



263-273A Coward Street and 76-82 Kent Road ESD Report

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E-LAB Consulting

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Authorised by:

Engineering Lab NSW Pty Ltd



Alex Kobler | Director

Sustainability



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1 INTRODUCTION

1.1 EXECUTIVE SUMMARY

This Sustainability report has been prepared on behalf of Perpetual Corporate Trust Limited, as the trustee of the LMLP 1 and 2 Trust (the Proponent), in support of a Planning Proposal request for the amendment to the floor space ratio (FSR) controls and introduce site specific additional permitted uses under Schedule 1 for 263-273A Coward Street and 76-82 Kent Road, Mascot. The amendment would enable the redevelopment of the site to deliver critically needed industrial floor space close to Sydney Airport, Port Botany, and the Sydney Central Business District.

The concept scheme for the site includes:

- Staged demolition of existing buildings/ structure and hardstand areas and site preparation works, and site preparation works
- Staged construction, fit out and operation of warehouse and distribution centre buildings with complementary office and retail
- Other associated works include landscaping, at-grade parking, and general site improvements
- Provision for building identification signage and public art opportunities on the building elevations

This report presents a summary of the ESD strategies proposed and commitments made for any future development of the site. The proponent aims to deliver an affordable and sustainable outcome for the project by demonstrating a strong commitment to sustainability in its design, construction, and operation.

The proposed sustainability elements include:

- Targeting 5 Star Green Star Design & As Built v1.3 Certification for the future development of the site;
- No gas on site to reduce fossil fuel consumption;
- Water recycling through rainwater storage with excess discharged into bio-retention and detention areas;
- Water Sensitive Urban Design Principles being upheld;
- Water recycling through rainwater storage with excess discharged into bio-retention and detention areas;
- Targeting less than 5kg of Construction and Demolition waste per square meter of GFA going to landfill;
- Parking capacity for electric vehicles to prepare for a decarbonised future;
- Urban heat island effect mitigation strategies; and
- Following a range of sustainability initiatives across the site spanning energy efficiency, thermal performance, indoor environment quality, waste management, and comfort.

The strategies and initiatives presented in this report demonstrate a strong commitment to sustainability in line with the Bayside Council development guidelines and would be further developed during subsequent stages of the project.



1.2 PROJECT OVERVIEW

The site is located at 263-273A Coward Street and 76-82 Kent Road, Mascot, within the Bayside Local Government Area (LGA). The site comprises four allotments at 263-273 and 273A Coward Street and 76-82 Kent Road, Mascot (Lots 100 and 101 DP 1277278, Lot 5 DP 1194564, and Part of Lot 3 DP 230355). The boundaries of the site are shown in the Figure below.



Figure 1 Subject Site (Source: Urbis)

The site is in the Bayside Council LGA. The site is approximately 9km south of the Sydney CBD and less than 1km north of the Sydney Domestic Airport. The site is bound by Coward Street to the North, Kent Road to the East, Port Botany rail freight line to the south and commercial uses to the West. The site is generally rectangular in shape and has a total area of approximately 94,565.6 m². The north-western part of the site currently accommodates a large-scale warehouse building with access via Coward Street and the north-eastern and southern parts of the site comprise large hardstand areas and existing buildings and structures. The hardstand areas provide parking for heavy vehicles (generally to the north adjoining Coward Street) and car parking for Qantas staff. There are significant trees across the site, primarily within the landscaped setbacks along the northern and southern boundaries.

The site is located within an established industrial precinct and the surrounding context generally comprises of industrial and commercial buildings. Adjoining the site are the following developments:

- North: Industrial zoned land accommodating a variety of small-medium scale industrial style buildings and several large hardstand areas.
- South: Rail corridor and Qantas Drive
- East: Industrial buildings which accommodate manufacturing activities, industrial and commercial office buildings (across Coward Street), and larger scale warehouse buildings with multiple tenancies, including Dnata Australia (across Kent Street)
- West: Airgate Business Park comprising multiple buildings. The immediately adjoining building currently accommodates the DHL Express Head Office and associated freight and logistics operations

1.3 PROPOSAL

The Proponent is seeking to amend the *Bayside Local Environmental Plan 2021* to increase the maximum floor space ratio of the site from 1.2:1 to 2:1 (or additional 76,018m²) and introduce site-specific additional permitted uses including Office Premises and Cafe or Restaurant, under Schedule 1. The amendments to the FSR would enable the redevelopment of the site to deliver critically needed industrial floor space close to Sydney Airport, Port Botany and the Sydney Central Business District (CBD).

It is proposed to redevelop the site in stages to accommodate continuation of the existing operations in the Qantas Sydney Distribution Centre (SDC) in accordance with the leaseback arrangements. A preliminary concept proposal has been prepared that complies with the amended FSR and provides for the following:

- Staged demolition of existing buildings/structures and hardstand areas and site preparation works, and site preparation works
- Staged construction, fit out and operation of warehouse and distribution centre buildings with complementary office and retail uses
- Other associated works include landscaping, at-grade parking, and general site improvements
- Provision for building identification signage, and public art opportunities on the building elevations



Figure 2: Aerial view of the proposal SE (Source: Lacoste + Stevenson)

2 SUSTAINABILITY FRAMEWORKS

The future development of the site's sustainability outcomes is influenced by the following key frameworks:

- Bayside Council Local Environment Plan (LEP) 2021
- Bayside Council Development Control Plan (DCP) 2022
- To have energy efficiency in the design and operation of development proposals. This is done by:
 - Promoting the use of energy efficient principles in the design of a facility; and
 - Ensuring the ongoing operations of the facility incorporates energy minimisation measures.
- This development aligns with these values:
 - Star Design & As Built v1.3
 - Performance Standards for Net Zero Ready Energy Buildings

2.1 BAYSIDE COUNCIL LOCAL ENVIRONMENT PLAN (LEP) 2021

The Bayside Council LEP 2021 outlines the requirements for the future development in accordance with the principles of sustainable development, which include:

- Conserves energy and reduces carbon dioxide emissions;
- Minimises embodied energy in materials and building processes;
- Optimises building design and orientation;
- Promotes energy efficiency and conservation;
- Conserves and reuses water;
- Minimises waste and promoting recycling; and
- Reduces vehicle dependence;

2.2 BAYSIDE COUNCIL DEVELOPMENT CONTROL PLAN (DCP) 2022

The Bayside Council Development DCP 2022 outlines the sustainable development objectives new developments in the City of Botany Bay must consider. In particular, Part 3.3 requires new developments to meet the following requirements:

- Minimises consumption of resources including non-renewable energy, water, waste, and soil;
- Construction of development minimises adverse impacts on the environment;
- Improves the comfort and health of resident, employee, and construction workers;
- Minimises pollution of air, soil, and water;
- Promotes environmentally sensitive design and construction of buildings; and
- Reduces energy bills and the lifecycle cost of energy services



2.3 GREEN STAR DESIGN & AS BUILT V1.3

The future development will aim to meet and exceed industry best practice sustainability requirements within its design as part of the sustainability commitments associated with construction and operation. The development will be targeting 5 Star Green Star Design & As Built v1.3 rating, by achieving ESD in the nine categories identified in the Green Building Council of Australia's benchmarking tool:

- **Management** – Assesses the policies, procedures, targets, and strategies put in place to ensure buildings operate to their fullest sustainable potential.
- **Indoor Environmental Quality** – Creation of high quality indoor environments to increase productivity and occupant satisfaction.
- **Energy** – Implementation of strategies and actions to measure and reduce a building's operational energy use, reliance on grid energy supply, and the greenhouse gas emissions associated with grid energy consumption.
- **Transport** – Discouragement of single-occupant vehicle use and encouragement of the use of sustainable transportation modes such as public transport, walking, or cycling.
- **Water** – Reductions in potable water use through the efficient design of building services, water reuse and substitution with non-potable water sources such as rainwater or greywater.
- **Materials** – Consideration of issues such as sustainable procurement and purchasing (materials in) and the management of waste (materials out).
- **Land Use and Ecology** – Address the ongoing impact of building operations on local ecosystems by discouraging degradation and encouraging the restoration of natural environments whenever possible. Improvement of biodiversity through policies and management practices.
- **Emissions** – Minimise point source pollution from buildings and building services to the atmosphere and local waterways. Manage and minimise emissions from stormwater, light pollution, and refrigeration.
- **Innovation** – Use creativity and the pioneering application of new ideas and approaches in order to facilitate the progression of the facilities management sector towards more sustainable outcomes.

A 5 Star Green Star Design & As Built v1.3 pathway has been developed for the multi-level warehouse concept scheme. A summary of the points targeted is presented in the table below.

CATEGORY	POINTS AVAILABLE	5 STAR POINTS TARGETED
Management	14	13
Indoor Environment Quality	16	9
Energy	22	13
Transport	10	7
Water	12	8
Materials	14	6
Land Use & Ecology	6	1
Emissions	5	4
Innovation	10	4
Total	109	65

Please refer to the Green Star Design & As Built Pathway for more detail into the credit requirements and responsible parties.

2.4 PERFORMANCE STANDARDS FOR NET ZERO READY ENERGY BUILDINGS

In alignment with best practice, the proponent's commitment to sustainability, the future development of the site proposes to be prepared for net zero carbon emissions. This includes the following strategies:

- Reducing energy loads and usage;
- Less than 5kg of construction and demolition waste per sqm GFA is going to landfill;
- On-site renewable energy through a large photovoltaic array; and
- Eliminating gas to remove fossil fuel consumption and prepare for a decarbonised grid.
- Committing to become Carbon Neutral in operation by 2030 under Perpetual's group sustainability strategy



3 PROJECT DESIGN RESPONSE

3.1 EPA PRINCIPLES

The future development of the site will follow the golden standard in sustainability principals throughout the development process. This will include the design, construction, and operational elements of the project. The key overarching principals will be aligned with the definition of Ecologically Sustainable Development as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2021. These will include:

- The Precautionary Principle:

Philosophy: Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Project Response: The project is committed to incorporating elements to minimise impacts on the environment, as outlined below in this section of this report. A commitment to improvement on minimum benchmarks demonstrates the development's commitment to sustainability.

- The Principle of Inter-generational Equity:

Philosophy: The present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations.

Project Response: The project is committed to incorporating careful selections into the project design. The design team will address key elements such as energy, potable water, and material consumption to do what is within the project's control to allow each following generation to have an opportunity for ecological equality.

- The Principle of the conservation of biological diversity and ecological integrity:
- **Philosophy:** Conservation of biological diversity and ecological integrity should be a fundamental consideration

Project Response: The project is committed to planting native vegetation and using integrated landscaping to enhance the overall ecological and biodiversity of the site. Rainwater and stormwater will be carefully managed and controlled to minimise impacts on surroundings.

- Principles relating to improved valuation, pricing, and incentive mechanisms:

Philosophy: Environmental factors should be included in the valuation of assets and services. The users of goods and services should pay prices based on the full life cycle costs of providing goods and service.

Project Response: The project will target a construction waste diversion target of 90%, as well as developed specific project waste management strategies. These combine to ensure the project pays for the waste and damage it creates. Further, it is designed to be low-energy and low-water consumption, which provides an incentive for residents through lower utility bills.

- The Principle of Waste Minimisation:
- **Philosophy:** All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.

Project Response: The project will target a construction waste diversion target of 90%, as well as developed specific project waste management strategies. Construction materials are chosen to be low impact in their manufacture, including best practice PVC and FSC/PeFC timber throughout where possible. This impacts waste both created by the site, as well as upstream and downstream waste categories.

The above principles are addressed by 5 key themes, being **Sea, Land, Water, Air and People**. These 5 key themes are centred around reducing harm as far as practicable across the practice of buildings and infrastructure, both in their construction and operation.



3.2 ENERGY

The only path to a low carbon economy and achieving a “2°C world”, where the average global temperature is kept to less than 2°C above pre-industrial levels, is through comprehensive and complete consideration of how the development consumes resources, including energy, water, and material efficiency.

The energy efficiency strategy generally follows the energy efficiency pyramid of design in Figure 3. In the first instance demand for greenhouse gases should be reduced. Consideration should be to remove the need for energy to be consumed where possible. Beyond this, energy can be more efficient, through efficient lighting, mechanical systems, and appropriate services.

Once the system has reduced all available energy-consuming elements and made the remaining systems as efficient as possible, renewable energy sources will be considered. If space allows on the roof, PV will be installed. Only after all the above steps have been completed should offsets be used to close the gap and achieve neutrality.

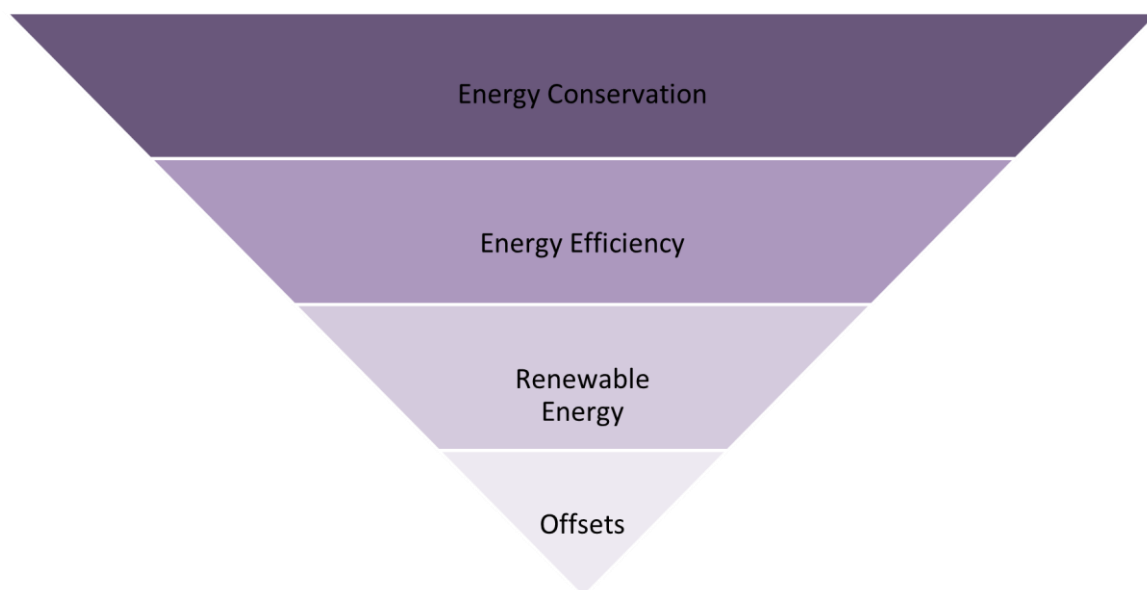
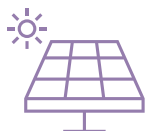


Figure 3. Energy efficiency pyramid: pathway to carbon neutrality.

To achieve the above, the following initiatives are proposed:



Electrification – No gas will be used on site, enabling the development to be ‘net zero ready’ and allow the benefits of decarbonisation of the grid to be realised. This is in keeping with the Bayside Council vision for the area.



Renewable Energy – The roof area provides an excellent opportunity for installation of a solar photovoltaic system. The sizeable system will generate renewable electricity to offset grid use and minimise stress on the grid at peak times.



Efficient Lighting Systems – High efficiency LED lighting throughout, including in common areas with efficiency controls to meet the requirements of NCC 2019 Amendment 1 Section J. Controls will include motion sensors, time clocks and zoned switching.





Controls, Energy Metering and Monitoring – Energy meters and monitoring systems will be provided to comply with NCC 2019 Amendment 1 Section J Part J8 requirements. Preference for natural ventilation and comfort through adaptive cooling and shading.



Hot Water – Hot water is likely to be provided by energy efficient heat pump systems. These systems are highly efficient and can be run off the solar PV system to reduce the operational carbon of the development.



Integration of Cool Roofing – roofing with a high albedo will reduce Urban Heat Island effect and reduce load on the HVAC system.

3.3 WATER CONSUMPTION & WSUD

To achieve responsible water consumption and water sensitive urban design, best practice water-saving initiatives will need to be implemented throughout the project. The following initiatives will be explored to achieve the potable water targets:

Sanitary Fixtures – By implementing low-flow water fixtures, the consumption will be significantly reduced. All sanitary fixtures are to be provided with the minimum WELS ratings identified below:

Taps – 6 Star WELS

Toilets – 5 Star WELS

Urinals – 6 Star WELS (0.8 L per flush)

Showers – 3 Star WELS (<9 L/min)



Landscape Irrigation – Efficient irrigation systems will be considered, including underground surface drip systems, moisture sensors, and the use of native plants in the landscaping plan. Native plants have evolved to thrive in the Australian environment and are typically more resilient than their exotic counterparts. They typically require less water and are more likely to survive the predicted increase in extreme drought conditions due to climate change. Native vegetation also stores a significant amount of carbon, helping to mitigate climate change.



Recycled water and rainwater – the concept will supply most of the toilet flushing, irrigation, and washdown needs from an on-site rainwater tank. Rainwater will be captured from the roof of the buildings to reduce potable water demand.



The concept design will deliberately work to reduce potable water consumption by first reducing water use, and then offsetting it through rainwater tanks. The rainwater tanks will be designed to meet as much of the site irrigation needs as possible.

3.4 MATERIALS

In line with the principals of sustainability outlined in the EPA, the future development will have a significant focus on materiality. The scope of consideration includes the following action items within the project response:

- **Construction Waste** – Less than 5kg of construction and demolition waste per square meter of GFA is going to landfill. This diverts and ensures reuse or recycling of a high portion of site waste.
- **Low VOC and Low Formaldehyde Materials** – paints, adhesives, sealants, floor coverings, carpets and engineered wood will be selected appropriately to provide a healthier and low-impact environment. Such efforts provide a cleaner and better environment for all.
- **Best-Practice PVC** – cables, pipes, flooring, and blinds will be selected and specified to be Best Practice PVC. This ensures upstream performance will be met and has significant benefit for the overall environment during the construction process.
- **Best Practice Steel** – Where possible, steel will come from a sustainable steel manufacturer, who has an action plan.
- **FSC/PeFC Timber throughout** – where possible, timber, including virgin and engineered timber through construction and fitout elements under the builder's control will be specified as FSC/PeFC. This ensures the timber provided to site is of the highest standard and sourced from sustainable sources.
- **Waste Management Plan** – Development of an ongoing Waste Management Plan so waste can be sorted, separated, and recycled. This will assist ongoing diversion from landfill for the development.

3.5 COMFORT AND QUALITY

To ensure the best quality for users and visitors inside the space, the future development will commit to the following key initiatives:

- **Visual Comfort** – Maximising high-quality light into the living spaces, with views to the sky and nature where possible, and consultation with La Perouse Elders to implement appropriate colours.
- **Acoustic Excellence** – Designing the building layout to be protected from noise from external sources. Delicate material selection, acoustic attenuation, and designing the shape of the building and openings accordingly achieves the performance.
- **Thermal Comfort** – Appropriate mix of vernacular design, overhangs, adaptive comfort and high levels of insulation in the roof and facades. Adaptive cooling will be integrated into the design based on tenant needs and high-occupancy spaces.
- **Lighting Comfort** – Use of high colour rendering index (CRI > 80) LED lighting throughout the entire development. Low-glare lighting with baffles or louvres to limit UGR.
- **Generous Natural Planting** – Greenery through natural planting throughout the development assists in a connection to nature for users and passers-by. It also has a cooling effect, reducing the Urban Heat Island burden on the project.

The above combine to ensure the future development is responsible, efficient, beautiful, and in the best interest of not just the developers, but the residents, community, and society as a whole.



3.6 URBAN HEAT ISLAND MITIGATION

The site experiences the urban heat island effect much hotter than Sydney's baseline, so reducing heat at the local scale is critical.

In response to the fact Sydney is getting hotter, especially in the Bayside Council LGA, being ranked the lowest for urban forest cover in Sydney in 2022. The site's baseline heatwave temperature experiences peaks approx. 8°C above the baseline, as defined by the NSW government for Urban Heat Island Effect (<https://geo.seed.nsw.gov.au/Public Viewer>).

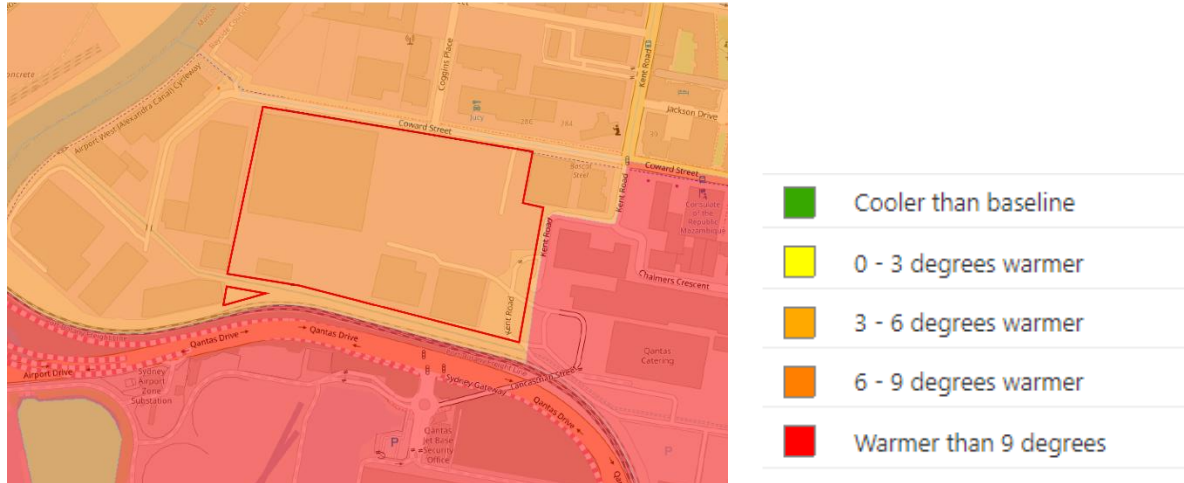


Figure 4. Urban heat island effect at the site. (Source: SEED Database)

To minimise the urban heat island effect and provide a more comfortable environment for occupants, the concept scheme has incorporated the following initiatives:

- Soft landscaping with wide canopies throughout the at-grade car park
- Introduction of architectural treatments to foster façade shading.

3.7 SECTION J

The future development will be subject to compliance with Section J under the NCC 2022 Amendment 1 code. This code places strict environmental performance requirements on the building envelope and services within the building.

The future development will demonstrate compliance via verification method J1V3 – verification using a reference building (energy modelling). The design of the building fabric will need to demonstrate compliance with this clause through dynamic modelling of the building against a reference case.

The scope of the Section J compliance is limited to areas that meet both of the following criteria:

- Non-Residential areas
- Conditioned Spaces

As such, this includes the majority of areas within the future development.

3.8 FOSSIL-FUEL FREE DESIGN

The project team explored the opportunity to utilise the Qantas tri-generation plant located immediately north of the QF3 site. This had the ability to provide low-energy power, cooling and heating to the overall system. This was not taken up for the following reasons:

- Trigeneration relies on fossil fuels, with gas being the main working energy source. Utilising the tri-generation plant will lock the building in to consuming gas for a significant period of time
- While electricity is more greenhouse gas intensive currently, the grid is in the process of decarbonising. Over the life of the plant being installed (15 years +), it is anticipated electricity will be a cleaner supply source than gas.
- Down-stream gasses and localised emissions created by trigeneration can be harmful to the local environment.

This position is supported by third-party rating tools such as Green Star, which reward developments for electrification. There is a significant movement across the industry to electrify all buildings, and LOGOS is committed to helping the industry make this transition.



4 CONCLUSION

This report provides an outline of the proposed development's Ecologically Sustainable Design initiatives and commitments. The ESD strategies proposed will assist the development in achieving high levels of sustainability and environmental performance. These strategies include:

- Committed to a 5 Star Green Star Design & As Built v1.3 Certification for the future development;
- No gas on site to reduce fossil fuel consumption;
- Significant on-site energy generation through a major solar PV array on the roof to reduce operational energy and GHG emissions associated with the site;
- Water Sensitive Urban Design Principles being upheld;
- Water recycling through rainwater storage with excess discharged into bio-retention and detention areas;
- Less than 5kg of Construction and Demolition waste per square meter of GFA going to landfill;
- Low VOC and formaldehyde finish to improve air quality
- Creating and following a Green Travel Plan;
- Providing parking capacity for electric vehicles to prepare for a decarbonised future;
- Urban heat island effect mitigation strategies; and
- Following a range of sustainability initiatives across the site spanning energy efficiency, thermal performance, indoor environment quality, waste management, and comfort.

The strategies and initiatives presented in this report demonstrate a strong commitment to sustainability which meet and exceed expectations for the future development of the site. Further opportunities for optimisation of the building's performance will be developed during subsequent stages of the project.



Appendix A **Green Star Pathway**



Project Name	QF1 + QF2
Project Location	Mascot, NSW
Green Star Tool	Design & As-built v1.3 (in conjunction with industrial guidance)
Project Registration No	TBC
Targeted Rating Level	5-star
Revision Date	18-Apr-23

99	Applicable points (excludes 10 innovation points)
65.7	Targeted points (includes innovation points)
5-star	Targeted points rating level
20.2	TBC points (includes innovation points)
85.9	Targeted + TBC points
6-star	Targeted + TBC points rating level (only 75% of the points are required for 6-star)

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Management							
Green Star Accredited Professional	1.1	Accredited Professional	1	1			
Commissioning and Tuning	2.0	Environmental Performance Targets	R	R			
	2.1	Services and Maintainability Review	1	1			
	2.2	Building Commissioning	1	1			Point will not be targeted for air conditioned warehouses.
	2.3	Building Systems Tuning	1	1			
	2.4	Independent Commissioning Agent	1			1	
Adaptation and Resilience	3.1	Implementation of a Climate Adaptation Plan	2	2			
Building Information	4.1	Building Information	1	1			
Commitment to Performance	5.1	Environmental Building Performance	1	1			
	5.2	End of Life Waste Performance	1	1			Logos to provide a confirmation on implementation of renovation (end-of-life) performance.
Metering and Monitoring	6.0	Metering	R	R			Monitoring systems (EMS) should be installed adhering to Green Star requirements.
	6.1	Monitoring Systems	1	1			
Responsible Construction Practices	7.0	Environmental Management Plan	-	R			
	7.1	Environmental Management System	1	1			
	7.2	High Quality Staff Support	1	1			
Operational Waste	8A	Performance Pathway - Specialist Plan	1	1			The floor plan to have separate waste bins, dedicated waste storage and access to waste storage area aligning with Green Star requirements.
	8B	Prescriptive Pathway - Facilities					
			14	13	0	1	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Indoor Environment Quality							
Indoor Air Quality	9.1	Ventilation System Attributes	1	1			
	9.2	Provision of Outdoor Air	2		2		To be explored in the design stages. Requires ventilation fans for non conditioned warehouses.
	9.3	Exhaust or Elimination of Pollutants	1	1			Tenant Dependent. If targeted, Logos will discuss with the tenant regarding the use of low emission certified printers approved by Green Star. If kitchen is present in the building, the stove tops should be of electric source.
Acoustic Comfort	10.1	Internal Noise Levels	1	1			
	10.2	Reverberation	1	1			Credit to be substituted with the Acoustic Comfort credit in the Green Star Buildings rating tool.
	10.3	Acoustic Separation	1	1			
Lighting Comfort	11.0	Minimum Lighting Comfort	R	R			
	11.1	General Illuminance and Glare Reduction	1	1			
	11.2	Surface Illuminance	1			1	
	11.3	Localised Lighting Control	1			1	Spaces to have lighting systems controllable by individuals (i.e. switching on/ off and adjusting the lighting levels). In the past, DALI lighting systems with dimmable features has been accepted by few assessors while other rejects.

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Visual Comfort	12.0	Glare Reduction	R	R			
	12.1	Daylight	2			2	Not possible through daylight strips on the roof for multi-level warehouses. Green Star requires 40%(1 pt) and 60%(2 pts) of the area to be daylit
	12.2	Views	1	1			E-LAB - point dropped as unlikely to be achieved in the offices. If it can be achieved will be added back in
Indoor Pollutants	13.1	Paints, Adhesives, Sealants and Carpets	1	1			
	13.2	Engineered Wood Products	1	1			
Thermal Comfort	14.1	Thermal Comfort	1	1			
	14.2	Advanced Thermal Comfort					Can be considered Not Applicable for industrial buildings
			16	10	2	4	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Energy							
Greenhouse Gas Emissions	15A	Prescriptive Pathway	10				This pathway is not targeted
	15B	NATHERS Rating Pathway	16				This pathway is not targeted
	15C	BASIX Pathway	16				This pathway is not targeted
	15D	NABERS Energy Commitment Agreement Pathway	20				This pathway is not targeted
	15E	Reference Building Pathway	20	11	3	6	
	15E.0	Conditional Requirement	R	R			
	15E.1	GHGe Reduction: Building Fabric	4		1	3	
	15E.2	GHGe Reduction	16	8	2	6	Atleast 45% reduction in GHGe compared to benchmark buildings should be achieve through energy efficient system and without renewable energy. Do not consider the training equipment load (e.g. simulators) for energy modelling. All 16 points will be possible if 100% of the building electricity is met through roof top solar and/or GreenPower.
	15E.3	Off-site Renewables	8			8	Tenants should source GreenPower. A maximum of 20 points is achievable for whole credit 15.
	15E.4	District Services	7			7	
	15E.5.1	Transition Plan	1	1			Tenant Dependent. Logos can develop a transistion plan for the building confirming no fossil fuel usage beyond 2030, but, tenant should provide confirmation accepting the transition plan.
	15E.5.2	Fuel Switching	2	2			No fossil fuels should be burned on site to generate electricity, heating or cooling.
	15E.5.3	On-site Storage	1			1	
Peak Electricity Demand Reduction	16A	Prescriptive Pathway: On-site Energy Generation	1				This pathway is not targeted
	16B	Modelled Performance Pathway: Reference Building	2	1	1		Additional point pursued here given size of PV array
			22	12	4	6	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Transport							
Sustainable Transport	17A	Performance Pathway	10			10	This pathway is not targeted
	17B	Prescriptive Pathway	7			7	This pathway is not targeted
	17B.1	Access by Public Transport	3				
	17B.2	Reduced Car Parking Provision	1				
	17B.3	Low Emission Vehicle Infrastructure	1				
	17B.4	Active Transport Facilities	1				
	17B.5	Walkable Neighbourhoods	1				
	17C	Prescriptive Pathway - Industrial	7	5	2	0	Max of 7 points can be targeted under this pathway
	17C.1	Access by Public Transport	1		1		TBC based on the calculator results provided by GBCA. Might not be possible.
	17C.2	Reduced Car Parking Provision	1			1	
	17C.3	Low Emission Vehicle Infrastructure	5	3	0	2	
	17C.3A	15% dedicated parking for fuel efficient vehicles	1	1			15% of the parking spaces are dedicated to fuel efficient vehicles. Fuel efficient vehicles are those having an overall rated fuel efficiency of 5L/100km or better, or 115g CO2/100km or better as listed in the Australian Green Vehicle Guide.
	17C.3B	5% dedicated parking for electric vehicles along with charging stations	1	1			At least 5% of the parking spaces to have electric charging infrastructure. At least 2 car parking spaces should be provided with electric charging facilities with provision to increase the number of charging stations for the future.
	17C.3C	Parking for car share vehicles	1	1			A Technical Question to be submitted to GBCA to award a point for providing at least 5% of the parking spaces to be designated for carpooling/ car sharing vehicles.
	17C.3D	No parking spaces provided	1			1	
	17C.3E	Provision of low emission facility transport	1			1	
	17C.4	Active Transport Facilities	2	2			Provide adequate showers and lockers to the building occupants. Provision of bicycle parking spaces is optional under industrial pathway.
17C.5	Proximity to Amenities	2		2		Likely achieved on cursory review of surrounding area	
Total			10	5	2	0	
Water							
Potable Water	18A	Performance Pathway	12	8	1	3	Use of 5 or 6 star WELS rated sanitary fixtures and native species for landscaping. Rainwater harvesting system to be provided for collecting and reusing the water for non-potable water demand. Also 80% of the water used for fire system testing should be captured and reused.
	18B	Prescriptive Pathway	6	0	0	6	This pathway is not targeted
Total			12	8	1	3	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Materials							
Life Cycle Impacts	19A	Life Cycle Assessment	7	5	2	0	Carryout LCA to determine opportunities to reduce the embodied carbon and operational GHGe. Points achieved depends on the reduction of carbon emissions achieved. Having rooftop solar will contribute to points through operational emissions reduction.
	19A.1	Comparative Life Cycle Assessment	6	4	2	0	
	19A.2	Additional Reporting	4	1	3	0	
	19 B.1	Life Cycle Impacts - Concrete	3				This pathway is not targeted
	19 B.2	Life Cycle Impacts - Steel	1				This pathway is not targeted
	19 B.3	Life Cycle Impacts - Building Reuse	4				This pathway is not targeted
	19 B.4	Life Cycle Impacts - Structural Timber	3				This pathway is not targeted
Responsible Building Materials	20.1	Structural and Reinforcing Steel	1	1			FSC certified timber to be used including formwork, structural timber etc. Alternatively the credit can be consider "Not Applicable" if the total cost of timber is less than 0.1% of the total project contract value.
	20.2	Timber	1			1	
	20.3	Permanent Formwork, Pipes, Flooring, Blinds and Cables	1	1			
Sustainable Products	21.1	Product Transparency and Sustainability	3	1	2		Anticipated to be achieved based on concrete and reo alone if right suppliers are used. TBC
Construction and Demolition Waste	22.0	Reporting Accuracy	R	R			
	22A	Fixed Benchmark	1	1			
	22B	Percentage Benchmark					
			14	9	4	1	

Land Use & Ecology							
Ecological Value	23.0	Endangered, Threatened or Vulnerable Species	R			R	If the landscape area is more than 15% of the site area, this credit can be swapped with Biodiversity Enhancement credit from the new Green Buildings rating tool whose requirements are comparatively easy to achieve.
	23.1	Ecological Value	3			3	
Sustainable Sites	24.0	Conditional Requirement	R	R			
	24.1	Reuse of Land	1	1			The site is a brownfield site with demolition of an existing industrial building.
	24.2	Contamination and Hazardous Materials	1		1		TBC. Depends on need for site remediation. Target this credit if site remediation is required
Heat Island Effect	25.1	Heat Island Effect Reduction	1			1	Through a TQ, check with GBCA if grey concrete on hardstand can be used to demonstrate compliance with hardscape SRI requirements.
			6	1	1	4	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Emissions							
Stormwater	26.1	Stormwater Peak Discharge	1	1			TBC. Stormwater design to meet the Green Star's discharge and treatment requirements.
	26.2	Stormwater Pollution Targets	1	1			
Light Pollution	27.0	Light Pollution to Neighbouring Bodies	R	R			
	27.1	Light Pollution to Night Sky	1	1			
Microbial Control	28	Legionella Impacts from Cooling Systems	1	1			Achievabe if air cooled chillers are used. In case of water cooled chillers, compliance to Green Star requirements should be evaluated during the design stage.
Refrigerant Impacts	29.1	Refrigerant Impacts	1			1	
			5	4	0	1	

Innovation (An additional 10 points can be selected by the project team on top of the available 100 points)							
Innovative Technology or Process	30A	Innovative Technology or Process	7	0	1	6	
	30A-1	Thermal Comfort: Individual Comfort Control	1			1	
	30A-2	GHGe: Onsite Renewable Energy	2		1	1	TBC, dependent on the total building load and the final solar system capacity. 1 point will be awarded if installed solar system capacity can cater to 15% of the building demand (2 points for 30%).
	30A-3	GHGe: Building Integrated Photovoltaics	1			1	
	30A-4	Potable Water: Heat rejection systems in equipment requiring process cooling (Prescriptive	1			1	
	30A-5	Potable Water: Passive Design	1			1	
	30A-6	Microbial Control in warm water systems	1			1	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Market Transformation	30B	Market Transformation	6	0	0	4	
	30B-1	Commissioning and Tuning Soft Landings	1			1	
	30B-2	GHGe - Passive Design	1			1	
	30B-3	Greenhouse Gas Emissions Early adoption of NCC 2019	2			2	
	30B-4	Life Cycle Impacts - Concrete: Sustainable sourcing of Concrete Aggregates	1			1	
	30B-5	Other Market Transformation Innovations	1				
Improving on Green Star Benchmarks	30C	Improving on Green Star Benchmarks	16	2	1	14	
	30C-1	Commissioning and Tuning: Supplementary or tenancy fit-out systems review	1			1	
	30C-2	Commissioning and Tuning: Building Air Permeability rates	2			2	
	30C-3	Indoor Pollutants: Ultra Low VOC paints	1	1			
	30C-4	Indoor Pollutants: Mattresses (Health and Hospitality projects only)	1			1	
	30C-5	GHGe: Reference Building Pathway	2			2	
	30C-6	Sustainable Transport: No new car parks on site	1			1	
	30C-7	Potable Water: Discharge to sewer	1			1	
	30C-8	Life Cycle Impacts: Comparative LCA	2			2	
	30C-9	Sustainable Products: Product Transparency and Sustainability	2			2	Likely achieved with Concrete and reo
	30C-10	C&D Waste: Reduction of C&D Waste	1		1		C&D waste going into the landfill should be less than 5kg of waste per square meter of GFA. It is possible to achieve this credit with a comprehensive C&D waste management plan. Head Contractor to confirm the credit achievement.
	30C-11	Stormwater: Stormwater Pollution Targets	2	1		2	
Innovation Challenge	30D	Innovation Challenges	24	1	1	22	
	30D-1	Affordable Housing	1			1	
	30D-2	Building Air Tightness***	1			1	
	30D-3	Carbon Neutral Construction Service	1			1	
	30D-4	Carbon Positive - New Buildings	1			1	
	30D-5	Community Benefits	1			1	
	30D-6	Contractor Education***	1			1	
	30D-7	Culture, Heritage and Identity	1			1	
	30D-8	Energy Metering Integrity***	1			1	
	30D-9	Financial Transparency	1	1			Head Contractor to fill the financial transparency calculator
	30D-10	High Performance Office Sites	1			1	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Innovation Challenge	30D-11	Homes - Social and Affordable Housing	1			1	
	30D-12	Incorporation of Indigenous design	1			1	
	30D-13	Integrating Healthy Environments	1			1	
	30D-14	Local Procurement	1			1	
	30D-15	Marketing excellence	1			1	
	30D-16	Occupant Engagement	1		1		Tenant Dependent . If targeted, Logos will take responsibility to get the confirmation letter from the tenant.
	30D-17	Powered by renewables	4			4	
	30D-18	Reconciliation Action Plan	1			1	
	30D-19	Responsible Carbon Impact	1			1	
	30D-20	Social Return on Investment (SROI)	1			1	
	30D-21	Universal Design	1			1	

Credit	No	Credit Criteria	Points Summary				Remarks
			Max Points	T	TBC	NT	
Global Sustainability	30E	Global Sustainability	22	0	3	19	
	30E-1	Green Star – Performance	3	0	2	1	
		Green Cleaning	1		1		Tenant Dependent. If targeted, Logos will take responsibility to get the Green Cleaning Policy and letter signed from the tenant.
		Procurement and Purchasing	1			1	
		Groundskeeping Practices	1		1		Tenant Dependent. If targeted, Logos will take responsibility to get the Site Maintenance Policy and letter signed from the tenant.
	30E-2	Green Star – Communities	2	0	0	2	
	30E-3	Green Star – Interiors	2	0	0	2	
	30E-4	BREEAM - New Construction (NC) for 2014	3	0	0	3	
	34E-5	DGNB	4	0	0	4	
	34E-6	LEED	4	0	1	3	
		LEED NC v4 - Integrative Process	1		1		ESD consultant to document and complete the LEED NC v4 - Integrative process workbook.
		Pilot Credit - Design for Adaptability	1			1	
		Pilot Credit - Clean Construction	1			1	
		Pilot Credit - Social Equity within the Supply Chain	1			1	
	30E-6	Living Building Challenge 3.0	2	0	0	2	
	30E-7	IWBI: WELL Building Standard	1			1	
	30E-8	Passive House - Criteria for the Passive House	1			1	
			10	3	6	1	