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Water Neutrality Appraisal

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Dear Kate,

Conversion of annexe to agricultural workers dwelling

This Water Neutrality Appraisal has been prepared to accompany a planning application, submitted to Horsham District Council (HDC) on behalf of Christ's Hospital Foundation (herein 'CHF'), for the following development proposal at Weston's Farmhouse, Horsham, :

"Conversion of annexe to agricultural workers dwelling"

The purpose of this Water Neutrality Appraisal is to set out how the above development proposal benefits from an existing fallback consent as part of the evidence base for the existing water consumption at the site.

Planning History

In 2005, a planning application (DC/05/2481) was submitted for "External alterations to outbuildings" but this was refused on 10 August 2006. A second application was submitted in 2007 (DC/07/1722) with the same proposal description and was approved on appeal on 29 June 2009 (APP/Z3825/A/08/2093003).

Since the approval on appeal in 2009, a further application was submitted on 6 September 2017 (DC/17/1981) for "Alterations and extension to existing detached domestic outbuilding". This was a full planning application to allow for general improvements in the character and appearance of the outbuilding. Application DC/17/1981 was approved on 7 December 2017 and there were no pre-commencement conditions associated with this approval. The works proposed in application DC/17/1981 have been implemented and are complete. This consent is the fallback consent.

Existing Annexe

The existing detached domestic outbuilding consists of a single storey 'L' shaped building, 20.3m in length and 11.2m in depth, which comprises two bedrooms, one with an en-suite; a separate bathroom; utility area; kitchen/diner; living room; office; and storage space. A schedule of water-consuming fittings and appliances is presented in Table 0-1. These fittings have been used to undertake a Building Regulations Part G water consumption calculation. Flow rates and water consumption figures have been derived from product specifications.

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Table 0-1: Water fittings schedule

Fitting	Measure (units)	Value	Product details
Bathroom			
WC (dual flush)	Flush volume (litres)	Full flush: 6 Half flush: 4	Toronto BTW close-coupled WC
Bathroom taps	Flow rate (litres/min)	10	Cruze basin taps
Bath	Capacity to overflow (litres)	185	Ideal Standard Tempo Cube 1700 x 700mm OTH Single Ended Idealform Bath E258001
Shower	Flow rate (litres/min)	Top shower head: 16 Hand shower :11	Monza Modern Round Thermostatic Shower
En-suite			
WC (dual flush)	Flush volume (litres)	Full flush: 6 Half flush: 4	Orchard Derwent round compact back-to-the-wall WC, with Vantage concealed cistern
Bathroom taps	Flow rate (litres/min)	8	Cruze contemporary mono basin mixer tap
Shower	Flow rate (litres/min)	Top shower head: 16 Hand shower :11	Monza Modern Round Thermostatic Shower
Utility Room			
Kitchen/utility taps	Flow rate (litres/min)	8	Cruze Cloakroom mini basin mixer tap to basin
Washing machine	Litres per kilogram of dry load	4.75	LG F4V712WTSE 12kg TurboWash Steam Washing Machine
Kitchen			
Dishwasher	Litres per place setting	0.79	Howdens Lamona white integrated dishwasher 600mm
Kitchen/utility taps	Flow rate (litres/min)	8	Howdens Lamona Ashworth sink with Radstone chrome swan neck dual lever monobloc tap

As illustrated in Figure 0-1, the water fittings and appliances installed at the existing annexe result in water consumption totalling 134.62 litres/person/day based on the methodology set out in Part G of the Building Regulations.

Figure 0-1: Water consumption in the annexe

Installation Type	Unit of measure	Capacity / flowrate (1)	Use factor (2)	Fixed use (l/person/day) (3)	Litres/person/day =[(1)*(2)]+(3) (4)
WC (single flush)	Flush volume (litres)		4.42	0	
WC (dual flush)	Full flush volume (litres)		1.46	0	
	Part flush volume (litres)		2.96	0	
WCs (multiple fittings)	Average effective flushing volume (litres)	4.66	4.42	0	20.5972
Taps (exc kitchen taps)	Flow rate (l/min)	9.00	1.58	1.58	15.8
Bath (where shower also present)	Capacity to overflow (l)	185	0.11	0	20.35
Shower (where bath also present)	Flow rate (l/min)	13.5	4.37	0	58.995
Bath only	Capacity to overflow (l)		0.5	0	
Shower only	Flow rate (l/min)		5.6	0	
Kitchen sink taps	Flow rate (l/min)	8.00	0.44	10.36	13.88
Washing machine	l/kg dry load	4.75	2.1	0	9.975
Dishwasher	l/place setting	0.79	3.6	0	2.844
Waste disposal unit	l/use	0	3.08	0	0
Water softner	l/person/day	0	1	0	0
	(5)	**Total calculated use (l/person/day)** = Σ[column (4)]			**142.44**
	(6)	Contribution from greywater (l/person/day) from Table 4.6			0
	(7)	Contribution from rainwater (l/person/day) from Table 5.5			0
	(8)	Normalisation factor			0.91
	(9)	**Total water consumption (CSH)** = [(5)-(6)-(7)]*(8) (l/person/day)			**129.62**
	(10)	External water use			5
	(11)	**Total water consumption (Part G)** = (9)+(10) (l/person/day)			**134.62**

Proposed Development

The planning application which this Water Neutrality Appraisal accompanies is for the conversion of the annexe referenced above into an agricultural worker's dwelling. As the planning permission sought in this instance is for a change in use, there will be no change to the annexe's physical form. Therefore, should this change of use application be refused, and the fallback position of the existing consent be implemented, as the Applicant would intend, there would still be water consumption at the annexe amounting to 134.62 litres/person/day. On this basis, there would be no change in water consumption with or without the proposed change in use application. For this reason it is considered that the application for change in use is 'water neutral' and does not require offsetting.

Yours sincerely

Dan Smyth

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Environment and Infrastructure Graduate Consultant