

Water Audit Report

Waterplus
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

Waterplus
with you every drop of the way

Contents Page

Section No.

| | |
|---|--|
| 1 | Background |
| 2 | Site Information |
| 3 | Summary of Water Use |
| 4 | Water Consumption Analysis (Pre/Post) |
| 5 | Water Consumption Analysis (Per Product) |
| 6 | Recommendations |
| 7 | Overall Savings and Payback Period |
| 8 | Other Site Information |

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
Mobile no: 07764 972725
email: 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

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)

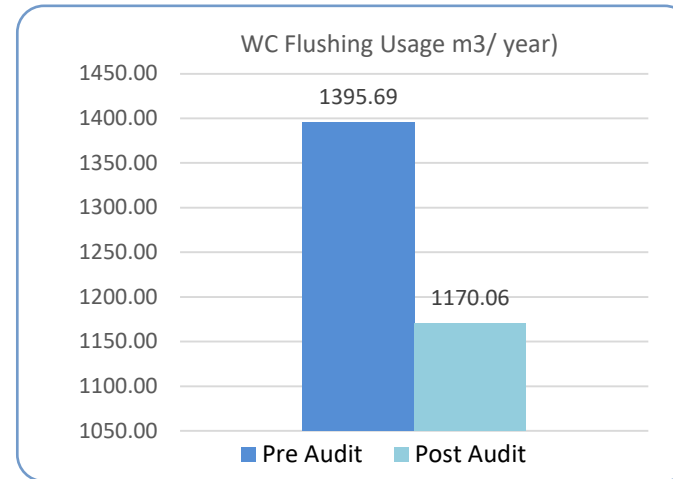
| | |
|--|---------|
| Your Approximate Existing m3 Water Consumption is: | 4239.72 |
| Your Approximate m3 Water Consumption To Be: | 3765.35 |
| Your Potential m3 Water Annual Saving : | 474.37 |
| Your Potential m3 Water Annual Saving Percentage : | 11% |



Section 5: Water Consumption Analysis (Per Product)

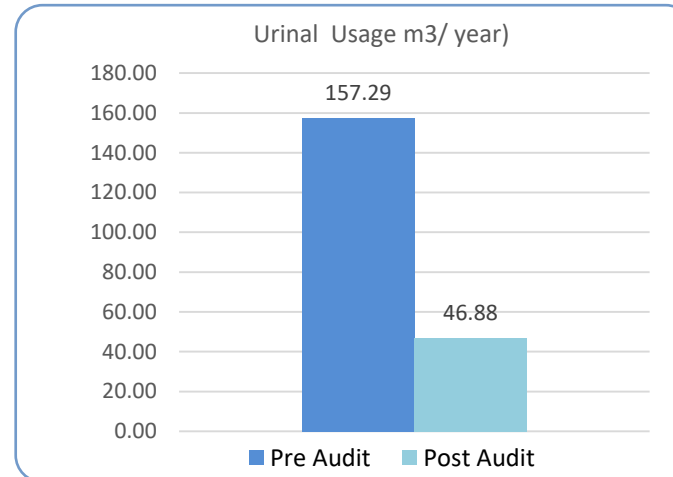
WC FLUSHING USAGE (m3/YEAR):

| | | |
|--------------------------|---------|---|
| 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):

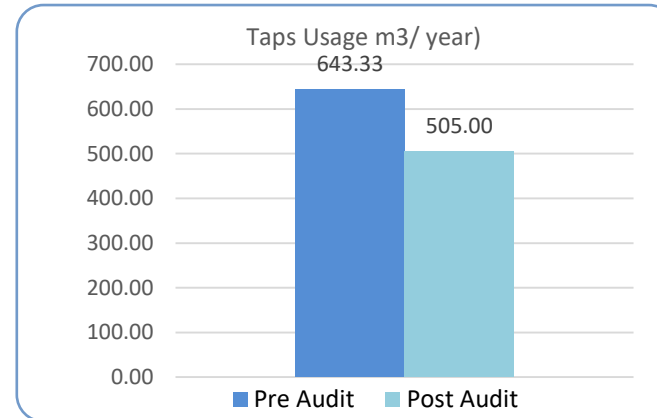
| | | |
|---------------------------|--------|---|
| Pre audit - Controlled: | | |
| Pre audit - Uncontrolled: | 157.29 | |
| Total Pre Audit: | 157.29 | |
| Total Post Audit: | 46.88 | |
| Total Savings: | 110.41 | |
| Percentage Savings: | 70.20 | % |
| Payback Period (months): | 19.5 | |



Section 5: Water Consumption Analysis (Per Product)

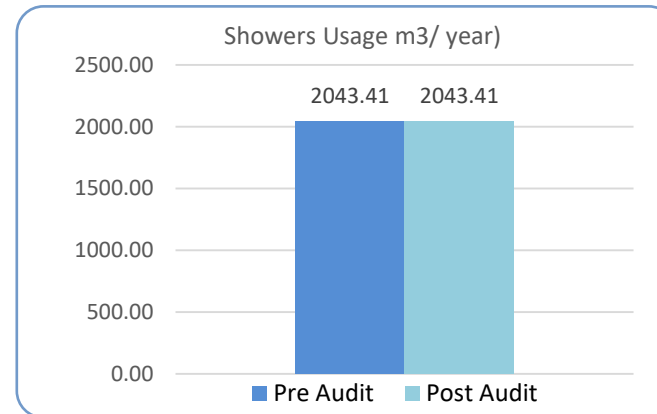
TAPS USAGE (m3/YEAR):

| | | |
|--------------------------|--------|---|
| 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 | |
| | | | | Total: | £2,029.81 |

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.





Dart Valley Systems Ltd
Kemings Close
Long Road
Paignton
Devon
TQ4 7TW
United Kingdom

t: +44 (0) 1803 529021
f: +44 (0) 1803 559016
e: sales@dartvalley.co.uk
w: www.dartvalley.co.uk



Waterplus
with you every drop of the way

