



Harnessing Rainwater and Groundwater for Sustainable Water Management in a shopping mall in Johannesburg

The Situation

One of the prominent shopping malls in Johannesburg faced groundwater challenges caused by heavy rainfall. The shopping mall infrastructure, including lifts and escalators, were constantly at risk due to damages caused by inundation.

The Solution

Grundfos collaborated with the client to address two key pain points: water conservation and sustainable utilization of natural groundwater. By repurposing existing stormwater retention methods, Grundfos implemented a comprehensive solution that aligned with the UN SDG 6: Climate Action. The client shared these sustainable development goals, highlighting the shared commitment to responsible water management in the collaboration.

Grundfos launched a rainwater harvesting project by repurposing an existing stormwater retention infrastructure. With a 147,000 gallon capacity concrete tank, including 73,000 gallons of live storage, a reliable rainwater harvesting facility was established.

Advanced filtration systems, pumps, and controls were installed for optimal rainwater harvesting.

1.5 million gallons

of annual water supply for facility use from rain water harvesting

63 thousand gallons

of rainwater harvested at any given moment

15%

of shopping center's water usage is met by rain water harvesting



The Outcome

This initiative allowed the shopping mall to harvest up to 63,000 gallons of rainwater at any given moment, providing an annual supply of five to six million liters for facility use. Rainwater now contributes to approximately 15% of the shopping mall’s water usage, primarily for flushing toilets and waste bin areas, ensuring sustainable water management

Grundfos provided ongoing support by installing monitoring systems for water usage, anomaly detection, and system optimization. Real-time data empowered the client to make informed decisions, leading to cost reductions and environmental benefits. Regular maintenance and servicing by Grundfos ensured the long-term reliability and longevity of the implemented solutions.

Grundfos Supplied

Unilift CC in each lift shaft, SEG pumps, GRM/GUC , Hydro MPC

Grundfos' innovative, collaborative, and scalable approach establishes them as a leader in sustainable water management solutions, combining rainwater and repurposed groundwater.

By offering innovative solutions and aligning with the United Nations Sustainable Development Goals, Grundfos demonstrated its commitment to responsible water resource management in commercial buildings.



SEG



Unilift CC



GRM

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