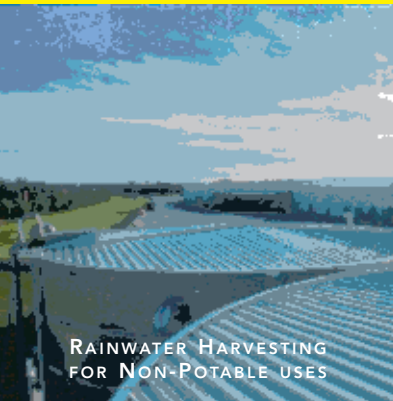
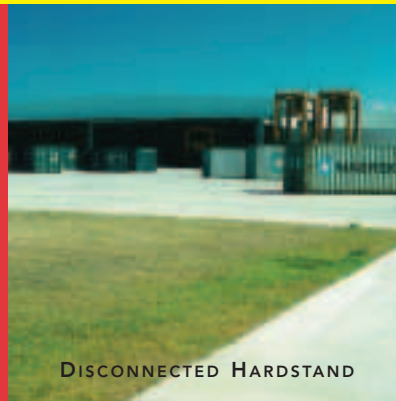


THE WAREHOUSE GROUP'S QUEENSLAND DISTRIBUTION CENTRE

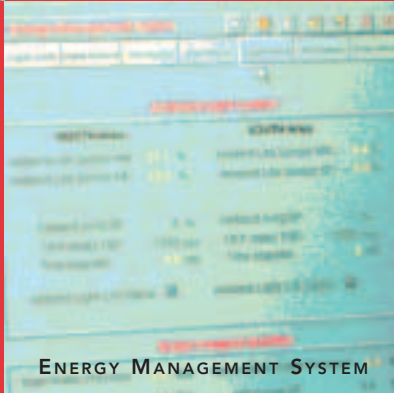


RAINWATER HARVESTING FOR NON-POTABLE USES

OUR **VISION** IS TO BE "AUSTRALIA'S LEADING PORT: POSITIONED FOR THE FUTURE".



DISCONNECTED HARDSTAND

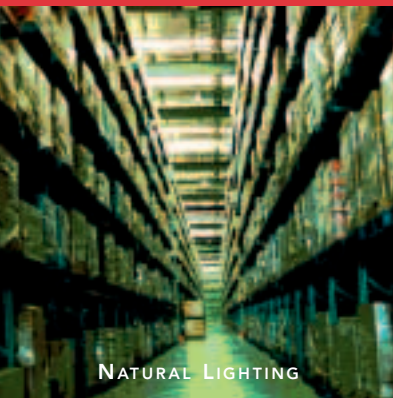


ENERGY MANAGEMENT SYSTEM

WE WILL ACHIEVE THIS BY BEING A **LEADER** OF CHANGE, WORKING WITH THOSE DEVELOPING ON PORT LAND TO ADOPT CREATIVE APPROACHES TO TRADITIONAL URBAN-INDUSTRIAL DEVELOPMENT.

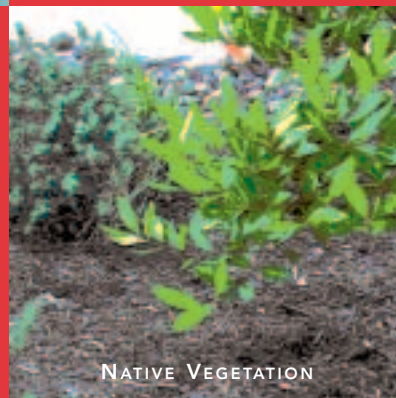


RECYCLING TARGET



NATURAL LIGHTING

PART OF OUR **CONTRIBUTION** IS TO INSPIRE NEW DEVELOPMENTS ON PORT LAND TO ADOPT THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT.



NATIVE VEGETATION

This fact sheet details the various design approaches integrated into The Warehouse Group's Queensland Distribution Centre at the Port of Brisbane.

It highlights the key features of and direct benefits for the facility and the surrounding environment, achieved through the adoption of a sustainable approach to development.

The Port of Brisbane Corporation is committed to sustainable development on port land. The Warehouse Group's Queensland Distribution Centre highlights what can be achieved and is an example for all future port developments.



ENVIRONMENT

ECONOMY

PEOPLE

PROCESS

COMMUNITY

The Warehouse Group's Queensland Distribution Centre challenges traditional industrial design by incorporating sustainable design principles.



Sustainable Design Features

- > Rainwater Harvesting
- > Water Sensitive Urban Design
- > Energy Management System
- > Recycling

The Warehouse Group is a leading discount store retailer in New Zealand and Australia. The \$33 million distribution centre at Fisherman Islands, which was opened in September 2003, is a 50,000m² warehouse from which the company's imported products are distributed to retail outlets in Queensland and New South Wales. With a roof area the size of eight football fields, The Warehouse Group is able to capture clean water for reuse on the site. However, this is only one of a number of initiatives used in the development.

RAINWATER HARVESTING

Rainwater harvesting offers an alternative source of water for toilet flushing and landscape irrigation. The on-site fire-fighting water tanks were raised by one metre allowing for an additional 100,000 litres per tank of roof water to be collected.

The harvested water is used to flush toilets on the site, irrigate native landscaping, and in the wash-down areas. The additional 200,000 litres is sufficient to meet these needs for approximately 28 days.

The water distribution system directs water from either the mains supply or the harvested supply, depending on the water use activity. For example, the system supplies harvested water to a toilet cistern when it is flushed or activates the mains supply when someone is showering.

WATER SENSITIVE URBAN DESIGN

Industrial developments tend to have large impervious areas (roofs and hardstand) that concentrate stormwater immediately after a rainfall event. This concentration has an impact on the quality and quantity of water that discharges into our rivers and oceans.

Water Sensitive Urban Design aims to manage stormwater by reducing run-off, increasing water storage on the site, facilitating infiltration into the ground, and encouraging conveyance of stormwater in a way that more accurately replicates the natural system.

The Warehouse Group has incorporated the following Water Sensitive Urban Design features: native landscaping, disconnected hardstand and permeable surfaces.

ENERGY MANAGEMENT SYSTEM

The Warehouse Group has installed an automated energy management system (EMS) that regulates lighting and ventilation in the warehouse. The system detects the lux level, activates the lights when required, and adjusts the strength of lighting according to ambient light conditions.



Different lighting strategies are used in different areas of the warehouse.

The use of polycarbonate roof sheeting ensures that the use of natural light is maximised. Other power-saving installations include: sensors in aisles to activate lights only when a person or vehicle enters the area; different light designs that concentrate light within aisles or maximise the spread of light in open areas; and energy-efficient bulbs in all lighting appliances.

RECYCLING

As part of the warehouse's operation, a local contractor collects all packaging for recycling purposes. It is estimated that 160 tonnes of cardboard packaging material will be recycled every year. Recycling packaging reduces the demand on timber and reduces landfill.

The Warehouse has recycling bins throughout the building. A recycling target and progressive saving summary is displayed in the lunchroom.

KEY FEATURES	BENEFITS
RAINWATER HARVESTING	
For Toilet flushing	Reduces potable-water demand
For Landscaping	Reduces potable-water demand
WATER SENSITIVE URBAN DESIGN	
Native landscaping	Reduces potable-water demand
Disconnected hardstand	Reduces peak run-off Increases permeable surfaces Increases infiltration
LIGHTING	
Polycarbonate roof sheeting and energy-efficient lighting	Maximises use of natural light Reduces electricity demand Indirectly reduces CO ₂ production
ENERGY MANAGEMENT SYSTEM	
Lighting	Maximises use of natural light Reduces energy costs Minimises use of artificial lighting in low-traffic areas
Ventilation	Maximises use of natural ventilation Reduces cooling costs
RECYCLING	
Recycling packaging	Reduces energy costs Indirectly reduces CO ₂ production
SOLAR HOT WATER	
Solar hot water system	Reduces energy costs Indirectly reduces CO ₂ production

FOR FURTHER INFORMATION:

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