



SUSTAINABILITY PLANNING REPORT

Jardin - Seniors Living

5 Skyline Place, Frenchs Forest NSW 2086

PREPARED FOR
Platino Properties
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Neutral Bay
NSW 2089
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Sustainability Planning Report

Revision Schedule

Date	Revision	Issue	Prepared By	Approved By
29/01/2021	1	Preliminary	E. Tan	I. Van Eerden
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Executive Summary

Northrop have been engaged by Platino properties to prepare a report to outline the sustainability objectives of the new Jardin development located at Lot 1, 5 Skyline Place. The purpose of this report is to outline the Sustainability strategy adopted for the development and outline a preliminary pathway for compliance with this strategy.

The project will be targeting the following sustainability objectives to enhance the environmental performance of the site:

- BASIX Certification –
 - Energy target of 36% - exceeding the minimum target of 25%
 - Water target of 51% - exceeding the minimum target of 40%
 - Achieve an average of 7 star NatHERS thermal comfort rating across the development
- Building Code of Australia (BCA) – Compliance with Section J Energy Efficiency, J1 (Building Fabric) only;
- Green Star Design & As Built v1.3 – Achieve a 5 Star rating targeting 66 points
- Green Star Communities v1.1 – Achieve a 5 Star rating targeting 66 points

The Project involves a pioneering partnerships model between the private and NFP sectors, and incorporates practical solutions from financing, business, government, community housing and philanthropy.

The project includes 13% affordable / social housing overall thus more than meeting the Council commitment (Northern Beaches Affordable Housing Policy) to a 10% affordable / social housing target for all planning proposals, in urban renewal or greenfield developments. It is worth noting there is no planning requirement to provide any affordable or social housing on site.

Some of the initiatives the development will incorporate to deliver on the frameworks above include but is not limited to;

- Maximise passive design strategies (ie, daylighting, cross-ventilation, adequate shading).
- Inclusion of efficient equipment and systems.
- Onsite renewable energy generation – 90kW peak solar PV to reduce power usage in communal areas.
- Rainwater harvesting and reuse – 65,000L onsite rainwater tank for irrigation and communal area usage.
- Water efficient fixtures and fittings.
- Reduce urban heat island effect through the inclusion of vegetation or use of pale external fabric.
- Provide community food garden to promote community engagement, providing residents with access to fresh food and promote biological diversity across the site.
- Use of sustainable materials (recyclable, low maintenance, low embodied energy, low emission)
- Adequate waste streams, waste storage area and waste education provided to the occupants to promote recycling.
- Encourage active transport by providing end of trip facilities to the occupants.
- Promote the use of low emission vehicles by providing electric vehicle charging and dedicated parking for small car.

- Provision of education and engagement programs to educate occupants on sustainability initiatives in the community.
- Provision of community led facility and program on site to encourage active participation from the communities.

Through actioning these measures the project demonstrates its strong commitment to efficiency in the design, construction and operation of this project and meets the targets set out by Northern beaches Council and Platino Properties.

1. Introduction

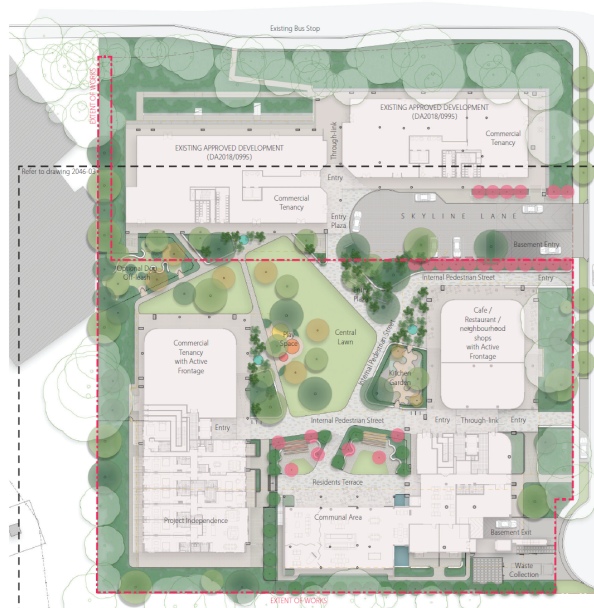
Northrop have been engaged by Platino properties to prepare a report to outline the sustainability objectives of the new Jardin development located at Lot 1, 5 Skyline Place. The Sustainability strategy adopted will enhance the living environment of the residents in the community and foster the development vision of an innovative, leading edge intergenerational precinct.

This document should be read in conjunction with the Social Impact report, prepared by Chris Faulks, Deputy Chancellor of the University of Canberra, which outlines the social benefits of the proposal (seniors housing, affordable housing & disability housing) which enhance further the sustainability objectives of the application.

1.1 Site Description

The development is a Greenfield site, surrounded by industrial and warehouses buildings and is located at Frenchs Forest - approximately 13km from Sydney's CBD. Platino Properties intends to repurpose the land to procure three separate buildings, ranging in height from 6-12 storeys, comprising the following:

- A total of approximately 108 seniors living units including approximately 15 affordable/disability dwellings for seniors.
- A mix of 1, 2, 2 bed + study and 3 bedroom dwellings
- Approximately 10 units to be operated by Project Independence
- Approximately 1000 m² commercial floorspace



1.2 Sustainability Objectives

The project will be targeting the following sustainability objectives to enhance the environmental performance of the site:

- **BASIX Certification** – Exceed minimum BASIX Energy and Water target; Achieve an average of **7Star NatHERS** rating across the development
- **Building Code of Australia (BCA)** – Compliance with Section J Energy Efficiency;

- **Achieve 5 Star Green Star Design & As Built v1.3** – rating in accordance with the Green Building Council of Australia (GBCA)
- **Achieve 5 Star Green Star Communities v1.1** – rating in accordance with the Green Building Council of Australia (GBCA)
- Additional sustainability initiatives to incorporate Australian Best Practice Sustainability principles within the project design, as listed in the Executive Summary.

1.3 Referenced Documentation

The following documentation was referenced in the development of this report:

- Architectural Drawing dated 01.11.2021
- Pre DA Meeting with Northern Beaches Council January 2021

1.4 Limitations

Due care and skill has been exercised in the preparation of this report.

No responsibility or liability to any third party is accepted for any loss or damage arising out of the use of this report by any third party. Any third party wishing to act upon any material contained in this report should first contact Northrop for detailed advice, which will take into account that party's particular requirements.

2. Building Sustainability Index (BASIX)

2.1 Overview

BASIX Certification is required for all residential developments as mandated by the NSW Government Department of Planning & Environment. The BASIX assessment considers water, energy and thermal comfort of the development and is assessed on how it is likely to perform against existing dwellings of the same type.

The concept design will achieve the following targets under the BASIX rating tool;

- Energy: 35% (required target of 25%)
- Water: 41% (required target of 40%)
- Thermal Comfort: average 7 star NatHERS rating

2.2 Provisions & Design and Compliance Response

Table 1 BASIX Requirements and Project Response

Item	Design and Compliance Response
Energy: 35%	<ul style="list-style-type: none"> • All units to have 1 ceiling fans in each 1 or 2 bed unit and 2 ceiling fans in 3-bedroom units. • Air conditioning with VRV system allows for control of air delivery to rooms that require air. • Balconies must have sliding sun- screens to reduce sun penetration and heat loads. • Joinery around refrigerator compartment will be ventilated to reduce energy use. • LED lighting to be provided for all development. • All cooktops to be induction cooktops. • All roof areas not accessible will be covered by solar panels and energy will be used in common areas. • Pool will be in an enclosed space. Pool is designed with opening wall ensuring thermal comfort and minimal condensation. • Smart energy metering to all common areas and car parking. • Embedded network will be provided for the development.
Water – achieving 41%	<ul style="list-style-type: none"> • All roof waters will be captured and redirected into a 65000-liter tank and used on gardens and common areas and toilets as shown on new hydraulics plans submitted with DA. • Sprinkler testing water surcharge will be connected to rainwater harvesting tank. • Pool is located in enclosed area.
Thermal Comfort – average 7 star NatHERS rating	<ul style="list-style-type: none"> • Achieve an average 7 star NatHERS rating. • External walls are insulated and constructed from insulated studwork and Hebel panels 70mm thick.

	<ul style="list-style-type: none">• Trickle ventilation is provided by sliding doors which allow detailed control of air flow.• Windows are designed to allow for insect screens when required by occupant.• All units to have 1 ceiling fans in each 1 or 2 bed unit and 2 ceiling fans in 3-bedroom units.
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The final BASIX certificate showing compliance with the requirements above will be submitted as part of the DA application.

3. BCA Section J – DTS Compliance Approach

Section J of the National Construction Code (NCC) outlines the energy efficiency provisions for all new building types. Part J1 assesses the requirements for building fabrics and outlines the insulative and glazing performance of different building elements.

Section J requirements are applicable to the commercial floor space of the development and located within Climate Zone 5 as per the below Australian Building Codes Board (ABCB) map in Figure 1.

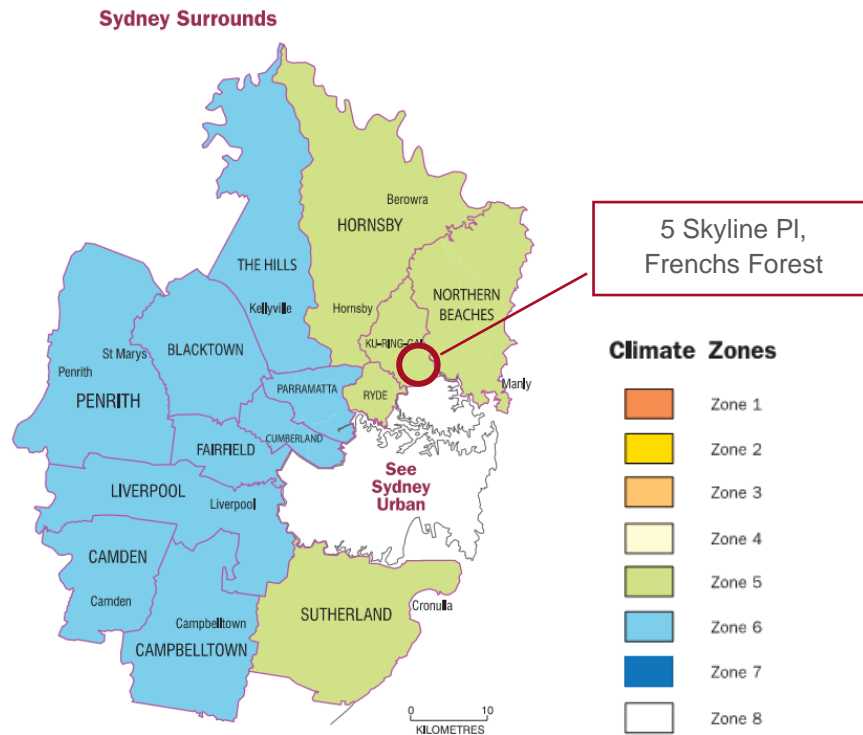


Figure 1 Sydney Surrounds Climate Zone

3.1 Building Fabric

The proposed building fabric material requirements have been determined in accordance with Part J1 of Section J of the NCC (2019). As the overall design of the commercial areas are yet to be finalised at this stage, the below table lists typical fabric requirements which may be applicable to the final design.

Table 2 Section J, Part J1 DTS Requirements (NCC 2019)

Building Fabric	Required total R-value
Ceiling/Roof	R3.2 and Solar Absorptance of <0.45
External Walls and Glazing	U2.0
Floors	R2.0

A Deemed to Satisfy (DTS) glazing calculator assessment will need to be undertaken for the commercial areas of the development to assess the glazing performance on each façade orientation

once these have been finalised for construction. This calculation will utilise the NCC Glazing calculator to confirm the required glazing performance requirements applicable for the development.

NCC 2019 Wall-Glazing Calculator v3.0											
Wall and glazing energy efficiency in Class 2-9 buildings - Method 2 of Specification J1.5a, NCC 2019											
Building name and description 5 Skyline Pl, Frenchs Forest					Classification Other		Climate Zone 5				
Calculated Area-Weighted U-Value 0.00					Calculated Representative Air-Conditioning Energy Value 0.0		Calculated Representative Air-Conditioning Energy Value 0.0				
Allowable Area-Weighted U-Value 2.00					Allowable Representative Air-Conditioning Energy Value 0.0		Allowable Representative Air-Conditioning Energy Value 0.0				
Building total U-Value allowance met -					Building total SHGC allowance met -		Building total SHGC allowance met -				
Check Values Not Visible		Wall Element Requirements -			Display Glazing Element Requirements -						
Use of this calculator does not guarantee compliance with the NCC. The disclaimer and a version update check are available at the bottom of the page.											
Element Description					U-Value		SHGC and Shading				
ID	Description (optional)	Element Type	Facing Sector	Area (m ²)	U-Value	U-Value Element share of allowance used	SHGC	Glazing Height (m)	Shading Height (m)	Shading Projection (m)	SHGC Element share of allowance used
1					Not counted						Not counted
2					Not counted						Not counted
3					Not counted						Not counted
4					Not counted						Not counted
5					Not counted						Not counted
6					Not counted						Not counted
7					Not counted						Not counted
8					Not counted						Not counted
9					Not counted						Not counted
10					Not counted						Not counted
<p>Disclaimer:</p> <p>This calculator has been developed to assist in developing a better understanding of the glazing energy efficiency parameters of NCC 2019. While the author believes that the calculator, if used correctly, is likely to produce accurate results, it is provided "as is" and without any representation or warranty of any kind, including that it is fit for any purpose or of merchantable quality, or functions as intended or at all. Your use of this calculator is entirely at your own risk and the author accepts no liability of any kind.</p> <p>Made by Alex Zeller Email alex.wallglazingcalculator@gmail.com with any suggestions for improvement Check for version update</p>											

Figure 2 NCC 2019 Wall-Glazing Calculator

3.2 Minimum Building Fabric Compliance Requirements

Item	Design and Compliance Response – Details are provided in Chapter 4 of this report
BCA Section J compliance	4.5 Energy and Peak Demand Reduction

A Section J report outlining the compliance solution complying with the building fabric requirements above will be submitted as part of the application.

4. Green Star Design & As-Built

4.1 Overview

The Green Star rating system is a comprehensive rating system for assessing environmental performance of Australian buildings.

The Green Star environmental rating system for buildings was created for the property industry in order to:

- Establish a common language;
- Set a standard of measurement for green buildings;
- Promote integrated, whole-building design;
- Recognise environmental leadership;
- Identify building life-cycle impacts; and
- Raise awareness of green building benefits.

The Green Star Design and As-Built framework incorporates ESD principles which are grouped into nine categories. Points are awarded across each category for credits that are incorporated into the project to improve.

The following sections outline the measures to be incorporated into commercial building in the proposed development to achieve the principles of a 5 Star rating under the Green Star Design and As Built v1.3 Submission Guidelines.

4.2 Rating Bands & Categories

Green Star awards achievement at 3 levels, depending on the points achieved after assessment by the independent panel:

- 4 Star – 45-59 points, recognising industry “Best Practice”
- 5 Star – 60-74 points, recognising “Australian Excellence”
- 6 Star – 75+ points, recognising the project as a “World Leader”

The Green Star Design and As Built rating systems is made up of the following credit categories:

Category	Category Reference Code	Available Points
Management	Man	14
Indoor Environment Quality	IEQ	17
Energy	Ene	22
Transport	Tra	10
Water	Wat	12
Materials	Mat	14
Land Use and Ecology	Eco	6
Emissions	Emi	5
Innovation	Inn	10

These categories are divided into individual credits, each of which addresses an initiative that improves or has the potential to improve a design, project or building's environmental performance. Points are awarded in each credit for actions that demonstrate the project has met the overall objectives for Green Star and the specific aims of the rating tool.

All credits are assessed for each category and the percentage score for the category is calculated. A weighting factor is then applied to each of the category scores to reach a single weighted score. Each category is weighted in line with current knowledge and industry practice to produce a rating that appropriately reflects ESD achievements obtained in a project.

The following sections detail the credits and expected outcomes.

4.3 Management

4.3.1 Accredited Professional

Green Star is a sophisticated framework that encompasses many credits and compliance requirements. In order to effectively implement and manage the sustainability strategy for this project, a Green Star Accredited Professional will be engaged to oversee the process from the design stage through to project completion to ensure that the correct advice is provided to the team and facilitate the submission process with the GBCA.

4.3.2 Commissioning and Tuning

Initially, the design team must set and define the environmental performance targets for both energy and water for the project.

In order to satisfy the proposed targets, building commissioning, handover and tuning initiatives have been recommended to manage the design, construction and operational stages of the development in a manner that will promote the effective and efficient operation of the site. This includes:

- Formal commitment to set, measure and monitor against the environmental performance targets of the building with the building owner and future tenants;
- Comprehensive services and maintainability review for the base building and tenancy systems (where applicable), led by the head contractor), during the design stage and prior to construction;
- Development of a Commissioning Report, demonstrating that comprehensive pre-commissioning activities and commissioning activities have been performed in accordance with the relevant CIBSE and ASHRAE codes;
- Air Permeability Performance Testing, the test carried out on either 2,000m² or 10% of the building's total envelope area (whichever is greater), undertaken in accordance with the AS/NZS ISO 9972:2015 standard;
- Ongoing quarterly building tuning of the base building systems 12 months post construction.

4.3.3 Adaptation and Resilience

A Climate Adaptation Plan will be developed in accordance with ISO 31000-2009 Risk Management, Principles and Guidance and the AGO's Climate Change Risks and Impacts: Guide for Government and Business. The Plan is to identify any potential climatic risks imposed on the site such as; increased surface temperature, flooding, severe thunderstorms, high winds etc and is to be addressed as part of the design approach during the planning stage. Further treatment measures may be required as part of the design development stage should any high risks be identified as part of the Climate Adaptation Plan report.

4.3.4 Building Information

At time of handover, the Building Owner will be provided with a comprehensive building operation and maintenance information in the form of an Operations and Maintenance Manual and a detailed Building Log for the development.

Staff should be able to readily access the building's consumption data for energy and water allowing them to gain an up to date understanding of the building's performance. Publishing operational building data on a user-friendly interface could act as an educational tool around energy use, water consumption and carbon emissions.

4.3.5 Commitment to Performance

As per the environmental performance targets suggested in Section 6.1.2, the project team will formally commit to measuring against these key indicators and report on energy and water performance metrics. This commitment is to be reviewed and agreed with the building owner and the future tenants of the building.

In addition, a formal commitment to reduce demolition waste at the end of life of the base building component is to be agreed upon with the relevant key stakeholders.

The aim of allowing transparency to this information and the building owner commitments is to allow staff to understand how the building operates and how their actions can contribute to more sustainable operation.

4.3.6 Metering and Monitoring

Green Star requires the provision for accessible floor-by-floor metering to all energy and water common uses and major uses to allow for monitoring of the various functional spaces of the development. Energy sub-meters must be commissioned and validated in accordance with the most current 'Validating Non-Utility Meters for NABERS Ratings' protocol.

A monitoring strategy will be developed in accordance with a recognised standard, such as CIBSE TM39 Building Energy Metering. The same principles described in the standard shall be used for developing energy and water metering and monitoring strategies. The monitoring strategy is to include a metering schedule which addresses the location and the type of each meter capable of producing alerts if any inaccuracies in the energy meter network are found. Energy and water meters are to be connected to an automatic monitoring system that records both consumption and demand of energy or water, and can produce reports on hourly, daily, monthly, and annual energy use for all meters.

4.3.7 Responsible Building Practices

A Head Contractor that is certified in accordance with ISO14001 will be appointed to the project. Once appointed, the Head Contractor must develop and implement a project-specific best practice Environmental Management Plan (EMP), to manage environmental performance, conditions, and impacts arising from excavation, demolition and construction. In addition, an auditing system that formalises the process must be implemented to ensure that the Head Contractor adheres to the requirements outlined in the EMP.

More recently, the Green Building Council has acknowledged the varied levels of contractor staff support on construction sites and now rewards projects that:

- Promotes positive mental and physical health outcomes of site activities and culture of site workers, through programs and solutions on site
- Enhance site workers' knowledge on sustainable practices through on-site, off-site, or online education programs

4.3.8 Operational Waste

Waste Sortation

Waste-sorting bins are provided for all internal and external spaces to enable users to sort their rubbish and recyclables. Back of house areas will require sufficiently sized and conveniently located waste storage and sorting areas for ease of removal by waste contractors.

An organic waste stream will be introduced with a communal worm farm or compost system to support community gardens and educational programs rolled out in the precinct.



Figure 3: Waste stream sortation

Unified Bin Design

Unified bin design will be provided throughout the precinct as part of a waste strategy to create a waste sortation culture across the project. Not only should each be a different colour e.g. Red for general waste, yellow for co-mingled recycling, blue for paper and green for organics but should be consistent throughout the site. This is to assist with clarity and develop effective waste sortation prior to disposal. The waste strategy will be considered during the early stages of the development to ensure appropriate design integration across all building uses.

Waste Education

Waste educational in terms of effective signage displays or programs would have a positive benefit to the community as part of a wider approach to enhance community participation, create social diversity and provide fun educational activities for residents and surrounding suburbs.

This initiative will be managed by facility manager and coupled with the digital signage in the common lobbies as a way of updating residents of different waste pick updates.



Figure 4: Waste Education Programs

4.3.9 Financial Transparency

As a way to encourage industry collaboration, transparency and increase the amount of information available on the costs and benefits of sustainable building, the team will document the project costs associated with designing, implementing and constructing the sustainability initiatives proposed for this site.

4.4 Indoor Environment Quality

4.4.1 Indoor Air Quality

To achieve satisfactory indoor air quality conditions to the habitable areas of the building, the development will incorporate the following design initiatives:

- Ductwork to be accessible and cleaned prior to occupation;

- Ventilation systems to be designed in accordance with ASHRAE 62.1:2013 with regards to minimum separation distances;
- Outdoor air is to be provided at a rate 50% greater than the minimum required by AS 1668.2:2012, or CO₂ concentrations are maintained below 800ppm;
- Separate general, kitchen and toilet exhaust;
- A dedicated exhaust riser to be provided for photocopy rooms (rooms to be enclosed);
- A dedicated exhaust riser to be provided for carpark exhausts;
- All exhaust systems must not recirculate air through spaces and must exhaust to outside to ensure pollutants are not able to be emitted into the internal habitable spaces.

4.4.2 Acoustic Comfort

An Acoustic Consultant will be appointed onto the project as part of the detailed development stage. As a minimum the Acoustic Consultant is to assess the development against acceptable internal noise levels, reverberation rates and acoustic separation in line with the AS/NZS2107:2016 standard.

4.4.3 Lighting Comfort

The provision of highly energy efficient lighting is incorporated into the building design to minimise the lighting density. In particular, LED lighting provides the maximum efficiency and has become a robust cost effective lighting technology.

Control strategies are also vital to reduce excess energy use, including:

- Daylight sensor and motion sensor control for hallways, lobbies and shared spaces.
- Lift lighting connected to lift call buttons.
- Motion sensor for undercover car parking, switch rooms, service areas and common facilities room.
- Motion sensors (Chamaeleon lighting) in fire stairs to trigger between standby (dimmed) and full light outputs

4.4.4 Visual Comfort

The façade design and building layout have been designed to promote the effective entry of daylight into the building, allowing over 60% of the floor area to have sufficient natural light throughout the day.

Further daylighting analysis will be undertaken to identify the optimum shading strategy as an opportunity to further enhance the daylight and visual amenity into the space.

Other areas that can be explored to improve the visual comfort to the building occupants include:

- Selecting glazing with high visual light transmittance (VLT) (suggested $\geq 60\%$);
- Installing internal blinds (VLT $\leq 10\%$) to provide glare reduction to internal spaces.

4.4.5 Indoor Pollutants

The design team will minimise or eliminate the installation of materials that exceed the Green Building Council of Australia's recommended levels for products with VOC and formaldehyde content.

Furthermore, all internal general wall paint installed must contain no more than 5g/L max TVOC equivalent to an ultra-low VOC paint product.

4.4.6 Thermal Comfort

Thermal comfort is typically dictated by the building fabric selections, façade performance, air-conditioning system design & selection and individual controls.

The residential portion of the project will consider targeting an average NatHERS rating of 7 stars.

Nationwide House Energy Rating Scheme* Certificate

Certificate number: 0000067470 Certificate Date: 27 Mar 2015 ★ Star rating: 7.1



Assessor details

Accreditation number: 40116
Name: Michael Plunkett
Organisation: SmartRate
Email: michael@smartrate.com.au
Phone: 03 6362 1082
Declaration of interest: No potential conflicts of interest to dec
Software: AccuRate Sustainability V2.3.3.13 SP2
AAO: ABSA

Overview

Dwelling details

Street: Unit 1, 100 AccuRate ACCESS
Suburb: PERTH
State: WA Postcode: 6000
Type: New NCC Class: 2
Lot/DP number: 1000 NatHERS climate zone: 13
Exposure: Suburban

Key construction and insulation materials

(see following pages for details)

Construction: Concrete blocks
Concrete roof
Slab
Insulation: Wall (uninsulated)
Ceiling (uninsulated)
Floor (uninsulated)
Glazing: Aluminium B SG Clear

Net floor area (m ²)		Annual thermal performance loads (MJ/m ²)	
Conditioned:	67	Heating:	11
Unconditioned:	5	Cooling:	40
Garage:		TOTAL:	50
TOTAL:	72		

7.1

The more stars the more energy efficient

NATIONWIDE HOUSE

ENERGY RATING SCHEME

Predicted annual energy load for heating and cooling based on standard occupancy assumptions

50 MJ/m²

For more information on your dwelling's rating see:
www.nathers.gov.au

Ceiling penetrations

(see following pages for details)

Sealed:	0
Unsealed:	0
TOTAL:**	0

**NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. If this number is exceeded in construction then this certificate IS NOT VALID and a new certificate is required. Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Principle daylight type: No downlights modelled

Window selection - default windows only

Note on allowable window values: With a 10% tolerance to the nominated SHGC window values shown on page 2, the following ratings are achieved:

-10% SHGC	7.2
+10% SHGC	7.1

NS: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

If the rating listed above falls below 6.0 stars or the required rating, then the window with this tolerance can NOT be selected.

Scan to access this certificate online and confirm this is valid.



Plan documents

Plan reference: sdvljav
Prepared by: MP

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments.
For more details see www.nathers.gov.au

Page 1 of 5

Figure 5: NatHERS certificate

The commercial spaces will be designed to optimise thermal comfort conditions through efficient building services system and high-performance building envelope. More specifically the following factors will be considered as part of the detailed design stage of the project to achieve a PMV between -1 to +1:

- Dry bulb temperature
- Relative humidity
- Air velocity
- Glazing performance (U-Value & SHGC)

- Mechanical zoning

Enhancing the thermal performance of the building fabric and optimising the HVAC controls strategy linked to the automated building management system is an effective way to provide comfort to the occupants but also reduce the overall energy consumption of the building due to the decreased reliance on the mechanical HVAC equipment.

4.5 Energy and Peak Demand Reduction

4.5.1 Greenhouse Gas Emissions

In order to meet the energy targets proposed for the building, the following strategies will be implemented.

4.5.1.1 Passive Design

The building characteristics and orientations can have a large effect on the amount of energy that is required to heat, cool and ventilate a building.

The development will be designed with high performance facades including glazing selection and extent, external shading, daylight direction devices, insulation levels, surface properties and possible natural ventilation openings.

4.5.1.2 Natural Ventilation

Natural ventilation, unlike fan-forced ventilation, uses the natural forces of wind and buoyancy to deliver fresh air into buildings. Ventilating a building naturally can significantly reduce energy consumption of HVAC systems, whilst providing 100% outdoor air into the spaces it serves, creates a very clean environment for occupants.

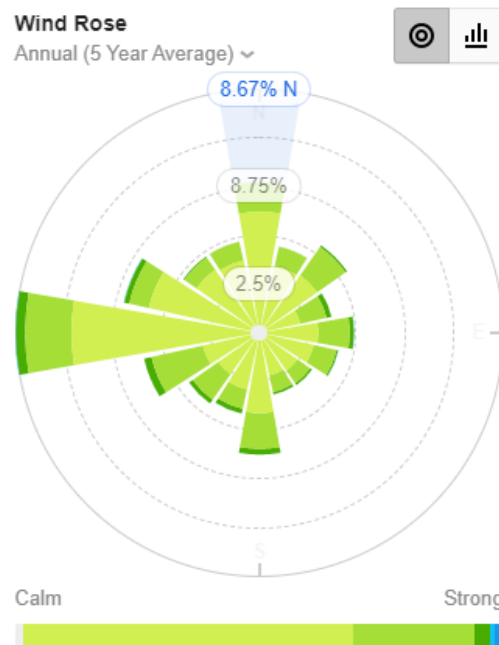


Figure 6 of Wind Rose diagram

In Frenchs Forest, the predominant wind directions occur from the west; this would be the governing factor when considering building orientation on the site as seen in the wind rose diagram in Figure 2. A precinct wide consideration of wind direction and speeds in preparation of building orientation design will be implemented to optimise passive cooling opportunities across the site.

4.5.1.3 HVAC Systems

Typically apartment buildings in Sydney are served by individual reverse cycle split air conditioning systems for each dwelling. While split systems provide high flexibility for individual control and simplicity from a body corporate outgoings point of view, this is not always that best outcome from an energy, operational cost and aesthetic perspective.

Various options have been investigated and VRV system was selected for this development as it has higher efficiency ratio and allows for control of air delivery to rooms that require air.

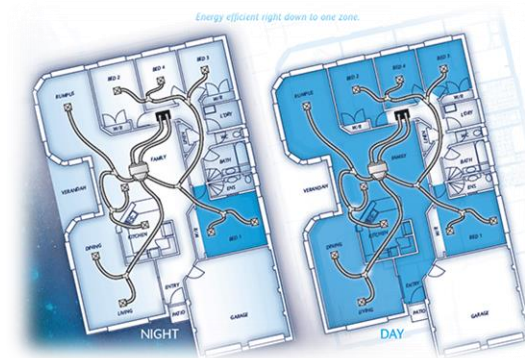


Figure 7 Day/night zoning configuration

4.5.1.4 Energy Efficient Appliances

Minimum Energy Performance Standards (MEPS) specify the minimum level of energy performance that appliances, lighting and electrical equipment must meet or exceed before they can be offered for sale or used for commercial purposes.

High MEPS rated appliances will be provided for the development. Incentives will be provided to the occupants to encourage procurement of efficient appliances to reduce ongoing operational cost.

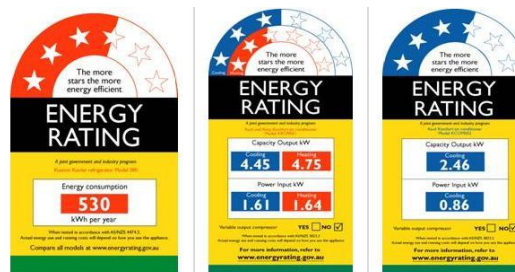


Figure 8: Typical Energy rating labels

One of the major energy consumptions in residential apartment is the refrigerator. The development will provide sufficient ventilation to the refrigerator compressor, allowing free movement of air to extract the heat given off by the outside of the fridge and leads to higher refrigerator efficiency.

4.5.1.5 Private Outdoor Clothesline and Clothes Dryer Selection

Private outdoor clothesline is provided for individual apartment to reduce the use of clothes dryer. Clothes dryer are generally provided for new apartments. As clothes dryer with energy star rating of 2 stars and below are able to be stacked (dryer on the wall), they are usually nominated to save laundry space. The development will consider alternative laundry layout if required so a more efficient dryer can be installed. According to the Energy Rating website, every extra star will cut 15% off clothes dryer running costs. The operational cost will reduce further with the selection of models with auto-sensors that avoid over-drying or install heat pump dryers.

4.5.1.6 Cooktops Selections

Induction cooktops are provided for the development to eliminate gas usage onsite. The use of electric cooktops also provides safety benefits to the senior occupants.

4.5.1.7 Solar Photovoltaic (PV)

Rooftop solar power of 90kW will be provided within the development. Solar photovoltaic system has the potential to provide a portion of the building energy use across the year. Using a system connected to the base building systems will offset energy used by the central services such as lifts and common area lighting.

All the roof areas not accessible will be covered by solar photovoltaic for this development. As there is a potential for excess onsite renewable energy generation, this could be incorporated with an embedded network (detailed in section 2.10) to allow the use of the output electricity in the precinct for residential loads in addition to the base building systems.

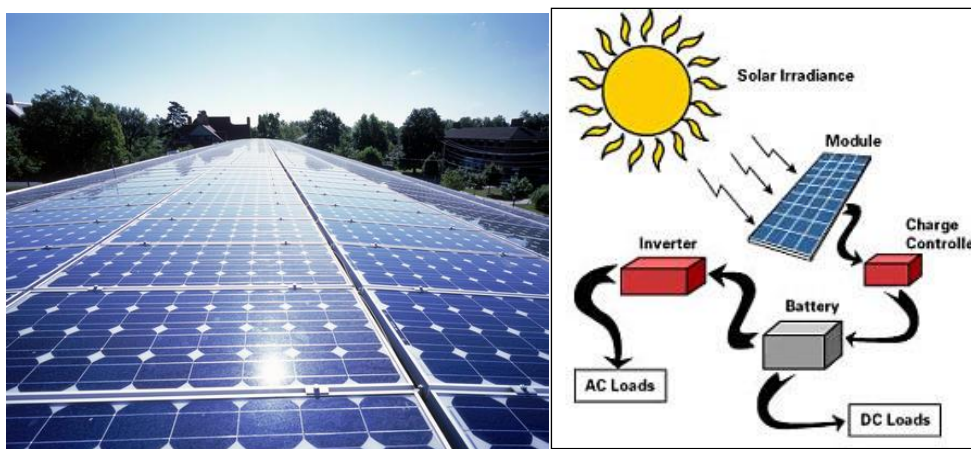


Figure 9: Solar Photovoltaic

4.5.1.8 Smart Energy Metering & Monitoring

Smart meter will be provided for all common areas and car park area. This allows for building manager to monitor the common areas energy use and mitigate excess use quickly.

4.5.1.9 Embedded Networks

A Micro grid is a private electricity network that uses local energy generation sources (e.g. rooftop solar) which can be connected to battery storage systems and supply loads within that network. An integrated micro grid would allow the precinct to manage the system within its borders and interact with the larger grid network as a single entity under an Embedded Network arrangement.

The development will have embedded network in place to serve each of the dwellings within the building and connect these to a central connection point. Electricity can be purchased in bulk at a lower cost than is available to individual residents. Billing is then provided by either the building or through a third party (Origin, OC Energy, WIN Energy etc).

These systems can often provide reduced energy costs for residents and can assist in the distribution of onsite energy generation and storage.

Overall, the use of an embedded network would allow further exploration of PV generation and the installation of battery storage to provide lower electricity bills for residents.

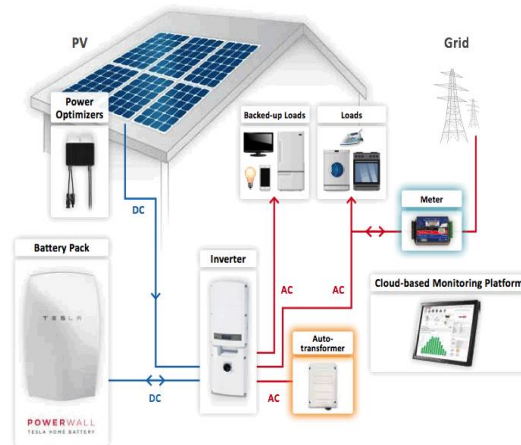


Figure 10: Example of connectivity of an embedded network

4.5.1.10 Provision of Insect Screens

To enhance natural ventilation to the apartments, provisions of insect screens will be included to the windows to encourage occupants to open the window during summer without the fear of insects flying in. Occupants also tend to be less likely to utilise the HVAC system to maintain comfort with effective cross ventilation.

4.5.1.11 Ceiling Fans

Ceiling fans will be provided to all apartment units to promote circulation of air throughout living spaces. The provision of sufficient ceiling heights has been accounted for to support their installation (minimum of 2.4m floor to ceiling). Ceiling fans provide a low energy alternative to the use of air-conditioning systems throughout summer and increases the efficacy of heating through winter by reducing the stratification of air throughout living spaces.

Additionally, the provision of ceiling fans will result in a further improvement of the NatHERS Star rating. Traditionally with the inclusion of ceiling fans, developments show an average NatHERS improvement of 0.5 Stars accounting for better movement of air throughout each dwelling.

The installation of ceiling fans is a low-cost improvement but will yield significant reductions in air-conditioning use throughout the year.



Figure 12: Example of insect screens

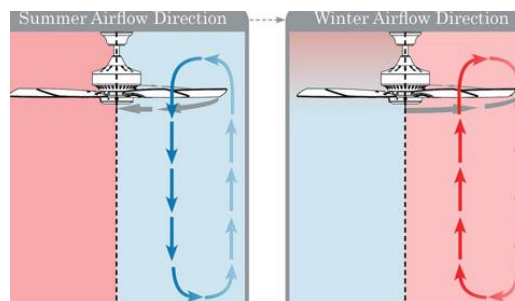


Figure 13 Fans improve air circulation ensuring better distribution of air in both summer and winter.

4.6 Transport

4.6.1 Sustainable Transport

Transport is an area of environmental impact that most development projects do not actively consider, the 5 Skyline Place in contrast has given significant thought to how residents will integrate with existing transport networks and provide a variety of transport options to residents. Some of the measures are outlined below.

4.6.2 Pedestrian & Cycle Links

Pedestrian pathways and cycle ways will be integral to the design of the precinct to encourage public transport use and high urban amenity areas. Cycle ways and pathways can provide ease of connection to near-by light rail stations and surrounding suburbs as indicated in the precinct's Travel Plan.

A clear and legible internal pedestrian street network links the primary precinct entries along Skyline Place and Frenchs Forest Road East with the building entries of Stage 1 and Stage 2, the ground floor commercial tenancies and the ground floor communal facilities.

The new precinct is clearly connected to the existing cycleway along Frenchs Forest Road East via a new pedestrian pathway along Skyline Place in addition to internal connections through the north of the site. This cycleway connects to Forest Way in the west and Warringah Road and down to Dee Why in the east.

There is an existing bus stop located along the northern frontage of Frenchs Forest Road East. This is accessible via a compliant ramp access through the existing Stage 1 works and also via Skyline Place.

These connections to the public transport network and cycleway will be clearly defined and delineated via the wayfinding strategy prepared for the precinct.

It is opportunity for Platino Properties to provide clearly marked cyclist pathways and pedestrian access around these areas, designed to include sufficient accessibility to ensure for a resilient precinct.

4.6.3 Cyclist Facilities & Access

The practice of cycling assists human health and reduces environmental impact by mitigating pollutants that would otherwise have been released by other transport options. According to the ABS over one third of daily car trips are less than 3km in length. Most of these trips could be replaced with cycling. Providing secure bike storage facilities for residents will promote the use of bicycles as a form of transport.

Bicycle parking will be provided throughout the publicly accessible areas of the ground floor building surrounds in order to cater for bicycle parking for residents, visitors and the commercial tenancies. Bicycle parking will be provided within the 'entry plaza' forecourt (the primary vehicular and pedestrian entry to the precinct), in addition to each building entry in order to cater for parking for visitor to the dwellings and commercial tenancies. There will also be bicycle parking located within the basement.



Figure 11: Hybrid bike rack and bench

Secure storage for residents and tenants will be provided in the basement and will encourage cycling to the precinct. End of trip facilities will be provided in the basement for the commercial tenancies.

4.6.4 Car Share Hubs

There will be at least 2 car spaces available for car share within the development. The provision of a building precinct specific share car network would allow building occupants to relinquish car ownership entirely and would greatly reduce the number of parking spaces required within the building. The provision of a cluster of vehicles could be coupled with a site mobile phone app, allowing for a centralised booking system.

A third party such Go-Get could also be provided with a dedicated space, with residents given access to their booking system. This would reduce management requirements and move responsibility for the provision and maintenance of vehicles away from Platino Properties or building management.

Providing access to car share facilities will also allow more flexibility to residents as to how they use transport allowing them to select vehicles appropriate to the task at hand.

4.7 Water

Given the current drought conditions being experienced in NSW the project is looking to minimise the impact that it will have Sydney's water systems. Through the use of efficient fixtures and fittings, rainwater collection and water sensitive design initiatives the site will not just consider the consumption of residents but also the effects of stormwater runoff, landscape maintenance and how leaks are identified and repaired. Some measures being considered are described below.

4.7.1 Water Efficient Fixtures & Fittings

Water Efficient Fixtures and Fittings will reduce the water consumption of the site. As an indication, the following Water Efficiency Label (WELS) rated fittings and fixtures will be installed for the development:

- Wash hand basin taps - 5 star WELS
- General taps - 5 star WELS
- Toilets dual flush - 4 star WELS
- Urinals - 6 star WELS
- Shower heads – 4 Star WELS

4.7.2 Water Reuse

6.5.2.1 Rainwater Harvesting

A 65kL rainwater tank will be installed to capture rainwater run-off from the roof and redirected to supply irrigation systems and common area toilets to reduce the potable water demand on site and lessen the impact to the local authority networks.

6.5.2.2 Fire Sprinkler System

During the design of the fire protection design in the consideration of sprinkler systems, the sprinkler testing water will be redirected into the rainwater tank for reuse.

4.8 Materials

A major portion of the impact of the building is within its embodied energy. As such the considered selection of materials can result in significantly improved environmental outcomes. The use of locally

sourced materials will reduce transport emissions and using certifications and reporting to make informed decisions will allow Platino Property to construct a project that minimises its embodied impacts.

4.8.1 Sustainable Use of Resources

When choosing building materials for this project, particular attention will be paid to:

- **Low Embodied CO₂** – Many modern building materials such as aluminium or concrete are high in embodied energy (the energy required to produce, transport and install a material), and with that contribute substantially to the overall carbon footprint of the building.
- **Sustainability of Resource** – many building materials are derived from finite resources and should be avoided or limited. Major building elements should have recycled content where possible (recycled steel and/or aggregates in concrete, recycled timber, cellulose fibre insulation using recycled paper etc.).
- **Health Impact** – All materials should be considered in regard to their impact on occupants' health. For example, some types of fibreglass insulations have very fine fibres that, once airborne, can easily enter into the lungs and cause severe irritation.
- **Third Party Certifications** – materials which have been certified or approved by independent bodies such as Ecospecifier or Good Environmental Choice Australia should be preferred over non-certified products. These rating systems provide evaluation of various products across a range of environmental performance criteria.
- **Recycled Content** – Recycled content should be specified in:
 - Concrete – fly ash and recycled aggregates; and
 - Structural and reinforcement steel
 - Recycled building rubble
- **Operational and Maintainability** – Selection of easily maintained or reparable materials will reduce the ongoing maintenance cost.



Figure 14: Examples of Third Party Certification Labels

4.8.2 Locally Sourced Products

Locally sourcing products for use in the construction of the precinct would help to keep transport and distribution impacts to a minimum. It will also help to support local employment and improve economic resilience of the Sydney manufacturing industry.

Utilising local manufacturing and suppliers should also help to minimise lead time for products, build positive relationships and make supply chain auditing easier. Overall the sourcing of locally sourced products should be explored and implemented where economically feasible.

4.8.3 Construction & Demolition Waste

Building materials account for approximately half of all materials and about half the solid waste generated worldwide incurring significant environmental impacts at each process interval. It is proposed that a significant portion of construction and demolition waste is to be diverted from landfill

to reduce the carbon footprint of the site whilst reducing waste fees associated with landfill rates. This commitment could be incorporated into the head contractors' Environmental Management Plan for the site. Reclamation of high value building materials should be considered first preference. Where reclamation is not viable, materials such as asphalt, bricks, timber, plastics (including PVC) and concrete should be recycled accordingly.

4.9 Land Use & Ecology

4.9.1 Increased Ecological Value

Being situated near community infrastructure, the development is considered to have a significant urban activation potential.

The development will significantly improve the ecological value of the site with the following being considered;

- Street landscaping;
- Roof gardens;
- Internal deep soil courtyard spaces;
- Deep soil buffer plantings of endemic species.

The existing bushland setting and ecological corridors provided by the Garigal National Park, the Wakehurst Parkway wildlife corridor and the Frenchs Forest landscaped road setbacks will be enhanced through the planting of endemic species within generous buffer planting zones around the entirety of the precinct boundaries. This will also be expanded through large native canopy trees and garden areas throughout the internal courtyard areas.

Native vegetation will also minimise the ongoing environmental impact of the project by minimising soil erosion and land degradation, improving water quality and provides habitat for native flora and fauna.

4.9.2 Native Vegetation

Native vegetation plays a key part in the biodiversity and ecological stability of the site.

Endemic native vegetation plantings have the benefit of:

- Controls erosion through protecting soils and riverbanks
- Reduces land degradation and salinity
- Improves water quality and availability
- Provides habitat for a wealth of unique and threatened species.

In addition, native vegetation stores a significant amount of carbon, mitigating the effects of climate change. The planting of native vegetation throughout the precinct will reduce the water needed for irrigation systems, reduce vegetation maintenance requirements, promote biodiversity and improve compliance under BASIX.

Large deep soil buffer plantings are proposed along the western, southern and eastern boundaries of the site. This is in addition to the buffer plantings proposed along the northern frontage of the Stage 1 development along Frenchs Forest Road East.

These buffer plantings include, where possible, the retention of significant existing canopy trees. New canopy trees and native understorey plantings within these areas will expand on the bushland setting and will include 100% endemic species selection.

Additional planting proposed throughout communal areas will utilise a mixture of species native to the area.

4.9.3 Heat Island Effect

Urban heat island effect is defined as hard surfaces within a development heating up due to lower Solar Reflectance Indexes (SRI), compared to a natural area. This results in additional heat retention in the surrounding area, as well as allowing more heat to penetrate individual buildings.

The following will be provided in the development to reduce heat island effect;

- Roof Gardens;
- Increased vegetation areas;
- Selection of paint finishes with high SRI properties such as light coloured exterior finishes;
- Large areas of softscape to the building surrounds, including grassed and garden areas with large canopy shade trees;
- Paved areas, such as the internal shared-use laneway of Skyline Lane, will be softened with the use of large canopy shade trees, native palms and areas of planting to break-up the expanse of paving.

4.9.4 Rooftop Garden

Plants have the ability to reduce the overall heat absorption of the building which then reduces energy consumption. The primary cause of heat build-up in cities is solar radiation, the absorption of heat by roads and buildings in the city and the storage of this heat in the material. By installing roof gardens, the development is creating a passive solution to this build-up of heat with the plant surfaces cooling the space through the process of transpiration. This will help to minimize temperature rise in these spaces to no more than 4-5°C above ambient improving thermal conditions within the buildings across the site and minimising the precinct effect on urban heat islands.



Figure 15: roof gardens help to cool the space and reduce the urban heat island effect.

A large communal rooftop garden will be provided within the eastern building. This space will include a generous productive garden with a mixture of productive plants and small shade trees. This communal garden will compliant the adjacent internal residential communal facilities.

4.9.5 Communal Garden and Facilities

A mixture of communal facilities is proposed within a lush garden setting. The ground floor internal courtyard will include a mix of active landscape spaces around a large central lawn. The communal facilities within the courtyard space include:

- A kitchen garden;
- Active recreation opportunities via outdoor exercise stations;
- A large central lawn with shade trees;
- An informal play space located within the central lawn;

- A pathway circuit around the central lawn;
- Optional dog-off leash area within a fenced enclosure;
- Shaded seating areas located throughout the courtyard.

The internal residential communal facilities include:

- A common area with a servery, bar, fireplace, library and seating;
- Arts and crafts area, including an outdoor courtyard;
- A Men's Shed, including an outdoor courtyard;
- A theatre;
- A gym;
- A swimming pool;
- Rooftop terrace with a productive garden.

The area will also include a ground floor external terrace to compliant the internal communal facilities. This will include feature shade structures, seating, small lawn areas surrounded by lush gardens and a large multi-use terrace, all overlooking the main courtyard space.

4.10 Emissions

4.10.1 Stormwater

Through the possible inclusion of rainwater harvesting, well-designed landscaping and stormwater treatment and discharge management systems, this ensures that the volume and quality of water leaving the site post completion of the development does not place undue pressure on the local ecosystems. Further details of the site Stormwater Management Plan will be provided by the Civil Engineer.

4.10.2 Non-obtrusive outdoor lighting

Light pollution released into the night sky (sky glow) or spilling on to neighbouring properties can harm the environment in many ways including effects on:

- Migratory birds – nocturnal birds use the moon and stars for navigation and can become disoriented by lights shining upwards into the sky;
- The disruption of biological rhythms and other effects on the behaviour of nocturnal animals and insects;
- Greenhouse gas emissions are emitted to unnecessarily light the night sky.

Ensuring that no outdoor lights face up into the night sky would not attract any additional costs and would provide ongoing operational and maintenance savings and reduce the sites impact on the natural environment.

4.11 Green Star Design and As-Built Scorecard

The detailed Greenstar score card can be found in appendix A.

5. Green Star Communities

5.1 Overview

Green Star – Communities is a rating tool that evaluates the sustainability attributes of the planning, design, and construction of large-scale development projects, at a precinct, neighbourhood, and/or community scale. The Green Star – Communities rating tool will assist governments, development project teams, contractors and other interested parties aiming to deliver large scale sustainable developments around Australia to:

- Provide diverse, affordable, inclusive, well connected and healthy places to live, work and play;
- Protect, maintain and restore the natural environment by reducing the ecological footprint of developments;
- Receive recognition for demonstrated leadership and commitment to sustainability;
- Achieve real value for money through demonstrated whole-of-life cost savings; and
- Encourage opportunities for business diversity, efficiency, innovation, and economic development.

The Green Star Communities framework incorporates ESD principles which are grouped into five categories. Points are awarded across each category for credits that are incorporated into the project to improve.

The following sections outline the measures to be incorporated into the proposed development to achieve the principles of a 5 Star rating under the Green Star Communities v1.1 Submission Guidelines.

5.2 Rating Bands & Categories

Green Star awards achievement at 3 levels, depending on the points achieved after assessment by the independent panel:

- 4 Star – 45-59 points, recognising industry “Best Practice”
- 5 Star – 60-74 points, recognising “Australian Excellence”
- 6 Star – 75+ points, recognising the project as a “World Leader”

The Green Star Communities rating systems is made up of the following credit categories:

Category	Available Points
Governance	28
Liveability	22
Economic Prosperity	21
Environment	29
Innovation	10

These categories are divided into individual credits, each of which addresses an initiative that improves or has the potential to improve a design, project or building’s environmental performance. Points are awarded in each credit for actions that demonstrate the project has met the overall objectives for Green Star and the specific aims of the rating tool.

All credits are assessed for each category and the percentage score for the category is calculated. A weighting factor is then applied to each of the category scores to reach a single weighted score. Each

category is weighted in line with current knowledge and industry practice to produce a rating that appropriately reflects ESD achievements obtained in a project.

The following sections detail the credits and expected outcomes.

5.3 Design Review

For sustainable communities to be 'places for people', they must be desirable, accessible and adaptable. To achieve this outcome, a design review panel will be engaged to review the site planning and layout with the following terms of reference:

- Integrating with Existing Development;
- Urban Form;
- Design for Mixed Use;
- Density;
- Activity Centres and Employment; and
- Landscape and Green Infrastructure.

The design review panel will also be reviewing the site urban design with the following terms of reference:

- Productivity and Sustainability, (enhancing, connected, diverse, and enduring communities);
- Liveability, (comfortable, vibrant, safe, and walkable communities); and
- Leadership and governance, (context, engagement, excellence, and custodianship aspects).

5.4 Engagement

Stakeholder Engagement Strategy prepared in accordance with the core values of the International Association for Public Participation Australasia (IAP2) for public participation will be developed for the project. The strategy will contain commitment, engagement objectives, stakeholder analysis, implementation plan, evaluation process and process to develop a community vision.

The Stakeholder Engagement Strategy prepared will then be implemented with formal monitoring, evaluation, corrective action and reporting.

5.5 Adaptation and Resilience

Climate adaptation plan will be developed to assess potential climate risk for the site on all key infrastructure such as roads, public open space, electricity and communications infrastructure, hospitals, police, fire and ambulance stations. Design solutions will be included into the plan to address the risk assessment component of the adaptation plan.

Community Resilience Plan will be developed prior to the occupation of any habitable building on site to address preparation, during- and post-disaster communication, safety and response. The following information must be included in the Community Resilience Plan:

- Potential project-specific risks to the community from extreme events;
- Key community contacts (e.g. local police, senior members of community groups, schools and other community-based leaders);
- Emergency contacts (e.g. emergency Services, local authorities, utility providers, insurance, counselling etc.);
- Nominated emergency shelter location(s) for the community such as a shopping centre or school hall;
- Information on how to develop an emergency plan and emergency kit for all visitors to, and occupants of, the project;

- Comprehensive list of communication channels to enable the community to stay informed (e.g. radio, social media);
- Guidelines for disaster prevention at a local level, procedures to follow in the event of an emergency and what to do after an emergency; and
- Checklists to support the implementation of the CRP information.

The Community Resilience Plan will align with the local disaster management plan (if available) and be made available to each dwelling and tenant within the project.

5.6 Corporate Responsibility

Platino Properties will develop a Corporate Responsibility Policy that is publically available policy and is adopted at executive or board level. The Corporate Responsibility Policy will reflect the evaluation of corporate actions in each of the core subjects identified in ISO 26000 as follows:

- Organisational Governance;
- Human Rights;
- Labour Practice;
- Environment;
- Fair Operating Practices;
- Consumer Issues; and
- Community Involvement & Development.

Annual public reporting can be either an annual report or in a separate sustainability or corporate responsibility report that clearly provide measurement against the Corporate Responsibility Policy including the economic, environment, social and governance performance. The report can be accessible to the public on Platino Properties website.

Platino Properties will also undertake Sustainability Reporting annually in compliance with the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines, where the sustainable reporting contains the essential elements of economic, environmental, social and governance performance, which provides the background against which an organisation communicates the impacts of its operations.

5.7 Sustainability Awareness

Creating interactive spaces is an effective way to encourage environmental education whilst providing a fun and vibrant atmosphere. Interactive digital display screens can be used as a tool to provide such a space which provides education to the occupants by making resource savings and consumption data readily accessible in the public space, such as the lobby areas or lifts. Information could for example detail live water and energy consumption data in the form of a touch screen display and relate back to the carbon footprint of the site in context of the individual, building or precinct.

5.8 Community Participation and Governance

To assist the environmental education of building occupants and visitors, the following opportunities will be considered:

5.8.1 Community programs and events

Scheduled events and programs are good ways to encourage access to a diverse range of people in the community; celebrating culture and heritage that drives positive growth and joy in the neighbourhood.

Community events could include sustainable educational workshops with varying topics, for example, permaculture classes, composting and worm farming to complement the proposed communal gardens.

5.9 Environmental Management

The project will appoint all contractors with a contract value of > \$5 million with a valid ISO 14001 Environmental Management System (EMS) accreditation. Adherence to the provisions of the contractor EMS throughout the duration of the contract will be ensured by the head contractor.

A comprehensive, project-specific Environmental Management Plan (EMP) will be developed in accordance with the most recent version of the NSW Environmental Management System Guidelines and implemented for construction works. Adherence to the provisions of the EMP throughout the duration of the construction works will be ensured by the head contractor.

5.10 Healthy and Active Living

Footpath in accordance with the principles outlined in the Australian Model Code for Residential Development (AMCORD) for pedestrian facilities will be provided for this development. The street hierarchy will be designated to provide for the safe and convenient movement of pedestrians. Particular attention will be given to the aged, young children, people using prams, and people with disabilities. The needs for an existing or future population will be assessed to determine whether a footpath should be provided. For development located in access streets carrying higher traffic volumes, a footpath will be provided on one side of the road. On collector streets, where traffic speeds and volumes are higher, a footpath will be provided on both sides of the street.

5.10.1 Active Lifestyle

The development will provide well-designed walking paths and cyclist facilities to promote an active lifestyle. Sufficient signage will be provided to inform the project occupants of all active lifestyle infrastructures. To enable safe use of the infrastructure, signage will also indicate relevant speed limits, directional instructions and/or other relevant information.

Cycling and walking paths for the project will be designed to address the following issues:

- Routes along all roads, paths, freeways, green corridors;
- Connections to all major and local destinations and public transport;
- Access to the walking and bike network, and connection to adjacent networks;
- Provision of appropriate separate or on road paths as appropriate to the speed environment and population; and
- Appropriate crossings, lighting, intersections, and parking.

5.10.2 Recreational Facilities

All habitable buildings will have easy access to a local park located within 400m radius from the site and at least one publically accessible indoor or outdoor sports facility located within 800m radius from the site.

5.10.3 Healthy Places

The project will design to achieve the following five key design outcomes:

- Walkability through attractive streetscapes, traffic control, connected street network, and comfort to walkers;
- Physical transport activity where cyclist facilities are complemented with good planning of location, transport plans, public transport corridors and end of trip facilities;
- Wayfinding elements are present through architectural elements and signage to improve

navigating the project site by foot or alternative transport;

- Improved public spaces with a relevant human scale, landscaping, and facilities; and
- Encourage social interaction through public art, interesting places, safety, and accessibility features for all.

5.11 Community Development

A Community Development Plan (the Plan) will be developed and be ready for implementation prior to the occupation of any habitable buildings. The plan will include the following information:

- An introduction to the Plan, including its objectives;
- Who is responsible for implementing the Plan, and their responsibilities? For example, the 'Community Development Officer' or a 'Community Group' could be nominated;
- How the Plan will be monitored, evaluated and updated and how often;
- General information about the community, including its vision, historical context, key population and socio-economic characteristics and any future aspects of the development relevant to the Plan's objectives;
- A summary of the community and stakeholder consultation issues that informed the preparation of the Plan, identified either through research or earlier consultation and feedback;
- Where the 'Community Events' criterion is claimed, a schedule of proposed community development initiatives and activities, identifying when they will be implemented and who is responsible; and
- A timetable for regular review of the Plan. The plan should be reviewed at least once in each recertification period. The results of each review should be summarized in no more than two pages and highlight the outcomes and recommendations. Subsequent reviews must indicate the extent to which recommendations from the previous review were implemented.

The plan will be made publicly available.

5.11.1 Community Development Officer

A Community Development Officer will be employed directly by the project applicant or on behalf of the applicant where an agreement has been made with another party. The Community Development Officer will fulfill the following role:

- Be clearly identified in the Plan as the primary person responsible for its implementation.
- Be employed/contracted for at least 1 day a week as soon as any habitable buildings on the site are occupied.
- Be employed for a period equal to at least 30% of the total construction program of the project registered for certification. For the purposes of this credit, the construction program starts from the date that the first development approval was issued to the date on which the project site is programmed to be fully built out.

5.11.2 Community Group

A community group meeting the following requirements will be established to contribute to the implementation of the Community Development Plan:

- It must be made up of stakeholders that are relevant to the local community and the initiatives within the Plan (e.g. residents, business representatives, education representatives).
- It can be established at any time from project inception but it must be established by the time 30% of the habitable buildings in the project site are occupied. IIR1.10.01.
- It must at least have a charter and/or operating structure which details a vision for the group, a meeting process, and a process for registering and informing group members. The group

does not have to be a legal entity.

- It must meet at least every two months and keep minutes of such meetings demonstrating discussion of the implementation of the Community Development Plan, amongst other things. This process must be defined in the charter and/or operating structure of the group.

Platino Properties will support the group for a minimum of 2 years from its first meeting with the provision of financial or in-kind support for, at least a venue for group meetings and a means for distribution of meeting minutes and notices (e.g. mail, email or website). A representative from Platino Properties will participate in at least 50% of the community group meetings during the first 12 months, from the first meeting of the group.

5.11.3 Community Events

Free community events will be established and implemented as outlined below:

- Initially the program must provide at least one free community event every three months.
- After the first year of implementation, an evaluation of the type and frequency of community events should be undertaken to inform the ongoing program of events. This is to ensure the type of events and their frequency meets the needs of the project occupants.
- The community events program must commence (at the latest) when 30% of the habitable buildings are occupied. I IR1.10.01.
- The program of community events must continue for a period of time equal to (at least) 30% of the of the total construction program of the project registered for certification. For the purposes of this credit the construction program starts from the date that the first development approval was issued to the date on which the project site is programmed to be fully built out.

5.11.4 Community Information

Information relevant to the initiatives and activities in the Community Development Plan will be made available to the occupants when they occupy the building. Community information that will be shared to the occupants include:

- A vision statement by the project applicant (or equivalent authority, such as a Mayor, developer, owner or their representative);
- Site map or project masterplan and key statistics (size, population, services); and
- An overview of the Community Development Plan and/or other documents that provide information about the strategies and activities for building community awareness and involvement. For example:
 - Information on how to get involved in the project community and contact details;
 - Notices of upcoming events, with the ability for the project community to post items for inclusion;
 - Blog(s)/forum(s) that enable the project community to share information internally (e.g. work wanted, services available, for sale, for rent etc.);
 - A log of the activities of the Community Development Officer(s) and FAQs from the project occupants.
 - Project community resources/document centre; and
 - An area to provide feedback on the project community.

The information will be distributed either via print or digital. Community information will be disseminated for a period of time equal to (at least) 30% of the of the total construction program of the project registered for certification. The community information will be free of charge to all project occupants, including residents, employees and other persons occupying the project for the purposes of employment, education or other activities related to living (e.g. hotel guests, students).

5.12 Sustainable Buildings

A NatHERS rating of 7 stars or greater and Liveable Housing Australia certification will be targeted for the dwellings for this site.

5.13 Culture, Heritage and Identity

Culture, heritage and identity of the project site will be researched and interpreted as part of the masterplanning process in accordance to the requirement below:

- Details on the history of the area;
- The location and extent of historic and cultural heritage sites; and
- An Interpretation Plan to enrich an understanding of the place while providing guidance for aspects of the development of the area that will build on its unique characteristics.

Research from the culture, heritage and identity of the project site will be shared with the community through the implementation of at least one method of interpretation or interpretation initiative identified below:

- A Community Culture Plan (CCP): A Community Culture Plan outlines a path to strengthening cultural connections and towards building a strong local identity through arts and cultural programs. Projects looking for more information on the development of a Community Culture Plan through a process of community consultation should look at the "Cultural Planning Guidelines for local government" published by the NSW Ministry of Arts.
- An Adaptive Reuse: Adaptive reuse is the extensive alteration, restoration, and/or renovation, of an existing structure or building, so it may serve a new purpose. The new purpose can be for any required use within the project, and is not necessarily required to be used as a facility for community resources.
- Installations: that may include public art/artwork, sculptures and similar items.
- Landmarks: that reinforce community and historical identity.
- Design standards/guidelines: that promote the historical significance and cultural values of the place.
- Tourism, information, and education operations: that may include interpretation facilities, tours, trails, exhibitions, community websites, or similar.
- Plantings: that are relevant to the places or items.
- Hard landscaping: that may include boardwalks, seating and other structures.
- Promotion and marketing: that may include campaigns to raise awareness about the cultural values of the site and invite involvement/visitation.
- Merchandising: that may include items that can be purchased by the public that directly interpret and/or raise awareness of the cultural heritage values.
- Celebratory events: that may include local festivals, commemoration days or other events that are open to the public.

5.14 Walkable Access to Amenities

The site is located with walkable access (within air-distance in radius of 400m for Primary Services and Facilities and 800m for Secondary Services and Facilities) to two different classes of amenities from the following list:

- Food retail;
- Community serving retail and other services;
- Civic and community facilities; or
- Commercial or business spaces.

Primary Services and Facilities includes General Food Store, Newsagent, Post Office, Bank, Cash Machine, General Practitioner's (GP) Surgery or Health Centre. This list is not exhaustive and includes what are considered to be some of the most commonly accessed amenities.

Secondary Services and Facilities includes Chemist, Dentist, Optician, Places of Worship, Community accessible facilities/spaces (public function rooms, education centres), Community Centre, Library, Communication Centre or Business Centre, Cafes and Restaurants, Speciality Stores, Primary School, Secondary School, Kindergarten, Preschool, Childcare. This list is not exhaustive and includes what are considered to be some of the most commonly accessed amenities.

5.15 Access to Fresh Food

5.15.1 Access to Fresh Food

All habitable buildings in the project site will have access to at least 1 fresh food source, for home cooking and consumption, within an 800m radius.

5.15.2 Local Food Production

A community food garden will be provided for this development. The food garden will be at least 100sqm per 1000 residential occupants of the project.

The provision of urban agriculture that promotes education and community through garden facilities, will promote community cohesion within the residents of the precinct and provide a valuable educational facility.

Overall, the benefits of providing the provision for urban agricultural facilities will include;

- Providing residents with access to fresh food,
- Reducing household waste going to landfill though the provision of composting facilities
- Reducing the need to provide private "backyard" space
- Promoting community engagement
- Educating residents about food production; and
- Providing biological diversity across the site.



Figure 16: Community gardens would promote social cohesion and a sense of community

5.16 Safe Places

All tunnels and underpasses within the project site are designed to have end-to-end visibility and all public areas, such as playgrounds, skate parks and community food gardens are designed to be visible from at least one street.

Crime risk assessment process will be undertaken, and design strategy will be adopted to incorporate designing out crime principles in accordance to Green Star Communities requirements.

5.17 Community Investment

The following facilities, programs and services listed below are the community infrastructure that will be considered to be incorporated in the development:

Facilities:

- Community centers;
- Museums;
- Schools;
- Universities;
- Business incubation hubs;
- Hospitals and health care facilities;
- Child care facilities;
- Indoor recreation centers;
- Public buildings;
- Public transport infrastructure (including overpasses and bridges);
- Public art installations;
- Youth centers;
- Religious facilities; and
- Arts precincts.

Programs and services relating to:

- Local economic development initiatives, new business support;
- Art, history and cultural development;
- Seniors involvement in the local community;
- Youth development;
- Sport;
- Health, safety and security; and
- Community identity.

5.18 Affordability

The project will determine the residential affordability targets and implement at least two residential affordability strategies for a proportion of the total residential area delivered as part of the project.

Residential affordability strategies provide a model for increasing the provision of good quality affordable housing. The following are examples of residential affordability strategies:

- Providing a diversity of lot sizes to support housing diversity, and a mix of densities with increased density near activity centres;
- Providing a proportion of housing lots and dwellings to the market at an affordable purchase price for low to moderate income households;
- Providing key worker housing;
- Providing a program for guaranteeing the supply of shared equity and/or social housing within the development; and
- Establishing partnerships between organizations to ensure allocation and delivery of affordable housing stock.

5.19 Residential Incentives

Incentives meeting the following requirements will be provided to encourage sustainable practices that reduce the ongoing cost of living and working:

- They must be offered to the occupants of all new and existing habitable buildings, though the specific make up of items may differ between building types;
- Information about the incentives must be readily available to all project occupants;

- They must be available to all project occupants for 12 months after occupation of the building. Note, the incentives only need to be available to the initial occupants where the project is a new build, or to existing occupants where the project is a renewal project with some existing buildings;
- They must be for products that are reasonably available to project occupants either through reasonable access to participating stores or reasonable availability of delivery options. For example, providing rebates for project occupants in a community in Sydney for a store in Melbourne is not considered reasonable;
- If it is items or products, they must be of a reasonable size, quality and appropriateness for the relevant community. For example, the provision of a rebate only available for a second hand store, or for the smallest or largest size of a washing machine is not considered reasonable and appropriate;
- They must be appropriate to the project location (where applicable). For example if public transport facilities are not available in the area, free rail passes are not appropriate; and
- They must be in addition to any local, state or federal government programs or mandatory requirements in that state or local area.

5.20 Digital Infrastructure

5.20.1 High Speed Broadband

All habitable buildings within the project will be provided with, one or a combination of, the following high-speed broadband solutions:

- Fibre-to-the-Premises (FTTP);
- Fixed Wireless using technology commonly referred to as LTE (Long Term Evolution) or 4G, to deliver high-speed broadband services to a fixed number of connections at a fixed cell boundary (coverage area), with minimum speeds of 25-50Mbps/5-20Mbps.

5.20.2 Wireless Local Area Network

Every activity centre within the development will be provided with a free public Wireless Local Area Network meeting the following requirements:

- Wi-Fi must, at a minimum, meet the standard of 802.11n.
- Wi-Fi must be accessible throughout 70% of the total area of the activity centre, including indoors and outdoors areas.
- Where Wi-Fi is provided indoors, a minimum of two general power outlets must be accessible from public seating, for every 250 square metre floor area zone.

5.21 Peak Electricity Demand Reduction

The project's predicted peak electricity demand will be reduced by 25% when compared to that of a reference project via initiatives such as installing high performance external fabric and utilising efficient building services system.

5.22 Integrated Water Cycle

5.22.1 Stormwater Peak Discharge

The site will be designed to have post-development peak event stormwater discharge from the site to not exceed the pre-development peak event stormwater discharge, using the Average Recurrence Interval (ARI) of 1 year or 5 year depending on the risk of increased rainfall and/or flooding.

5.22.2 Stormwater Quality

The quantity of key pollutants discharged in site stormwater will meet the following requirements, when compared to untreated runoff:

- 80% reduction in total suspended solids;
- 60% reduction in total phosphorous;
- 45% reduction in total nitrogen; and
- 90% reduction in gross pollutants.

5.22.3 Water Sensitive Urban Design

Potable water consumption of the project will be reduced by 24% through the application of the following Water Sensitive Urban Design (WSUD) best practice hierarchy, when compared against a reference project:

- Retention and restoration – retain or restore natural channels, wetlands, and riparian zones;
- Source controls (non-structural) – educational and enforcement measures to minimise water use and polluting activities;
- Source controls (structural) – structural techniques located as near to the source (or use) to minimise water use, minimise wastewater generation, minimise stormwater runoff quantity, maximise stormwater quality using infiltration and natural physical treatment processes, and maximise re-use of treated wastewater and stormwater; and
- In-system controls (structural) – structural techniques installed in precinct – or district – level water services infrastructure to augment source controls.

5.23 Greenhouse Gas Strategy

The development will be targeting an average of 7 star NatHERS rating. Greenhouse gas emissions reduction will be calculated based on the emissions reduction compared to a minimum NatHERS star rating reference building.

5.24 Sustainable Sites

The project is not subjected to the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) and at least 75% of the site was previously developed.

5.25 Waste Management

5.25.1 Construction and Demolition Waste

The project will develop and implement a Waste Management Plan for the construction and demolition waste. At least 60% by mass of the construction and demolition waste associated with project site will be recycled or reused. Waste Management Plan developed will meet the following requirements:

- Headline information about the project (location, date etc.);
- The name of an individual responsible for waste;
- A forecast of the quantity of waste that will be generated, identified by material type;
- A set of clear actions to reduce waste, and to increase the level of recycling; and
- The end destination for each waste stream and the recovery rate that will be achieved.

The plan will identify, investigate and implement waste management strategies to design out waste through the consideration of each of the five principles of 'Designing out Waste' as outlined below:

- Design for Reuse and Recovery;

- Design for Off-site Construction;
- Design for Materials Optimisation;
- Design for Waste Efficient Procurement; and
- Design for Deconstruction and Flexibility.

The proportion by mass, of construction and demolition waste from all construction works that has been re-used or recycled will be recorded and documented.

On at least a quarterly basis the project applicant will be informed of the processes being used to monitor the re-use and recycling of construction and demolition waste and the quantities achieved for re-used and recycled waste.

5.25.2 Operational Waste

At least three measures listed below will be implemented to reduce the overall environmental impacts associated with operational waste.

- Public place recycling/Recycling on the Go scheme which provides recycling collection and processing for paper, drinks cans, plastic containers and glass containers;
- Residential recycling scheme which provides a minimum fortnightly residential collection of a 140L bin, accepting recyclable materials such as paper, cardboard, glass, plastics and household metals;
- Hazardous waste collection or disposal services to allow for disposal of paints and solvents, oil and batteries. The hazardous waste collection or disposal service should either be a permanently available on-site facility, a facility within a 5km radius of the project site, or a program with collection on at least a quarterly basis;
- Pay as you throw (PAYT) scheme which address general municipal waste for at least 50% of residents (at full occupation of the project site). The scheme can be either a full or hybrid system, however in a hybrid scheme at least 50% of the annual waste collection cost must be linked to the PAYT system; or
- Composting or Green Waste scheme with a green waste collection of a minimum 140L bin at least once a fortnight. This collection service will be included in general local council waste charges and not an additional optional charge.

5.26 Heat Island Effect

When assessed in plan view, at least 50% of the total project site area, in plan view, will comprise of one or a combination of the following:

- Vegetation;
- Green roofs;
- Roofing materials, including shading structures, having the following SRI values:
 - For roof pitched <15°: a three year SRI >64
 - For roof pitched >15°: a three year SRI >34
- Only where three year SRI for products is not available, use the following:
 - For roof pitched <15°: an initial SRI > 82
 - For roof pitched >15°: an initial SRI > 39
- Unshaded hardscaping elements with a three year SRI > 34 or an initial SRI >39;
- Hardscaping elements shaded by overhanging vegetation or roof structures;
- Water bodies and/or water courses; and
- Areas directly to the south of vertical building elements, including green walls and areas shaded by these elements at the summer solstice.

5.27 Green Star Communities Scorecard

The detailed Greenstar score card can be found in appendix B.

Green Star - Design & As Built Scorecard V1.3

SY210080-SER01: Jardin - Seniors Living
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Category	Requirement	Weight	Score	Weighted Score	Pass/Fail	Comments
Indoor Air Quality	To recognise projects that provide high air quality to occupants.	9.2	Provision of Outdoor Air	2	2	Pass
		9.3	Exhaust or Elimination of Pollutants	1	1	Pass
Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.1	Internal Noise Levels	1	1	Pass
		10.2	Reverberation	1	1	Pass
		10.3	Acoustic Separation	1	1	Pass
		11.0	Minimum Lighting Comfort	-	Complies	Pass
Lighting Comfort	To encourage and recognise well-lit spaces that provide a high degree of comfort to users.	11.1	General Illuminance and Glare Reduction	1	1	Pass
		11.3	Localised Lighting Control	1	1	Pass
Visual Comfort	To recognise the delivery of well-lit spaces that provide high levels of visual comfort to building occupants.	12.0	Glare Reduction	-	Complies	Pass
		12.1	Daylight	2	2	Pass
		12.2	Views	1	1	Pass
Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1	Paints, Adhesives and Sealants	1	1	Pass
		13.2	Engineered Wood Products	1	1	Pass
Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	1	1	Pass
		14.2	Advanced Thermal Comfort	1	1	Pass
Total		17	16			

[illegible]

Water					12															
Potable Water	B. Prescriptive Pathway	18A Potable Water - Performance Pathway	0																	
		18B.1 Sanitary Fixture Efficiency	1	1																
		18B.2 Rainwater Reuse	1																	
		18B.3 Heat Rejection	2	2																
		18B.4 Landscape Irrigation	1	1																
		18B.5 Fire Protection System Test Water	1	1																
Total			6	5																
<div>Sanitary fixtures are within 1 Star of the following: *Taps 6 Stars *Urinals 6 Stars *Toilets 5 Stars * Showers 3 Stars (>4.5 but <=6.0) * Clothes Washers 5 Stars * Dishwashers 6 Star Depending on the GFA, 10L/m2 HVAC system must not use potable water for heat rejection. Either drip irrigation with moisture sensor override is installed, or no potable water is used for irrigation. The fire protection system does not expel water for testing; or The fire protection system includes temporary storage for 80% of the routine fire protection system test water and maintenance drain-downs for reuse on-site. If sprinkler systems are installed, each floor must be fitted with isolation valves or shut-off points for floor-by-floor testing.</div>																				
Materials					14															
Life Cycle Impacts	B. Prescriptive Pathway - Life Cycle Impacts	19A.1 Comparative Life Cycle Assessment	0																	
		19A.2 Additional Reporting	0																	
		19B.1 Concrete	2	1																
		19B.1.2 Water Reduction	0.5	0.5																
		19B.1.3 Aggregates Reduction	0.5																	
		19B.2 Steel	1	1																
		19B.3 Building Reuse	2																	
		-	2																	
		-	-																	
		19B.4 Structural Timber	3																	
Responsible Building Materials	To reward projects that include materials that are responsibly sourced or have a sustainable supply chain.	20.1 Structural and Reinforcing Steel	-	Complies																
		20.2 Timber	1	1																
		20.3 Permanent Formwork, Pipes, Flooring, Blinds and Cables	1	1																
		21.1 Product Transparency and Sustainability	3	1																
Sustainable Products	To encourage sustainability and transparency in product specification.	22.0 Reporting Accuracy	-	Complies																
		22A Fixed Benchmark	0																	
		22B Percentage Benchmark	1	1																
Total			12	7.5																
<div>3 points are Life cycle assessment required. Assume 3 points minimum but additional points achievable. Additional cost for Completing this analysis 1 point for 30% reduction in Portland cement, and 2 points for 40% reduction. At least 50% of the mix water used for all concrete are either captured or reclaimed water. At least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative material. OR At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials. One point is available when there is a 5% reduction in the mass of steel reinforcement used when compared to standard practice; Use of PT slab will be able to achieve this. At least 95% of the building's steel is sourced from a Responsible Steel Maker. Steel suppliers such as One Steel and BlueScope Steel are compliant with this criterion. Structural and reinforcing steel supplier to be ISO 14001 certified, a member of the World Association's Climate Action Programme and demonstrates energy reduction in the processing of the product. At least 95% of all timber used in the building and construction work is either: A) Certified by a forest certification scheme OR B) is from a reused source. At least 90% (by cost) of all permanent formwork, cables, pipes, flooring and blinds in a project is sourced from a manufacturer that meet Best Practice Guidelines for PVC production or does not contain PVC (and have an Environmental Product Declaration). Install 3% products (over total material cost) that meet the initiative of reused products, recycled content products, has EPD, certified to third party certification or has stewardship programs. 90% of the waste generated during construction and demolition has been diverted from landfill. Innovation opportunity</div>																				

Land Use & Ecology				6	
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened or Vulnerable	-	Complies
		23.1	Ecological Value	3	1
Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.0	Conditional Requirement	-	Complies
		24.1	Reuse of Land	1	1
		24.2	Contamination and Hazardous Materials	1	1
Heat Island Effect	To encourage and recognise projects that reduce the contribution of the project site to the heat island effect.	25.1	Heat Island Effect Reduction	1	1
Total				6	

[illegible]

The project must demonstrate that no critically endangered, endangered, or vulnerable species, or ecological communities were present on the site at time of purchase.

Before state appears to be an industrial site. Introducing landscape and communal garden will help increasing the ecological value of the site.

At the date of site purchase or date of option contract, the project site did not include old growth forest, prime agricultural land or wetland of 'High National Importance', or did not impact on 'Matters of National Significance'. 75% of the site was Previously Developed Land and under the definition of Curtilage.

Report to show that there is no contamination or hazardous material present onsite or if there is contamination, it is stabilised, removed and disposed in accordance with best practice guidelines.

At least 75% of the whole site area comprises of one or combination of vegetation: green roofs; light coloured roof SRI >64.

Emissions				5	
Stormwater	To reward projects that minimise peak stormwater flows and reduce pollutants entering public sewer infrastructure.	26.1	Stormwater Peak Discharge	1	1
		26.2	Stormwater Pollution Targets	1	1
Light Pollution	To reward projects that minimise light pollution.	27.0	Light Pollution to Neighbouring Bodies	-	Complies
		27.1	Light Pollution to Night Sky	1	1
Microbial Control	To recognise projects that implement systems to minimise the impacts associated with harmful microbes in building systems.	28	Legionella Impacts from Cooling Syste	1	1
Refrigerant Impacts	To encourage operational practices that minimise the environmental impacts of refrigeration equipment.	29.1	Refrigerants Impacts	1	
Total				5	4

The post-development peak event discharge from the site does not exceed the pre-development event discharge using the local Council ARI requirements	
Figures of GS stormwater Column B to be achieved. Confirmation of stormwater treatment system to treat and reduce hydrocarbon and free oils required for uncovered areas in which vehicles are likely to transit or park.	
Demonstrate that all outdoor lighting on the project complies with AS 4282:1997.	
External luminaires to have an upward light output ratio (ULOR) <5%, i.e. no upward light from external lights. Relatively easy to achieve.	
Demonstrate the building cooling heat rejection systems do not use or contain water.	

Innovation				10	
Innovative Technology or Process	The project meets the aims of an existing credit using a technology or process that is considered innovative in Australia or the world.	30A	Innovative Technology or Process		
Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in Australia or in the world.	30B	Market Transformation	1	
Improving on Green Star Benchmarks	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	30C	Improving on Green Star Benchmarks	10	2
Innovation Challenge	Where the project addresses an sustainability issue not included within any of the Credits in the existing Green Star rating tools.	30D	Innovation Challenge		2
Global Sustainability	Project teams may adopt an approved credit from a Global Green Building Rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star rating tools.	30E	Global Sustainability		
Total				10	5

[illegible]

<p>Demonstrating the initiative has led to market transformation or to increased adoption of the solution. The building is designed, built, commissioned, and tuned by adopting a "Soft Landings" approach. All the work that Platino is doing</p>	
<p>Exceeding Green Star Benchmarks – Stormwater Pollution Targets (1 point)</p>	
<p>Ultra Low VOCs paints</p>	
<p>Financial Transparency, Marketing Excellence, Affordable Housing</p>	

AVAILABLE	
100	61.3
	61.3
10	5.0
	66.3

Appendix B

Green Star - Communities Scorecard v1.1						
Project: SKY5 - Jardin - Seniors Living			Core Points Available		Total Score Targeted	
Targeted Rating: 5 Star			100		66	
CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED	PROJECT TEAM COMMENTS
Governance				28		
Green Star Accredited Professional	To recognise projects that engage a Green Star Accredited Professional to support the Green Star certification process.	1.1	Green Star Accredited Professional	1	1	GSAP is engaged for the project.
Design Review	To encourage and recognise projects that undertake a design review process designed to facilitate sustainable urbanism.	2.1	Site Planning and Layout	4	2	In-house design review process
		2.2	Urban Design	4	2	In-house design review process
Engagement	To encourage and recognise projects that develop and implement a comprehensive, project specific stakeholder engagement strategy early in the planning process to inform the planning and design of the plan for development.	3.1	Stakeholder Engagement Strategy	3	3	Stakeholder engagement strategy in place
		3.2	Strategy Implementation	3	3	Achieve 3.1 and have stakeholder engagement strategy being implemented and formal monitoring, evaluation and corrective action being undertaken.
Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	4.1	Climate Adaptation	2	2	Project specific CAP is developed and solutions included in the plan to address the risk assessment component of the plan.
		4.2	Community Resilience	2	1	A project-specific Community Resilience Plan (CRP) has been developed that addresses preparation, during- and post-disaster communication, safety, and response.
Corporate Responsibility	To encourage and recognise projects with a project applicant that has corporate responsibility as a core value.	5.1	Corporate Responsibility	1	1	Project applicant has a corporate responsibility policy and reports publicly against it annually.
		5.2	Sustainability Reporting	2	1	Project applicant undertakes sustainability reporting annually in accordance with the GRI Sustainability Reporting Guidelines for the core options.
Sustainability Awareness	To encourage and recognise those projects that enhance knowledge and understanding of its sustainability attributes.	6.1	Community Users' Guide	1	1	Community Users' Guide is developed for, and provided to all project occupants. The Community Users' Guide must also be publicly available.
		6.2	Sustainability Education Facilities	1	1	Provision of physical sustainability education facilities on the project site.

Community Participation and Governance	To encourage and recognise projects that establish mechanisms for community management arrangements for facilities and programs.	7.1	Community Facility Management	1	1	A community led entity is responsible for the management and/or coordination of at least one community facility.
		7.2	Community Program Management	1	1	A community led entity is responsible for the management and/or coordination of at least one community program or service.
Environmental Management	To encourage and recognise the adoption of formal environmental management practices.	8.1	Environmental Management System	1	1	All contractors with a contract value of > \$5 million have a valid ISO 14001 Environmental Management System (EMS) accreditation prior to and throughout the duration of the contract(s).
		8.2	Environmental Management Plan	1	1	Developer requires the development and implementation of a comprehensive, project-specific Environmental Management Plan (EMP) for construction works.
Total				28	22.0	
Liveability				25		
Healthy and Active Living	To encourage and recognise projects that promote healthy and active living.	9.0	Minimum Requirement - Footpaths	-	Complies	Projects must provide footpaths in line with the project's street hierarchy.
		9.1	Active Lifestyle	2	2	Project site has been designed and built to promote an active lifestyle, through well designed walking paths and cyclist facilities.
		9.2	Recreational Facilities	2	2	All habitable buildings have easy access to both a local park and at least one publicly accessible sports facility (Aquatic reserve baseball park and Warringah aquatic
		9.3	Healthy Places	1	1	9.1 and 9.2 have both been achieved, and the development has been designed and built in line with holistic active and healthy living principles.
Community Development	To encourage and recognise projects that engage in and facilitate the development of the project's community.	10.0	Minimum Requirement - Community Development Plan	-	Complies	A Community Development Plan for the project community must be developed and implemented.
		10.1	Community Development Officer	1	1	A Community Development Officer is employed to implement the Community Development Plan for the project.
		10.2	Community Group	1	1	A community group is established and contributes to the implementation of the Community Development Plan.
		10.3	Community Events	1	1	Free community events are facilitated and supported.
		10.4	Community Information	1	1	At least two of the first three initiatives are undertaken and 'community information' is made directly available and distributed to the community.

Sustainable Buildings	NatHERS and Livable Housing Australia	11.1	Certified Non-residential Buildings	-		
		11.2	NatHERS and Livable Housing Australia	4	1	Based on the percentage of dwellings in the project site that: a. Have achieved a NatHERS rating of 7 stars or more; and b. Have achieved certification in accordance with the guidelines for Livable Housing Design published by Livable Housing Australia.
Culture, Heritage and Identity	To encourage and recognise projects that celebrate and incorporate the heritage, culture and historical context of the project site, supporting communities and places with the development of a sense of place and identity.	12.1	Understanding Culture, Heritage and Identity	1	1	The culture, heritage, and identity of the project site has been researched and interpreted as part of the masterplanning process.
		12.2	Enhancing Community Culture, Heritage and Identity	2	2	The interpretation of the culture, heritage, and identity of the project site informs the design of the project in a way that strengthens cultural and heritage connections, and contributes to building a strong local identity.
Walkable Access to Amenities	To encourage and recognise projects that have walkable access to a diverse number of amenities that reflect the predicted demographic of the project's community.	13.1	Walkable Access to Amenities	2	2	All habitable buildings on the project site have walkable access to a diverse number of amenities.
Access to Fresh Food	To encourage and recognise projects that have access to fresh food locally.	14.1	Access to Fresh Food	1	1	All habitable buildings are within a walkable distance to a source of fresh food.
		14.2	Local Food Production	1		
Safe Places	To recognise projects in which the activity of planning and detailed design for land use, development and redevelopment takes into consideration designing out crime principles.	15.0	Minimum Requirement - Visibility	-	Complies	All tunnels and underpasses within the project site must have end-to-end visibility; and All public areas, such as playgrounds, skate parks and community food gardens, must be visible from at least one street.
		15.1	Design for Safety	2	2	A crime risk assessment process is undertaken; and A design strategy has been adopted that incorporates designing out crime principles.
Total				22	18.0	
Economic Prosperity				21		
Community Investment	To encourage and recognise projects investing in infrastructure within the development for community benefit.	16.1	Community Infrastructure Investment	4	2	The infrastructure investment provided is at least \$4000 per residential dwelling; or The infrastructure provided is at least \$32 per square metre of non-residential space.Partial points are awarded on a linear scale for investments less than \$4000 per residential dwelling.
Affordability	Residential Affordability Strategies	17.1	Residential Affordability Strategies	4	4	At least two residential affordability strategies are implemented for a proportion of the total residential area delivered as part of the project.
		17.2	Non- Residential Affordability Strategies	-		

Employment and Economic Resilience	To encourage and recognise projects with local and diverse employment opportunities.	18.1	Increase in Local Jobs	1		
	Diverse Local Employment – Performance Pathway	18.2A	Diverse Local Employment – Performance Pathway	1		
		18.2B	Proximity to Major City – Prescriptive Pathway	-		
		18.2C	NCC Class mix – Prescriptive Pathway	-		
Education and Skills Development	To encourage and recognise projects that have access to further education and/or provide a skills and industry capacity development opportunities.	19.1	Higher Education Facilities	1		
		19.2	Skills Development Programs	1		
		19.3	Industry Capacity Development	1		
Return on Investment	To encourage and recognise holistic methods to assess the return on investment in response to the sustainability goals for the project.	20.1	Analysis of Direct Costs and Benefits	1		
		20.2	Analysis of Indirect Costs and Benefits	1		
Incentive Programs	Residential Incentives	21.1	Residential Incentives	2	2	Provision of incentives provided to encourage sustainable practices that reduce the ongoing cost of living and working, where the dollar value of incentives provided is ≥ \$750 per residential dwelling.
		21.2	Non-residential Incentives	-		
Digital Infrastructure	To encourage and recognise projects that use digital infrastructure to create greater efficiencies in the connection of individuals with other people, goods, services, and information.	22.1	High-speed Broadband	1	1	Habitable buildings are provided with one of the following; A. Fibre-to-the-Premises (FTTP); or B. Fixed wireless connectivity with minimum speeds of 25-50Mbps/5-20Mbps.
		22.2	Wireless Local Area Network	1	1	Free Wireless Local Area Network is provided at every activity centre in the project.
Peak Electricity Demand Reduction	Reduced Peak Electricity Demand - Performance Pathway	23A	Reduced Peak Electricity Demand - Performance Pathway	2	2	Project's predicted peak electricity demand has been reduced by 25% when compared to that of a reference project.
		23B	On-site Generation – Prescriptive Pathway	-		
		23C	Energy Storage – Prescriptive Pathway	-		
Total				21	12.0	

Environment		29				
Integrated Water Cycle	Water Sensitive Urban Design – Performance Pathway	24A.1	Stormwater – Performance Pathway	2	2	The post-development peak Average Recurrence Interval (ARI) event discharge from the project site does not exceed the pre-development peak ARI event discharge; and The quantity of key pollutants discharged in site stormwater is limited, based on the percentage reduction of sediment, phosphorus, nitrogen, and litter in project runoff when compared to untreated runoff.
		24A.2	Water Sensitive Urban Design – Performance Pathway	5	2	Potable water consumption of the project is reduced, through the application of the principles of Water Sensitive Urban Design (WSUD), when compared against a reference project.
		24B.1	Alternative Water Sources - Public Open Spaces	-		
		24B.2	Alternative Water Sources - Buildings	-		
		24B.3	Stormwater Peak Discharge	-		
		24B.4	Stormwater Quality	-		
Greenhouse Gas Strategy	Greenhouse Gas Strategy – Performance Pathway	25A	Greenhouse Gas Strategy – Performance Pathway	6	1.5	Magnitude of the proposed project’s predicted reduction in GHG emissions, when compared against a reference project.
		25B.1	Energy Efficiency - Infrastructure Lighting	-		
		25B.2	Energy Efficiency - Existing Buildings	-		
		25B.3	Renewable Energy Production	-		
		25B.4	District Heating and Cooling	-		
Materials	Life Cycle Impacts – Prescriptive Pathway	26A	Life Cycle Assessment (LCA) – Performance Pathway	-		
		26B	Life Cycle Impacts – Prescriptive Pathway	3		

Sustainable Transport and Movement	Sustainable Transport and Movement: Performance Pathway	27A	Sustainable Transport and Movement: Performance Pathway	3		
		27B	Sustainable Transport and Movement: Prescriptive Pathway	-		
Sustainable Sites	To encourage projects that avoid or minimise impacts on environmentally sensitive sites while recognising projects that reuse previously developed land and reclaim contaminated land using best practice remediation.	28.0	Conditional Requirement	-	Complies	Approval from the Australian Government environment minister under the EPBC Act for any proposed action, be granted an approval under that act.
		28.1	Previously Developed Land	1	1	75% of the project site comprises previously developed land.
		28.2	Best Practice Site Decontamination	1		Where the site contains significant contamination, such that the uses in the proposed development would have been precluded, and the developer has adopted best practice remediation strategies as detailed to secure development permission for the project.
Ecological Value	To encourage and recognise projects that enhance the ecological value of the project site.	29.1	Change of Ecological Value	1		
		29.2	Biodiversity Enhancement	1		
Waste Management	To encourage and recognise projects that reduce the environmental impact of waste.	30.1	Construction and Demolition Waste	1	1	The project develops and implements a Waste Management Plan for the project site's construction and demolition waste; and 100% of the construction and demolition waste associated with project site has been recycled or reused.
		30.2	Operational Waste	1	1	Measures are implemented to reduce the overall environmental impacts associated with operational waste. Points are awarded based on the initiatives implemented in the project from the following list: A. Public place recycling scheme; B. Residential recycling scheme; C. Hazardous waste collection or disposal services; D. Pay as you throw (PAYT) scheme; or E. Composting or Green Waste scheme. Three initiatives are required to achieve 1 point.
Heat Island Effect	To encourage and recognise projects that implement measures to reduce heat island effect.	31.1	Heat Island Effect	1	1	At least 50% of the total project site area, in plan view, comprises building or landscaping elements that reduce the impact of heat island effect.
Light Pollution	To encourage and recognise projects that minimise the adverse impact of light emissions.	32.1	Light Pollution	1		
Total				27	9.5	

Innovation				10		
Innovative Technology or Process	The project meets the aims of an existing credit using a technology or process that is considered innovative in Australia or the world.	33A	Innovative Technology or Process			
Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in Australia	33B	Market Transformation			
Improving on Green Star Benchmarks	The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	33C	Improving on Green Star Benchmarks	10		
Innovation Challenge	Where the project addresses an sustainability issue not included within any of the Credits in the existing Green Star rating tools.	33D	Innovation Challenge		2	Financial Transparency Marketing Excellence
Global Sustainability	Project teams may adopt an approved credit from a Global Green Building Rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star	33E	Global Sustainability			
Total				10	2	
			TOTALS	AVAILABLE	TARGETED	
			CORE POINTS	98	63.5	
			CATEGORY PERCENTAGE SCORE		63.5	
			INNOVATION POINTS	10	2.0	
			TOTAL SCORE TARGETED		65.5	