

## Bankfoot Church and Community Centre - Rainwater Harvesting

Client:	Parish of Auchtergaven & Moneydie
Building Type:	Place of Worship and Community Centre
Roof:	100% pitch and recycled dust and resin 'slates'
Area:	1,000m <sup>2</sup> in total 300m <sup>2</sup> connected to the rainwater tank
Rainwater Apps:	12 toilets for public and staff use
Sustainability:	RWH, wind turbines, ground source heating, timber frame
Built:	2008



### Rainwater Harvesting Requirements

Following a devastating fire in the original church a vision was created to build a more accessible, larger, sustainable and community related place of worship. Now with several hundred visitors each month touring the new building the design and technology has become a feature itself to Bankfoot, a small community north of Perth. The WC demand in this type of building is very difficult to establish, therefore, the tank was sized on the roof area available. To keep costs within budget a proportion of the roof area was connected to the 6,000L tank located under the rear terrace.

The pre-tank filter is mounted directly on the tank providing a simple single assembly for installation by the groundwork's contractor. The integrated filter reduces installation cost by £250 when compared to separate items supplied loose.

The rainwater system is plumbed to 12 of the 15 WCs. The balance of 3 are connected permanently to Scottish Water for use in power failure. The wall mounted control appliance, located in the plant room automatically switches over to Scottish Water in the event of low rainfall.



A factory built and tested wall mounted appliance provides direct rainwater distribution to the WCs calling for demand. A 5.4 bar Wilo multi-stage centrifugal pump with pressure switch is at the heart of the control appliance. Mains water backup certified to EN1717 ensures continuity of supply in the event of low rainfall. Combined, the tank assembly and the wall mounted control appliance provide a truly unique system



that is simple to install and required just two items shipped to site. The small commercial grade system was even commissioned by the M&E contractor, even without Ecozi telephone support. With no wearing parts inside the tank future maintenance and fault diagnostics can be achieved easily and safely from inside the plant room. Annual water utility savings of £515 are expected providing a payback on capital purchase costs of approximately 8 years.



rainwater harvesting systems

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