

Typical Water Efficiency Calculation for Penrhyn Road

Table 1 – The Water Calculator for New Dwellings

Installation Type	Unit of Measure	Capacity / Flow Rate	Use Factor	Fixed Use (l/person/day)	Litres/person /day = [(1)x(2)] + (3)
		(1)	(2)	(3)	(4)
WC (single flush)	Flush volume (litres)		4.42	0.00	
WC (dual flush)	Full flush volume (litres)	4	1.46	0.00	5.84
	Part flush volume (litres)	2.6	2.96	0.00	7.7
WCs (multiple fittings)	Average effective flushing volume (litres)		4.42	0.00	
Taps (excluding kitchen/utility room taps)	Flow rate (litres/minute)	3.7	1.58	1.58	7.4
Bath (where shower also present)	Capacity to overflow (litres)		0.11	0.00	
Shower (where bath also present)	Flow rate (litres/minute)		4.37	0.00	
Bath only	Capacity to overflow (litres)		0.50	0.00	
Shower only	Flow rate (litres/minute)	9	5.60	0.00	50.4
Kitchen/Utility Room sink taps	Flow rate (litres/minute)	12	0.44	10.36	15.64
Washing machine	Litres/kg dry load		2.1	0.00	
Dishwasher	Litres/place setting		3.6	0.00	
Waste disposal unit	Litres/use	If present = 1 If absent = 0	3.08	0.00	
Water softener	Litres/person/day		1.00	0.00	
	(5)	Total Calculated Use (litres/person/day) = (sum column 4)			86.99
	(6)	Contribution from grey water (litres/person/day) from Table 4.6			

Installation Type	Unit of Measure	Capacity/Flow Rate	Use Factor	Fixed Use (l/person/day)	Litres/person/day = [(1)x(2)] + (3)
	(7)	Contribution from rainwater (litres/person/day) from Table 5.5			
	(8)	Normalisation factor			0.91
	(9)	Total water consumption (Code for Sustainable Homes) = [(5) – (6) – (7)] x (8) (litres/person/day)			79.16
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) = (9) + (10) (litres/person/day)			79.16

Summary

The total water consumption of **79.16** litres/person/day meets the benchmark of 105 litres/person/day set out in the London plan 2021.

Flow rates for fittings have been taken from manufacturers information as per the architects sanitaryware specification. Where no manufacturer has been specified the rate has been calculated using the IOP design guide.