Consulting Civil Engineers

Existing Fittings Survey

1 Downs View Terrace, Henfield

For

Penny Newson

Rev – **P3**

Reference **C2932**

Date **8th January 2024**

Revision	Date of Issue	Comments	Prepared By	Checked By
P-	11.12.2023	Initial Issue	LT	CS
P1	26.12.2023	First Issue	LT	CS
P2	04.01.2024	Revised	LH	CS
P3	08.01.2024	Revised	LH	CS

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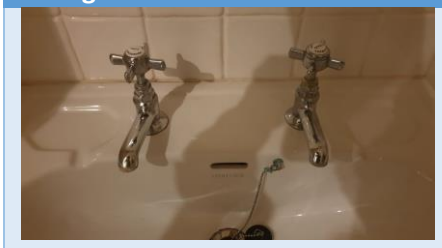
1 Introduction

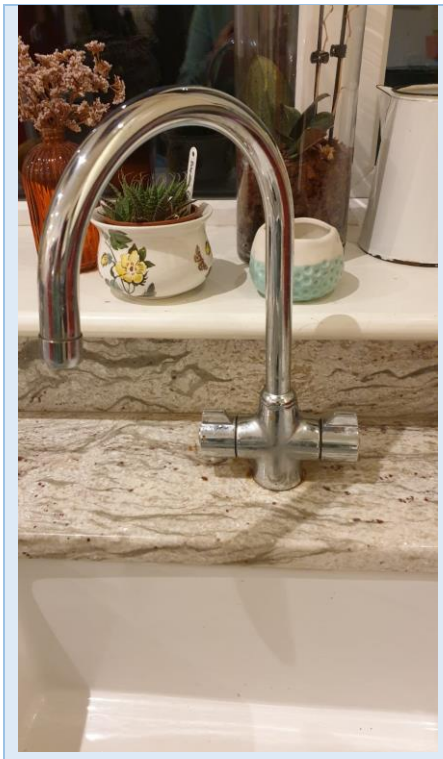
1.1.1 CGS Civils Ltd has been appointed by Penny Newson to undertake an Existing Fittings Survey in support of a Water Neutrality Report (C2932 Water Neutrality Report) for a proposed development at 1 Downs View Terrace, Staple Barn Lane, West Sussex. Planning permission is sought for the demolition of an existing studio/garage within the property's rear garden and the construction of a 1-bedroom dwelling.

1.1.2 The purpose of this report is to provide an overview on the existing fittings and their water usages as well also show the proposed water usage changes on the site as a result of the recommendations made within the Water Neutrality report.

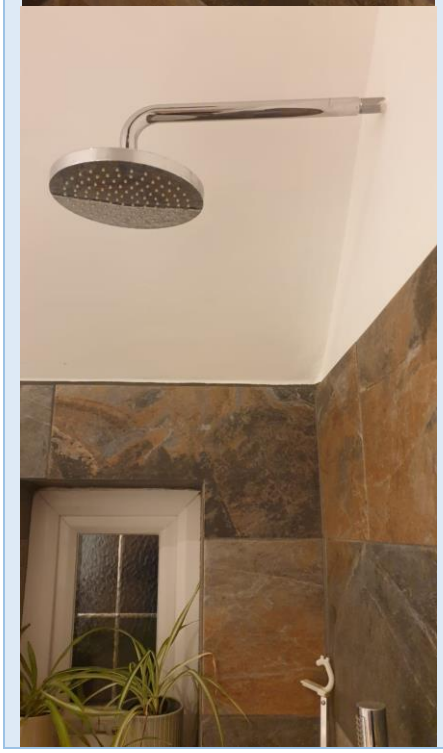
1.1.3 The water usage calculations within this report have been made using the Water Calculator from Building Regulations G as per the accompanied Water Neutrality Report.

2 1 Downs View Terrace – Existing 2-bedroom Dwelling

Fittings	Type of Fitting	Existing Water usage (l/day)
	Taps (excluding kitchen)	11.06 Reduced to 5.53
	Shower (bath also present)	48.07 Reduced to 26.22

	Kitchen sink taps	13.88 Reduced to 12.56
	Toilets	19.89 Reduced to: 5.84 – full flush vol. 7.70 -part flush vol. (13.54 total)
	Total (l/p/day) with normalisation factor and 5l/p/day added for outdoor use (refer to appendix A):	127.76
	Total (l/p/day) with normalisation factor (refer to appendix B), with the installation of water efficicient taps and showers and water butt:	91.33
	Difference in water demand (l/day):	36.43
	Total reduction in water demand based on a confirmed population of 1:	36.43

3 Forest House Lodge, Winterpit Lane, Mannings Heath, RH13 6LZ – Existing 3-bedroom Dwelling

Fittings	Type of Fitting	Existing Water usage (l/day)
 	Shower (bath also present)	48.07 Reduced to 30.59

	Toilets	19.89 Reduced to: 5.84 – full flush vol. 7.70 -part flush vol. (13.54 total)
	Total (l/p/day) with normalisation factor and 5l/p/day added for outdoor use (refer to appendix A):	127.76
	Total (l/p/day) with normalisation factor (refer to appendix C), with the installation of water efficicient taps and showers and water butt:	97.56
	Difference in water demand (l/day):	30.2
	Total reduction in water demand based on an population value of 2:	60.4

4 Conclusion

4.1.1 As indicated within the above calculations, the water demand of existing 2-bedroom and 3-bedroom property can be reduced by **36.43 l/day** and **60.4 l/day** respectively. This results in a total reduction in water demand of **96.83 l/day**.

4.1.2 The water demand from the proposed dwelling will be **81.39 l/day** after rainwater harvesting techniques are implemented (refer to C2932 Water Neutrality report). This results in a total reduction in water demand of **15.44 l/day** over the existing site, making the proposals water neutral.

5 Appendices

5.1 Appendix A:

Table 2 – Water Calculator from Building Regulations Part G – Information input from existing property.

The Water Calculator for New Dwellings with Water efficient measures					
Installation Type	Unit of measure	Volume/ flow rate	Use factor	Fixed use	Litres/person/day
WC (Single Use)	Flush volume (l)	4.5	4.42	0	19.89
WC (Dual Flush)	Full Flush Vol.	0	1.46	0	0
	Part Flush vol.	0	2.96	0	0
WC (Multiple Fittings)	Average effective flush volume (l)	0	4.42	0	0
Taps (excl. Kitchen)	Flow rate (l/min)	6	1.58	1.58	11.06
Bath (shower also present)	Capacity to overflow (l)	185	0.11	0	20.35
Shower (bath also present)	Flow rate (l/min)	11	4.37	0	48.07
Bath only	Capacity to overflow (l)	0	0.5	0	0
Shower only	Flow rate (l/min)	0	5.6	0	0
Kitchen sink taps	Flow rate (l/min)	8	0.44	10.36	13.88
Washing Machine	Litres/kg dry load	8.17	2.1	0	17.16
Dishwasher	litres/place setting	1.25	3.6	0	4.50
Waste disposal unit	litres/use	0	3.08	0	0
Water softener	litres/person/day	0	1	0	0
		Total Calculated use (l/p/d)			134.91
		Contribution from greywater (l/p/d)			0
		Contribution from rainwater (l/p/d)			0
		Normalisation factor			0.91
		External water use			5
		Total water consumption (36(1)) (l/p/d)			127.768

5.2 Appendix B:

Table 2 – Water Calculator from Building Regulations Part G – Information input from existing properties with water efficient kitchen and basin taps and showers from Table 4 with the addition of a water butt.

The Water Calculator for New Dwellings with Water efficient measures					
Installation Type	Unit of measure	Volume/ flow rate	Use factor	Fixed use	Litres/person/day
WC (Single Use)	Flush volume (l)	0	4.42	0	0
WC (Dual Flush)	Full Flush Vol.	4	1.46	0	5.84
	Part Flush vol.	2.6	2.96	0	7.70
WC (Multiple Fittings)	Average effective flush volume (l)	0	4.42	0	0
Taps (excl. Kitchen)	Flow rate (l/min)	2.5	1.58	1.58	5.53
Bath (shower also present)	Capacity to overflow (l)	185	0.11	0	20.35
Shower (bath also present)	Flow rate (l/min)	6	4.37	0	26.22
Bath only	Capacity to overflow (l)	0	0.5	0	0
Shower only	Flow rate (l/min)	0	5.6	0	0
Kitchen sink taps	Flow rate (l/min)	5	0.44	10.36	12.56
Washing Machine	Litres/kg dry load	8.17	2.1	0	17.16
Dishwasher	litres/place setting	1.25	3.6	0	4.50
Waste disposal unit	litres/use	0	3.08	0	0
Water softener	litres/person/day	0	1	0	0
		Total Calculated use (l/p/d)			99.87
		Contribution from greywater (l/p/d)			0
		Contribution from rainwater (l/p/d)			5
		Normalisation factor			0.91
		External water use			5
		Total water consumption (36(1)) (l/p/d)			91.33

5.3 Appendix C:

Table 2 – Water Calculator from Building Regulations Part G – Information input from existing properties with water efficient taps and showers from Table 4 with the addition of a water butt.

The Water Calculator for New Dwellings with Water efficient measures					
Installation Type	Unit of measure	Volume/ flow rate	Use factor	Fixed use	Litres/person/day
WC (Single Use)	Flush volume (l)	0	4.42	0	0
WC (Dual Flush)	Full Flush Vol.	4	1.46	0	5.84
	Part Flush vol.	2.6	2.96	0	7.70
WC (Multiple Fittings)	Average effective flush volume (l)	0	4.42	0	0
Taps (excl. Kitchen)	Flow rate (l/min)	6	1.58	1.58	11.06
Bath (shower also present)	Capacity to overflow (l)	185	0.11	0	20.35
Shower (bath also present)	Flow rate (l/min)	6	4.37	0	26.22
Bath only	Capacity to overflow (l)	0	0.5	0	0
Shower only	Flow rate (l/min)	0	5.6	0	0
Kitchen sink taps	Flow rate (l/min)	8	0.44	10.36	13.88
Washing Machine	Litres/kg dry load	8.17	2.1	0	17.16
Dishwasher	litres/place setting	1.25	3.6	0	4.50
Waste disposal unit	litres/use	0	3.08	0	0
Water softener	litres/person/day	0	1	0	0
		Total Calculated use (l/p/d)			106.71
		Contribution from greywater (l/p/d)			0
		Contribution from rainwater (l/p/d)			5
		Normalisation factor			0.91
		External water use			5
		Total water consumption (36(1)) (l/p/d)			97.556