable Design Initiatives

The only path to a low carbon economy and achieving a “2°C world”, where the average global temperature is kept to less than 2°C above pre-industrial levels, is through comprehensive and complete consideration of how the development consumes resources, including energy, water, and material efficiency.

3.2.1 Energy Consumption

The energy efficiency strategy generally follows the energy efficiency pyramid of design in Figure 4. In the first instance demand for greenhouse gases should be reduced. Consideration should be to remove the need for energy to be consumed where possible. Beyond this, energy can be more efficient, through efficient lighting, mechanical systems, and appropriate services.

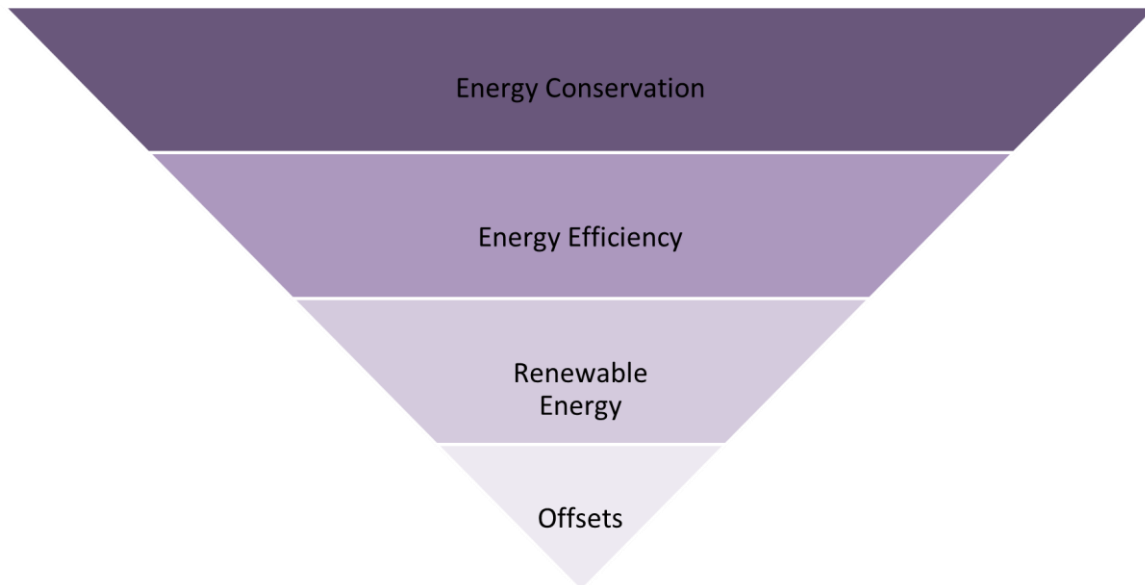
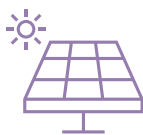


Figure 4. Energy efficiency pyramid: pathway to carbon neutrality.

Once the system has reduced all available energy-consuming elements and made the remaining systems as efficient as possible, renewable energy sources will be considered. PV will be installed at a rate that maximises the coverage of the non-trafficable roof area. Only after all the above steps have been completed should offsets be used to close the gap and achieve neutrality.

To achieve a high degree of energy efficiency and to align with governing ESD policies and performance requirements such as the EPA and the DCP, the following initiatives are to be implemented across the development:



Renewable Energy – The roof area provides an excellent opportunity for installation of a solar photovoltaic system. PV should be installed at a rate that maximises the coverage of the non-trafficable roof area. This system size will be explored during design development.



Efficient Lighting Systems – High efficiency LED lighting throughout, including in common areas with efficiency controls to meet the requirements of BASIX. Controls include motion sensors, time clocks and zoned switching which will help reduce consumption of energy. Lighting power density to be at least 10% below Section J.



Controls, Energy Metering and Monitoring – Energy meters and monitoring systems will be provided to comply with NCC 2022 Section J Part J8 requirements. Preference for natural ventilation and comfort through adaptive cooling and shading.



Facade – Façade systems and shading systems reduce load on the HVAC system with selection of insulation and glazing through new BASIX requirements. Aiming for high Star NatHERS average with consideration of window to wall ratio.



Appliances & Equipment – Apartment appliances and equipment selected with high energy rating to ensure reduced consumption which will be in line with BASIX energy targets requirements.

3.2.2 WATER CONSUMPTION & WSUD

To achieve responsible water consumption and water sensitive urban design, best practice water-saving initiatives will need to be implemented throughout the project. The following initiatives will be explored to achieve the potable water targets:

Sanitary Fixtures and Appliances– By implementing low-flow water fixtures, the consumption will be significantly reduced. All sanitary fixtures are to be provided with the minimum WELS ratings identified below:

Taps – 6 Star WELS

Toilets – 4 Star WELS

Urinals – 6 Star WELS (0.8 L per flush)

Showers – 3 Star WELS (<7.5 L/min)

Dishwashers – 5 Star WELS

Washing machines – 4 Star WELS



Landscape Irrigation – Efficient irrigation systems will be considered, including underground surface drip systems, moisture sensors, and the use of native plants in the landscaping plan. Native plants have evolved to thrive in the Australian environment and are typically more resilient than their exotic counterparts. They typically require less water and are more likely to survive the predicted increase in extreme drought conditions due to climate change. Native vegetation also stores a significant amount of carbon, helping to mitigate climate change.



3.2.3 MATERIALS

In line with the principals of sustainability outlined in the EPA, the project will have a significant focus on materiality. The scope of consideration includes the following action items within the project response:

- **Construction Waste** – At least 90% of construction and demolition waste is diverted from landfill.
- **Low VOC and Low Formaldehyde Materials** – paints, adhesives, sealants, floor coverings, carpets and engineered wood will be selected appropriately to provide a healthier and low-impact environment. Such efforts provide a cleaner and better environment for all.



- **Best-Practice PVC** – cables, pipes, flooring, and blinds will be selected and specified to be Best Practice PVC. This ensures upstream performance will be met and has significant benefit for the overall environment during the construction process.
- **FSC/PeFC Timber throughout** – Where possible, timber, including virgin and engineered timber through construction and fitout elements under the builder's control will be specified as FSC/PeFC. This ensures the timber provided to site is of the highest standard and sourced from sustainable sources.
- **Waste Management Plan** – Development of an ongoing Waste Management Plan so waste can be sorted, separated, and recycled. This will assist ongoing diversion from landfill for the development. Inclusion of sufficient bins and appropriate separation systems to ensure waste is minimised and effective recycling.

3.3 COMFORT AND QUALITY

To ensure the best quality for residents, the development will commit to the following key initiatives:

- **Visual Comfort** – Maximising high-quality light into living and sleeping spaces, with views to the sky and nature where possible
- **Biophilic design** - Generous open communal spaces, terraces and balconies with planter boxes, as well as vegetated site perimeters to enhance the beauty of the site.
- **Acoustic Excellence** – Designing the building layout to be protected from noise from external sources. Delicate material selection, acoustic attenuation, and designing the shape of the building and openings accordingly achieves the performance.
- **Thermal Comfort** – Appropriate overhangs, cross ventilation and high levels of insulation in the roof and facades to support thermal comfort
- **Lighting Comfort** – Use of high colour rendering index (CRI > 80) LED lighting throughout the entire development. Low-glare lighting with baffles or louvres to limit UGR.
- **Generous Natural Planting** – Greenery through natural planting throughout the development assists in a connection to nature for users and passers-by. It also has a cooling effect, reducing the Urban Heat Island burden on the project.

The above combine to ensure the development is responsible, efficient, beautiful, and in the best interest of not just the developers, but occupants, community, and society as a whole.



3.4 URBAN HEAT ISLAND MITIGATION

72–88 Water St experiences increased ambient air temperatures due to the urban heat island effect, resulting in much hotter temperatures than Sydney’s baseline. Urban heat island (UHI) effect occurs when hard surfaces in the public realm such as asphalt, concrete and paving absorb heat from the atmosphere causing air temperatures at the ground plane to increase above average. UHI is most harmful on extreme heat days, causing temperatures to soar above 35 °C.

72-88 Water St experiences temperatures **7.6 degrees** above average due to UHI, as defined by the NSW government for Urban Heat Island Effect (<https://geo.seed.nsw.gov.au/Public Viewer>).

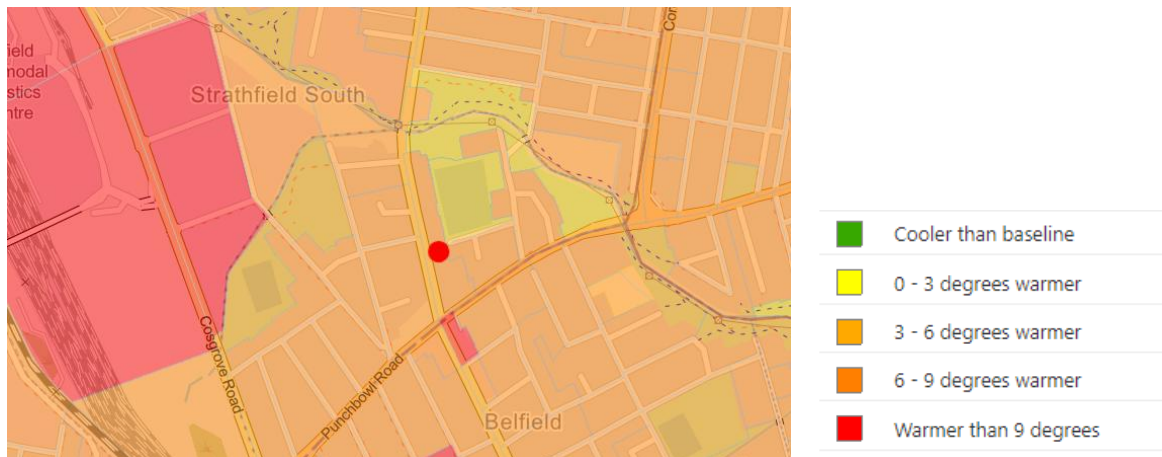


Figure 5. Urban heat island effect at the site. (Source: SEED Database)

General provisions such as landscaping, high solar reflectance hardscaping, reflectivity studies, passive shading and solar photovoltaic systems shall all be prioritized across the development to reduce the urban heat island effect and localised increases in air temperature.



Figure 6: Landscaping area shown on plan (Source: Architectus)

3.5 SUSTAINABLE TRANSPORT

The proposed shop top housing development is located within the Strathfield South Local Centre and includes the provision of a supermarket to provide retail, business, and supporting services for future residents and visitors.

The site is within walking distance of multiple open space areas, including Bark Huts Reserve, Cooke Park and Begnell Field, which provide recreation and amenity for future residents.

The site is highly accessible by public transport, with Belmore Station (1.75 km) and Strathfield Station (3.5 km) nearby, and frequent bus services along the 415 and 450 routes providing direct connections to Strathfield and Campsie, as well as links to surrounding centres.

A Traffic and Green Travel Plan will be prepared to encourage sustainable transport choices, reduce private vehicle dependency and support active and public transport use.

3.6 SECTION J (NCC 2022)

A preliminary Section J, Part J4 assessment has been undertaken by Taylor Smith Consulting for the non-residential spaces of the development (i.e. ground floor retail spaces) to determine the Deemed-to-Satisfy (DtS) performance requirements of the thermal envelope including glazing units, external and internal walls and spandrel panels which make up the defined thermal envelope.

To demonstrate compliance with Section J, a J1V3 performance verification approach will be undertaken prior to construction to demonstrate that the proposed building exceeds the energy and therefore greenhouse gas performance of a DtS reference building. Ongoing coordination with the Architect and relevant engineering disciplines will be undertaken to ensure the façade system contributes to reducing energy demand without compromising visual amenity and daylight access.

4 CONCLUSION

This report provides an outline of the Ecologically Sustainable Design initiatives and commitments for 72-88 Water Street, South Strathfield. These strategies include:

- Compliance with BASIX energy, water and thermal comfort targets
 - 67% Energy
 - 40% Water
 - Individual apartment NatHERS rating no less than 6 Stars
 - Average apartment NatHERS rating of 7 Stars
- Following a range of sustainability initiatives across the site spanning energy efficiency, thermal performance, indoor environment quality, waste management, and comfort

Together, these initiatives demonstrate a strong commitment to sustainability that meets and, in some areas, exceeds the expectations for the development. Opportunities for further optimisation will continue to be explored as the design progresses.

Importantly, the proposed development's ESD initiatives and commitments respond directly to the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs) and provide clear support for the State Significant Development Application (SSDA). The development is positioned to deliver high-quality, sustainable outcomes consistent with both State and local planning objectives.