



Heritage places and sustainability

Heritage Information Series **7**

This is Guideline No.7 of a series of 12 prepared by City of Gold Coast to assist owners of heritage or character properties in maintaining or finding out more information about their property.

It is recognised that the mere retention and on-going use of heritage places (and other existing buildings) has environmental sustainability benefits. This guideline briefly looks at “embodied energy” in these buildings as well as some ways their environmental performance of existing buildings can be optimised.

What does sustainability mean?

While there is no commonly accepted single definition of sustainability, most definitions include reference to:

- living within the limits of what the environment can provide
- understanding the many interconnections between economy, society and the environment
- the equal distribution of resources and opportunities

Ongoing use and adaptive reuse

The energy required to build new structures is known as “embodied energy”. Embodied energy is the energy consumed by the processes involved with the construction of a building, including the mining, manufacture, and transport of building materials. Retention of existing buildings reduces the energy used in demolition, waste disposal, and replacement construction. In essence, conservation promotes sustainable development by retaining the embodied energy in existing buildings. While it may be argued that new buildings are more energy efficient than existing structures, modifications can be made to improve the performance of existing buildings without necessarily impacting adversely on their cultural heritage significance or character. Many such modifications are simple and may include:

- the installation of roof space thermal insulation (in conjunction with an appropriate roof space ventilation if none exists)
 - the use of window coverings such as curtains or blinds
 - the use of low energy lamps (within early light fittings where appropriate)
 - the use of fans rather than air conditioners
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- the planting of appropriate vegetation to screen or reduce exposure (conversely, removal of vegetation may be advantageous in some cases)
- the installation of solar panels and/or energy efficient hot water systems
- the installation of rainwater storage and reticulation systems
- the installation of water saving fittings in kitchens and bathrooms

In adapting heritage or character places, environmental innovations in engineering and architecture may be adopted to give them greater flexibility for other uses. On the other hand, simple maintenance such as to repair leaking taps and pipes should be carried out in order to save resources and also to reduce the likelihood of damage to building fabric. (See Guideline No. 3)

Design and cross-ventilation

Early buildings in Queensland commonly utilised passive design features, including elevation to provide sub-floor ventilation and verandahs to shade walls and provide outdoor living space. Proper use of these inherent sub-tropical design features facilitates passive control of internal conditions. Features such as window hoods, verandah screens and blinds, and ceiling and roof vents (right) should be retained and maintained, and consideration should be given to re-opening enclosed verandahs (see also Guideline No. 3) and enclosed sub-floor areas.



Air Conditioning

Before installing air conditioning make sure the building is functioning as it was designed. Live with the place in the different seasons, try different uses for the rooms, and consider the simple modifications described earlier. Make all windows operable and open them!

If air conditioning is required, see Guideline No. 3 for suggestions on how to minimise its impact.

New work

Any new work to heritage places such as alterations and additions should consider orientation and good sub-tropical design to take advantage of climatic considerations, and the use of appropriate energy rated new materials.

As well as conserving and reusing existing materials, the introduction of appropriate recycled materials in the conservation of heritage and character places is appropriate.

Solar panels

If possible, solar panels and hot water systems should be located so that they have minimal visual impact on significant views and aspects of a heritage or character place. For example, if a place has a prominent or street-visible north-facing roof, it would not be appropriate to install an array of solar panels or a solar hot water system with a roof mounted water tank.



A compromise between optimising the efficiency of the energy collection and the need to minimise visual impact may need to be reached in such cases. An example of discreet solar panel installation is shown below.



Rainwater tanks

Rainwater tanks and other water storage systems should also be located so that they have minimal visual impact on significant views and aspects. Generally this means locating them to the rear of a building. If it can be achieved without too much disruption, consideration may be given to locating the water storage outside below the ground, or under the building.

The size and type of tank should also be considered. It may be preferable to provide several smaller tanks rather than a single large one. Consider the runs of downpipes that connect to the tank and minimise their visual impact. For example run them under the building rather than on the outside. With early buildings, tanks made traditionally of corrugated galvanised steel are preferable to those made from PVC or colorbond steel, even if they are in "heritage" colours.

Pumps and other equipment should be concealed or screened.



Further information

Where do I obtain further information?

Sustainable Living is a website where you can find out what City of Gold Coast is doing and what you can do to save energy, reduce greenhouse gas emissions, save water and reduce waste.

<http://www.goldcoast.qld.gov.au/environment/sustainable-living-279.html>

Sustainable GC is a website designed to help Gold Coast residents take action to live more sustainably at home and in the community. The site is packed with ideas, tips and inspiration to help you make a positive impact on the environment - and save money!

<http://sustainablegc.goldcoast.qld.gov.au/>

or contact;

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