



FORTRESS

ASSOCIATES | WATER

info@clockfortress.com

clockfortress.com

WATER CONSUMPTION STATEMENT

Park House

Park House, 87 Burlington Road, New Malden KT3 4ED

CLIENT

Private Client

DOCUMENT REF

FA-WAT-0104

REVISION

P01

DATE

14 March 2025

CONSUMPTION

104.3 l/p/d

STANDARD

105 l/p/d

Contents

01	Executive summary	3
02	Site and development description	3
03	Legislation and planning policy	4
04	Calculation methodology	5
05	Fittings and appliance specification	5
06	The water efficiency calculation	5
07	Results and compliance	6
08	Water management in use	7
09	Conclusion	8
10	Summary of commitments	8
11	Data sources and basis of assessment	8

Document control

PROJECT	Park House
REPORT	Water Consumption Statement
SITE	Park House, 87 Burlington Road, New Malden KT3 4LP
CLIENT	Private Client
DOCUMENT REF.	FA-WAT-0104
REVISION	P01
DATE	14 March 2025
PLANNING STAGE	Full planning application
PREPARED BY	Fortress Associates

This report has been prepared for the sole use of the named client for the purposes of the planning application described. Environmental information reflects the datasets listed in the Data Sources section as at the date of access; conditions may change. No liability is accepted to third parties.

Executive summary

This Water Consumption Statement accompanies a full planning application for erection of new fourth- and fifth-floor extensions to the existing converted residential building to provide 11 self-contained flats (8 one-bedroom and 3 three-bedroom units), together with a new external secondary escape staircase, a green roof and associated landscaping at Park House, 87 Burlington Road, New Malden KT3 4LP. It demonstrates the potential consumption of wholesome water by the occupiers of the development, calculated using the Government's national calculation methodology reproduced at Appendix A of Approved Document G.

The development achieves a calculated water consumption of 104.3 litres per person per day including the fixed allowance of 5 litres per person per day for external use, or 99.3 litres per person per day excluding it. Measured against mains water consumption of 105 litres or less per head per day, excluding the allowance of up to five litres for external water consumption, the development meets the standard, with a margin of 5.7 litres per person per day.

The figure is delivered by a committed fittings schedule of dual-flush WCs of 4/2.6 litres, basin taps at 5 litres per minute, baths of 150 litres to overflow, showers at 8 litres per minute, kitchen and utility sink taps at 6 litres per minute, a washing machine at 8.17 litres per kilogram of dry load and a committed maximum of 1.25 litres per place setting for any dishwasher installed. The site is supplied by Thames Water, which is an area of serious water stress in the Environment Agency's final classification of 1 July 2021.

Water efficiency is supported in use by an individual smart water meter to each dwelling, leak control, and a landscape designed to establish without permanent irrigation. The development accords with the water efficiency requirements of the development plan, and there is no water efficiency reason to withhold planning permission.

Key water efficiency information

Item	Value
Site address	Park House, 87 Burlington Road, New Malden KT3 4LP
OS grid reference	TQ 21817 68157
Local planning authority	Kingston upon Thames
Development	Erection of new fourth- and fifth-floor extensions to the existing converted residential building to provide 11 self-contained flats (8 one-bedroom and 3 three-bedroom units), together with a new external secondary escape staircase, a green roof and associated landscaping
Water undertaker	Thames Water
Water stress classification (Environment Agency, 2021)	Area of serious water stress
Calculation methodology	The Water Efficiency Calculator for New Dwellings, Approved Document G Appendix A

Item	Value
Total calculated use, line (8)	109.13 l/p/d
Total water consumption, line (9)	99.3 l/p/d (excluding external use)
Total water consumption, line (11)	104.3 l/p/d (including the 5 l/p/d external allowance)
Standard applied	105 l/p/d internal - London Plan Policy SI 5
Compliance	Met - margin 5.7 l/p/d
Schema-wide annual demand	1,066 m3/year (a saving of 212 m3/year against the 125 l/p/d standard)

Site and development description

Purpose & scope of this statement

This Water Consumption Statement has been prepared to demonstrate the water efficiency performance of the proposed development at Park House, 87 Burlington Road, New Malden KT3 4LP. It sets out the calculated potential consumption of wholesome water, the fittings schedule that delivers it, and the water management measures that support it. The calculation follows the Government's national calculation methodology, "The Water Efficiency Calculator for New Dwellings", which is reproduced at Appendix A of Approved Document G.

The site & the proposed development

Park House is an existing converted residential building of four storeys fronting Burlington Road, New Malden, with access, refuse and cycle provision retained at ground level. The proposal comprises Erection of new fourth- and fifth-floor extensions to the existing converted residential building to provide 11 self-contained flats (8 one-bedroom and 3 three-bedroom units), together with a new external secondary escape staircase, a green roof and associated landscaping. The scheme creates 11 dwellings, with the unit mix set out in the occupancy table. The site lies within Kingston upon Thames.

Water supply & resource context

The site is supplied by Thames Water, which is an area of serious water stress in the Environment Agency's final classification of 1 July 2021. The Environment Agency's determination is the basis on which a local planning authority may require the tighter optional standard of 110 litres per person per day in new development, and the development has been designed accordingly.

The application site is located at Park House, 87 Burlington Road, New Malden KT3 4LP, National Grid Reference TQ 21817 68157, within the administrative area of Kingston upon Thames.

Development quantum

Parameter	Value
Total site area	1,100 m2

Parameter	Value
Dwellings created	11 units
Soft landscape / garden	160 m2
Scheme occupancy (methodology basis)	28 persons

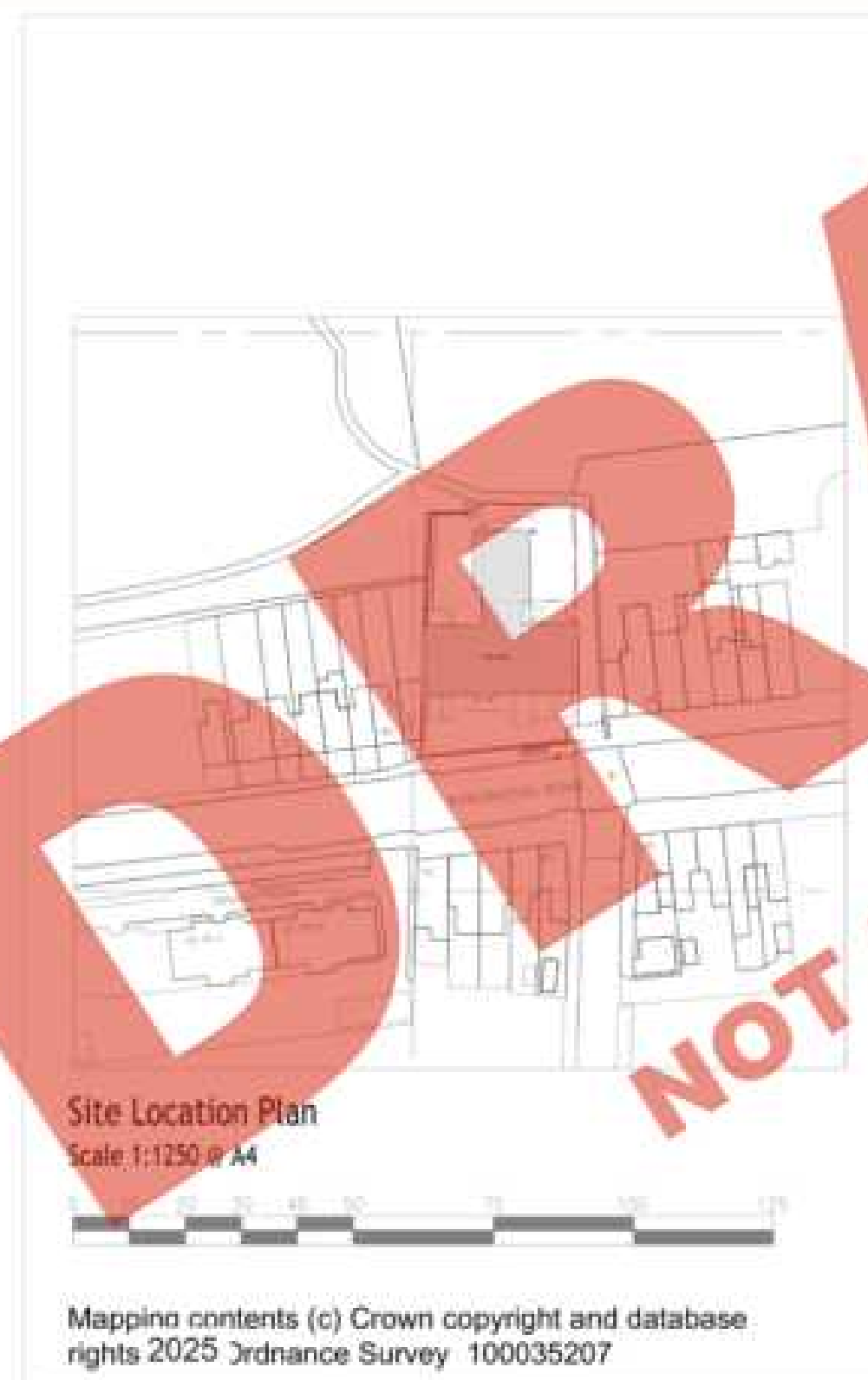


Figure 1 - Site location plan (application site outlined red)

Legislation and planning policy

Building Regulations Part G & regulation 36

Regulation 36 of the Building Regulations 2010 requires that the potential consumption of wholesome water by persons occupying a new dwelling must not exceed either 125 litres per person per day, or the optional requirement of 110 litres per person per day where planning permission specifies that requirement and makes it a condition. Consumption is measured using the methodology approved by the Secretary of State. Requirement G2 of Schedule 1 requires reasonable provision to be made by the installation of fittings and fixed appliances that use water efficiently. The development creates new dwellings, so regulation 36 applies directly.

National planning policy

The National Planning Policy Framework requires the planning system to support the transition to a low carbon future and to take account of water supply as part of the effective use of land and resources. Paragraph 163 requires local planning authorities to have regard to the need to reduce water consumption in areas of water stress. The Water Efficiency Calculator provides the approved means of demonstrating that a dwelling meets the standard set.

Local & regional water policy

The water efficiency requirements of Kingston upon Thames are addressed by the specification set out in this statement, which responds to London Plan Policy SI 5.

Local policy notes

The London Plan (March 2021) Policy SI 5 requires development proposals to minimise the use of mains water and, for residential development, to achieve mains water consumption of 105 litres or less per person per day through planning conditions, excluding an allowance of up to five litres per person per day for external water use. The Royal Borough of Kingston upon Thames applies Policy SI 5 as part of the development plan for the borough, and the optional requirement of Part G of the Building Regulations is engaged for new dwellings on this basis. Thames Water's supply area serving New Malden is classified as seriously water stressed in the Environment Agency's classification of 1 July 2021, which is the basis on which the tighter optional standard applies. The calculation reported in this statement is carried out with the Water Efficiency Calculator for New Dwellings and demonstrates compliance with both the 105 litre London Plan standard and the 110 litre optional requirement.

Water efficiency standards engaged

Standard	Limit	Tested on	Source
Building Regulations Part G	125 l/p/d	Line (11), including external use	Regulation 36(2)(a) of the Building Regulations 2010, as amended
Optional requirement (planning condition)	110 l/p/d	Line (11), including external use	Regulation 36(2)(b) and Approved Document G paragraph 2.8
London Plan Policy SI 5	105 l/p/d	Line (9), excluding external use	London Plan 2021 Policy SI 5(A)(1)

Calculation methodology

Method: The Water Efficiency Calculator for New Dwellings - the Government's national calculation methodology, reproduced at Appendix A of Approved Document G: Column (4) of Table A1 = [(1) capacity or flow rate x (2) use factor] + (3) fixed use.

Calculation methodology

The calculation follows Table A1 of the Water Efficiency Calculator. The capacity or flow rate of each fitting is multiplied by the use factor set out in the methodology and the fixed use allowance is added, giving the consumption of that fitting in litres per person per day. The sum of those figures is the total calculated use. Any contribution from greywater or rainwater is deducted, the result is multiplied by the normalisation factor of 0.91, and the fixed allowance of 5 litres per person per day for external water use is added to give the figure tested against the Part G standard.

Occupancy & dwelling mix

Occupancy follows the methodology: two occupants are assumed in the master bedroom and one occupant in each additional bedroom. Across the 11 dwellings this gives 28 occupants. The calculation is carried out per person, so the same fittings schedule delivers the same figure in every unit type; the figure is 104.3 litres per person per day in every unit type.

Assumptions & fitting data

Flow rates are taken at a dynamic pressure of three bar in accordance with the methodology, and include the effect of any flow restrictor fitted. Where an appliance is not supplied as part of the development the methodology default has been applied, so the calculation accounts for the appliance the occupier will install. Bath capacities are stated to overflow, excluding displacement, which is already accounted for in the use factor.

Occupancy by dwelling type (two occupants in the master bedroom, one per additional bedroom)

Unit type	Bedrooms	Units	Occupants each	Total occupants
1 bed	1	8	2	16
3 bed	3	3	4	12
Total		11		28

Fittings and appliance specification

Sanitaryware & taps

The sanitaryware specification comprises dual-flush WCs of 4/2.6 litres, basin taps at 5 litres per minute, baths of 150 litres to overflow, showers at 8 litres per minute, kitchen and utility sink taps at 6 litres per minute, a washing machine at 8.17 litres per kilogram of dry load and a committed maximum

of 1.25 litres per place setting for any dishwasher installed. These figures are committed values: the fittings installed will meet or better each of them, and the schedule will be reflected in the building contract specification.

White goods & appliances

A washing machine rated at 8.17 litres per kilogram of dry load is provided. No dishwasher is supplied, so the methodology default of 1.25 litres per place setting has been applied. No waste disposal unit is provided. No water softener is installed.

Rainwater & greywater re-use

No greywater or rainwater re-use is proposed. The target is met through the efficiency of the fittings alone, which avoids the maintenance and water quality obligations that re-use systems carry.

The water efficiency calculation

Table A1 below is the calculation in full. Rows that do not apply to this development are shown at zero, exactly as the published worksheet requires.

Table A1 - the water efficiency calculator

Installation type	Unit of measure	(1) Capacity / flow rate	(2) Use factor	(3) Fixed use	(4) l/p/d
WC (single flush)	Flush volume (litres)	0.00	4.42	0.00	0.00
WC (dual flush) - full flush	Full flush volume (litres)	4.00	1.46	0.00	5.84
WC (dual flush) - part flush	Part flush volume (litres)	2.60	2.96	0.00	7.70
WCs (multiple fittings)	Average effective flushing volume (litres)	0.00	4.42	0.00	0.00
Taps (excluding kitchen/utility taps)	Flow rate (litres/minute)	5.00	1.58	1.58	9.48
Bath (where shower also present)	Capacity to overflow (litres)	150.00	0.11	0.00	16.50
Shower (where bath also present)	Flow rate (litres/minute)	8.00	4.37	0.00	34.96
Bath only	Capacity to overflow (litres)	0.00	0.50	0.00	0.00
Shower only	Flow rate (litres/minute)	0.00	5.60	0.00	0.00
Kitchen/utility room sink taps	Flow rate (litres/minute)	6.00	0.44	10.36	13.00
Washing machine	Litres/kg dry load	8.17	2.10	0.00	17.16
Dishwasher	Litres/place setting	1.25	3.60	0.00	4.50

Installation type	Unit of measure	(1) Capacity / flow rate	(2) Use factor	(3) Fixed use	(4) L/p/d
Waste disposal unit	Litres/use (present = 1, absent = 0)	0.00	3.08	0.00	0.00
Water softener	Litres/person/day	0.00	1.00	0.00	0.00
(5) Total calculated use	= sum of column (4)				109.13
(6) Contribution from greywater	litres/person/day				0.00
(7) Contribution from rainwater	litres/person/day				0.00
(8) Normalisation factor					0.91
(9) Total water consumption	= [(5) - (6) - (7)] x (8)				99.3
(10) External water use	litres/person/day				5.0
(11) Total water consumption (Part G)	= (9) + (10)				104.3

Notes on the values entered

Installation type	Note
Dishwasher	Not specified - methodology default of 1.25 litres/place setting applied

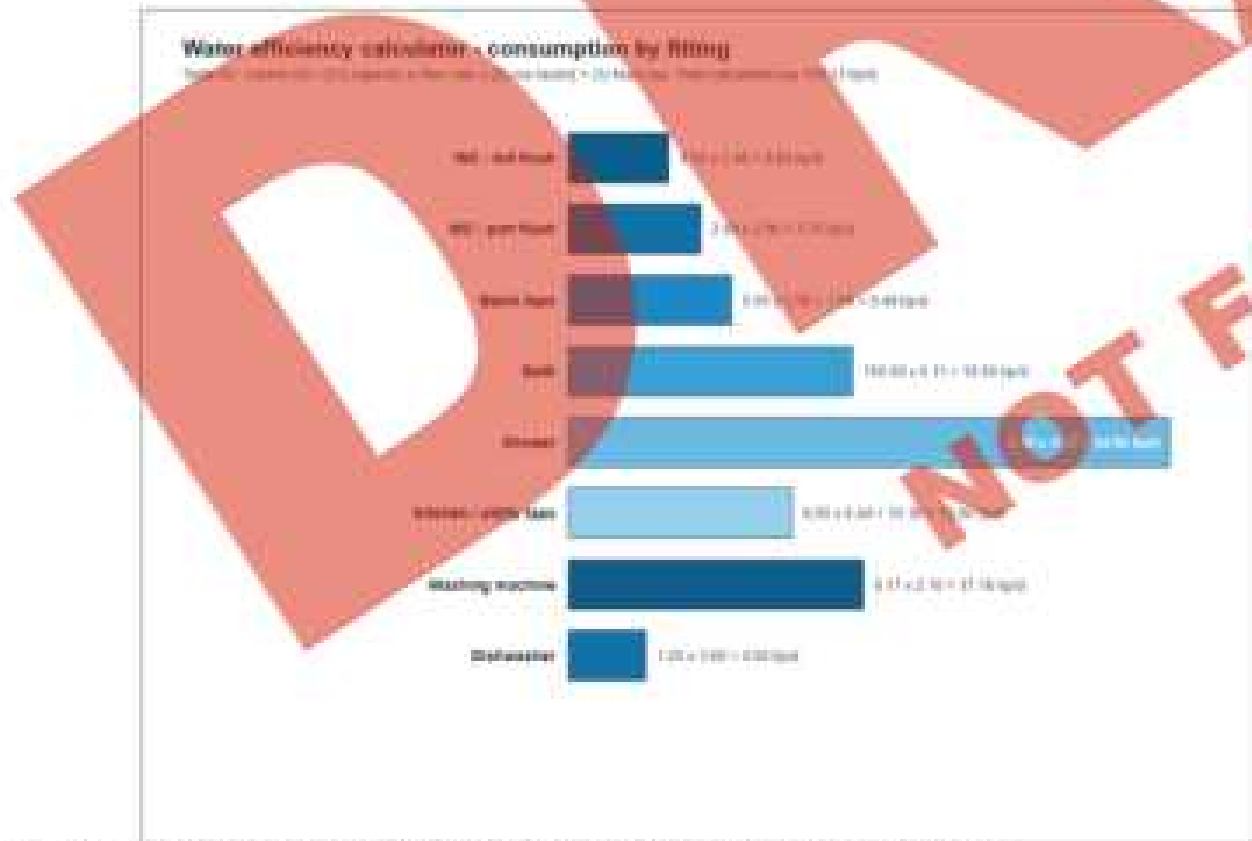


Figure 2 - Consumption by fitting - column (4) of the water efficiency calculator

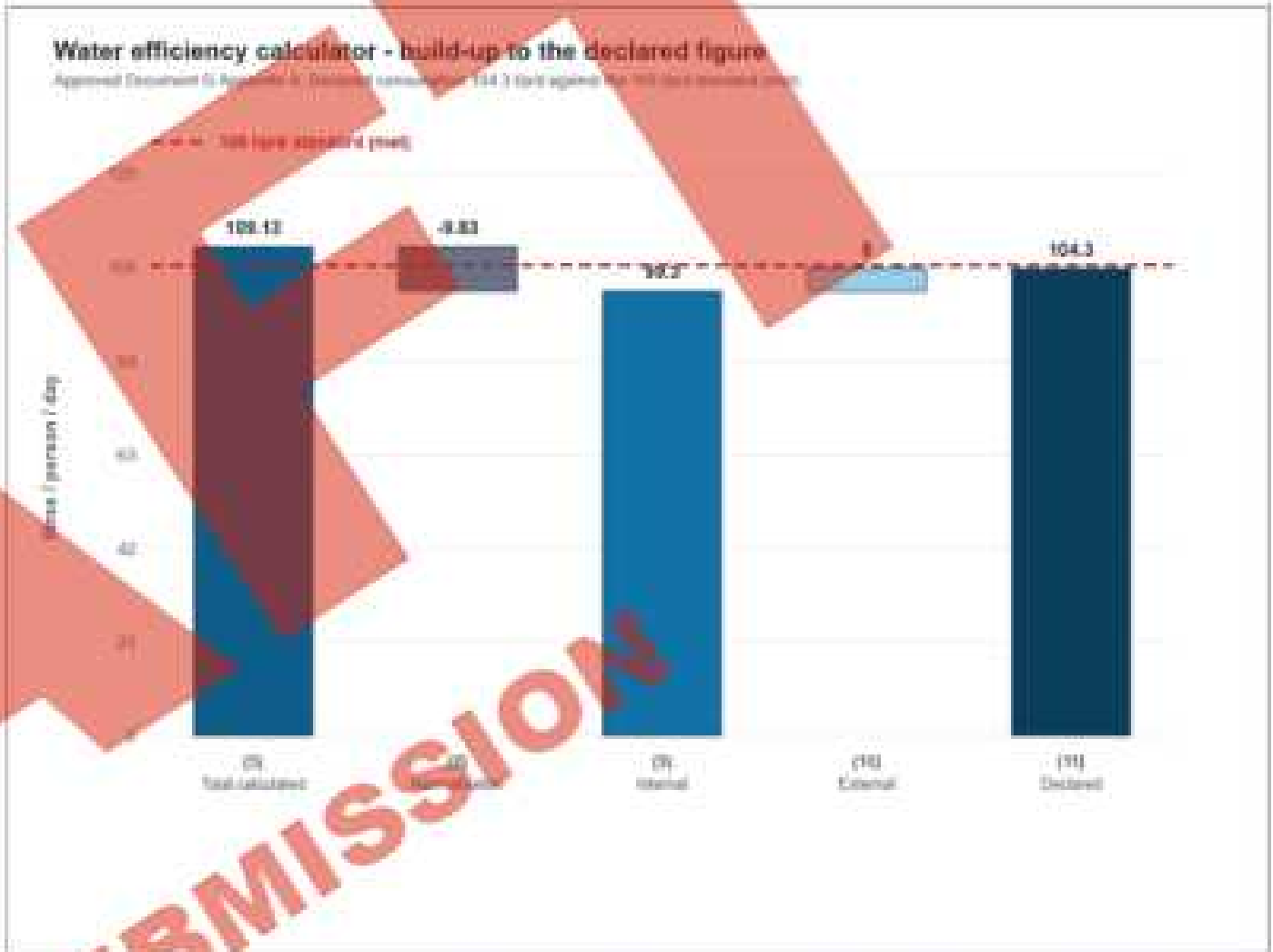


Figure 3 - Build-up from the total calculated use to the declared consumption, against the applicable standard

Results and compliance

Calculated consumption & compliance

The total calculated use is 109.13 litres per person per day. Applying the normalisation factor of 0.91, the total water consumption is 99.3 litres per person per day. With the fixed allowance of 5 litres per person per day for external water use, the figure tested against Part G is 104.3 litres per person per day. Measured against mains water consumption of 105 litres or less per head per day, excluding the allowance of up to five litres for external water consumption, the development achieves the standard: 99.3 litres per person per day against a limit of 105, a margin of 5.7 litres per person per day.

Sensitivity & design margin

The margin of 5.7 litres per person per day against the 105 litre standard gives the design team room to substitute equivalent products during procurement without putting compliance at risk. The single largest contributor is the shower at 34.96 litres per person per day, so that is the specification to protect if any change is proposed. Across the development the calculated demand is 1,066 m³ per year, against 1,278 m³ per year at the 125 litre standard - a saving of 212 m³ per year.

Performance against each water efficiency standard

Standard	Limit	Tested on	Result	Outcome	Margin
Building Regulations Part G	125 l/p/d	Line (11)	104.3 l/p/d	Met	margin 20.7 l/p/d
Optional requirement (planning condition)	110 l/p/d	Line (11)	104.3 l/p/d	Met	margin 5.7 l/p/d
London Plan Policy SI 5	105 l/p/d	Line (9)	99.3 l/p/d	Met	margin 5.7 l/p/d

Calculated consumption by dwelling type

Unit type	Bedrooms	Units	Occupants	Line (9) l/p/d	Line (11) l/p/d
1 bed	1	8	2	99.3	104.3
3 bed	3	3	4	99.3	104.3

Fittings approach check

Table 2.2 - maximum fittings consumption, optional requirement (110 litres/person/day)

Water fitting	Proposed	Maximum	Outcome
WC full flush	4 litres	4 litres	Within
WC part flush	2.6 litres	2.6 litres	Within
Shower	8 l/min	8 l/min	Within
Bath	150 litres	170 litres	Within
Basin taps	5 l/min	5 l/min	Within
Sink taps	6 l/min	6 l/min	Within
Dishwasher	1.25 l/place setting	1.25 l/place setting	Within
Washing machine	8.17 l/kg	8.17 l/kg	Within

The specification also satisfies the fittings approach, so the notice given under regulation 37 may state: "Less than 110 litres/person/day using fittings approach".

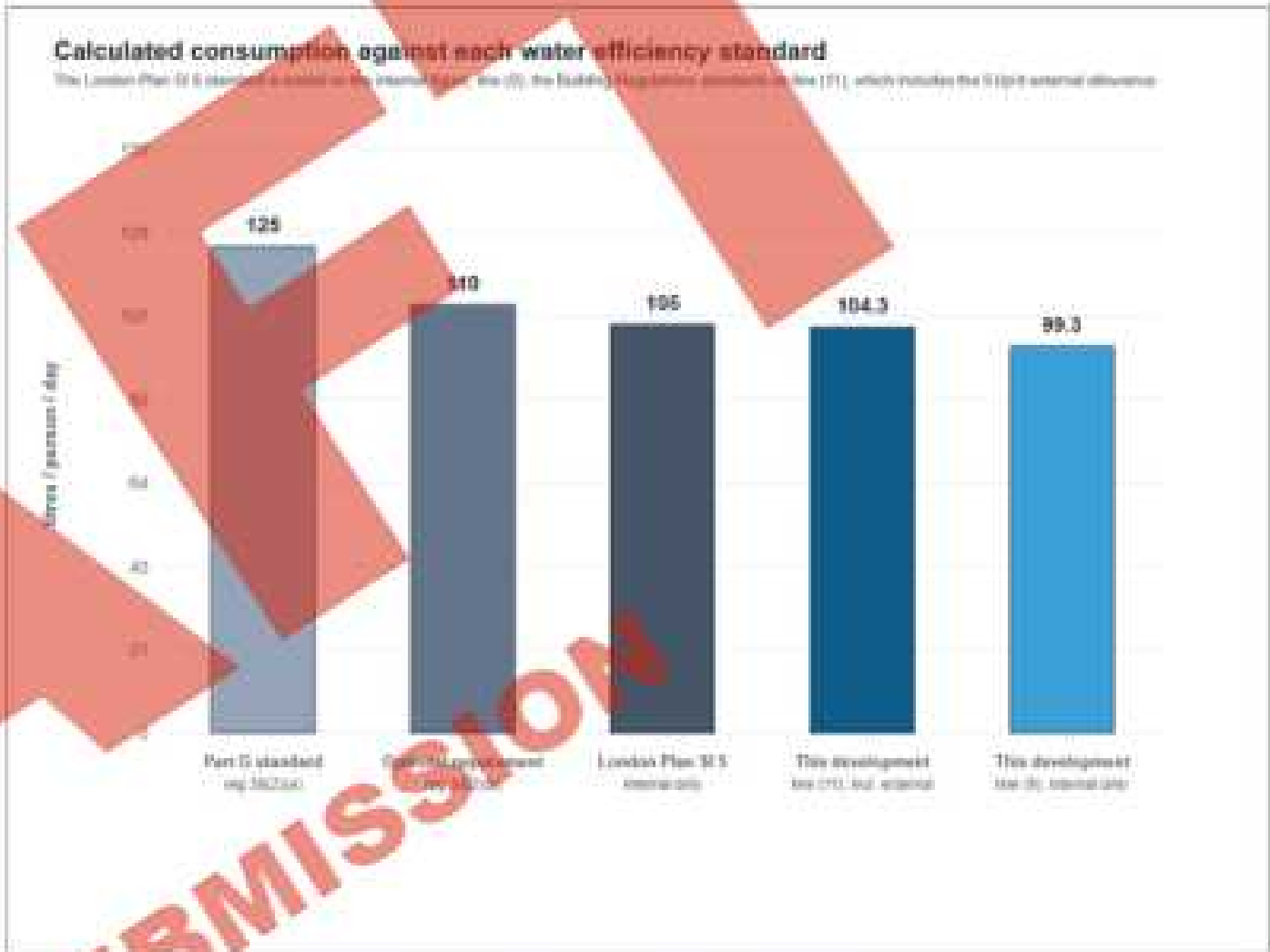


Figure 4 - Calculated consumption against each water efficiency standard

Water management in use

Metering & monitoring

An individual smart water meter is provided to each dwelling. Metering makes consumption visible to the occupier and is the single most effective behavioural measure available, and it is the mechanism by which the water undertaker can apply volumetric charging. Smart metering additionally allows continuous-flow alarms to identify leaks within the dwelling before they become significant.

Leak detection & maintenance

Leak detection is fitted to the incoming mains supply. All pipework is insulated where it runs through unheated space, and isolation valves are provided to each wet area so that maintenance does not require the whole dwelling to be drained.

External water use & landscape irrigation

The Part G calculation includes the fixed allowance of 5 litres per person per day for external water use. A water butt is provided to each dwelling with an external tap, storing roof runoff for garden

irrigation and reducing the call on the mains supply during dry weather. The 160 m² of soft landscape is planted with species selected to establish without permanent irrigation.

Conclusion

Summary of performance

The development achieves a calculated water consumption of 104.3 litres per person per day including external use, or 99.3 litres per person per day excluding it. This is delivered by the committed fittings schedule, supported by metering, leak control and a landscape designed not to need permanent irrigation.

Conclusion - policy compliance

The proposed development complies with London Plan 2021 Policy SI 5(A)(1). The calculated consumption of 99.3 litres per person per day is within the 105 litre standard, with a margin of 5.7 litres per person per day. There is no water efficiency reason to withhold planning permission.

Summary of commitments

The measures below are commitments of this statement; set out so the local planning authority can secure them by condition.

Item	Committed measure
WCs	Dual-flush WCs of 4/2.6 litres
Taps	Basin taps at 5 l/min and kitchen/utility sink taps at 6 l/min, measured at three bar dynamic pressure, with flow restrictors where required
Baths	Baths of 150 litres capacity to overflow
Showers	Showers at 8 l/min at three bar and 37 degrees Celsius
White goods	Washing machine at 8.17 l/kg dry load; dishwasher at 1.25 l/place setting
Metering	Individual smart water meter to each dwelling
Leak control	Leak detection on the mains supply
External water	External tap with a water but
Performance	Calculated consumption of 104.3 l/p/d including external use (99.3 l/p/d excluding it), against the 105 l/p/d standard

Data sources and basis of assessment

Dataset / service	Publisher	Access
Postcode geocoding, region & local authority lookup	postcodes.io (DNS/OS open data)	api.postcodes.io

Dataset / service	Publisher	Access
Address geocoding	OpenStreetMap Nominatim	nominalim.openstreetmap.org
Base mapping	OpenStreetMap contributors	openstreetmap.org
Water stressed areas - final classification on 2021	Environment Agency	gov.uk/government/publications/water-stressed-areas-2021-classification
Conservation areas & Central Activities Zone	MHCLG	planning.data.gov.uk
Long-run average annual rainfall	Met Office (1991-2020 averaging period)	metoffice.gov.uk/research/climate/maps-and-data

All datasets were accessed on 14 March 2025 under the Open Government Licence v3.0 / ODbL. Contains public sector information licensed under the Open Government Licence (Environment Agency, MHCLG, Met Office); base mapping (c) OpenStreetMap contributors.

Guidance applied

- The Building Regulations 2010 (as amended); regulations 36 and 37
- HM Government Approved Document G - Sanitation, hot water safety and water efficiency (2015 edition with 2024 amendments)
- The Water Efficiency Calculator for New Dwellings - the Government's national calculation methodology (DCLG/BRE Global, May 2009), reproduced at Appendix A of Approved Document G
- National Planning Policy Framework (December 2024), chapter 14
- London Plan (2021) Policy SI 5 Water infrastructure - applied to London sites
- BRE (2014) BREEAM UK New Construction technical manual, issue Wat 01 Water consumption
- BS 8515:2009+A1:2013 Rainwater harvesting systems - Code of practice
- BS 8525-1:2010 Greywater systems - Code of practice
- Environment Agency (2021) Water stressed areas - final classification

Basis of assessment

- The calculation follows The Water Efficiency Calculator for New Dwellings, the Government's national calculation methodology approved by the Secretary of State and reproduced at Appendix A of Approved Document G. It is the approved means of demonstrating compliance with regulation 36.
- Flow rates are stated at a dynamic pressure of three bar (0.3 MPa) in accordance with the methodology, and include the effect of any flow restrictor. Shower flow rates are at a delivered temperature of 37 degrees Celsius. Bath capacities are to overflow, excluding displacement, which the use factor already accounts for.
- Occupancy follows the methodology: two occupants in the master bedroom and one occupant in each additional bedroom. The calculation itself is expressed per person, so the same fittings schedule returns the same result in every unit type.

- Every value is rounded to two decimal places except the total water consumption figures, which are rounded to one decimal place, as the methodology requires.
- The fittings and appliance specifications stated in this report are commitments of the application and are written so the local planning authority can secure them by condition. The installed products will meet or better each stated figure.

Closure

This Water Consumption Statement demonstrates that the proposed development achieves a calculated potential consumption of wholesome water of 104.3 litres per person per day including the fixed external allowance, or 99.3 litres per person per day excluding it, assessed using the methodology approved by the Secretary of State. The development meets mains water consumption of 105 litres or less per head per day, excluding the allowance of up to five litres for external water consumption, with a margin of 5.7 litres per person per day. The development accords with the National Planning Policy Framework and the water efficiency policies of the development plan. There is no water efficiency reason for planning permission to be withheld.

Prepared by

Fortress Associates

FA/WAT/2104 | 14 March 2025