Attachment A5

Proponent Planning Proposal Request – ESD Report

44-78 Rosehill Street

44-78 Rosehill St, Redfern

Prepared for Journal Student Living and Brookfield Property Group Australia (BPGA)

Project No. SYD3749

Date 13 November 2025

Revision 3

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Location	44-78 Rosehill St, Redfern
Prepared by	ADP Consulting Pty Ltd 33 Erskine St Sydney NSW 2000
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[1] Introduction

This ESD Opportunities Report has been prepared by ADP Consulting on behalf of Journal Student Living and Brookfield Property Group Australia (BPGA) (the applicant) for 44-78 Rosehill Street (the project) at 44-78 Rosehill St, Redfern (the site).

The proposed development will serve as *Co-living Space* and will be operated by Journal Student Living.

[1.1] Report Overview

Journal Student Living and Brookfield Property Group Australia (BPGA) have mandated a sustainability options/ESD opportunities report that outlines how the project can, and is planning to enhance environmental performance, reduce operational impacts, and align with relevant sustainability standards and best practice. One key way the project will do this is via pursuit of a **5-Star Greenstar Buildings** rating, a framework the project team has a proven track record in achieving, see section [1.6] - Case Studies.

The assessment considers site-specific conditions, regulatory requirements, and client objectives to ensure the project delivers long-term sustainability through energy efficiency, water conservation, and improved occupant wellbeing.

This report also details potential initiatives across key sustainability categories, outlining ways the project can support compliance, innovation, and resilience within the built environment.

Highlighting the projects aim to:

- Divert 90% of construction and demolition waste away from landfill,
- Source responsible materials with recognised product certification schemes (EPD's etc),
- Maximise internal planting,
- Support Urban Heat Island reduction through building and landscape design.
- Maximise deep soil planting,
- Maximise on-site generation (Solar PV)
- Implement sustainable transportation initiatives (Bike Share programs)
- Maximise occupant comfort through lighting and acoustic strategies

All these being in alignment with the Greenstar Buildings framework.

Following a more in-depth review of the project brief, site location and architectural drawings, ADP propose the key opportunities to be explored during the design, construction, and operation of the proposed development to be:

- **Façade design for thermal performance and occupant comfort**
- **Design for climate resilience and biodiversity**
- **Design for circular economy and modularity**
- **Designing for sustainable transport**

Subsection [1.5] - Key Opportunities outlines each of these areas in detail as well as highlights points of alignment with the Greenstar Buildings framework, noting again that Greenstar will form a major part of the project's sustainability pathway.

[1.2] Project Details

[1.2.1] Building Description

The proposed development involves the construction of a new 6-story Co-Living building (Class 3). The building contains 327 rooms. There will be a community spaces, study rooms, gym, entertainment areas etc. The building also includes lower ground stories with bike parking spaces.

[1.2.2] Building context

The site is located at 44-78 Rosehill St, Redfern. It is in the City of Sydney Local Government Area (LGA).

Figure 1: Proposed Development Site

[1.3] Relevant Policies and Guidelines

The following were used to guide the development of the ESD opportunities and recommendations for the proposed development:

- Sustainable Buildings State Environmental Planning Policy (SEPP) 2022 - NSW Department of Planning
- Section J provisions of the NCC 2022 Building (BCA) Code of Australia
- City of Sydney Development Control Plan (DCP) 2012
- City of Sydney Local Environmental Plan (LEP) 2012
- Greenstar Buildings Guidelines

[1.4] Greenstar Buildings

Green Star Buildings is seen as the latest standard in sustainability best practice, with its aim to meet international carbon emission reduction targets and deliver ‘net-zero’ building impact outcomes. It also provides a pathway for building owners to address carbon emissions over time. It has been developed to rate the design and construction of any building, and aims to:

- Deliver a new definition of a sustainable building
- Meet the Paris Agreement targets
- Respond to sustainability mega trends such as resilience and human health and wellbeing in buildings
- Drive opportunities for supply chain transformation
- Create clear expectations for new buildings

Green Star Buildings features eight new categories representing the issues that will define the next decade of the built environment. All Green Star buildings are required to meet the minimum expectations within each

category to achieve a Green Star rating. Green Star has also realigned its point scoring benchmarks to the following:

- 4-star – Best Practice – 15 points
- 5-star – Australian Excellence – 35 points
- 6-star – World Leadership – 70 points

This rating tool provides a much more holistic approach to sustainable development, not only raising the bar in expectations of energy and water efficiency but applying a much greater focus on social sustainability, through elements of placemaking and designing for inclusion.

[1.4.1] 5-star Green Star Commitment

Although any specific proposed pathway may change throughout the design process this project is commitment to a 5-star Green Star Buildings rating. This means that credits not mentioned within this report may be considered and implemented to increase a points buffer for the project, or to alleviate challenging credits.

[1.5] Key Opportunities

The following opportunities have been identified to be key areas of focus with the most potential upside considering the specific building context. ADP have identified 4 key opportunities as below:

- Façade design for thermal performance and occupant comfort
- Design for climate resilience and biodiversity
- Design for circular economy and modularity
- Designing for sustainable transport

We provide further detail with regard to these items in this section as well as noting points of alignment with the Greenstar Buildings framework as this will form a major part of the project's sustainability pathway.

[1.5.1] Façade design for thermal performance and occupant comfort

Building fabric design impacts the ability of a building to maintain temperature and humidity, maintain air quality, and improve occupant comfort.

Every building has a unique nature and design constraints which will mean design should focus on specific aspects when trying to optimise the thermal performance and occupant comfort. For 44-78 Rosehill Street these are:

- Large façades vs footprint (it's a skinny tall building as opposed to a large flat one)
- Sides with larger surface area are facing East and West respectively
- Many small rooms with reasonable window sizing

Environmental and surrounding factors include;

- Direct and low sun to East and west sides in the mornings and afternoons
- High sun to the north during mid day
- No large shading structures in the form of large buildings or trees nearby.

Ways the project will do this are as follows:

- Focus on Window and Wall thermal performance (vs roof performance) due to high façade to roof ratio.
- Focus on screen and vertical shading on East and West sides to shade from low morning and afternoon sun
- Focus on horizontal shading on the north to shade from high north midday sun
- Optimise window opening size for thermal performance and lighting

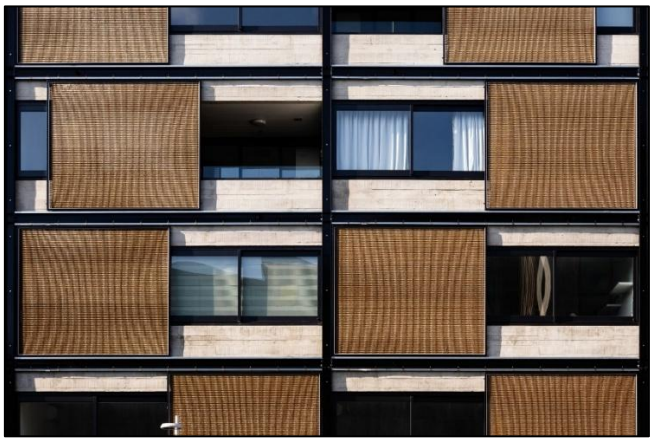


Figure 2: example for screens on an apartment building

The high façade to roof ratio means the most savings are generated when focusing on optimising the façade. The project can achieve this through:

- Reduce window-to-wall ratio (WWR)
    - Walls have superior thermal performance compared to windows; hence more wall area will reduce heat loss in winter and heat gain in summer.
- Selection of efficient glazing
    - Provision of high-performing window systems to help reduce heat loss in winter and heat gain in summer.
    - The provision of glazing with a low solar heat gain coefficient to reduce unwanted heat gain from the morning (east) and evening (west) sun, optimising the thermal comfort levels and reducing the energy required to cool the space.
- Select façade and roof materials for low solar absorptance (SA), low-maintenance and long life
    - Materials with low SA are lighter coloured; through this they reflect more solar radiation and absorb less heat, resulting in a cooler surface temperature and lower overall building temperature.
- Provision of high levels of insulation to the external walls, roof, and exposed floors that form part of the building envelope.

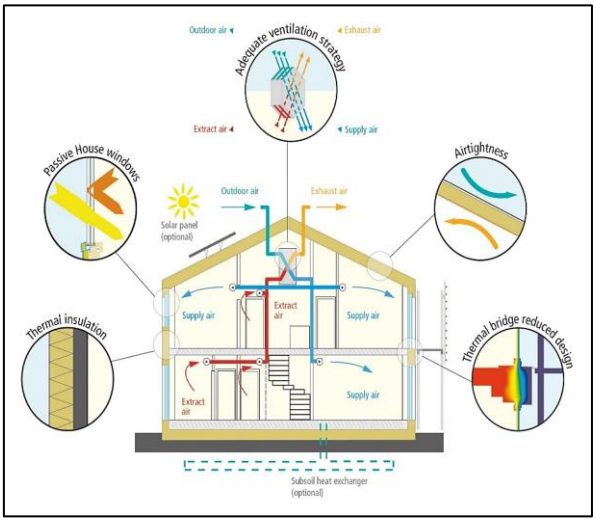


Figure 3: Passive design strategies for dwellings. Source: Passive House Institute

Designing in this way also heavily aligns with the Greenstar principles in the “Healthy” and “positive” categories:

Noting the project is targeting compliance with the Greenstar Energy Credit requiring reductions in emissions vs a baseline. This credit heavily relies on optimal thermal performance as described above.

[1.5.2] Design for circular economy and modularity

The proposed development presents an opportunity to embed circular economy principles and modularity into its design and construction. These strategies assist in reducing waste, optimising resource use, and extending the useful life of various building components, contributing to lower embodied carbon and improved adaptability over time.

One of the major reasons 44-78 Rosehill Street is so well suited to design towards this is the repetitive nature of its internal layout and proposed use case. Some of these key ways include:

- Modular Construction
  The design will consider modular building systems for repetitive elements such as bathrooms, and in-built furniture. Modular components can be prefabricated off-site, reducing construction waste, improving efficiency of construction which reduced embodied carbon.
- Material Selection with Circular Principle
  Prioritise materials with high recycled content and those certified under credible schemes. Where possible, select products that can be returned to manufacturers under “product-as-a-service” models, ensuring accountability for reuse and recycling, an example of this could be furniture in shared spaces. Lounges, pot plants, rugs etc.
- Optimised Structural Design
  Design structural systems to allow flexibility for future adaptation, such as converting spaces for alternative uses without significant reconstruction. This supports long-term resilience and reduces the need for new materials later.
- Waste Minimisation During Construction
  Implement a Construction Waste Management Plan that prioritises material segregation and recycling. Aim for a minimum 90% recovery of construction and demolition waste, in line with best practice guidelines and Greenstar Responsible Construction credit (Credit Achievement).

Designing in this way also heavily aligns with the Greenstar principles in the “Responsible” and “positive” categories.

Responsible

Recognises activities that ensure the building is designed, procured, built, and handed over in a responsible manner.

Positive

Encourages a positive contribution to key environmental issues of carbon, water, and the impact of materials.

Noting the project is targeting compliance with the Greenstar upfront carbon Credit requiring reductions in embodied carbon vs a baseline. This credit heavily relies on material selection and overall design for low embodied carbon as described above.

[1.5.3] Design for climate resilience and biodiversity

In response to a warming climate and future biodiversity loss, the project should aim to create a cooler and more resilient development while also benefiting the local biodiversity.

The project site is 3-6 degrees warmer than rural areas due to the Urban Heat Island Effect (UHIE). It is situated between larger heat islands in all directions, adding to the future heat stress residents will face.

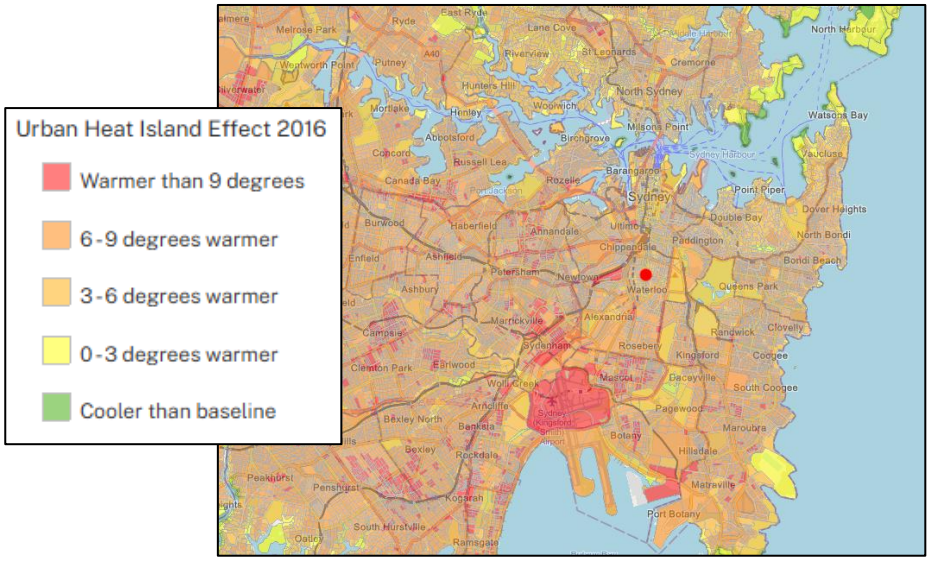


Figure 4: Sydney Urban Heat Island Map

However, the project site is also surrounded by areas which can be used for greenspace. The west side has a provision for deep soil planting, benefiting water retention and plant growth.

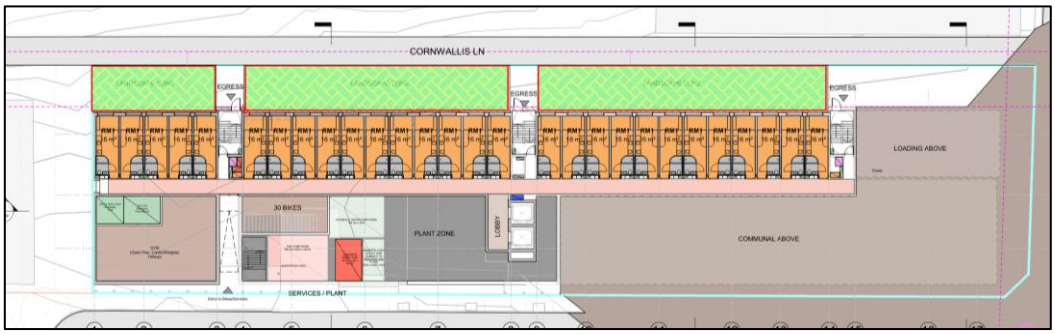


Figure 5: Ground level showing nominated deep soil planting area in Green

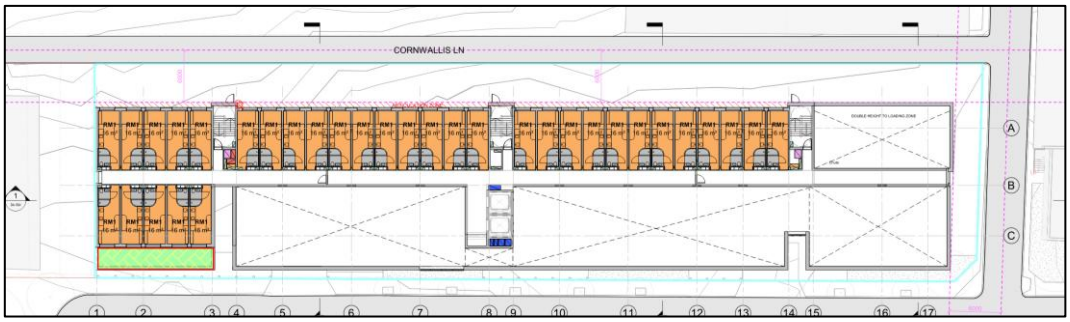


Figure 6: Level 2 showing nominated planting area in Green

This potential greenspace can be leveraged to achieve a more resilient development through the following strategies:

- Retaining healthy established and well-structured trees to provide canopy cover that will provide shade
- Landscape design to give preference to mixed planting of differently sized plants (groundcover, shrubs, trees) to provide a well-shaded and “vertically layered” greenspace.
    - Mixed and layered planting will provide three-dimensional shading to create a cool communal space for residents to seek refuge on a hot day.
    - Stratified or “vertically layered” planting will support animals living in each “layer”, creating more habitat and boosting biodiversity.
- Utilize landscape design with preference for native flora species of this bioregion, offering lower maintenance costs and water input.
- Reduce hardscape cover and utilize Water Sensitive Urban Design (WSUD):
    - Remove impermeable hardscape and where paving is necessary choose permeable options. This will reduce overland water flow, reducing burden on drainage systems & stormwater flow to neighbouring properties in heavy rainfall.
    - Water that’s absorbed into the deep soil zone charges groundwater levels, which means less watering is required for plants.
    - Less hardscape reduces upfront carbon emissions
- Retaining/implementing habitat features such as fallen logs, rocks and leaf litter within planted areas to provide habitat and source of forage for animals
- Implement green infrastructure such as bird baths to attract wildlife

Figure 7: Cooling & biodiverse landscape design

NSW is also at risk of half of all threatened species in the state going extinct by 2050. Hence, the development should aim to maximise biodiversity and provide habitat for future wildlife populations. Even in an urban area with little natural vegetation, landscaping design can boost local biodiversity, particularly in birds and invertebrates, which are both in decline.

Project will consider opportunities to mitigate heat and climate risks through use of low-SRI roofing and hardscape materials, along with vegetation on the east and west facades where possible which can assist in mitigating urban heat island effects.

Use of landscaping in this way also supplements the key objective of “Façade design for thermal performance and occupant comfort” as it will provide natural shading elements and helps reduce high temperate extremes in the vicinity of the building.

Designing in this way also heavily aligns with the Greenstar principles in the “Nature”, “Healthy”, “positive”, “Resilient” and “Places” categories.

[1.5.4] Designing for sustainable transport

A large part of the environmental impact of a building is how people interact with that building once complete, with a large portion of that being how people come and go from the building. It is also important to consider the end user demographic, likely preferred transportation method and affordability.

For 44-78 Rosehill Street, it is very well-connected given the proximity to community amenities and the walkable distance between public transport options. Thus, the development should focus on optimising for use of these sustainable transport options by the future occupants.

The project will explore this by:

- Implementing secure bicycle storage/parking for the building visitors
- Other bicycle infrastructure, like paths, ramps etc into projects walkways
- Infrastructure for micromobility (accessibility), like room for mobility aids like scooters
- Implementing recommended social initiatives (e.g. universal design principles)
- Appropriate signage guiding occupants to appropriate public transport options
- Design to encourage more social traction, for example through appropriate entry/exits
- The project should motivate transport options that are also affordable.

Encouraging transportation of this type is beneficial also as they are cheap and affordable for most, while being an active form of transport that allows residents to exercise. These initiatives are also in line with the City of Sydney Development Control Plan (DCP) 2012, contributing to a positive domain for residents.

The project is well-suited for this because of the train station located within 2 minute walk of the project site.

Figure 8: Google Earth Image – Project Site to closest Train Station

Additionally, bike storage areas are already within the design of the project.

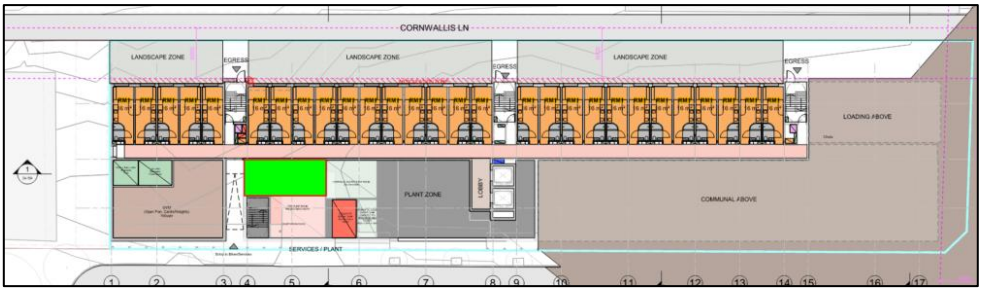
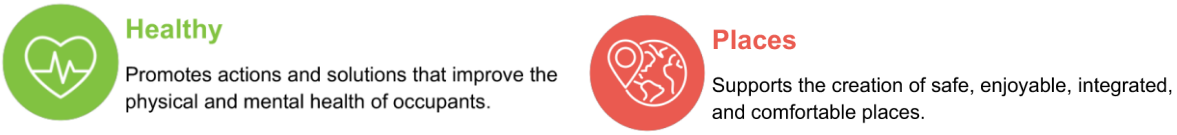


Figure 9 Proposed Bike Store highlighted in green

Implementing these design features also heavily aligns with the Greenstar principles in the “Healthy” and “places” categories.



Noting the project, with the inclusion of these amenities will be able to target compliance with the Greenstar Movement and Place Credit and Amenity and Comfort credit.

[1.6] Case Studies

With a proven track record of delivering a 5-Star Green Star buildings:

- 5-Stars – Journal Campus House - 172 Bouverie Street, Carlton (**Complete**)
- 5-Stars – Journal Garden Place - 240 Margaret Street, Brisbane (Under Construction)
- 5-Stars – Journal Market Way - 100 Franklin Street, Melbourne (Under Construction)

Having opened in Melbourne in July this year, 172 Bouverie Street, Carlton – Journal Campus House has recently been awarded the 5-Star rating and successfully delivered the following points:

- **Recycling:** of 90% construction and demolition waste from the construction of the building.
- **Responsible finishes and structure**: 50% of all structural materials and 60% of all internal building finishes have been sourced with recognised product certification schemes, which ensures the manufacturer has considered the climate, environmental and health impacts of their products.
- **Outdoor air**: Non-residential spaces are providing a 50% improvement of outdoor air required by AS 1668.2:2012.
- **Daylight amenity**: Daylight modelling has been undertaken to demonstrate high levels of natural daylight in bedrooms - 97% of bedrooms are meeting GS daylight standards.
- **Acoustic**: acoustic comfort strategy has been developed to reduce maximum internal noise levels, impact noise transfer and provide acoustic separation.
- **Low VOC products**: paints, adhesives, sealants and carpets and engineered wood products are low in TVOC/non-toxic.
- **Indoor planting**: indoor planting has been provided to foster a connection to nature for building occupants.
- **Urban heat island reduction**: the external finishes have been selected with high solar reflectance (SRI) to reduce heat island effect.
- **Upfront carbon emissions**: building materials (finishes and structural materials) have been prioritised to demonstrate a 13% reduction in upfront carbon emissions.
- **Energy efficient building**: the building has been modelled against a standard practise, NCC compliant building to demonstrate a 38% reduction in energy use.
- **Reduced potable water use:** efficient fittings have been selected to demonstrate a 21% reduction in potable water use compared to standard practise building.
- **Bike facilities**: bike facilities have been included to reduce private vehicle use and associated emissions.

44-78 Rosehill St, Redfern will aim to deliver in line with the precedent set on these other Journal Student Living projects. Leveraging the experience gained from their ongoing and successful completion to deliver a sustainable development and achieving a Greenstar Buildings rating.

[2] Environmentally Sustainable Design Opportunities

[2.1] General

This section outlines Environmentally Sustainable Design (ESD) measures outside of the above Key opportunities that are still in line with requirements outlined in the introduction. Many measures are already embedded into the design, others are additional opportunities that can be considered during the detailed design stage of the project to support sustainability ambitions and targets.

Initiatives below will address external drivers such as the sustainable buildings SEPP and internal and Council sustainability ambitions.

Following a review of these requirements, site location and architectural drawings, we propose the following areas of sustainability to be explored during the design, construction, and operation of the proposed development:

- Energy & Greenhouse Gas Emissions
- Net Zero Operational Carbon Emissions
- Water Efficiency & Conservation
- Low Carbon Materials
- Waste Management Practice
- Healthy Indoor Environment Quality
- Recommended Social Initiatives
- Biodiversity
- Sustainable Transport
- Sustainable Management Practices

[2.2] Energy efficiency and Compliance

The proposed will be designed in line with the NCC 2022 Section J Energy Efficiency provisions and will consider energy efficient building services and optimised façade performance.

In addition to this, the heating, ventilation, and air-conditioning systems will be developed with a view to minimise the operational energy consumption of the proposed development, whilst providing the building occupants with a thermally comfortable space.

Compliance will be achieved in line with the minimum Deemed-to-Satisfy (DTS) provisions as follows:

- All window and insulation selections will meet DTS compliance with Parts J1 to J3, establishing the minimum performance requirements for the building fabric.
- All building services will meet DTS compliance Parts J5 to J8 and establish the minimum performance for mechanical and electrical systems (including fan and pump efficiency), lighting and ancillaries.

[2.3] Energy & Greenhouse Gas Emissions Reduction

The project team are exploring opportunities to reduce the buildings greenhouse gas emissions impact, through the development of energy saving or energy generating design measures. The following section discusses design aspects of the building that are focused on energy efficiency in operation.

[2.3.1] Heating, Ventilation, & Air Conditioning (HVAC) Design

The HVAC design affects mainly the ongoing energy use and air quality of the building, the below items outline how the project will make the HVAC system more efficient.

- Allow for operable windows for apartments and other spaces that are occupied by people to reduce the need for mechanical ventilation and air conditioning. Install ceiling fans in residential apartments, helping to offset/supplement AC system usage and improve ventilation.
- Select high-efficiency HVAC systems for conditioned spaces:
    - Individual heating and cooling systems (1-phase air-conditioning) with an EER/COP of 3.0-3.5
    a. Air conditioning systems to be day-night zoned

[2.3.2] Lighting Design

Along with HVAC design, lighting design is one if the main ongoing energy users in a building. Ensuring the underlying design has considered efficiency is important for the ongoing operational costs of the project, the initiatives below are being implemented in the design phase:

- Building orientation and form to be optimized for passive design (cooling in the summer and passive heating in the winter) and natural lighting. Reduce the need for artificial lighting by introducing sunlight through sufficiently size glazed windows and clerestory windows where applicable.
- Select high-efficiency LED lights to provide adequate lighting levels and colour rendering with minimal energy expenditure.
- Consider impacts such as maintenance costs and access for easy maintenance in practice may also be considered.
- Lighting controls are customised to occupancy patterns

[2.3.3] Domestic Hot Water

An area which affects both energy usage as well as water usage, the project will consider the below:

- Provide hot water via a central electric heat pump (air-sourced) with high efficiency i.e., 3.5 < COP <= 4.0
- Insulate pipes to reduce heat loss as the hot water is distributed, ensuring less energy for heating water is required.

[2.3.4] Facilities

To reduce the energy consumption and corresponding greenhouse gas emissions, the project will be designed to be all-electric with the initiatives below:

- Induction cooktops and electric ovens
- Central electric hot water system

[2.3.5] Onsite Renewables

On-site solar photovoltaic (PV) generation will be explored to enable greater reductions in greenhouse gas emissions, reduce the demand from the electricity grid, and to offset associated operational greenhouse emissions. The project will consider:

- Photovoltaic (PV) cells and system to be installed on the roof. The current output of the PV system is TBC, pending receipt of the frozen architectural set.
- We will consider a combination of different options, layouts, and orientations to optimise performance whilst considering the constrained space, orientation, maintenance, and aesthetics of the project.

Figure 10 Example of rooftop solar installation

[2.3.6] Metering & Monitoring

An important aspect for any new development, metering, and monitoring allow building owners to measure and quantify operational efficiency metrics, as well as a feedback mechanism on sustainability initiatives. The project can consider:

- Energy and water monitoring at the distribution level to identify main consumption factors and any building components that are associated with leakage/wastage.
- The metering strategy will aim to monitor the following major systems:
    - Incoming electrical and water mains supply
    - Electrical supply and thermal meters to distinct areas and uses
    - Metering for energy and water for individual dwelling units
    - Common area lighting systems

[2.4] Net Zero Operational Carbon Emissions

In line with the NSW Net Zero Plan by 2050, the project has the opportunity to reduce its greenhouse gas emissions generated by its operational energy use. The following strategy has been proposed as a pathway for the development to achieve net zero:

Measure: At a minimum, annual review of the building monitoring system and services efficiencies.

Reduce: ESD initiatives explored in Section 2 – reduce operational energy and water consumption, encourage behaviour changes to reduce operational waste

Generate: Generating energy on-site will decarbonise the project and supply carbon-neutral electricity in the long-term

Offset: *Future Consideration*

Certify: *Future Consideration*

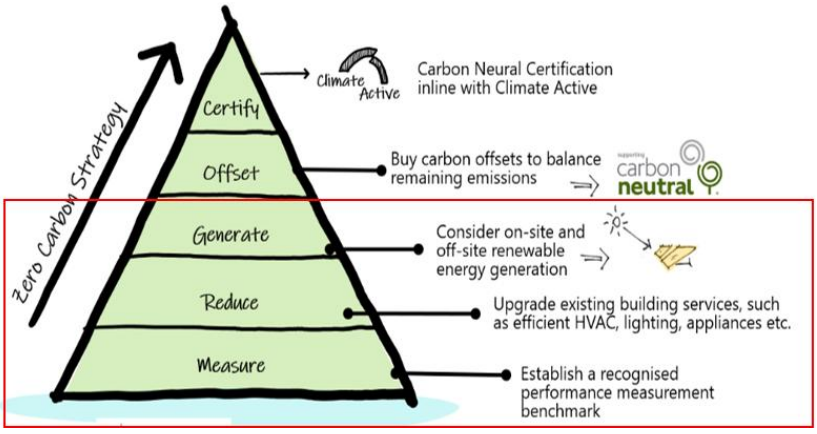


Figure 11 Net-zero Pathway – the biggest impacts are in the bottom three rungs

[2.5] Water Efficiency & Conservation

The project will explore opportunities to reduce water consumption and optimise reuse.

- To reduce potable water use, the project can consider installing highly efficient WELS rated fittings and fixtures, and appliances.
    - All within 1 star of highest available WELS rating

[2.6] Low Carbon Materials

The project has considered reducing its environmental impact through the following responsible materials initiatives:

- Design the building and consider construction methodologies for optimum reuse and recyclability of building components.
- Select materials for low-maintenance and long life to minimise compounding material impacts through repairs and refurbishments over the building's lifetime.
- Ensure the buildings structure, envelope, systems, and finishes are comprised of responsibly sourced products.
- Optimise design for most efficient use of materials to lower upfront carbon impacts.

[2.7] Waste Management Practice

The project will develop waste management strategies that prioritise avoiding or reducing waste production and providing options to divert waste from landfill as shown in the waste hierarchy below:

Figure 12 Waste Hierarchy – prioritising strategies from the top of the pyramid.

The project will be supported by two waste management plans developed with best practice guidelines, as follows:

- A Construction & Demolition Waste Management Plan to reduce the total amount of waste being sent to landfill when compared against a typical building of its type.
- An Operational Waste Management Plan to reduce operational/occupancy waste, including:
    - Identifying the waste streams relevant to the different operational components of the building, and the individual roles responsible for implementation.
    - Methods for encouraging the separation of waste streams, such as bins, storage areas, or recycling facilities in public areas as required.
    - Identifying storage areas for all waste streams and outline best practice safety and access requirements for their collection.
    - Identifying safe methods for vehicle access and transfer of waste.

[2.8] Healthy Indoor Environmental Quality

The project team will consider design initiatives that support the provision of a healthy, activated, and comfortable indoor environments that focus on improving the health and wellbeing of its occupants many of these are related to consideration around HVAC and building fabric design. The design will explore:

- Façade configurations that provide optimal levels of natural daylight
- Glazing selections that allow for high levels of Visual Light Transmission (VLT), flooding spaces with useful daylight levels throughout the day
- Glare mitigation measures through optimising the design for fixed or operable shading devices (including blinds) appropriate to the space.
- The HVAC system will be designed to mitigate the entry of outdoor pollutants and will provide access points for ease of maintenance and cleaning. The project will ensure that all relevant vents/diffusers will be cleaned prior to occupation and use.
- Responsible material selections will be considered to minimise exposure to harmful indoor pollutants such as Volatile Organic Compounds (VOC's), formaldehyde from engineered wood and PVC.

[2.9] Recommended Social Initiatives

As part of an ongoing sustainability vision, it is important to also consider social sustainability initiatives. Initiatives that are being embedding into the project are:

- Engagement with Traditional Custodians to consider Designing with Country and possible interpretation sites within the project

Additionally, the project can consider:

- Responsible and inclusive contractors, with understood and ethical supply chains – e.g., responsible procurement and modern slavery requirements.

[2.10] Sustainable Management Practices

The project team has considered initiatives to deliver best practice environmental management across the design and construction of the project. Initiatives that are being embedded into the project are:

- Design and implementation of Crime Prevention Through Environmental Design (CPTED) principles to increase the safety of occupants and visitors.

Additionally, the project can consider:

- Opportunities to set environmental targets, such as energy, water, waste, or indoor environmental quality.
- Development of a best practice Construction Environmental Management Plan (CEMP) for the demolition and construction phases of the project.

Appendices

Appendix A – City of Sydney Design for Environmental Performance Template

Advanced plans will be required to complete this form

Many of the design elements referenced within the form need to be illustrated on the accompanying architect's drawings, civil engineering drawings, or landscape plans.

The form does not prevent applicants from submitting supporting environmental design documentation if you are proposing novel or innovative design or technology.

Topics covered in this form

The form contains questions on familiar environmental design themes. These cover energy efficiency, greenhouse gas emissions abatement, design for building envelope thermal performance, renewable energy opportunity, design for resilience to climate change, water conservation, stormwater quality, sustainable transport, circular economy, embodied emissions, waste avoidance and resource recovery, and city greening.

Where applicable, the questions direct you to sections of the City of Sydney's planning policies.

Section 2 - General information about the development application and person completing the form

Site address*	44 - 78 Rosehill Street, Redfern
Postcode*	2016
Is this the first version of the form submitted for this development proposal?*	Yes
Development type*	Boarding House/Student Accommodation (4 storey or greater)
If the development involves alterations, enlargement or extension of existing for any of the development types selected above, does development have a capital investment value of $10million or more?	Yes
Is the subject application associated with a previously approved site-specific development control plan (DCP) and/or concept approval?	No
If your application relates to either a site-specific development control plan (DCP) and/or previous concept approval, please provide the relevant section number and name within the Sydney Development Control Plan and/or concept approval reference number. Response – For example D / 2018 / 999 Ashmore estate site specific DCP, Section 5.5 of the Sydney DCP*	N/A
Summarise the environmental performance targets/technologies that must be met by the controls or consents listed above. *	N/A

Section 3 – BASIX

Is this application BASIX affected development?*	No

Section 4 - Energy efficiency and greenhouse gas emissions abatement

Does the application propose a NABERS Energy Commitment Agreement?*	No
Does the application propose an industrial use?*	No
Briefly describe the predominant artificial light technology that will be installed within buildings, outdoors, and for specific significant areas. For example, basement car parking or public domain.*	**TBC**
Briefly describe the predominant HVAC technology/technologies that will be installed *	**TBC**
Briefly describe all water heating technologies that will be installed *	**TBC**
Briefly describe how the design choices have considered a reduction in peak demand for electricity, including use of energy efficient technology, and how the development will minimise the consumption of onsite fossil fuels.	**TBC**
Briefly describe any metering or sub-metering strategy that will enable end-use metering and monitoring of energy consumption. Including the design and implementation of any Building Management Control System (BMCS).*	**TBC**

Section 5 - Passive design for thermal performance -building envelope design

Is this application subject to NatHERS?*	No
Briefly describe how the proposal has incorporated passive design to avoid high dependence on mechanical HVAC for internal comfort and reduced the reliance on artificial lighting technology.*	TBC

Section 6 - On site renewable energy generation and storage

Please specify all renewable energy generation and/or energy storage technologies included in the application. Any renewable energy solutions not included in the table below should be described in Section 14 of this form.*	
Photovoltaic systems*	Yes
Solar thermal systems for domestic hot water*	No
Heat pump systems for domestic hot water*	No
Battery storage linked to onsite renewable energy generation*	No
Each renewable energy generation/storage technology nominated ‘Yes’ above is identified on the architectural plans*	Yes
Please indicate the combined Kilowatt Peak Capacity (kWp) of any photovoltaic systems shown on plans, and reference relevant plan sheet(s).*	**TBC**

Section 7 - Design for resilience to climate change

Please identify whether any specific design responses to address climate change resilience and/or a dedicated climate change plan or statement is provided?

An action plan or resilience plan has been developed as part of a registered Green Star Rating process	Yes
An action plan, strategy or resilience plan has been developed but is not Green Star-driven	No
Elements of the action plan, strategy, resilience plan or implementation reporting are reflected in the architectural plans	Yes
No action plan, strategy or resilience plan but some specific design/technology inclusions responses to climate change are within the design and reflected in the plans	No
No overt design elements (above base compliance) to address climate change resilience are included in this proposal	Yes
Briefly describe specific designs/technology elements identified in the plans that address resilience to climate change and reference relevant plan sheet(s). *	**TBC**

Section 8 - Design for mains potable water savings and water efficiency

Confirm which of the following water recycling/water efficiency measures are included in the design. *	
Does the development connect to a precinct-scale recycled water scheme? (Currently Green Square town centre only) *	No
Is dual plumbing supplied to 1 or more in-building end-uses – for example cooling towers, toilet, laundry? If 'Yes' must be shown on plans. *	No
Rain/stormwater capture, storage (water tanks) and re-use onsite is provided, but only for 'outdoor' purposes: irrigation, car-washing and/or wash down of paved areas and is shown on plans. *	Yes
Rain/stormwater capture, storage (water tanks) and reuse onsite is provided, for at least 1 outdoor use and for 1 or more in-building end-uses, for example cooling towers, toilet, laundry, and is shown on plans.*	No
Does the development provide efficiency strategies for water consumption for testing of fireprotection systems? *	Yes
Is a building management control system for water efficiency provided? *	No
Is sub-metering of major water end-uses (such as pools, cooling towers, irrigation) provided? *	Yes
All water supply fixtures (taps, showerheads, toilet flushing systems) are within 1 star of highest WELS Star rating commercially available*	Yes
Please indicate any on-site rainwater and/or stormwater storage capacity (retention only, excluding detention volumes) in the application, and reference on which plans rain/storm water retention infrastructure is shown.*	**TBC**

Section 9 - Stormwater quality

Which of the following stormwater quality design elements / technologies, if any, are proposed for this development? *	
Complies with the water quality treatment targets set in clause 3.7.3 of the SDCP*	Yes

Underground detention and/or retention tank(s) *	No
Above-ground detention and/or retention tank(s) *	No
Buffer strips*	No
Constructed wetland, raingardens, detention pond(s) *	Yes
Swales/bioretention swales*	No
Infiltration trenches*	No
On site gross pollutant traps*	No
In-pit litter capture 'baskets'*	No
Filter / treatment cartridges*	No
Green roofs*	No
Pervious pavement*	No
Other WSUD design solutions*	No
Briefly describe specific designs/technology elements identified above that address stormwater quality. Description should include the size/depth of any design elements identified above, along with the type, brand and model of any technologies installed.	**TBC**

Section 10 - City greening

Does the development provide deep soil zones in line with: *	
For industrial development: Section 5.8.2.5.1 of the SDCP 2012? *	N/A
For all development except industrial: Section 4.2.3.6 of the SDCP 2012?*	Yes
For residential apartment development: NSW Government Apartment Design Guide: Objective 3E-1? *	N/A
Does the landscape plan demonstrate that development will provide at least 15% canopy coverage of the site within 10 years of completion of the development? Evidence of compliance with tree canopy cover must be illustrated on the landscape plans. Make reference to specific page / plan sheet numbers of landscape plans. *	No
Please identify the number of trees (greater than 5 metres in height) proposed to be retained within the site boundary.*	0
Please identify the number of trees (greater than 5 metres in height) proposed to be removed from within the site boundary. *	1
Please identify the number of trees (greater than 5 metres in height at maturity) proposed to be added within the site boundary. *	0 (7 to public domain)
Identify the number of street trees proposed to be removed from the public domain.*	0
Does the application provide a green roof or green wall? (Green roofs are defined as covering 30% or more of the roof area of any single building) *	No

Section 11 - Promoting active transport and reducing transport emissions

Please indicate whether the development complies with the City of Sydney's sustainable transport controls. *		
	Required under DCP	Provided
Number of bike parking spaces *	28	30
Number of visitor bike parking spaces*		
Number of bike lockers*		
Number of showers*		
Number of car parking spaces*		
Number of car share spaces*		
Number of electric vehicle charging spaces provided*		
Number of service vehicles spaces / loading docks*		

Section 12 - Materials, embodied carbon and circularity

Which of the following sustainable materials practices apply to this development proposal? *	
Existing building(s)/parts of building(s) will be retained for re-use as part of the (re) development*	No
A circular economy framework or similar commitment has been developed as part of this (re) development*	No
Circular principles been considered in building design and/or materials selection. Examples: selection of materials with high recycled content; materials substitution; building elements designed for easy disassembly and re use; procuring products as a service; and other circular design strategies as described in the NSW government's Circular design guidelines for the built environment.*	Yes
A waste management plan addresses the minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials*	Yes
Embodied emissions of development building(s) have been measured and quantified*	No
Steps have been taken to reduce embodied emissions, as compared to reference building(s) *	Yes
Some construction materials used in the development are certified under a credible Environmental Certification and/or Environmental Product Disclosure scheme*	No
Briefly describe specific design considerations identified in supporting documents that address the minimisation of waste from associated demolition and construction, including building retention, material choices and reuse of building materials. *	**TBC**
Briefly describe specific design considerations identified in plans or supporting documentation that address embodied emissions, circular principles and/or material certifications.*	**TBC**

Section 13 - Waste management and resource recovery

Which of the following waste management and resource recovery elements apply to this development proposal?	
A commitment and associated waste management plan is in place to achieve 90% recovery of construction and demolition waste	Yes
An operational waste management plan been prepared by a suitably qualified waste consultant.	Yes
All predicted operational waste streams have been identified and adequate space has been allocated for source separated management, storage and collection.	Yes
The development will incorporate infrastructure or facilities that enable building occupants to reduce resource consumption. Examples: Return and earn machine, shared dishwashing facilities for food courts or developments with food and beverage premises, public recycling, designated space for re-use and share economy initiatives.	No
Briefly describe specific design considerations identified in plans or supporting documentation that address best practice waste management and seek to maximise resource recovery.	**TBC**

Section 14 - Third party certification and design, construction or technology innovations

If applicable, state any third party certification (whole building) that this development proposal is committed to achieving other than NABERS Energy rating	
	Third party certification
NABERS Water	No
NABERS Waste	No
Green Star Buildings	Yes - 5 Star (Buildings)
Green Star Performance	No
Living Building Challenge	No
WELL Building Standard	No
Earth check (hotels/tourism)	No
Other, please specify	No
Are any innovative design, construction and/or technology elements included in this proposal that will deliver environmental performance gains.	**TBC**