



Civils & Green Urbanisation

A close-up photograph of two hands cupped together, holding a small green seedling with soil. The scene is set against a background of falling rain, with water droplets visible on the leaves and hands. The overall tone is fresh and natural.

RAINWATER REUSE SOLUTIONS

THE FOUNDATION FOR ALL LIFE

Water is one of our most precious resources. The foundation for all life on the planet, how it is protected, managed and used has always been vitally important. Today, with ever increasing demand from rapidly expanding populations set against the backdrop of climate change, the need to preserve and effectively utilise water has never been more critical.

Innovative reuse of harvested rainwater is part of a holistic solution. A new generation of breakthrough technologies that embraces a unique engineered/nature-based approach provides the construction industry with a fresh perspective - one that is inspiring a re-imagining of the urban landscape, delivering resource and climate resilience and a wide range of high return multi-functional benefits.

Highly adaptable to any scale or type of project – single plot to catchment wide, commercial and residential – Polypipe Civils & Green Urbanisation can work alongside your teams to realise reuse solutions of optimum value and lifetime performance.

Developed around products that are constantly evolving to maximise use of renewable energy and recycled materials from both post-consumer and production waste, all our solutions support a circular economy focused on achieving a net-zero future.



Collaboration



Innovation



Sustainability

NON-POTABLE SUPPLY

RAINSTREAM

Harvested rainwater can be used for a wide range of non-potable applications across both commercial and residential projects.

Reducing potable (mains) water consumption in toilets, and cooling systems, protects drinking water supplies during extended dry spells and can lower overall utility bills. Reuse also diverts surface water away from the main sewer network, reducing the risk of localised or downstream flooding.

RAINSTREAM LDP - LARGE DIAMETER PIPE SOLUTIONS

Polypipe's Rainstream LDP systems are designed for below ground installation, providing any volume of storage capacity. Pressure tested to a maximum burial depth of 6m, the Rainstream system is ideally suited to high water table applications. Configurable inlet manifolds allow the tank to serve multiple buildings as required.

RAINSTREAM GEO - GEOCELLULAR TANK SOLUTIONS

Geocellular rainwater storage tanks offer the most versatile below-ground harvesting solution. From shallow, sub-base installations to deep buried (up to 9m) applications, Rainstream GEO can be configured to suit any available space and can be used beneath traffic loaded areas.

RAINSTREAM AGT - ABOVE GROUND TANK SOLUTIONS

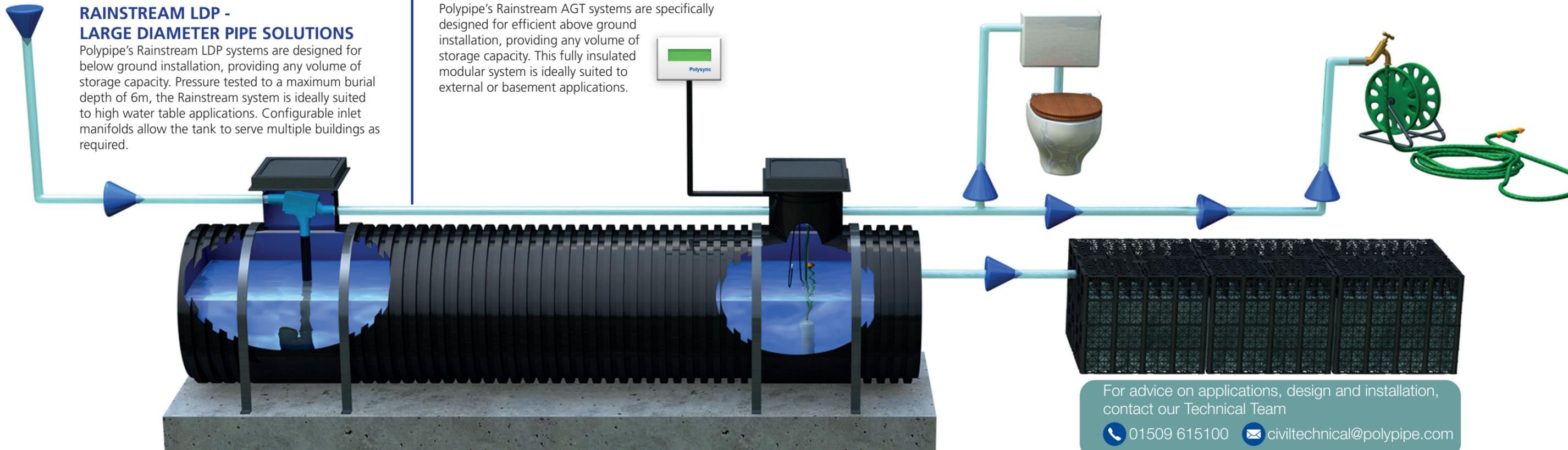
Polypipe's Rainstream AGT systems are specifically designed for efficient above ground installation, providing any volume of storage capacity. This fully insulated modular system is ideally suited to external or basement applications.



Rainstream for Residential



Rainstream for Commercial



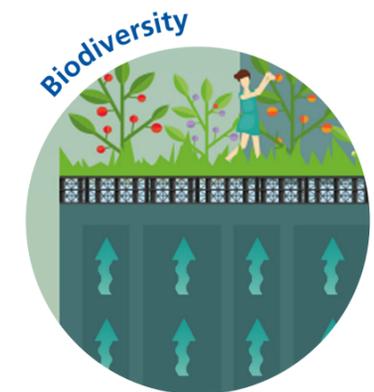
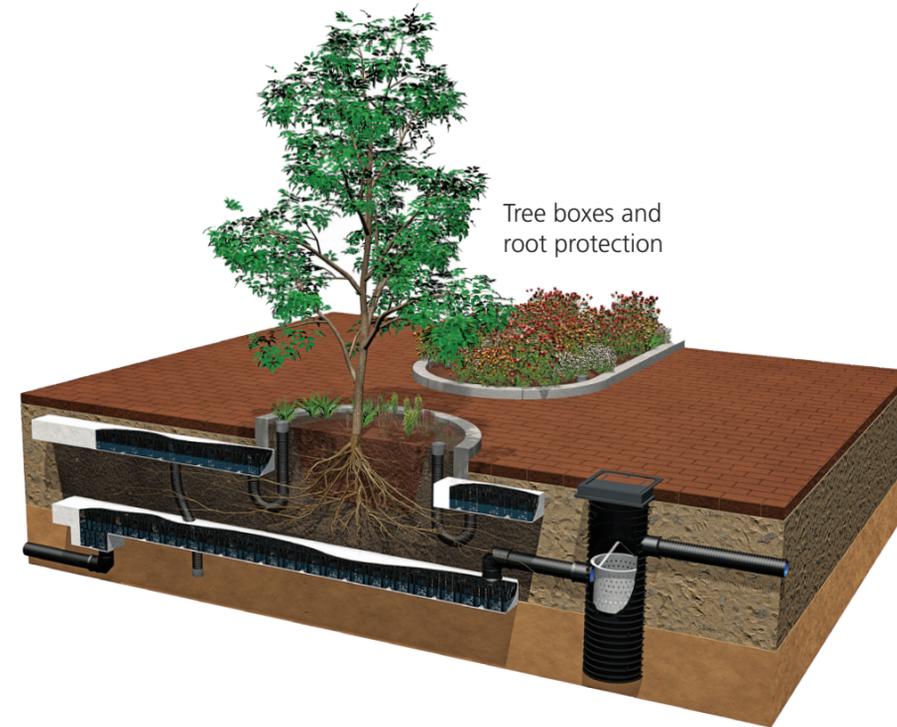
For advice on applications, design and installation, contact our Technical Team

01509 615100 civiltechnical@polypipe.com

IRRIGATION

Using stored rainwater to irrigate urban green assets has been a technical breakthrough that has defined a new generation of sustainable drainage systems. Called Green Urbanisation (GU), these systems utilise a unique net-zero technique known as 'passive irrigation' to draw water from sub-base attenuation tanks to plants that sit directly above.

Such is the adaptability of the approach, Green Urbanisation-inspired water reuse solutions have been developed for every built environment setting, be it at roof level, podium deck, or urban realm. From the smallest rain garden or planter project to the largest scale infrastructure or residential development, GU techniques allow creative and durable landscapes to be introduced that deliver a host of community, climate and cost benefits.



CLIMATE CHANGE:

Passive irrigation supported green assets can withstand the increasingly frequent extreme weather events occurring as a result of climate change. In prolonged dry spells the stored water maintains healthy surface planting, while high intensity rainfall can be stored where it falls as part of a source control solution that reduces surface water volumes entering the sewer network – helping to reduce the risk of flooding.

BIODIVERSITY NET GAIN:

GU solutions establish richer, more diverse and measurable ecosystems, helping developers achieve new environmental planning requirements more cost effectively and without the need to offset.

URBAN COOLING:

Introducing or increasing green urban density helps to lower the 'heat island effect' within cities – an issue greatly affected by climate change.

COMMUNITY, LEGACY AND WELLBEING:

Creating GU green areas benefit all community stakeholders; and ongoing health, wellbeing and education programmes ensure a lasting legacy.

CIRCULAR ECONOMY AND RESOURCE EFFICIENCY:

Passive irrigation reduces the levels of potable water used to maintain healthy landscapes and urban cooling lowers energy consumption required for air conditioning.

Bioretention Systems

RESILIENCE

Two of the greatest climate change-driven challenges are flooding and drought.

Today, by combining the latest non-potable and GU-inspired water reuse technologies with accurate weather forecasting data, there is now a game-changing solution that can help mitigate these impacts – Polysync.

The system works by intelligently adjusting water volumes stored in attenuation tanks to optimise the response to predicted weather events. If heavy rainfall is forecast, the system will instruct a tank to reduce its stored water volume well ahead of the event so that it can accommodate the storm flow without surcharging the local sewer or river network. If a prolonged dry spell is predicted then the system will hold its maximum volume for re-use in either non-potable applications or irrigation.

Systems that use a similar approach have already been developed, however these are typically restricted to single tank operation. Polysync's unique cloud-based control platform enables multiple storage tanks to be linked, creating an infinitely scalable virtual drainage and storage network.

Such scalability allows developers to optimise water management and reuse across any project, minimising surface water discharge costs while increasing property values, biodiversity and local climate resilience.

For water utilities, assets across an entire catchment can be fully integrated, giving the ability to track and accurately manage the response to any storm event.

WEATHER FORECASTING:

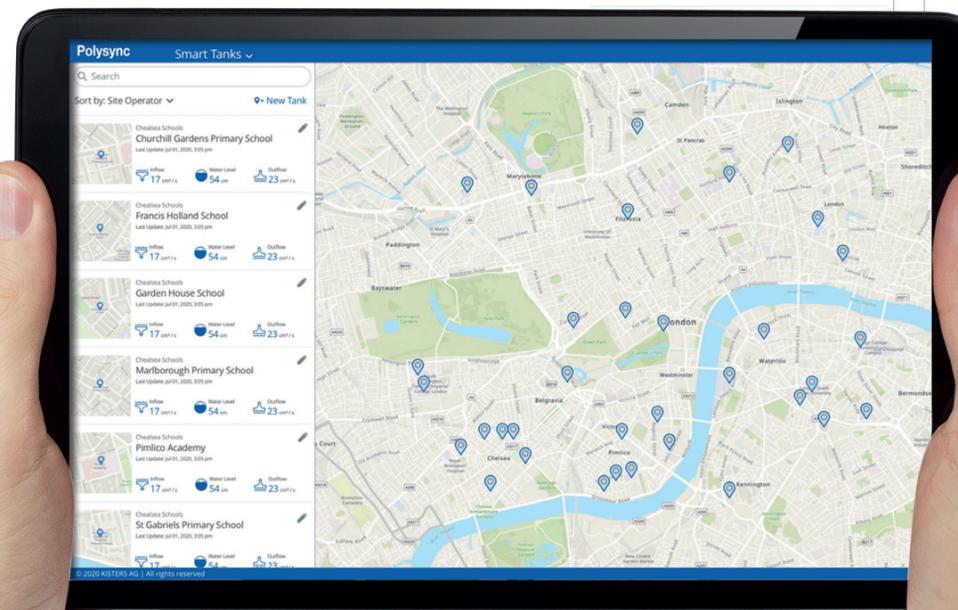
Polysync uses data from multiple sources in the creation of its forecasts. The resulting short, medium and long term weather mapping, which is continuously updated, offers industry leading accuracy

DATA SECURITY.

ISO-certified secure data centres and services supporting Polysync define best-in-class time series analysis functionality.

ADAPTIVE LEARNING AND OPTIMISATION

Once installed, Polysync's intelligent optimisation algorithms continuously improve a tank's response to any storm event, ensuring the maximum value return is always achieved.





WORKING IN PARTNERSHIP

Our product knowledge and service teams provide an unrivalled level of technical support for contractors and operators. Through early engagement, our team becomes a partner in your project offering you advice and support on the optimum solutions. We use the latest communication tools and modelling software to ensure the process runs smoothly from start to finish.

DESIGN SUPPORT

Our specification team are here to support with design advice and best practice guidance.

INSTALLATION AND MAINTENANCE

Full installation, commissioning and ongoing maintenance can be provided from our team of trained installers.

TRAINING & DEVELOPMENT

Our team is available to support with your ongoing learning and development requirements. We can offer your team bespoke learning packages, CPDs and technical workshops.

COMPLIANCE

We work closely with regulatory bodies to ensure our products meet all UK and international regulations for performance and sustainability. Wherever possible, our products are covered by third party necessary accreditations.





Civils & Green Urbanisation

Tel: +44 (0) 1509 615100

Fax: +44 (0) 1509 610215

Email: civils@polypipe.com

www.polypipe.com

