ADP
Consulting : Engineering

1 Wellington Street

Sustainability Management Plan

Prepared for: Gurner

Project No: MEL2528
Date: 21 December 2020
Revision: TP1

Project:	1 Wellington Street
Location:	8-12 Punt Road & 3-7 Wellington Street, St Kilda, VIC, 3182
Prepared by:	ADP Consulting Pty Ltd Level 11, 60 Albert Road South Melbourne VIC 3205
Project No:	MEL2528
Revision:	TP1
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Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisation & QA	Signature
T1	30/11/20	25% Tender	Thomas Miers	TM				
TP1	21/12/20	Town Planning	Thomas Miers	TM	David Mahony	DM	John Vollugi	JV

Project Team	
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Structural & Civil Engineer	Webber Design

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Executive Summary

The following report provides an overview of the environmentally sustainable development (ESD) strategy for the proposed mixed-use, build-to-rent development at 8-12 Punt Road and 3-7 Wellington Street, St Kilda, within the municipal boundaries of the City of Port Phillip.

The objective of this report is to describe how best practice ESD will be incorporated in the development, including targets and proposed design approaches, and to demonstrate that the development meets or exceeds the standards required by the Port Phillip City Council (PPCC) Planning Scheme.

Port Phillip Planning Scheme

The site is situated in St Kilda within the municipal boundaries of the City of Port Phillip. The City of Port Phillip has objectives and strategies relating to ESD which are contained in the Planning Scheme;

- Clause 22.12 – Stormwater Management (Water Sensitive Urban Design)
- Clause 22.13 – Environmentally Sustainable Development

These policies and objectives have been taken into consideration throughout this assessment and in our advice given to the applicant.

The Planning Policy allows large scale buildings to demonstrate best practice ESD standards by using the Green Star rating tool through the Green Building Council Australia (GBCA).

Overall, the proposed ESD initiatives of this development will meet Council's overarching goal of promoting sustainable design and buildings.

Environmentally Sustainable Development (ESD) Approach

The project approach includes the following targets as identified in the policy requirements, statutory requirements and the project brief:

- A 5-Star self-assessed Green Star rating for both residential and retail areas
- A net-zero carbon building certification
- An average NatHERS rating of 7-star across the development
- 10% improvement on NCC energy efficiency requirements for non-residential areas of the development
- STORM assessment achieving minimum 100% score

Green Star Benchmarking

Green Star has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following performance measures:

- 5-star rating under Green Star - Design & As Built v1.2.

Table 2 summarises the 5-Star Green Star points benchmarked for the project, with a full description of the Green Star pathway located in Appendix A. Points benchmarked are subject to change throughout the design development period, whilst maintaining a 5-star rating.

A 5-star rating requires a minimum 60 points to be awarded.

Net Zero' Carbon strategy

In 2018 many governments from around the world signed the Paris Agreement, agreeing to keep global warming 'well below' 2 degrees Celsius, and to 'make efforts' to keep it below 1.5ºC. To achieve this, research concludes that global emissions need to reach net zero around mid-century to give a reasonable chance of limiting warming to 1.5ºC.

This is significant within the built environment sector, which is responsible for up to 40% of global carbon emissions. As a result, many new developments are seeking 'net zero' targets in line with this requirement.

One Wellington is committing to achieving a net zero carbon certification.

Defining Net Zero Carbon

The World Green Building Council definition of a net zero carbon building is '*a building that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources*'.

Green Star Point Pathway

Green Star Category / Credit Target	Points
Management	**11**
Accredited Professional	
1.0 Green Star Accredited Professional	1
Commissioning and Tuning	
2.0 Environmental Performance Targets	Complies
2.1 Services and Maintainability Review	1
2.2 Building Commissioning	1
2.3 Building Systems Tuning	1
Building Information	
4.0 Building Information	1
Commitment to Performance	
5.1 Environmental Building Performance	1
5.2 End of Life Waste Performance	1
Metering and Monitoring	
6.0 Metering strategy	Complies
6.1 Monitoring Systems	1

Green Star Category / Credit Target	Points
Construction Environmental Management	
7.0 Environmental Management Plan	Complies
7.1 Environmental Management System	1
7.2 High Quality Staff Support	1
Operational Waste	
8A Specialist Plan	1
Indoor Environment Quality	**14**
Indoor Air Quality	
9.1 Ventilation System Attributes	1
9.2 Provision of Outdoor Air	2
9.3 Exhaust or Elimination of Pollutants	1
Acoustic Comfort	
10.1 Internal Noise Levels	1
10.3 Acoustic Separation	1
Lighting Comfort	
11.0 Minimum Lighting Comfort	Complies
11.1 General Illuminance and Glare Reduction	1
11.3 Localised Lighting Control	1
Visual Comfort	
12.0 Glare Reduction	Complies
12.1 Daylight	2
Indoor Pollutants	
13.1 Paints, Adhesives, Sealants and Carpets	1
13.2 Engineered Wood Products	1
Thermal Comfort	
14.1 Thermal Comfort	1
Energy	**8**
Greenhouse Gas Emissions	
15B NatHERS Pathway 0.5-star Improvement	Complies
15B.1 Thermal and Energy Performance	1
15B.2 Building Services and Appliances	6
16B Peak Electricity Reduction	1

Green Star Category / Credit Target	Points
Transport	**6**
Sustainable Transport	
17B Prescriptive Pathway	6
Water	**6**
Potable Water	
18B.1 Potable Water reductions	4
Materials	**8**
Life Cycle Impacts	
19B.1 Concrete	2
19B.2 Steel	1
Responsible Building Materials	
20.1 Structural and reinforcing Steel	1
20.2 Timber Products	1
20.3 Permanent Formwork, Pipes, Flooring and Blinds	1
Sustainable Products	
21.1 Product Transparency and Sustainability	1
Construction and Demolition Waste	
22B Percentage Benchmark	1
Land Use and Ecology	**4**
Ecological Value	
23.0 Endangered, Threatened or Vulnerable Species	Complies
23.1 Ecological Value	1
Sustainable Sites	
24.0 Conditional Requirement	Complies
24.1 Reuse of Land	1
24.2 Contamination and Hazardous Materials	1
Heat Island Effect	
25.0 Heat Island Effect	1
Emissions	**3**

Green Star Category / Credit Target	Points
Stormwater	
26.1 Reduced Peak Discharge	1
26.2 Reduced Pollution Targets	1
Microbial Control	
28.0 Legionella Impacts from Cooling Systems	1
Innovation	**7**
Market Transformation	
Build-to-rent	1
Exceeding Green Star Benchmarks	
Indoor Pollutants: Ultra-Low VOC paints	1
Innovation Challenge	
Local Procurement	1
Residential Performance – NABERS for Apartment	1
Global Sustainability	
Green Cleaning	1
Groundskeeping	1
Total Points Benchmarked	**66**

1. Introduction

The following report provides an overview of the environmentally sustainable development (ESD) strategy for the proposed mixed-use, build-to-rent development at 8-12 Punt Road and 3-7 Wellington Street, St Kilda, within the municipal boundaries of the City of Melbourne.

The objective of this report is to describe how best practice ESD will be incorporated in the development, including targets and proposed design approaches, and to demonstrate that the development meets or exceeds the standards required by the Port Phillip City Council (PPCC) Planning Scheme.

1.1 Project background

The proposed development is located at 1 Wellington Street in the inner-Melbourne suburb of St Kilda. The development includes;

- 4 Levels of basement car parking
- Retail on the ground floor
- Residential amenities on the ground, 1st, 2nd, 3rd, 4th and 5th floors
- Residential dwellings on throughout the podium and two towers
- Commercial bar and dining on the 26th floor

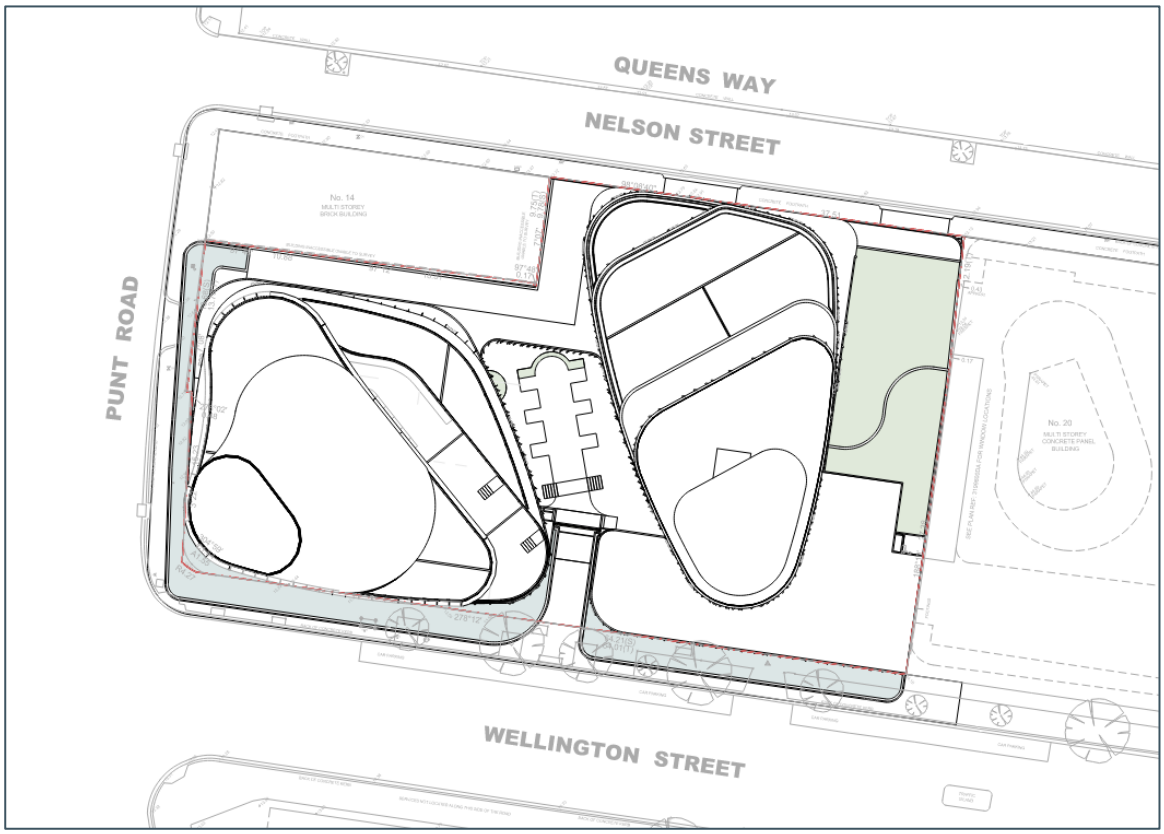

Figure 1 Site location of the proposed development 8-12 Punt Road & 3-7 Wellington Street

1.2 Statutory context

1.2.1 Port Phillip City Council

The site is situated in St Kilda within the municipal boundaries of the City of Port Phillip. The City of Port Phillip has objectives and strategies relating to ESD which are contained in the Planning Scheme;

- Clause 22.12 – Stormwater Management (Water Sensitive Urban Design)
- Clause 22.13 – Environmentally Sustainable Development

These policies and objectives have been taken into consideration throughout this assessment and in our advice given to the applicant.

The Planning Policy allows large scale buildings to demonstrate best practice ESD standards by using the Green Star rating tool through the Green Building Council Australia (GBCA). Overall, the proposed ESD initiatives of this development will meet Council's overarching goal of promoting sustainable design and buildings.

1.2.1.1 22.13-2 Environmentally Sustainable Development

1.2.1.1.1 Objectives

Clause 22.13-2 includes the following objectives which should be applied where possible to residential and non-residential development which require a planning a permit.

- **Energy performance**
  - To improve the efficient use of energy, by ensuring development demonstrates design potential for ESD initiatives at the planning stage.
  - To reduce total operating greenhouse gas emissions.
  - To reduce energy peak demand through particular design measures (eg. appropriate building orientation, shading to glazed surfaces, optimise glazing to exposed surfaces, space allocation for solar panels and external heating and cooling systems).
- **Water resources**
  - To improve water efficiency.
  - To reduce total operating potable water use.
  - To encourage the collection and reuse of stormwater.
  - To encourage the appropriate use of alternative water sources (eg. greywater).
- **Indoor Environment Quality**
  - To achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation, and natural daylight.
  - To achieve thermal comfort levels with minimised need for mechanical heating, ventilation and cooling.
  - To reduce indoor air pollutants by encouraging use of materials with low toxic chemicals.
  - To reduce reliance on mechanical heating, ventilation, cooling and lighting systems.
  - To minimise noise levels and noise transfer within and between buildings and associated external areas.

- **Stormwater Management**
  - To reduce the impact of stormwater run-off.
  - To improve the water quality of stormwater run-off.
  - To achieve best practice stormwater quality outcomes.
  - To incorporate the use of water sensitive urban design, including stormwater re-use.
- **Transport**
  - Minimise the production of greenhouse gas emissions and maximise energy efficiency.
  - Minimise mains potable water use and encourage the use of alternative water sources.
  - Minimise waste going to landfill, maximise the reuse and recycling of materials and lead to improved waste collection efficiency.
- **Waste Management**
  - To promote waste avoidance, reuse and recycling during the design, construction and operation stages of development.
  - To ensure durability and long-term reusability of building materials.
  - To ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities.
- **Urban Ecology**
  - To protect and enhance biodiversity within the municipality.
  - To provide environmentally sustainable landscapes and natural habitats and minimise the urban heat island effect.
  - To encourage the retention of significant trees.
  - To encourage the planting of indigenous vegetation.
  - To encourage the provision of space for productive gardens, particularly in larger residential developments.

1.2.1.1.2 22.13-3 Policy

It is policy that applications for the types of development listed in Table 1 be accompanied by information which demonstrates how relevant policy objectives will be achieved.

1.2.1.1.3 22.19-4 Application Requirements

An application must be accompanied by either a Sustainable Design Assessment or a Sustainability Management Plan as specified in Table 1, as appropriate.

A Sustainable Design Assessment will usually not need to be prepared by a suitably qualified professional. It should:

- provide a simple assessment of the development. It may use relevant tools from the examples listed in the table or an alternative assessment approach to the satisfaction of the responsible authority; and
- identify environmentally sustainable development measures proposed in response to policy objectives, having regard to the site's opportunities and constraints.

A Sustainability Management Plan should:

- provide a detailed assessment of the development. It may use relevant tools from the examples listed in the table or an alternative assessment approach to the satisfaction of the responsible authority; and
- identify achievable environmental performance outcomes having regard to the objectives of this policy (as appropriate); and
- demonstrate that the building has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints; and
- document the means by which the performance outcomes can be achieved.

Various assessment tools have been listed in the table below which may be used to assess how the proposed development addresses the objectives of this policy, as appropriate.

Type of Development	Application Requirements	Example Tools
Accommodation/Mixed Use with residential component of:		
- 2- 9 dwellings; or - Development of a building for accommodation STORM other than dwellings with a gross floor area between 50m2 and 1000m^2.	Sustainable Design Assessment (SDA)	STORM
- Development of 10 or more dwellings. - Development of a building for accommodation other than dwellings with a gross floor area of more than 1000m^2.	Sustainability Management Plan (SMP)	BESS Green Star MUSIC STORM
Non-residential		
- Development of a non-residential building with a gross floor area between 50m^2 and 1000m^2.	Sustainable Design Assessment (SDA)	BESS MUSIC STORM
- Development of a non-residential building with a gross floor area of more than 1000m^2.	Sustainability Management Plan (SMP) Green Travel Plan (GTP)	BESS Green Star MUSIC STORM

1.2.1.2 22.12 Stormwater Management (Water Sensitive Urban Design)

Clause 22.12 Stormwater Management (Water Sensitive Urban Design) of the Melbourne Planning Scheme is also applicable to permit applications that propose the construction of new residential buildings.

1.2.1.2.1 Objectives

Clause 22.12-2 cites the following relevant policy objectives:

- To achieve the best practice water quality performance objectives set out in the *Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999. Currently, these water quality performance objectives are:*
  - 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.
- To promote the use of water sensitive urban design, including stormwater re-use.
- To mitigate the detrimental effect of development on downstream waterways, by the application of best practice stormwater management through water sensitive urban design for new development.
- To minimise peak stormwater flows and stormwater pollutants to improve the health of water bodies, including creeks, rivers and bays.
- To reintegrate urban water into the landscape to facilitate a range of benefits including microclimate cooling, local habitat and provision of attractive spaces for community use and wellbeing.

1.2.1.2.2 Policy

Policy It is policy to:

- Require that development applications provide for the achievement of the best practice performance objectives for suspended solids, total phosphorus and total nitrogen, as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999 (or as amended).
- Require the use of stormwater treatment measures that improve the quality and reduce the flow of water discharged to waterways. This can include but is not limited to:
  - collection and reuse of rainwater and stormwater on site
  - vegetated swales and buffer strips
  - rain gardens
  - installation of water recycling systems
  - multiple uses of water within a single manufacturing site
  - direction of flow from impervious ground surfaces to landscaped areas.
- Encourage the use of measures to prevent litter being carried off-site in stormwater flows, including:
  - appropriately designed waste enclosures and storage bins, and
  - the use of litter traps for developments with the potential to generate significant amounts of litter.
- Encourage the use of green roofs, walls and facades on buildings where practicable (to be irrigated with rainwater/stormwater) to enhance the role of vegetation on buildings in managing the quality and quantity of stormwater.

1.3 ESD approach

1.3.1 Project sustainability brief

The project approach includes the following targets as identified in the policy requirements, statutory requirements and the project brief:

- A 5-Star self-assessed Green Star rating for both residential and retail areas

- A net-zero carbon building certification
- An average NatHERS rating of 7-star across the development
- 10% improvement on NCC energy efficiency requirements for non-residential areas of the development
- STORM assessment achieving minimum 100% score

1.3.2 Green Star

Green Star has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following performance measures:

- 5-star rating under Green Star - Design & As Built v1.2.

The Green Star Pathway forms the approach and ESD targets contained within this SMP. A summary of the Green Star approach can be found in Section 3 and Appendix A.

The Green Star approach will be self-assessed and minor changes to the outlined pathway contained within may change through the design development process, whilst maintaining a 5-star rating equivalent.

1.3.3 Net-zero Certification

1.3.3.1 Net Zero' Carbon strategy

In 2018 many governments from around the world signed the Paris Agreement, agreeing to keep global warming 'well below' 2 degrees Celsius, and to 'make efforts' to keep it below 1.5°C. To achieve this, research concludes that global emissions need to reach net zero around mid-century to give a reasonable chance of limiting warming to 1.5°C.

This is significant within the built environment sector, which is responsible for up to 40% of global carbon emissions. As a result, many new developments are seeking 'net zero' targets in line with this requirement.

One Wellington is committing to achieving a net zero carbon certification.

1.3.3.2 Defining Net Zero Carbon

The World Green Building Council definition of a net zero carbon building is '*a building that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources*'.

2. ESD Initiatives

2.1 Construction and Building Management

2.1.1 Operational environmental management plan

An Owners Project Requirement (OPR) document will be produced which summarises the targets for the environmental performance of the project.

Environmental reporting goals will be set for the building, including greenhouse gas emissions, energy use and water use and shared with building users and tenants.

Best practice green lease agreements will be produced for all tenants to understand and comply with the commitment targets.

2.1.2 Building commissioning and tuning

2.1.2.1 Building Commissioning

A comprehensive services and maintainability review of the project will be performed during the design stage and prior to construction.

Pre-commissioning, commissioning and quality monitoring for all building services (BMS, mechanical, electrical and hydraulic) in accordance with CIBSE or ASHRAE will also be performed.

2.1.2.2 Building Tuning

Following practical completion, full re-commissioning will be undertaken 12 months with monthly monitoring undertaken and outcomes reported including a quarterly tuning process.

2.1.3 Building user's guide

Building operation and maintenance manuals and a CIBSE TM31 Building Logbook will be produced and made available to building owners and occupants.

Building user information will also be made available to all relevant tenants and further displayed on screens in real time to inform building users and visitors.

2.1.4 Metering

Accessible metering to all energy and water common uses and major uses within the building will be provided to meet NABERS Protocol requirements.

2.1.4.1 Energy Metering

Separate energy meters will be provided to monitor each of the following distinct uses:

- Each individual floor
- Each individual retail tenancy
- Residential common area lighting, heating, cooling and ventilation
- Vertical transport
- Photovoltaic system supply

- Any source of demand greater than 5% of the building's total energy use
- Any source of demand greater than 100kW

2.1.4.2 Water Metering

Separate water meters will be provided to monitor each of the following distinct uses:

- Each individual floor
- Irrigation
- Rainwater tank supply
- Common area amenities
- Any source of demand greater than 10% of the project's total water use

2.1.5 Monitoring

A Building Management System will be installed to monitor and control the building various systems.

The monitoring system will be capable of performing the following functions:

- Collecting data from all meters.
- Alerting to missing data due to failures.
- Recording energy use and water consumption, and providing a reporting capability at user adjustable intervals.
- Raising an alarm when the energy or water use increase beyond certain parameters and automatically and instantly issue an alert the facilities manager. The process to assess, correct and validate alerts or faults must be detailed and contained in an accessible location.
- Providing a breakdown of the information by building system (mechanical, electrical, etc.), or by space (or by tenanted floor).
- Including the consumption water or energy, the load versus time (load profile), and the power factor (in the case of energy).
- Producing, as a minimum, a quarterly report that is automatically emailed to the facilities manager responsible for the building.

2.1.6 Construction environmental management plan

A project specific Construction Environmental Management Plan (EMP) will be developed and implemented by the Head Contractor. In addition to this, the builder will be required to have ISO 14001 Environmental Management System accreditation.

2.1.7 High quality staff support

Staff support programs will be implemented that promote positive mental and physical health outcomes as well as enhance worker's knowledge on sustainable practices.

2.1.7.1 Mental and Physical Health

At least three of the following must be addressed in the mental and physical health support programs:

- healthier eating and active living
- reduced harmful alcohol and drug and tobacco-free living

- increase social cohesion, community, and cultural participation
- understanding depression
- preventing violence and injury
- suicide prevention
- decrease psychological distress

2.1.7.2 Sustainable Practises

Training can be provided through one, or a combination of:

- On-site training, such as by including the items above as part of site induction practices.
- Off-site training, such as by providing sustainability training to site workers via a TAFE or similar program within the last 3 years.
- Online training, such as by a third-party service that can provide training on sustainability topics and track personnel who have taken the relevant materials within the last three years.

2.1.8 Waste Management

A specialist waste plan will be developed for the projects office and residential components and include recycling facilities as appropriate for each space type.

The current waste strategy includes:

- Recycling and general waste chutes on each floor.
- Waste collection bins

Figure 2 Waste storage and collection strategy; waste collection areas ground floor (top), waste chutes on each level (bottom)

2.2 Indoor Environment Quality

2.2.1 Indoor Air Quality

2.2.1.1 Ventilation System Attributes

The ventilation system will be designed to mitigate the entry of outdoor pollutants, for ease of maintenance and cleaning and will be cleaned prior to occupation and use. The design will comply with ASHRAE 62.1-2003 regarding minimum separation distances between pollution sources and outdoor air intakes.

2.2.1.2 Provision of Outdoor Air & Natural Ventilation

Apartments

The apartments will be naturally ventilated in accordance with AS 1668.4:2012. Each habitable room will have an operable window, with an openable area equal or greater than 5% of the room's floor area.

Common Areas

Corridors and communal spaces to have access to at least one source of natural ventilation & in turn daylight access.

2.2.1.3 Exhaust or Elimination of Pollutants

All apartments require non-recirculating range hoods and bathroom exhausts that exhaust directly outside.

2.2.2 Acoustics

2.2.2.1 Internal noise level reduction

Internal noise levels will be no more than 5dB(A) above the "satisfactory" sound levels provided in Table 1 of AS/NZS 2107:2000.

2.2.2.2 Acoustic separation

For residential projects:

- The inter-tenancy apartment construction to habitable areas results in airborne noise isolation standard of Rw+Ctr > 55; and
- All inter-tenancy walls should include Discontinuous Construction as defined by the Building Code of Australia
- Walls between apartments and public corridors results in airborne noise isolation standard of Rw > 55; and
- The floor construction above habitable rooms and wet areas of adjacent dwellings (i.e. floor cover) results in an impact isolation standard of Ln,w + CI < 55.
- Apartment entry doors include acoustic seals and achieve laboratory acoustic rating of Rw 30.

For non-residential areas the acoustic consultant will select the most suitable pathway for compliance with the acoustic separation credit.

2.2.3 Artificial Lighting

2.2.3.1 Colour accuracy and flicker free

All lights on the project will be flicker free and accurately address the perception of colour in the space including products with electronic ballasts and a minimum colour rendering index (CRI) of 80.

2.2.3.2 General Illuminance and Glare Reduction

2.2.3.2.1 Dwellings

Lighting will be provided in living spaces, kitchens, bathrooms and bedrooms where:

> The lighting design includes or permits general fixed lighting that provides good maintained illuminance values for the entire room; and

> The installed fittings all have a rated colour variation not exceeding 3 MacAdam Ellipses (decorative fittings being exempt).

2.2.3.2.2 All other areas

Illuminance levels be provided as per best practice levels as per AS1680 depending on the activity performed in that space.

2.2.3.3 Occupant Lighting Control

Appropriate task-based lighting will be provided to kitchens, bathroom and services areas. In addition, sufficient power outlets will be provided around predicted furniture layouts to enable the use of lamps or any task-based lighting for home offices and the like.

2.2.4 Natural Light

2.2.4.1 Daylight Amenity

The design of the building and apartments layouts enable excellent natural daylight amenity to the kitchen/living rooms and bedrooms. Daylight modelling has been conducted to predict the amount of natural light the apartments will receive. Appendix D provides detail of the modelling results and the inputs and assumptions.

Figure 3 Daylight contour plots

2.2.4.2 Glare Prevention

Glare reduction will be achieved to all facades through a combination of blinds, screens and fixed devices.

2.2.5 Indoor pollutants

Indoor pollutants in the project will be reduced through;

- Reduced Volatile Organic Compounds (VOCs) in all paints, carpets, adhesives and sealants
- Low and no formaldehyde content in all engineered wood products including particleboard, plywood, veneer, MDF and decorative overlaid wood panels
- Specification of low emissions printing and photocopying equipment

2.2.6 Thermal comfort

Thermal comfort is being achieved through high quality fabric and building design. The combination of an average NatHERS rating of 7-stars and a maximum cooling load of 30MJ/m^2 will ensure good thermal comfort within the dwellings.

2.3 Energy Efficiency

2.3.1 Net Zero Emissions strategy

A comprehensive net zero emissions strategy has been developed for the project which includes;

- The development of an all-electric building
- Highly efficient building systems and services
- Embedded energy network supply 100% renewable energy
- Carbon offsets for ongoing operational emissions

2.3.2 Operational energy

2.3.2.1 Dwellings

The development will be committing to the following NatHERS star ratings:

- 7-star average across the whole development
- No individual apartment less than 5.5-stars

Appendix C is the Preliminary NatHERS report which will detail the building fabric requirements to achieve a 7-star average.

2.3.2.2 Retail and Common Areas

The project will achieve a 10% energy efficiency improvement on Section J of the NCC 2016.

2.3.3 Lighting Efficiency and Controls

2.3.3.1 Power Density

The lighting power density is reduced by at least 20% below the maximum lighting power density in Table J6.2a. Applies to all areas of the building.

2.3.3.2 Independent Switching

Independent Light switching will be provided in each room of the SOU. In open plan, each functional area will be separately switched.

2.3.3.3 Dynamic Lighting Controls

All common areas accessible by residents will be provided with automated lighting control system(s), such as occupant detection and daylight adjustment.

2.3.4 Ventilation and Air Conditioning

For spaces provided with mechanical heating and cooling:

- The minimum cooling system energy rating for the air conditioning equipment is at least 3-star as per AS 3823.2-2013; and
- The rated cooling or heating capacity of the unit does not exceed the design cooling or heating load, whichever is greater, by more than 15%.

2.3.5 Domestic Hot Water

2.3.5.1 Dwellings

High efficiency individual electric instantaneous hot water units will be installed to each apartment to provide domestic hot water.

2.3.5.2 Common Areas and Amenities

Electric heat pumps will provide hot water for all other hot water needs throughout the project:

- Communal facilities and amenities
- Swimming pool
- Commercial tenancies

2.3.6 Cooking

High efficiency induction cooktops will be provided to each apartment.

2.3.7 Appliances and Equipment

All appliances installed have a minimum Energy Star rating of 1-star below the maximum Energy Star rating available for that appliance type and capacity. Appliances include but are not limited to:

- Refrigerators/freezers;
- Dishwashers;
- Clothes washers; and
- Clothes dryers.

This requirement only applies to installed appliances; it does not require their installation.

2.3.8 Renewable Energy

The project will install a 40kWp photovoltaic system on the roof of the West Tower.

2.3.9 Peak energy demand reduction

Peak energy demand reduction will be reduced through a combination of passive and active energy means. This includes;

- High-performance façade
- Energy-efficiency building systems and appliances
- Photovoltaic PV system

2.3.10 Vertical Transport

Lifts will include the following energy efficiency features:

- VVVF drive.
- Regenerative drives.
- Lifts will be enabled with standby and shut down modes for low usage periods.

2.3.11 Car Park Exhaust

Car park ventilation fans to be controlled with variable speed drives and carbon monoxide monitors to control exhaust rates.

2.3.12 Green Power

Gurner will be purchasing green power for the site through an embedded network provider.

2.4 Transport

2.4.1 Access to public transport & walkability

The proposed development, located at 1 Wellington Street obtains a Walkscore of 91 'Walker's Paradise', meaning the access to shops and amenities is excellent and daily errands do not require the use of a car. The site also has a public transit score of 90 meaning access to word class public transport facilities.

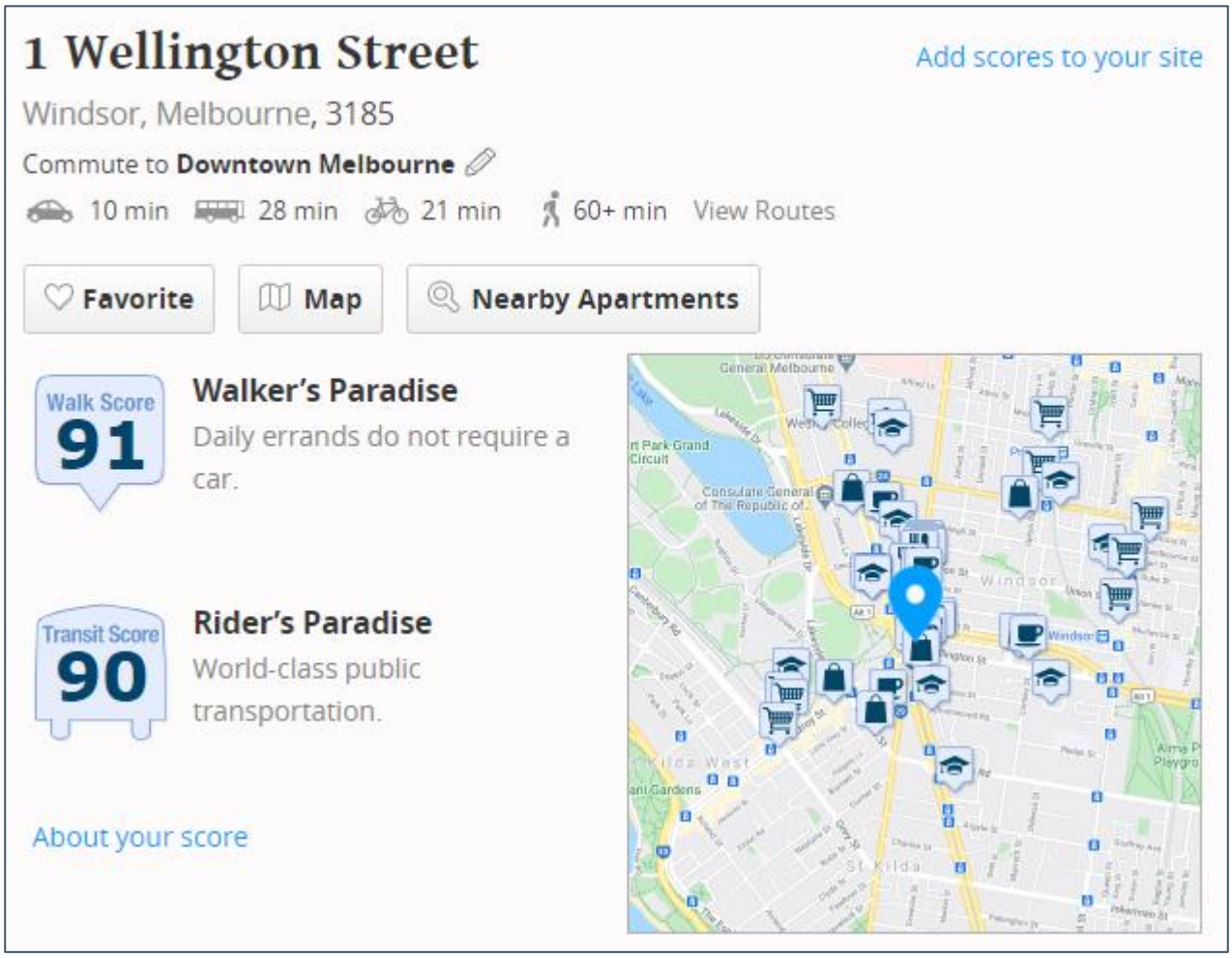

Figure 4 Project walk score and transit score

2.4.2 Car parking provisions

The provision of 236 car parks is less than the Council nominated number of car parks for a development of this size. This encourages the use of car alternatives such a cycling and public transport.

2.4.3 Electric vehicle charging

Infrastructure will be provided to allow electric vehicle charging stations to be installed in the car parking bays in the basement car-stacker. 12 electric car charging stations will be provided (5% of total parking).

2.4.4 Bicycle storage

The proposed development will contain a total of 288 bicycle parking spaces for both residents, staff and visitors:

> Level B01-B04: 48 bike parks each level

> Ground floor: 96 bike parks

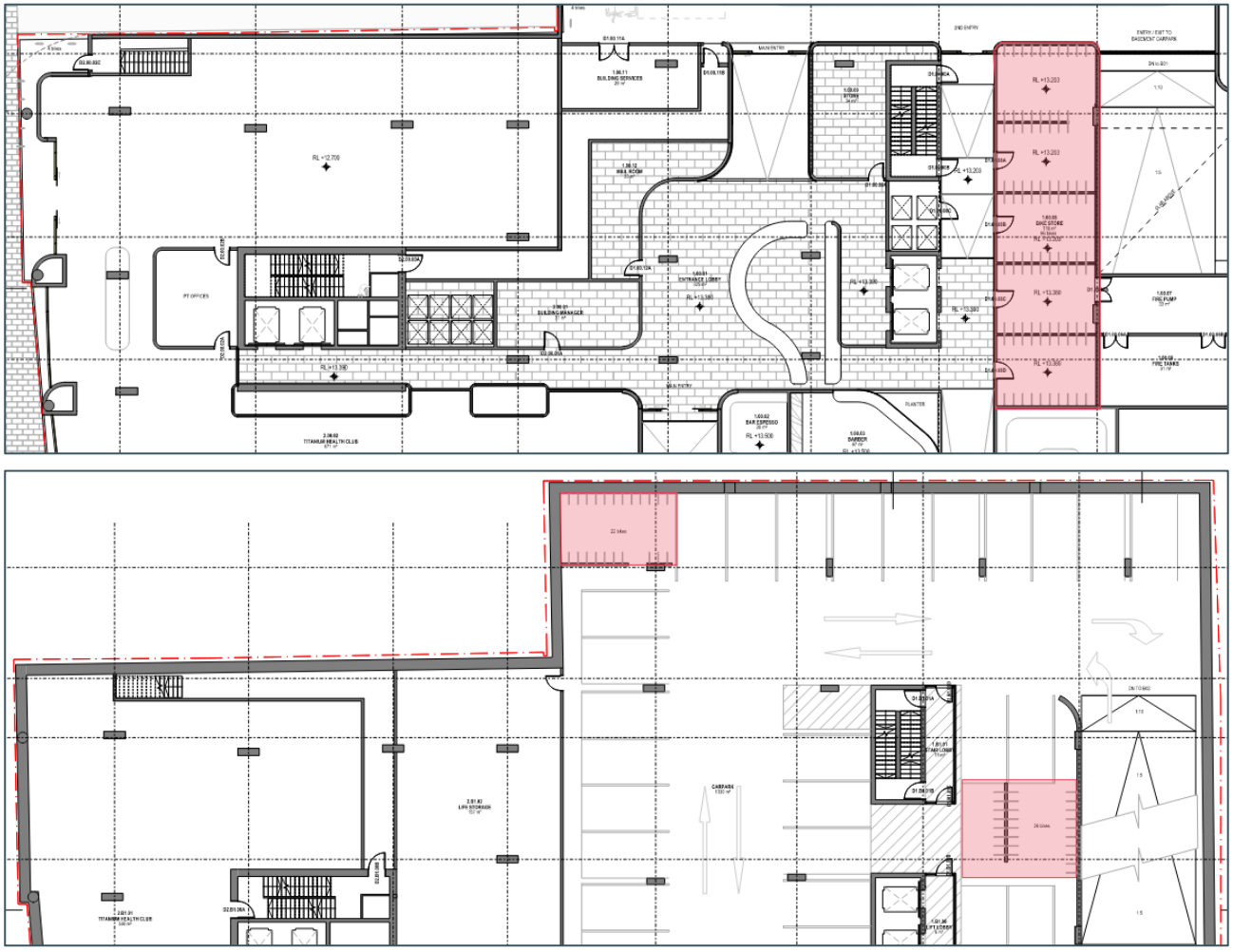

Figure 5 Bike parking facilities; ground floor (top), basement levels (bottom)

2.5 Water Efficiency

2.5.1 Water efficient fittings and fixtures

The project will include best practice water efficient fixtures and fittings across the development including the following WELS ratings;

- Showers: 4 Stars (7.5 L/min or lower)
- Toilets: 4 Stars
- Kitchen Taps: 5 Stars
- Bathroom Taps: 6 Stars
- Urinals: 6 Stars
- Dishwashers: 5 Stars

Cleaners and bathtub taps are exempt from a star rating requirement.

2.5.2 Rainwater harvesting

A 50kL rainwater tank will capture rainwater from the non-trafficable roof areas of the development and be connected to all toilets up to Level 11 and all irrigation on the project.

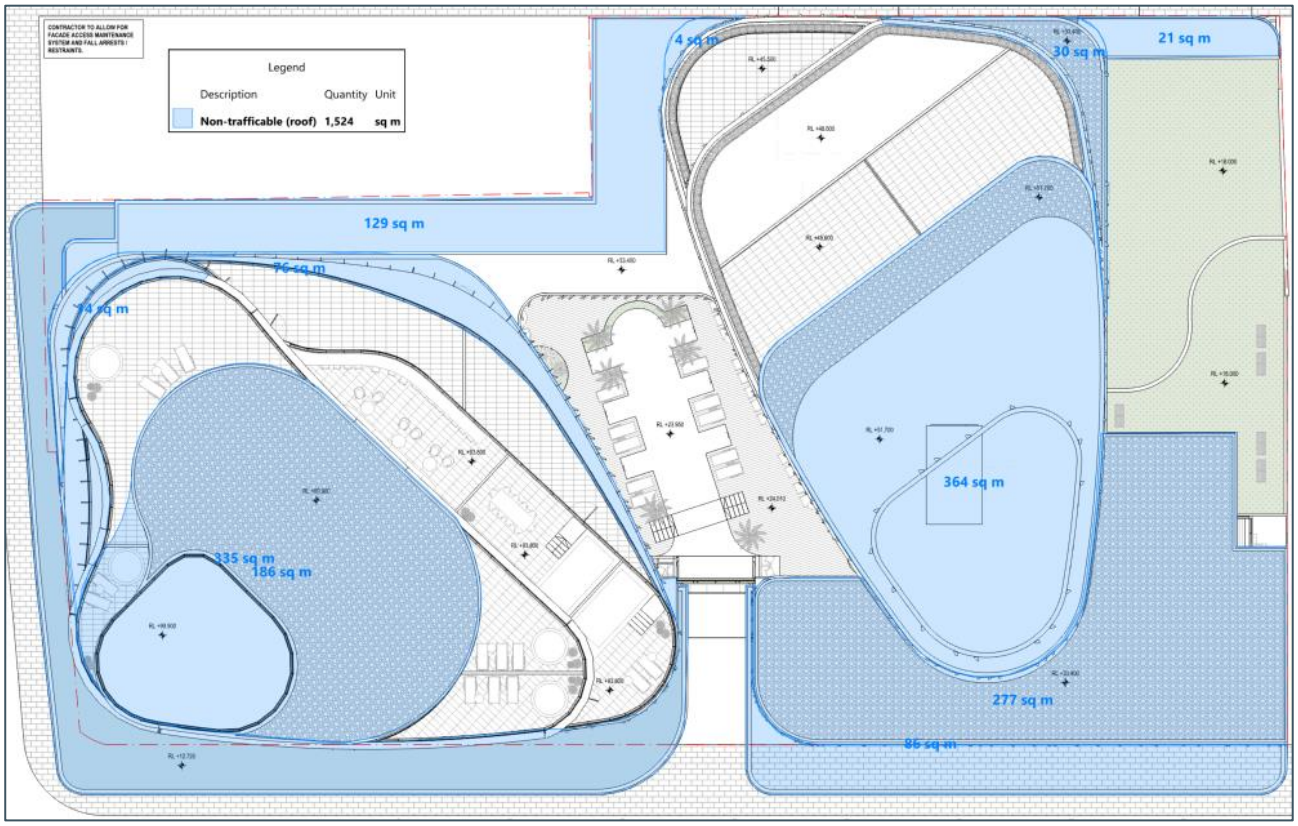

Figure 6 Rainwater tank catchment areas (blue highlight)

2.5.3 Landscape irrigation

All landscape areas on the rooftop and terraces will be irrigated using subsurface drip type irrigation systems.

2.5.4 Fire systems

The building fire testing water will be collected and recycled back into the fire protection services water tank in the Basement Level 01.

A target of 80% of fire test water will be captured during the system testing.

2.6 Building Materials

2.6.1 Concrete

2.6.1.1 Portland Cement

All concrete will have a cement mix that replaces 30% of the Portland cement with a supplementary cementitious material.

2.6.1.2 Water Reduction

The mix water for all concrete used in the project will contain at least 50% captured or reclaimed water (measured across all concrete mixes in the project).

2.6.1.3 Aggregate Reduction

The project will seek to minimise the amount of virgin materials used for aggregates by ensuring either:

> At least 40% of coarse aggregate in the concrete will be crushed slag aggregate or other alternative materials (measured by mass across all concrete mixes in the project)

OR

> At least 25% of fine aggregate (sand) inputs in the concrete will be manufactured sand or other alternative materials (measured by mass across all concrete mixes in the project).

2.6.2 Steel

2.6.2.1 Reinforcing Steel Reduction

There will be a 5% or more reduction in mass of steel framing, when compared to a suitable reference case building. The structural engineer will provide calculations to demonstrate the reduction.

2.6.2.2 Responsible Steel Sourcing

The steel maker must have the following:

> A currently valid and certified ISO 14001 Environmental Management System (EMS) in place, and

> a current membership with the World Steel Association's (WSA) Climate Action Programme (CAP)

2.6.3 Sustainable timber

The building's timber is to be certified by a forest certification scheme that meets the GBCA's 'Essential' criteria for forest certification.

2.6.4 Best practice PVC

90% (by cost) of all cables, pipes, flooring and blinds in a project either:

- Do not contain PVC and have an Environmental Product Declaration (EPD); or
- Meet Best Practice Guidelines for PVC.

2.6.5 Environmental responsibility

3% of eligible products are required to meet the requirements of reused products, recycled content, environmental product declarations, third party certification, or stewardship programs.

2.6.6 Construction waste management plan

A construction waste management plan will be developed including a target of 90% of waste generated during construction and demolition to be diverted from landfill.

2.7 Urban Ecology

2.7.1 Reuse of developed land

The proposed development is taking place on a completely developed piece of land. No critically endangered, endangered, vulnerable species, or ecological communities were present on the site at time of purchase.

2.7.2 Enhancing ecological value

The existing site currently has little to no existing vegetation or ecologically significant value. The proposed development will include a landscaped area in the terraces and on the rooftop, enhancing the ecological value of the site.

At least 50% of plants will be specified as Australian natives.

2.7.3 Urban Heat Island Effect

At least 75% of the total project site area to comprises building or landscaping elements that reduce the impact of heat island effect.

High Solar Reflective Index (SRI) roofing and paving materials will be utilised on all roofing areas where appropriate to reduce the UHI effect:

- Roofing materials, including shading structures will have the following:
  - For roof pitched <15°– a three year SRI of minimum 64 or initial SRI of minimum 82.
  - For roof pitched >15°– a three year SRI of minimum 34 or initial SRI of minimum 39.
- Unshaded hard-scaping elements with a three year SRI of minimum 34 or an initial SRI of minimum 39;

2.8 Emissions

2.8.1 Stormwater

2.8.1.1 STORM Assessment

Water falling on the site will be collected from all non-trafficable roof areas and directed into a basement rainwater tank.

A 50kL rainwater tank will harvest the water from the non-trafficable roof areas and be connected to all toilets up to level 11 and all irrigation on the project.

A STORM assessment has been carried out using the site collection areas summarised below, with the full results in Appendix B and a summary of collection areas is shown in Figure 7.

Table 1 Summary of site collection area

Collection Area	Area (m^2)	Treatment
Total Site Area	2,353	N/A
Roof Collection Area – to 50kL rainwater	1,524	50kL Rainwater Tank
Other	829	None

The results from the preliminary STORM assessment show a result of 109%, demonstrating best practice approach to stormwater management, exceeding minimum compliance results of 100% as set by the Port Phillip Planning Scheme.

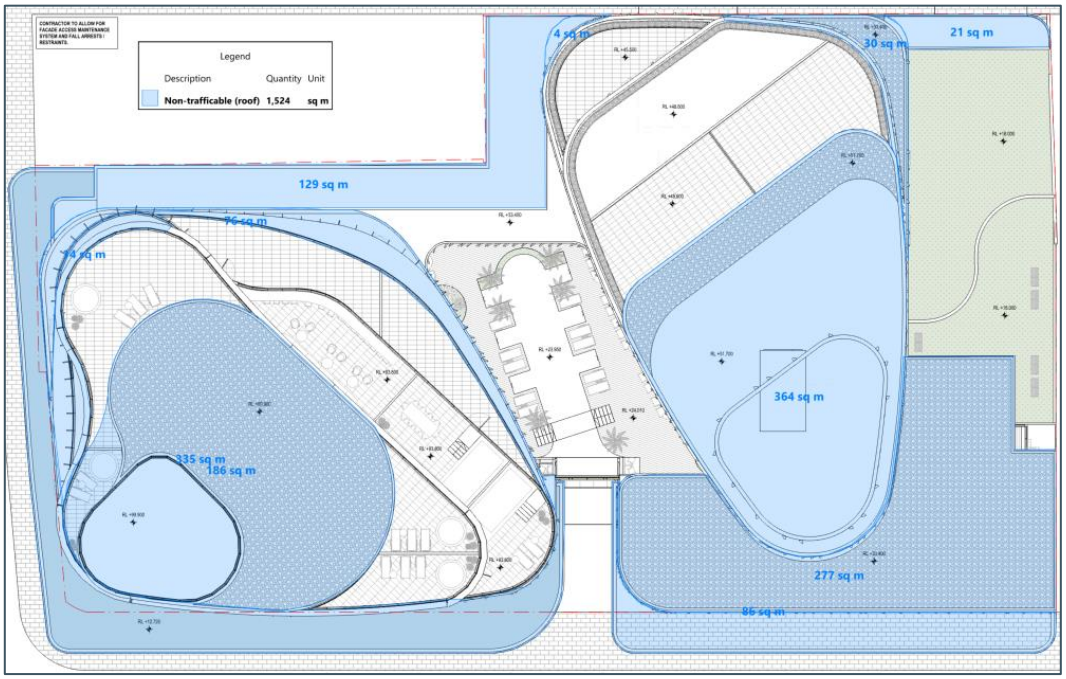

Figure 7 Site stormwater mark-up for the proposed development catchment areas

Melbourne Water **STORM Rating Report**

TransactionID:	1082116
Municipality:	PORT PHILLIP
Rainfall Station:	PORT PHILLIP
Address:	1 Wellington Street
	St Kilda
	VIC
Assessor:	
Development Type:	Residential - Mixed Use
Allotment Site (m2):	2,353.00
STORM Rating %:	110

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof	1,524.00	Rainwater Tank	50,000.00	100	170.00	82.00
Other	829.00	None	0.00	0	0.00	0.00

Figure 8 Preliminary STORM results for the proposed development

2.8.1.2 Discharge to stormwater

Post-development peak event discharge from the site will not exceed the pre-development peak event discharge, as shown in the STORM results.

2.8.1.3 Watercourse pollution

All stormwater discharged from the site meets specified Pollution Reduction Targets demonstrated by the STORM model results.

2.8.2 Light Pollution

2.8.2.1 Minimising light pollution to neighbouring bodies

All outdoor lighting on the project will comply with AS 4282:1997 Control of the obtrusive effects of outdoor lighting.

2.8.3 Legionella Risk Management

Any water-based heat rejection systems will include measures for Legionella control and a Legionella Risk Management Plan has been provided for the system.

2.9 Innovation

2.9.1 Build-to-rent

Build to rent is an emerging market trend, this development is contributing to the uptake of Build to rent properties where developers are invested in operating costs thus keeping energy and water consumption down.

2.9.2 Ultra-low VOC paints

Over 50% of paint (by cost) are to have a Total Volatile Organic Compound (TVOC) content of less than 5 grams per litre.

2.9.3 Net Zero Carbon Building Certification

The project will engage a net zero carbon certification scheme to offset its emissions.

2.9.4 Local procurement

A target of 80% of skilled workers and labour to be sourced within 50km of the site areas

2.9.5 NABERS for Apartment

The development will have the metering requirements to enable a NABERS for apartment rating to be obtained.

2.9.6 Green Cleaning

Cleaning services will be delivered in accordance with a green cleaning policy or scope of works and are applicable to all common areas (i.e. areas controlled solely by the building owner).

2.9.7 Groundskeeping

Best practice operational procedures will be used to maintain landscaped areas, hard surfaces and building exteriors are in place during the performance period in accordance with the following requirements:

A groundskeeping policy must be developed that includes the following:

a. The scope of the maintenance program
b. Frequency of maintenance
c. Sustainability requirements, including as a minimum, measures for:
    i. diversion from landfill
    ii. Minimising use of chemicals
    iii. energy and water use
    iv. plant-specific maintenance requirements (where relevant)
d. the recording and reporting mechanism of measured results
e. procedures for prompt adjustments or repairs in response to non-compliance,
f. The parties response for carrying out the maintenance program and measurements
g. A review process to assess the success of the maintenance procedures and make improvements based on lessons learned.

3. Green Star Benchmarking

Green Star has been utilised to benchmark the environmental performance of the project. The proposal has the preliminary design potential to achieve the following performance measures:

> 5-star rating under Green Star - Design & As Built v1.2.

Table 2 summarises the 5-Star Green Star points benchmarked for the project, with a full description of the Green Star pathway located in Appendix A. Points benchmarked are subject to change throughout the design development period, whilst maintaining a 5-star rating.

A 5-star rating requires a minimum 60 points to be awarded. In line with City of Melbourne requirements, a 10% buffer of points has been included, totalling a 66-point target for the development.

Table 2 Summary of Green Star credit points benchmarked for the development

Green Star Category / Credit Target	Points
Management	**11**
Accredited Professional	
1.0 Green Star Accredited Professional	1
Commissioning and Tuning	
2.0 Environmental Performance Targets	Complies
2.1 Services and Maintainability Review	1
2.2 Building Commissioning	1
2.3 Building Systems Tuning	1
Building Information	
4.0 Building Information	1
Commitment to Performance	
5.1 Environmental Building Performance	1
5.2 End of Life Waste Performance	1
Metering and Monitoring	
6.0 Metering strategy	Complies
6.1 Monitoring Systems	1
Construction Environmental Management	
7.0 Environmental Management Plan	Complies
7.1 Environmental Management System	1
7.2 High Quality Staff Support	1

Green Star Category / Credit Target	Points
Operational Waste	
8A Specialist Plan	1
Indoor Environment Quality	**14**
Indoor Air Quality	
9.1 Ventilation System Attributes	1
9.2 Provision of Outdoor Air	2
9.3 Exhaust or Elimination of Pollutants	1
Acoustic Comfort	
10.1 Internal Noise Levels	1
10.3 Acoustic Separation	1
Lighting Comfort	
11.0 Minimum Lighting Comfort	Complies
11.1 General Illuminance and Glare Reduction	1
11.3 Localised Lighting Control	1
Visual Comfort	
12.0 Glare Reduction	Complies
12.1 Daylight	2
Indoor Pollutants	
13.1 Paints, Adhesives, Sealants and Carpets	1
13.2 Engineered Wood Products	1
Thermal Comfort	
14.1 Thermal Comfort	1
Energy	**8**
Greenhouse Gas Emissions	
15B NatHERS Pathway 0.5-star Improvement	Complies
15B.1 Thermal and Energy Performance	1
15B.2 Building Services and Appliances	6
16B Peak Electricity Reduction	1
Transport	**6**
Sustainable Transport	
17B Prescriptive Pathway	6
Water	**6**

Green Star Category / Credit Target	Points
Potable Water	
18B.1 Potable Water reductions	4
Materials	**8**
Life Cycle Impacts	
19B.1 Concrete	2
19B.2 Steel	1
Responsible Building Materials	
20.1 Structural and reinforcing Steel	1
20.2 Timber Products	1
20.3 Permanent Formwork, Pipes, Flooring and Blinds	1
Sustainable Products	
21.1 Product Transparency and Sustainability	1
Construction and Demolition Waste	
22B Percentage Benchmark	1
Land Use and Ecology	**4**
Ecological Value	
23.0 Endangered, Threatened or Vulnerable Species	Complies
23.1 Ecological Value	1
Sustainable Sites	
24.0 Conditional Requirement	Complies
24.1 Reuse of Land	1
24.2 Contamination and Hazardous Materials	1
Heat Island Effect	
25.0 Heat Island Effect	1
Emissions	**3**
Stormwater	
26.1 Reduced Peak Discharge	1
26.2 Reduced Pollution Targets	1
Microbial Control	
28.0 Legionella Impacts from Cooling Systems	1
Innovation	**7**

Green Star Category / Credit Target	Points
Market Transformation	
Build-to-rent	1
Exceeding Green Star Benchmarks	
Indoor Pollutants: Ultra-Low VOC paints	1
Innovation Challenge	
Local Procurement	1
Residential Performance – NABERS for Apartment	1
Global Sustainability	
Green Cleaning	1
Groundskeeping	1
Total Points Benchmarked	**66**

ADP
Consulting : Engineering

Appendix A
Green Star Preliminary Matrix

MEL2528: One Wellington

Green Star Design & As Built v1.2 Credit Matrix

	Points Available	Points Targeted	Targeted Rating
Core Credits	99	59	5-Star Design & As Built
Innovation Credits	10	7	
Total	110	65.6	60 Points

Credit not targeted or not applicable

Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Management								
Green Star Accredited Professional	1.0	Accredited Professional	1	1	GSAP to be appointed throughout project, from schematic design to construction to completion	Design	ADP ESD	Credit awarded with ADPs appointment as Green Star Accredited Professional (GSAP)
Commissioning and Tuning	2.0	Environmental Performance Targets	N/A	Complies	In order for the minimum requirement to be met, documented targets for the environmental performance of the project must be set.	Design	Gurner ADP ESD	A performance target for both annual consumption of energy and water needs to be set for the base building systems and incorporated in an Owner's Project Requirements (OPR) type documents
	2.1	Services and Maintainability Review	1	1	A comprehensive services and maintainability review of the project to be performed during design stage and prior to construction.	Design	Head Contractor ICA	Either an ICA or the Head Contractor shall conduct a Services and Maintainability Review and produce a Services and Maintainability Report prior to construction.
	2.2	Building Commissioning	1	1	Pre-commissioning, commissioning and quality monitoring for all building services (BMS, mechanical, electrical and hydraulic) in accordance with CIBSE or ASHRAE.	Design Construction Handover	ICA ADP Consutling - All Services Head Contractor	Comprehensive pre-commissioning and commissioning activities required. Appointment of ICA for assistance with these activities recommended. Commissioning Plan and Specification Required as well as Air Permeability Testing.
	2.3	Building Systems Tuning	1	1	A tuning process is in place that addresses all nominated building systems. A building tuning commitment must be signed.	Handover	Gurner Head Contractor	A building tuning commitment is required demonstrating that there is a requirement for a building tuning process. At a minimum, the commitment must include quarterly adjustments and measurement for the first 12 months after occupation and a review of building system manufacturer
	2.4	Independent Commissioning Agent	1	-	An ICA is required from beginning of schematic design through practical completion of the project.	Design Construction	ICA Gurner	ICA greatly assists in the Commisioning and Services and Maintainability Review credits.
Adaptation and Resilience	3.0	Implementation of Project Specific Climate Adaptation Plan	2	-	2 points are available where: - A project-specific Climate Adaptation Plan has been developed in accordance with a recognised standard; and - Solutions have been included into the building design and construction that specifically address the risk assessment component of the plan.	Design	ADP ESD Project Team	ADP would provide a climate risk assessment of the design of the development and identify high risk areas. Subsequently a workshop would be held to develop solutions to mitigate these risks. This is best held as early as possible in the design process.
Building	4.0	Building Information	1	1	1 point is available where: - Comprehensive operations and maintenance information is developed and made available to the facilities management team; and - Relevant and current building user information is developed and made available to all relevant stakeholders.	Design	Gurner	A building log book must be provided to the facilities management team that must: - Be developed in line with CIBSE TM31: Building Log Book Toolkit; - Cover all nominated building systems; and - Include links or references to all relevant operations and maintenance information

Credits			Points Available	Points Targeted	Credit Requirements	Stage	Responsible Entity	Comments
Information	4.0	Building Information	1	1		Construction	Head Contractor	Building information must be provided to the users of the building (BTR Residents) in an updatable digital format. This may be: - digital signage - interactive info kiosks - website or intranet - app for mobile devices
Commitment to Performance	5.1	Environmental Building Performance	1	1	One (1) point is awarded where at least 80% of the project's gross floor area (GFA), excluding carparking areas, is covered by a commitment to set, measure and report on its environmental performance. A smaller proportion of compliant space may be rewarded partial points on a sliding-scaleto one decimal place, e.g. if 40% of the project's GFA is covered 0.5 points are awarded. Environmental reporting goals (2 at least) to be set for the building, including GHG / Energy Targets, Water targets and Waste targets in use	Design Operation	Gurner	Gurner to commit to energy and water targets through an internal requirement. Propose to implement an operational ESD management plan that outlines the targets. Would have to be developed and approved by Council prior to Green Star submission.
	5.2	End of Life Waste Performance	1	1	One (1) point is awarded where at least 80% of the project's GFA, excluding carparking areas, has a formal commitment in place to reduce demolition waste at the end of life of an interior fitout or base building component. A smaller proportion of compliant space may be rewarded partial points on a sliding-scale to one decimal place.	Design Operation	Gurner	Gurner commit to extending the life of the interior fitout or finishes to at least 10 years, barring minor wear and tear or minor repairs.
Metering and Monitoring	6.0	Metering strategy	N/A	Complies	Accessible metering be provided to monitor building energy and water consumption, including all energy and water common uses, major uses and sources. The metering is to be accurate and to inform energy consumption practices and reduce wasted energy.	Design Construction	Electrical Engineer Mechanical Engineer Hydraulic Engineer	Showing the location of all energy and water meters in the project and the associated energy and water uses; showing how the system is easily accessible to the residents; and confirming the requirements for utility and non-utility meters.
	6.1	Monitoring Systems	1	1	1 point is available where a monitoring strategy is addressed through a monitoring system, capable of capturing and processing the data produced by the installed energy and water meters, and accurately and clearly presenting data consumption trends.	Design Construction	Mechanical Engineer Electrical Engineer Hydraulic Engineer	The monitoring strategy must be developed in accordance with a recognised Standard, such as CIBSE TM39 Building Energy Metering. Although this Standard has been created to be used for developing energy metering and monitoring strategies, for the purpose of this credit, the same principles described in the Standard shall be used for developing water metering and monitoring strategies.