Ecologically Sustainable Development Report

28-30 Burrows Rd, St Peters, NSW, 2044

Project No.	P00282
Revision	3
Issued	25 October 2022
Client	LOGOS Development Management Pty Ltd

E-LAB Consulting

Where science and engineering inspire design.

Document QA and Revisions

ISSUE	DATE	COMMENTS	ENGINEER	REVIEWER
1	23/06/2022	Draft Issue	FP	AK
2	28/09/2022	For SSDA	FP	AK
3	25/20/2022	Minor Updates	FP	AK
4				

Confidentiality:

This document contains commercial information which has been prepared exclusively for the use by The Principal. The document in entirety is confidential. No information contained in this document may be released in part or whole to any third party without the approval of the Author or The Principal.

Authorised by:

Engineering Lab NSW Pty Ltd

Alex Kobler | Director

Sustainability

Table of Contents

1 INTRODUCTION 3

1.1 EXECUTIVE SUMMARY 3
1.2 PROJECT OVERVIEW 3
1.3 RESPONSE TO SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARs) 4

2 SUSTAINABILITY FRAMEWORKS 5

2.1 SYDNEY LOCAL ENVIRONMENT PLAN (SLEP) 2012 5
2.2 SYDNEY DEVELOPMENT CONTROL PLAN (SDCP) 2012 5
2.3 GREEN STAR 6

3 PROJECT DESIGN RESPONSE 7

3.1 EPA PRINCIPLES 7
3.2 ENERGY 8
3.3 WATER CONSUMPTION & WSUD 9
3.4 MATERIALS 10
3.5 COMFORT AND QUALITY 10
3.6 URBAN HEAT ISLAND MITIGATION 11
3.7 SECTION J 11
3.8 SUSTAINABLE TRANSPORT 12

4 CONCLUSION 13

1 INTRODUCTION

1.1 EXECUTIVE SUMMARY

E-LAB Consulting have been engaged by LOGOS Development Management Pty Ltd to provide sustainability services inputs for the development at 28-30 Burrows Road, St Peters. The intent of this report is to establish Ecologically Sustainable Design (ESD) measures that will be implemented and is intended to form part of the Environmental Impact Statement (EIS) for the State Significant Development Application (SSDA). The development's SSD reference is SSD-47601708.

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

The proposed sustainability elements include:

- **Targeting a 5 Star Green Star Design & As Built v1.3 Certification for the 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 Principals being upheld;
- Water recycling through rainwater storage;
- A minimum 90% diversion of waste from landfill target during demolition and construction;
- 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 in line with the City of Sydney's development guidelines and are to be further developed during subsequent stages of the project.

1.2 PROJECT OVERVIEW

The proposed development at 28-30 Burrows Road, St Peters has a site area of 7,961m^2 and is proposed to be developed for the purposes of a flight training centre. The proposal involves the construction of a three-storey industrial building that will contain a 1,840m^2 flight simulator hall and a 4,670m^2 flight training facility, including training rooms, meeting rooms, and amenities.

Legal description:

- Lot 2 DP 212652
- Lot 15 DP 32332

Figure 1 below shows the location of the site in context. The site is approximately 6km south-west of the Sydney CBD, with Mascot as the nearest train station 1km to the south. It is surrounded mainly by industrial development, as well as the Alexandra Canal immediately to the south. The site's current operations are industrial, with two industrial buildings and a large hardstand area for vehicle parking.

Figure 1. 28-30 Burrows Rd, St Peters site overview. (Source: SIX Maps)

1.3 RESPONSE TO SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARs)

This report outlines how the development will address the SEARs as part of the Environmental Impact Statement. The project is Sydney Flight Training Centre, under SSD-47601708 (dated 12 September 2022). The SEARs are:

REQUIREMENT	RESPONSE
Greenhouse Gas and Energy Efficiency – including an assessment of the energy use of the proposal and all reasonable and feasible measures that would be implemented on site to minimise the proposal's greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050).	This report outlines the energy efficiency strategies undertaken to reduce energy consumption and GHG. These are listed in Section 3.2 and benchmarked against Green Star standards.
A description of how the proposal will incorporate the principles of ecologically sustainable development in the design, construction and ongoing operation of the development	Section 3 of this report outlines the substantial sustainability measures implemented across the project.
A description of the measures to be implemented to minimise consumption of resources, especially energy and water	Section 3.3 of this report outlines how the development addresses water usage in the development sustainably. The Integrated Water Management Plan outlines specific aspects of water sensitive urban design.

2 SUSTAINABILITY FRAMEWORKS

The proposed development's sustainability outcomes are influenced by the following key frameworks:

- Sydney Local Environment Plan 2012
- Sydney Development Control Plan 2012
- Green Star Design & As Built v1.3 – the version of the tool for which the project is registered
- Performance Standards for Net Zero Ready Energy Buildings

2.1 SYDNEY LOCAL ENVIRONMENT PLAN (SLEP) 2012

The Sydney LEP 2012 Part 6.21 aims to deliver the highest standard of architectural, urban and landscape design. In accordance with this clause, the development must consider:

- Environmental impacts such as sustainable design, overshadowing, and solar access; and
- The achievement of principles of ecologically sustainable development.

2.2 SYDNEY DEVELOPMENT CONTROL PLAN (SDCP) 2012

The Sydney DCP 2012 Section 3.6 outlines sustainability objectives that the development must consider, in particular:

- Reduction of greenhouse gas emissions and use of renewable and low carbon energy;
- Energy and water efficiency;
- Minimisation of potable water use;
- Consideration of climate change impacts;
- Waste minimisation and recycling;
- Improvement in indoor environment quality;
- Consideration of sustainable materials; and
- Improvement in biodiversity.

2.3 GREEN STAR

The development also aims 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 for both buildings, 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.

3 PROJECT DESIGN RESPONSE

3.1 EPA PRINCIPLES

The proposed development will follow the golden standard in sustainability principals throughout the development. This includes the design, construction, and operational elements of the project. The key overarching principals are aligned with the definition of Ecologically Sustainable Development as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000. These 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 2. 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.

This strategy has been developed to use reasonable and feasible measures that on site to minimize the proposal's greenhouse gas emissions, reflecting the Government's goal of net zero emissions by 2050.

Based on the initial assessment of the estimated Greenhouse Gas Emissions of the project under Green Star, it is predicted a 40% reduction will be achieved against the Green Star reference model, defined as minimum code compliance.

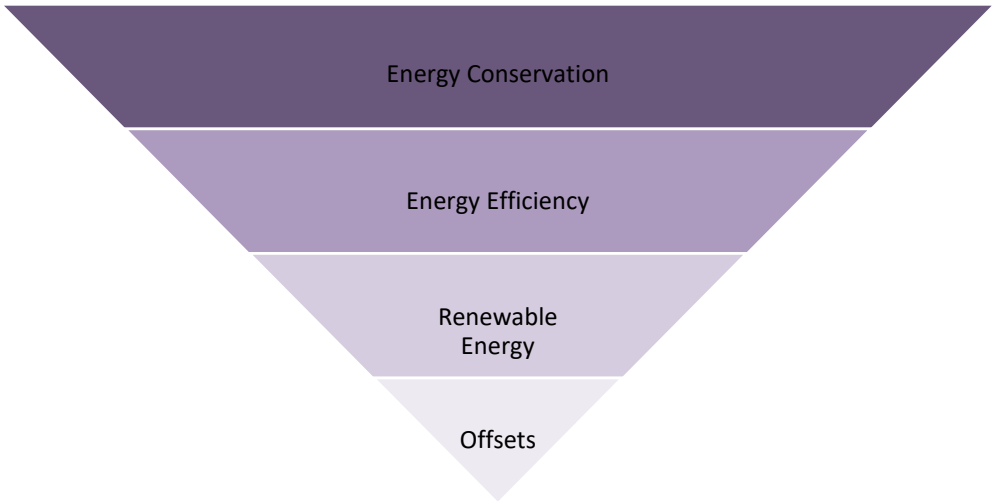

Figure 2. Energy efficiency pyramid: pathway to carbon neutrality.

To achieve the above, the following initiatives are proposed within the design:

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 City of Sydney vision for the council.

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

Renewable Energy – The roof area provides a good opportunity for installation of a solar photovoltaic system. This can generate renewable electricity to offset grid use and minimise stress on the grid at peak times. The size of the system would need to take into consideration roof design, spatial allowance and building demand. This ability will be balanced with plant requirements and exploring opportunities for activation.

Controls, Energy Metering and Monitoring – Energy meters and monitoring systems will be provided to comply with NCC 2019 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 – 4 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 development will supply most of the irrigation needs from on-site rainwater tanks to serve landscape irrigation and washdown. Rainwater will be captured from the roof of the buildings to reduce potable water demand.

The development's design is deliberately working to reduce potable water consumption by in the first instance reducing water use, then offsetting it through rainwater tanks. The rainwater tanks are 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 project will have a significant focus on materiality. The scope of consideration includes the following action items within the project response:

- **Construction Waste** – A minimum 90% diversion from landfill target during demolition and construction. This diverts and ensure 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 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.
- **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 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 is located in a position which experiences a very high level of urban heat island effect. Figure 3 shows the variation of temperature compared to a non-urban vegetated surface, such as a heavily wooded area. The **site experiences temperatures of 8.4˚C above baseline.**

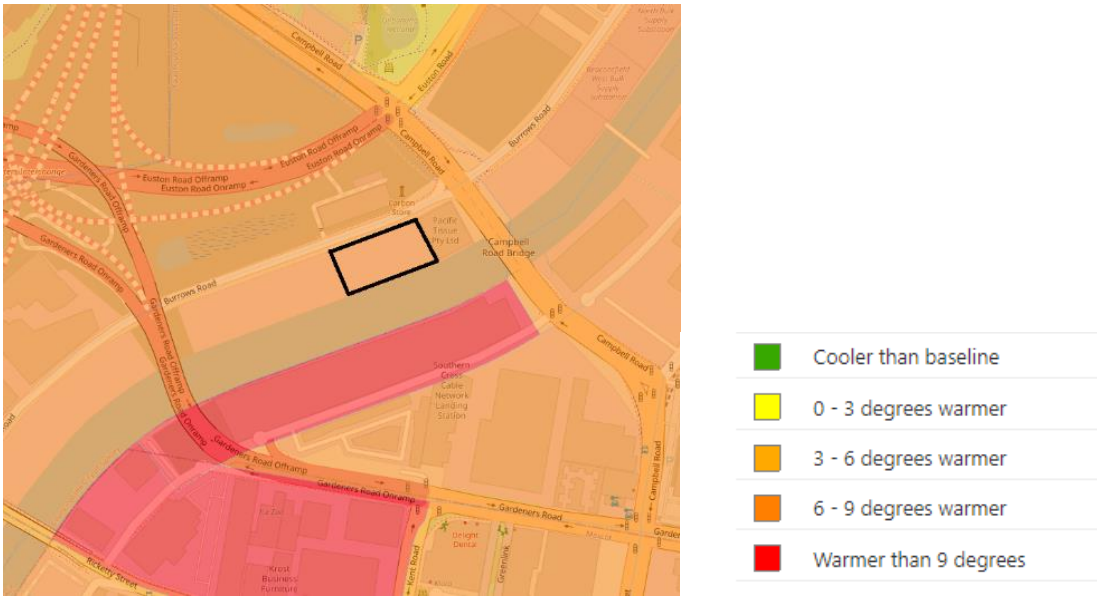

Figure 3. Urban heat island effect at the site. (Source: SEED Database)

To minimise the urban heat island effect and provide a more comfortable environment for occupants, the development will implement the following initiatives:

- Drought tolerant planting where installed
- Light coloured external materials and roof
- Avoiding dark coloured finishes where possible

3.7 SECTION J

The proposed development will be subject to compliance with Section J under the NCC 2019 Amendment 1 code. This code places strict environmental performance requirements on the building envelope and services within the building.

The project will demonstrate compliance via verification method JV3 – 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 majority of areas within the development.

3.8 SUSTAINABLE TRANSPORT

The development site has low accessibility by public transport: 1km to the nearest train station, and 600m to the nearest bus. To increase sustainable transport, Qantas will provide a shuttle bus for pilots and crew to access the facility. This will decrease the need for staff to drive to the site and can instead make the most of Sydney's extensive public transport network. Bike parking, lockers, and change rooms will also be provided to promote active transport methods including walking and cycling. A Green Travel Plan will be provided to indicate innovative solutions to minimise reliance on private vehicle use.

The development also has the potential to support the shift away from fossil fuel transport by providing infrastructure for EV Charging in the carpark. While the demand is not anticipated to be high across the development, it is expected the future demand will continue to rise, so the infrastructure required to install and support this transition will be installed in day 1. This supports the development's commitment to transitioning to a carbon neutral economy.

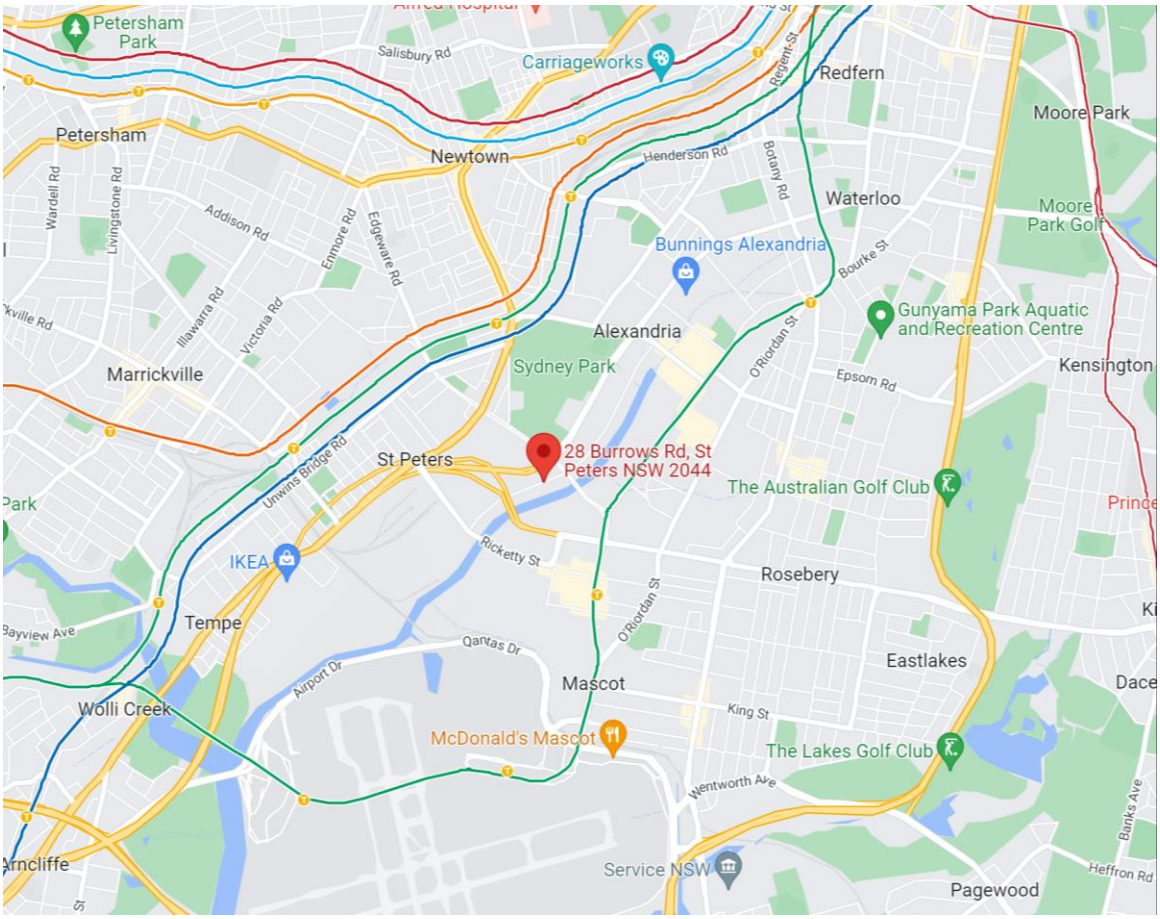

Figure 4. Site location relative to Sydney's trains network.

4 CONCLUSION

This report provides an outline of the proposed development's Ecologically Sustainable Design initiatives to be considered for the development to demonstrate Design Excellence.

The ESD strategies proposed will assist the development to achieve high levels of sustainability and environmental performance. These targets include:

- Committed to a 5 Star Green Star Design & As Built v1.3 for the Stage 5 Facility in this SSDA;
- Demonstrating Australian Best Practice;
- No gas on site to reduce fossil fuel consumption;
- Significant on-site energy generation through a major solar panel array on the roof;
- Water Sensitive Urban Design Principals being upheld;
- Water recycling through rainwater storage;
- A minimum 90% diversion of waste from landfill target during demolition and construction;
- 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 development. Further opportunities for optimisation of the building's performance will be developed during subsequent stages of the project.

Appendix A **GREEN STAR PATHWAY**

Green Star - Design & As Built Scorecard

Project:	Qantas Flight Simulation Facility Sydney	Pathways Targeted	1	Points Available	Pathway
Targeted Rating:	5 Star - Australian Excellence			100.0	66.0

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED
Management				14	
Green Star Accredited Professional	To recognise the appointment and active involvement of a Green Star Accredited Professional in order to ensure that the rating tool is applied effectively and as intended.	1.1	Accredited Professional	1	1
Commissioning and Tuning	To encourage and recognise commissioning, handover and tuning initiatives that ensure all building services operate to their full potential.	2.0	Environmental Performance Targets	-	Complies
		2.1	Services and Maintainability Review	1	1
		2.2	Building Commissioning	1	
		2.3	Building Systems Tuning	1	1
		2.4	Independent Commissioning Agent	1	
Adaptation and Resilience	To encourage and recognise projects that are resilient to the impacts of a changing climate and natural disasters.	3.1	Implementation of a Climate Adaptation Plan	2	2
Building Information	To recognise the development and provision of building information that facilitates understanding of a building's systems, operation and maintenance requirements, and environmental targets to enable the optimised performance.	4.1	Building Information	1	1
Commitment to Performance	To recognise practices that encourage building owners, building occupants and facilities management teams to set targets and monitor environmental performance in a collaborative way.	5.1	Environmental Building Performance	1	1
		5.2	End of Life Waste Performance	1	1
Metering and Monitoring	To recognise the implementation of effective energy and water metering and monitoring systems.	6.0	Metering	-	Complies
		6.1	Monitoring Systems	1	1
Responsible Construction Practices	To reward projects that use best practice formal environmental management procedures during construction.	7.0	Environmental Management Plan	-	Complies
		7.1	Environmental Management System	1	1
		7.2	High Quality Staff Support	1	1
Operational Waste	A. Performance Pathway	8A	Performance Pathway: Specialist Plan	1	1
		8B	Prescriptive Pathway: Facilities	0	
Total				14	12

Indoor Environment Quality				17	
Indoor Air Quality	To recognise projects that provide high air quality to occupants.	9.1	Ventilation System Attributes	1	1
		9.2	Provision of Outdoor Air	2	1
		9.3	Exhaust or Elimination of Pollutants	1	1
Acoustic Comfort	To reward projects that provide appropriate and comfortable acoustic conditions for occupants.	10.1	Internal Noise Levels	1	1
		10.2	Reverberation	1	1
		10.3	Acoustic Separation	1	1
Lighting Comfort	To encourage and recognise well-lit spaces that provide a	11.0	Minimum Lighting Comfort	-	Complies
		11.1	11.1.1 General Illuminance	1	1

Lighting Comfort	high degree of comfort to users.		11.1.2 Glare Reduction		
		11.2	Surface Illuminance	1	
		11.3	Localised Lighting Control	1	
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
		12.1	Daylight	2	1
		12.2	Views	1	1
Indoor Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	13.1	13.1.1 Paints, Adhesives and Sealants	1	1
			13.1.2 Carpets		
		13.2	Engineered Wood Products	1	1
Thermal Comfort	To encourage and recognise projects that achieve high levels of thermal comfort.	14.1	Thermal Comfort	1	1
		14.2	Advanced Thermal Comfort	1	
Total				**17**	**12**

Energy				**22**	
Greenhouse Gas Emissions	E. Reference Building Pathway	15E.0	Conditional Requirement: Reference Building Pathway	-	Complies
		15E.1	GHG Emissions Reduction: Building Fabric	4	
		15E.2	GHG Emissions Reduction	16	8
		15E.3	Off-Site Renewables	8	
		15E.4	District Services	7	
		15E.5	15E.5.1 Transition Plan	1	1
			15E.5.2 Fuel Switching	2	2
			15E.5.3 On-Site Storage	1	
Peak Electricity Demand Reduction	B. Performance Pathway	16A	Prescriptive Pathway: On-Site Energy Generation	0	
		16B	Modelled Performance Pathway: Reference Building	2	2
Total				**22**	**13**

Transport				**10**	
Sustainable Transport	B. Prescriptive Pathway	17A	Performance Pathway	0	
		17B.1	Access by Public Transport	3	
		17B.2	Reduced Car Parking Provision	1	
		17B.3	Low Emission Vehicle Infrastructure	1	1
		17B.4	Active Transport Facilities	1	1
		17B.5	Walkable Neighbourhoods	1	
Total				**7**	**2**

Water				**12**	
Potable Water	A. Performance Pathway	18A	Potable Water - Performance Pathway	12	8
Total				**12**	**8**

Materials				**14**	
Sustainable Products	To encourage sustainability and transparency in product specification.	21.1	Product Transparency and Sustainability	3	1
Construction and Demolition Waste	B. Percentage Benchmark	22.0	Reporting Accuracy	-	Complies
		22A	Fixed Benchmark	0	
		22B	Percentage Benchmark	1	1
Total				**14**	**9**

Land Use & Ecology				**6**	
Ecological Value	To reward projects that improve the ecological value of their site.	23.0	Endangered, Threatened or Vulnerable Species	-	
		23.1	Ecological Value	3	
		24.0	Conditional Requirement	-	Complies

Sustainable Sites	To reward projects that choose to develop sites that have limited ecological value, re-use previously developed land and remediate contaminate land.	24.1	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	
Total				**6**	**2**

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: Legionella Impacts from Cooling Systems	B. Waterless Heat Rejection Systems	28A	Natural Ventilation	0	
		28B	Waterless Heat Rejection Systems	1	1
		28C	Water-Based Heat Rejection Systems	0	
Refrigerant Impacts	To encourage operational practices that minimise the environmental impacts of refrigeration equipment.	29.1	Refrigerants Impacts	1	
Total				**5**	**4**

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	10	1
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		
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		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		1
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**	**4**

	TARGETED
	62.0
	4.0
	0.0
	100.0
	66.0

www.e-lab.com.au