

RIVERMARK

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DESIGN GUIDELINES

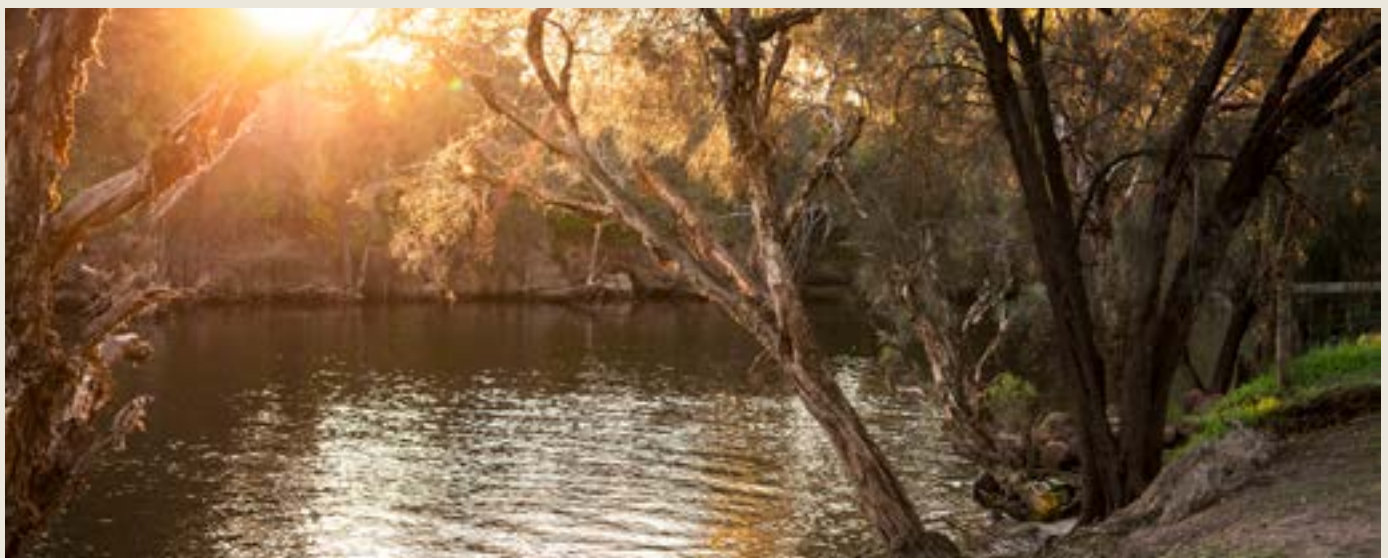
Rivermark encourages the design and construction of homes which are efficient in energy and water use. A home which has good orientation, ventilation and light will not only be more comfortable to live in, but also cheaper to run.

Recommendations

Climate Responsive Design

Incorporating the following fundamental design features are recommended to ensure optimum energy efficiency and comfort:

- One main living room should have a north-facing orientation and include windows to the northern wall.
- At least 25 per cent of any outdoor living area should have direct access to sunlight through mid-winter (from midday, 21 June).
- Windows should be shaded with external shading devices such as wide eaves, canopies, awnings, screens, trees and pergolas.
- The inclusion of performance-rated (WERS) windows and glass doors can assist with reducing heat gain and loss.
- Consider having two external openings to each habitable room to improve cross-flow ventilation through the home.
- Consider increasing the operable area of your windows for greater ventilation. Where possible, include openings in two different external walls to improve cross ventilation.
- External windows and doors should be well-sealed when installed. New homes are increasingly being pressure tested to ensure they are well sealed, which greatly influences thermal comfort and energy efficiency.
- The link below provides a list of currently registered air tightness assessors:
 - www.bcta.group/attma/members/air-tightness-testers/australia/



Fixtures and Appliances

All electric homes are typically more cost-effective to run. Research is beginning to support moving away from using gas inside homes for a range of reasons. Reticulated gas is not available at Rivermark and we encourage homeowners to take full advantage of their all-electric homes by selecting efficient appliances and making the most of renewable energy systems.

To achieve this the following is recommended:

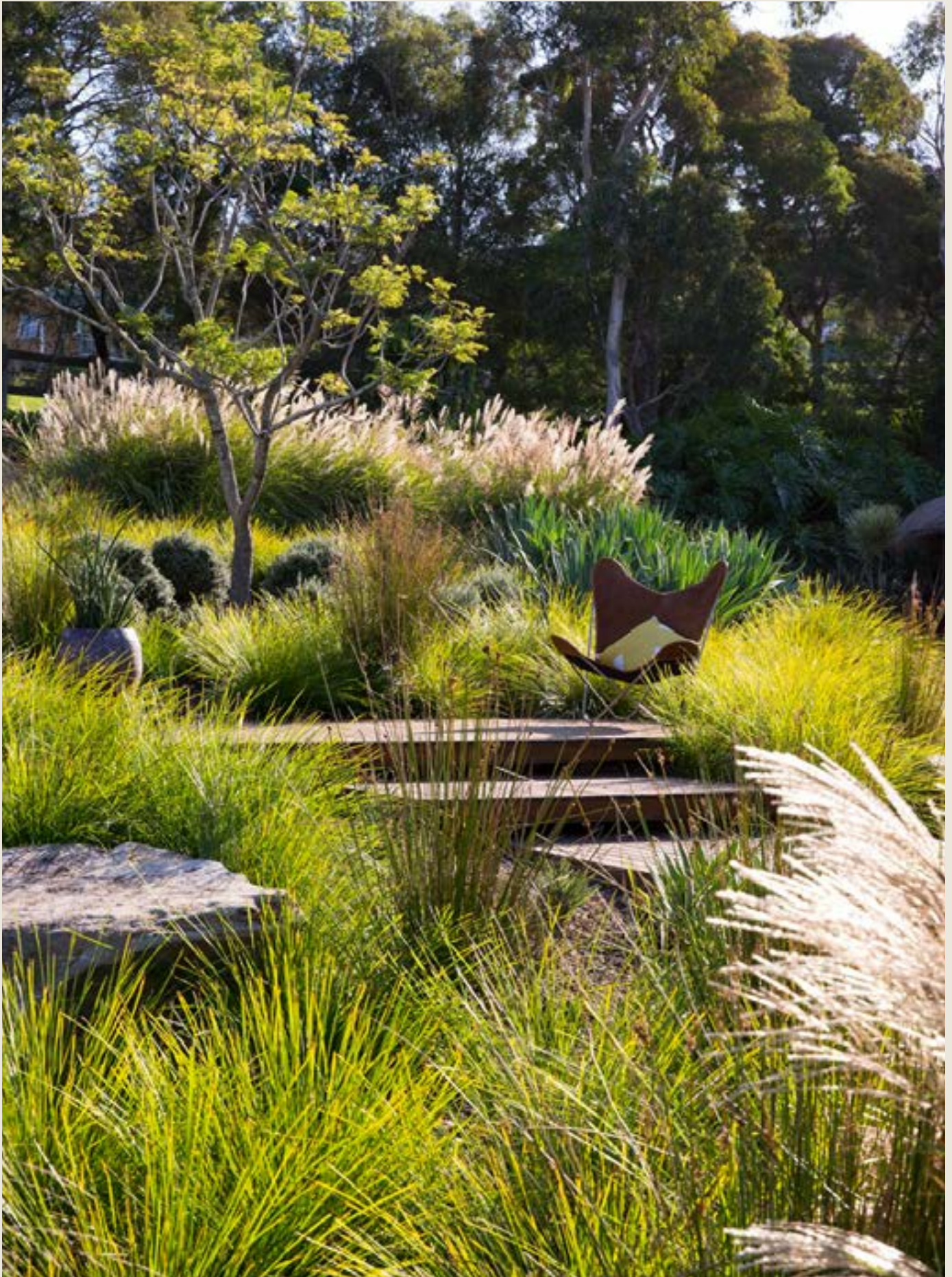
- For hot water heating, select a heat-pump system or solar water heater with an electric booster for larger homes and for smaller dwellings on cottage lots select an electric instantaneous system (continuous flow water heater).
- Select a minimum 3 Star energy-rated air conditioning system, sized appropriately for the space. If it's too small it will use more energy and still won't cool or heat the room!
- Purchase electrical appliances which have at least a 4 Star rating.
- Consider installing a 'master switch' to enable all appliances to be turned off simultaneously or install 'stand-by' power switches.
- Install LED light globes throughout the home.
- Add motion sensors to outdoor lights and low-use rooms such as the front entry, garage and yard spaces, and internal rooms such as storage areas, pantry and walk-in-robos.
- Consider installing an induction cooktop.

Water Efficiency, Conservation and Sources

- Consider selecting at least a 4.5 Star WELS rated dishwasher and at least a 4 Star rated washing machine to further improve water efficiency around the home.
- Dwellings on lots of 300m² or larger should be plumbed with appropriate pipework to be 'grey water ready' as per The West Australian Greywater Guide 2019 available at www.watercorporation.com.au
- Rainwater tanks are recommended – for lots greater than 300m² a 3,000-litre rainwater tank is recommended, while a 1,500-litre tank is recommended for smaller lots.

- The link below provides further information about the efficient use of rainwater:
- www.water.wa.gov.au/urban-water/water-recycling-efficiencies/waterwise-community-toolkit/rainwater
- Greywater diverter garden reticulation systems installed to washing machines and/or showers are recommended where there is sufficient, suitably located irrigated garden area. The Department of Health maintains a list of approved diverter systems, which must be installed by qualified plumbers. Filtration and pump system and sub-surface irrigation pipework must be installed to Department of Health requirements.
- The links below provide further information about greywater systems and installation:
- www.gwig.org
- www.water.wa.gov.au/urban-water/water-recycling-efficiencies/waterwise-community-toolkit/greywater





Construction Waste and Recycling

All construction companies building at Rivermark are recommended to engage a reputable waste management recycling company to capture, recycle and/or re-use a minimum of 80 per cent (by volume) of construction waste materials generated during construction of any dwelling, and to monitor and verify recycling rates.

Waste Management in the Home

Household waste is a major environmental concern that impacts groundwater and air quality and native fauna. The more waste that can be diverted into recycling, or not generated at all, the more benefit there is to the local Rivermark environment.

To support greater recycling and reduce landfill the following are recommended:

- Install separate and multi-use waste separation bins in the kitchen for recyclables, compost and general waste.
- Incorporate compost bins and/or worm farms to recycle food scraps and garden green waste into your garden design.

Safe and Accessible Homes

Homes designed for universal access allow for ease of access for people with varying mobility. This design approach also allows residents to remain in their own homes for longer as they age, or if their mobility becomes limited as the result of an injury or accident.

There are several simple design and fit-out features that can be incorporated during construction to improve access and allow for future-proofing. Recommendations include:

- At least one level entry into the home from the street. This may be via the front door or the garage.
- Internal doors should be a minimum width of 850mm.
- Incorporate a ground-level bathroom and toilet with easy access. Bathrooms should have a minimum internal room size of 2.3m x 2m, and toilets a minimum internal room size of 1.6m x 1m, to allow for future grabrails and wheelchair access.
- Showers should be hobless (step-free).
- Bathroom basins should be semi-recessed.
- All door handles and light switches should be positioned in a consistent location between 0.9m to 1.1m above floor level and should be lever types.
- Power points should not be installed lower than 0.3m from the floor.



Noise

The following are recommended to ameliorate noise within the home.

- All external glazing to be a minimum of 6mm thick;
- External operable windows to habitable rooms be fixed or awning style;
- External sliding doors, bifold doors or similar to be fitted with acoustic seals;
- Timber entry or timber doors to habitable rooms to be a minimum of 35mm thick, solid timber core with full perimeter acoustic seals.



Gardens and Irrigation

All gardens at Rivermark must be sustainably landscaped and conform to waterwise garden principles. Sustainable landscaping requires the planting of indigenous plants which are native to the local area.

As part of the landscaping package, Rivermark will provide waterwise front landscaping as part of the landscaping package offered to purchasers – more information is available in the contract of sale.

Waterwise principles should apply to all garden spaces within lots, not just front gardens.

It is recommended that at least 80% of plants within gardens at Rivermark are waterwise, native plants.

The following waterwise irrigation features are recommended:

- Sub-surface drip lines around plants;
 - Weather-based electronic timers;
 - Soil amelioration to increase the effectiveness and efficiency of the irrigation; and
 - Mulch is applied to a 100mm depth.
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