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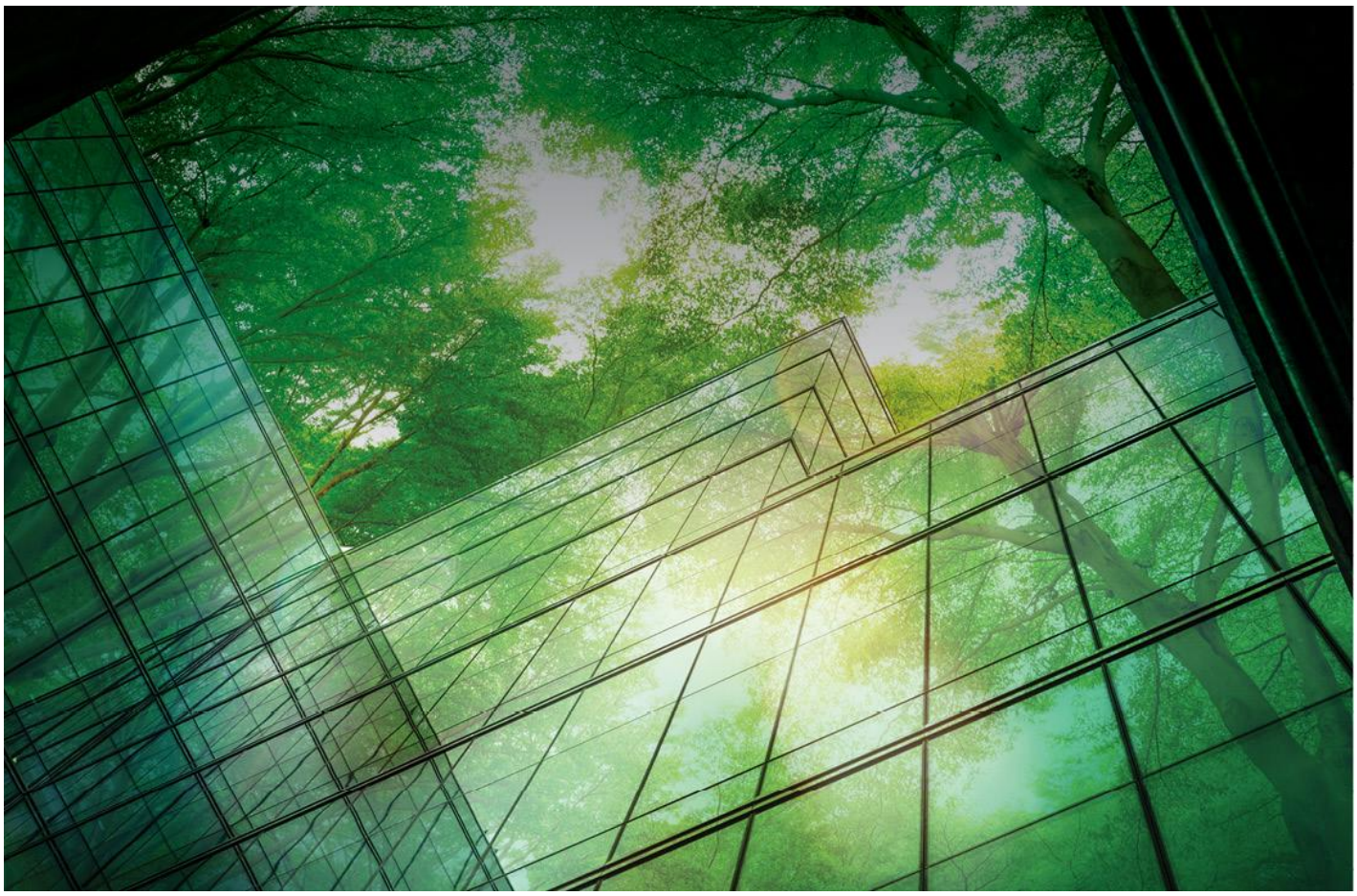
ESD REPORT 1.1

8-24 Nicholson Street, Wollstonecraft



Project number: 251327
Revision: ESD Report 1.1
Date: 20 October 2025

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Quality management

Revision	Date	Revision description	
ESD Report 1.1	20 October 2025	ESD Report	
		Prepared by	**Reviewed by**
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Declaration		
Name	Naveed Saleh	
Professional Qualifications	ESD Consultant	
	The undersigned declares that this ESD report has been prepared in response to the following SEARs requirements issued for the Project on 23 June 2025 for SSD-86462209:	
SEARs item	SEARs Issue and Assessment Requirement	Relevant Section of this Report that addresses SEARs Requirement
15. 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. - Where relevant, provide an assessment of the development against the standards for non-residential development set out in Chapter 3 of the State Environmental Planning Policy (Sustainable Buildings) 2022.	**Section 2.1** – SEARS ESD Requirements and Strategy (addresses Section 193 of EP&A Regulation). **Section 2.3** – SB SEPP Chapter 2 Standards for Residential Development
Signed	DocuSigned by: Naveed Saleh BCDD686860EC4B4...	
Dated	20 October 2025	

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Executive summary

Jensen Hughes Pty Limited (Jensen Hughes) has been engaged by 8 Nicholson Street, Wollstonecraft Pty Ltd to provide an Ecological Sustainable Development (ESD) report outlines the sustainability vision and strategic approach for the proposed development at 8 Nicholson Street, Wollstonecraft. The project is a 12-storey residential flat building with 3 levels of basement car parking, 12 levels of residential dwellings and a rooftop communal open space. The project will be assessed under the following compliance provisions:

- 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.
  - The principles of ecologically sustainable development are the following—
    - the precautionary principle,
    - inter-generational equity,
    - conservation of biological diversity and ecological integrity,
    - improved valuation, pricing, and incentive mechanisms.
- Demonstrate how the development will meet or exceed the relevant industry-recognised building sustainability and environmental performance standards.
  - National Construction Code 2022, Volume One – Section J
  - BASIX and NatHERS compliance
- Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water-sensitive urban design) and material resources.
  - Sustainable Buildings SEPP 2022.

The intent of this report is to demonstrate that ESD principles have been embedded as a core consideration throughout all stages of the project, from early design and material selection through to operational management and long-term resilience. The proposed development aims to deliver a high-quality built form that enhances occupant amenity while minimising resource consumption and environmental impact across its life cycle.

Beyond compliance, the project team is committed to delivering a sustainably conscious development that supports the wellbeing of its occupants, visitors, and the wider community, while contributing positively to the environment through thoughtful design and operation.

1.0 Basis of Assessment

1.1 The project

This report relates to the proposed development at 8–24 Nicholson Street, Wollstonecraft, which seeks approval for a residential flat building comprising:

- Site amalgamation,
- Demolition of existing structures on the land and excavation of basement levels,
- The construction of a 12-storey residential flat building
  - 3-levels of basement car parking,
  - Car parking, waste storage, loading and building services located to the lower ground level,
  - 12-levels of residential dwellings, comprising 1, 2 and 3-bedroom apartments,
- Rooftop communal open space,
- Rooftop servicing and plant,
- Vehicle access and egress from Oxley Street,
- Landscaping on the ground floor, lower ground floor and on structure to the rooftop communal open space.

This report has been prepared in response to the requirements contained within the Planning Secretary's Environmental Assessment Requirements (SEARs) for SSD-86462209 and directly responds to the relevant SEAR(s) outlined below.

- Item 15 – Ecologically Sustainable Development – ESD Report

1.2 Building classification

The building has been classified as follows:

Table 1 Building classifications

Class	Level	Description
Class 7a	Basement 1-2	Carparking
Class 2	G – L11	Residential SOUs and common areas

1.3 Climate zone

The location of the project is set within the following climate zones:

Table 2 Climate zones

Location	Climate Zone & Description
8-24 Nicholson Street, Wollstonecraft	Climate Zone 5 - Warm temperature

1.4 Design Documentation

This report has been prepared based on the following Design Plans and Specifications:

- Group GSA, 10/10/2025 Issue A for DA Submission

1.5 Report Scope

The purpose of this report is to assess the proposed design against the relevant environmentally sustainable design strategies to ensure the design is environmentally, culturally, socially, and economically sustainable, with resilience built in to anticipate future challenges. This report addresses:

- Sustainability drivers stipulated from relevant regulatory and project requirements.
- Project's design responses corresponding to the sustainability drivers.

1.6 Limitations

This report provides high-level ESD design guidance consistent with the objectives of the State Design Review Panel (SDRP) and the principles of Ecologically Sustainable Development (ESD). The recommendations are intended to inform and support ongoing design discussions rather than serve as detailed engineering or compliance documentation. The strategies outlined should be further assessed, refined, and integrated through collaboration with the broader design team during the detailed design and documentation stages.

This report does not constitute a formal Section J assessment or detailed compliance review under the National Construction Code (NCC). Separate specialist reports must address compliance with relevant NCC Sections B, C, D, E, F, G, H, and I, as well as any other applicable statutory or performance requirements. The analysis and recommendations are based on preliminary design information available at the time of preparation and may require review as the design evolves.

No independent verification of third-party data or design information has been undertaken, and the authors accept no responsibility for variations or inaccuracies arising from such information. The actual sustainability outcomes will depend on subsequent design decisions, cost considerations, construction quality, commissioning, and building operation. This report reflects planning and policy requirements current at the time of issue; future regulatory updates or changes to the Sustainable Buildings SEPP or EP&A Regulation should be reviewed to maintain compliance.

This report is intended as a strategic sustainability framework to guide the project’s environmental performance objectives and should not be interpreted as a detailed compliance or certification document.

2.0 Sustainability Framework and Requirements

The following regulatory frameworks are incorporated to form part of the overarching ESD strategy for the development:

- 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.
- Demonstrate how the development will meet or exceed the relevant industry-recognised building sustainability and environmental performance standards.
- Demonstrate how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water-sensitive urban design) and material resources in line with Sustainable Building SEPP.

2.1 SEARS ESD Requirements and Strategy

Detailed in the below table are project commitments that address the principles highlighted in Section 193 of the EP&A 2021.

2.1.1 The precautionary principle

The *precautionary principle* is if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In applying the precautionary principle, public and private decisions should be guided by:

- Careful evaluation to avoid, wherever practicable, serious, or irreversible damage to the environment, and
- An assessment of the risk-weighted consequences of various options.

Key actions and application:

To ensure compliance with this principle, the head contractor will compile and present all relevant information from various environmental studies listed below. These studies will assess the impact on different aspects of the environment, including fauna, flora, soil, and other environmental factors, as well as demonstrate a systematic and methodical approach to environmentally friendly construction that answers to site-specific environmental risks. The below documents collectively ensure the project does not incur adverse impacts on the environment, alleviating the concern of environmental damage to align with this principle.

- Environmental Impact Statement
- Geotech Engineer to determine requirements of:
  - Surface and groundwater impact report
  - Salinity management and/or acid sulphate soils management plan
- Stormwater Engineer to determine requirements of flood risk report
- Stormwater management plan
- Contamination & Remediation assessment

- Air quality impacts assessment, prepared following the relevant NSW Environment Protection Authority (EPA) guidelines. This assessment shall address mitigating emissions from construction works and air pollutants. A management plan to monitor and mitigate the risks of pollutants should be carried out.

2.1.2 Inter-generational equity

The principle of *inter-generational equity* is that the present generation should ensure the health, diversity, and productivity of the environment are maintained or enhanced for the benefit of future generations.

Key actions and application:

The head contractor will take measures to avoid using materials that could pose a hazard to the environment and future generations. This will also be demonstrated through identifying 'Volatile Organic Compounds (VOC) limits' in (grams/Liter) of ready-to-use products that are certified under a Recognised Product Certification Scheme listed in the 'Exposure to Toxins Product' for adhesives, sealants and paints and the like. This will ensure that there are no carcinogens, contaminants or hazardous materials liberated into the building, on-site and into the surrounding environment to have detrimental effects on future generations and the environment.

The project is designed to be an all-electric building and will adhere to the requirements for BASIX and NatHERS compliance. NCC22 Section J9 provisions for PV and EV infrastructure will also be considered to accommodate future progression towards renewable energies and EVs to assist in facilitating a reduction in GHG emissions.

The below reports are recommended to achieve this principle:

- Trees and Landscaping plans to mitigate the urban heat island effect and increase urban tree canopy cover for prospective occupants.
- CPTED Report (covered in the EIS)
- NCC22 Section J9 provisions for PV and EV infrastructure to accommodate future progression towards renewable energies and EVs to assist in facilitating a reduction in GHG emissions.

2.1.3 Conservation of biological and ecological integrity

The principle of the *conservation of biological diversity and ecological integrity* is that the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making, including in the formulation, adoption and implementation of any economic and other development plan, program or project.

Key actions and application:

A Biodiversity Development Assessment Report and Landscaping plans fundamentally facilitate the conservation of biological diversity and ecological integrity by ensuring local flora and dependent fauna are supported and maximise green infrastructure through mitigation of the urban heat island effect where possible and enhance urban tree canopy cover which helps fauna native to the region.

The below reports are recommended to achieve this principle:

- Biodiversity Assessment Waiver – A waiver was obtained confirming that a Biodiversity Development Assessment Report (BDAR) is not required for this project.

- Trees and Landscaping plans to ensure the conservation of the local flora and dependent fauna and maximise green infrastructure.

2.1.4 Improved valuation, pricing and incentive mechanisms

The principle of *improved valuation, pricing and incentive mechanisms* is that environmental factors should be included in the valuation of assets and services, such as:

- Polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance, or abatement, and
- The users of goods and services should pay prices based on the full life cycle of the costs of providing the goods and services, including the use of natural resources and assets and the ultimate disposal of waste, and
- Established environmental goals should be pursued most cost-effectively by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their solutions and responses to environmental problems.

Key actions and application:

A Life Cycle Cost (LCC) is recommended to be completed to evaluate the cost of services provided and materials chosen or procured for use in the development and will reduce the negative environmental effects because of the development and construction impacts that have been minimised. Goods and service providers shall acknowledge the entirety of the Life cycle cost as an incentive to mitigate the negative impact on the environment because of the good/service being provided.

All fundamental appliances are to be provided and installed to ensure their appropriateness and efficiency. The fixtures specified also comply with water-saving requirements

Incorporating key principles of NSW Circular economic policy as listed below, which shift design and construction from a resource-intensive model to one that maximises value creation while minimising environmental impact keeps materials in use for as long as possible and mitigates long-term replacement and repair costs, assisting in LCC clarity.

- Sustainable management of all resources
- Valuing resource productivity
- Design out waste and pollution
- Maintain the value of products and materials
- Innovate new solutions for resource efficiency
- Create new circular economy jobs
- Foster behaviour change through education and engagement

2.2 BASIX and NatHERS Compliance

The Building Sustainability Index (BASIX) is a state-wide planning initiative under the Environmental Planning and Assessment Act designed to ensure equitable and effective reductions in water consumption and greenhouse gas emissions across New South Wales. It applies to all residential dwelling types and forms an integral part of the development application process. By promoting resource efficiency, BASIX not only reduces environmental impacts but also delivers long-term financial savings for homeowners and contributes to the sustainable future of communities.

The compliance scores for water, energy, and thermal comfort are summarised in Table 3 below. These scores have been obtained from the BASIX report, which evaluates the project's performance against the minimum sustainability targets set by the NSW planning framework. The assessment incorporates inputs such as building fabric design, energy-efficient systems, and water-saving measures to demonstrate that the proposed development meets the required sustainability benchmarks for residential buildings.

Table 4 BASIX compliant score

BASIX	Target Score	Project Score
Water	40%	**41%**
Energy	60%	**65%**
Thermal Comfort (NatHERS)	7 Star Average 6 Star Minimum	**8.5 Star Average** **6.1 Star Minimum**

2.3 Sustainable Buildings SEPP, Chapter 2 – Standards for Residential Development

Demonstration of compliance with this principle is achieved through alignment with the Sustainable Buildings State Environmental Planning Policy 2022 (SB SEPP). Chapter 2 of the SB SEPP establishes performance standards for residential development under the Building Sustainability Index (BASIX), which governs the assessment of energy and water use, as well as thermal performance, in accordance with Schedule 1 of the Policy. Through BASIX, the project is designed to minimise greenhouse gas emissions and reduce the consumption of energy, water, and material resources. As outlined in Section 2.2 BASIX and NatHERS compliance, the development incorporates all-electric systems and appliances, high-efficiency controls, water-saving fixtures, and strong passive design principles to achieve market-leading levels of environmental performance.

Additionally, Chapter 2.1(5) of the SB SEPP requires that the embodied emissions attributable to the development be quantified to ensure materials are responsibly selected and environmental impacts are understood. This commitment is addressed through the NABERS Embodied Emissions Material Form, which, together with BASIX certification, quantifies and reports the embodied carbon associated with construction materials. The use of low embodied energy materials will be further explored and refined during detailed design to ensure the project continues to meet best-practice sustainability outcomes while supporting long-term operational efficiency and resilience.

3.0 Design Summary and Conclusion

The design outlined in this report follows the guidelines and objects of the Sustainable Buildings SEPP, Section J and Section 193 of the EP&A Regulation. This report provides an overview of the environmentally sustainable design principles incorporated into the project, as well as specific proposals for maximising energy and water efficiency within the project.

Key ESD design principles incorporated into the project include

- Rainwater reuse system connected to landscape irrigation
- Closed-loop fire sprinkler test system to enable reuse of water used during sprinkler testing
- 4 Star showerheads and 5 Star taps in all dwellings
- 4 Star (Energy) dishwashers in all dwellings
- Ventilation control such as time clocks or thermostatic switches to all practical plant and services rooms
- LED lighting throughout the entire project with motion sensor control for all practical plant, service, and common areas
- All electric dwelling appliances including cooktops
- All electric hot water systems with efficient central heat pumps
- low-e aluminium double glazing to all dwellings
- High levels of insulation with the building envelope to ensure thermal comfort
- External wall systems to incorporate thermal breaks to reduce the effects of thermal bridging.
- The use of further low-emission materials to reduce the embodied energy and carbon footprint of the building is to be investigated during the detailed design stages
- Water, Energy, and Thermal Comfort scores all exceed the minimum requirement of BASIX

Addressing the applicable sustainability commitments of the above, the report incorporates effective passive design features, high-performance energy and water systems, alternative resource options, and sustainable construction practices. These elements directly address the energy efficiency and water conservation criteria outlined to achieve the SEARS ESD objectives

In summary, this report details the project's commitment to achieving the objectives and requirements outlined. By fulfilling these commitments, the project will meet the SEARS objective for sustainable performance, energy and water efficiency, and material resource use.