



ROTTNEST ISLAND AUTHORITY
DEVELOPMENT PLANNING GUIDELINE No 03
SUSTAINABLE DEVELOPMENT

1. GUIDELINE OBJECTIVES

The objective of this Sustainable Development Guideline is to:

- a) ensure all development on Rottnest Island is environmentally, socially and economically sustainable so as to conserve and protect the natural and cultural environment for future generations;
- b) contribute to Rottnest Island being recognised as an example of best practice sustainable development in Australia;
- c) assist in the reduction of Rottnest Island's carbon footprint;
- d) ensure that the predicted impacts of climate change are considered in the design of any development; and
- e) provide an achievable and easily assessable set of performance criteria to plan and assess potential developments.

2. SUSTAINABLE DEVELOPMENT

All proposals for development on Rottnest Island must demonstrate how the development is environmentally, socially and economically sustainable. Developers are required to provide justification with each Development Application demonstrating achievement of the criteria in this Sustainable Development Guideline

3. ENVIRONMENTAL SUSTAINABILITY

3.1 Energy

All development on Rottnest Island must demonstrate an approach to energy conservation with the objective of minimising energy demands by applying renewable energy sources within a development that will contribute to reducing Rottnest Island's carbon footprint.

The following development and design criteria are applicable for all new buildings and alterations and major additions to existing buildings, unless prohibitive or otherwise approved by the Rottnest Island Authority:

- a) Green Star Ratings - achieve a Green Star Rating through the Green Building Council of Australia, where the development can be assessed using one of the Green Star rating tool categories.

- b) Renewable energy - obtain all or the majority of their operational power from renewable energy sources which may include solar, wind or any other type of renewable energy source obtained from a central energy supply or an on-site energy supply.
- c) Insulation - utilise thermal insulation to ceilings and external walls to the maximum "R" value available at the time of development.
- d) Building orientation - orientate to maximise access to sunlight, which is to be used for natural lighting and heating, particularly during winter.
- e) Passive solar design - incorporate best practice passive solar design principles including maximising northern openings and the minimisation of east and west openings.
- f) Shading - incorporate appropriately placed adjustable louvers, awnings, shutters and other shading devices to ensure that buildings do not become overheated in summer months and minimising the need for artificial cooling.
- g) Eaves - provide eaves to all east, west and north facing walls.
- h) Ventilation - utilise stack and cross ventilation techniques that take advantage of prevailing breezes to ensure that buildings do not become overheated in summer months and minimising the need for artificial cooling and reducing overall energy consumption.
- i) Lighting - design internal lighting to take advantage of natural light and use low-energy devices and sensor lighting to reduce energy consumption.
- j) Water heating - utilise solar water heating devices and gas energy where boosters are required.
- k) Appliances - incorporate appliances that conform to best practice energy efficiency standards. This includes but is not limited to refrigerators, microwave and convection ovens, cook-tops, washing machines, clothes dryers, heating and cooling devices and kitchen appliances.
- l) Air conditioners - The use of air conditioners is discouraged. However, where air conditioners are proposed to be installed and used in any development, they are to have a minimum 4.5 star heating and cooling energy rating and must be professionally sized to suit the development.

3.2 Water

Rottnest Island has a limited supply of fresh potable water that requires careful conservation to ensure there are sufficient supplies to meet current and future demand. Water availability can be a limiting factor to development on Rottnest Island.

As such all development, including new buildings and major alterations and additions to existing buildings must demonstrate an approach to water conservation with the objective of reducing general demands by applying the following criteria:

- a) Water Management Plan - All Substantial Developments (as deemed by the RIA) must include a Water Management Plan detailing how water will be sourced, use managed and how wastewater will be disposed of during the construction phase of the development and the subsequent ongoing operation of the development.
- b) Rainwater harvesting - connection to a rainwater harvesting system where practicable and plumbed to toilets and/or cold water laundry inlets.

- c) Grey water reuse - connection to a grey water production system for non-potable uses. If the use of grey water is deemed unfeasible at the time of development, where possible and practicable plumbing is to be installed that will allow future grey water use.
- d) Water efficiency - utilise water-efficient fixtures, fittings and appliances (including shower heads, toilets, washing machines etc). In this regard, the most efficient, best-practice standards available at the time of development shall be applied.

3.3 Landscaping

It is vital that any landscaping development proposed for Rottneest Island is well planned and serves a function, generally contains native vegetation and applies low water usage. The aim is to ensure water usage is low and ongoing maintenance costs are minimised whilst not detracting from Rottneest Island's ecosystem,

All Development Applications that include open space as part of the development must include a "**Landscape Plan**" that addresses the requirements of this Guideline for approval by the RIA.

A Landscape Plan shall identify at a minimum all proposed new vegetation including species, density of plantings, any vegetation to be removed (including valid justification), any alteration of the topography, hard landscaping proposed (such as paving, walls, outdoor furniture) and lighting and apply the following criteria:

- a) Native species - The majority of vegetation species used in any landscaped areas shall be native to Rottneest Island and shall be drought tolerant and low water usage.
- b) Non-native species - Introduced plants of historic value may be used in a development provided the use of the species can demonstrate achievement of a cultural vista to the satisfaction of the RIA.
- c) Shade/windbreak/breeze channel - In addition to adding visual interest, landscaping is to provide or maintain a shade, windbreak or breeze channel function, where possible. This is to be demonstrated in the Landscape Plan.
- d) Hard landscaping - All hard landscaping proposed is to be designed to minimise glare and wherever possible not have access to direct sunlight during summer months. Materials which are low maintenance, durable and non-hazardous to the environment or users are to be used.
- e) Lighting - Any lighting proposed as part of a Landscape Plan is to utilise low-energy luminous devices and is located so not to interfere with nocturnal animal activity or vessel navigation and should minimise impact on the amenity of the area.

3.4 Waste

The effective management of waste generated on Rottneest Island is vital. Waste management includes for all waste generated from a development during the construction phase and for the on-going use or operation of the development for the duration of its existence.

The Developer is to propose its management of waste within the Development Application for consideration:

- a) A General Waste Management Plan applicable to the development (post construction) detailing how waste issuing from the ongoing operations of the site will be managed; and
- b) A Construction Waste Management Plan outlining how waste is to be treated during the construction or works phase of the development. This Plan is to demonstrate best practice waste reduction, re-use and recycling of materials and is to be submitted to and approved by the RIA. As a minimum the following matters should be addressed.
 - Demolition - The reuse of materials from demolition is strongly encouraged to be used in new buildings and alterations and additions to existing buildings.
 - Green waste - Any green waste generated as a result of either demolition or construction is to be collected for use on Rottnest Island as mulch, brushing, wood chipping or any other purpose directed by the RIA.
 - Other waste - Any waste that cannot be effectively re-used or recycled on Rottnest Island or received through Rottnest Island's general waste stream is to be transported at the Developers cost to a suitable facility on the mainland. Arrangements are to be made for those materials that are recyclable to be recycled on the mainland.
 - Topsoil reuse - Topsoil is to be stockpiled and reused on Rottnest Island to best advantage on a site as determined by the RIA.
 - Hazardous materials - All hazardous substances, pollutants and contaminants are to be treated on site to a safe standard, according to a sanctioned remediation process or, if this is not feasible, to be removed from Rottnest Island and treated according to a sanctioned remediation process (such as per Department of Environment and Conservation's Contaminated Sites Management Series and, where asbestos is an issue, the Department of Health's Asbestos Guidelines) to the satisfaction of the RIA.
 - Separate bins - All development is to provide and demonstrate easy access to separate bins to recover recyclable materials, both during construction and for subsequent on-going operations.

3.5 Materials

Materials used in a development on Rottnest Island are to, where possible, be sourced locally, reused or recycled, sustainable, renewable and non-toxic. To this extent the following criteria will be addressed in a Development Application and designs to identify the Developer's approach to meeting sustainable initiatives in the use of materials:

- a) Non-toxic materials - Non-toxic and low emission products are to be used in all developments including internal paints, floor coverings, sealants and adhesives and non-allergenic materials for furnishings.
- b) Local products - Developers are encouraged to use local manufacturers (based in the Perth metropolitan area or in close proximity) and/or suppliers wherever possible.
- c) Minimise packaging - Developers are to, where appropriate, select materials and suppliers that minimise and/or recycle packaging.

- d) Construction materials - Construction materials are encouraged to be made from either or a combination of:
 - i) Reused resources.
 - ii) Materials with high content of recycled material.
 - iii) Sustainable, renewable resources.
 - iv) Responsibly sourced and manufactured materials.

4. SOCIAL SUSTAINABILITY

4.1 Cultural environment

The history of Rottnest Island provides a rich cultural heritage which includes Aboriginal, Colonial, European, maritime, military, recreational and social aspects.

All development is to recognise the importance of this cultural heritage and Developers are required to ensure designs are culturally sensitive to this culture.

Development that contributes towards Aboriginal reconciliation and/or that provides some economic opportunity for Aboriginal people is strongly encouraged by the RIA.

4.2 Amenity and culture

All development on Rottnest Island is to protect and add to the unique prevailing culture of Rottnest Island ensuring that the amenity of the area is maintained for future generations. Developers are to consider and address the following in their Development Applications to meet this criterion:

- a) Visitor amenity - All development is to contribute to the attraction of visitors to Rottnest Island and no development shall in any way detract from the amenity of Rottnest Island.
- b) Safety and security - All development is to contribute to and not detract from a safe and secure environment on Rottnest Island.
- c) Residents - Development Applications proposing the need for staff to be accommodated on Rottnest Island will require detailed justification, and any such need is to be minimised.
- d) Education and interpretation - All development is to, where appropriate and practicable, include some education and interpretation for visitors to Rottnest Island. Details shall be submitted with the Development Application.
- e) Accessibility - All development is to provide maximum accessibility in order to provide an equitable holiday experience for all visitors to Rottnest Island. Access is to be provided in accordance with the RIA's Disability Access and Inclusion Plan and the current Building Code of Australia as issued by the Australian Building Codes Board.

4.3 Community Comment

The RIA will advise the Developer if there is a requirement to incorporate a stakeholders and community comment period into the Development Approval Process for a particular Development Application.

The Stakeholder and Community Comment Process Guideline will be applicable for such cases.

4.4 Heritage

All developments on and near Heritage Places or in Heritage Precincts shall have regard to the heritage value of such places and precincts.

All development must be undertaken in accordance with the RIA's Development of Heritage Places and Heritage Precincts Guideline to ensure that the development is sensitive and sympathetic to the range of Heritage Places on Rottnest Island.

As much as practicable, Heritage Places may be adapted for use for an approved purpose consistent with the prevailing Rottnest Island Management Plan and providing it does not alter the structure and appearance of a Heritage Place.

5. FINANCIAL SUSTAINABILITY

5.1 Cost minimisation

Developers must propose a development that addresses the ongoing operating costs subsequent to the development's completion. The Development Application must show how the Developer intends to minimise ongoing costs within the following criteria

- a) Operating costs - demonstrate that operating costs are minimised to ensure long-term financial sustainability of the development.
- b) Efficiencies - demonstrate how efficiencies have been achieved to reduce operating costs.
- c) New technologies – demonstrate the introduction and use of new technologies in the proposed development which will provide long-term cost savings.