



How Balfour Beatty benefitted from real time water quality monitoring during pre-enablement works

Maintaining and improving water quality is increasingly critical as environmental pressures grow and construction regulations tighten. Ahead of upcoming works in Elgin, Scotland, Balfour Beatty partnered with Sunbelt Rentals to pilot WATR, a real-time water-quality monitoring device, establishing reliable baseline readings before construction began.



100% solar
powered
operation

24/7

real
time data



Zero “grab
samples”
required



Enhanced alerting
capabilities and
trend analysis



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With AMP8 placing increased emphasis on environmental protection, pollution prevention and data-led decision making, water companies and their delivery partners are under growing pressure to evidence baseline conditions ahead of construction activity.

As part of planned transmission infrastructure works in the Elgin region, Balfour Beatty undertook a pre-enablement water quality assessment to establish baseline data so that changes could be monitored once works commenced.

Joanne Mackenzie, Environmental Sustainability Manager at Balfour Beatty, was introduced to the WATR product at an Innovation event at their Shott's depot. The Sunbelt Rentals Test & Monitoring team demonstrated the unique capabilities of the water quality monitoring device and Joanne agreed it would be a great fit for the preliminary assessment at Elgin.

Challenges

Traditional water quality monitoring has often relied on manual processes with technicians travelling to site and taking "grab samples" which are then sent off to laboratories for testing. Although this method is highly accurate, it is not without its challenges:

- **Speed** – the processing time between samples being taken and results being available can be days and sometimes even weeks meaning that issues will continue to go undetected and potentially worsen over time.
- **Health and safety implications** – grab samples often rely on lone workers operating in isolated conditions and in high risk environments.
- **Frequency** – grab samples only assess the quality of the water at a single point in time. Water quality can change quickly and often without any visible signs meaning issues can remain undetected until the next sampling is scheduled.
- **Manual logbook entries** – which are prone to human error.
- **Labour intensive** – employing personnel to travel from site to site to take samples is time consuming and costly.

Our equipment and services supplied at a glance

- WATR Bankside water quality monitoring device



Solution

With installation managed by a team of trained technicians, the WATR Bankside model was deployed to a site in the vicinity of a Speyside distillery. Once installed, Balfour Beatty immediately benefitted from real-time water quality monitoring, gaining access to continuous, accurate data without the need for manual sampling.

With its live data insights, WATR has the ability to alert to changing conditions, ensuring Balfour Beatty will be able to take immediate action to minimise any potential pollution incidents if parameters are breached. What's more, the cloud-based system means data can be viewed from anywhere in the world, at any time of the day or night!

And being solar-powered, WATR was the perfect solution for the off-grid location at the Elgin site. Not only does a solar operation negate the need for a complex infrastructure set up but it supports sustainable site operations, helping contractors to meet their net zero targets.



Result

Through the deployment of the WATR Bankside device, Balfour Beatty gained access to reliable, real-time data enabling the team to establish an accurate baseline reading prior to site work commencing. The data captured also highlighted the impact of the extreme weather that hit the Elgin region over the course of the monitoring period. As excess rainfall entered the waterway, pH levels dropped, making the water more acidic, while turbidity levels rose due to higher levels of debris in the system.

WATR is capable of monitoring more than 15 parameters and uses multiple communication methods - such as GSM, LoRa and Satellite - to transmit data. This ensures the information is never compromised, delivering reliable results even when deployed in remote locations such as the site at Elgin.

By removing the need for manual sampling, WATR significantly reduces site visits and improves safety and efficiency. The live data enables Balfour Beatty to be pro-active in managing their environmental compliance, streamline their operations and demonstrate their commitment to sustainable practices.

As the industry progresses through AMP8 and beyond, solutions that provide continuous, defensible environmental data will play an increasingly important role in supporting pollution reduction, regulatory compliance and sustainable delivery.

“ The WATR monitoring device transformed our approach to data collection at the Elgin site. It removed the need for site visits and manual sampling which significantly reduces the health and safety risks whilst also providing live data for real-time analysis and trend identification. ”

Joanne Mackenzie

Environmental Sustainability Manager
at Balfour Beatty

Real time, accurate data

Reduced health and safety risk

Lower risk of water pollution

Leave the how to us.

