

253-267 Aldington Road, Kemps Creek

**Ecologically Sustainable
Development - ESD Report**

Icon Oceania

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Executive Summary

This Sustainability Report has been prepared by Cundall to accompany a State Significant Development Application (SSDA) for the staged construction and operation of an industrial estate comprising four warehouse buildings at 253-267 Aldington Road, Kemps Creek, NSW 2178 in the Penrith City Council Local Government Area (LGA). The site is legally described as Lot 9 in Deposited Plan 253503.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-23480429) dated 30 July 2021 and additional SEARs issued on 25 March 2022.

This report concludes that the proposed industrial estate is suitable and warrants approval subject to the implementation of the sustainability strategy set out in this report, summarised as follows:

- Minimise operational energy use through passive design, efficient buildings services, controls and monitoring
- On-site generation of renewable energy with space allocated for future battery storage systems
- Reduce upfront carbon used in building materials, and reporting on upfront carbon
- Electric vehicle charging points
- Rainwater harvesting for reuse in non-potable demands
- Responsible management of stormwater pollution and runoff
- Procurement of more responsible materials, including best practice PVC and low-VOC finishes
- Waste minimization plan implemented to reduce waste to landfill during demolition and construction
- Develop a climate risk assessment and response to extreme risks

Following the implementation of the mitigation measures outlined in this report, the remaining impacts are considered compliant with the regulatory requirements.

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1.0 Introduction & Project Overview

1.1 Introduction

This report has been prepared to accompany an SSDA for the construction and operation of an industrial estate comprising four warehouse buildings at 253-267 Aldington Road, Kemps Creek, NSW 2178 (SSD-23480429).

The application seeks consent for:

- Site preparation works including:
 - Demolition and removal of existing rural residential structures including removal of farm dams.
 - Remediation as required.
 - Bulk earthworks (193,100m³ of fill) and retaining walls.
- Staged construction and operation of an industrial estate with a total gross floor area of 45,530m², maximum FSR of 0.45:1, maximum height of 17.2m, split over four warehouses contained within three buildings with ancillary hardstand and office spaces:
 - Stage 1
 - Warehouse 1A: 8,700m² with 660m² office space (total GFA – 9,360m²)
 - Warehouse 1B: 9,130m² with 750m² office space (total GFA - 9,880m²)
 - Warehouse 1C: 8,405m² with 655m² office space (total GFA - 9,060m²)
 - Stage 2
 - Warehouse 2 (temperature controlled): 16,930m² with 790m² office space (total GFA - 17,230m²)
- Use of the buildings for warehouse and distribution purposes 24 hours per day 7 days per week.
- Ancillary development including:
 - Signage (A pylon estate sign approximately 5m high and individual tenant signage adjacent to each office).
 - Car parking (261 vehicular spaces):
 - Warehouse 1A: 65 spaces
 - Warehouse 1B/ 1C: 117 spaces
 - Warehouse 2: 79 spaces
 - Utility infrastructure and services connection
 - Stormwater management including naturalised open channel drainage as well as below ground on-site detention of stormwater
 - Landscaping
- Construction and dedication of new local roads and an interim intersection with Aldington Road.
- Subdivision of the site into two Torrens title allotments along with a road reserve lot for the widening of Aldington Road.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-23480429) dated 30 July 2021 and additional SEARs issued on 25 March 2022. It also addresses the Test of Adequacy comments received on 1 October 2021.

Specifically, this report has been prepared to respond to the SEARs requirement issued below.

Item	Description of Requirement	Section Reference (this report)
Ecologically Sustainable Development	A description of how the proposal will incorporate the principles of ecologically sustainable development (ESD) in the design, construction, and ongoing operation of the development	Section 3 & 4
Ecologically Sustainable Development	Consideration of the use of green walls, green roofs and/or cool roofs in the design of the development	Section 3 & 4
Ecologically Sustainable Development	A description of the measures to be implemented to minimise consumption of resources, especially energy and water	Section 3 & 4
Greenhouse Gas and Energy Efficiency	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).	Section 3 & 4

1.2 The Site

The site is known as 253 - 267 Aldington Road, Kemps Creek and is legally described as Lot 9 in Deposited Plan 253503. The site is rectangular in shape with an area of approximately 10 hectares. The site has a primary frontage along its eastern boundary to Aldington Road of 160m and a depth of 630m. The site is currently occupied by a dwelling house, sheds and agricultural land as shown in the aerial photograph at Figure 1.

The site is undulating in parts but longitudinally falls slightly from Aldington Road at an RL 54.00 to the western boundary with an RL 44.00 which equates to an average grade of 1.5% or 1V in 65H. The site also falls across the site from north to south at 4.3% or 1V in 23H.

The site is burdened by a 60.96m wide Transgrid easement which runs north-south through the site. The easement is known as 'Dapto – Sydney West 330kV Easement' and there is presently no high voltage transmission line infrastructure present.

The site is approximately 5 kilometres (km) north-east of the future Western Sydney International (Nancy-Bird Walton) Airport, 14 km south-east of Penrith CBD and 38 km west of the Sydney CBD.

The site is located within the suburb of Kemps Creek, which falls within the Penrith Local Government Area (LGA). It is in the Mamre Road Precinct within the broader WSEA and is currently surrounded by rural residential land uses.

Multiple SSDs and Local DAs are currently being progressed for industrial and warehouse development within the Mamre Road Precinct which will substantially change the nature of the surrounding area. The regional context is shown overleaf in Figure 1.



Figure 1 Site location (source: Google Maps)

The surrounding land uses include:

- **North:** Pastoral/ farmland extends towards the elevated Bakers Lane. Several properties have been purchased by developers for industrial development these include Frasers and Fife Stockland.
- **South:** Farm and pastoral lands with rural residential properties scattered within the landscape. The Mamre Road precinct extends further beyond Abbotts Road. A locally listed heritage item is located at 282 Aldington Road to the south east.
- **East:** The site is bound to the east by Aldington Road. On the opposite side of Aldington Road several properties have been purchased in seeking approval for industrial development. Land rises to the east which provides a natural screen to the residential E4 Environmental Living zone beyond.
- **West:** Farm and pastoral lands to Mamre Road and beyond. Sites on Mamre Road have been purchased for industrial uses.

All land in the immediate surrounding context to the north, east and south has now been zoned for industrial uses.

2.0 Methodology & Regulatory Requirements

A sustainability strategy has been developed for the proposed project to incorporate the principles of ecologically sustainable development (ESD) in the design, construction, and ongoing operation of the development. The strategy is aligned with the relevant regulatory requirements as well as local key areas of concern of the Penrith City Council, NSW Environment Protection Authority (EPA) and Sydney Water. It is proposed that the project’s sustainability credentials will be verified via third-party independent certification by the Green Building Council of Australia (GBCA) via a certified Green Star rating.

This section outlines in more detail the regulatory requirements and frameworks that have been addressed by the project’s sustainability strategy. Section 3 contains details of the sustainability initiatives that will be implemented. Sections 4 and 5 address Green Star and Section J.

2.1 Planning Secretary’s Environmental Assessment Requirements

The Planning Secretary’s Environmental Assessment Requirements SSD-23480429 (SEARs) for the 253-267 Aldington Road Estate dated 30 July 2021 requires the following sustainability related General Requirements be addressed:

Department	SEARs Requirement
Planning SEARs	A description of how the proposal will incorporate the principles of ecologically sustainable development (ESD) in the design, construction, and ongoing operation of the development
	Consideration of the use of green walls, green roofs and/or cool roofs in the design of the development
	A description of the measures to be implemented to minimise consumption of resources, especially energy and water
	Greenhouse Gas and Energy Efficiency - 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).

2.2 State Environmental Planning Policy (Sustainable Buildings) 2022

The State Environmental Planning Policy (SEPP) 2022, also known as the Sustainable Buildings SEPP, sets targets and initiatives in for different development types in order to ensure the reduction of their GHG emissions, through measurement and verification of their sustainable performance.

The following criteria have been addressed by the project:

C.1 Application Requirements

Criteria	Response
1. Net Zero Statement	A Net Zero Carbon Statement has been provided as part of this submission.
2. Energy Performance & Offsets	A NABERS Commitment Letter has been provided as part of this Submission, in line with advice for interim documentation measures for the NABERS Energy targets.
3. Water Performance	A NABERS Commitment Letter has been provided as part of this Submission, in line with advice for interim documentation measures for the NABERS Water targets.

Criteria	Response
4. Embodied Carbon Reporting	The project is also required to disclose the quantities of key materials (super-structure, substructure, façade) and associated embodied emissions, and describe how embodied emissions were minimised. Please refer Embodied Emissions Materials Form and Section 3.3 of this report.

C.2 General Sustainability Requirements

Criteria	Response
Minimise waste from associated demolition and construction, including choice and reuse of building materials	A Construction Waste Management Plan will be prepared including a target of 80% of demolition / construction waste diverted from landfill (via reuse or recycling). Lower carbon construction materials will be investigated.
Reduce peak demand for electricity	Efficient building services, systems, and equipment will be specified and installed to reduce peak electrical demand.
Generate and store renewable energy	On-site solar photovoltaics will be installed to generate renewable energy. Spatial provisions have been made for future energy storage technologies.
Reduce reliance on artificial lighting and mechanical heating and cooling through passive design	Occupied spaces will incorporate appropriate insulation and performance glazing to reduce reliance on artificial lighting and mechanical heating and cooling.
Meter and monitor energy consumption	Energy consumption will be metered and monitored.
Minimise consumption of potable water	Potable water consumption will be reduced through the specification of efficient fittings, fixtures, appliances, and landscaping, as well as harvesting of rainwater for use in non-potable demands, and waterless heat rejection.

Refer Section 3 for further details.

2.3 The Principles of Ecologically Sustainable Development

2.3.1 Definition

Clause 193 of the Environmental Planning and Assessment Regulations 2021, defines the principles of ecologically sustainable development as follows:

Clause	Response
(a) <i>the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental</i>	The project will implement climate change adaptation principles and incorporate a range of ESD initiatives to minimise its ecological footprint. Initiatives will be implemented to reduce resource use compared to a typical development of this type,

Clause	Response
<p><i>degradation. In the application of the precautionary principle, public and private decisions should be guided by:</i></p> <p><i>i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and</i></p> <p><i>ii) an assessment of the risk-weighted consequences of various options,</i></p>	<p>including energy, water, and material resources (Refer Section 3)</p> <p>Impacts to existing biodiversity on-site have been assessed in the Biodiversity Assessment Report (BAR), and strategies to minimise / offset those impacts are outlined in that report.</p> <p>An Environmental Management Plan will be implemented in construction to manage environmental impacts during construction.</p>
<p><i>(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,</i></p>	<p>As above.</p>
<p><i>(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,</i></p>	<p>Impacts to existing biodiversity on-site have been assessed in the Biodiversity Assessment Report (BAR), and strategies to minimise / offset those impacts are outlined in that report.</p>
<p><i>(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:</i></p> <p><i>i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,</i></p> <p><i>ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,</i></p> <p><i>iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.</i></p>	<p>Sustainability initiatives have been evaluated in terms of value and cost-effectiveness. Industry recognised certification will enable benchmarking against best practice sustainable design.</p>

2.4 Local Regulation and Areas of Concern

Penrith City Council uses the same definition as the Environmental Planning and Assessment Regulation 2000 to define ecologically sustainable development (ESD) in the Local Environmental Plan. The Penrith City Local Environmental Plan has the following requirements related to ESD:

- **Clause 8.4 Design Excellence**

Design development must deliver the highest standard of architectural and urban design.

Section (e) requires the development address the following matters:

- vii) environmental impacts such as sustainable design, overshadowing, wind and reflectivity,
- viii) the achievement of the principles of ecologically sustainable development (ESD).

The following additional sustainability considerations, focused on the local key areas of concern were also addressed in this report:

Authority	Sustainability Consideration	Proposed Response
NSW Environment Protection Authority (EPA)	Create a Stormwater Management Plan that outlines the general stormwater management measures for the proposal, including erosion and sediment controls, first flush systems, and the use of sustainability measures such as Water Sensitive Urban Design to create more resilient and adaptable urban environments.	Section 3.2 Potable Water Minimisation
Penrith City Council - Cooling the City Strategy	Sustainability / Urban Cooling – Given the focus on sustainability and urban cooling in the Penrith Local Strategic Planning Statement and the Western Sydney Aerotropolis Plan, further consideration should be given to how the proposed development would respond to this issue.	Section 3.5 Resilience
Sydney Water	Sustainability initiatives to minimise and reduce the demand for drinking water will be considered, including any alternative water supply and end uses of drinking and non-drinking water. Water sensitive urban design and any water conservation measures will be considered and incorporated, where feasible.	Section 3.2 Potable Water Minimisation

Relevant initiatives that respond to the above considerations were embedded in the Sustainability Framework outlined in Section 3.0.

3.0 Sustainability Framework

3.1 Energy and Greenhouse Gas Emissions

Table 3.1 below details how reasonable and feasible measures will be implemented on site to minimise the site's proposed greenhouse gas (GHG) emissions in design, construction, and ongoing operation of the development.

The project is committed to demonstrating the required level of energy performance for large commercial offices (5.5 star NABERS Energy Base Building rating) if deemed eligible under the NABERS Rating Scheme. If not deemed eligible, an equivalent level of energy performance for the office spaces will be demonstrated.

Table 3.1: Greenhouse Gas and Energy Efficiency response in line with SEARs

Key Objective	Response
Reduce energy use and GHG emissions during construction.	<ul style="list-style-type: none"> Upfront carbon will be reduced.
Reduce energy use and GHG emissions during operation	<ul style="list-style-type: none"> Passive design strategies will be implemented, including appropriate insulation and performance glazing to comply with NCC Section J requirements for the building fabric. Section J assessment will be undertaken during detailed design. Efficient building services, systems, and equipment will be specified and installed. Zoned lighting and HVAC and controls to avoid energy consumption associated with unnecessary lighting and space conditioning. Renewable energy will be generated on-site through photovoltaic (PV) electricity generation systems, with space allocated for future installation of energy storage systems (such as batteries). Electric vehicle charging points to minimise transport emissions. Fossil fuels will be eliminated from site (with the exception of back-up generators and specialised tenant requirements). Submetering and monitoring of major energy uses. Material specifications to minimise heat island effect for warehouse roof areas.
Management	<ul style="list-style-type: none"> Comprehensive Commissioning and Tuning will be undertaken for the nominated building systems. Comprehensive operations and maintenance information will be developed and provided to facilities management team. Environmental impacts during construction will be managed by implementing a best practice, site specific environmental management plan.

3.2 Potable Water Minimisation, Stormwater and Biodiversity

Table 3.2 below details how reasonable and feasible measures will be implemented on site to minimise the site's proposed potable water demand, manage stormwater responsibly, and improve biodiversity on-site.

The project is committed to demonstrating the required level of water performance for large commercial offices (3 star NABERS Water rating) if deemed eligible under the NABERS Rating Scheme. If not deemed eligible, an equivalent level of water performance for the office spaces will be demonstrated.

Table 3.2: Water & Biodiversity Initiatives

Key Objective	Response
Efficient water use	<ul style="list-style-type: none"> ▪ Specify and install fittings, fixtures and appliances with high Water Efficiency Labelling Scheme (WELS) ratings. ▪ Fire protection system designed as a closed loop system with water recirculation during testing. ▪ Office air conditioning systems including waterless heat rejection. ▪ Landscaping to primarily include native and drought tolerant species. ▪ Submetering and monitoring of major water uses and sources, connected to the BMS to identify leaks.
Utilise non-potable water from alternative sources	<ul style="list-style-type: none"> ▪ Harvest and reuse rainwater for non-potable uses. Uses will be determined based on a detailed water balance in the next design stage.
Minimise stormwater pollution and peak runoff through water sensitive urban design (WSUD)	<ul style="list-style-type: none"> ▪ Implementation of Water Sensitive Urban Design principles. ▪ Stormwater filtered / treated to meet pollution reduction targets. ▪ Incorporating rainwater harvesting will reduce run-off quantities.
Improve biodiversity on site compared to pre-development conditions	<ul style="list-style-type: none"> ▪ Onsite landscaping with indigenous, low water use, drought resistant plant species. ▪ The incorporation of a green roof has been considered; however, it has not been deemed feasible for the following reasons: <ul style="list-style-type: none"> – Risk of water ingress. – The weight of the soil on the large spans would require significantly deeper structure increasing embodied energy and resource use. – There is plant equipment on the roof.

3.3 Materials & Waste

The following initiatives will be implemented to reduce the impact of the building materials and waste on the environment:

Table 3.3: Materials and Waste Initiatives

Key Objective	Response
Use responsible products	<ul style="list-style-type: none"> ▪ Precast concrete construction will minimise construction waste. ▪ PVC used in the construction of the development which meets the requirements of the "Best Practice Guidelines for PVC in the Built Environment" ▪ Investigate products / materials which are more responsible, including those with environmental certifications. ▪ Investigate concrete products with: <ul style="list-style-type: none"> – reduced use of Portland cement – reuse of reclaimed mix water – reduced impact aggregates (crushed slag, manufactured sand etc) ▪ Investigate certified or reused timber.
Maximise local procurement	<ul style="list-style-type: none"> ▪ Local sourcing of landscape materials.
Construction waste	<ul style="list-style-type: none"> ▪ Divert a minimum or 80% of construction and demolition waste from landfill.

3.4 People and Community

The following measures will be implemented to provide a healthy environment for people.

Table 3.4: People and Community Initiatives

Key Objective	Response
Minimise negative impact to local environment during construction and operation	<ul style="list-style-type: none"> ▪ Operate in line with an ISO14001 compliant, site-specific Construction Environmental Management Plan (CEMP). ▪ Night sky pollution will be considered in the external lighting design.
Health and Wellbeing of Building Occupants	<ul style="list-style-type: none"> ▪ Prepare an acoustic strategy addressing internal noise levels, reverberation, and acoustic separation. ▪ Ventilation systems are designed to minimise outdoor air pollutants and allow for ease of maintenance and cleaning. Ductwork to be sealed during construction or cleaned prior to occupation. ▪ Heating, ventilation, and air-conditioning (HVAC) systems are designed to provide a good level of thermal comfort in office spaces. ▪ Artificial lighting strategy will be designed to maintain appropriate illuminance levels and glare reduction in office spaces. ▪ Low VOC finishes and low formaldehyde engineered wood products will be specified to minimise off-gassing.
Active Living	<ul style="list-style-type: none"> ▪ Provision of a suitable number of bicycle racks, showers and changing facilities to encourage exercise before, during and after work hours.

3.5 Resilience

Resilience describes the capacity of individuals, communities, institutions, business, and systems to survive, adapt and despite chronic stresses and acute shocks. Adaptation is the process of building more resilient communities, institutions, businesses, and systems to a given (anticipated) set of shocks and stresses.

- A stress is a long-term pressure that reduces the ability of the building to operate in an ideal manner.
- A shock is a short-term, sudden, impact that causes the operations of the building to deviate significantly from its ideal.

The following measures will be implemented to provide a more resilient development.

Table 3.5: Resilience Initiatives

Key Objective	Response
Climate change risk resilience	<ul style="list-style-type: none"> ▪ Develop strategies to mitigate risks associated with an increase in extreme climate events related to rising temperatures, floods, and bushfires (including air quality deterioration). ▪ Evaluate flood zones and areas impacted by extreme rainfall events and locate all critical equipment and services above Probable Maximum Flood (PMF) levels. ▪ Evaluate the ability of the asset and supporting infrastructure to handle rising temperatures. ▪ Consider impacts of increased likelihood of bushfires on developed and natural landscapes, including effects of air quality deterioration from smoke. ▪ Reduce reliance on mains water and energy utilities through onsite rainwater harvesting and energy generation.
Heat resilience	<ul style="list-style-type: none"> ▪ Warehouse roof areas will have a high Surface Reflectance Index (SRI) to minimise urban heat island effect. ▪ Incorporation of landscaping to minimise urban heat island effect.
Peak demand reduction	<ul style="list-style-type: none"> ▪ Peak electrical demand will be reduced through passive design, energy efficiency and on-site renewable energy generation.

4.0 Green Star

The project is registered for a Green Star Design and As-Built v1.3 rating.

Green Star Design & As Built v1.3 is a rating tool owned and operated by the Green Building Council of Australia (GBCA). It assesses the sustainability outcomes from the design and construction of new buildings or major refurbishments, across nine holistic impact categories, and encourages industry to create buildings that are not just green but healthy, liveable, productive, resilient, and sustainable.

Each category contains a number of different credits, and each credit is worth 1 or more points. The Green Star Design & As Built rating tool includes a total of 110 points that are available to be claimed, including 10 points in the Innovation category. Based on the number of points achieved, the following rating can be awarded:

- 45 – 59 points 4 Star rating Australian Best Practice
- 60 – 74 points 5 Star rating Australian Excellence
- 75+ points 6 Star rating World Leadership

Green Star Design & As Built rating tool includes requirements across the following nine holistic impact categories:



- **Management** Aims to encourage and reward the adoption of practices and processes that support best practice sustainability outcomes throughout the different phases of a project’s design, construction and ongoing operation.



- **Indoor Environment Quality** Aims to encourage and reward initiatives that enhance the comfort and well-being of occupants. The credits within this category address issues such as air quality, thermal comfort and acoustic comfort.



- **Energy** Aims to reward projects that are designed and constructed to reduce overall greenhouse emissions from operations by addressing energy demand reduction, use efficiency and generation from alternative sources.



- **Transport** Aims to reward projects that facilitate a reduction on the dependency of private car use as an important means of reducing overall greenhouse gas emissions, as well as to encourage the provision of alternative forms of transportation.



- **Water** Aims to encourage and reward initiatives that reduce the consumption of potable water through measures such as the incorporation of water efficient fixtures and building systems and water re-use.



- **Materials** Aims to address the consumption of resources for the project, by encouraging the selection of low-impact materials.



- **Land Use and Ecology** Aims to reduce the negative impacts on sites' ecological value as a result of urban development and reward projects that minimise harm and enhance the quality of local ecology.



- **Emissions** Aims to assess the environmental impacts of 'point source' pollution generated by projects and reduce their effects on the atmosphere, watercourse and native animals.



- **Innovation** Aims to recognise the implementation of innovative practices, processes and strategies that promote sustainability in the built environment.

A preliminary Green Star Pathway has been prepared, which will be further developed at a later stage as the design progresses.

5.0 NCC Section J

The project conditioned occupied spaces will comply with NCC 2022 Section J energy efficiency requirements including building fabric (J1), building sealing (J3), air-conditioning and ventilation systems (J5), artificial lighting and power (J6), heated water supply (J7) and facilities for energy monitoring (J8).

A preliminary assessment of the building fabric against the Deemed-To-Satisfy provisions of Section J will be undertaken to establish preliminary performance requirements for the building envelope during detailed design.

6.0 Conclusion

This report outlines the sustainability strategy and initiatives that will be implemented for the proposed industrial estate in order to minimise negative impacts to people and the environment. Initiatives have been outlined for carbon, materials, waste, nature, water, people, community, and resilience, including:

- Minimise operational energy use through passive design, efficient buildings services, controls and monitoring
- On-site generation of renewable energy with space allocated for future battery storage systems.
- Reduce upfront carbon used in building materials, and reporting on upfront carbon.
- Electric vehicle charging points.
- Rainwater harvesting for reuse in non-potable uses.
- Responsible management of stormwater pollution and runoff.
- Procurement of more responsible materials, including best practice PVC and low-VOC finishes.
- Waste minimization plan implemented to reduce waste to landfill during demolition, construction, and operation.
- Develop a climate risk assessment.

Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

