

## Water Audit Report

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with you every drop of the way

Report Ref: Water Plus  
Site Name: Charles Hastings Building  
Site Contact: Brett Harris  
Report Prepared By: Neil Stoddard  
Date: 14th June 2018



**DVS**  
Dart Valley Systems  
a FRANKE company

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## **Section 1: Background**

Your site has been selected to participate in a Water Efficiency Programme to reduce water consumption and prevent any future wastage while maintaining optimum hygiene levels.

The surveyor has completed the survey audit and gathered as much detail as is necessary to enable us to evaluate the financial and technical viability for the implementation of water saving devices.

Dart Valley Systems have compiled this report highlighting the benefits of each recommended product or solution clearly identifying the savings in both water volume and monetary terms. In addition to this all DVS products are listed with the Enhanced Capital Allowance Scheme (ECA). This scheme allows businesses to write off the whole cost of the equipment against taxable profits in the year of purchase.

Should you require any further information from us, please do not hesitate to contact:-

Neil Stoddard  
Business Development Manager UK Water Utility Companies  
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email: [neil.stoddard@dartvalley.co.uk](mailto:neil.stoddard@dartvalley.co.uk)



## Section 2: Site Information

### Site Details

Site Name and Address:

Mulberry House  
City Campus  
Infirmary Walk  
Worcester  
WR1 3AS

Surveyor Details: Dart Valley Systems Ltd  
Surveyor Name: Neil Stoddard  
Audit Date: 14th June 2018

### Water Meter Details

Meter Serial No. - 15XF023241  
Meter Size - 32mm  
Meter Reading 1 - 11191.9  
Date of Reading - 14/06/2018  
Meter Reading 2 - 11192.3  
Date of Reading - 14/06/2018  
Meter Location - Boiler room on lower ground floor in L/H corner

### Contact Details

Contact Name: Brett Harris  
Contact Tel. No.: 01905 542617  
Contact Position: Finance  
Contact Email: [b.harris@worc.ac.uk](mailto:b.harris@worc.ac.uk)

### Occupancy Levels and Site Information

No. of Male Staff per Day: 20  
No. of Female Staff per Day: 20  
No. of Visitors per Day: 400  
Hours per Day: 9  
Days per Week: 5  
Weeks Per Annum: 50  
Hours per Annum: 2250  
Swimming Pool: No  
Kitchen/Canteen: Yes  
Lauderette: No



## Section 3: Summary of Water Use

From our water efficiency audit we ascertained the various points of water consumption and the consumption characteristics by manual observation, measuring the flow rates using flow cups and timing the duration of any constant water flow .

### WC FLUSHING:

No. of Male Toilets:	17
Avg size male cstrn:	8.17 ltrs
No. of Female Toilets:	18
Avg size female cstrn:	7.86 ltrs

### URINAL:

No. uncontrolled Ctrns:	2
Avg. no of flushes /hour:	1.33
Avg. LPM(ltrs/min):	0.30
No. controlled Ctrns:	
Avg FPH(flushes/hour):	
Avg. flush volume (ltrs):	

### TAPS:

No. of hot taps:	48
Avg. hot flow rate:	9 ltrs/min
No. of cold taps:	48
Avg. cold flow rate:	9 ltrs/min

### SHOWERS:

No. of wall mounted:	10
No. of handheld:	1
Avg. flow rate (LPM):	16.2

### Facilities information:

Days open per week:	5
Opening Hours:	9
Amount of days open per year:	250

# Section 4: Water Consumption Analysis (Pre/Post)

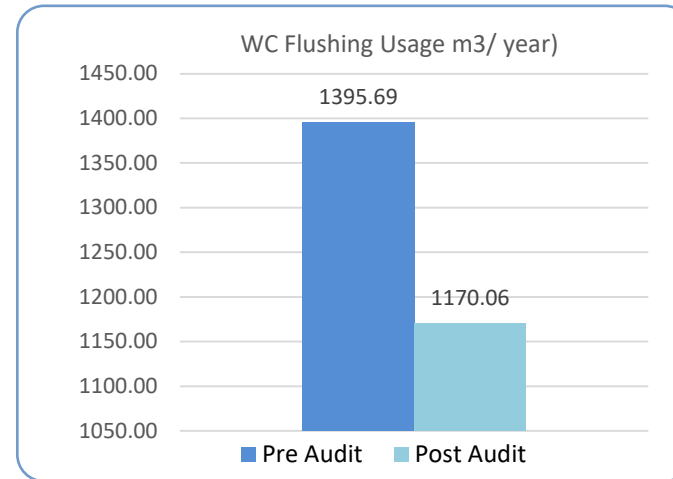
Your Approximate Existing m3 Water Consumption is:	4239.72
Your Approximate m3 Water Consumption To Be:	3765.35
Your Potential m3 Water Annual Saving :	474.37
Your Potential m3 Water Annual Saving Percentage :	11%



## Section 5: Water Consumption Analysis (Per Product)

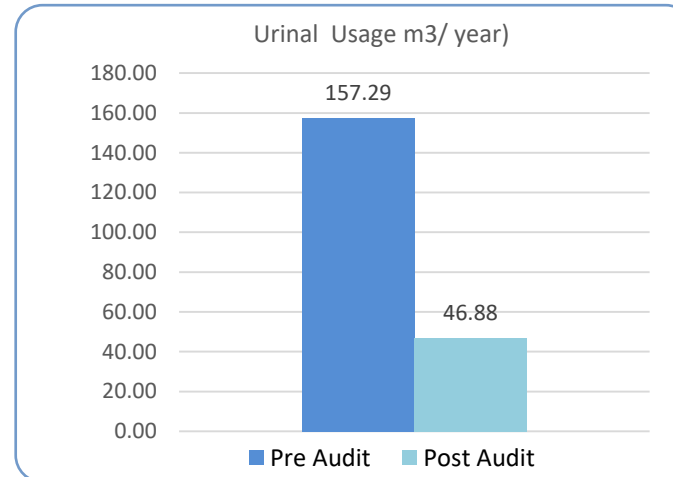
### WC FLUSHING USAGE (m3/YEAR):

Pre Audit - Male:	351.19	
Pre Audit - Female:	1044.50	
Total Pre Audit:	1395.69	
Total Post Audit:	1170.06	
Total Savings:	225.63	
Percentage Savings:	16.17	%
Payback Period (months):	13.1	



### URINAL USAGE (m3/YEAR):

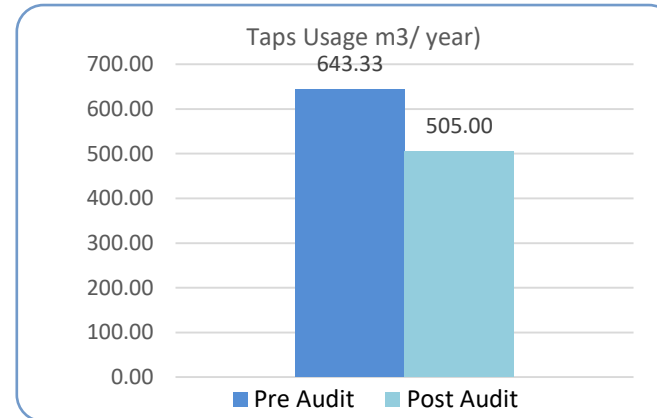
Pre audit - Controlled:		
Pre audit - Uncontrolled:	157.29	
Total Pre Audit:	157.29	
Total Post Audit:	46.88	
Total Savings:	110.41	
Percentage Savings:	70.20	%
Payback Period (months):	19.5	



## Section 5: Water Consumption Analysis (Per Product)

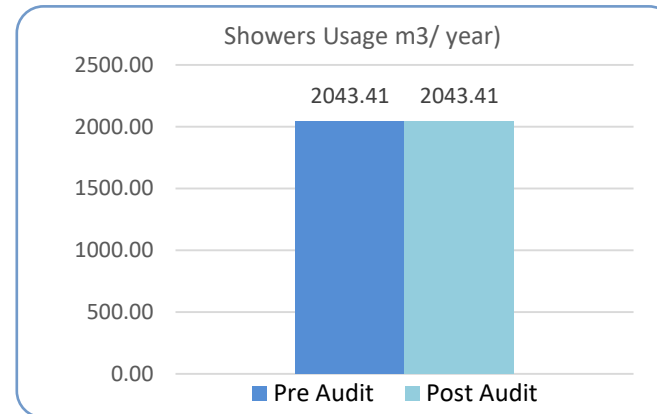
### TAPS USAGE (m3/YEAR):

Pre Audit - Hot	160.83	
Pre Audit - Cold	482.50	
Total Pre Audit:	643.33	
Total Post Audit:	505.00	
Total Savings:	138.33	
Percentage Savings:	21.50	%
Payback Period (months):	29.2	



### SHOWERS USAGE (m3/YEAR):

Pre Audit - Wall Mounted:	1840.91	
Pre Audit - Handheld	202.50	
Total Pre Audit:	2043.41	
Total Post Audit:	2043.41	
Total Savings:		
Percentage Savings:		%
Payback Period (months):		





## Section 6: Recommendations

The water saving devices below are inclusive of both supply and installation costs and where DVS install and commission the products, a full **FIVE** year on site guarantee is included (conditions apply). Please note all costs assume operative water isolation within the washroom - any extra remedial works relating to the non-compliance of this will be charged at the hourly rate or part thereof.

	PRODUCT DESCRIPTION	CODE	QUANTITY	COST	TOTAL COST
WC'S	Sensor Flush Valve (Battery)	WC03-052		£317.01	
	Dudley Turbo 88	WC00-000	12	£54.00	£648.00
	Save-a-Flush Bag	WC00-004	1	£8.83	£8.83
	Service	WC00-000		£24.00	
URINALS	Service (not including Solenoid Valve)	UC00-000		£66.00	
	Flushmatic Battery	UC01-001	2	£238.41	£476.82
	Flushmatic 230v Mains	UC01-014		£270.18	
	Flushmatic Battery DL	UC01-018		£262.23	
	Flushmatic 230v Mains DL	UC01-024		£258.96	
TAPS	Aquarius A45 (incl 1 Stn Tap Kit)	AT03-011		£321.94	
	Push Tap comp (qty)	MT00-001		£67.57	
	Restrictaflow Valve	AC17-039	48	£18.67	£896.16
	Outlet aerator FEMALE (5 lpm)	AT00-013		£9.40	
	Outlet aerator MALE (5 lpm)	AT00-013		£9.40	
	Re-time (qty)	AT00-000		£6.00	
SHOWERS	High Sec Wall Mounted Fixed	SH07-040		£90.78	
	ABS White (Antimicrobial)	SH07-091		£70.05	
	Showerhead, rail & Hose Kit	SH00-019		£133.62	
	WM Push Tap Auto Close	MT00-010		£79.57	
	Franke Aqua 754 (6 lpm)	Aqua754		£72.37	
				<b>Total:</b>	<b>£2,029.81</b>

## Section 7: Overall Savings and Payback Period

Pre-Audit Water Usage (m3/year):	4239.72
Post-Audit Water Usage (m3/year):	3765.35
Pre-Audit Water Costs (£):	£11,277.66
Post-Audit Water Costs (£):	£10,015.83
Avg. Cost of Water (per m3):	£2.66
Total cost of recommendations (£):	£2,029.81
Total Cost Savings per annum (£):	£1,261.84
Payback Periods (months):	19.3

The figures are based on the information collated during the survey and any inaccuracies provided on the day may affect any predicted water savings. The assumptions are based upon average usage taken from various water research establishments over a number years of study and are used for indicative purposes only.



## Section 8: Other Site Information

This building is the main student teaching arena which can be occupied between 9.00am -9.00pm with students, Monday to Friday. There is also a small gym which is open from 7.00am-10.00pm Monday to Friday and 08.30-12.30pm on Saturdays. Some WC Cisterns are dual flush and do not require any restrictions whereas the Single Flush would require an upgrade. The Urinals did not appear to have operational controls. The Mixer Push Taps within both Male and Female toilets do require some maintenance as some appear to be dripping. We would recommend installing our Sensor Operated Aquarius Range of taps should replacements be required. The main entrance was under total refurbishment at the time of surveying.





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