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*An introduction to
water conservation at UL*

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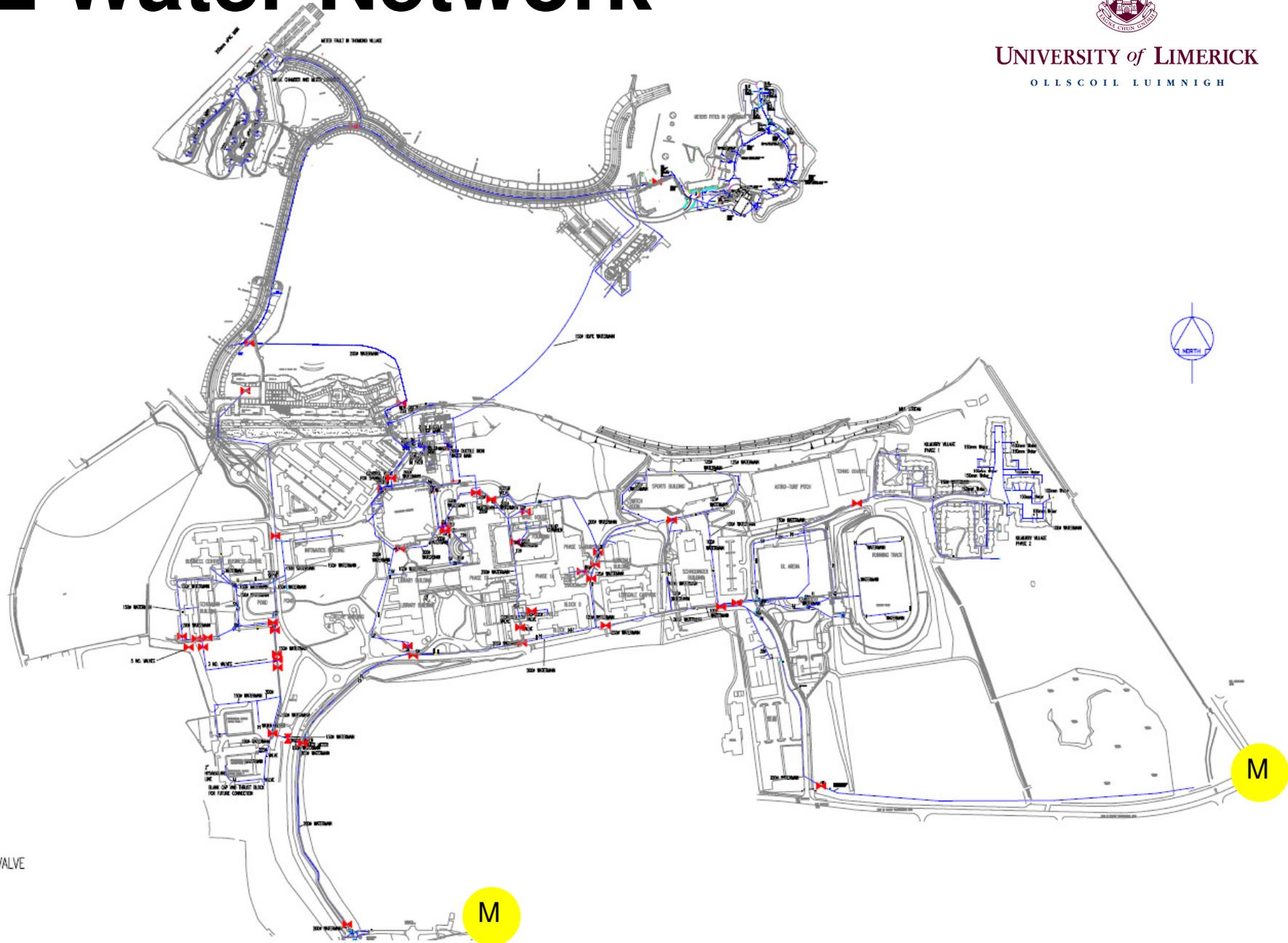
Contents

- Preparing to save water
- Establishing current performance trends
- Interpreting trends
- Step Testing
- Reviewing & Expanding your meter network
- Key Actions to Conserve Water

UL Water Network



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VALVE

M

M

Water Testing Equipment



Magflow Water Meters



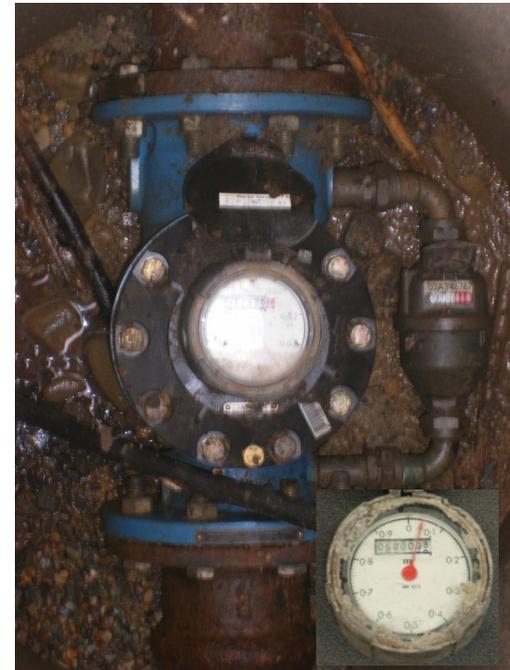
Water Meter Displays



Data-logger



Water Meter
Mini-pillar

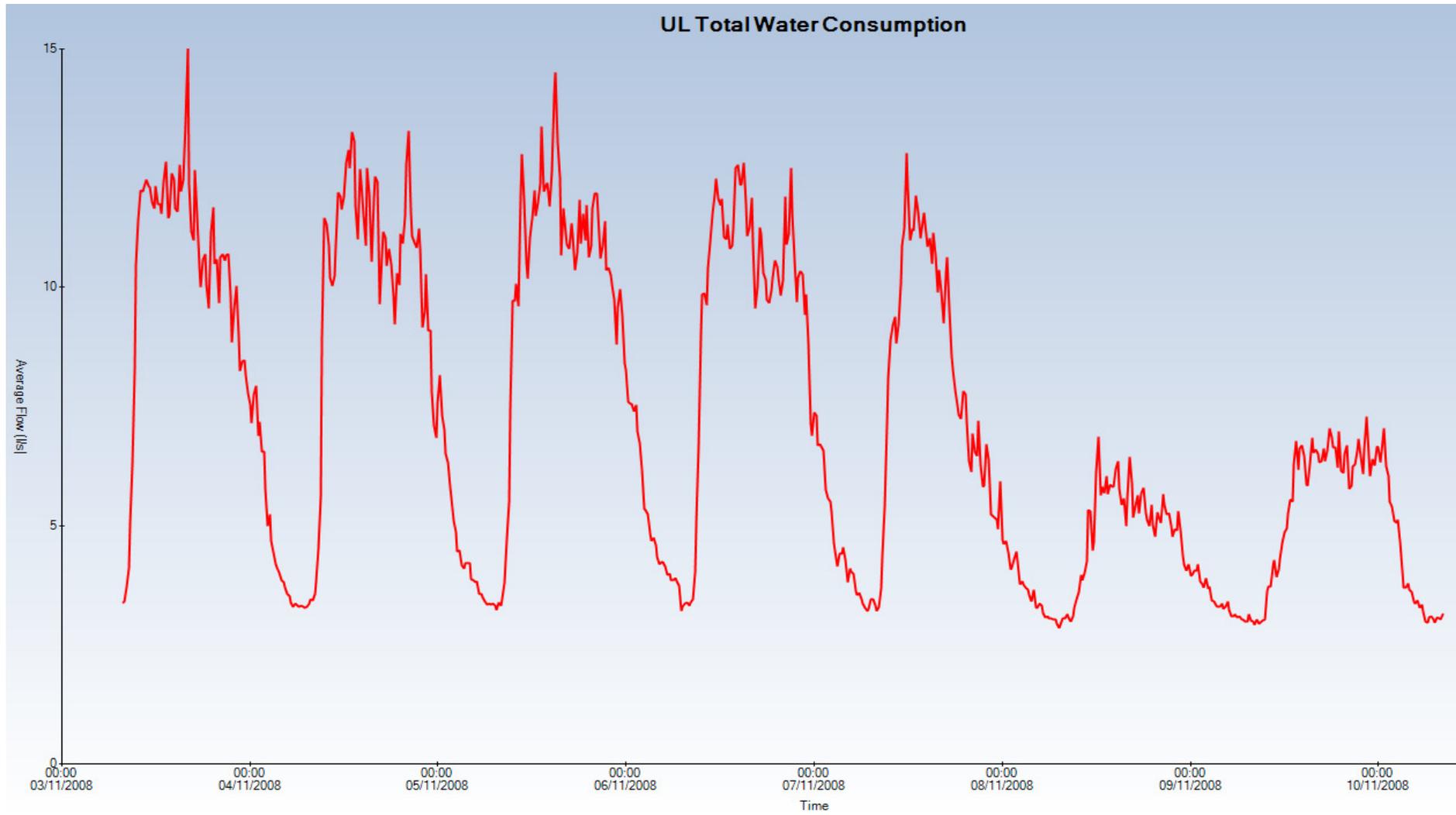


Mechanical Meter

Performance Trends



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Legend	Units	Min	Max	Average	Total
UL Total Water Consumption - Derived (Average) - Fille	l/s	2.85	15.01	7.19	4369.85 (m3)

Step Testing



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Building 1

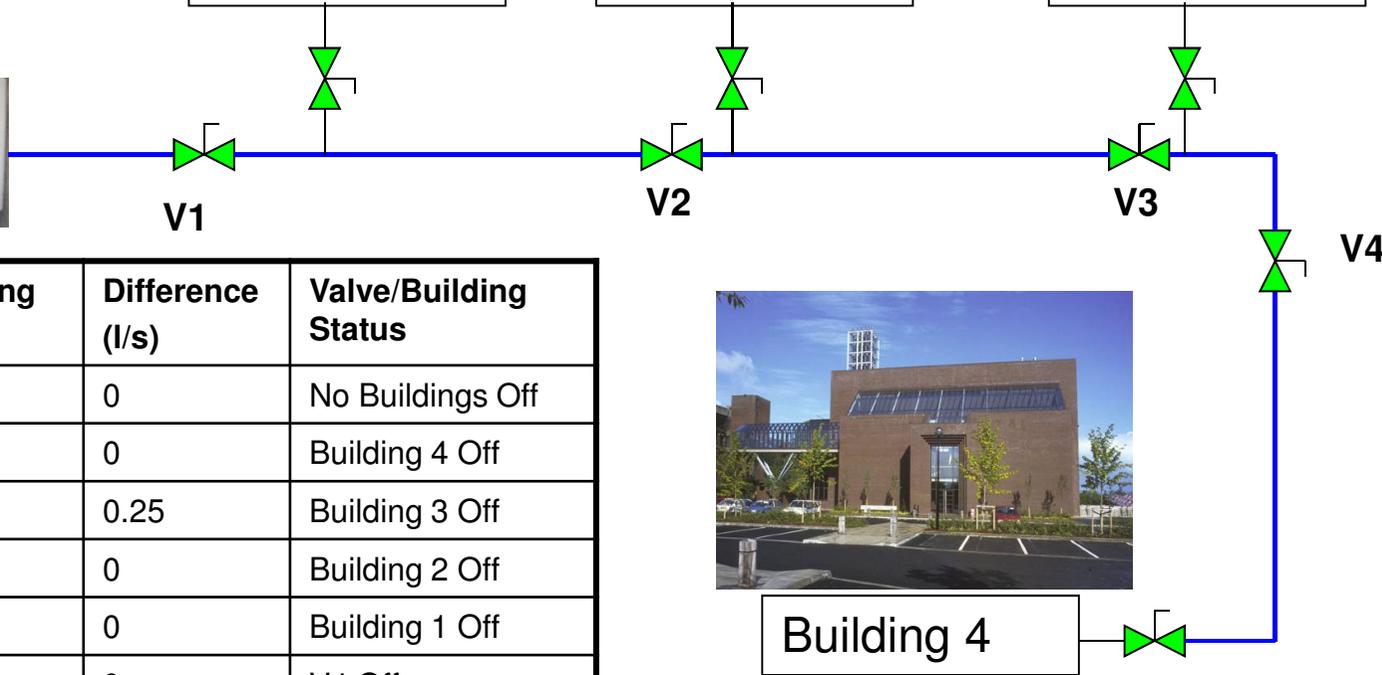


Building 2



Building 3

Water Meter



Meter Reading (l/s)	Difference (l/s)	Valve/Building Status
2.00	0	No Buildings Off
2.00	0	Building 4 Off
1.75	0.25	Building 3 Off
1.75	0	Building 2 Off
1.75	0	Building 1 Off
1.75	0	V4 Off
0.25	1.50	V3 Off



Building 4



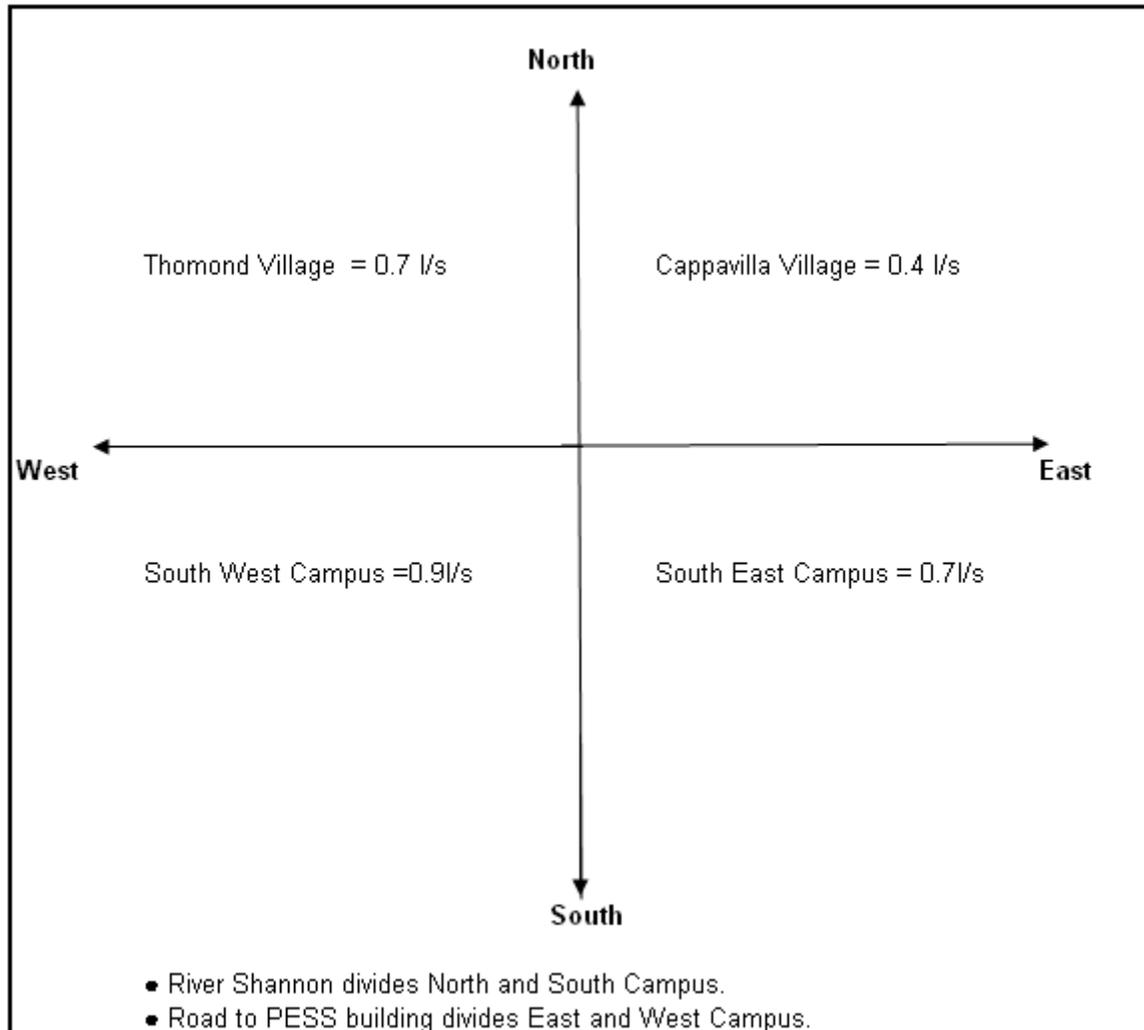
Step Testing (Remember that...)

- Real time readings from responsive meters required.
- Key valves that isolate sections of network need to be identified & tested in advance.
- Step test to be conducted during period of minimal/ zero usage so as not to compromise test.

UL's first step test

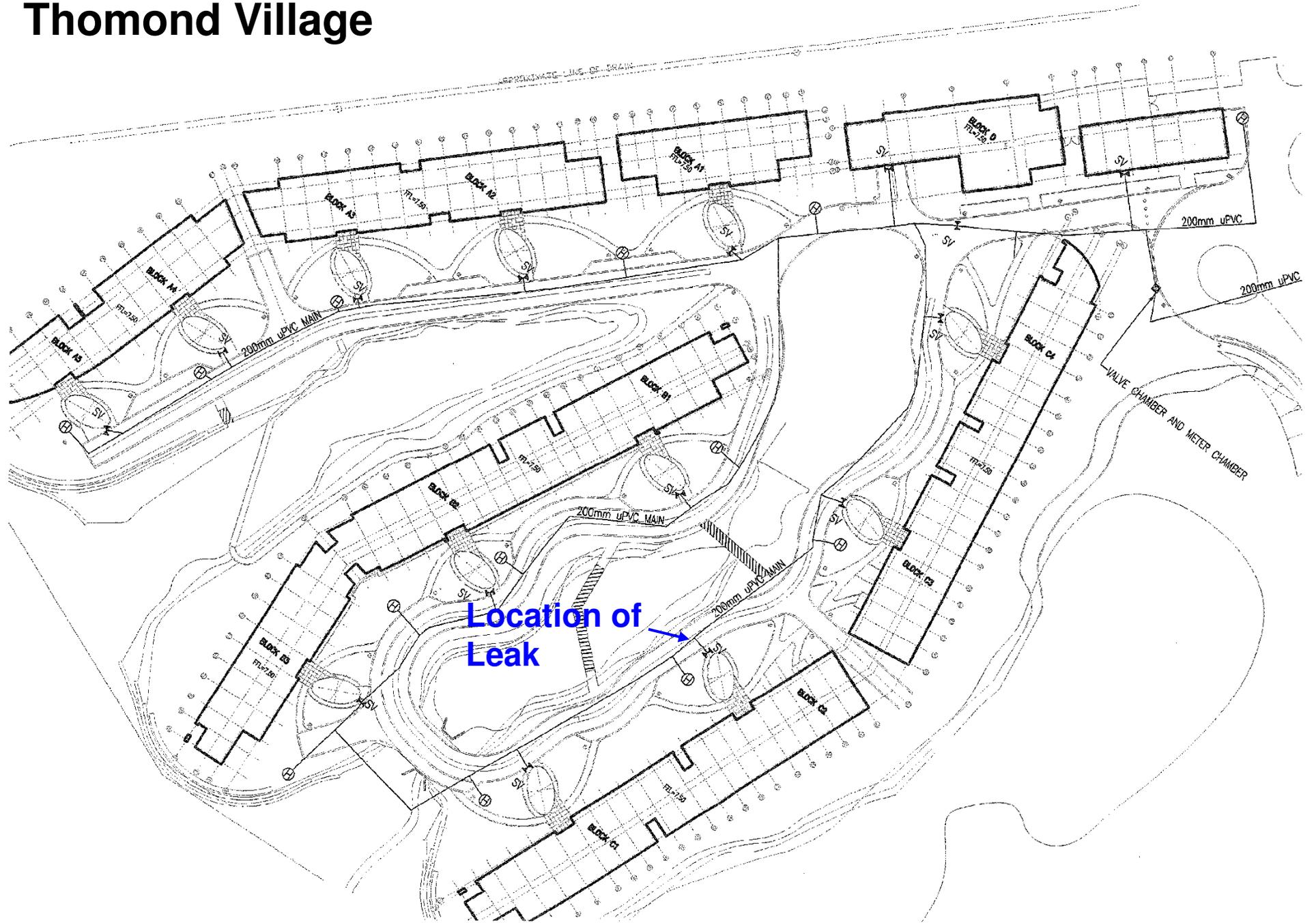


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Baseline Consumption of 1l/s equates to ~ €100,000 per year.

Thomond Village



Source of Thomond Village Water Leak



Water On, Leak Not Fixed
(properly) – 12 Noon



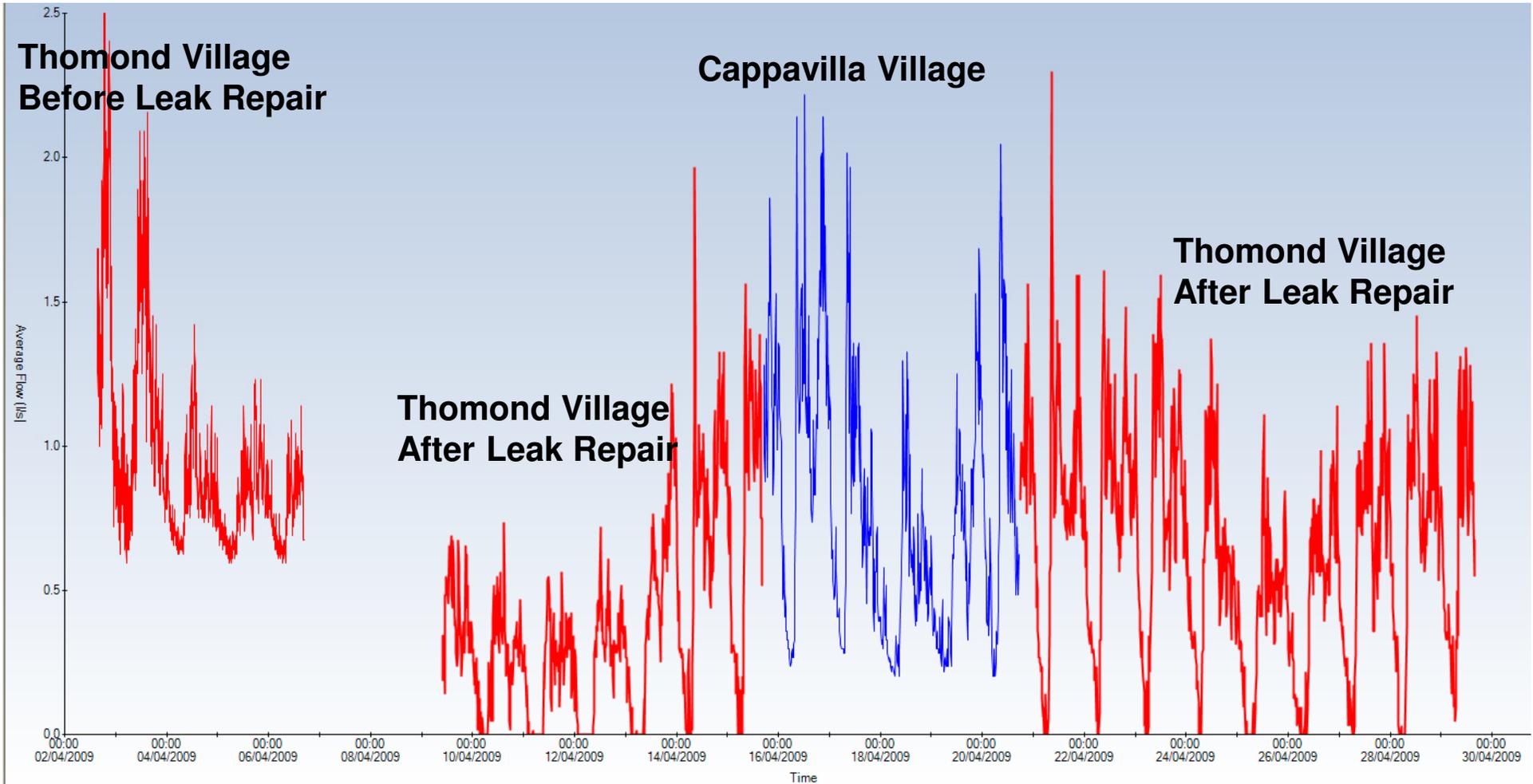
Water On, Leak Fixed Properly -
3pm

An un-tightened connection was the source of a 0.6 l/s leak.

Thomond/Cappavilla Village Trends



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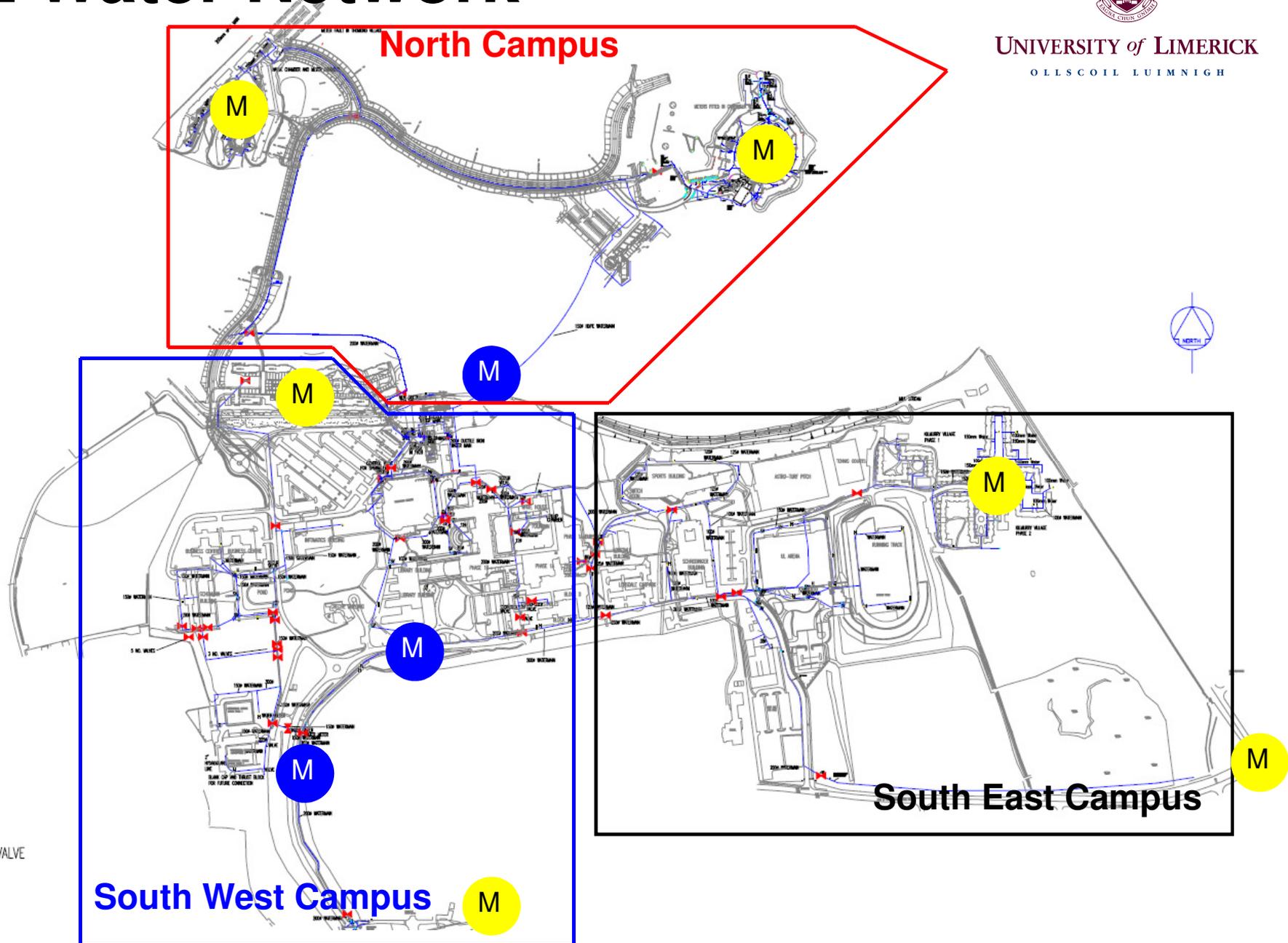


Legend	Units	Min	Max	Average	Total
TV BEFORE REPAIR 2 - Flow 1a (Average)	l/s	0.59	1.61	0.84	220.26 (m3)
Thomond Village Before Repair - Flow 1a (Average)	l/s	0.59	2.73	1.29	112.77 (m3)
Thomond After Leak Repair - Flow 1a (Average)	l/s	0.00	2.30	0.54	712.15 (m3)
Cappavilla 15th Apr Onwards - Flow 1a (Average)	l/s	0.20	2.22	0.78	339.10 (m3)

UL Water Network



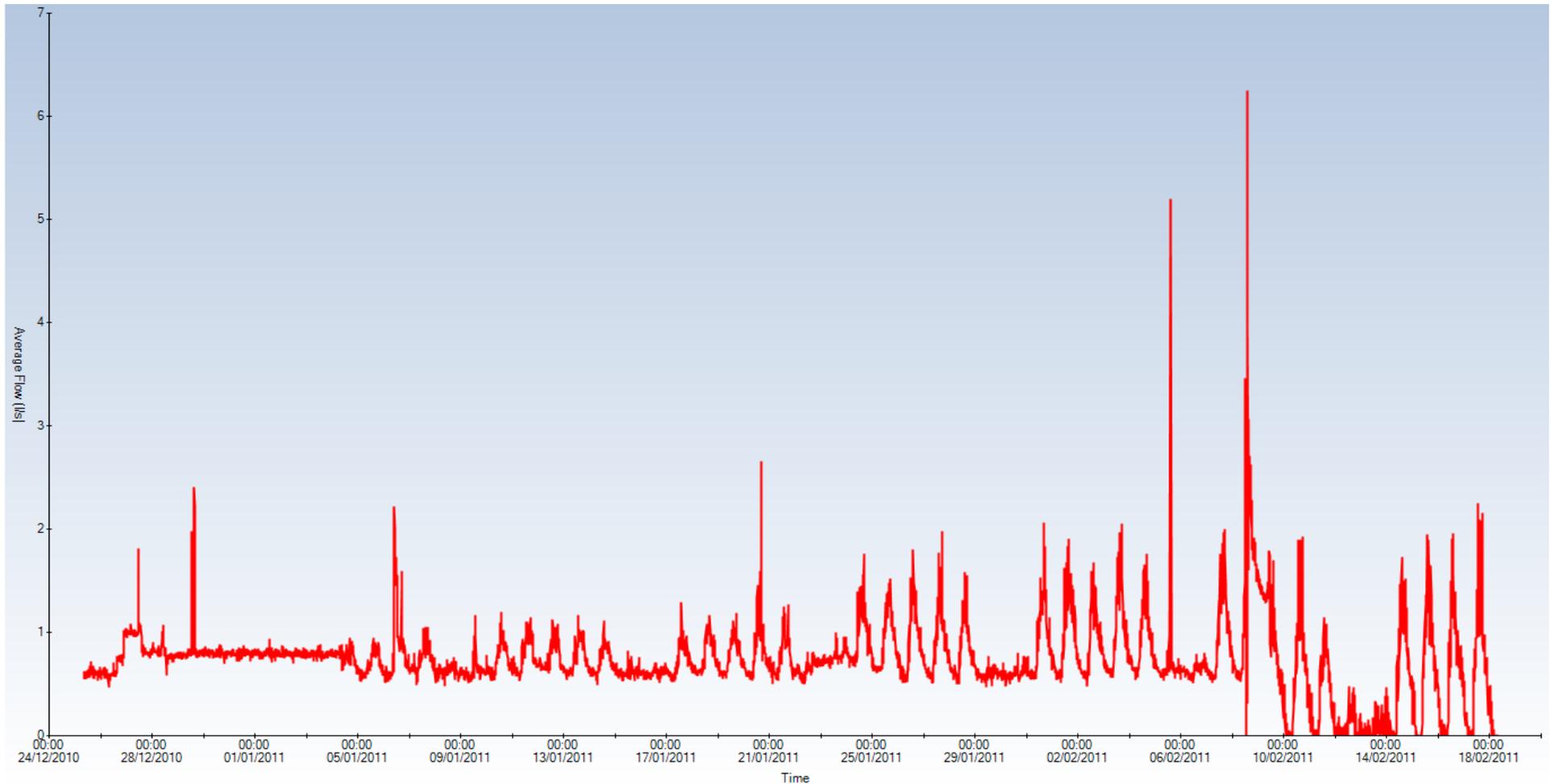
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South West Campus Trend



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Legend	Units	Min	Max	Average	Total
SW1 Shannon Development - Flow1 (Average)	l/s	0.00	6.25	0.74	3524.46 (m3)

South West Campus Leak



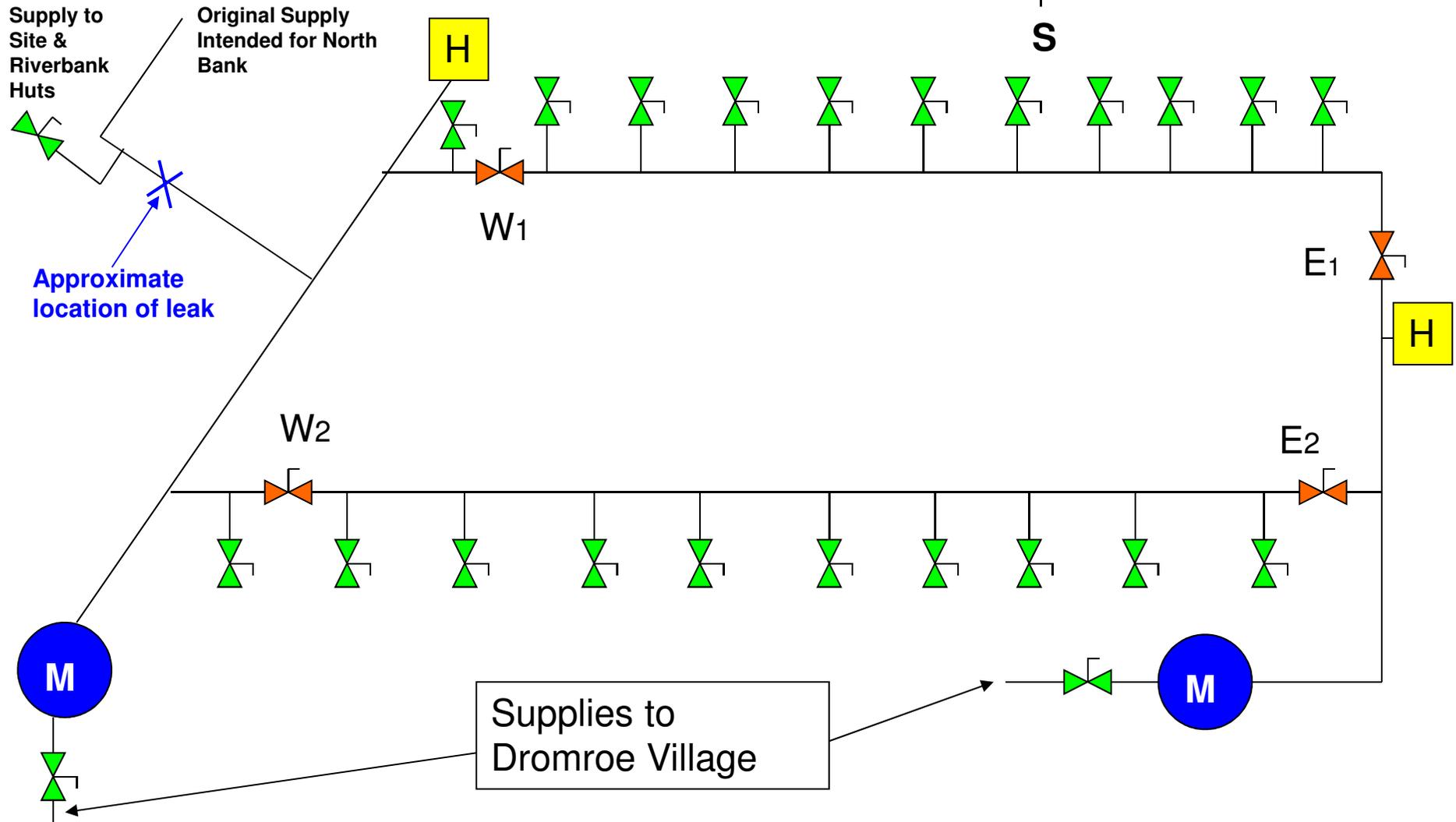
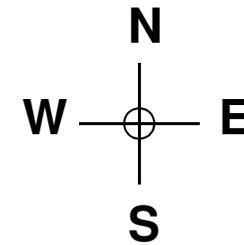
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Dromroe Village Water Network



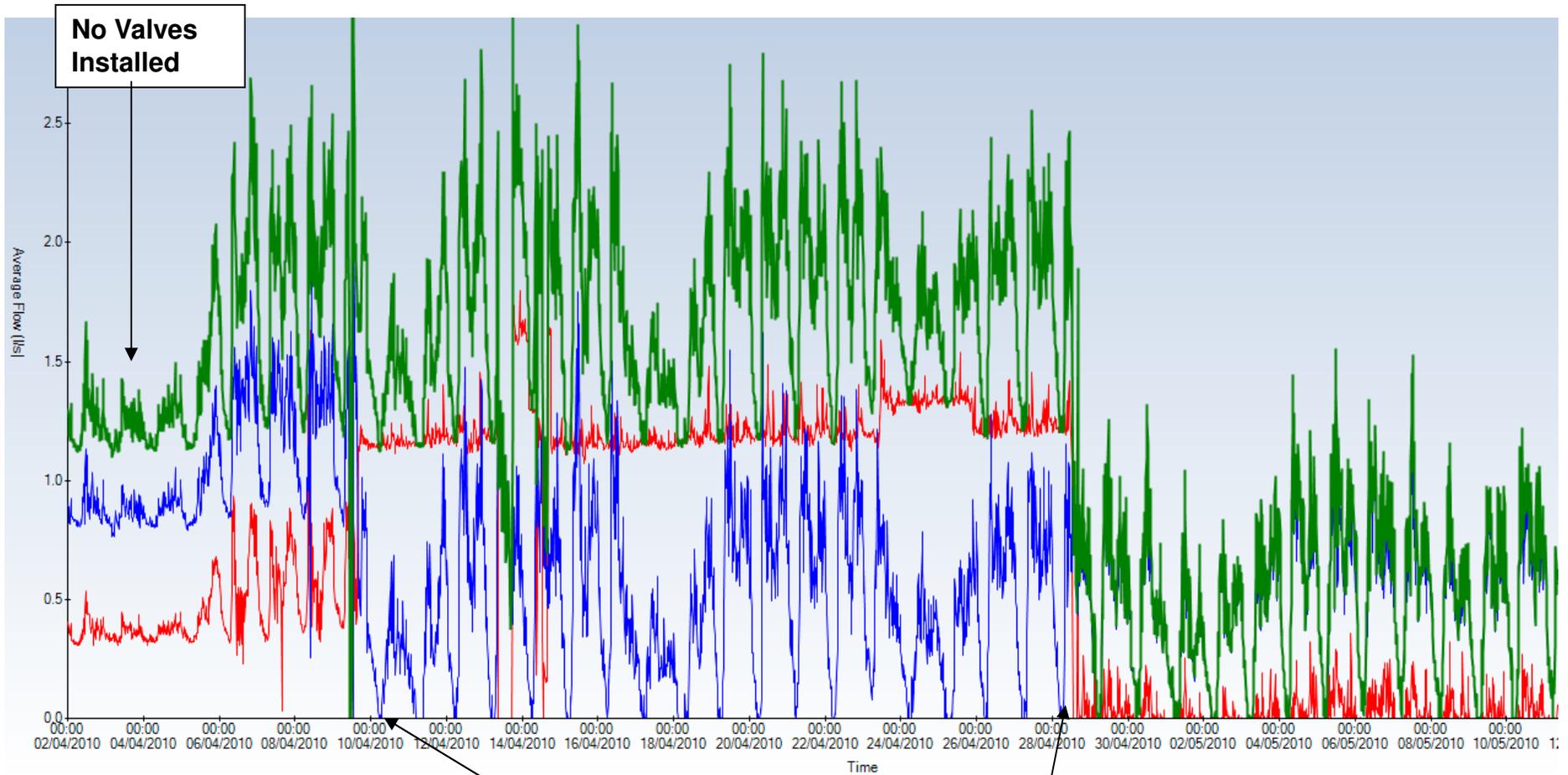
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Water Consumption Trend – East and West Sections Isolated



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Legend	Units	Min
Dromroe Village West - Flow1 (Average)	l/s	0.00
Dromroe Village East - Flow1 (Average)	l/s	0.00
DROMROE VILLAGE TOTAL - Derived (Average) - Fille	l/s	0.00

East and West Sections Isolated

Leak detected and repaired on 28/04/2010

Dromroe Village Leak



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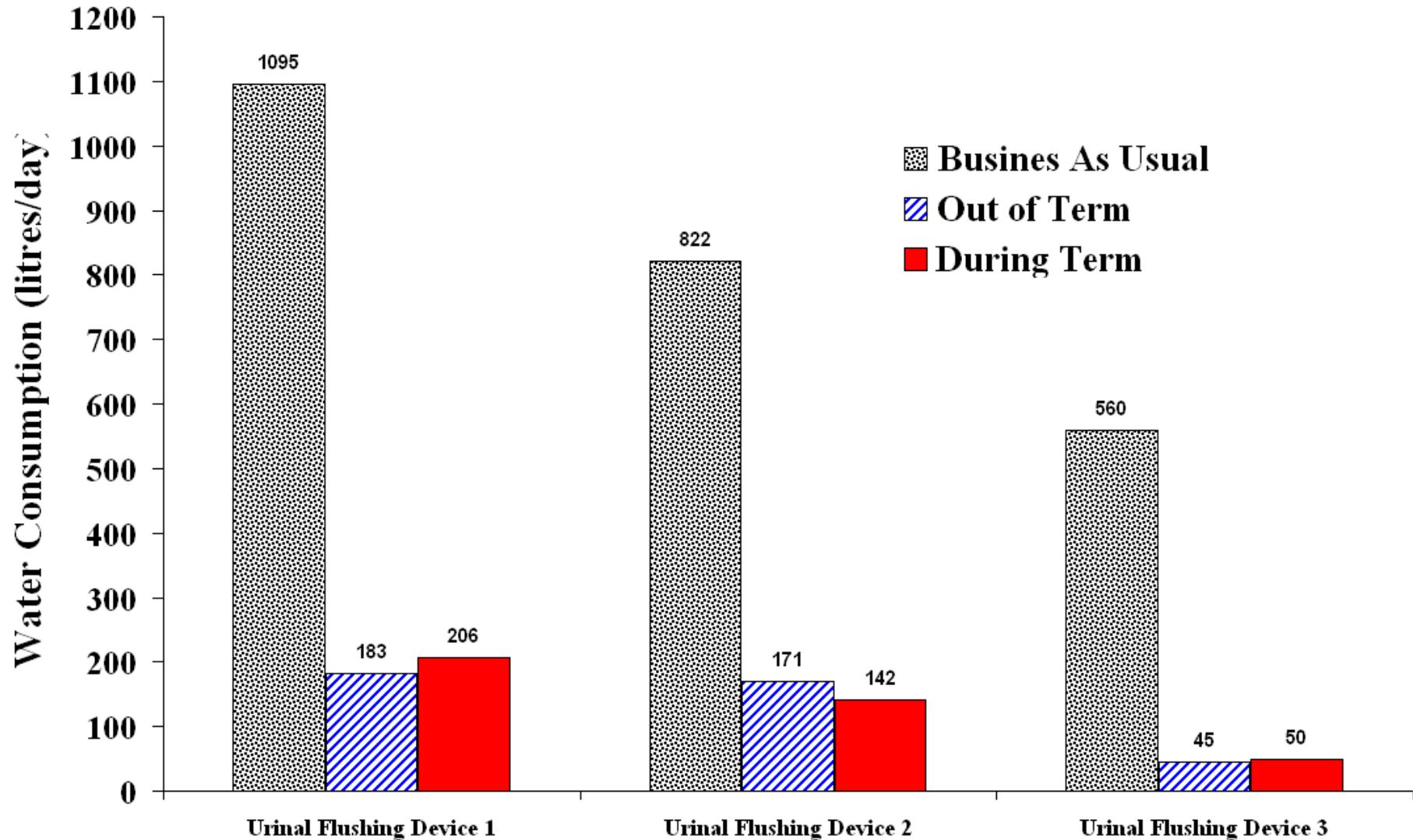
Dromroe Village Leak



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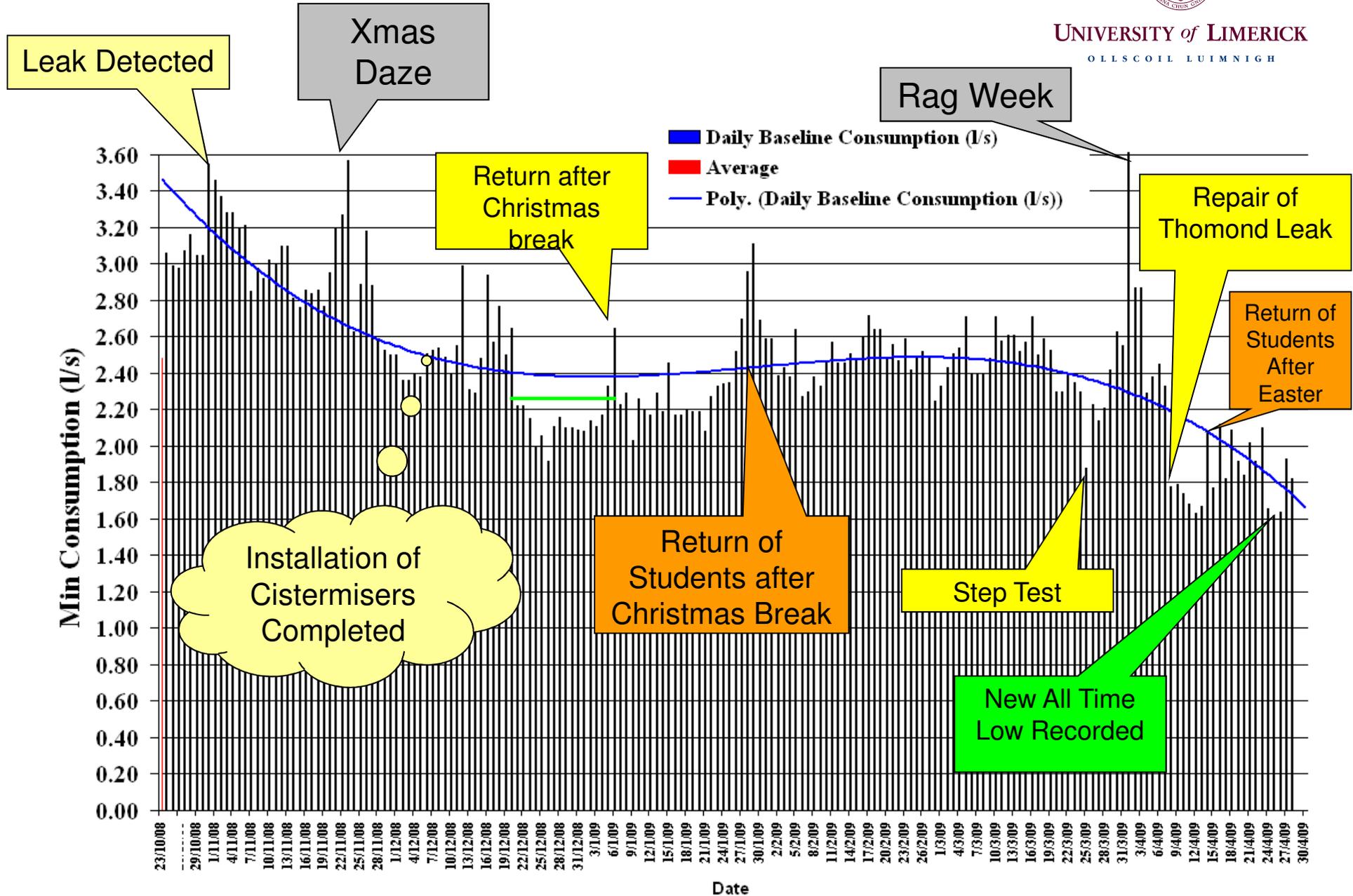
Urinal Flushing Devices



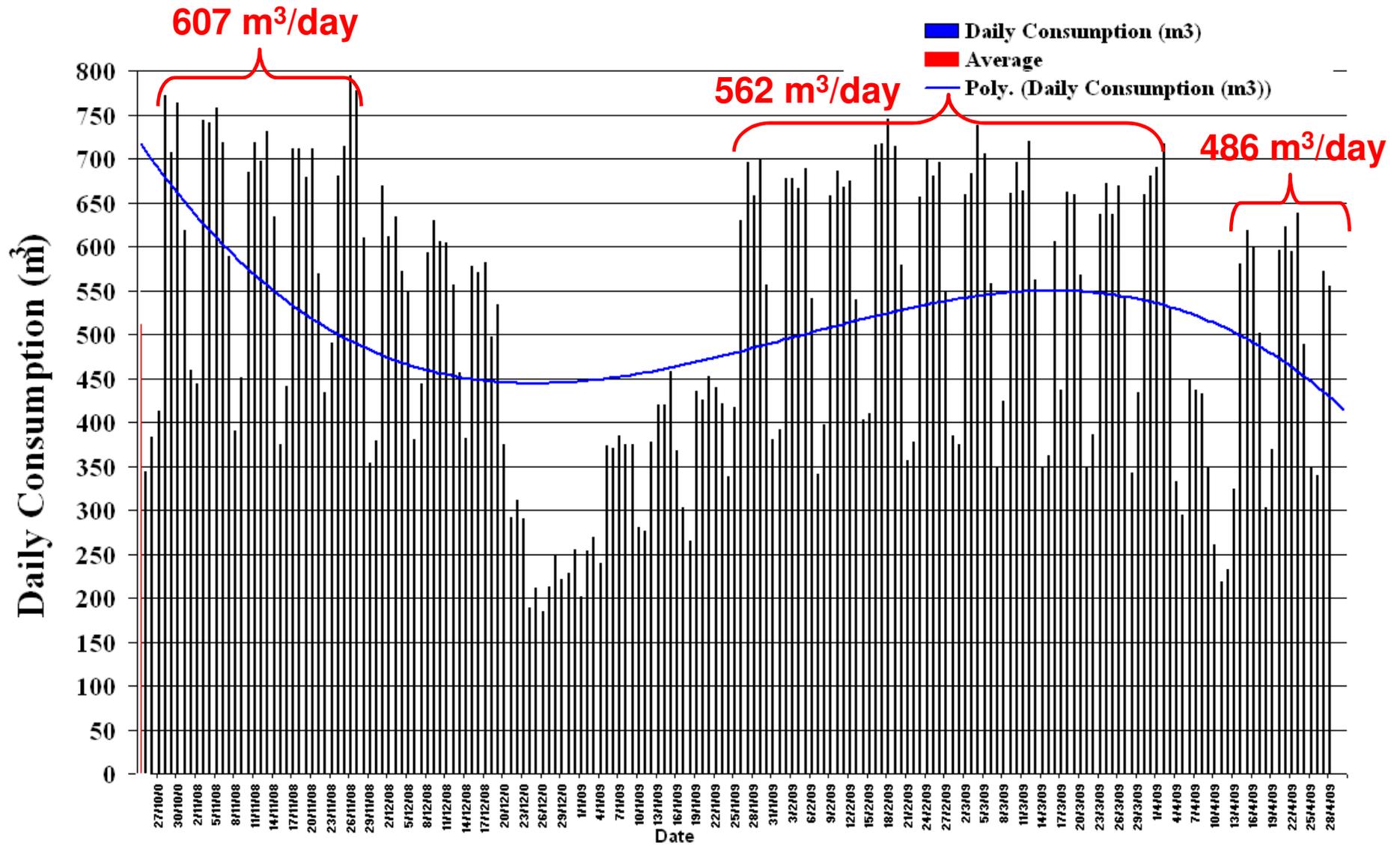
Baseline Water Consumption



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Total UL Water Consumption



Saving Water – Key Actions



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- Establish current performance trends and compare with historical trends if available.
 - Collect data regularly
 - Identify key metering points and install reliable meter (preferable with no moving parts)
 - Install data-logger
- Break down water network into more manageable chunks by identifying/installing valves at key locations
 - Conduct Step Tests to identify areas of high consumption

Saving Water – Key Actions (Ctd.)



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- Ensure bypass valves are fully closed if not separately metered.
- During construction phase ensure temporary water meter is installed on contractors water supply.
 - Encourages contractor to conserve water during construction.
 - Ensures all connections are water tight at handover.
- Thoroughly evaluate products which claim to save you water & set up correctly.

A scenic view of a golf course. In the foreground, a gravel path leads towards a green fairway. To the right, there are several large, leafless trees and a cluster of yellow daffodils. In the background, a lake is visible, surrounded by more trees and distant hills under a clear blue sky. A black lamppost stands near the path on the right.

Thanks for Listening!