

Midpoint Distribution Park, Minworth - Rainwater Harvesting

Client:	Prologis
Project:	Midpoint Distribution Park, rainwater harvesting
Building Type:	14,000m ² distribution centre
Roof:	Curved metal sheet
Catchment Area:	650m ²
Apps:	16 WCs for office staff
Sustainability:	BREEAM
Built:	2011



System Requirements

Bowmer and Kirkland were awarded a D&B contract for a new distribution building by the developer, Prologis. With a BREEAM requirements B&K set about consultation with Ecozi at an early stage in order to reduce the whole system cost for the provision of rainwater harvesting. Ecozi were able to offer significant input in the system design to save on supply and installation costs. The building was unusual in the basic design such that a complete gravity system, with no pumps could be installed. Had Ecozi not been consulted early in the design program, the more common occurrence with design and build would have been poor liaison with the different sub-contractors and mistakes or overall expensive installation costs. The rainwater harvesting system was installed by B&K appointed contractors and Ecozi were employed on a supply and commission basis.

Storage

A 10,000L single piece GRP tank was lifted onto the roof of the internal office block before the roof was complete. The load rating of the office roof on which the tank stands was increased early in the build. The tank was supplied with cradles for self supporting final location on the concrete base.



Filtration

The 650m² of collectable roof area is routed into a pre-tank filter located on the internal structure above the inlet level to the storage tank. The gravity filter requires cleaning every 6 months to maintain maximum efficiency of the system. The pre-tank filter is connect with a bypass pipe in case of blockage over the filter mesh. The bypass pipe also increases the flow capacity in the even of heavy storm conditions to eliminate the risk of flooding.

The total area of the roof is 14,000m² but only a fraction of this is required to provide optimum rainwater collection for the relatively small number of occupants. The early design consultation with Ecozi provided savings of several £'000 to Bowmer and Kirkland.

WC Water Distribution

Rainwater is provided to the WCs via gravity from the storage tank. In the event that the rainwater is less than the WC demand a mainswater top-up via a tundish air break provides continuous operation until the next rainfall. Excess water flow from the tank and filter go immediately to the surface water drain.



rainwater harvesting systems

Ecozi Ltd
Unit 2 Churchlands Business Park
Ufton Road
Harbury
CV33 9QX

01926 614 002