WATER NEUTRALITY STATEMENT

for
Proposed covered swimming pool extension
at
LOWER KNOWLE, BRAMLANDS LANE, WOODMANCOTE BN5 9TR

STATEMENT ON WATER NEUTRALITY

Introduction

Information collected by Natural England shows that water abstraction for drinking water supplies is having a negative impact on the wildlife sites in the Arun Valley. They have advised that any new development that takes place must not add to this negative impact. As a result, Horsham District Council now requires that new developments demonstrate that they are neutral in respect of consumption of mains water supplies.

Water neutrality can be achieved by designing measures to both reduce consumption and also to offset consumption.

This statement has been prepared with regard to the HDC guidance [1] and water consumption calculation methodology contained in Part G of Schedule 1 to the Building Regulations [2].

Background

Lower Knowle is a large detached dwelling that has been enlarged and altered from its original size, with the principle characteristic being a single storey ‘link’ from the main house to a part single/part two storey annexe that has garages and ancillary accommodation. The building sits at the centre of a plot that has open fields to the north and south, Bramlands Lane to the east, and Horns Lane beyond farm buildings and a dwelling with open fields to the west.

This planning application is for a covered swimming pool extension for private use of the occupants.

Baseline

The existing property has 4 bedrooms. The original part of the house last underwent refurbishment at the time an extension was added during the 1990s. The applicants have recently taken ownership of and are undertaking general improvements to the property including modernisation generally, and replacement of appliances, bathroom, kitchen and utility fittings.

Differences between the current baseline water consumption, and consumption under this proposal, are detailed below including, where relevant, the characteristics of the existing fittings and appliances.

Proposal demand

The water demand entailed by this proposal is principally the pool itself, which comprises:

- initial fill of the pool, amounting to 50,000 litres;
- regular maintenance demand, consisting of replenishment of evaporative and other losses, and backwashing. This is stated by the pool equipment supplier to be no greater than 500 litres per month.

Although the proposal includes the provision of a shower near the pool, this is only for convenience given that bathrooms are provided elsewhere in the house. Based on the Part G consumption calculation methodology, additional shower rooms do not increase consumption *per se*; they provide for usage in a different location.

Water reduction measures

Initial fill of the pool will be made by sourcing water from a private supplier, obtained from outside the region, via tanker.

Regular maintenance demand will be met by harvested and filtered rainwater. A storage reservoir of 1250l will be provided on site which will meet the maintenance demand including a margin for 45 days of drought.

Rainwater will be captured from the roof of the existing annex and garaging and the new roof of the pool area, which amounts to a total of 180sqm. The monthly rainfall (long-term average) for the location is at least 49.5mm [3] which, including an allowance for 80% collection and filtration efficiency, provides 7128l harvesting potential monthly. This comfortably exceeds the requirement to maintain the reservoir for pool maintenance.

Offsetting measures

The reduction measures identified above mean that the pool development will result in no additional water being taken from mains supplies. However, additional measures are proposed as part of the overall refurbishment of the property that will further offset water usage and will result in a net reduction in consumption.

Part G parameters [2] have been assumed in estimating the offsetting reductions achievable per person per day.

Item	Use factor (from Part G)	Baseline usage (litres per person per day)	Proposal usage (litres per person per day)	Net reduction (litres per person per day)
WC Replacement of existing WC cisterns with low volume dual flush	4.42 (single flush) 1.46 (full flush) 2.96 (part flush)	26.52 (6l single flush)	15.45 (4.5l/3l dual flush)	11.07
Taps (excluding kitchen/utility room taps) Installation of restricted flow rate taps	1.58	22.12 (14l/minute unrestricted)	7.9 (5l/minute restricted)	14.22
Bath (where shower also present) Unchanged	0.11	29.04 (264l maximum fill)	29.04 (264l maximum fill)	0
Shower (where bath also present) Installation of restricted flow rate shower fittings	4.37	65.55 (15l/minute unrestricted)	39.33 (9l/minute restricted)	26.22
Kitchen/utility room sink taps Installation of restricted flow rate taps.	0.44	7.92 (18l/minute unrestricted)	2.64 (6l/minute restricted)	5.28
External use An outside utility tap will be provided so that surplus harvested rainwater can be used instead of mains water for general outdoor cleaning, gardening and car washing		5	0	5
Washing machine Replacement of washing machine with a water-efficient unit	2.1	17.16 (default assumed consumption of 8.17l/kg)	11.81 (consumption of 5.625l/kg)	5.34

Item	Use factor (from Part G)	Baseline usage (litres per person per day)	Proposal usage (litres per person per day)	Net reduction (litres per person per day)
Dishwasher Unchanged	3.6	3.42 (9.5l per 10 place setting cycle)	3.42 (9.5l per 10 place setting cycle)	0
Total		**176.73**	**109.59**	**67.13**

Conclusion

The proposed swimming pool development will require no new water to be taken from mains supplies. The initial pool fill will be made using water obtained privately from outside the area, and all subsequent water requirements for the pool will be met using harvested rainwater. There is ample footprint for collection of the necessary volume of rainwater.

A range of further offsetting measures are proposed which are to be incorporated into the general refurbishment of the property and modernisation of fittings and appliances. These measures will ensure that the overall development has a substantial net reduction in demand from mains supplies.

References

1. https://www.horsham.gov.uk/planning/water-neutrality-in-horsham-district/water-neutrality-and-planning-applications
2. https://www.gov.uk/government/publications/sanitation-hot-water-safety-and-water-efficiency-approved-document-g
3. https://www.southernwater.co.uk/water-for-life/regional-rainfall