

Is city rainwater safe to drink?

Water testing at Sydney's Sustainable House

When Michael Mobbs' rain tank system was built in 1996, he tested the rainwater every two weeks for 18 months in a method confirmed by NSW Health. The water samples were given to Dr Huu Hao Ngo at the School of Civil Engineering, University of Technology, Sydney. The results showed the water was as safe to drink as town water. He tested for heavy metals (cadmium, mercury, lead, zinc) and for biological contaminants (coliform, turbidity); he also tested fortnightly over 14 months for complex hydrocarbons (from planes, trucks, cars and the toxic elements produced by the decay of chlorine in town water - trihalomethanes), and the water was cleaner than town water and had less of these contaminants.

Michael Mobbs' rainwater system design for Kylie's house

The first dirty water from Kylie's roof is diverted and flushed away to the ground and the remaining clean water is directed to two aboveground tanks, each with a volume of 1,500 litres, and an underground tank with a volume of 5,000 litres; the total volume of Kylie's system is 8,000 litres. Rainwater is then pumped from the underground tank into the house for all potable and non-potable needs. The necessary plumbing for future disconnection from city sewage will be installed at Kylie's house; when she disconnects from sewage and recycles her wastewater, the effective capacity of her rainwater tank will double because she will use treated wastewater for flushing toilets, watering her yard and washing clothes. These design principles apply to any inner-city home wanting to go off grid and Michael can work with you to make them specific to your location and project.

Facts about Kylie's system and rainwater safety

- Kylie's two aboveground tanks each measure 650 x 2,600 x 950 mm (W x L x H) and will be built up with the same recycled timber as her deck to look like benches.
- If Kylie ever runs out of rainwater, she can hire a water cart to deliver 7,000 litres of water to her house for \$250. Although Kylie doesn't expect to need this service, the occasional top up is still much cheaper than the fixed charges of staying connected to city mains water.
- There is no law saying that Kylie and other householders cannot drink rainwater
- Over 2 million Australian's drink rainwater every day; Australian Bureau of Statistics
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4602.0.55.003main+features3Mar%202013>
- No one has died drinking rainwater
- Australia's health agencies say it's safe to drink: *Guidance on use of rain tanks*, enHealth 2010 P5 ISBN: 978-1-74241-325-9
<http://www.health.gov.au/internet/main/publishing.nsf/content/ohp-enhealth-rintank-cnt.htm>



Michael's son Julian growing up on clean and safe rainwater from age six (left) to age twenty (right).

For more information about installing a rainwater tank at your house, contact Michael Mobbs at 0424-460-525 or michael@sustainablehouse.com.au.