Consulting Civil Engineers

Existing Fittings Survey

Berts Farm, Pickhurst Lane, Pulborough, West Sussex

For

Ellie Lee

Rev – **P-**

Reference **C3076**

Date **9th April 2024**

Revision	Date of Issue	Comments	Prepared By	Checked By
P-	09.04.2024	Initial Issue	LT	CS

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1 Introduction

1.1.1 CGS Civils Ltd has been appointed by Ellie Lee to undertake an Existing Fittings Survey in support of a Water Neutrality Report (C3076 Water Neutrality Report) for a proposed development at Berts Farm, Pulborough. Planning permission is sought for the construction of a 3-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 to show the proposed water usage changes on an existing 3-bedroom house at 8 Myrtle Close, Billingshurst RH14 9XF, which is also owned by the client, as a result of the recommendations made within the Water Neutrality report.

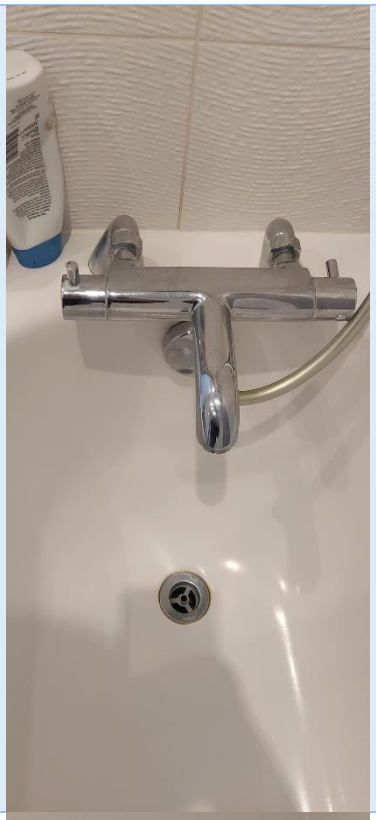
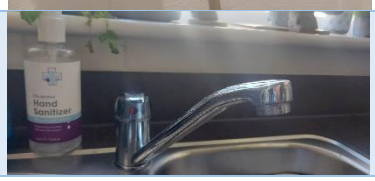
1.1.3 The home currently has two occupants and this occupancy has been used in the calculations within this report.

1.1.4 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 Existing 3-bedroom dwelling

Fittings	Type of Fitting	Existing Water usage (l/day)
	Toilets	Full flush – 8.76 Part flush – 11.84 Reduced to: Full flush – 5.84 Part flush – 7.70

 	Taps (excluding kitchen)	11.06 Reduced to: 5.53

	Bath (shower also present)	20.35
	Shower (bath also present	43.70 Reduced to: 39.20
	Kitchen sink taps	13.88 Reduced to: 12.56

	Washing machine	17.16
	Dishwasher	4.50
	Total (l/p/day) with normalisation factor and 5l/p/day added for outdoor use (refer to appendix A):	124.44
	Total (l/p/day) with normalisation factor and 5l/p/day added for outdoor use (refer to appendix B), with the installation of water efficicient basin taps and showers:	99.86
	Difference in water demand (l/p/day):	24.58
	Total reduction in water demand based on the 2 occupants:	49.16

3 Conclusion

3.1.1 As indicated within the above calculations, the water demand of existing 3-bedroom property can be reduced by **49.16 l/day**.

3.1.2 The water demand from the proposed dwelling will be **47.42 l/day** after rainwater harvesting techniques are implemented and water efficient fittings are installed (refer to C3076 Water Neutrality report). This results in a total reduction in water demand of **1.74 l/day** over the existing site, making the proposals water neutral.

4 Appendices

4.1 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)	0	4.42	0	0
WC (Dual Flush)	Full Flush Vol.	6	1.46	0	8.76
	Part Flush vol.	4	2.96	0	11.84
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)	10	4.37	0	43.70
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)			131.25
		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)			124.44

4.2 Appendix B:

Table 3 – Water Calculator from Building Regulations Part G – Information input from existing properties with water efficient basin taps and showers.

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)	7	4.37	0	30.60
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)			104.24
		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)			99.86