

Water harvesting

What?

Water harvesting is mainly the collection of rainwater runoff from rooftops in a rainwater tank

Why?

By capturing rainwater runoff from your roof you can save money and help the environment by:

- conserving valuable drinking water and reducing the demand on a limited water supply
- reducing the chemical/energy needs for treating/transporting water to your home via the mains supply
- providing an alternative water supply for day-to-day household activities eg toilet flushing
- reduce the volume of stormwater leaving your property which can minimise flooding on drainage systems and waterways
- helping in a fire fighting situation

NSW Health doesn't advise using stored rainwater for drinking when there's an alternative mains water supply available. However, we could save millions of litres a year by using rainwater for toilets, laundering and gardening

How?

The surface area of your roof determines how much water you can capture. Gutters and downpipes may need to be adjusted to maximise the amount of rainwater entering the tank. Ask your rainwater tank supplier for more advice

Determine how much rainwater you need

The tank size you need depends on how much water you use. The following table will help you calculate your potential rainwater use

| Activity | Water use | Frequency of activity | Sub total |
|---|----------------|-------------------------------------|----------------|
| Outdoors | | | |
| Watering the garden | | | |
| Sprinkler | 1000L/hr | No. hours/week = _____ x 1000L | = _____ |
| Drip irrigation (ie 2LPH drippers) | 2L/hr | No. hours/week = _____ x 2L | = _____ |
| Washing a car | | | |
| Bucket | 10L/bucket | No. buckets = _____ x 10L | = _____ |
| Rinsing using a hose | 1000L/hr | No. hours/week = _____ x 1000L | = _____ |
| Indoors | | | |
| Toilet Flush | | | |
| Standard Toilet (12L) | 96L/person/day | No. people = _____ x 96L x 7 (days) | = _____ |
| Dual Flush AAA Rated (6/3L) | 18L/person/day | No. people = _____ x 18L x 7 (days) | = _____ |
| Washing Machine | | | |
| Standard (170L/load) | 153L/load | No. loads/week = _____ x 153L | = _____ |
| 4A/5A- rated (50L/load) | 50L/load | No. loads/week = _____ x 50L | = _____ |
| Estimated weekly water needs (L) = litre | | | = _____ |

Determine the budget/feasibility of harvesting water

Tank Type

There are a variety of rainwater tanks to suit your budget. Tanks are made of polyethylene, metal, concrete and fibreglass

Tank Size

Generally, the larger the tank, the more effective it will be at conserving water and managing stormwater runoff. A minimum of 5000L is suitable for non-potable domestic purposes (eg toilet flushing, washing clothes, watering gardens and car washing)

Tank Site

Consider the space available for a rainwater tank. As a guide, a 5000L round tank can be 1.7m wide x 2.3m high. Other options include installing the tank underground or choosing a slimline tank, which sits against the house under the eave or as a dividing wall in the garden



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Planning/building requirements

Consult your local council before installing a rainwater tank. Tanks with a capacity of up to 10000L do not require council approval, but there may be specific government requirements such as colour, height, noise control, labelling of tank outlets and associated pipe work

Consult Sydney Water to ensure the tank is not located near a sewer main. Any overflow from the tank must run to the stormwater system, not the sewerage system

Plumbing work

The simplest set up is to connect a rainwater tank to your downpipes and use it for watering the garden

If you decide to use rainwater indoors, a licensed plumber will need to connect a 'top-up' system from the mains supply to maintain minimum water levels in your tank and can also assist with meeting Sydney Water guidelines by:

- Installing a flow restrictor to ensure the water flow rate used to top-up the tank does not affect you or your neighbours' water pressure
- Leaving a visible 'air gap' between the pipe from the mains supply and the tank to ensure rainwater does not flow back and mix with your drinking water
- Fitting a proper backflow prevention device to your water meter
- Labelling tank outlets and pipes as 'rainwater'
- Ensuring there is no connection between the pipes carrying the rainwater and those carrying the mains water unless appropriate backflow prevention devices are installed

Pumps

If your tank is not sufficiently elevated to allow gravity to provide the required water pressure, you will need to install a pump

First flush devices, screens and guards

First flush devices and gutter guards are essential for reducing the amount of sediment and other contaminants entering the tank and polluting the water

Maintenance requirements

Rainwater tanks and components need to be maintained and cleaned regularly to ensure they work effectively in providing good quality water

Where to go?

Consult your local telephone directory under 'Tanks and Tank Equipment' or the internet for rainwater tank suppliers

How much will it cost?

The costs vary depending on the size, material, finish and strength of the tank. As a guide polyethylene and metal tanks range from around \$550 to \$750 for a 2000L model, from \$800 to \$1000 for a 4000-5000L and from \$1250 to \$1695 for a 10000L tank

Other costs may include: delivery and installation, hiring a licensed plumber for connection, guttering, foundation slab, flow restrictor, first flush devices, water pump and ongoing maintenance.

Sydney Water has a Rebate Program offering customers up to \$650 to install a rainwater tank

Want to know more?

Have a look at the following websites:

www.bom.gov.au/climate/averages

www.sydneywater.com.au/SavingWater/ or phone Sydney Water on 1800 680 636 for details

www.savewater.com.au/

Contact your local council for specific planning and building requirements:

| | |
|---|--------------|
| Camden | 4654 7777 |
| Campbelltown | 4645 4000 |
| Liverpool | 1300 36 2170 |
| Wollondilly | 4677 1100 |
| Macarthur Centre for Sustainable Living | 4647 9828 |