

Water Efficiency and Conservation in Dwellings

This online resource paper provides information about practical measures to reduce water use, which can be included in the design of new homes

Overview and Purpose

Water efficiency is the planned management of water to prevent waste, overuse, and exploitation of the resource. The planning for efficient water use, including the conservation of this resource within a building is increasingly becoming a high priority. This is due to a number of reasons, namely that new and existing water resources are becoming increasingly scarce in a number of regions throughout Britain. Hence, there is increasing recognition of the water, and also energy savings, that can be made through implementation of water conservation initiatives.

For a dwelling, there are a number of strategies that can be employed to reduce the amount of water consumed in the home. In general terms, these methods include:

- System optimisation (i.e., efficient water systems design, leak detection, and repair);
- Water conservation measures; and
- Water reuse/recycling systems.

Key Points to Consider

A wide range of technologies and measures can be employed within each of the strategies named above to save water and associated energy consumption. These include:

- Water-efficient plumbing fixtures (low-flow and sensed sinks, low-flow toilets and showerheads, and water-efficient dishwashers and washing machines);
- Irrigation and landscaping measures (water-efficient irrigation systems, irrigation control systems, low-flow sprinkler heads, water efficient scheduling practices);
- Water recycling or reuse measures (grey water and process recycling systems).

Both policies ENV3 (Good Design) and ENV8 (Water Resources, Water Quality and Groundwater) of the Craven Local Plan encourage applicants to take all reasonable opportunities to reduce water use in development design.

In England, the building regulations require that the average water usage be no more than 125 litres per person per day, unless the planning permission for the home has specified that this needs to be reduced to 110 litres per person per day. The planning permission will state whether this standard has been applied. It is important that the person submitting the building regulation application informs the local authority building control department of this planning requirement.

Part 7 of the Building Regulations deals with water efficiency by way of regulations 36 and 37 (www.legislation.gov.uk/ukxi/2010/2214/part/7) (<https://www.legislation.gov.uk/ukxi/2010/2214/part/7>). These are intended to support compliance with requirement G2 of Schedule 1 www.legislation.gov.uk/ukxi/2010/2214/schedule/1.

Guidance is provided within Approved Document G (2015 edition as amended) assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/504207/BR_PDF_AD_G_2015_with_2016_amen (Appendix A of this document is particularly useful in this respect.

The water efficiency calculation metric is in relation to the amount of water consumption expressed in litres/person/day. Hence, it is not a measure of the number of dwellings or apartments.

The water efficiency calculation is noted as “not a design tool for water supply and drainage systems. It is also not capable of calculating the actual potable water consumption of a new dwelling. Behaviour and changing behaviour can also have an effect on the amount of potable water used throughout a home.”

The Practical Implications for Building Regulations Officers, Planning Officers and Applicants

Estimated water usage needs to be calculated unless the water fittings used follow the guidance in tables 2.1 and 2.2 of **Approved Document G (England)** (<https://www.labc.co.uk/professionals/building-regulations-guidance-documents/approved-documents-and-technical-guidance-england/approved-document-g-sanitation-hot-water-safety-and-water-efficiency>).

The estimated water usage can be calculated using the method contained in Appendix A of Approved Document G where:

- The water fittings to be used exceed the consumption stated in the tables; A shower is not to be provided; or
- A waste disposal unit, water softener or water re-use is proposed.

Further information regarding the provision of water calculations is available here (members.labc.co.uk/guidance/resource-library/technical-document-domestic-water-usage-calculations-updated-feb-2021).

The Development Management team of Craven District Council need to be provided with water efficiency calculations at the design stage where a fittings approach is not followed. This information can be contained within the submitted **Sustainability Design and Construction Statement**. Any changes to the fitting's specification should be included in an updated calculation and resubmitted.

The Building Regulations officer will need to be issued with a notice within five days of completion of the home stating the potential water consumption. They also need to be provided with a final version of the water efficiency calculation at the same time.

There is no water meterage or mechanism to prevent the overuse of wholesome water (meaning water that is safe and palatable for human consumption) in a new dwelling. The applicant's designer and builder must ensure that fittings are adequate to meet the potential daily usage stated under regulation 36(2)(a) or (b), to show that the dwelling can, where occupants use appliances and fittings in a normal manner, provide the necessary water efficiency levels to satisfy Building Regulations 36 and 37 and requirement G2. Approved Document G provides further guidance under section G2 and in Appendix A.

Upon completion of the building work for a new dwelling, a notice must be given to the Building Regulations team before a Completion Certificate can be provided, which specifies the potential water consumption of safe and palatable water per person per day, for which the water efficiency calculation results can be used.

Relevant Craven Local plan policies and guidance

Policies **ENV3: Good Design** and **ENV8: Water Resources, Water Quality and Groundwater Good Design SPD** and **Flood Risk & Water Management SPD**

March 2023. This webpage provides general information about relevant planning topics and we hope you find it helpful. Please be aware that it is not a statement of Council policy and does not provide formal policy guidance. For those things, please refer to the Craven Local Plan and supplementary planning documents.