

RSL ANZAC Village Renewal – Stage 1

Prepared for RSL LifeCare

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CONTENTS

Document Information.....	1
CONTENTS	2
1 Executive Summary	3
2 Introduction.....	4
2.1. Background	4
2.2. Site Location.....	4
2.3. Project Description	5
2.4. Scope.....	6
3 Methodology.....	7
3.1. State Environment Planning Policies (SEPP) 2022 - Sustainable Buildings Requirements.....	8
3.2. Secretary's Environmental Assessment Requirements.....	9
3.3. Ecologically Sustainable Development.....	10
3.4. Limitations	10
4 Ecologically Sustainable Design Strategies.....	11
4.1. Energy Efficiency.....	11
4.2. Energy Generation	13
4.3. Indoor Environment Quality.....	14
4.4. Water Efficiency.....	15
4.5. Water Sensitive Urban Design	16
4.6. Circular Economy and Waste Management	16
4.7. Low Impact Materials Selections.....	17
4.8. Sustainable Transport.....	18
4.9. Mitigating Urban Heat Island Effect	19
4.10. Improved Ecology.....	20
5 Conclusion	21
Appendix A - Consolidated Mitigation Measures Schedule.....	22

1 Executive Summary

This Sustainability Report has been prepared by Northrop Consulting Engineers on behalf of RSL LifeCare to support the Stage 1 Development component of the State Significant Development Application (SSDA 85869467) for the ANZAC Village Renewal project. This report is intended to read alongside the Concept Masterplan Sustainability Report, which aims to establish the broader sustainability framework for the renewal of ANZAC Village.

The assessment confirms that the Stage 1 Development is well positioned to achieve strong sustainability outcomes aligned with RSL LifeCare's organisational objectives, the Concept Masterplan strategies, the NSW Sustainable Buildings SEPP, and the design direction established by the architectural, landscape and civil teams.

The following sustainability measures have been addressed as part of the Stage 1 development:

- Code Compliance: Compliance with NCC Section J energy efficiency and achievement of BASIX/NatHERS performance targets (*subject to final modelling which will be undertaken post lodgement*).
- High Performance Envelope: A high-performance building envelope, aligned with AJC's intended architecture, to support thermal comfort, reduce peak demand and maximise daylight access, including optimised glazing, external shading and improved thermal comfort aligned with the architectural design.
- Solar PV: Provision for rooftop solar PV and readiness for future village-wide renewable energy integration.
- Water Conservation: Water efficiency and reuse measures consistent with TTW's Integrated Water Management Plan, including high-efficiency fixtures and opportunities for rainwater harvesting.
- EV Charging and Infrastructure: Electric vehicle charging infrastructure, mobility-scooter routes, and enhanced pedestrian connections supporting low-emissions transport.
- Waste & Material Selections: Low-carbon, durable materials and construction waste minimisation strategies aligned with the SEPP's embodied carbon reporting requirements.
- Ecology & WSUD: Increased tree canopy, planting diversity and WSUD, aligning with Arcadia's landscape strategy to support cooling, biodiversity and outdoor comfort, contributing to the larger blue-green framework and resilience strategies identified in the Masterplan.
- Net Zero Carbon: Early consideration of net-zero capability, consistent with the SEPP's trajectory for electrification and fossil-fuel-free operation where feasible.
- Community & Engagement: Improved walkability, accessibility and universal design, extending the movement framework established in the Concept Masterplan and reinforced by Arcadia's landscape strategy.

Collectively, these initiatives demonstrate how the Stage 1 Development implements the sustainability objectives established at the Concept Masterplan level and supports RSL LifeCare's broader ESG commitments, forming the first step in delivering a resilient, low-carbon and wellbeing-focused seniors' community.

2 Introduction

2.1. Background

The Stage 1 Development is the first detailed component of the ANZAC Village Renewal and delivers new seniors living accommodation, supported by upgraded landscape, access, and infrastructure. Stage 1 implements the initial built outcomes of the Concept Masterplan, which establishes the overarching ESD framework and long-term sustainability vision for ANZAC Village.

The purpose of this report is to assess the sustainability performance of the Stage 1 Development and outline how environmental, social and economic sustainability principles have informed the design. This report is to be read in conjunction with the Concept Masterplan Sustainability Report, which provides the village-wide sustainability strategy against which Stage 1 aligns.

This assessment has been prepared with reference to the following supporting material:

- Secretary's Environmental Assessment Requirements (SEARs) issued 15 July 2024
- State Design Review Panel Advice Letter dated 2 August 2024
- Concept Masterplan documentation (Rev H, 18 November 2025)
- Architectural documentation prepared by AJC (Rev K, 10 November 2025)
- Integrated Water Management and Civil Design Report prepared by TTW (14 November 2025)
- Landscape design documentation prepared by Arcadia, informing the public domain, WSUD, shade and microclimate outcomes

This report specifically responds to the sustainability-related SEARs and the requirements of the NSW Sustainable Buildings SEPP, and identifies the sustainability outcomes developed in coordination with architectural, landscape, civil/water, transport, and other specialist disciplines contributing to the SSDA.

2.2. Site Location

The Stage 1 Development is located within ANZAC Village at 90 Veterans Parade, Narrabeen NSW 2101, within the Northern Beaches Local Government Area (LGA). ANZAC Village occupies approximately 44 hectares across six allotments; however, the SSDA applies only to the four southern allotments located south of Coolooli Road.

The Stage 1 Development site is situated in the central portion of the village and is bounded by Veterans Parade to the east and Lantana Avenue to the south. The site currently contains a mix of seniors living accommodation, community facilities and open space, forming part of the established low- and mid-rise residential environment of ANZAC Village.



Figure 2: Site Plan Aerial from Nearmap and Colliers

2.3. Project Description

The Stage 1 Development seeks detailed approval for the operation and use of the first stage of the Concept Masterplan. It comprises:

- Demolition and site preparation works, including tree removal
- Residential accommodation for seniors living, including ancillary uses, delivering approximately 12,700sqm of GFA
- A mix of building heights, including two-, five- and six-storey buildings over a single basement level and a row of garages
- One hundred and twenty-two (122) basement parking spaces, fourteen (14) garage spaces and approximately forty-one (41) surface parking spaces
- Amendments to existing bushfire asset protection zones
- Associated landscape and open space delivery
- Building identification signage and wayfinding
- Upgrades to services and utilities infrastructure

These components form the first delivery stage of the wider ANZAC Village Renewal and provide the built context for assessing Stage 1 sustainability outcomes.

2.4. Scope

The scope of this Stage 1 Sustainability Report is to assess and articulate the sustainability outcomes embedded in the Stage 1 Development and to demonstrate how the project delivers on RSL LifeCare’s sustainability aspirations, the Concept Masterplan sustainability framework, and the requirements of the NSW Sustainable Buildings SEPP and the SEARs issued for the SSDA (85869467). This report does not merely outline compliance with minimum planning requirements; it presents how the Stage 1 Development supports a higher standard of environmental performance aligned with RSL LifeCare’s commitment to resilient, low-carbon and wellbeing-focused seniors living environments.

The assessment considers the full scope of the Stage 1 Development, as defined in Colliers’ planning documentation. It evaluates sustainability measures across energy efficiency, building fabric and services, water use and management, passive design, thermal comfort, heat resilience, circular materials, waste minimisation, transport, mobility and the integration of landscape, ecology and microclimate strategies. These elements reflect the broader sustainability principles established in the Concept Masterplan Sustainability Report, with Stage 1 representing their first implementation in a detailed built form.

This report includes:

- identification of the sustainability objectives guiding Stage 1 and their alignment with RSL LifeCare’s ESD briefing.
- analysis of applicable planning and sustainability requirements.
- assessment of the Stage 1 Development against these criteria and the Concept Masterplan framework.
- documentation of integrated sustainability initiatives developed collaboratively with architectural, landscape, civil/water and specialist disciplines; and
- recommended commitments to be incorporated through detailed design, construction and operation.

Together, these components demonstrate how Stage 1 contributes to delivering a sustainable, efficient and future-ready precinct within the wider ANZAC Village Renewal.



Figure 3: Lifestyle Precinct– Site Plan

3 Methodology

Information: This Sustainability Report has been prepared using the methodology required for State Significant Development (SSD) assessments and in accordance with the following documents and policy frameworks:

- Secretary's Environmental Assessment Requirements (SEARs) issued 15 July 2024
- NSW State Environmental Planning Policy (Sustainable Buildings) 2022
- Ecologically Sustainable Development (ESD) principles (as defined in Section 193 of the Environmental Planning and Assessment Regulation 2021)
- Northern Beaches Development Control Plan (DCP) – sustainability, water, landscape and transport provisions
- National Construction Code (NCC) Section J – energy efficiency obligations
- Building Sustainability Index (BASIX) and NatHERS thermal comfort modelling
- Industry rating tools (such as Green Star, NABERS, Climate Active, IS Rating) referenced as best-practice benchmarks where applicable, noting they are not formal requirements for the Stage 1 Development
- RSL LifeCare's ESD briefing and sustainability principles
- Concept Masterplan Sustainability Report, which establishes the overarching sustainability strategies for the renewal of ANZAC Village

The methodology adopts a two-tiered approach consistent with the Concept Masterplan ESD framework:

1. Assessment of statutory sustainability requirements:
This includes the Sustainable Buildings SEPP, SEARs, NCC Section J, BASIX/NatHERS, DCP provisions and any SSD-specific environmental obligations. The report identifies how the Stage 1 Development will meet these requirements and verifies the obligations applicable to seniors' living accommodation under the SSDA.
2. Integration of broader ESD objectives established by RSL LifeCare and the Masterplan:
These include passive design performance, electrification readiness, water efficiency and reuse, microclimate improvement, urban heat mitigation, circular materials use, waste reduction and future resilience. These measures exceed minimum planning requirements and demonstrate alignment with RSL LifeCare's long-term vision for a resilient and healthy seniors' community.

The methodology also involves cross-disciplinary coordination with architectural design (AJC), landscape architecture (Arcadia), civil and water engineering (TTW), and related technical inputs to ensure consistent sustainability outcomes across the built form, public domain and infrastructure.

3.1. State Environment Planning Policies (SEPP) 2022 - Sustainable Buildings Requirements

The SEPP (Sustainable Buildings) 2022 outlines new requirements to allow projects to reduce greenhouse gas emissions. This section specifically addresses the following sustainability objectives.

RESIDENTIAL DEVELOPMENT

Table 1: Response to SEPP (Sustainable Buildings) 2022 Requirements – Residential development

REFERENCE	OBJECTIVE	DESIGN RESPONSE
BASIX / NatHERS	Reduce water and energy consumption and greenhouse gas emissions from residential buildings. Improve thermal comfort and reduce heating/cooling demand.	The seniors living dwellings in Stage 1 conducted BASIX and NatHERS thermal performance modelling. The development will achieve or exceed BASIX-compliant performance for energy, water and thermal comfort. Section J (JV3) also informs the performance of non-residential areas, shared spaces and services.

SEPP SSD-WIDE REQUIREMENTS

Table 2: Response to SEPP (Sustainable Buildings) 2022 Requirements – Non-residential development

REFERENCE	OBJECTIVE	DESIGN RESPONSE
Embodied Emissions Reporting	Implement processes for measuring and reporting embodied emissions in building materials.	The Stage 1 Development will comply with the embodied carbon disclosure requirement through the NABERS Embodied Emissions tool, to be submitted at the appropriate stage. This includes reporting on the construction materials used within Stage.
NCC Section J + JV3 (Non-Residential)	Stage 1 will undertake NCC Section J and JV3 performance modelling to verify compliance and optimise energy performance. JV3 modelling will refine glazing, shading, insulation and HVAC strategies and will be integrated into the final design documentation.	Stage 1 includes NCC Section J and JV3 performance modelling to verify compliance and optimise energy performance. JV3 modelling will refine glazing, shading, insulation and HVAC strategies for the non-residential areas which includes the pool, café and other residential amenities on ground level. These will be integrated into the final design documentation.
Net Zero Provisions (Opt-In Pathway)	Demonstrate at the development application that the development is designed with sufficient space and infrastructure so all energy needs can be sourced from renewables by 2035.	Not applicable. The Net Zero pathway is a voluntary opt-in mechanism under the SEPP. RSL LifeCare has not opted in to this pathway for the Stage 1 Development; however, we intend to reduce energy consumption and integrate on-site PV arrays that exceed BASIX requirements.
NABERS Energy Performance & Offsets (commercial buildings only)	Independently verify that the development has met the energy performance required by the NCC, through NABERS post-occupancy assurance. Purchase offsets for on-site fossil fuel use and to address any energy efficiency performance gap. <i>(for applicable offices, hotels and serviced apartments)</i>	Not applicable. Stage 1 does not include office, hotel, or serviced apartment uses. Community and multipurpose rooms within seniors living accommodation do not trigger NABERS Energy obligations.
NABERS Water (commercial buildings only)	Independently verify that the development has met a minimum 3-star NABERS water rating. <i>(for applicable offices, hotels and serviced apartments)</i>	Not applicable. No NABERS-regulated building typologies form part of the Stage 1 Development.

3.2. Secretary’s Environmental Assessment Requirements

This report addresses how the proposed project addresses the SEARs. These requirements are outlined below, along with the locations of the responses to each in this report. This report has been prepared to respond to the Secretary’s Environmental Assessment Requirements (SEARS) dated 15 July 2025 for SSD-85869467. Specifically, this report has been prepared to address the SEARS outlined in Table 3 below.

Table 3 Response to Ecologically Sustainable Development (ESD) of the SEARs

KEY ISSUE	SEARS REQUIREMENT	RESPONSES	REPORT LOCATION
Ecologically Sustainable Development (ESD)	Identify how ESD principles (as defined in the EP&A Regulation) are incorporated into the design and ongoing operation of the development. Where relevant, provide an assessment of the development against the Sustainable Buildings SEPP.	This ESD report demonstrates how the Stage 1 Development embeds sustainability principles throughout the design, construction and operational phases. The report outlines the sustainability framework established in the Concept Masterplan. It details how Stage 1 implements passive design, energy performance, thermal comfort, residential energy and water efficiency (BASIX/NatHERS), water management, waste minimisation, material sustainability, urban heat mitigation, and integration of landscape and microclimate strategies. A complete response to the Sustainable Buildings SEPP is provided in Section 2.1.	Sections 3.1, 3.2, 4
Site & Urban Design	Demonstrate how the design responds to climatic conditions, topography, existing vegetation, and desired future character.	Stage 1 incorporates passive design principles, optimised orientation, shading, and daylight access; enhanced landscape, canopy, and microclimate features; and integration with the broader ANZAC Village Masterplan vision. ESD outcomes are coordinated with architectural, landscape and civil design teams.	Sections 4.1, 4.3, 4.7, 4.9, 4.10
Water Management	Outline water efficiency measures, reuse opportunities, stormwater controls, and integration with landscape and WSUD strategies.	Stage 1 supports reduced potable water demand through BASIX requirements, WELS-rated fixtures, rainwater reuse opportunities (subject to civil/WSUD integration), and improved stormwater quality and on-site detention delivered by the civil design.	Sections 4.4, 4.5
Energy & Thermal Comfort	Address building energy performance, minimise greenhouse gas emissions, and identify how comfortable indoor environments can be achieved.	Thermal comfort and energy performance are addressed through BASIX/NatHERS-compliant dwellings, efficient building fabric, passive design, low-energy systems, and NCC Section J measures for common areas. ESD initiatives support reducing operational energy use throughout the building’s lifecycle.	Sections 4.1, 4.3
Materials & Waste	Demonstrate strategies to minimise construction and operational waste, and consider sustainable material selection.	Stage 1 incorporates waste minimisation principles, durable, lower-impact materials (where feasible), and compliance with the embodied carbon disclosure requirements for SSDAs via the NABERS Embodied Emissions tool. Operational waste and recycling provisions align with RSL’s village-wide waste management approach.	Section 4.6, 4.7

KEY ISSUE	SEARS REQUIREMENT	RESPONSES	REPORT LOCATION
Construction & Operational Waste	Identify strategies to minimise waste.	Stage 1 provides construction waste minimisation, recycling facilities, and operational waste rooms, all designed to guideline requirements.	Section 4.6
Transport & Accessibility	Address provision for active transport, walkability, EV readiness and accessibility improvements.	Stage 1 supports safe and accessible pedestrian movement, integration with the village pathway network, and EV charging readiness in line with SEPP expectations.	Section 4.8
Urban Heat Mitigation	Improve heat resilience and comfort.	Enhanced shade, increased canopy cover, cool pavements, landscape cooling, and improved microclimate.	Sections 4.4–4.5
Interdisciplinary Coordination	Demonstrate alignment with design disciplines.	Sustainability measures integrated with architecture (AJC), landscape (Arcadia), civil/WSUD (TTW) and planning (Colliers).	Throughout Section 4
Alignment with Masterplan	Demonstrate Stage 1 alignment with Concept Masterplan.	Stage 1 implements the Masterplan's sustainability principles and translates precinct strategies into detailed built outcomes.	Sections 1.1, 3, 4

3.3. Ecologically Sustainable Development

The following section describes how Ecologically Sustainable Development (ESD) principles (as defined in Section 193 of the Environmental Planning and Assessment Regulation 2021) are being incorporated in the design, construction, and operation phases of the project. These initiatives illustrate how the project addresses the following.

ESD PRINCIPLE	DESIGN RESPONSE
Precautionary Principle	Stage 1 will implement environmental management strategies and ensure building operational maintainability. The project will also incorporate adaptability and resilience into the project design. The concept behind the precautionary principle is to create spaces that can both accommodate changes, which may eventuate in the future, and avoid the risk of serious or irreversible damage to the environment.
Inter-generational Equity	The development is designed to maintain environmental quality for future generations through durable construction, efficient resource use, and long-term operational performance.
Conservation of Biological Diversity and Ecological Integrity	The project will improve, conserve, and support local biological diversity and ecological integrity through the planting of native vegetation, the management of stormwater runoff, and the use of integrated landscaping
Improved Valuation, Pricing and Incentive Mechanisms	The project will look at maintainability and the operational costs associated with individual design initiatives and the overall design.

3.4. Limitations

Due care and skill have been exercised in the preparation of this report. No responsibility or liability to any third party is accepted for any loss or damage arising out of the use of this report by any third party. Any third party wishing to act upon any material contained in this report should first contact Northrop for detailed advice, which will consider that party's requirements.

4 Ecologically Sustainable Design Strategies

The sustainability approach for the Stage 1 Development is guided by the Concept Masterplan Sustainability Framework, which sets out the long-term environmental, social and operational outcomes for the ANZAC Village Renewal. Stage 1 represents the first implementation of this framework and establishes precedents for future stages through passive design performance, comfort, resilience, water efficiency and high-quality landscape outcomes.

The initiatives described in this section have been developed collaboratively with AJC (architecture), Arcadia (landscape), TTW (civil and water), transport specialists and the broader project team. Together, they demonstrate an integrated approach to sustainability consistent with RSL LifeCare’s commitment to delivering healthy, resilient and efficient seniors living environments.

Lifestyle Plaza ESD Initiatives

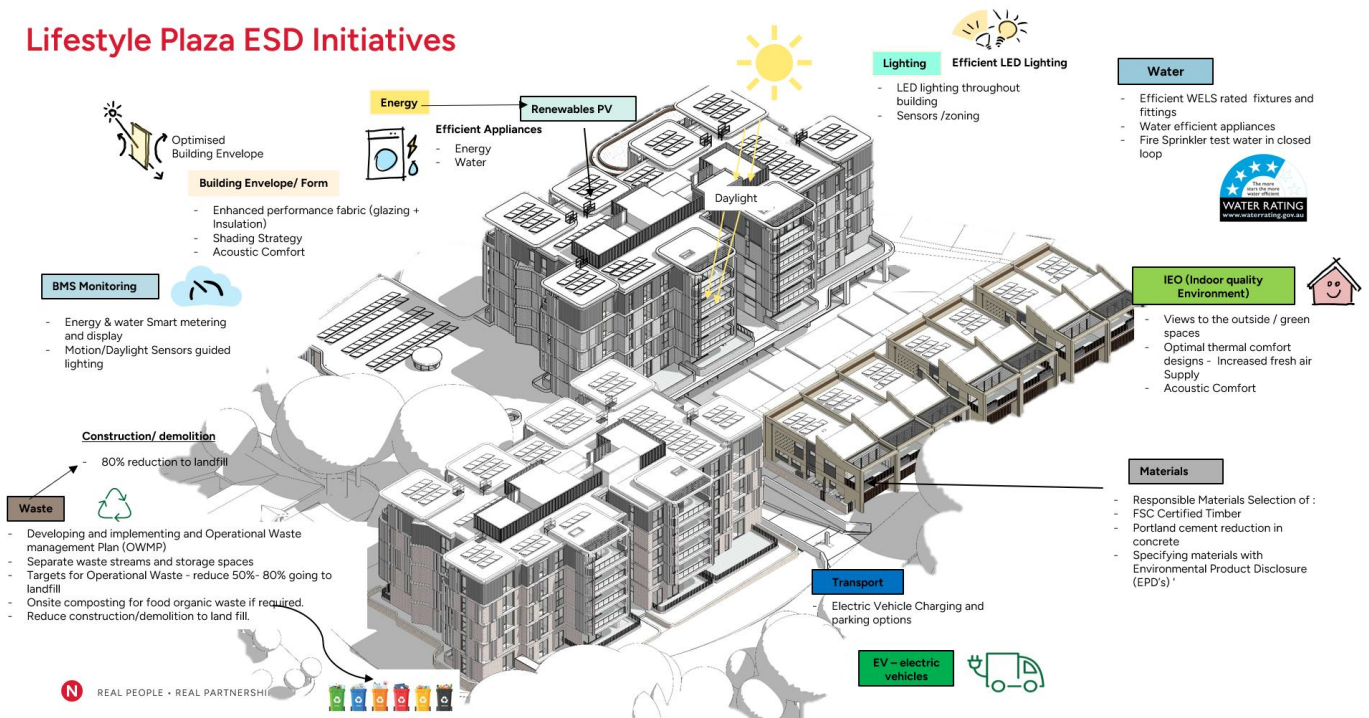


Figure 4: NSW State Design Review Panel Presentation

4.1. Energy Efficiency



Dwellings will achieve BASIX and NatHERS compliance. Passive design measures—orientation, shading, insulation and high-performance glazing—reduce heating and cooling demand. Common areas will use high-efficiency HVAC and LED lighting. Energy metering will support operational monitoring. The goal is to support long-term operational resilience.

4.1.1. BASIX & NATHERS COMPLIANCE

All independent living units will achieve BASIX and NatHERS compliance, ensuring minimum performance standards for thermal comfort, energy demand and water efficiency. Detailed NatHERS modelling will be undertaken during the next design phase to confirm star ratings, optimise glazing performance, and minimise heating and cooling loads for older residents.

Key Commitments (BASIX ILUs):

- BASIX Energy: 75% (min. 61% required)

- Minimum of 145 kW solar PV system
- 100% LED lighting to dwellings and common areas
- Centralised heat pump hot water system
- High-efficiency ducted AC (EER > 3.0)
- Induction cooktops and electric ovens
- High-star appliances (dishwashers ≥ 4 stars)
- Naturally ventilated basement (with jet fans triggered by the CO2 level)
- All common areas incorporate motion sensors, timers, or manual on/off controls
- Downlights and vents are thermally sealed to minimise infiltration.

4.1.2. BUILDING FABRIC AND PASSIVE DESIGN

Passive design principles form the foundation of the Stage 1 sustainability strategy. Measures include:

- optimised building orientation to balance daylight access and heat mitigation
- glazing layouts that maximise natural light while managing heat gain
- external shading through balconies, awnings and landscape canopy
- high-performance insulation and building envelope treatments
- controllable openings to support natural ventilation opportunities

These measures work together to enhance comfort for older residents, reduce reliance on mechanical heating/cooling and lower energy consumption.

Key Commitments

- Walls: ≥RT 1.4
- Roof and Ceiling: ≥RT 3.7 and ≥RT 4.4 to pool and cafe
- Exposed and Semi-Exposed floor ≥RT 1.0

Window Performance:

- External glazing: U 3.5 / SHGC 0.35

4.1.3. ENERGY EFFICIENT EQUIPMENT

Energy-efficient appliances and equipment will be used in the project, with a focus on selecting systems with a higher Seasonal Energy Efficiency Ratio (SEER) rating than required by Section J/Minimum Energy Performance Standards (MEPS).

4.1.4. HVAC SYSTEM

The air-conditioning and ventilation systems will be designed to comply with or exceed the minimum requirements of NCC 2022 Section J Part J6.

Ductwork and pipework systems will be designed to minimise system pressure losses, thereby reducing fan and pump motor power. This includes selecting equipment to achieve reduced coil and vessel pressure drops and being generous with ductwork and pipework sizes to minimise friction losses.

Ventilation & Air Tightness

- Exhaust systems interlocked with lighting/timers
- Thermally sealed downlights and weather-sealed vents reduce infiltration
- Window restrictors are applied for safety without compromising air movement

4.1.5. HIGHLY EFFICIENT LIGHTING SYSTEM

Installing efficient lighting systems, such as LED lighting, throughout the building will significantly reduce the building's overall energy consumption. LED lights are more efficient than traditional fluorescent lights and have a longer lifespan, reducing carbon emissions. They are also efficient at dissipating heat, thereby reducing the heat load in conditioned spaces.

Lighting will be designed to comply with, or exceed, the minimum requirements of NCC 2022 Section J Part J7 and will be controlled by an automatic control system.

4.1.6. ENERGY METERING AND MONITORING

Energy and water meters and monitoring systems will be provided in common areas and in different functional spaces, and usage will be monitored across the building. This allows the building manager to monitor energy and water usage across the building and better optimise consumption.

4.1.7. REDUCED ENERGY USAGE

Measures to reduce energy consumption will be implemented in the design, such as providing clothes drying lines to minimise the use of dryers for laundry and installing motion sensors in common areas to minimise lighting energy when unoccupied.

Illustrate how the project will contribute to NSW's Net Zero emissions goal by 2050. Refer to 'NSW, DPIE, Net Zero Plan, Stage 1: 2020-2030' for further information.

The project will support NSW's pathway to Net Zero by incorporating the below strategies :

Energy Efficient Design

- Enhanced performance envelope (glazing + Insulation) – to reduce heating and cooling demand
- Efficient HVAC, appliances & lighting – reduce energy consumption
- Smart meter display – Monitor & optimise energy use



Electrification & Renewable Energy

- All-electric building, Eliminate Gas
- Rooftop Solar PV



Materials & Construction

- Prioritisation of materials with lower embodied carbon.
- Diversion of construction & demolition waste from landfill



Figure 5: NSW State Design Review Panel Presentation

4.2. Energy Generation



Renewable energy generation is essential for optimising a building's efficiency, reducing reliance on fossil fuels and decreasing greenhouse gas emissions. The measures are expected to achieve significant energy savings and enhance overall efficiency. The design maintains flexibility for future integration of small-scale solar PV where feasible. Electrical infrastructure has been planned to support potential future renewable contributions as the village-wide energy strategy evolves.

4.2.1. PHOTOVOLTAIC (PV) PANELS

Integrating PV panels into the building's rooftop design will reduce reliance on external power sources and lower utility bills. Solar arrays will help offset on-site energy consumption and reduce peak daytime grid demand, resulting in cost savings and enhanced energy efficiency. Solar panels are proposed for the rooftops of the ILU buildings and each townhouse.

Stage 1 delivers the village's first embedded renewable energy system through:

- Exceeding a BASIX minimum of 145 kW solar PV, located across the roofs
- Direct export energy loads with opportunity for future expansion as per the Masterplan electrical strategy
- Provision for inverter and electrical board upgrades to support later precinct-wide renewables

This aligns with the Concept Masterplan's intention for progressive decarbonisation.

4.3. Indoor Environment Quality



Indoor environmental quality is a priority for seniors' living environments. The design incorporates features that enhance resident health, comfort and wellbeing.

4.3.1. DAYLIGHT ACCESS

Daylighting systems will be integrated throughout the internal and external areas of this project to support the admission of natural light and direct sunlight throughout the design. This will be achieved using high Visible Light Transmission (VLT) windows. Adopting an integrated daylight approach will improve the wellbeing of the building occupants by creating a visually stimulating environment.

Dwellings have been arranged to maximise daylight access while limiting glare through shading devices and landscape canopy. Window sizing and placement are coordinated with AJC to ensure appropriate daylight penetration into living spaces.

In addition to promoting occupant comfort, providing daylight will reduce the building's overall energy consumption. Natural light will alleviate the need for artificial lighting, whilst the direct sunlight will enhance thermal comfort during cooler months.

- Orientation of ILUs maximises northern solar access
- Residents' communal indoor spaces designed with generous glazing and outlook
- Townhouses optimised for dual aspects where feasible

4.3.2. INDOOR AIR QUALITY (IAQ)

The quality of indoor air has a significant impact on both our health and the environment, potentially leading to adverse health effects such as allergies and asthma.

To address this concern, the project will provide increased fresh air supply to common areas, which will reduce CO₂ build-up and improve occupants' comfort

Thermal Comfort (NatHERS)

- Building envelope insulated above NCC minimums
- High-performance glazing to control heat gain
- All ILUs modelled with appropriate crossflow ventilation and operable windows
- NatHERS simulation assumptions include:
 - 10% operable window area
 - Orientation-responsive shading
 - Restrictors compliant with BCA safety rules

4.3.3. INTERIOR NOISE LEVEL CONTROL

Internal noise levels will be actively considered in the building layout and systems design, with mitigation measures taken throughout the building. The use of acoustic insulation and sound-isolation measures will ensure that interior noise levels are maintained below acceptable limits.

4.3.4. MATERIAL SELECTION

Materials selection for the project aims to improve the internal environment of the site with materials with low volatile organic compound (VOC) and formaldehyde content is preferred to help minimise respiratory issues for building occupants.

4.4. Water Efficiency



A strong focus has been placed on the effective management of water within the building, with the following initiatives included in the design across all project areas.

4.4.1. RAINWATER CAPTURE AND REUSE

The site's extensive roof areas offer significant potential for rainwater harvesting, making this an especially advantageous opportunity. The project design will incorporate rainwater harvesting systems to collect, store, and distribute rainwater to offset potable water use on the site. Currently, it is proposed that the harvested rainwater from the ILU buildings' roof will be used for toilet flushing in common areas and landscape irrigation. The rainwater collected from the townhouse roof will be reused for toilet flushing in the townhouses and irrigation.

4.4.2. WATER EFFICIENT EQUIPMENT

Water efficient fixtures and fittings will reduce the water consumption of the site. As an indication, the following should be targeted:

Table 4 Sanitary fixtures efficiency

FIXTURE / EQUIPMENT TYPE	WELS RATING	WELS LABEL
TAPS	6 Star	
TOILETS	4 Star	
SHOWERS	4 Star (< 6L/min)	
WASHING MACHINES	4 Star	
DISHWASHERS	4 Star	

BASIX Water Commitments

- BASIX water target: 40% minimum
- Stage 1 outcome: 52%
- 10 kL rainwater tank
- Reuse for:
 - Irrigation
 - Common-area toilet flushing

4.4.3. LANDSCAPING

The planting design features native and drought-resistant species, including trees, shrubs, groundcovers, and grasses. These plants are chosen from local vegetation to ensure they are well-adapted to the local climate. Once established, they require less water, reducing the need for frequent irrigation and minimising water waste. This diverse selection of plants creates a visually appealing, resilient landscape that requires minimal maintenance.

4.4.4. IRRIGATION SYSTEMS

The irrigation systems will use real-time weather data, including rainfall, temperature, and humidity, to optimise watering schedules and prevent overwatering during wet conditions while ensuring adequate moisture during dry periods. Drip irrigation will be employed to deliver water directly to the plant roots, reducing evaporation, water waste and runoff.

4.5. Water Sensitive Urban Design



Water Sensitive Urban Design (WSUD) stands at the forefront of modern urban planning, offering innovative solutions to the complex challenges of water management in urban environments.

WSUD Integration (TTW)

- 10kL rainwater tank
- Bioretention basin
- 3 OSD catchment areas with six treatment chambers
- OSD delivered in accordance with the precinct-wide hydraulic strategy

4.5.1. VEGETATION

Landscaped gardens will be located at the base of slopes as rainwater collection beds, using native, drought-tolerant plants to capture and filter surface runoff. Raingardens with deep-rooted species will be planted to enhance soil infiltration and capture surface runoff.

- Swales and infiltration planting zones linked to Arcadia's landscape structure
- Planting selection includes drought-tolerant species supported by passive irrigation.

4.6. Circular Economy and Waste Management



Effective waste management throughout the construction and operation of the site will help promote resource efficiency and minimise the project's adverse environmental impacts. By integrating circular economy principles, a system can be created that reuses, recycles, and repurposes materials, reducing waste and conserving natural resources. The following are being considered as part of the design process.

4.6.1. WASTE MANAGEMENT PLAN

A Waste Management Plan will be prepared with the following key objectives:

- To minimise the environmental impacts of the operations of the development
- To minimise the impact of the management of waste within the development
- To ensure waste is managed to reduce the amount of landfill and to minimise the overall quantity generated

4.6.2. CONSTRUCTION WASTE MINIMISATION

The project will limit the amount of construction waste sent to landfill, aiming to send at least 80% of all waste produced to recycling facilities or for reuse onsite.

- D&C contractor to implement a Construction Waste Management Plan prioritising reuse and recycling
- Opportunities for recycled-content materials identified (concrete, steel, asphalt)

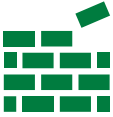
4.6.3. SEPARATED WASTE AND RECYCLING STREAMS

Separate waste and recycling streams will be provided to support effective recycling of the project's operational waste. By segregating waste appropriately, the building's operational efficiency will improve, leading to substantial environmental benefits. Dwellings and communal areas will be provided with appropriate recycling facilities consistent with RSL LifeCare's broader operational waste approach. The Waste Management Plan will specify the processes for interim and final storage, transfer, and collection of waste.

- Centralised waste rooms sized for recycling and organics streams

- Residents' education programs integrated with RSL LifeCare's broader sustainability initiatives
- Durable Material Palette to reduce long-term replacement cycles

4.7. Low Impact Materials Selections



Embodied energy will be reduced by avoiding unnecessary material use and by procuring materials with a low carbon footprint where appropriate.

- Preference for materials available with Environmental Product Declarations (EPDs)
- Use of low-VOC paints, sealants and adhesives
- Timber specified from responsibly sourced suppliers
- Durable façade materials minimise lifecycle replacement
- Consideration of recycled-content materials where feasible and aligned with building performance requirements

4.7.1. SUSTAINABLE SOURCING

Steel and concrete suppliers with environmental product disclosures (EPDs) will be preferred to support improvements in industry standards and transparency of information on material impacts.

4.7.2. RESPONSIBLE PROCUREMENT PLAN

The project team will develop a plan for how the project will responsibly procure materials, mitigate risks and implement opportunities identified in the Assessment, following ISO 20400 Sustainable Procurement – Guidance as a guide to developing the plan.

4.8. Sustainable Transport



The following site attributes and sustainable transport initiatives will be implemented to reduce transport-related carbon emissions and provide building users with access to amenities. Clear signage and wayfinding support safe, intuitive access for residents, visitors and staff.

Stage 1 includes:

- New shuttle stops connecting to the wider village network
- Improved walkability via safe, lit pedestrian paths.
- 121 basement spaces, 39 surface visitor spaces, 14 townhouse garages
- Basement with shared flexible 12 bikes and 18 scooter parking spaces
- 1 car sharing provision
- 1 EV charging at grade and basement with EV charging readiness

4.8.1. ENCOURAGE WALKING

Design safe, convenient, comfortable, and accessible walking pathways across the site with adequate lighting, tree canopies, and wayfinding. The aim is to encourage active transport, thereby minimising greenhouse gas emissions and promoting sustainable transportation practices.

4.8.2. ELECTRIC VEHICLES (EV) INFRASTRUCTURE

Provisions for dedicated car parking spaces equipped with charging infrastructure will be strategically implemented for electric vehicles. The aim is to encourage the adoption of electric cars to promote green transport, thereby minimising greenhouse gas emissions and promoting sustainable transportation practices.

- EV charging readiness incorporated into basement electrical design
- Scooter and e-bike parking provided within the basement shared zones
- Provision for future EV and mobility charging expansion identified in the Masterplan infrastructure strategy

4.8.3. BICYCLE PARKING

- Enhanced footpath connections link to village-wide movement network for staff and visitors
- Direct access to existing ANZAC Village internal pedestrian corridors
- Streetscape and landscape design incorporate shaded routes and passive surveillance principles

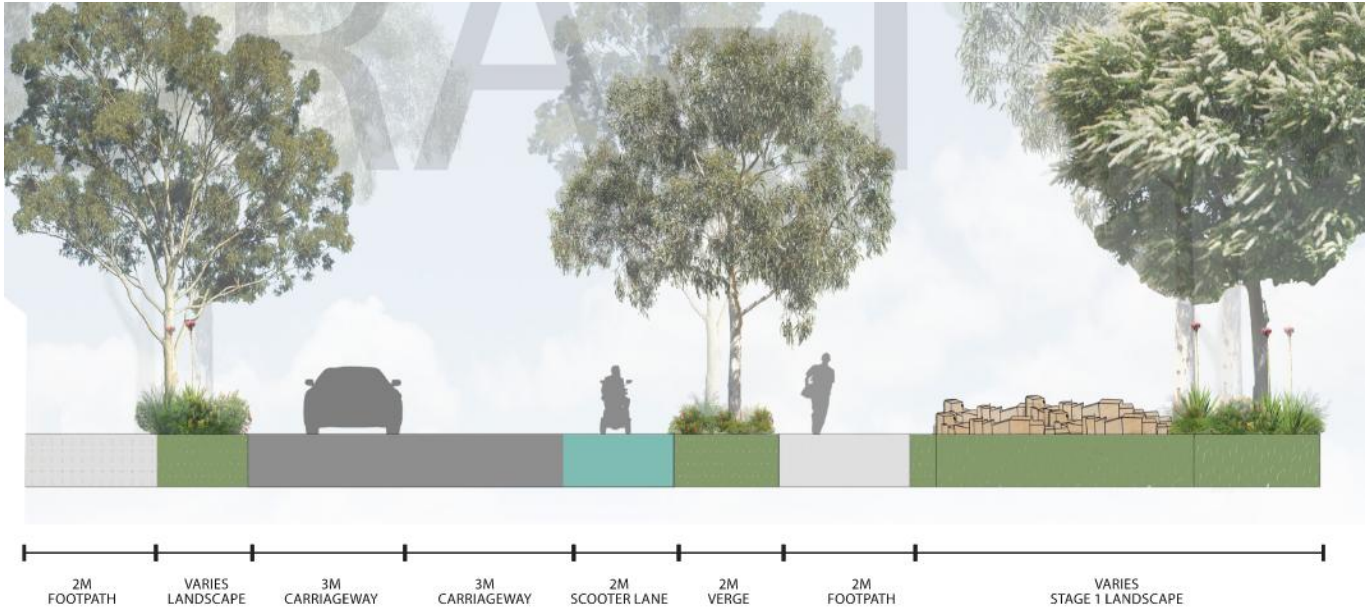


Figure 6: Arcadia's tree canopy strategy

4.9. Mitigating Urban Heat Island Effect



The urban heat island effect is significant because it elevates temperatures in urban areas, increasing energy use, health risks, and environmental strain. To address this issue, the project should prioritise strategies such as green infrastructure, light-coloured materials, permeable pavements, and sustainable urban planning to create cooler, healthier built environments.

- Significant canopy tree planting improves midday shading
- Deep soil zones designed for medium and large species
- Light-coloured pavements reduce heat absorption
- Passive irrigation supports healthier tree establishment
- Natural ventilation opportunities maintained through building spacing and orientation
- Green infrastructure aligns with the broader Masterplan cool-corridor strategy

4.9.2. LIGHT-COLOURED ROOFING

To mitigate potential urban heat island effects on the site and its surroundings, a roof colour with a low Solar Absorptance (SA) will be chosen to reflect solar radiation.

4.9.3. SUSTAINABLE PATHWAYS

Light coloured elevated pathways are proposed where appropriate to reduce heat absorption. This approach not only promotes sustainable landscape practices but also enhances the overall pedestrian comfort and environmental quality of urban spaces.

4.9.4. INCREASING VEGETATION

Vegetation plays a crucial role in mitigating the urban heat island effect by providing shade, reducing temperatures, and enhancing overall environmental quality. Tree planting will be concentrated along site boundaries and streetscapes, and adjacent to communal and private areas, to effectively reduce temperatures in these areas. Arcadia's design incorporates native and climate-resilient species, layered planting structures and deep soil zones that support canopy trees.

4.10. Improved Ecology



By planting native vegetation and promoting improved interaction with the natural environment, the project will aim to enhance the site's ecology and minimise its ongoing environmental impact.

- Native species palette improving habitat value
- Layered planting zones providing ground, mid and upper canopy structure
- Biodiversity-supporting shrubs attracting pollinators and small fauna
- Integration with precinct ecological corridors established in the Concept Masterplan
- Soil improvements and mulching to support long-term ecosystem health

4.10.2. LIGHT POLLUTION TO NEIGHBOURING BODIES

The design team is investigating strategies to reduce light pollution that could affect migratory animals and insects in nearby areas. The decisions will be finalised as the design progresses further.

5 Conclusion

The Stage 1 Development delivers a coordinated set of sustainability outcomes that reflect the aspirations of the ANZAC Village Concept, the Concept Masterplan, and RSL LifeCare's commitment to high-quality seniors living environments.

Throughout the design process, the project team has integrated ecologically sustainable design principles into the built form, landscape, servicing and operational considerations of the development.

Stage 1 achieves improved environmental performance through a combination of passive design, enhanced building fabric, BASIX and NatHERS compliance, energy-efficient systems, and measures that support long-term thermal comfort for residents.

Water efficiency has been strengthened through WELS-rated fixtures and alignment with the civil and WSUD strategy. At the same time, landscape design provides ecological value, shade, improved microclimate conditions and increased canopy cover to support outdoor comfort and reduce local heat exposure.

Materials selection, waste minimisation measures and compliance with embodied carbon disclosure requirements further contribute to reduced resource impacts over the life of the project.

Transport and accessibility outcomes have been improved through EV-ready parking, safe pedestrian routes, and alignment with the broader movement network planned for the village. These initiatives demonstrate a clear link between the Concept Masterplan framework and the practical sustainability measures embedded within Stage 1.

Collectively, the measures outlined within this report establish a strong foundation for sustainability across the ANZAC Village Renewal. Stage 1 provides the first built evidence of the project's long-term sustainability vision, setting a benchmark for future stages and supporting the delivery of a more resilient, efficient and comfortable seniors living precinct.

Appendix A - Consolidated Mitigation Measures Schedule

REF	COMMITMENT	APPLIES TO	TIMING	REPORT LOCATION
E1	Dwellings will achieve BASIX and NatHERS compliance, including compliance with thermal comfort, energy, and water targets.	Design / Construction	Detailed Design + Construction	4.1
E2	Building envelope performance (glazing, insulation, sealing) will be confirmed through detailed design and implemented during construction.	Design / Construction	Detailed Design	4.1
E3	High-efficiency HVAC and LED lighting systems will be installed in common areas.	Construction	Construction	4.1
E4	Energy metering will be provided for major energy uses.	Construction / Operation	Commissioning	4.1
IEQ1	Low-VOC paints, adhesives and finishes will be specified where practicable.	Construction	Specification + Construction	4.3
IEQ2	Landscape and façade shading treatments will minimise glare and improve comfort.	Construction	Construction	4.3
IEQ3	Acoustic design measures will support comfortable indoor noise levels.	Design / Construction	Detailed Design	4.3
W1	WELS 4–5-star sanitary fixtures and fittings will be installed.	Construction	Construction	4.4
W2	Landscape irrigation demand will be minimised through the use of drought-tolerant species and passive irrigation.	Design / Construction	Landscape Design + Construction	4.4
WSUD1	Stormwater quality devices and OSD will be delivered in accordance with TTW's WSUD design.	Construction	Construction	4.5
WSUD2	Landscape design will support WSUD integration.	Design	Detailed Design	4.5
MAT1	Embodied carbon disclosure will be prepared via NABERS Embodied Emissions.	Design	Before the construction certificate	4.6
WST1	A construction waste management plan will minimise landfill waste.	Construction	Construction	4.6
WST2	Operational waste facilities will support appropriate recycling.	Operation	Operation	4.6
TR1	EV-charging readiness will be incorporated in the basement and garages.	Design / Construction	Detailed Design	4.8
TR2	Pedestrian paths and wayfinding will support safe movement.	Construction	Construction	4.8

REF	COMMITMENT	APPLIES TO	TIMING	REPORT LOCATION
L1	Canopy trees and layered planting will provide shade and cooling.	Construction	Construction	4.9 / 4.10
L2	Deep soil zones will support medium- and large-canopy planting.	Design / Construction	Design + Construction	4.10
HEAT1	Light-coloured external finishes will reduce heat absorption.	Design / Construction	Detailed Design	4.9
ECO1	Native and climate-resilient species will support biodiversity.	Design / Construction	Landscape Design	4.10
OPS1	Operational metering and handover information will support ongoing performance.	Operation	Operation	4.8 / 6

NORTHROP

