

PROJECT SPOTLIGHT

- CLIENT:** The University of Melbourne
- VALUE:** \$160,000
- DURATION:** 12 Months
- WATER SAVING:** • 6.72 ML Total
(As of Sept 2024) • 5.84 ML Potable

- PROJECT:** Digital Transformation in Irrigation & Water Management



THE CHALLENGE:

The university faced significant challenges with their outdated analogue irrigation systems. These systems were incompatible with each other and lacked connectivity to an online portal, hindering opportunities of water savings, maintenance efficiencies, monitoring and reporting. With a budget allocated for updating irrigation systems across five campuses, including the Vice-Chancellor's residence and student accommodations, the university embarked on what would become the most ambitious irrigation project in their history. A full digital transformation in irrigation and water management, resulting in an impressive 9.9% reduction in overall water usage, with 87% of that water being from a potable water source.

OUR SOLUTION:

To achieve these results, we implemented a comprehensive Smart Irrigation System; Hydrowise. The new system has been integrated with multiple weather stations, allowing it to adapt to environmental conditions. Key features included:

1. Weather-Responsive Control:

- Through pre-set watering triggers, the system automatically suspends irrigation if more than 38mm of rain has fallen in the last three days or if 3mm or more of rain is predicted, also automatically adjusting watering cycles based on extreme heat conditions.

2. Detailed Documentation:

- Each irrigation controller was assigned a name and categorised by zones and watering territories. Documentation includes photographs, detailed descriptions of controller locations and watering programs, significantly improving upon the previous analogue system's basic written descriptions.

3. Enhanced Monitoring:

- The system features pulse meters to track water usage, detect leaks, and monitor tank levels, including tank vs rainwater usage monitoring and management. Additionally it sends notifications for high usage and valve failures, facilitating quick responses to issues and leak detection investigation. The connectivity of the system allows remote access and control for its users, aiding in operational efficiencies for our client.

The project began at the university's Burnley campus, a horticultural site with public gardens. Previously equipped with an outdated analogue system, Burnley benefited from the new system's multi-tiered access and reporting capabilities, which has allowed for detailed analysis and water management strategy development. Due to strict WiFi security protocols, it was not possible to connect the controllers to the university's local network. To overcome this, we developed an in-house technical solution to ensure seamless connectivity.

THE OUTCOME:

Over a 12-month period, we successfully rolled out 73 new controllers across the university's campuses. This rollout resulted in an impressive 6.72 ML (9.9%) total irrigation water saving over a 12-month period, in itself aligning with the university's 10% water reduction target. Additionally, this saving accounted for 6.56% of the university's total potable water reduction based on their 2019 baseline. With the success the Hydrawise System has seen, the university has now made Hydrawise a requirement of the University Design Standards for all future projects.

The new system not only improved water management and reduced investigation times for issues but also provided a robust platform for ongoing monitoring, analysis and operational efficiency for the university, marking a significant and successful upgrade from the previous analogue infrastructure.



Campus	Mega Litres	Average Savings	Mega Litres Saved	Co2e Savings (tonne)
Parkville	44.04	6.8%	2.99	1.77
Southbank	1.82	9.9%	0.18	0.11
Werribee	8.13	9.1%	0.74	0.44
Burnley Gardens	13.28	24.8%	2.81	1.66
	67.27 ML	12.7% avg	6.72 ML	3.98 t

CLIENT TESTIMONY:

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Thanks to Reliable's outstanding work, the ability to easily access the interface remotely is a game changer for horticultural management. Our irrigation systems have become significantly more effective and efficient, helping the university progress towards its sustainability targets.

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Sascha Andrusiak, **The University of Melbourne**
Burnley Gardens & Operations Manager

