

MIC
Easi-Rain



Rainwater Harvesting Systems

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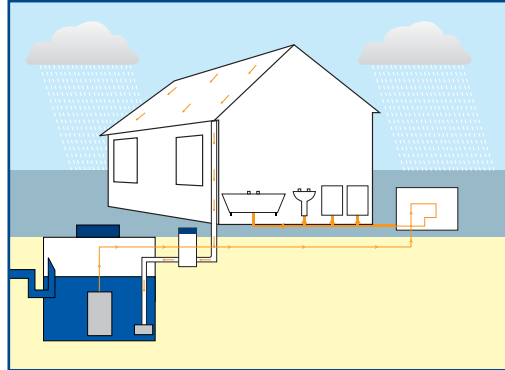
INTRODUCTION

FP McCann has developed Easi-Rain, a domestic and commercial rainwater harvesting tank designed to reduce demands on the mains network by providing a sustainable water collection and distribution system ideal for non-potable uses such as toilet flushing, washing and landscape or garden watering. Typically, up to 50 litres a day per person of waste water can be saved in an average domestic household.

Easi-Rain also helps ease the growing pressure on the UK's water infrastructure by capturing water run-off thereby reducing flood risk in an already overloaded drainage network.

The controlled management of rainwater run-off is key to the Environment Agency's SUDS (Sustainable Urban Drainage Solutions) directive. Future domestic, commercial and industrial developments will be subject to planning guidelines that strongly feature SUDS initiatives. Easi-Rain is one sustainable solution in the water conservation challenge.

Easi-Rain is part of FP McCann's Easi-Cast environmental range of waste water management products.



The Rainwater Recycling System

With careful site planning and positioning and with the incorporation of modern filtration and pump technology, the harvesting of rainwater can be a simple, maintenance free process. The cleaned rainwater is then ideal for re-use in applications around the home or workplace.

The system works by gathering rainfall from roof areas which is gravity fed through a filter prior to the cleaned water flowing into the tank. Dirt particles and other debris is separated at this point and washed to the waste drainage system by a small amount of rainwater. Stainless steel filters can be easily removed and cleaned.



The second stage cleaning process takes place in the water column in the tank. Here finer particles settle to the bottom and a calmed inlet prevents any disturbance of the sediment. The calmed inlet also ensures a constant supply of oxygenated water at the bottom of the tank. The combination of this plus the dark, cool conditions created underground in the tank ensures that the water supply remains fresh.



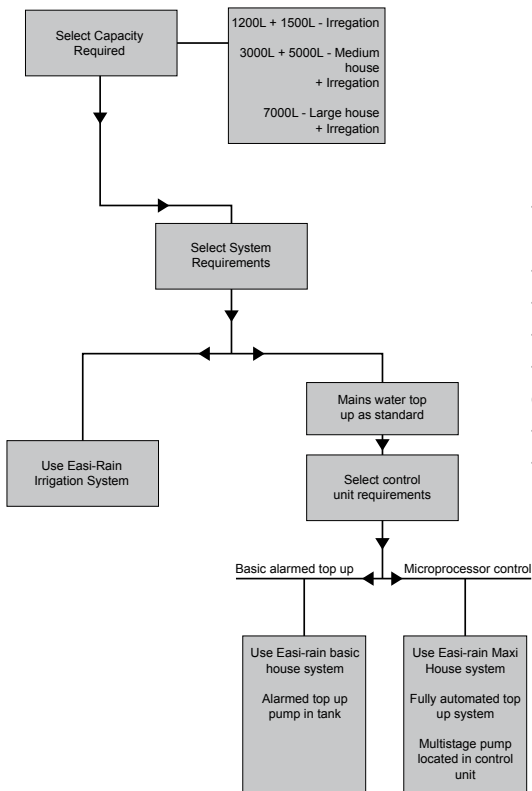
Finally, any very light particles such as plant pollen, float to the surface and are skimmed off via an overflow siphon, thus preventing a build up on the surface of the tank.



Clean water can then be pumped on demand via a floating filter suspended just below the surface where the cleanest water lies.



Easi-Rain System - Decision Chart



Easi-Rain Advantages and Environmental Benefits

- Cost effective re-use of a natural resource
- Conservation of mains water supplies
- Complies with SUDS directives
- Unobtrusive (buried underground)
- Speedy installation – No ready mixed concrete backfill required
- Low maintenance
- 120 year design life on concrete tank.

The filtered rainwater is very soft and chlorine free, making it particularly suitable for fabric washing as well as other uses such as toilet flushing and external cleaning and irrigation.

Easi-Rain harvesting tanks are available in 5 different capacities:-

Irrigation Only : 1200 litres & 1500 litres

Irrigation & Small/Medium Domestic : 3000 litres & 5000 litres

Irrigation & Large Domestic/Small Commercial : 7000 litres.

Two top-up systems are available to allow for additional water to be added to the tank directly or via a fully automated header feeder, thus allowing for continuity of supply.

Easi-Rain Basic House - Alarmed top-up system. Pump in tank

Easi-Rain Maxi House - Fully automated top-up system.

Multi-stage pump located in control unit.

Installation Guidelines

- Select a suitable location for the tank. This will normally be in ground lower than the property and allowing for falls in site drainage.
- Check that no other structure or special access is required over the selected spot. Provision can always be made if necessary to place the tank in a drive or access road providing suitable backfill is placed around it and the appropriate manhole cover and frame is used.
- Check that no underground cables, pipes or services lie beneath
- Excavate the minimum opening in the ground to receive the tank and pipe work to be used. Shuttering of the excavation should be considered based on ground conditions and water table levels. A sump should be left in one corner for de-watering purposes. Retain excavated material for backfilling.
- The excavation needs to be 250mm/500mm deeper than the tank plus lid to allow for the construction of a granular or concrete base.
- If installing on a concrete base, lay and compact up to 200mm of granular material prior to pouring a minimum of 150mm of concrete
- On a granular base only, allow a minimum 150mm compacted thickness. In soft ground a thicker layer should be considered.
- Lower the tank following correct lifting and handling guidelines onto the granular or concrete base ensuring the correct orientation for inlet/outlet pipes and other connections.
- Backfill around tank and pipe work with excavated material ensuring it is well compacted and the tank remains level at all times. In very poor ground conditions or where vehicles may be manoeuvring within 3 metres of the tank, a concrete backfill is recommended for extra support.
- Partly fill the tank with clean water prior to lowering the pump and float switches, to facilitate a flush-through of the discharge pipe prior to pumping.

Note: Pumps, system controllers and general electrical wiring and connections should be installed to independent manufacturers guidelines.

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