

SUSTAINABLE DESIGN ASSESSMENT REPORT

Aegis Highgate

Environmentally Sustainable Design Strategy — Stage 1

21 Wright Street, Highgate WA 6003



Artist's impression — indicative only.

REVISION

002

DATE

20/07/2026

PROJECT REF

SUPER26014

PREPARED BY

Megan Ang

Executive summary

This document has been prepared for Aegis Aged Care to outline the sustainability initiatives being considered for inclusion within Stage 1 of the project, located at 21 Wright Street, Highgate WA 6003.

The sustainability commitment for the project is to target a **5-Star Green Star Equivalency** outcome against the new Green Star Buildings Version 1.1 tool.

The following guidelines are acknowledged as applicable to the site, and this strategy incorporates the sustainability requirements outlined therein:

- City of Vincent Local Planning Scheme No. 2
- City of Vincent Policy No. 7.1.1 (Built Form)
- WA State Planning Policy 7.0 — Design of the Built Environment

Summation Pty Ltd has been engaged as the sustainability consultant for the project and will be responsible for the delivery of the sustainability objectives. The sustainability team is led by **Prasanna Suraweera**, a Director with Summation and a Green Star Accredited Professional (GSAP) with over 21 years of experience delivering sustainable developments. Summation has been engaged prior to concept planning stage and will contribute through to project completion.

A preliminary assessment of the project's potential to achieve a 5-Star Green Star rating has been undertaken. Preliminary findings indicate that approximately 35 points are achievable, which meets the minimum 35 points required for the 5-Star standard. This includes the mandatory compliance requirements within Green Star.

"Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes."

Key sustainability initiatives

- 10% reduction of upfront carbon emissions through good design (design efficiency) and material selection.
- Electrification of building services, including space heating and domestic hot water.
- High-efficiency façade exceeding Section J, including double glazing — with design to, and testing of, building air tightness.
- 50% increase in the minimum mechanical ventilation fresh-air requirement.
- Solar PV (estimated 70–100 kW given the scale of building) to be targeted, pending further spatial coordination.
- At least 90% of construction and demolition waste diverted from landfill.
- Extensive metering and monitoring to facilitate performance tracking and assist in fault finding.
- A healthy building focused on air quality, light quality and acoustic comfort, with reduced VOCs to maximise staff and resident comfort and wellbeing.
- Climate Resilience Assessment to future-proof the building and reduce heat island effect through light-coloured roof and landscaping selections.
- Sustainable Transport Plan, including provision for EV transition through appropriate enabling infrastructure.



Passive design & efficiency

20% energy reduction target



Water efficiency

WELS-rated fittings



Solar PV

70–100 kW targeted



Electrification

All-electric services



Upfront carbon

10% reduction target



Indoor environment

+50% fresh air



Waste recycling

≥90% diverted



Climate resilience

Two-timeline assessment



EV transition

15% bays + provision

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Revision history

Revision	Date	Notes	Prepared by	Approved by
001	23/04/2026	Report issued for comment	MA	PDS
002	20/07/2026	Issued for DA	MA	PDS

Abbreviations & glossary

CO₂-e	Carbon dioxide equivalent	LCA	Life Cycle Assessment
DA	Development Application	LED	Light-emitting diode
ESD	Environmentally sustainable design	NCC	National Construction Code
EV	Electric vehicle	PV	Photovoltaic
FOGO	Food organics and garden organics	SWIS	South-West Interconnected System
GBCA	Green Building Council of Australia	VLT	Visual light transmittance
GSAP	Green Star Accredited Professional	VOC	Volatile organic compound
HVAC	Heating, ventilation & air conditioning	WELS	Water Efficiency Labelling & Standards
ICA	Independent Commissioning Agent		

DISCLAIMER

This report provides high-level guidance on the sustainability commitments targeted for this project and the preliminary strategies to be adopted. The specific strategies are indicative and may evolve through later design stages; the commitment to the overall project target will be maintained.

CHECKED & APPROVED BY

Name

Prasanna Suraweera

Signature

1 Introduction

1.1 Project background

The proposed Aegis Lincoln Park development is located at 21 Wright Street, Highgate WA 6003. It consists of a six-storey aged care development. A summary of the expected project yields is as follows:

- Approximately 150 beds — Class 9c NCC classification.
- Communal spaces, including lounge and support space.
- Lobby and staff station.
- Approximately 50 basement car parking spaces.
- New link connection to the existing main entry and back-of-house areas.

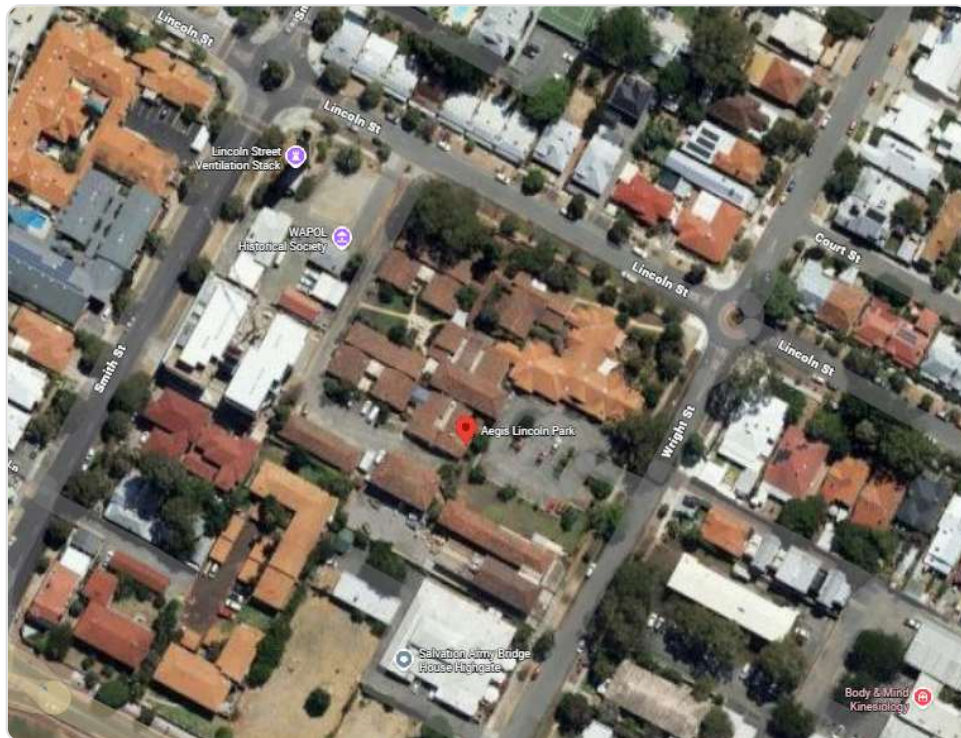


Figure 1: Site location and context.

1.2 Disclaimer

This report provides high-level guidance on the sustainability commitments targeted for this project and the preliminary strategies and initiatives to be adopted.

The purpose of this assessment is to provide confidence that the sustainability commitments targeted are achievable. Due care has been taken to ensure the initiatives are coordinated and achievable; however, the specific strategies mentioned in this report are indicative and may evolve throughout future stages of design. The commitment to the overall project target will be maintained.

2 Green Star strategy

This project is a standalone development and will target a 5-Star Green Star Equivalency using the Green Star Buildings Version 1.1 tool.

2.1 Green Star overview

Green Star is a holistic tool that extends beyond the environment to address the issues that will define the next decade of the built environment. The tool's eight categories enable owners and developers to act on the areas of sustainability that matter most, future-proofing a building for the long term. It is administered by the Green Building Council of Australia (GBCA) to assess the level of environmentally sustainable design incorporated into a building.

Under the tool, the following ratings can be achieved:

- 15–34 points = 4 Star rating ("Australian Best Practice")
- 35–69 points = 5 Star rating ("Australian Excellence")
- 70+ points = 6 Star rating ("World Leader")



Figure 2: Overview of Green Star categories.

2.2 Green Star performance

A Green Star feasibility study was undertaken for the project. This is an indicative pathway, pending further design detail and evolution. The expected performance against each category in the Green Star tool is outlined below.

Category	Points available	Points targeted
Responsible	17 + 2	11
Healthy	14	7
Resilient	7	4
Positive	32 + 8	7
Places	7	6
People	9	3
Nature	14	2
Leadership	10	1
Total	110 + 10 innovations	41

Table 1: Green Star category points and summary.

Refer to Appendix A — Green Star Score Card for further details.

3 Summary of initiatives

A summary of the key strategies targeting this level of performance is set out below. These align with a compliant 5-Star Green Star Equivalency pathway; the initiatives selected are preliminary and subject to change. All targets are as outlined and calculated within the Green Star tool methodology.



3.1 Passive design & efficiency

The project is targeting a minimum 20% reduction in energy use compared with the Green Star reference case. The following fundamental concepts will contribute:

- Passive design elements, including window-to-wall ratio, shading and massing.
- High-performance envelope, including high-performance double-glazed systems.
- LED lighting throughout for light quality and efficiency — targeting a 20% reduction in light-fitting power compared with the NCC.
- Electric heat-pump hot water systems.
- Lifts with standby or regenerative mode.

20%

energy use reduction

20%

lower lighting power vs NCC



3.2 Water efficiency

Water efficiency will be targeted through the selection of suitable fittings and fixtures:

- 5 Star WELS — taps.
- 5 Star WELS — urinals and dishwashers (if applicable).
- 4 Star WELS — toilets.
- 3 Star WELS — showers (flow rate < 7.5 L/min).



3.3 Provision for solar PV

Provision of renewables is critical to the sustainability performance of buildings. It is a key initiative for reducing carbon emissions and will also provide operating-cost benefits.

Given the extent of the project, an area of between 490 m² and 700 m² has been nominated for solar PV. The target is a grid-integrated array with a capacity of 70–100 kW, with an expected yield of approximately 89,600–128,000 kWh per annum. Expected Scope 2 carbon savings are approximately 45,700–65,300 kg CO₂-e per annum.

70–100 kW

PV array capacity

~128 MWh

peak annual yield

~65 t

CO₂-e saved / annum

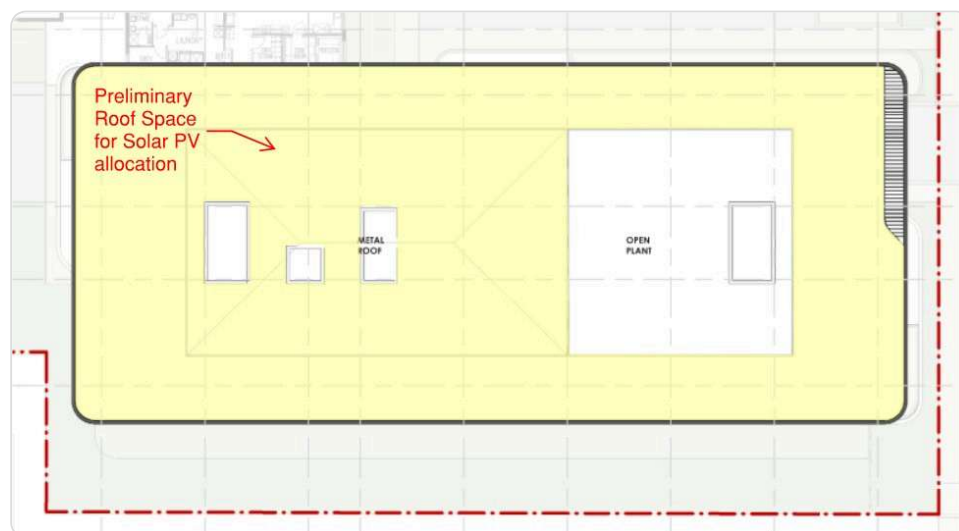


Figure 3: Roof space for preliminary solar PV allocation.



3.4 Electrification — hot water, space heating & cooking

Electrification is a key strategy for ongoing emissions improvement as the electricity grid continues to reduce its carbon intensity. This reflects the ongoing "greening" of the grid as additional renewables capacity is realised. Over the past 15 years, grid emissions on the South-West Interconnected System (SWIS) have improved by approximately 40–50%, and this trend is expected to continue with further renewable investment planned for the SWIS.

By having all services and energy demands electrified, this project is well placed to achieve ongoing carbon savings alongside the grid.



3.5 Reducing refrigerant impacts

Fugitive emissions from HVAC refrigerants are another key operational carbon impact in buildings. The project's refrigerant carbon impact will be reduced through:

- Prioritising systems with lower global warming potential where possible.
- Offsetting the remaining carbon emissions.



3.6 Upfront carbon & lifecycle impacts

Upfront carbon emissions are the embodied carbon for the material creation and construction of the building, falling under modules A1–A5 as defined by EN 15978. This project will target a minimum 10% reduction of upfront carbon, achieved through a combination of:

- Structural design efficiency and responsible material selection.
- Low-carbon concrete products, considered for all concrete mixes on the project.
- Carbon-neutral certified products.

Additionally, the project will target a 30% reduction in lifecycle impacts compared with standard practice. This will be demonstrated through a whole-of-building, whole-of-life (cradle-to-grave) comparative Life Cycle Assessment (LCA), as defined by EN 15978 — see modules A to D below.

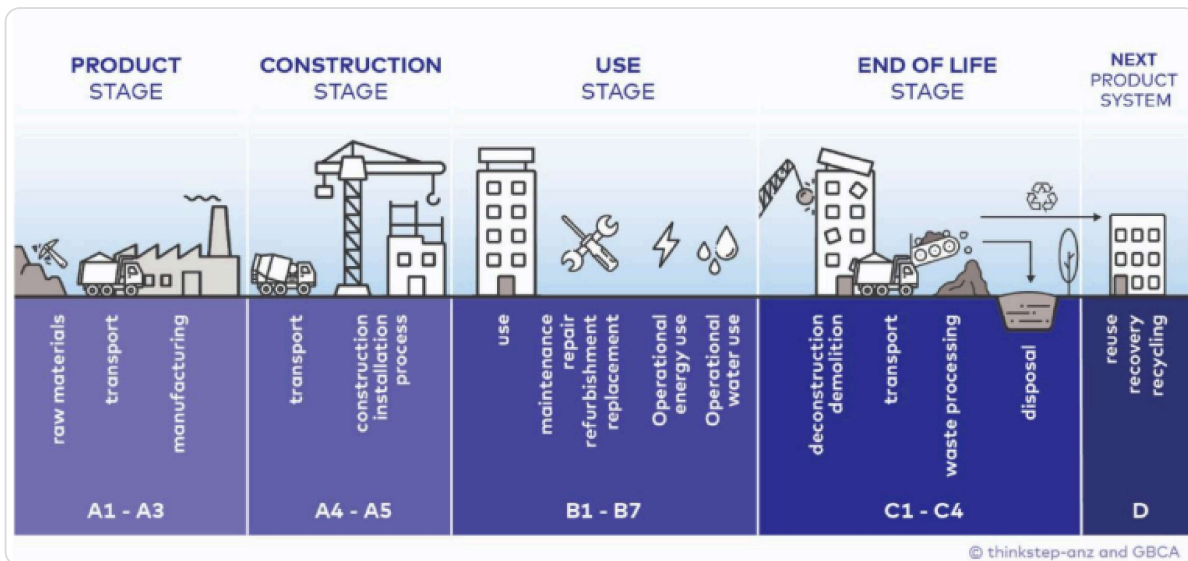


Figure 4: Life cycle impact categories — EN 15978.



3.7 Responsible product selections

Responsible product selections will be procured for the structure and internal finishes. These credits reward materials with sustainability certifications for:

- Structural elements such as concrete and reinforcing steel.
- Internal finishes such as paints, floor finishes, plasterboard and joinery.



3.8 Improved indoor environmental quality

Improved indoor environmental quality has significant benefits for residents' wellbeing and comfort. The following initiatives have been targeted to provide a healthy environment:

- 50% increase in the minimum mechanical ventilation fresh-air requirement.
- Lighting selections with consideration for visual comfort.
- High levels of daylight access through glazing with a visual light transmittance (VLT) > 0.5.
- Reduced glare from windows through blinds with a maximum VLT of 10% (or blackout blinds).
- Acoustic comfort strategy addressing maximum internal noise levels, acoustic separation and impact-noise transfer.
- Better air quality through material selections with credible sustainability certifications and limits on toxins.
- On-site testing for volatile organic compounds and formaldehyde.



3.9 Effective stormwater management

Stormwater management will be completed with due consideration for reducing pollution runoff from the development.



3.10 Climate resilience

A Climate Change Assessment will be undertaken over two timelines to identify risks and work through design responses with the design team. All High and Very High-risk items will have specific responses aligned with the Green Star requirements.



3.11 Heat island mitigation

The external colour of roof and landscape elements plays a significant role in the local microclimate, particularly ambient temperature. Dark surfaces absorb and retain heat, which can increase surrounding temperatures by more than 5 °C. Light-coloured roofs and surfaces, combined with landscaped areas, help reflect heat and minimise this effect.

This project will adopt these strategies to minimise heat gain and reduce its impact on the local microclimate.



3.12 Responsible construction & waste recycling

A minimum 80% of all construction waste will be diverted from landfill, including ongoing monthly reporting. This will be specified in the Head Contractor obligations, in line with current industry best practice.

The Head Contractor will also be required to have an Environmental Management Plan and system in place throughout construction.



3.13 Waste management plan

An Operational Waste Management Plan will be developed to maximise operational waste recycling. Appropriate waste-sorting areas have been determined based on the expected throughput of each waste stream. Specific streams targeted include:

- General waste.
- Comingled recycling.
- One additional stream, such as Food Organics and Garden Organics (FOGO) and/or e-waste.

Note: The waste storage area forms part of the Stage 2 development, which is outside the direct scope of this report. As it is a shared amenity that impacts Stage 1, the project will ensure any relevant Stage 1 requirements are incorporated into the Stage 2 development.



Figure 5: Ground floor waste storage area allocation.



3.14 Energy & water metering and monitoring

Effective metering and monitoring are essential to ensure facility performance is optimised during operation. Extensive metering and monitoring systems will be provided for all major end uses of energy and water. Data collected will be made available to staff as a learning opportunity, and will facilitate performance tracking, identification of anomalies, and fault finding and tuning.

This is in keeping with the requirements of NCC Section J.



3.15 Building commissioning & verification

The building will be commissioned to a higher standard under the guidance of an Independent Commissioning Agent (ICA) to ensure systems operate efficiently. The ICA will oversee:

- A services and maintainability review addressing commissionability, controllability, maintainability, ease of operation and safety.
- Commissioning beyond typical NCC requirements.
- A 12-month tuning process with quarterly checks and adjustments.

The project will target a higher level of airtightness for a more comfortable environment. An airtightness test will be completed at practical completion, providing reassurance of build quality.



3.16 EV transition — future EV charging infrastructure

The electric vehicle transition is a key strategy for reducing global emissions. Facilitating this transition involves provision of nominated charging bays so residents have easy access to charging infrastructure should they choose to adopt EVs. The project commitment includes:

- Provision for 15% of bays (total across all three stages) to include EV chargers.
- Future provision for an additional 5% of charging bays — namely switchboard spatial capacity and conduits.
- Chargers installed based on demand from staff and visitors, including load-management software.

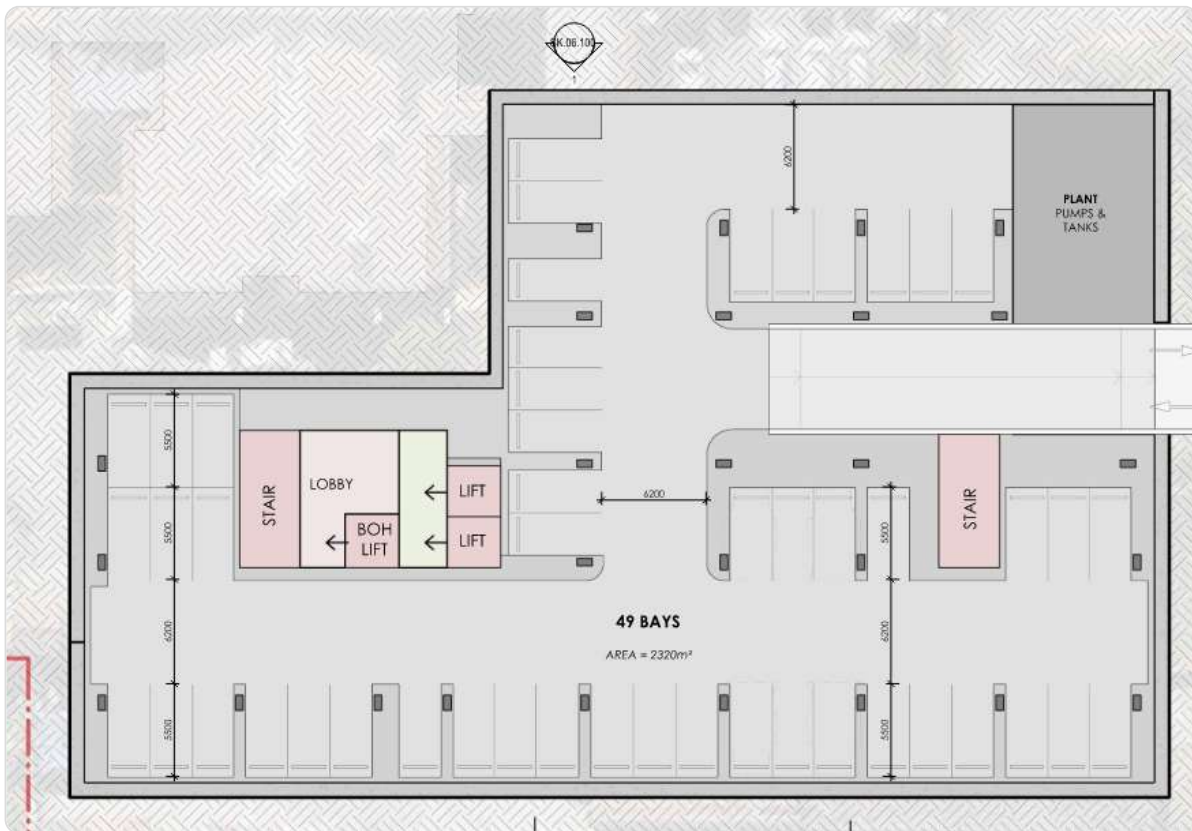


Figure 6: Basement parking allocation.

A Appendix A — Green Star score card

ATTACHMENT

Green Star Score Card

The detailed Green Star Buildings v1.1 score card is provided as a separate attachment to this report.



SUMMATION

Preliminary Submission planner V1.1 - Aegis Highgate

Summary

Rating information

Registering from	2025 onwards	Desired Green Star rating	5 Star
Scoring			
Core points targeted	40	Minimum expectations met	Yes
Leadership points targeted	1	Climate Positive Pathway targeted for desired rating (5 Star)	Yes
Sector specific credit points targeted	0		
Total points targeted	41	Nature Positive Pathway targeted for desired rating (5 Star)	Not Required
Targeted rating based on points	5 Star		

Low	19
Medium	17
High	1
TBA	4
Total	41

Credit	Minimum Expectation	Credit Achievement	Exceptional Performance	Total points available	Targeted performance level	Risk	Total points targeted	Comments
Responsible17 + 2								
Industry Development		1		1	Credit Achievement	Low	1	Summation to provide GSAP
Responsible Construction	•	1		1	Credit Achievement	High	1	90% Construction and Demolition Waste diversion from landfill. High Risk - Demo contractors typically not compliant, Demo Waste proportion may jeopardise the 90% cutoff (pending con phase waste proportion). Worse case will comply with minimum expectations.
Verification and Handover	•	1		1	Credit Achievement	Medium	1	Extensive metering and monitoring, all meters to be connected to single EMS. Airtightness consultant to be engaged for input in DD, Contractor to then test at PC. ICA to be engaged for DD to complete ICA
Responsible Resource Management	•			0	Minimum Expectation	Medium	•	-Collection of Waste Streams -Dedicated Waste Storage Area -Safe and Efficient Access to Waste Storage
Responsible Procurement		1		1		TBA	1	TBA, pending selection of builder
Responsible Structure		2	2	4	Exceptional Performance (4 point)	Medium	4	Green Concrete and Lower Carbon reinforcing steel. Boral, Holcim and Infrabuild will achieve CA and EP criteria.
Responsible Envelope		2	2	4			0	
Responsible Systems		1	1	2			0	
Responsible Finishes		1	1	2	Exceptional Performance	Medium	2	Selection of finishes with EPD, GreenTag, GECA certifications.
Impacts Disclosure		1		1	Credit Achievement	Low	1	-Life Cycle Impacts Disclosure -Pollution and Resource Use Metrics Disclosure
Collaborative Leasing		1	1	2		N/A	0	Not applicable
= Sector specific credit					Total		11	
Healthy14								
Clean Air	•	2		2	Minimum Expectation	Low	•	Outside Air - Min 50% increase in outside air requirements for mech vent spaces with CO2 control. Minimum Separation Distances is critical. Ductwork remains clean through construction. Exhaust Pollutants to facade or roof. Printers to meet emissions standards.
Light Quality	•	2	2	4	Credit Achievement	Low	2	Lighting Comfort: Lighting within the building meets minimum comfort requirements. -Glare from Light Sources -Daylight Strategy: The building aims to maximise access to daylight. -Best Practice Artificial Lighting Daylight (EP) not achievable for this building
Acoustic Comfort	•	2		2	Minimum Expectation	Low	•	Typical Acoustic report will satisfy this criteria. Additional requirements to be tested with Acoustics
Exposure to Toxins	•	2		2	Credit Achievement	Low	2	Low toxicity material selections. Onsite testing for TVOC and Formaldehydes to occur at PC
Amenity and Comfort		2		2		TBA	2	Pending further assessment on appropriatte amenities for site
Connection to Nature		1	1	2		TBA	1	TBA, Indoor plant, Nature inspired design. Pending further assessment.
					Total		7	
Resilient7								
Climate Resilience	•	1		1	Credit Achievement	Low	1	Resilience and adaptations for effects of climate change - Summation to complete
Operations Resilience		2		2	Credit Achievement	Medium	2	Likely to comply based on backup power and typical health/aged care procedures. TBA pending further discussion with client.
Community Resilience		1		1		TBA	0	
Heat Resilience		1		1	Credit Achievement	Low	1	Minimise heat island effects through light coloured roof and landscaping hardscapes.
Grid Resilience		2		2			0	Will require extensive battery storage, not recommended for this type of building
					Total		4	
Positive32 + 8								
Energy Source	•	2	2	4	Credit Achievement	Medium	2	To be fully electrified - no gas 100% renewable electricity for base building loads/ BMS ready to shift to electricity consumption to grid
Energy Use - Pathway A: Reference building pathway	•	3	3	6	Credit Achievement (3 points)	Medium	3	Minimum 20% saving in energy efficiency compared to benchmark - VRV AC systems - High efficiency façade design, including high performance glazing, double glazing - High efficiency HWS systems, central heat pumps with COP>4 - Lifts to have standby mode and be regenerative - Consider consolidating roof plant to maximise solar PV (70kW to 100kW)
Upfront Carbon Reduction - Pathway B: Reference building	•	3	3	6	Minimum Expectation	Medium	•	Reduce upfront carbon by 10% (embodied emissions). Linked to 6, 25, 28 and SS - Ensure structural efficiency - Will require green concrete across 40% concrete mixes - Requirement for Green Reinforcing steel Consider lower carbon Aluminium, Plasterboard Demolition of existing buildings less than 50 years old are to be offset.

Upfront Carbon Compensation		1	2	3	Credit Achievement	Low	1	30% of remaining upfront emissions are compensated. Climate Active Certified concrete, plasterboard, aluminium?
Refrigerant Systems Impacts	•	1	2	3	Minimum Expectation	Medium	•	-Future-ready Buildings: The building considers future-proofing the building for equipment that uses ultra-low GWP refrigerants. -Weighted GWP Limit: The refrigerants in the building do not exceed a weighted average GWP limit. -Leak Detection
Low-Emissions Transport		1		1	Credit Achievement	Low	1	Will require 15% of bays to have chargers i.e. 8 bays based on total of 50 car bays
Design for Circularity		2	1	3			0	Linked to 24, based on measurement of circularity of materials used.
Water Use	•	3	3	6	Minimum Expectation	Low	•	Target WELS fittings and fixtures efficiency
Upfront Fit out Emissions		1	2	3		N/A	0	Not applicable
= Sector specific credit = Climate Positive Pathway					Total		7	Climate Positive Pathway met

e: The industrial Sector Specific Credits are currently undergoing review for Green Star Buildings v1.1 and therefore are currently unavailable.

Places7

Movement and Place	•	2		2	Credit Achievement	Low	2	Changing Facilities: The building includes showers and changing facilities for building occupants. - Minimum 2 off Showers, 7 Lockers based on 50 staff - Safe Ingress: Access to changing facilities is a safe and protected. - Sustainable Transport Plan - Active Transport Facilities (bike parking and electric bike/scooter charging)
Enjoyable Places		2		2	Credit Achievement	Low	2	Intent of the credit can be achieved for building occupants - will require activation strategy.
Contribution to Place		2		2	Credit Achievement	Low	2	Intent of the credit can be achieved base on DRP reviews.
Culture, Heritage and Identity		1		1			0	Not achieved - Pending further assessment
					Total		6	

People9

Inclusive Construction Practices	•	1		1	Credit Achievement	Low	1	Ensure construction practices and inclusive and responsible
First Nations Inclusion		2		2		TBA	0	TBA, pending selection of builder
Procurement and Workforce Inclusion		2	1	3		TBA	0	TBA, pending selection of builder
Design for Equity		2	1	3	Credit Achievement	Low	2	To engage DDA consultant to complete "Design for Inclusion" report
					Total		3	

Nature14

Impacts to Nature	•	2		2	Minimum Expectation	Low	•	Minimise negative impacts to nature from the development
Biodiversity Enhancement - Prescriptive method		3	3	6			0	Pending further assessment
Nature Connectivity		2		2			0	Pending further assessment
Nature Stewardship		2		2			0	Pending further assessment
Waterway Protection		2		2	Credit Achievement	Medium	2	Civil to review flow and pollution reduction targets.
= Nature Positive Pathway					Total		2	Nature Positive Pathway not required for 2025 registrations

Leadership2

Market Transformation				0			0	
Leadership Challenges				2		Medium	1	+ 1 climate positive pathway
					Total		1	