Practice Notes 9 Water efficient home (fittings and appliences)

1.1 Introduction

Household fittings and appliances are an important aspect of the WSUD development. Water efficiency, maximising beneficial use of the drinking water resource, is a core component of integrated water cycle management and WSUD.

The water industry, in recent years, has produced a rapidly evolving range of products and services designed to reduce water consumption. For this reason, the range of products and services in this section is not exhaustive.

There are many, often cheap, ways to improve water efficiency at the single allotment scale, e.g.:

- tap aerators
- efficient toilets
- water efficient shower roses
- well-maintained fixtures (i.e. NO DRIPS)
- washing machines
- dishwashers.

1.2 Appliances and fixtures

1.2.1 Tap aerators

Tap aerators are simple to install and cost very little (generally under $5). They reduce the flow of water through the faucet whilst maintaining water pressure. Tap aerators should be installed on all sink faucets, kitchen, bathroom and laundry.

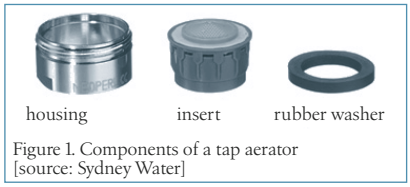

Figure 1. Components of a tap aerator [source: Sydney Water]

1.2.2 Efficient toilets

Figure 2. Dual flush toilet [source: Caroma]

Whilst dual flush toilets are mandatory for all new installations, flush volumes do vary significantly. Some older dual flush toilets have a full-flush volume of about 9L while some newer models have reduced the full-flush volume to as low as 4.5L.

This represents significant additional savings when considered over the toilets usage for a year.

As can be seen in figure 3, when viewed at an annual time scale, most houses or buildings will save an enormous volume of water each year by installing an efficient dual flush toilet.

Within the commercial/industrial sector, consideration should also be given when toilet fixtures. The use of waterless urinals or water efficient urinals with motion sensors should be considered. Any fixture installed should be 'Watermark' approved.

NB: waterless urinals and UPGRADES from single to dual flush toilets currently attract rates-rebates within Hobart City.

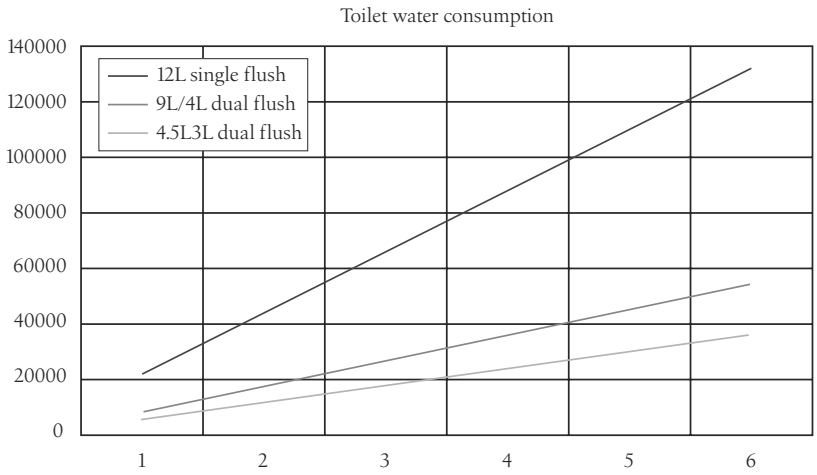

Figure 3. Comparative annual water consumption from toilets with varying flush volumes

1.2.3 Water efficient shower roses

Easily installed, a water efficient shower rose will again save a large volume of water when considered over a year.

Many people, after trying the first generation of water efficient showerhead, are reluctant to install water efficient showers due to the myth that "you just can't get a good shower". However, the technology has improved greatly and more recent water efficient shower roses can provide both good pressure and spread.

1.2.4 Well-maintained fixtures (i.e. no drips)

The first step to achieving maximum water efficiency is to keep a well-maintained plumbing system in all buildings. A dripping tap can waste 20,000L each year.

Other leaks that often go unnoticed are toilet cistern leaks. A toilet can run constantly from the cistern into the pan without being audible or visually noticeable. The best way to check if a toilet cistern is leaking is to put a few drops of food colouring into the cistern and watch to see if coloured water runs into the pan when the toilet has not been flushed.

1.2.5 Washing machines

In recent years, there has been increasing focus on the development of appliances for water efficiency. Most front-loading washers now use far less than older machines and top-loaders (although there are a number of efficient top-loading machines available).

In purchasing a washing machine, a consumer should watch out for the water efficiency labelling of the appliance (see information and education).

1.1.6 Dishwashers.

Water consumption in dishwashers varies greatly. There are many water efficient models available, however, these units are often only efficient when run on a specific cycle. It is important to read manufacturers instructions carefully to ascertain how an appliance may be operated in the most efficient manner.

In purchasing a dishwasher, a consumer should watch out for the water efficiency labelling of the appliance (see information and education).

1.2 Information and education

There is a growing body of information for consumers detailing how the greatest savings can be made. The Water Services Association of Australia (WSAA) has operated the successful voluntary Water Conservation Rating and Labelling Scheme. The inadequacy with this scheme is that it is a purely voluntary scheme and, therefore, only efficient products tend to register.

Figure 4. A-ratings for water efficiency (1A=moderate > 5A=excellent) [source: WSAA]

Commonwealth legislation has recently been enacted to enforce a new Water Efficiency Labelling Scheme (WELS). Labelling under this scheme is compulsory and applies to showerheads, washing machines, dishwashers, toilets, taps, flow regulators and urinals. The new scheme is based, visually, on the existing successful energy efficiency labelling standards, see below:

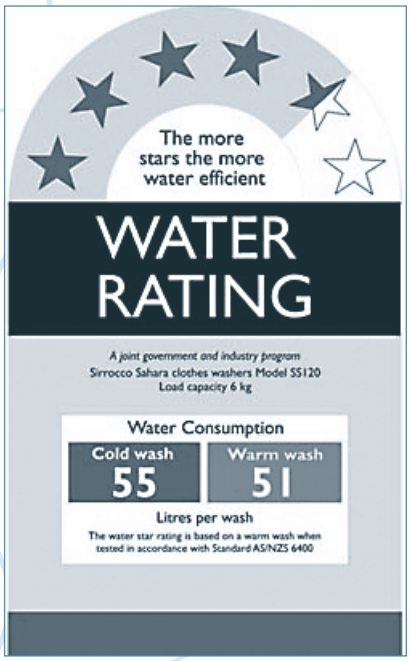

Figure 5. Efficiency Labelling Scheme (WELS) label [source: Department of Environment and Heritage]

The labelling schemes detailed signify a new level of accountability for manufacturers to ensure products are not designed to waste the water resource. The schemes also provide

valuable information to consumers who may wish to assess environmental and economic implications on purchases they make.

This practice note has only included internal means of reducing water consumption. Great savings may also be made outside and should be considered alongside any internal practices to achieve a water sensitive development (see Practice Note 4, Landscape practices).

References

Deeks, B. & Milne, T., 2005, 'WSUD Engineering Procedures for Stormwater Management in Southern Tasmania 2005', Derwent Estuary Program, Department of Primary Industries Water and Environment, Hobart.