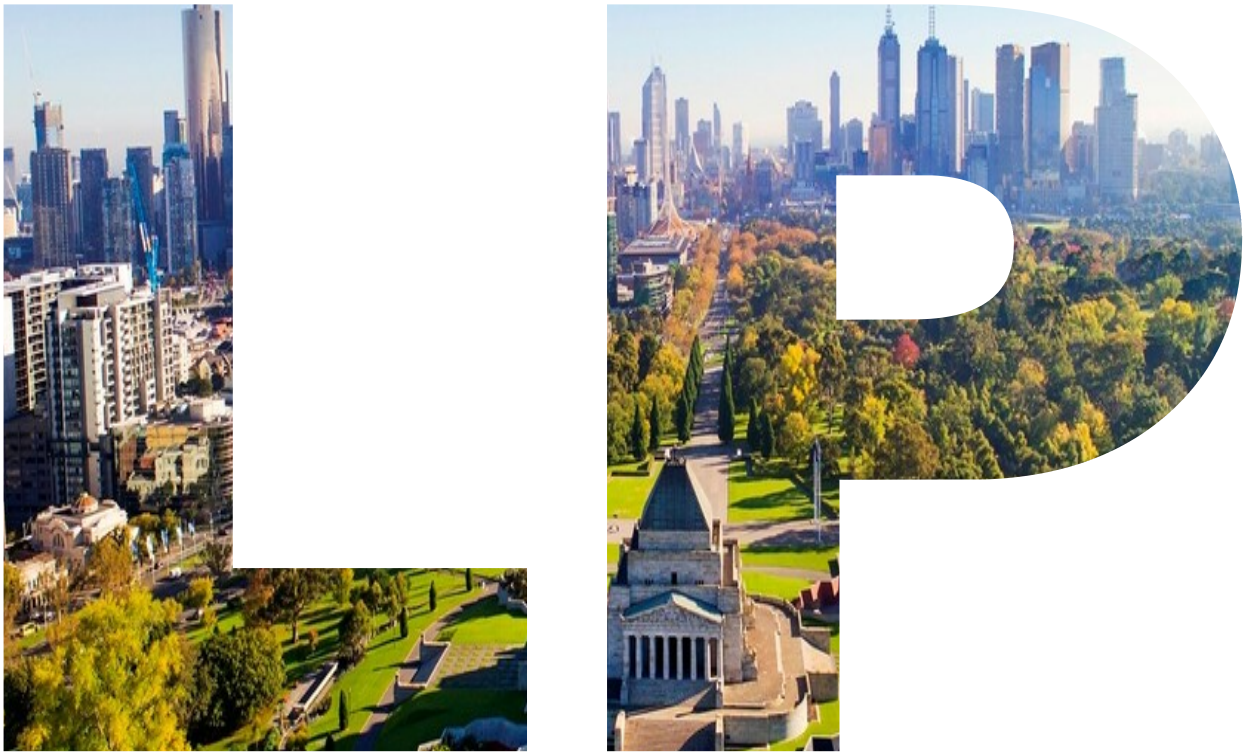


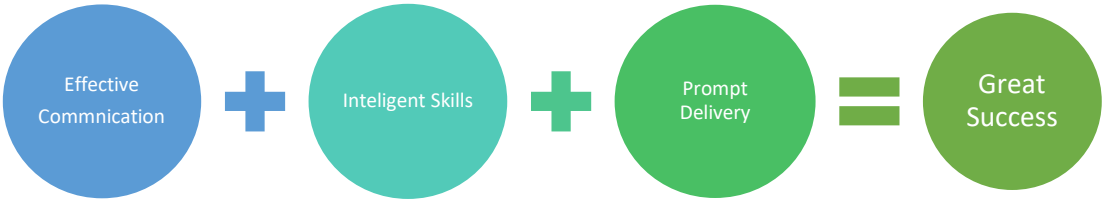
LINCOLN PEARCE

SUSTAINABILITY MANAGEMENT PLAN

1009-1013 Mt Alexander Road, Essendon

1078-SMP-H Date 06 May 2026

We promise to deliver documentation of a high quality, on time with engineering finesse that achieves excellent standards and skills to give you the best outcome.



We take pride in offering Planning, Design and Construct, Full Documentation, Shop Drawing, As Built and Asset Performance service, tailored to provide the right solution for you.

We offer our services across the below specialisations

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	Electrical	**Transportation**
	Hydraulic	**Construction**
Civil	**Stormwater**	**WSUD**
Waste	**Management Plans**	**Waste Analysis**
Sustainability	**Management Plans**	
	Implementation Management	**Performance Ratings**
		Green Travel Plans
	Daylight Modelling	**Site Management Plans**
	NatHERS Rating	**Section J DtS**
	Section J J1V3 Modelling	
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	Audio Visual	**Technology**
	CFD Modelling	**Contractor Services**

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1. **Review Tender Documentation** Review and discuss Tender documentation methodology
2. **Shop Drawings** Documentation of Contractor shop drawings
3. **As Built** Documentation updated with As Installed conditions
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Contact us if you require assistance – **proposals@lincolnpearce.com.au**

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Table of Contents

Revision Schedule

Issue	Date	Description	Author
A	16/07/2025	Issued for Client Review	Komal Teni
B	10/09/2025	Updated in accordance with the latest drawings	Komal Teni
C	15/10/2025	Updated according to the council's comments	Komal Teni
D	11/12/2025	Updated according to the latest drawings	Komal Teni
E	15/12/2025	Updated according to the client's comments	Komal Teni
F	19/02/2026	Updated according to the client's comments	Komal Teni
G	20/04/2026	Updated according to the client's comments	Komal Teni
H	06/05/2026	Updated Water Sensitive Urban Design	Komal Teni

1 Project Introduction

1.1 Site Location, Master Plan and Staging

This project is a thoughtfully designed mixed-use development that integrates communal spaces, retail outlets, and residential apartments to create a vibrant and functional urban environment.

Layout and Usage

- **Ground Floor**
  Features a publicly accessible retail space, a premium residential lobby overlooking a garden courtyard, service rooms, a bin room, and two residential apartments.
- **Level 1**
  Dedicated to communal amenities and includes four residential apartments, encouraging social interaction and shared use.
- **Levels 2 to 6**
  These levels are entirely residential, with each floor offering a mix of six and four well-designed apartments. Every unit includes a Private Open Space (POS), enhancing comfort, natural ventilation, and passive design performance.
- **Level 7**
  The top floor houses two expansive, high-end apartments that offer enhanced privacy, panoramic views, and premium finishes—designed as flagship residences.

Each floor is equipped with a dedicated bin chute system that connects directly to the ground-floor bin room, ensuring efficient, hygienic, and streamlined waste disposal throughout the building.

For specific construction details for the Project, refer to the Project Documentation inclusive of Architectural and Structural Engineering documents and associated Specifications.

1.2 Scope and Intention of Documents

The following Sustainability Management Plan is a summary of the major requirements to assist with the town planning application. This written document shall be read in conjunction with each other to be fully converse with the requirements.

The information provided under Section J is solely to illustrate that compliance can be achieved. The outcomes presented are indicative and may be adjusted throughout the design development process following the issuance of the town planning permit. Final results will also depend on construction factors and compliance with Section J requirements.

1.3 Stakeholder Confirmation

This document is Lincoln Pearce's recommendations given the information provided and requires the Client, Architect and other Stakeholders to review and confirm their methodology and understanding is in agreeance to implement. If no comments are raised, then Lincoln Pearce shall continue these methodologies.

Please provide comments within 5 working days of this report.

1.4 Authorities and Standards

All Building Services requirements shall be in accordance with:

a) The requirements of the Statutory Authorities having Jurisdiction over the Project.
b) Regulations, Codes, Standards and Documents having Jurisdiction over the Project.
c) The requirements of the Building Regulations covering the Project

1.5 Project Documentation

The Design Team Members shall make themselves aware of the contents of all Project Documents and Project Requirements. Project Documentation includes:

a) Building Service Documentation for Mechanical, Electrical, Hydraulic, Fire and Vertical Transportation Services inclusive of Drawings, Specifications and Reports.
b) Sustainability Documentation inclusive of Reports, alternate solutions, and advice
c) Architectural Documentation inclusive of Drawings and Specifications.
d) Structural Documentation.
e) Civil Documentation
f) Project Fire Engineering and Acoustic Documentation inclusive of Reports, Briefs and Correspondence
g) Reports and all other related Project Documentation forming part of the Project's Contractual Documentation.

1.6 Disclaimer

The documents outline the Project requirements inclusive of the finishes and the performance of the systems documented. Whilst every care has been taken in preparation of the information, no liability is assumed for the material contained herein. No warranty is provided or implied as to the accuracy of the whole or any part relative to the documentation.

1.7 Design Team Members

The following is a list of the design team members:

Definition	Description
Project Location	**1009-1013 Mt Alexander Road Essendon**
Client / Principal	**Kincrest** www.kincrest.com.au
Building Services /Sustainability Engineer	**Lincoln Pearce** www.lincolnpearce.com.au
Architect	**Carr – Architecture and Interior Design** www.carr.net.au

2 Executive Summary

Lincoln Pearce has been engaged to provide a Sustainability Management Plan for the mixed-use development at 1009-1013 Mt Alexandar Road Essendon VIC 3040.

The Sustainability Management plan outlines specific commitments to ESD across various criteria such as building management, water and energy efficiency, stormwater management, Indoor Environment Quality (IEQ), transport, waste management, urban ecology, materials usage, and innovation. Each criterion reflects a different aspect of sustainability that contributes to the overall assessment.

This development achieves an overall BESS score of 70%, as detailed in **Appendix H**.

Criteria	Aim of the criteria	Design Response
 **Management**	This category promotes sustainable practices throughout the stages of a project's design, construction, and operation.	• Separate utility meters (electricity, & water) provided for all residential & commercial tenants. • All major common area services separately sub-metered. • Building User Guide available to all occupants.
 **Integrated Water Management**	This category aims to promote and reward efforts to reduce water usage by using water-efficient fixtures, building systems, and water reuse.	• High efficiency fixtures and fittings. • 12,000L Rainwater tank provided for water re-use to site irrigation and washdown. • Water-efficient landscaping. • Commitment to reduce potable (mains) water consumption from fire testing and building systems (HVAC) by at least 80% by collecting and recycling.
 **Operational Energy**	This category aims to reward projects designed and constructed to reduce overall operational energy consumption below that of a comparable standard-practice building.	• The project will exceed the BCA requirement for heating and cooling loads by 10%. • Note showing commitment to exceeding the section J energy efficiency requirement of NCC 2022 • Commitment to an 8.0 Star average energy rating for the development (on planning and construction drawings) • 20kW rooftop PV system. • Efficient heating, cooling and ventilation systems. • Efficient hot water systems. • Efficient LED lighting systems and controls.

		• Carbon Monoxide monitoring to control the operation and speed of ventilation fans in the car park shall be provided • All electric development.
 **Indoor Environment Quality**	This category aims to promote and reward efforts that improve the comfort and well-being of occupants.	• Direct access to natural daylight for all habitable rooms has been provided. • Glazing in apartments to have a minimum VLT of 60% • Outside Air Fan in commercial spaces providing O/A rates 50% above minimum from AS1668 **OR** O/A provision to ensure CO2 concentration remains below 800ppm • Use of low VOC paints, adhesives, and sealants. • Use of certified sustainable materials and products throughout the development. • Use of E1-rated engineered wood products.
 **Transport**	This category aims to reward projects that help reduce occupants' dependency on private cars, thereby decreasing overall greenhouse gas emissions.	• Good access to public transport and amenities. • There are 50 bicycle parking spaces provided in the development. • Electric vehicle charging infrastructure provision (Level 2 – 32amp)
 **Waste & Resource Recovery**	To ensure waste avoidance, reuse, and recycling throughout the design and operation process.	• Provision of shared recycling and general waste bins. • Provision of waste management policies
 **Urban Ecology**	This category aims to address the consumption of resources within a building construction context by encouraging the selection of lower-impact materials	• Show the extent of vegetated areas in and around the site • Taps and floor waste in each POS/Balcony/terrace

3 Introduction

Lincoln Pearce has been commissioned to undertake a Sustainability Management Plan for the proposed Arcare Aged Care development located at 1009-1013 Mt Alexander Road, Essendon. This has been prepared to address the Moonee Valley City Council's sustainability requirements Planning Policy Clause 15.01-2L-03 Environmentally Sustainable Development.

Within Clause 15.01-2L-03, the City of Moonee Valley has identified the following key categories to be addressed:

- Energy Performance.
- Water Resources.
- Stormwater Management.
- Indoor Environment Quality.
- Construction, Building & Waste Management.
- Building Materials.
- Transport; and
- Urban Ecology.

The site underwent assessment using the BESS tool, which was developed by an association of councils led by Merri-bek City Council. This tool evaluates the energy and water efficiency, thermal comfort, and overall environmental sustainability performance of new buildings or alterations. It was designed to showcase how new developments can fulfill sustainability requirements as part of a planning permit application for the participating council.

In the BESS tool, each target area typically receives a score between 1% and 100%. The energy, water, stormwater, and IEQ areas require a minimum score of 50%. An overall score of 50% indicates 'Best Practice,' while a score above 70% indicates 'Excellence.' The BESS assessment result can be found in **Appendix H**.

The development project has been assessed using the Blue Factor tool, which specifically evaluates stormwater management and water-sensitive urban design outcomes. The tool has been applied to demonstrate compliance with best-practice stormwater objectives in accordance with local planning requirements. The results of the Blue Factor assessment are provided in **Appendix A.**

4 Management

In Management, BESS includes actions related to early consideration of ESD, such as a pre-application meeting with Council and early thermal performance modelling. BESS also includes actions related to ongoing monitoring, including metering and sub-metering strategies. And finally, BESS includes an action that a Building Users' Guide be prepared to assist future building users to understand and operate their new building in the most efficient way.

Criteria	Design Response
ESD Professional	This assessment has been carried out by appropriately qualified ESD Professionals at Lincoln Pearce. Lincoln Pearce has been involved with the project since schematic design to provide sustainability advice to the project team.
Preliminary NatHERS Certification	A preliminary energy assessment will identify thermal insulation properties at an early stage to enhance the design and lower future costs.
Metering / Monitoring	Each unit within the development and each tenancy will have its own individual meter for potable water and energy. By individually metering each unit, residents/tenants will be held accountable for their consumption, empowering them to make conscious efforts to reduce their usage. All significant energy uses (such as air-conditioning, lighting, and water heating) and water consumption in the planned development will be individually metered and tracked. This will allow the building manager to monitor usage and promptly investigate any unexpected increases in energy or water usage.
Building Users Guide	A Building User's Guide (BUG) will be developed and made available to all owners and occupants. Generally, the guide should include the following information: • A description of operational and maintenance requirements of the heat and cooling systems and hot water systems for efficient and safe use of these systems. • A description of operational and maintenance requirements of building initiatives to reduce energy and water use. • A description of operational and maintenance requirements of water-sensitive urban design features. • A description of operational and maintenance requirements of waste management strategy; and • Transport facilities including public transport information.

5 Water Efficiency and Stormwater management

In the Water category, BESS focuses on enhancing water efficiency through various measures such as improving fixtures, collecting rainwater, implementing water-efficient landscaping, and optimizing building systems' water use.

Cities and buildings should focus on water efficiency and conservation, as not all uses require drinking-water standards.

Selecting for high WELS-rated fixtures and low-water-use landscaping can significantly reduce both indoor and outdoor water consumption. The Water and Stormwater Management section aims to minimize potable water usage and stormwater runoff while limiting pollution.

Criteria	Design Response
Water Efficient Fittings	The development will include efficient fittings and fixtures to reduce the volume of mains water used in the development. The following WELS star ratings will be specified. • Toilets – 4 Star. • Taps (Kitchen) – 6 Star. • Taps (Bathroom) – 5 Star. • Showerhead – 4 Star with aeration device (6.0-7.5L/min); and • Dishwasher – 5 Star.
Rainwater Collection & Use – Rainwater Tank	Rainwater runoff from the entire roof area will be collected and stored in rainwater tanks with a total effective capacity of 12,000L for the development. Rainwater collected will be used for toilet flushing in the development. These initiatives will significantly reduce the stormwater impacts of the development and help achieve compliance with the Blue Factor calculator **(See Appendix A).**
Water Efficient Appliances	All appliances provided in the development as part of the base building work (e.g. dishwasher) will be chosen within one WELS star of the best available.
Water Efficient Landscaping	Native or drought-tolerant plants will be implemented for the landscaped areas on site. Use of water or irrigation will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.
Building System Water	Potable (mains) water consumption from fire testing and building systems (HVAC) will be reduced by at least 80% by collecting and recycling. This requirement will need to be clearly integrated into the services design. Building air-conditioning will not use potable water for cooling.

6 Energy Efficiency

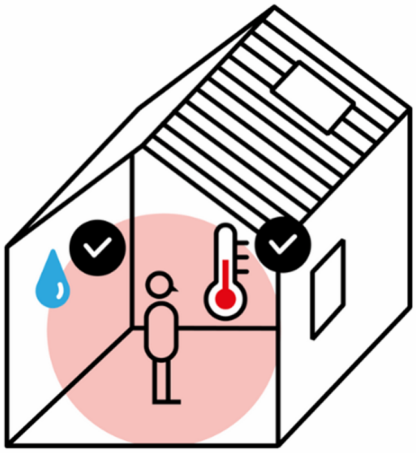
In the energy category, BESS awards points for passive design, energy efficient services / appliances and energy fuel choices that deliver greenhouse and energy savings above a benchmark building. The benchmark building is based on minimum standards in the National Construction Code (NCC) of Australia including the whole-of-home reference case, the Minimum Energy Performance Standards (MEPS), market availability and other standards.

Criteria	Design Response
Thermal Performance	**Apartments:** Energy ratings will be completed at the building approval stage. A commitment is made that all apartments will meet the energy efficiency requirements of minimum 8.0-Star average energy rating with no individual apartment scoring less than 6.5-Stars (10% improvement above BCA requirements). This will be achieved using appropriate insulation level in all external walls, roof and floors as well as the use of thermally efficient glazing windows throughout habitable rooms. A preliminary energy rating has been prepared for a representative sample of units to demonstrate a 8.0-star energy rating can be achieved in the development with cooling energy lower than 30 MJ/m^2.Refer to **Appendix C** for the results of the preliminary rating. **Commercial Tenancies:** Prior to the building construction stage of the project, a section J (NCC 2022) DTS assessment will occur with the following commitments: • 10% improvement on floor and ceiling insulation level requirement from NCC 2022; • Wall and glazing performance to be in line with DTS requirements • Heating/cooling system to be chosen within one star of the best available product in the range at the time of purchase or COP/EER 85% or better than most efficient equivalent capacity unit available if no star rating is available; and • Water heating system to be chosen within one star of the best available product in the range at the time of purchase or 85% or better than most efficient equivalent capacity unit available if no star rating is available. Alternatively, prior to the building construction stage of the project, energy modelling will occur with the aim of exceeding requirement of NCC 2022, using an NCC JV3 modelling process. This will be achieved through the use of high-performance building fabric and glazing, low energy lighting and building services. The reference building model will include the minimum improvement committed above for floor and ceiling. This method will allow for flexibility in for glazing performance.

	Results in BESS using JV3 approach would yield a slightly lower score under BESS Energy 1.1 however our BESS assessment has been prepared to ensure that energy section and overall compliance is maintained. **The information above is provided solely to illustrate that compliance can be achieved. The outcomes presented are indicative and may be adjusted throughout the design development process following the issuance of the town planning permit. Final results will also depend on construction factors and compliance with Section J requirements.**
Heating and cooling Systems	To reduce the energy consumption heating and cooling will be provided by energy efficient air conditioners chosen **with 3-Star rating minimum (cooling and heating) or within one star of the best available product in the range at the time of purchase whichever is greater**. COP/EER 85% or better than the most efficient equivalent capacity unit available if no star rating is available. Please note that 3 Star energy rating has been entered in BESS as an average however actual star rating will depends on the product range.
Hot Water Heating	Hot water will be provided via a central electric heat pump system for personal hygiene purposes. The kitchen cooking hot water will be through electric storage tanks.
Electrification	This development will be fully electric.
Lighting	Energy consumption from artificial lighting within the apartment will be reduced by using LED lighting. A lighting level of 4W/m2 will not be exceeded in the apartments. The use of light internal colours will improve daylight penetration thus reducing the need for artificial lighting.
Lighting Sensors	Common areas will be controlled using occupancy sensor and/or daylight sensors. Ventilation in these areas will be controlled using timers and other sensors.
Car Park Ventilation	Car park ventilation will be designed to best practice energy efficiency with the exhaust fans installed with CO sensors which will only operate when required.
Solar PV System	A 20kW solar photovoltaic for renewable energy generation will be installed on the roof of the development. This will off-set a portion of greenhouse gas emissions and energy use for the project (lighting, pumps etc.).
Clothes Drying	External retractable clothes drying lines or racks will be provided for each unit within the identified private open spaces.

7 Indoor Environment Quality

Indoor Environment Quality and its key elements should be integrated into the design of the proposed development. These elements play a significant role in the health, wellbeing and satisfaction of the development occupants. Facilitating a good (IEQ) design provides a naturally comfortable indoor environment and less dependence on building services such as, artificial lighting, mechanical ventilation and heating and cooling device.



Criteria	Design Response
Volatile Organic Compounds	All paints, adhesives and sealants and flooring will have low VOC content. Alternatively, products will be selected with no VOCs. Paints such as eColour, or equivalent should be considered. Please refer to **Appendix D** for VOC limits.
Formaldehyde Minimisation	All engineered wood products will have 'low' formaldehyde emissions, certified as E0 or better. Alternatively, products will be specified with no Formaldehyde. Products such as ecological panel – 100% post-consumer recycled wood (or similar) will be considered for use within the development. Please refer to **Appendix D** for formaldehyde limits.
Daylight Levels	**Commercial Space:** Daylight inputs through windows/openings for the retail and communal spaces will be enhanced with the use of light internal colours, allowing better internal reflection of daylight. Retail and communal spaces will have large glazing to allow for good daylight penetration. Please refer to **Appendix E** for Green Star daylight Hand Calculation showing compliance with best practice requirements. **Apartments:** Daylight penetration will be enhanced with the use of light internal colours to improve daylight reflection. All bedrooms will have access to a window so no bedroom will rely on borrowed daylight. Ceiling height throughout the habitable rooms will be minimum 2.7m and glazing provided will be **60% Visual Light Transmittance** minimum. **Daylight access has been assessed using the BESS daylight built-in calculator and BESS DTS criteria. Please refer to Appendix F for residential daylight calculations.**

Mechanical Ventilation – Improved Outside Air Rates	**Commercial:** All communal and retail spaces will be provided with O/A fans which will commit to provide 50% increase on O/A provision from AS1668. Alternatively, O/A will be provided in the retail and communal spaces to ensure that CO2 concentration in the rooms remains below 800ppm. **Apartments:** All kitchens will have a separate dedicated exhaust fan (range-hood) which will be directly exhausted out of the building. External windows in the apartments will generally include an operable component. This will help introduce fresh air to the residents and, when weather conditions are suitable, reduce the need for mechanical cooling. Natural Ventilation to apartments is achieved through compliance with Standard D29 (Natural Ventilation) together with passive and mechanical ventilation systems as detailed in the Report from Omnisystems Consulting Engineers titled “Advice Related to Apartment Make-up Air and Mechanically Assisted Natural Cross Ventilation” dated 18 February 2026. The report prepared by Omnisystems is under **Appendix G.** Apartments G02, 1.03, 2.02, 2.05, 3.02, 3.05, 4.02, 4.05, 5.02 & 5.05 will rely on mechanical ventilation
Acoustic Insulation	Each unit will be designed to meet the NCC requirement for acoustic insulation to minimise noise levels and noise transfer within and between buildings.

8 Transport

The transport sector is one of the largest contributors to greenhouse gas emissions.

The 'Transport' criteria aim to reward projects that facilitate a reduction of the dependency of building users on private car use as an important means of reducing overall greenhouse gas emissions.

If reliance on individual motor vehicle transportation is to be reduced, it is necessary to maximise alternative transport options. Rather than limiting access to private fossil fuel vehicles, the 'Transport' criteria aim to encourage and reward initiatives that reduce the need for their use. This may include initiatives that encourage and make possible the use of mass transport options, cycling and/or walking, and the selection of sites that are close to many amenities.

Criteria	Design Response
Bicycle Parking	Occupants and Visitors will be able to securely park their bicycle in the dedicated bicycle storage areas provided in the development. This will be protected from the weather and theft. The below are the requirements: **Residents**: 38 spaces **Residential Visitors**: 8 spaces **Commercial Occupants**: 4 spaces
Electric Vehicle Car Charging Infrastructure	At least one charging infrastructure (minimum Level 2 – 32amp) for electric vehicles will be provided in the car park. Electric vehicle charging infrastructure is to be installed in accordance with NCC 2022 Table J9D4 as relevant to Class 2 (residential) car spaces. This shall include allowing for 7 kW (32 A) type 2 EV chargers. The circuits must be capable of supporting an EV charger that delivers a minimum of 12 kWh from 11:00 pm to 7:00 am

9 Construction and Waste Management

Building Management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring efficient and effective on-going building performance. Waste management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring minimal waste is transported to landfill by means of disposal, recycling and on-site waste storage and/or collection methods.

Criteria	Design Response
Construction Waste Management	A waste management plan will be introduced to all on-site staff at a site orientation session to ensure that the waste generated on site is minimised and disposed of correctly. A minimum 80% of all construction waste generated on site will be reused or recycled.
Construction Environmental Management	The builder will identify environmental risks related to construction and include management strategies such as maintaining effective erosion and sediment control measures during construction and operation and ensure that appropriate staging of earthworks (e.g. avoid bare earthworks in high-risk areas of the site during dominant rainfall period).
Operational Waste	The development will be provided with a central waste storage room in the ground floor. The storage area will be sufficiently sized to accommodate the general and recycling waste. Recycling facilities will be as conveniently accessible as the general waste facilities.

10 Urban Ecology

In highly urbanised environments, such as metropolitan Melbourne, it is important to recognise the importance of maintaining and increasing the health of our urban ecosystems to improve living conditions not only for the fauna but also ourselves. We can improve our urban ecosystem through the incorporation of vegetation through landscaping for both new and existing developments.

Criteria	Design Response
Insulant ODP	All thermal insulation used in the development will not contain any ozone-depleting substances and will not use any in its manufacturing.
Landscaping	The development will include garden beds (planter boxes) on each level. These will be planted with a mixture of native and exotic species to enhance the ecological value of the site. Large, landscaped areas will be provided around the site. It will provide the occupants with a pleasant surrounding environment. The design will incorporate a mix of native species to help maintain local biodiversity.

11 Building Materials

The production and use of building materials can have serious impacts on the environment. Energy is used to extract, produce and transport building materials; natural resources are exploited to be used in building materials; the industrial production of the materials causes pollution, and if poorly selected and used, the materials end up as waste.
A building's life cycle impact is largely influenced by material selection, including embodied energy of the material, longevity/durability, source, ability to be reused / recycled and the toxicity of material components.

Standard and certification schemes for sustainable materials, such as EcoSpecifier's Green Tag program and Good Environmental Choice Australia (GECA), provide an independent assessment and are the best starting point for material selection for sustainability.

Criteria	Design Response
Timber	All timber used in the development will be Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC) certified or recycled / reused.
Flooring	The use of timber flooring will be preferred for all living areas and bedrooms. Wherever possible, flooring will be selected from products/materials certified under any of the following: • Carpet Institute of Australia Limited, Environmental Certification Scheme (ECS). • Global GreenTag - https://www.globalgreentag.com/; and/or • Good Environmental Choice (GECA). Alternatively, flooring must be durable, include some eco-preferred content, be modular and/or come from a manufacturer with a product stewardship program and ISO 14001certification.
Joinery	Wherever possible, joinery will be manufactured from materials/products certified under any of the following: • Global GreenTag - https://www.globalgreentag.com/; and/or Good Environmental Choice (GECA).
Steel	Wherever possible, steel for the development will be sourced from a Responsible Steel Maker. Reinforcing steel for the project will be manufactured using energy reducing processes commonly used by large manufacturers such as Bluescope or OneSteel.

12 Implementation and Monitoring

The proposed development will meet the best practice requirement of the City of Moonee Valley through the different initiatives described in this report such as thermally efficient building envelopes, efficient air conditioning and hot water system and sustainable materials. Appropriate implementation and monitoring of the initiatives outlined within this report will be required.

Implementation of the ESD initiatives outlined in this report requires the following processes:

- Full integration with architectural plans and specifications
- Full integration with building services design drawings and specifications
- Endorsement of the ESD Report with town planning drawings
- ESD initiatives to be included in plans and specifications for building approval

13 Appendix A WSUD Assessment

New development must comply with the best practice performance targets for suspended solids, total phosphorous and total nitrogen, as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, Victoria Stormwater Committee 1999.

Currently, these water quality performance targets require:

- Suspended Solids - 80% retention of typical urban annual load.
- Total Nitrogen - 45% retention of typical urban annual load.
- Total Phosphorus - 45% retention of typical urban annual load.
- Litter - 70% reduction of typical urban annual load.

The Blue Factor Water tool, an industry-accepted tool, was used to assess the development and ensure that the best practice targets described above are met. A minimum compliance score of 100% is required to achieve the development.

13.1 Site Delineation

For the assessment, the development has been delineated into the following surface types:

- Site area of 1,491m^2.
- Roof area runoff of 712m^{2,} which will be diverted into rainwater tank(s).
- Permeable area of 95.5m^2 comprised of landscaped area and the entire exposed ground floor play area.
- Remainder of impervious areas of 683.5m^2 comprised of the terraces and other impervious areas around the site

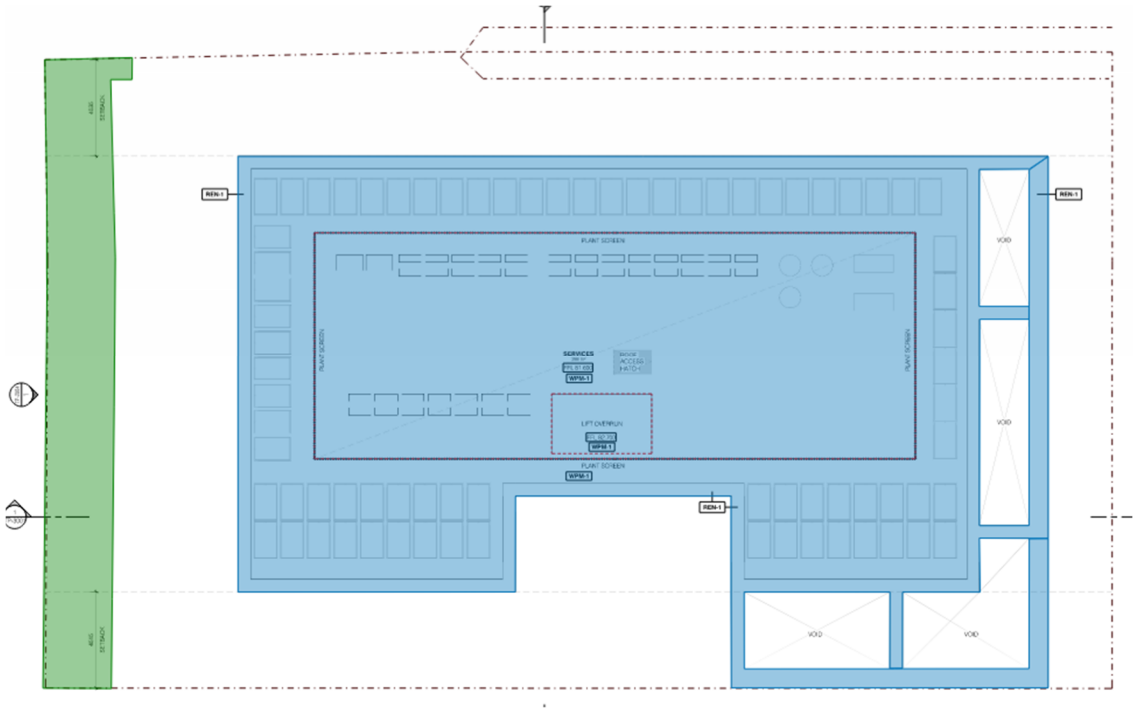


Figure 1: Roof catchment (blue).

13.2 Stormwater initiatives

Criteria	Design Response
Rainwater Tank **(**Rainwater tank for toilet flushing**)**	The roof catchment area (as described above) will be diverted to 12,000L rainwater tanks. The rainwater collected will be used for toilet flushing. If required, a charged pipe system or multiple tanks will be installed to collect water from part of the roof of each dwelling. **In the case of a charged pipe system, the charged pipes will not be running underneath the slab and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.** The remainder of impervious areas will directly be released at the legal point of discharge on site. Permeable areas are excluded from the Blue Factor assessment. **It should be noted that permeable areas have been maximised in the development which will reduce the overall stormwater outflows from the site. Vegetated areas are provided in the proposed development reducing the heat island effect and improving the local habitat.**

13.3 Stormwater Results

The initiatives and areas outlined above have been applied to the Blue Factor calculator, through which the development has achieved a score of 100%, inclusive of the required contribution under Moonee Valley's contribution scheme.

Project # ADC46481
1009-1013 Mt Alexandrer Rd Essendon
Komal Teni - komal.teni@lincolnpearce.com.au
1009 Mt Alexander Rd, Essendon VIC 3040, Australia
06 May 2026 1:18 p.m.

BLUE FACTOR®

1009-1013 Mt Alexandrer Rd Essendon

100%
SCORE

The proposed stormwater treatments provide 'deemed to comply' compliance with the minimum planning requirement for total nitrogen but does not comply with all the relevant objectives for management of stormwater flows on-site.

Project details

Name	1009-1013 Mt Alexandrer Rd Essendon
Project ID	ADC46481
Street address	1009 Mt Alexander Rd, Essendon VIC 3040, Australia
Municipality	Moonee Valley
Site area	1491 m^2
Planning Number	

Offsets

Item	Value
Pre-Offset Score	87%
Nitrogen Offset Rate	$55.00
Stormwater quality offset payable	$9863.84

Flow and pollutant load reductions

Item	Result	Target	
Mean annual runoff volume harvested or evapotranspired (%)	38%	>29%	✓
Mean annual runoff volume infiltrated or filtered (%)	0%	>6%	✗
Total suspended solids (%)	41%	>80%	✗
Total phosphorus (%)	40%	>45%	✗
Total nitrogen (%)	39%	>45%	✗
Total gross pollutants (%)	50%	>70%	✗

Water treatment

Configuration 1

Roof Catchment to RWT 712m2

Rainwater Tank
Rainwater tank retention volume in kilolitres: 12

Catchments

Roof Catchment to RWT 712m2

Pervious Area Pervious (garden and lawn), 95.5m2

Impervious Surfaces Paved, 683.5m2

Treatments

Rainwater Tank
Rainwater tank retention volume in kilolitres: 12

170%

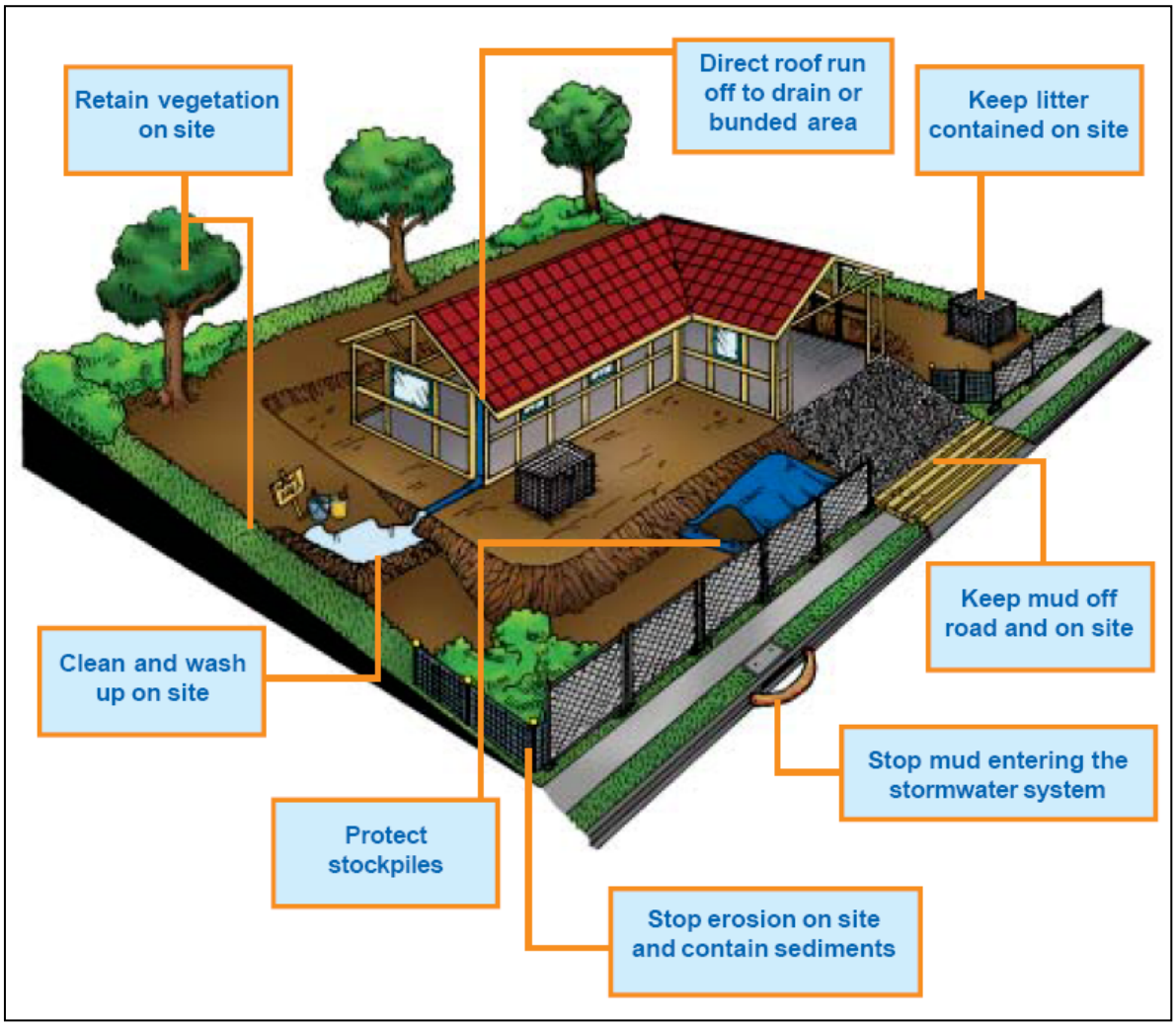
Buildings & dwellings

Building Residential Apartment, 96 bedroom(s)

Water sources	I want to calculate my water use based on fixtures and fittings
Basin taps - Primary water source	Mains water
Basin taps - Efficiency	5 star WELS rating
Showers - Primary water source	Mains water
Showers - Efficiency	3 star WELS rating (> 6 but < 7.5 litres per minute)
Clothes Washer - Primary water source	Mains water
Clothes Washer - Efficiency	3 star WELS rating (minimum requirement)
Toilets connected to mains water	0
Toilets connected to rainwater	74
Toilets connected to recycled water	0
Toilets efficiency	4 star WELS rating
Garden water use	Garden water demands are not in use

13.4 Stormwater Management at Construction Site

To manage stormwater management in the construction stage, measures will be put in place to minimise the likelihood of contaminating stormwater. This will mean ensuring buffer strips are in place, sediment traps are installed, and the site will be kept clean from any loose rubbish. The builder will follow the process outlined in "Keeping Our Stormwater Clean – A Builder's Guide" by Melbourne Water.



Copies of "Keeping Our Stormwater Clean – A Builder's Guide" booklet can be downloaded from the following website.

https://www.clearwatervic.com.au/resource-library/guidelines-and-strategy/keeping-our-stormwater-clean-a-builders-guide.php

14 Appendix B WSUD Maintenance and Installation

Installation	
Criteria	**Design Response**
Rainwater Tank(s)	The rainwater tank(s) will be installed above/below ground. Its manufacturer or material has not been nominated. It will be installed with a mesh insect cover over the inlet pipe to ensure the tank does not become a breeding ground for pests. Mesh needs to be installed over overflow pipes and if a manhole is present it needs to be properly sealed. Please refer to the architectural drawings for the location of the rainwater tank.
Pumps	The pumps required either to divert the stormwater runoff to the rainwater tank or to distribute the collected water to the end uses (toilets) will be required to be installed as per the chosen manufacturer specifications.

Inspection Requirements	
Criteria	**Design Response**
Rainwater Tank(s)	Inspections of roof areas and gutters leading to the tank should take place every 6 months. Rainwater in the tanks should be checked every 6 months for mosquito infestation. The rainwater tank should be examined every 2 years for sludge build up. Ensure the monitoring system (be it digital or a simple float system) is functioning properly by checking the water level in the rainwater tanks.
Pumps	The pumps required will be required to be routinely inspected by listening for the day-to day operation of the pumps. Unusual noise or no noise should be investigated. Inspection should occur as per the chosen manufacturer specifications.

Clean Out / Maintenance Procedure	
Criteria	**Design Response**
Rainwater Tank(s)	Rainwater tanks will require the roof and gutters onsite to be maintained; gutters should be checked, maintained and cleaned every six months to avoid blockages from occurring. If a leaf blocking system is installed this can be completed annually. Any trees onsite should be maintained every 6 months with branches overhanging the roof removed. Water ponding in gutters should be avoided as this provides a breeding ground for mosquitos; tanks should also not become breeding grounds for mosquitoes. If mosquitoes are detected in the tank remedial steps need to occur to prevent breeding. If mosquitoes or other insects are found in rainwater tanks, the point of entry should be located and repaired. As well as preventing further access, this will prevent the escape of emerging adults. Gutters should be inspected to ensure they do not contain ponded water and be cleaned if necessary.

	Please refer to https://www.health.vic.gov.au/sites/default/files/2022-11/Keeping-your-rainwater-tank-safe-from-mosquitos.pdf for more information on mosquito control. Rainwater tanks should be checked by regular maintenance person every 3-6 months to ensure that connection to the building is maintained and there are no blockages. A simple way to ensure the tank is operating as intended would be through the installation of a smart monitoring device (e.g. OneBox®). These systems allow users to operate tanks remotely from internet or smartphone, monitor and control the tanks in real time, allow automatic release of stored water prior to storm events, alert users if there is any blockage and view tank history and usage patterns. Alternatively, onsite tank gauges can help those familiar with the tank know if the tank is not working correctly.
Pumps	Maintenance should occur as per the chosen manufacturer specifications. All strainers and filters should be cleaned every 6 months. Good quality pump should provide trouble free service for up to 10 years.

Commissioning	
Criteria	**Design Response**
Rainwater Tank(s)	All rainwater tanks should be washed or flushed out prior to use. All inlets and outlets should be correctly sealed to prevent insects entering. Connection to all toilets in the development should be tested (dye test or equivalent). Please note if new roof coating or paint is to be installed then the first few run-offs after installation need to be discarded.
Pumps	Commissioning should occur as per the chosen manufacturer specifications.

Summary

The following needs to occur onsite to ensure compliance with WSUD requirements and maintain operation of rainwater tank and connections onsite.

Task	When	Requirement
Inspect Rainwater tanks	Every 6 months	• Check for any damage/compression • Mosquitos' infestation
	Every 2 years	• Sludge Build up – if sludge build up occurs a vacuum tank needs to be called out to site.
Inspect roofs & gutters	Every 6 months	• Clean out of leaves / debris. • Remove any overhanging branches onsite.

15 Appendix C Preliminary Energy Ratings

A preliminary energy rating has been prepared for 14 dwellings of varying sizes and orientations to assess how these dwellings will achieve the minimum of 8.0 Star average commitments.

Please note that the building fabric described below may change as the full building rating is prepared and plans are updated for building approval, however a minimum energy rating performance average of 8.0 Stars will be maintained as a minimum for the development.

This development has achieved an average rating of 8.3 stars.

The results are as follows:

Dwelling	Star Rating	Energy use (MJ/m2)	Heating Energy (MJ/m2)	Cooling Energy (MJ/m2)
G.01	**7.9**	61.6	50.9	10.7
G.02	**6.9**	89.1	79.8	9.3
1.01	**7.4**	75.6	67.1	8.5
1.02	**9.8**	17.1	10.2	6.9
1.04	**7.3**	77.3	74.2	3.1
2.03	**9.2**	29.9	18.1	11.8
2.05	**9.3**	26.6	22.9	3.7
3.01	**7.3**	78.4	71.4	7
3.04	**9.8**	17.6	10.7	6.9
4.06	**8.4**	47.6	27.3	20.3
5.06	**8.1**	56.4	37.4	19
6.05	**7.9**	60.2	44.2	16
6.02	**9.4**	25.2	17.6	7.6
7.01	**7.8**	65.5	47.1	18.3
Average	**8.3**	52	41.3	10.7

This result has been achieved with the following building fabric:

CEILINGS

- R3.5 insulation to ceiling areas with the roof.

FLOORS

- R1.0 insulation to the concrete slab on the ground
- R1.0 insulation to the Level 1 floor slab, which is located directly above the car park and exposed to external conditions.

WALLS

- All external walls to have R2.5 insulation
- All internal walls to neighbours to have R2.0 insulation on each side of the party wall.
- Note: insulation cannot be compressed to fit cavity; cavity must accommodate specified thickness of insulation given below

WINDOWS

- Window in Ensuite is to be aluminium double-glazed clear glass with a minimum U- value & SHGC as listed below
- All remaining windows and glazed doors are to be aluminium framed double glazed clear glass with a minimum U- value & SHGC as listed below

WINDOW TYPE	U-VALUE	SHGC
Sliding	2.15	0.24
Double Hung	2.34	0.46

AIR LEAKAGE

- All doors, windows, exhaust fans and openings will be sealed to not allow for air infiltration into the apartments.

LIGHTS

- All recessed down light fittings that have openings allowing air to pass through to a ceiling cavity (e.g. Adjustable down lights) shall be fitted with a cover that allows for ceiling insulation to closely enclose the sides and top of the down light.

Please note that the building fabric described above may change as the full building rating is prepared and plans are updated for building approval, however a minimum energy rating performance average of 8.0 Stars will be maintained as a minimum for the development.

16 Appendix D Low-Toxicity Materials

The following table are an extract of the Green Star Design and as built submission guidelines:

Table 13.1.1: Maximum TVOC Limits for Paints, Adhesives and Sealants

Product Category	Max TVOC content in grams per litre (g/L) of ready to use product.
General purpose adhesives and sealants	50
Interior wall and ceiling paint, all sheen levels	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100

The product complies with the Total VOC (TVOC) limits specified in the Table below.

Carpet Test Standards and TVOC Emissions Limits

Test protocol	Limit
ASTM D5116 - Total VOC limit	0.5mg/m^2 per hour
ASTM D5116 - 4-PC (4-Phenylcyclohexene)	0.05mg/m^2 per hour
ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m^2 per hour
ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m^2 per hour

Table 13.2: Formaldehyde Emission Limit Values for Engineered Wood Products

Test Protocol	Emission Limit/ Unit of Measurement
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	≤1mg/ L
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1.5 mg/L
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1mg/ L
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	≤1mg/ L
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	≤1mg/ L
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A1901 (not applicable to Plywood, applicable to high pressure laminates and compact laminates)	≤0.1 mg/m²hr*
ASTM D5116 (applicable to high pressure laminates and compact laminates)	≤0.1 mg/m²hr
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	≤0.1 mg/m²hr (at 3 days)
ASTM D6007	≤0.12mg/m³**
ASTM E1333	≤0.12mg/m³***
EN 717-1 (also known as DIN EN 717-1)	≤0.12mg/m³
EN 717-2 (also known as DIN EN 717-2)	≤3.5mg/m²hr

*mg/m²hr may also be represented as mg/m²/hr.

17 Appendix E Daylight Access – Green Star Calculation

The Green Building Council of Australia (GBCA) has created a daylight access calculation method within the Green Star benchmarking tool. This tool is widely recognised by Councils and Industry.

The Green Star Daylight Hand Calculation method is used to determine if there are risks associated with the current design, particularly with respect to meeting the desired daylight factors referenced in the Sustainable Management Plan in the Planning Process (SDAPP) Indoor Environment Quality guidelines.

According to the SDAPP guidelines, best practice is achieved where 2% daylight factor is achieved across 30% of the floor area of the nominated area.

The calculation method is based on one simple formula to calculate a zone of compliance within a nominated room. The compliant zone is the area of the room achieving 2% daylight factor and can be calculated as follows:

$$\boldsymbol{Zone\ of\ Compliance = 2 \times h \times w}$$

w is the width of the glazing serving the room

h is the height of the window head above the desktop/table level

Windows serving the nominated area are required to have a minimum 40% VLT to use the formula.

The percentage of compliant area within the nominated area can then be easily calculated with the following formula:

$$\boldsymbol{Percentage\ of\ compliant\ area = \frac{Zone\ of\ Compliance}{Nominated\ Area} \times 100}$$

Site Description

The proposed new development consists of a retail space on the ground floor and other communal amenities like a gym on the first floor. The areas such as common corridors, stairs, service rooms, and toilets will not be occupied regularly. The nominated areas for the Hand Calculation are only comprised of the regularly occupied space in the apartment.

The desktop/table level has been estimated to be 700mm.

See below for the markup of the compliant zone (yellow) within each nominated area (orange).

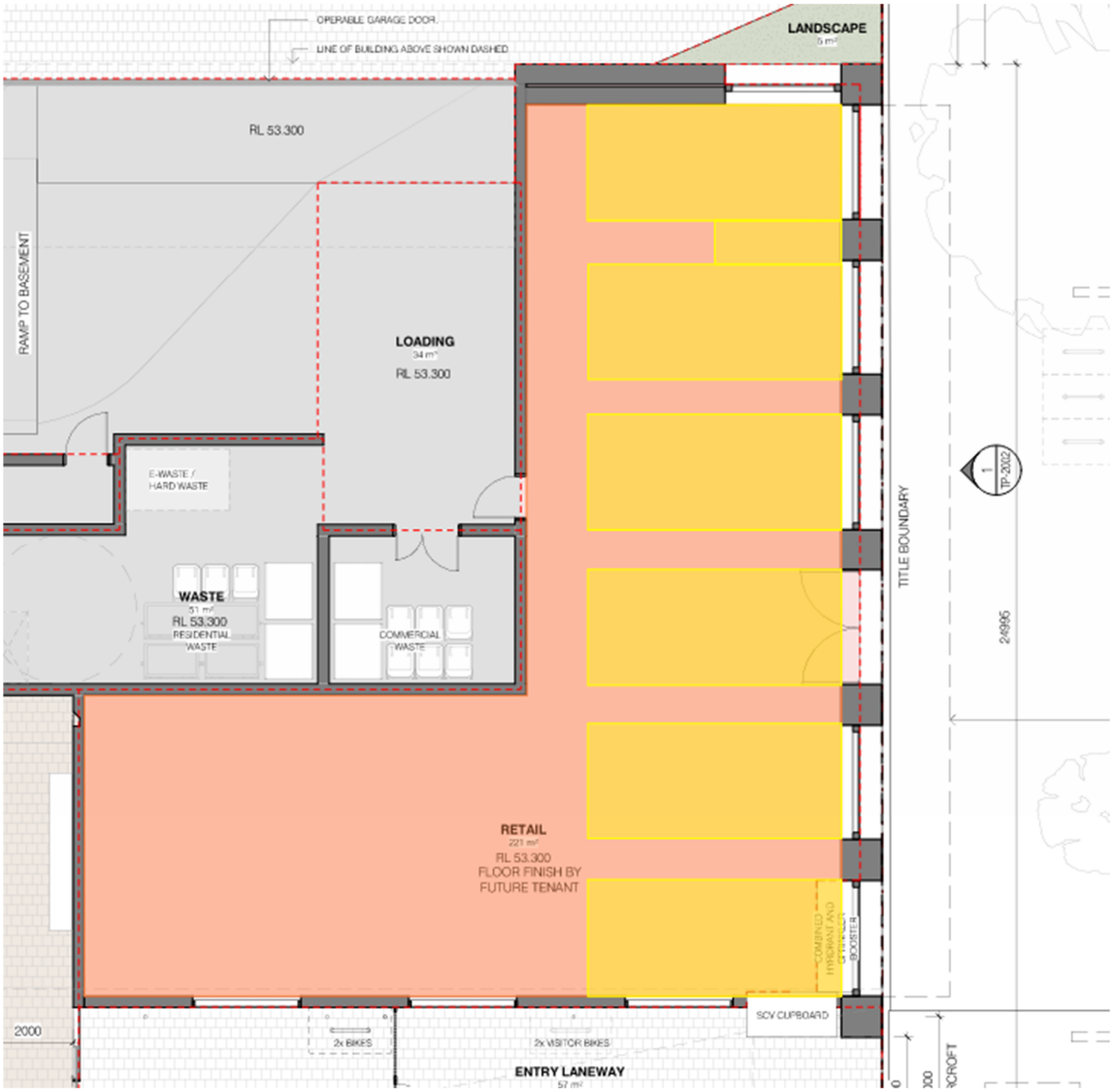


Figure 2: Compliance zone on Ground Floor

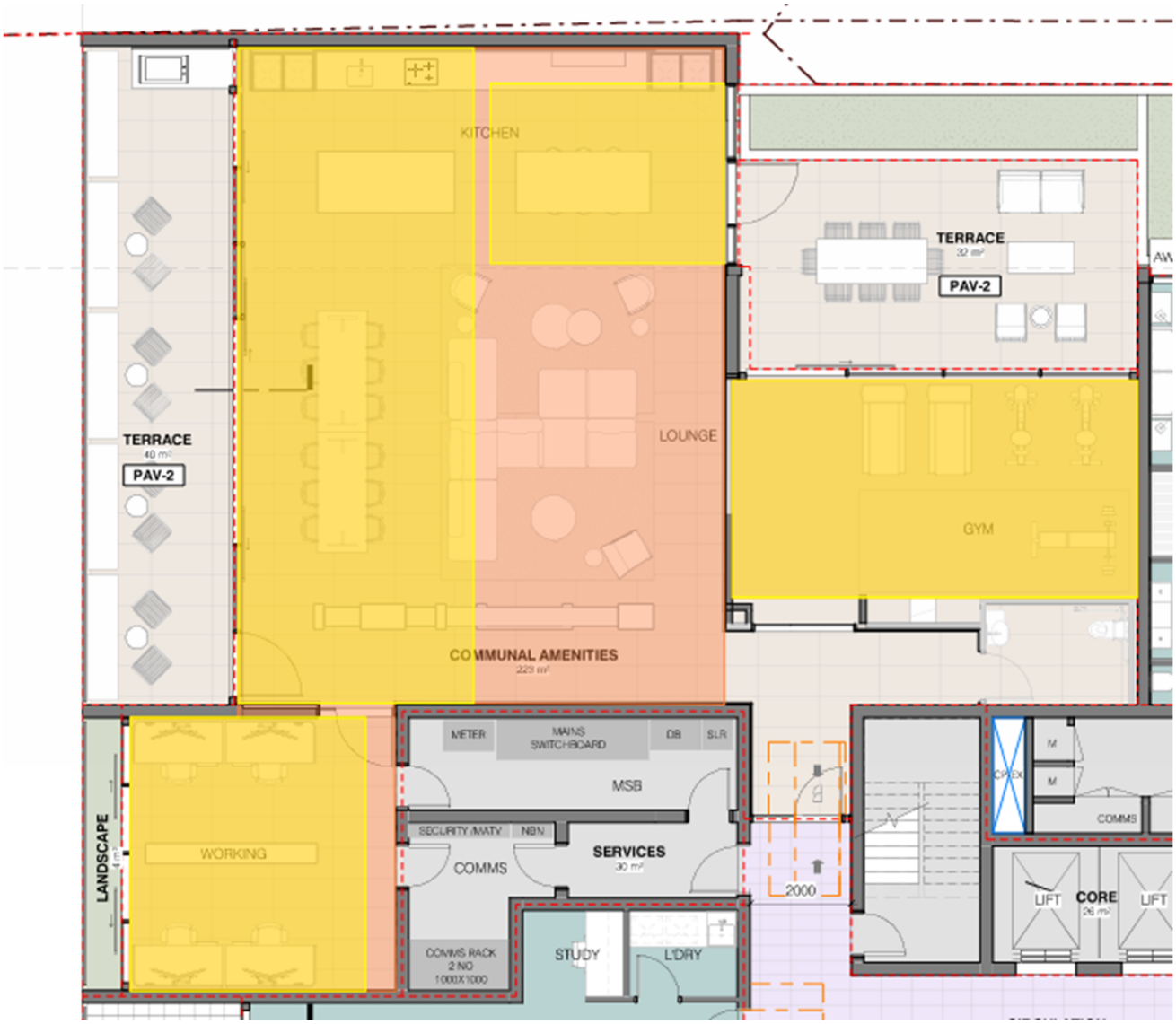


Figure 3: Compliance zone on First Floor

	Nominated Areas (m^2)	Compliant Areas (m^2)	Compliant Areas (%)
Communal Amenities	189	137	**72%**
Retail	200	90	**45%**
TOTAL	**389**	**227**	**58.5%**

The green star hand calculation for the proposed mixed-use development shows that the development will achieve and exceed SDAPP best practice requirements with each nominated space achieving overall 50**%** of floor area at a 2% daylight factor. The minimum requirement of **58.5%** is required in this credit to pass the IEQ category.

18 Appendix F BESS Assessment and Daylight Input

The BESS daylight built-in calculator has been used to assess the residential part of this development as it is deemed sufficient to demonstrate level of daylight access. The calculation below and in our BESS, assessment clearly show that the overall IEQ levels for the development achieves best practice which includes daylight access.

Majority of bedrooms and all living rooms in the proposed development comply with BESS Deemed-To-Satisfy daylight criteria as follows:

- **Ceiling heights are 2.7m.**
- **All rooms are less than 8m deep – South facing living areas are less than 5m.**
- **Glazing to be 60% VLT in habitable rooms (apartment only).**
- **External windows are provided for each bedroom.**
- **Building separation in line with BESS tool notes requirements.**

A total of 5 living rooms in the development do not meet the DTS requirements. Please see the mark-up below in RED of the rooms that failed the daylight requirement due to the room depth requirement (Living room more than 8m deep). The rest of the living rooms and all the bedrooms have been input as Auto pass in BESS.

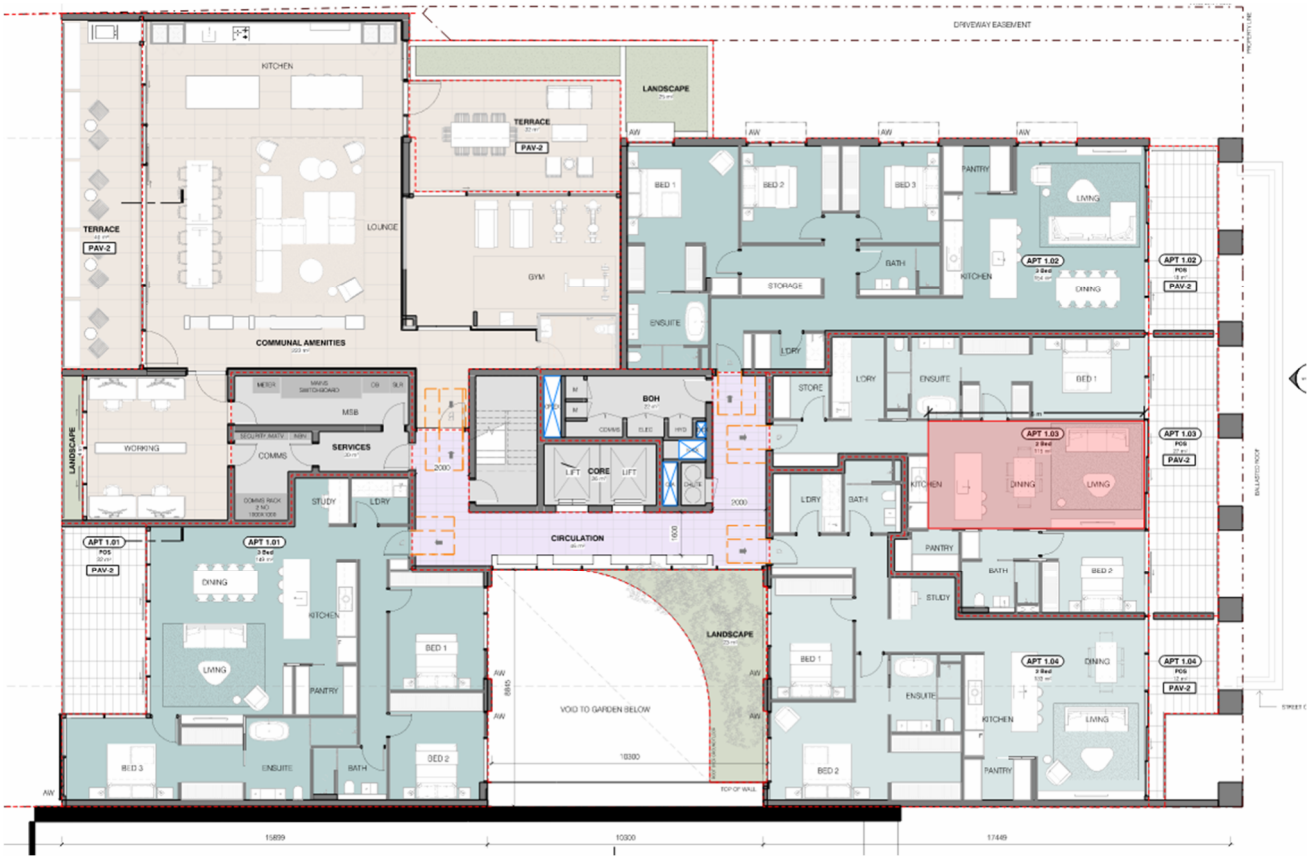


Figure 4: Mark-up of non-compliant Living rooms (red) on Level 1

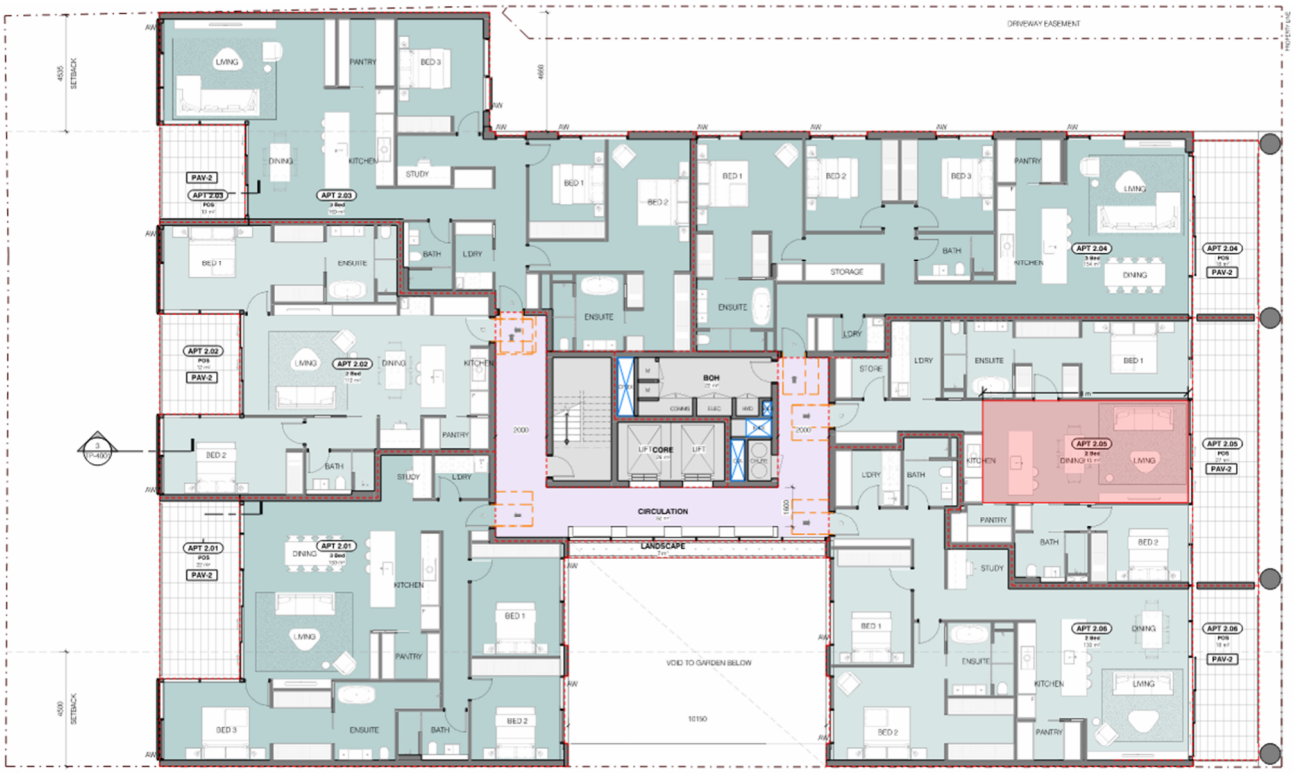


Figure 5: Mark-up of non-compliant Living rooms (red) on Level 2-Level 5

BESS IEQ section requires sky angles, window sizes, orientation, window area, and glass type to be input within the in-built calculator.

These 5 living rooms are assumed as non-DTS and have been input in the BESS calculator as follows:

Room Type	Room Number	Area (m²)	Horizontal Angle	Vertical Angle	Window Area(m²)
Living Room	1.03	34	129	33	12
	2.05	34	126	33	12
	3.05	34	126	33	12
	4.05	34	126	33	12
	5.05	34	126	33	12

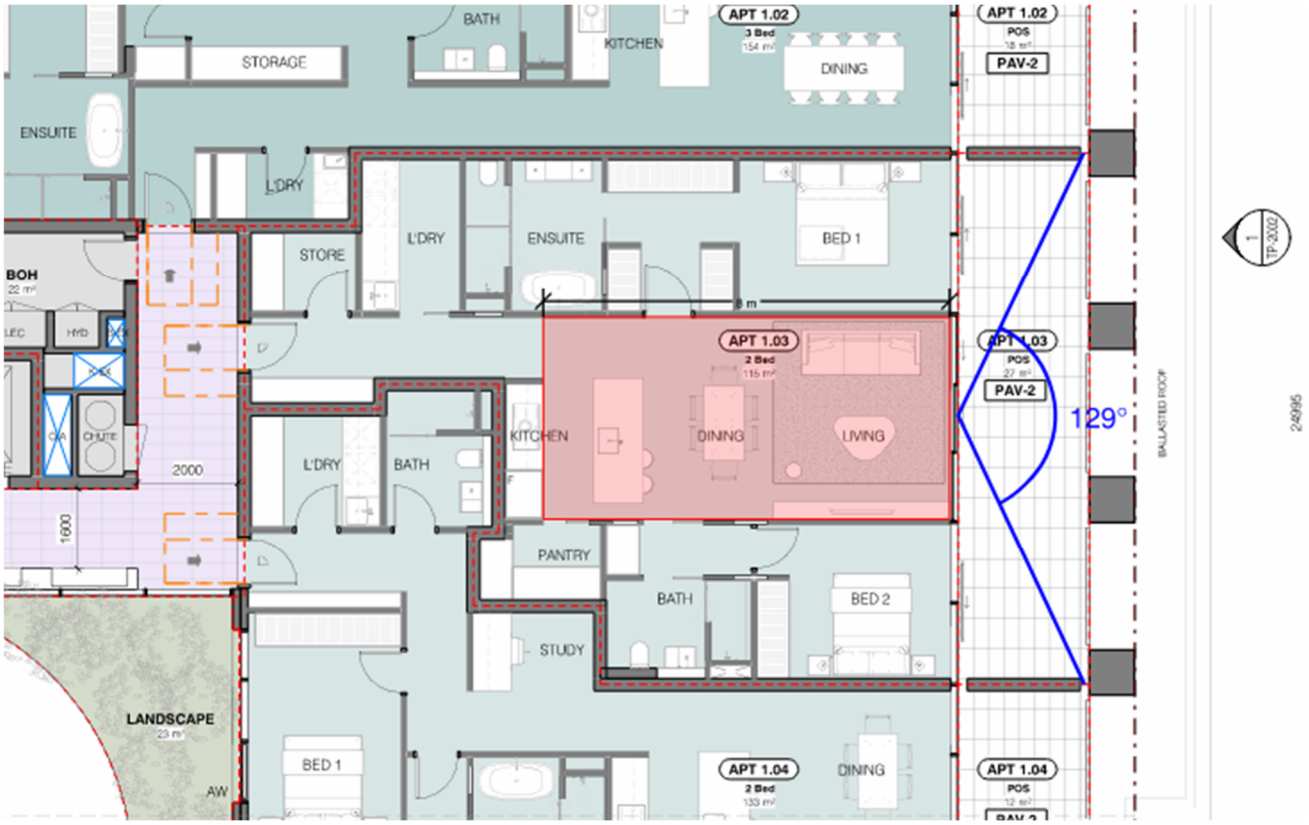


Figure 6. Horizontal Angle of the living room 1.03

Figure 7. Horizontal Angle of the living room 2.05,3.05,4.05 & 5.05 apartments.

19 Appendix G Apartment Make-Up Air and Mechanically Assisted Natural Cross Ventilation

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Company:	Gray Kinnane Property	**Ref No:**	OSE34782
From:	David Levin	**EA:**	M01
Project:	1009-1013 Mt Alexander Road, Essendon	**Revision:**	02

ADVICE RELATED TO APARTMENT MAKE-UP AIR AND MECHANICALLY ASSISTED NATURAL CROSS VENTILATION

1.0 Preamble

Omnisystems Consulting Engineers (OSE) are the appointed building services engineers for the proposed 1009-1013 Mt Alexander Road residential development in Essendon, VIC. It has been requested from the client and the town planning consultant that a mechanical services design strategy be proposed for approval to address the issues below:

1.1 Mould development as a consequence of inadequate make-up air

The client has experienced issues with mould growth within previous multi-residential developments and has requested that specific attention and design strategies are put in place to mitigate this risk.

It has become common (poor) practice in Melbourne to rely on occupants **cracking open a window** to enable sufficient make-up air for kitchen hood and toilet exhaust systems. It is assumed that this cumbersome action is rarely performed by occupants which results in poor ventilation, high indoor humidity levels, condensation and a favourable environment for mould to develop.

1.2 Natural Cross Ventilation

Office of the Victorian Government Architect (OVGA) reviewed the preliminary architectural floor plans of this project and observed that some apartments were not provided with effective natural ventilation and that mechanical assistance may be required.

Apartments G.02, 1.03, and x.02 and x.05 on levels 2 to 5 with operable openings on only one aspect do not comply with the OVGA design guidelines prescribing at least two aspects (to enable effective cross ventilation).

2.0 Proposed Mechanical Design

2.1 Reference Drawings

- OSE34782-M106-LEVEL 2 MECHANICAL SERVICES LAYOUT-P2
- OSE34782-M201-MECHANICAL SERVICES SECTIONS-P2

2.2 Functional Description

The proposed design reflected in the reference drawings addresses both issues and is considered low maintenance with no requirements for air filters within apartments to be cleaned.

2.2.1 Passive Mechanical Make-up Air System

A passive solution to make-up air is proposed by means of introduced outside air delivered to the corridor ceiling void.

A communal outside air fan, smoke damper, and air filter are proposed to be installed on every floor controlled by a differential pressure sensor within the ceiling void, set to 3 Pa [adjustable].

Each apartment will be provided with a fire damper linking the corridor ceiling void to the apartment ceiling void.

The kitchen AC return air register links the apartment ceiling void to the occupied region of the apartment.

As exhaust systems are engaged, the internal pressure within the apartment will drop and increase the make-up air flow. This variable air-flow demand controlled system is aligned with the NCC's objective of energy efficient air-tight buildings while still achieving exhaust air flow rates when these systems are engaged (*+10min for toilet exhaust systems).

Considering that the ventilation opening within each apartment fire-wall is less than 0.1m^2, a smoke damper is not required (only a fire damper). It is proposed that a Lorient LVH44 (600W x 150H) intumescent damper be installed (Detail: Stud Wall 19 tight to slab, FRL -/90/30)

2.2.2 Mechanically Assisted Natural Ventilation System

The proposed mechanical pressure-controlled make-up air system will promote natural ventilation to apartments.

Each apartment is configured to be slightly positively pressurised and as windows and sliding doors are opened, the pressure will drop and cause the outside air fan to ramp up and deliver outside air through transfer openings above each apartment entry door. This scenario is depicted in Figure 1 and 3 below.

Should the wind be directed toward ventilation openings on the façade, the AC grille will act as a relief opening permitting air flow in the opposite direction entering the corridor ceiling void and functioning as make-up air to other apartments on the floor.

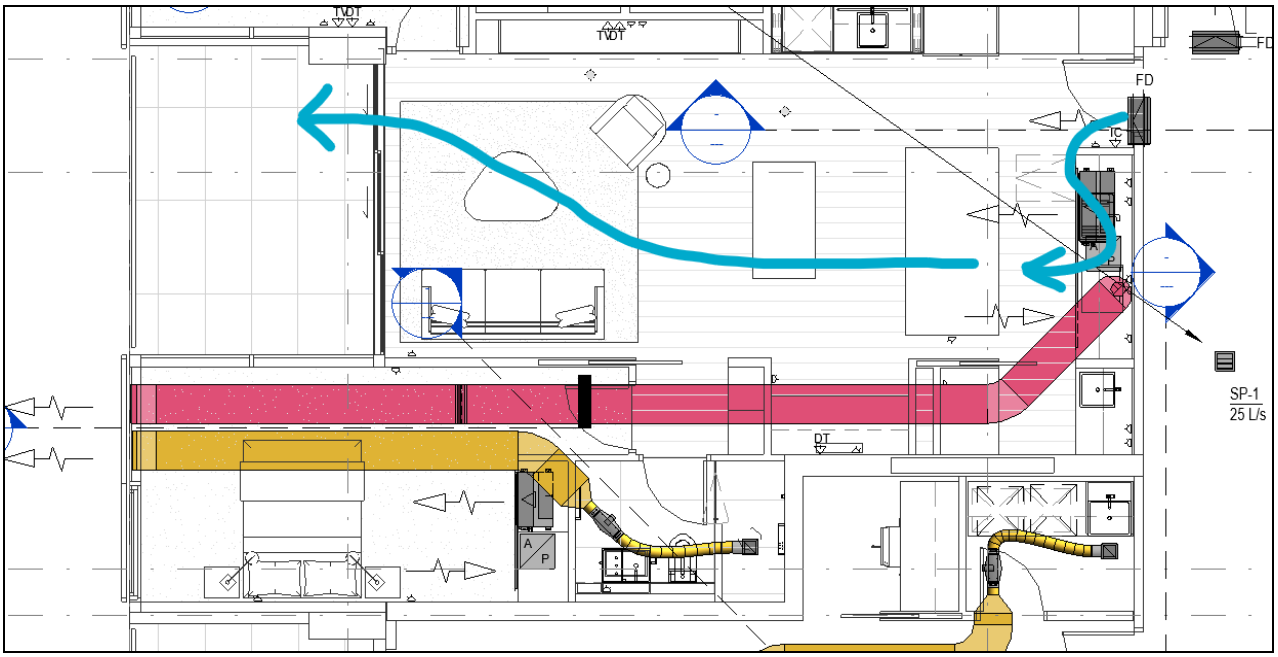


Figure 1: Apt x.02 Mechanically Assisted Cross Ventilation

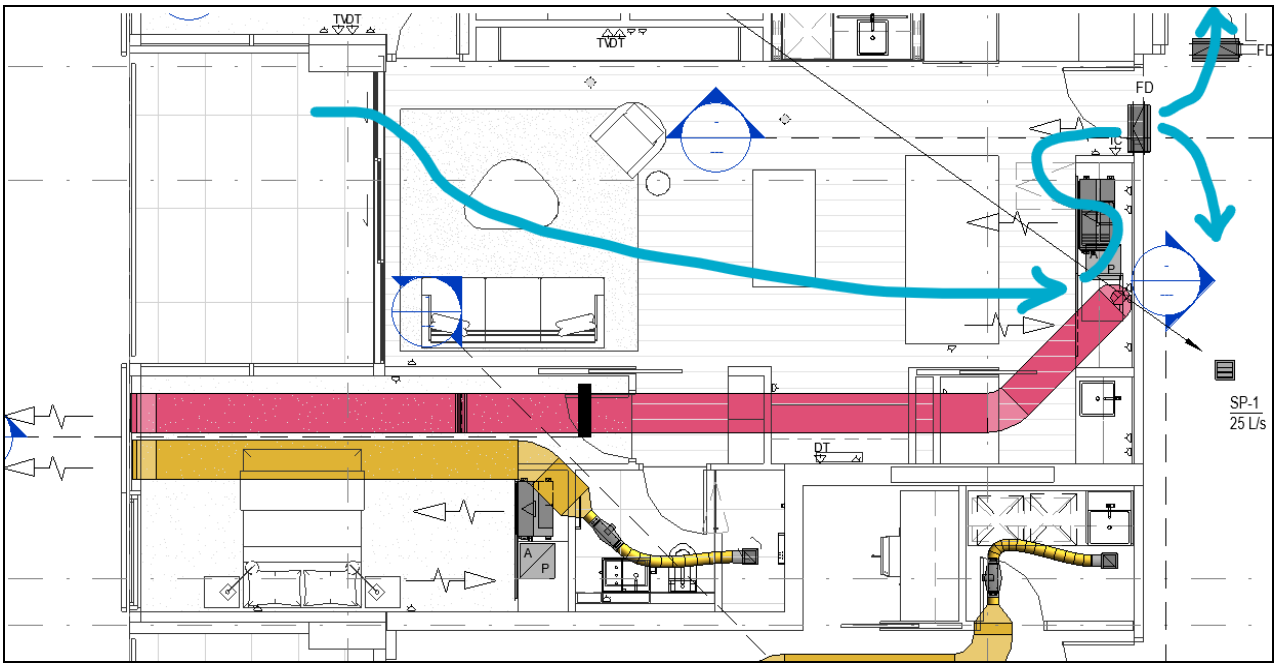


Figure 2: Apt x.02 Cross Ventilation Relief Opening

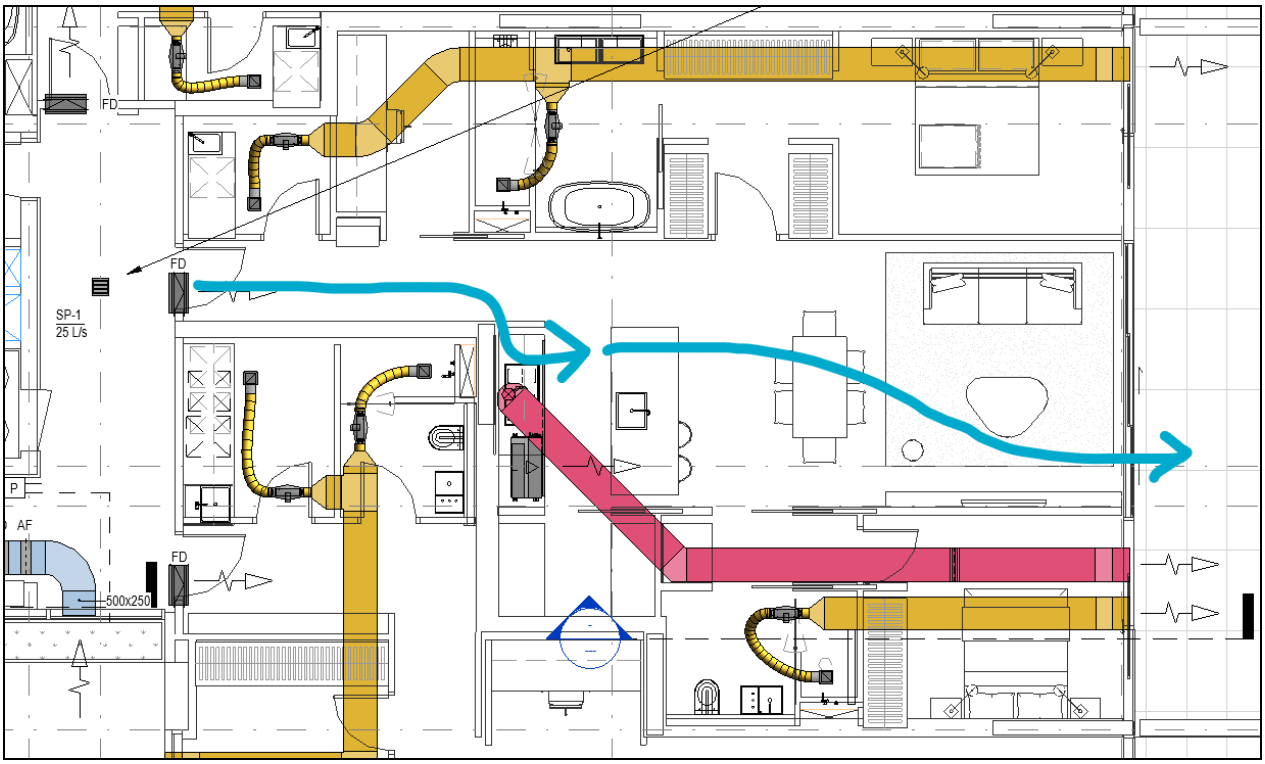


Figure 3: Apt x.05 Mechanically Assisted Cross Ventilation

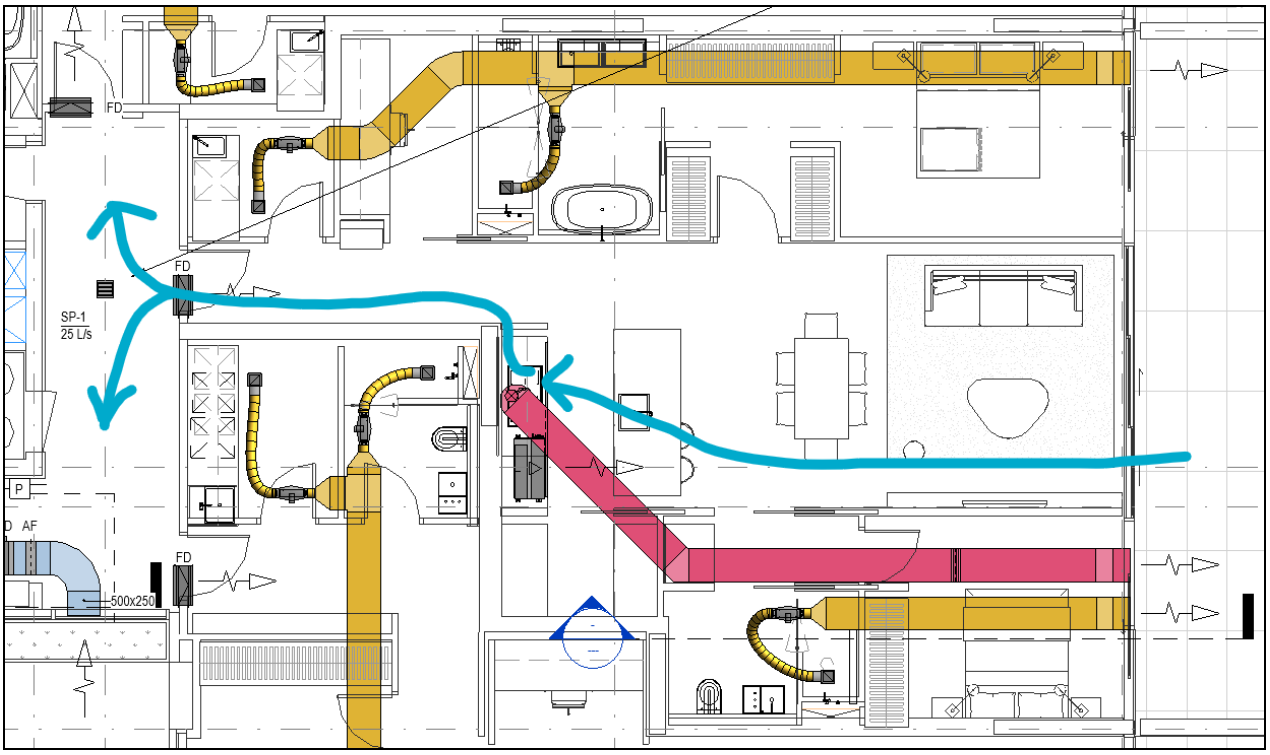


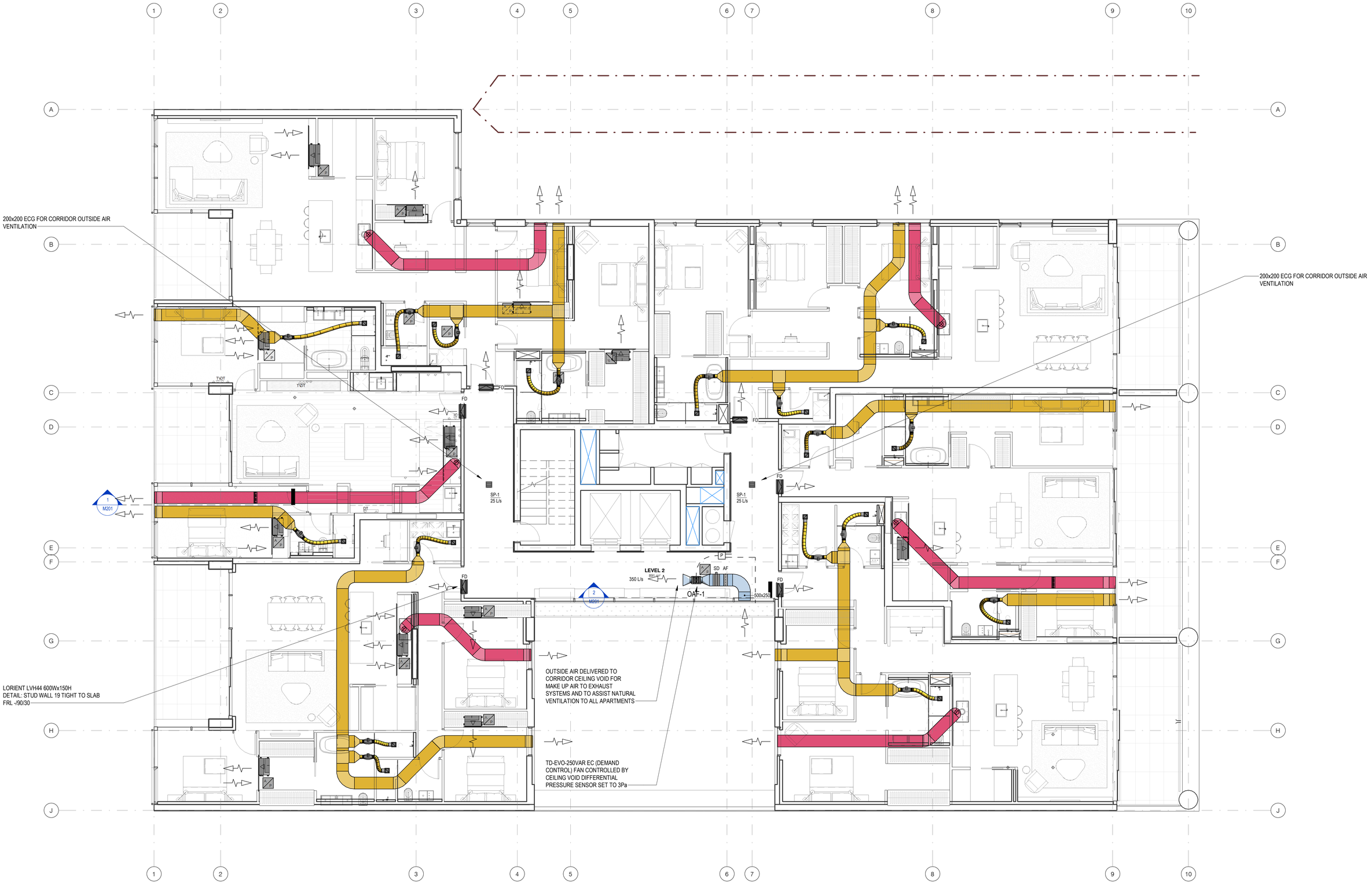
Figure 4: Cross Ventilation Relief Opening

3.0 Conclusion

The proposed design offers a low-cost and low maintenance solution to ensure that precise volumes of make-up air is provided passively without occupant behaviour. The solution also promotes natural ventilation within apartments when windows and sliding doors are opened.

The positive pressurisation of the indoor environment will improve overall air quality as make-up air will predominantly be provided by filtered outside air rather than unfiltered façade leakage.

It should be noted that the design pressure should be adjusted and tuned during commissioning stage to ensure the system is operating in accordance with its objective - 3Pa is just an indicative starting set point.



ISSUE	AMENDMENT	DATE
P1	PRELIMINARY ISSUE	12/02/2026
P2	PRELIMINARY ISSUE	17/02/2026

	NAME	DATE
DRAWN:	DL	12-02-2026
CHECKED:	DL	12-02-2026
APPROVED:	DL	12-02-2026

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ALL DIMENSIONS SHOWN SHALL BE VERIFIED ON SITE. ENGINEERS DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS, VERTICAL ELEVATIONS AND COORDINATED SERVICES DIMENSIONS TO BE TAKEN OFF ARCHITECTS DRAWINGS. NO CLAIM SHALL BE ALLOWED FOR EXTRAS WHICH MAY ARISE THROUGH NEGLECT OF THIS ADVICE

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OMNISYSTEMS
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PROJECT:

HOLLICK PLACE APARTMENTS

1009-1013 Mt Alexander Rd, Essendon, VIC, 3040

TITLE:
MECHANICAL SERVICES
LEVEL 2 MECHANICAL SERVICES LAYOUT

ISSUE No.
P2

PRELIMINARY ISSUE

PROJECT No.	DRAWING No.	
OSE34782	M106	
DATE: 12-02-2026	SCALE: 1 : 75	PAGE SIZE: A1
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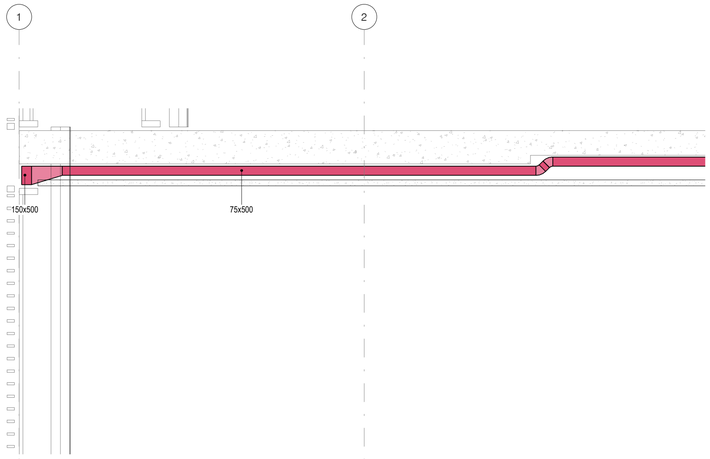
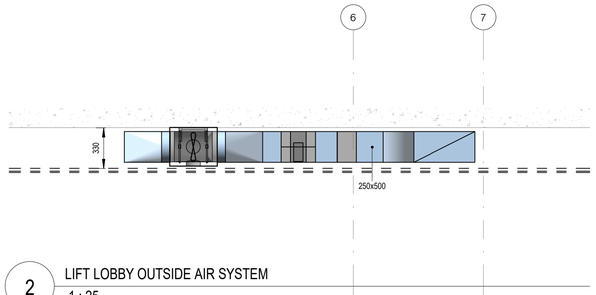


1 TYPICAL DUCT TERMINATION SECTION
1 : 25



2 LIFT LOBBY OUTSIDE AIR SYSTEM
1 : 25

ISSUE	AMENDMENT	DATE
P1	PRELIMINARY ISSUE	12/02/2026
P2	PRELIMINARY ISSUE	17/02/2026

	NAME	DATE
DRAWN:	DL	12-02-2026
CHECKED:	DL	12-02-2026
APPROVED:	DL	12-02-2026

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PROJECT:
HOLLICK PLACE APARTMENTS
1009-1013 Mt Alexander Rd, Essendon, VIC, 3040

TITLE:
MECHANICAL SERVICES
MECHANICAL SERVICES SECTIONS

ISSUE No. P2
PRELIMINARY ISSUE

PROJECT No. OSE34782
DRAWING No. M201
DATE: 12-02-2026
SCALE: 1 : 25
PAGE SIZE: A1
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20 Appendix H BESS Assessment

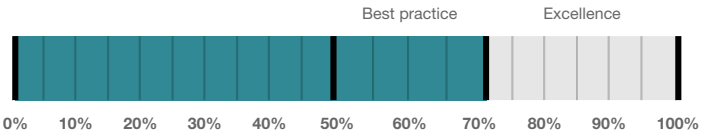
BESS Report

Built Environment Sustainability Scorecard

This BESS report outlines the sustainable design commitments of the proposed development at 1009 Mt Alexander Rd Essendon Victoria 3040. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Moonee Valley City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

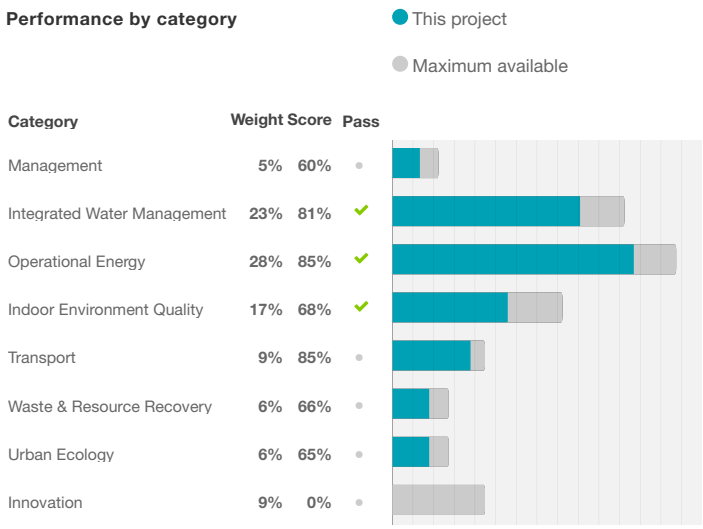


70%

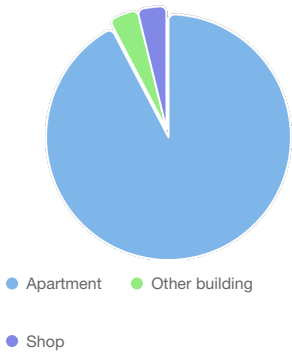
Project details

Name	1009-1013 Mt Alexander Road
Address	1009 Mt Alexander Rd Essendon Victoria 3040
Project ID	725867FF-R9
BESS Version	BESS-9
Date	06 May 2026
Software version	2.3.0-B.651
Site type	Mixed use development
Account	komal.teni@lincolnpearce.com.au
Application no.	
Site area	1,491 m²
Building floor area	5,758 m²

Performance by category



Project composition



Buildings

Name	Height	Footprint	% of total footprint
Retail/Apartment	7	1,112 m²	100%

Dwellings & Non Res Spaces

Dwellings

Name	Quantity	Area	Building	% of total area
Apartment				
2.03,3.03,4.03,5.03	4	166 m²	Retail/Apartment	11%
2.04,3.04,4.04,5.04	4	154 m²	Retail/Apartment	10%
2.01,3.01,4.01,5.01	4	147 m²	Retail/Apartment	10%
2.06,3.06,4.06,5.06	4	134 m²	Retail/Apartment	9%
2.05,3.05,4.05,5.05	4	116 m²	Retail/Apartment	8%
2.02,3.02,4.02,5.02	4	107 m²	Retail/Apartment	7%
7.02	1	258 m²	Retail/Apartment	4%
7.01	1	252 m²	Retail/Apartment	4%
G.01	1	193 m²	Retail/Apartment	3%
1.04	1	133 m²	Retail/Apartment	2%
1.02	1	153 m²	Retail/Apartment	2%
1.01	1	149 m²	Retail/Apartment	2%
6.04	1	139 m²	Retail/Apartment	2%
6.03	1	159 m²	Retail/Apartment	2%
6.02	1	152 m²	Retail/Apartment	2%

6.01	1	143 m²	Retail/Apartment	2%
G.02	1	172 m²	Retail/Apartment	2%
1.03	1	115 m²	Retail/Apartment	1%
Total	**36**	**5,314 m²**	**92%**	

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Shop				
Retail	1	221 m²	Retail/Apartment	3%
Total	**1**	**221 m²**	**3%**	
Other building				
Communnal Amenities	1	223 m²	Retail/Apartment	3%
Total	**1**	**223 m²**	**3%**	

Supporting Evidence

Shown on Floor Plans

Credit	Requirement	Response	Status
Management 3.1	Annotation: Individual utility meters to be provided to all individual dwellings		-
Management 3.2	Annotation: Individual utility meters to be provided to all individual commercial tenancies		-
Management 3.3	Annotation: Sub-meters to be provided to all major common area services (list each)		-
Integrated Water Management 2.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
Integrated Water Management 3.1	Annotation: Water efficient garden details		-
Operational Energy 3.1	Carpark with natural ventilation or CO monitoring system		-
Operational Energy 4.2	Location and size of solar photovoltaic system		-
Indoor Environment Quality 1.1	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
Indoor Environment Quality 1.2	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
Indoor Environment Quality 1.3	If using BESS daylight calculator, references to floorplans and elevations showing window sizes and sky angles.		-
Transport 1.1	Location of residential bicycle parking spaces		-
Transport 1.2	Location of residential visitor bicycle parking spaces		-
Transport 1.3	Residential bicycle parking spaces at ground level		-
Transport 1.4	Location of non-residential bicycle parking spaces		-
Transport 2.1	Location of electric vehicle charging infrastructure		-
Waste & Resource Recovery 2.1	Location of food and garden waste facilities		-
Waste & Resource Recovery 2.2	Location of recycling facilities		-
Urban Ecology 1.1	Location and size of communal spaces		-
Urban Ecology 2.1	Location and size of vegetated areas		-
Urban Ecology 2.2	Location and size of green roof		-
Urban Ecology 2.4	Location of taps and floor waste on balconies / courtyards		-

Supporting Documentation

Credit	Requirement	Response	Status
Management 2.2	Preliminary NatHERS assessments		-
Integrated Water Management 2.1	STORM report or MUSIC model		-
Operational Energy 1.1	Energy Report showing calculations of reference case and proposed buildings		-
Operational Energy 3.1	Details of either the fully natural carpark ventilation or CO monitoring system proposed		-
Operational Energy 3.6	Average lighting power density and lighting type(s) to be used		-
Operational Energy 3.7	Average lighting power density and lighting type(s) to be used		-
Operational Energy 4.2	Specifications of the solar photovoltaic system(s)		-
Indoor Environment Quality 1.1	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 1.2	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 1.3	If using an alternative daylight modelling program, a short report detailing assumptions used and results achieved.		-
Indoor Environment Quality 1.4	A short report detailing assumptions used and results achieved.		-

Credit summary

Management Overall contribution 4.5%

60%

1.1 Pre-Application Meeting	0%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	100%
2.3 Thermal Performance Modelling - Non-Residential	0%
3.1 Metering - Residential	100%
3.2 Metering - Non-Residential	100%
3.3 Metering - Common Areas	100%
4.1 Building Users Guide	100%

IWM Overall contribution 22.5%

81% ✔ **Pass**

1.1 Potable Water Use	40%	✔ Achieved
2.1 Stormwater Treatment	100%	✔ Achieved
3.1 Water Efficient Landscaping	100%	
4.1 Building Systems Water Use	100%	

Operational Energy Overall contribution 27.5%

	Minimum required 50%	85%	Pass

1.1 Thermal Performance Rating - Non-Residential	37%	
1.2 Thermal Performance Rating - Residential	90%	✔ Achieved
2.1 Greenhouse Gas Emissions	100%	
2.2 Peak Demand	100%	
2.6 Electrification	100%	
2.7 Energy consumption	100%	
3.1 Carpark Ventilation	100%	
3.2 Hot Water - Non-Residential	100%	
3.4 Clothes Drying	0%	
3.6 Internal Lighting - Apartments	100%	
3.7 Internal Lighting - Non-Residential	100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)	N/A	Scoped Out
	No cogeneration or trigeneration system in use.	
4.2 Renewable Energy Systems - Solar	100%	
4.4 Renewable Energy Systems - Other	0%	

IEQ Overall contribution 16.5%

	Minimum required 50%	68%	Pass

1.1 Daylight Access - Living Areas	100%	
1.2 Daylight Access - Bedrooms	100%	
1.3 Winter Sunlight	100%	
1.4 Daylight Access - Non-Residential	58%	✔ Achieved
2.1 Ventilation - Natural - Apartments	0%	
2.3 Ventilation - Non-Residential	83%	✔ Achieved
3.4 Thermal comfort - Shading - Non-Residential	0%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential	0%	
4.1 Air Quality - Non-Residential	100%	

Transport Overall contribution 9.0%

85%

1.1 Bicycle Parking - Residential	100%
1.2 Bicycle Parking - Residential Visitor	100%
1.3 Bicycle Parking - Convenience Residential	100%
1.4 Bicycle Parking - Non-Residential	100%
1.5 Bicycle Parking - Non-Residential Visitor	0%
1.6 End of Trip Facilities - Non-Residential	0%
2.1 Electric Vehicle Infrastructure	100%
2.2 Car Share Scheme	N/A Scoped Out
	N/A
2.3 Motorbikes / Mopeds	0%

Waste & Resource Recovery Overall contribution 5.5%

66%

1.1 Construction Waste - Building Re-Use	0%
2.1 Operational Waste - Food & Garden Waste	100%
2.2 Operational Waste - Convenience of Recycling	100%

Urban Ecology Overall contribution 5.5%

65%

1.1 Communal Spaces	96%
2.1 Vegetation	75%
2.2 Green Roofs	100%
2.3 Green Walls and Facades	0%
2.4 Balconies, Courtyards & Roof terraces	100%
3.1 Food Production - Residential	0%
3.2 Food Production - Non-Residential	0%

Innovation Overall contribution 9.0%

0%

1.1 Innovation	0%

Credit breakdown

Management Overall contribution 4.5%

60%

1.1 Pre-Application Meeting	0%
Score Contribution	This credit contributes 37.5% towards the category score.
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?
Question	Criteria Achieved ?
Project	No
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	100%
Score Contribution	This credit contributes 23.1% towards the category score.
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?
Question	Criteria Achieved ?
Apartment	Yes
2.3 Thermal Performance Modelling - Non-Residential	0%
Score Contribution	This credit contributes 1.9% towards the category score.
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?
Question	Criteria Achieved ?
Shop	No
Other building	No
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?
Question	Criteria Achieved ?
Shop	No
Other building	No
3.1 Metering - Residential	100%
Score Contribution	This credit contributes 11.5% towards the category score.
Criteria	Have utility meters been provided for all individual dwellings?
Question	Criteria Achieved ?
Apartment	Yes
3.2 Metering - Non-Residential	100%

Score Contribution	This credit contributes 0% towards the category score.
Criteria	Have utility meters been provided for all individual commercial tenants?
Question	Criteria Achieved ?
Shop	Yes
Other building	Yes

3.3 Metering - Common Areas	100%

Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Have all major common area services been separately submetered?
Question	Criteria Achieved ?
Apartment	Yes
Shop	Yes
Other building	Yes

4.1 Building Users Guide	100%

Score Contribution	This credit contributes 12.5% towards the category score.
Criteria	Will a building users guide be produced and issued to occupants?
Question	Criteria Achieved ?
Project	Yes

IWM Overall contribution 22.5%

81% ✔ Pass

Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Stormwater profile	
Which stormwater modelling software are you using?:	Melbourne Water STORM tool
STORM score achieved:	100
Flow:	-
Total Suspended Solids:	-
Total Phosphorus:	-
Total Nitrogen:	-
Rainwater tank profile	
What is the total roof area connected to the rainwater tank?:	
Rainwater Tank	712 m²
	-
Tank Size:	
Rainwater Tank	12,000 Litres
	-
Irrigation area connected to tank:	
Rainwater Tank	50.0 m²
	-
Is connected irrigation area a water efficient garden?:	
Rainwater Tank	Yes
	-
Other external water demand connected to tank?:	
Rainwater Tank	0.0 Litres/Day
	-
Fixtures, fittings & connections profile	
Building: All	Retail/Apartment

Showerhead:	
2.02,3.02,4.02,5.02 G.02 2.01,3.01,4.01,5.01 2.03,3.03,4.03,5.03 2.04,3.04,4.04,5.04 2.05,3.05,4.05,5.05 2.06,3.06,4.06,5.06 6.01 6.02 6.03 6.04 G.01 7.01 7.02 1.01 1.02 1.03 1.04	4 Star WELS (>= 6.0 but <= 7.5)
Communnal Amenities Retail	Scope out
Bath:	
2.02,3.02,4.02,5.02 G.02 2.01,3.01,4.01,5.01 2.03,3.03,4.03,5.03 2.04,3.04,4.04,5.04 2.05,3.05,4.05,5.05 2.06,3.06,4.06,5.06 6.01 6.02 6.03 6.04 G.01 7.01 7.02 1.01 1.02 1.03 1.04	Medium Sized Contemporary Bath
Communnal Amenities Retail	Scope out
Kitchen Taps: All	>= 6 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	>= 5 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out

Washing Machine Water Efficiency:	
2.02,3.02,4.02,5.02 G.02 2.01,3.01,4.01,5.01 2.03,3.03,4.03,5.03 2.04,3.04,4.04,5.04 2.05,3.05,4.05,5.05 2.06,3.06,4.06,5.06 6.01 6.02 6.03 6.04 G.01 7.01 7.02 1.01 1.02 1.03 1.04	Occupant to Install
Communnal Amenities Retail	Scope out
Which non-potable water source is the dwelling/space connected to?:	
2.02,3.02,4.02,5.02 G.02 2.01,3.01,4.01,5.01 2.03,3.03,4.03,5.03 2.04,3.04,4.04,5.04 2.05,3.05,4.05,5.05 2.06,3.06,4.06,5.06 6.01 6.02 6.03 6.04 G.01 7.01 7.02 1.01 1.02 1.03 1.04	Rainwater Tank
Communnal Amenities Retail	-
Non-potable water source connected to Toilets: All	Yes
Non-potable water source connected to Laundry (washing machine): All	No
Non-potable water source connected to Hot Water System: All	No

1.1 Potable Water Use		40%	✔ Achieved

Score Contribution	This credit contributes 31.2% towards the category score.
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.
Output	Reference
Project	7742 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	6156 kL
Output	Proposed (including rainwater and recycled water use)
Project	5804 kL
Output	% Reduction in Potable Water Consumption
Project	25 %
Output	% of connected demand met by rainwater
Project	53 %
Output	How often does the tank overflow?
Project	Never / Rarely
Output	Opportunity for additional rainwater connection
Project	2812 kL

2.1 Stormwater Treatment 100% ✔ Achieved

Score Contribution	This credit contributes 56.2% towards the category score.
Criteria	Has best practice stormwater management been demonstrated?
Output	Min STORM Score
Project	100
Output	STORM Score
Project	100

3.1 Water Efficient Landscaping 100%

Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

4.1 Building Systems Water Use 100%

Score Contribution	This credit contributes 6.2% towards the category score.
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?
Question	Criteria Achieved ?
Project	Yes

Operational Energy Overall contribution 27.5%

		Minimum required 50%	85%	✔ Pass

Project profile	
Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?:	Yes
Are you installing any renewable energy system(s) (other than solar photovoltaic)?:	Yes
Energy Supply:	All-electric
Solar Photovoltaic system profile	
System Size (lesser of inverter and panel capacity):	
Solar Photovoltaic system 1	10.0 kW peak
Solar Photovoltaic system 2	5.0 kW peak
Solar Photovoltaic system 3	5.0 kW peak
Orientation (which way is the system facing)?:	
Solar Photovoltaic system 1	North
Solar Photovoltaic system 2	North
Solar Photovoltaic system 3	North
Inclination (angle from horizontal):	
Solar Photovoltaic system 1	15.0 Angle (degrees)
Solar Photovoltaic system 2	15.0 Angle (degrees)
Solar Photovoltaic system 3	15.0 Angle (degrees)
Which Building Class does this apply to?:	
Solar Photovoltaic system 1	Apartment
Solar Photovoltaic system 2	Shop
Solar Photovoltaic system 3	Other building
Dwellings profile	
Building: All	Retail/Apartment

Below the floor is:	
2.02,3.02,4.02,5.02	Another Occupancy
G.02	
2.01,3.01,4.01,5.01	
2.03,3.03,4.03,5.03	
2.04,3.04,4.04,5.04	
2.05,3.05,4.05,5.05	
2.06,3.06,4.06,5.06	
6.01	
6.02	
6.03	
6.04	
7.01	
7.02	
1.01	
G.01	Ground or Carpark
1.02	
1.03	
1.04	

Above the ceiling is:	
2.02,3.02,4.02,5.02	Another Occupancy
G.02	
2.01,3.01,4.01,5.01	
2.03,3.03,4.03,5.03	
2.04,3.04,4.04,5.04	
2.05,3.05,4.05,5.05	
2.06,3.06,4.06,5.06	
6.01	
6.02	
G.01	
1.01	
1.02	
1.03	
1.04	
6.03	Outside
6.04	
7.01	
7.02	

Exposed sides:	
2.02,3.02,4.02,5.02 G.02 2.01,3.01,4.01,5.01 2.06,3.06,4.06,5.06 6.03 6.04 G.01 7.01 7.02 1.01 1.02 1.04	3
2.03,3.03,4.03,5.03 2.05,3.05,4.05,5.05 6.01 6.02 1.03	2
2.04,3.04,4.04,5.04	1
NatHERS Annual Energy Loads - Heat: All	41.3 MJ/sqm
NatHERS Annual Energy Loads - Cool: All	10.7 MJ/sqm
NatHERS star rating: All	8.3
Type of Heating System: All	Reverse cycle space
Heating System Efficiency: All	3 Stars (2019 MEPS)
Type of Cooling System: All	Refrigerative space
Cooling System Efficiency: All	3 Stars (2019 MEPS)
Type of Hot Water System: All	Electric Heat Pump Band 1
Is the hot water system shared by multiple dwellings?: All	No
% Contribution from solar hot water system: All	0 %
Clothes Line: All	No drying facilities
Clothes Dryer: All	Occupant to install

Non-residential Deemed-to-Satisfy profile	
Do all exposed floors and ceilings (forming part of the envelope) demonstrate meeting the required NCC2022 insulation levels (total R-value upwards and downwards)?:	Yes
Does all wall and glazing demonstrate meeting the required NCC2022 facade calculator (or better than the total allowance)?:	Yes
Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes

1.1 Thermal Performance Rating - Non-Residential	37%

Score Contribution	This credit contributes 3.3% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?

1.2 Thermal Performance Rating - Residential	90% ✔ Achieved

Score Contribution	This credit contributes 14% towards the category score.
Criteria	What is the average NatHERS rating?
Output	Average NATHERS Rating (Weighted)
Apartment	8.3 Stars

2.1 Greenhouse Gas Emissions	100%

Score Contribution	This credit contributes 15.8% towards the category score.
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Apartment	104,868 kg CO2
Output	Proposed Building with Proposed Services (Actual Building)
Apartment	73,830 kg CO2
Output	% Reduction in GHG Emissions
Apartment	29 %

2.2 Peak Demand	100%

Score Contribution	This credit contributes 0.4% towards the category score.
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?

2.6 Electrification	100%

Score Contribution	This credit contributes 16.2% towards the category score.
Criteria	Is the development all-electric?
Question	Criteria Achieved?
Project	Yes

2.7 Energy consumption	100%

Score Contribution	This credit contributes 21.7% towards the category score.
Criteria	What is the % reduction in annual energy consumption against the benchmark?
Output	Reference Building with Reference Services (BCA only)
Apartment	957,412 MJ
Output	Proposed Building with Proposed Services (Actual Building)
Apartment	336,439 MJ
Output	% Reduction in total energy
Apartment	64 %

3.1 Carpark Ventilation	100%

Score Contribution	This credit contributes 5.4% towards the category score.
Criteria	If you have an enclosed carpark, is it: (a) fully naturally ventilated (no mechanical ventilation system) or (b) 40 car spaces or less with Carbon Monoxide monitoring to control the operation and speed of the ventilation fans?
Question	Criteria Achieved ?
Project	Yes

3.2 Hot Water - Non-Residential 100%

Score Contribution	This credit contributes 0.4% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?

3.4 Clothes Drying 0%

Score Contribution	This credit contributes 4% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) from a combination of clothes lines and efficient driers against the benchmark?
Output	Reference
Apartment	20,203 kWh
Output	Proposed
Apartment	20,203 kWh
Output	Improvement
Apartment	0 %

3.6 Internal Lighting - Apartments 100%

Score Contribution	This credit contributes 4% towards the category score.
Criteria	Is the maximum illumination power density (W/m2) in at least 90% of the relevant building class at least 20% lower than required by clause J7D3(1)(a) and Table J6.2a of the NCC 2022 Vol 1 (Class 2-9)?
Question	Criteria Achieved ?
Apartment	Yes

3.7 Internal Lighting - Non-Residential 100%

Score Contribution	This credit contributes 0.8% towards the category score.
Criteria	Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J7D3a of the NCC 2022 Vol 1?
Question	Criteria Achieved ?
Shop	Yes
Other building	Yes

4.1 Combined Heat and Power (cogeneration / trigeneration) N/A Scoped Out

No cogeneration or trigeneration system in use.

This credit was scoped out	No cogeneration or trigeneration system in use.

4.2 Renewable Energy Systems - Solar 100%

Score Contribution	This credit contributes 5.4% towards the category score.
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?
Output	Solar Power - Energy Generation per year
Apartment	12,444 kWh
Shop	6,222 kWh
Other building	6,222 kWh
Output	% of Building's Energy
Apartment	13 %
Shop	24 %
Other building	99 %

4.4 Renewable Energy Systems - Other		0%

Score Contribution	This credit contributes 5.4% towards the category score.
Criteria	Does another form of renewable energy (not solar) provide 5% of the estimated energy consumption of the building class it supplies?
Question	Other Renewable Energy - Energy Generation per year
Apartment	-
Shop	-
Other building	-

IEQ Overall contribution 16.5%

		Minimum required 50%	**68%**	✔ **Pass**

Use the BESS Deemed to Satisfy (DtS) method for daylight to Dwellings?:	No
What approach do you want to use for daylight to Dwellings?:	Use the built in calculation tools
Rooms	
Room Designation:	
Bedrooms	Bedroom
Living Room 2.05,3.05,4.05,5.05 1.03	Living
Quantity:	
Bedrooms	95
Living Room	31
2.05,3.05,4.05,5.05	4
1.03	1
Auto-Pass:	
Bedrooms Living Room	Yes
2.05,3.05,4.05,5.05 1.03	No
Room Floor Area:	
Bedrooms Living Room	0.0 m^2
2.05,3.05,4.05,5.05 1.03	34.0 m^2
Vertical Angle:	
Bedrooms Living Room	0.0 Angle (degrees)
2.05,3.05,4.05,5.05 1.03	33.0 Angle (degrees)
Horizontal Angle:	
Bedrooms Living Room	0.0 Angle (degrees)
2.05,3.05,4.05,5.05	126 Angle (degrees)
1.03	129 Angle (degrees)
Window Area:	
Bedrooms Living Room	0.0 m^2
2.05,3.05,4.05,5.05 1.03	12.0 m^2

Window Orientation:	
Bedrooms Living Room	-
2.05,3.05,4.05,5.05 1.03	East
Glass Type:	
Bedrooms Living Room	-
2.05,3.05,4.05,5.05 1.03	Clear Double (VLT 0.71)
Daylight Criteria Achieved?: All	Yes

1.1 Daylight Access - Living Areas	100%
Score Contribution	This credit contributes 26.3% towards the category score.
Criteria	What % of living areas achieve the daylight criteria?
Output	Calculated percentage
Apartment	100 %

1.2 Daylight Access - Bedrooms	100%
Score Contribution	This credit contributes 26.3% towards the category score.
Criteria	What % of bedrooms achieve the daylight criteria?
Output	Calculated percentage
Apartment	100 %

1.3 Winter Sunlight	100%
Score Contribution	This credit contributes 8.8% towards the category score.
Criteria	Do 70% of dwellings receive at least 3 hours of direct sunlight in all Living areas between 9am and 3pm in mid-winter?
Question	Criteria Achieved ?
Apartment	Yes

1.4 Daylight Access - Non-Residential	58% ✔ Achieved
Score Contribution	This credit contributes 4.4% towards the category score.
Criteria	What % of the nominated floor area has at least 2% daylight factor?
Question	Percentage Achieved?
Shop	45 %
Other building	72 %

2.1 Ventilation - Natural - Apartments	0%
Score Contribution	This credit contributes 26.3% towards the category score.
Criteria	What % of dwellings are effectively naturally ventilated?
Question	Percentage Achieved?
Apartment	25 %

2.3 Ventilation - Non-Residential	83% ✔ Achieved
Score Contribution	This credit contributes 4.4% towards the category score.

Criteria	What % of the regular use areas are effectively naturally ventilated?
Question	Percentage Achieved?
Shop	100 %
Other building	100 %

Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?
Question	Percentage Achieved?
Shop	50 %
Other building	50 %

Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?
Question	Value
Shop	0 ppm
Other building	-

3.4 Thermal comfort - Shading - Non-Residential	0%
Score Contribution	This credit contributes 2.2% towards the category score.

Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?
Question	Percentage Achieved?
Shop	-
Other building	-

3.5 Thermal Comfort - Ceiling Fans - Non-Residential	0%
Score Contribution	This credit contributes 0.7% towards the category score.
Criteria	What percentage of regular use areas in tenancies have ceiling fans?
Question	Percentage Achieved?
Shop	-
Other building	-

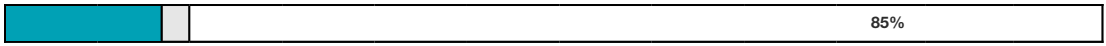
4.1 Air Quality - Non-Residential	100%
Score Contribution	This credit contributes 0.7% towards the category score.

Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Shop	Yes
Other building	Yes

Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Shop	Yes
Other building	Yes

Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Shop	Yes
Other building	Yes

Transport Overall contribution 9.0%



1.1 Bicycle Parking - Residential	100%
Score Contribution	This credit contributes 23.3% towards the category score.
Criteria	How many secure and undercover bicycle spaces are there for residents?
Question	Bicycle Spaces Provided ?
Apartment	36
Output	Min Bicycle Spaces Required
Apartment	36

1.2 Bicycle Parking - Residential Visitor	100%
Score Contribution	This credit contributes 23.3% towards the category score.
Criteria	How many secure bicycle spaces are there for visitors?
Question	Visitor Bicycle Spaces Provided ?
Apartment	8
Output	Min Visitor Bicycle Spaces Required
Apartment	8

1.3 Bicycle Parking - Convenience Residential	100%
Score Contribution	This credit contributes 11.6% towards the category score.
Criteria	Are bike parking facilities for residents located at ground or entry level?
Question	Criteria Achieved ?
Apartment	Yes

1.4 Bicycle Parking - Non-Residential	100%
Score Contribution	This credit contributes 1.9% towards the category score.
Criteria	Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Shop	Yes
Other building	Yes
Question	Bicycle Spaces Provided ?
Shop	2
Other building	2

1.5 Bicycle Parking - Non-Residential Visitor	0%

Score Contribution	This credit contributes 0% towards the category score.
Criteria	Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Shop	No
Other building	No
Question	Bicycle Spaces Provided ?
Shop	0
Other building	0

1.6 End of Trip Facilities - Non-Residential 0%

Score Contribution	This credit contributes 0% towards the category score.
Criteria	Where adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 employee bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per employee bicycle space in the vicinity of the changing / shower facilities?
Question	Number of showers provided ?
Shop	-
Other building	-
Question	Number of lockers provided ?
Shop	-
Other building	-
Output	Min Showers Required
Shop	1
Other building	1
Output	Min Lockers Required
Shop	2
Other building	2

2.1 Electric Vehicle Infrastructure 100%

Score Contribution	This credit contributes 25.2% towards the category score.
Criteria	Are facilities provided for the charging of electric vehicles?
Question	Criteria Achieved ?
Project	Yes

2.2 Car Share Scheme N/A Scoped Out

N/A

This credit was scoped out	N/A

2.3 Motorbikes / Mopeds 0%

Score Contribution	This credit contributes 12.6% towards the category score.
Criteria	Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?
Question	Criteria Achieved ?
Project	No

Waste & Resource Recovery Overall contribution 5.5%

66%

1.1 Construction Waste - Building Re-Use	0%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?
Question	Criteria Achieved ?
Project	No

2.1 Operational Waste - Food & Garden Waste	100%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are facilities provided for on-site management of food and garden waste?
Question	Criteria Achieved ?
Project	Yes

2.2 Operational Waste - Convenience of Recycling	100%
Score Contribution	This credit contributes 33.3% towards the category score.
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?
Question	Criteria Achieved ?
Project	Yes

Urban Ecology Overall contribution 5.5%

65%

1.1 Communal Spaces		96%
Score Contribution	This credit contributes 11.2% towards the category score.	
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?	
Question	Common space provided	
Apartment	78.0 m²	
Shop	22.0 m²	
Other building	-	
Output	Minimum Common Space Required	
Apartment	77 m²	
Shop	22 m²	
Other building	11 m²	
2.1 Vegetation		75%
Score Contribution	This credit contributes 44.8% towards the category score.	
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?	
Question	Percentage Achieved ?	
Project	20 %	
2.2 Green Roofs		100%
Score Contribution	This credit contributes 11.2% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	Yes	
2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 11.2% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
2.4 Balconies, Courtyards & Roof terraces		100%
Score Contribution	This credit contributes 10.3% towards the category score.	
Criteria	Is there a tap and floor waste on every balcony and courtyard (including any roof terraces)?	
Question	Criteria Achieved ?	
Apartment	Yes	
3.1 Food Production - Residential		0%

Score Contribution	This credit contributes 10.3% towards the category score.
Criteria	What area of space per resident is dedicated to food production?
Question	Food Production Area
Apartment	-
Output	Min Food Production Area
Apartment	27 m^2

3.2 Food Production - Non-Residential	0%

Score Contribution	This credit contributes 0.9% towards the category score.
Criteria	What area of space per occupant is dedicated to food production?
Question	Food Production Area
Shop	-
Other building	-
Output	Min Food Production Area
Shop	6 m^2
Other building	3 m^2

Innovation Overall contribution 9.0%

	0%

1.1 Innovation	0%

Score Contribution	This credit contributes 100% towards the category score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

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