

Case Study

Secondary school (Water system upgrade)





BACKGROUND

Schools face unique challenges in maintaining water safety and hygiene. Reliable and safe water systems aren't just a facilities requirement – they're fundamental to student and staff wellbeing.

A modern secondary school, built in 2019, was experiencing significant challenges with its water infrastructure that were impacting daily operations.

The building's water system showed critical deficiencies in both pressure and temperature control. Initial assessments revealed temperature variances exceeding 2 degrees between source and outlet, while the incoming water pressure of 1.5 bar was proving inadequate for a facility of this size. These issues needed to be addressed to ensure proper functionality throughout the school.



THE CHALLENGE

Following initial reports of water system problems, TEC conducted a comprehensive evaluation of the site's requirements and constraints. The primary challenge lay in developing solutions that would effectively address both the temperature variance and pressure issues while working within the physical limitations of the existing infrastructure. This required careful consideration of available space and existing system configurations to ensure any proposed solutions would be both effective and practical to implement.





THE SOLUTION

Based on thorough site surveys and technical assessments, TEC developed and implemented a comprehensive solution to address the school's water system deficiencies.

At the heart of this solution was the installation of an 11,717L Cold Water Storage Tank (CWST) complemented by a 2' Twin Variable Speed Vertical Booster Pump Set. The installation required careful customisation to fit within the limited floor space available, demonstrating our expertise in working with spatial constraints.

The project's success relied heavily on effective coordination between multiple specialist teams. We worked closely with tank manufacturers, PTSG Electrical, and Efaflu booster set commissioners to ensure a seamless integration of all components. This collaborative approach was crucial in maintaining project efficiency and achieving the desired outcomes.



THE OUTCOME

The implemented solutions have successfully resolved the school's water system issues, delivering significant improvements across all key metrics. The system now maintains a consistent pressure of 3.5 bar across the estate, more than doubling the previous pressure levels. Temperature variance has been brought within the required 2-degree specification, ensuring consistent and reliable water supply throughout the facility.

Most importantly, the entire project was completed within both the allocated budget and agreed timeframe, demonstrating our ability to deliver complex mechanical engineering projects efficiently and effectively.

The new system continues to perform optimally, providing the school with a reliable and efficient water supply that meets all operational requirements.

The successful delivery of this project showcases TEC's expertise in managing multi-stakeholder technical projects while working within strict site constraints.



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