Case Study

Newport Salop Rugby Union Football Club, Shropshire

Intelligent rainwater harvesting for sustainable irrigation and climate resilience



SDS Systems
SDS Intellistorm® smart rainwater harvesting and management system.

SDS Customer
Newport Salop Rugby Union Football Club.

Client
RSPAWIR;
Shropshire Council.

Project
Newport Salop Rugby Union Football Club smart rainwater harvesting, management and irrigation system.

Purpose
To improve the long-term resilience of the club's playing surfaces by providing a sustainable source of irrigation water, reducing reliance on mains and borehole supplies during increasingly hot, dry summers.

Brief to SDS
To design and supply an intelligent rainwater harvesting system capable of capturing runoff from a complex array of roof elements, storing it for irrigation, and proactively managing available storage using weather forecasting technology.

Timing
Installation was completed in 2026 as part of the wider River Severn Partnership Advanced Wireless Innovation Region (RSPAWIR) project.

Project Background Information
Founded in 1952, Newport Salop Rugby Union Football Club is one of Shropshire's leading community rugby clubs, providing rugby for all ages and abilities, from Mini & Junior teams to Colts, Women's, and Senior Men's rugby. The club also plays an important role in the local community by hosting events and supporting local organisations.

Like many sports clubs, Newport RUFC faces growing challenges from climate change, with longer dry spells and more intense rainfall affecting pitch quality. To

reduce reliance on mains and borehole water while maintaining safe, playable pitches, the club installed an intelligent rainwater harvesting system.

The project forms part of the River Severn Partnership Advanced Wireless Innovation Region (RSPAWIR) programme, showcasing how smart technology and sustainable infrastructure can improve climate resilience. The system captures and stores roof runoff for irrigation while using weather data to optimise storage capacity ahead of changing conditions.

Located within the River Strine catchment, the project also supports wider flood and water management objectives by reducing runoff during heavy rainfall and providing a sustainable water source during dry periods.

Project Objectives

To increase the club's resilience to changing weather patterns by providing a sustainable rainwater source for pitch irrigation while reducing reliance on potable and groundwater supplies.

To help protect the Strine catchment from the risk of flooding during heavy rainfall events.

Project Requirements

The recycling system was required to capture rainfall from the club's buildings and store as much water as reasonably possible for irrigation during extended dry periods.

In addition to providing reliable water storage, the solution needed to intelligently manage available capacity ahead of forecast rainfall, ensuring reuse could be optimised throughout the year while supporting sustainable drainage principles.

The system also needed to operate reliably within a busy community sports facility, requiring minimal intervention while providing long-term operational and environmental benefits.

SDS Product Features

SDS supplied a rainwater harvesting system comprising eight 7,200 litre storage tanks in combination with one 20,000 litre primary storage tank, delivering an integrated solution for irrigation reuse.

The system was designed to maximise available storage capacity within the club's physical site constraints, enabling efficient capture and retention of roof runoff for reuse across the grass playing surfaces.

The larger 20,000 litre tank provides primary bulk storage, while the smaller tanks support distribution and operational flexibility within the wider system.

The installation incorporates SDS Intellistorm®, which analyses local weather forecasts and continuously monitors storage levels to proactively release water before significant rainfall events when required. This ensures the requisite storage capacity ahead of storms, helping to maximise both the quantity of rainwater captured and stored for subsequent irrigation during dry weather.

Issues Overcome

The project required the rainwater harvesting system to balance two key objectives: storing enough water for irrigation while maintaining capacity to capture future rainfall.

A major challenge was the club's complex multi-section roof. A conventional system would have required extensive groundwork to connect all roof areas, increasing costs and disruption.

SDS addressed this by capturing rainwater from individual downpipes into a series of smaller tanks located around the site. Forwarding pumps then transfer the collected water to a central storage tank, creating an efficient solution that maximises water capture within the constraints of the existing facility.

Integrated SDS Intellistorm® intelligent controls automatically adjust storage levels using weather forecasts, optimising both irrigation water availability and stormwater capture without manual intervention.

Results

The completed system provides a sustainable rainwater harvesting solution that supports irrigation of the club's playing surfaces using stored roof runoff.

This reduces reliance on potable mains water and borehole water, lowers operational costs, and improves the environmental performance of the facility.

In addition to providing a reliable source of irrigation water, SDS Intellistorm® delivers the dual benefit of proactively releasing a proportion of the stored water ahead of forecast rainfall events. This creates additional storage capacity to capture incoming rainfall, helping to reduce the impact on the Strine catchment, one of the key objectives of the RSPAWIR project.

The project demonstrates how intelligent rainwater harvesting can simultaneously improve drought resilience, reduce flood risk, and support more sustainable water management within community sports facilities.

Gary James, Volunteer, Rugby Club, said: *"Our water demand is high, especially during dry summers when the pitches need regular irrigation. The SDS Intellistorm® system helps us make the most of every drop of rain, reducing our reliance on mains and borehole water while ensuring we have water available when we need it. It's a smart, sustainable solution that's already making a real difference to the club."*