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**Water Neutrality Statement**

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**Proposed Coach House**

**At**

**The Lamb Inn  
Lambs Green  
Rusper  
West Sussex  
RH12 4RG**

Revision: /

## 1.0 Introduction

On 14<sup>th</sup> September 2021, Natural England identified and issued a Position Statement noting that the Sussex North Water Resource Zone (WRZ) is in an area of serious water stress, as defined by the Environment Agency. The Position Statement requires developments within the region to demonstrate that they will not increase the water demand and demonstrate how they will achieve water neutrality. This impacts Applications in Horsham District, the majority of Crawley District, the Northern region of Chichester District, and areas within the South Downs National Park.

In response to the Position Statement, it is necessary for Planning Applications to provide evidence within three key categories:

1. Reduction of water usage;
2. Reuse of water on site;
3. Offsetting of residual water demand.

This Statement is to accompany the Planning Application for the construction of a coach house containing two residential units in the ground of the former public house, The Lamb Inn, Rusper and will demonstrate how the development will respond to the water neutrality requirements.

The existing detached building comprised of a total Gross Internal Area (GIA) of 384.9m<sup>2</sup> with the majority of the internal area on the ground floor and a modest first and second floor area. The application proposes a coach house, containing two residential units, in the grounds of the former public house. The existing public house has been subject to a planning approval to convert the building into 6 units, 4x 2 bedroom flats and 2x 1 bedroom flat.

The existing building is a public house comprising of front of house which includes bar area, seating areas and customer toilets with three toilets, three urinals and three wash hand basins. Within the ancillary area of the building, a commercial kitchen with sinks and dishwasher, a wash hand basin and toilet and wash hand basin.

The first floor contains two bedrooms and a bathroom with a bath, w.c. & two wash hand basin and a small kitchenette with a sink. Second floor contains a third bedroom and en-suite with a shower, WC and wash hand basin. Based on the Horsham District census data, a three-bedroom unit has an occupancy of 2.47.

Due to the change of use and increased occupancy numbers there will therefore be an increase in water usage.

The most effective and important aspect of achieving water neutrality is by reducing water usage through the use of water-efficient devices.

The current UK Building Regulations *Approved Document G – Sanitation, Hot Water Safety and Water Efficiency* requires all new dwellings to achieve a water consumption of less than or equal to 125 litres/person/day (l/p/d).

## 2.0 Baseline & Proposed Water Usage

**2.01: Existing Baseline Water Usage:** In order to determine a baseline, the existing water usage must be calculated. The Lamb Inn a former public house Water bills have been provided by the applicant from 15.10.2018 to 15.03.2023. Appendix A Refers. The Water bills demonstrate the following:

The water usage for this period = 2151m<sup>3</sup>

The period of time is approximately 4years and 7 months, totaling 1612 days and amounts to a total of water usage in that time of 2151m<sup>3</sup> or 2,151,000litres.

*The significant effects of Covid 19 on the Public House's ability to trade normally should be taken into consideration during this period, this is due to UK Government restrictions during the pandemic.*

Based on the water bills we can calculate the daily average to be:

Daily Average Water Usage (l/d) 2,151,000/1612 = **1334.3 l/d**

**Baseline Water Usage – 1334.3 l/d**

## 3.0 Approved Water Usage of DC/24/0874 – Conversion of the Existing Public House.

**3.01:** Through the specification of aerated taps and dual flush toilets it is possible to reduce the water usage to 80.6 l/p/d. A schedule of the fittings is included below:

Appliance	Flow Rate (Part G)	Proposed Fixtures
w.c.'s	6/4 dual flush	6/4 l/min dual flush
Basin Taps	6 l/min	4 l/min
Shower with bath below	10 l/min	6 l/min
Bath with shower above	n/a	139 l/overflow
Kitchen Taps	8 l/min	6 l/min
Dishwasher	1.25 l/ place setting	0.67 l/ place setting
Washing Machine	8.17 l/kg	4.66 l/kg

94.5 x 1.32 (1 Bed Flat) x 2 (number of 1 bed flats proposed) = 249.48 l/d

94.5 x 1.88 (2 Bed Flat) x 4 (number of 2 bed flats proposed) = 710.64 l/d

**Proposed Total Water Usage with reductions measures = 960.12 l/d**

The Part G Calculation sheet is contained in Appendix C.

This demonstrates, through the use of water efficient fixtures and fittings, a reduction of the 374.18 l/d, in water use from a baseline assessment of the proposals using the flow rates as set out within Part G.

## 4.0 Proposed Water Usage for the Coach House

**2.02: Proposed Baseline Water Usage:** In order to calculate the proposed baseline water usage, a Wat 1 Calculation was undertaken using the proposed floor areas and maximum consumption rates for the fittings the proposed water usage is calculated as 125 l/p/d.

To calculate a proposed baseline water usage for the Development an average of 125 l/p/d is used, which is to be multiplied by 1.32 average occupation level for a one-bedroom flat and 1.88 average occupation level for a one bedroom flat, therefore:

$$125 \times 1.32 \text{ (1 Bed Flat)} \times 1 \text{ (number of 1 bed flats proposed)} = 165 \text{ l/d}$$

$$125 \times 1.88 \text{ (2 Bed Flat)} \times 1 \text{ (number of 2 bed flats proposed)} = 235 \text{ l/d}$$

**Proposed Baseline Water Usage – 400 l/d**

**2.03: Proposed Water Usage:** In order to calculate improvements over the baseline water usage, an Approved Document G Water Usage Calculation for domestic properties is required to ascertain the proposed water usage of the Development and ensure compliance with the Building Regulations.

Based on Part G2 Paragraphs 2 & 3, an optional requirement of 110 l/p/d can be applied to further reduce the proposed water usage for the development.

$$110 \times 1.32 \text{ (1 Bed Flat)} \times 1 \text{ (number of 1 bed flats proposed)} = 145.2 \text{ l/d}$$

$$110 \times 1.88 \text{ (2 Bed Flat)} \times 1 \text{ (number of 2 bed flats proposed)} = 206.8 \text{ l/d}$$

**Proposed Water Usage = 352.0 l/d**

The Part G Calculation sheet is contained in Appendix B.

Whist the above indicates that the scheme would be water neutral, further measure have been suggested to bring them in line with the other unites proposed on site.

## **5.0 Further Water Saving Measures on Site**

**3.01: Water Saving and Reuse Measures:** The following sections will demonstrate that through the specification of specific sanitaryware and rainwater reuse when applied to the baseline water usage the water usage for the proposed development can be drastically reduced.

**3.02: Water Reduction Measures:** Through the specification of aerated taps and dual flush toilets it is possible to reduce the water usage to 94.5 l/p/d. A schedule of the fittings is included below:

Appliance	Flow Rate (Part G)	Proposed Fixtures
w.c.'s	6/4 dual flush	6/4 l/min dual flush
Basin Taps	6 l/min	4 l/min
Shower with bath below	10 l/min	6 l/min
Bath with shower above	n/a	139 l/overflow
Kitchen Taps	8 l/min	6 l/min
Dishwasher	1.25 l/ place setting	0.67 l/ place setting
Washing Machine	8.17 l/kg	4.66 l/kg

$94.5 \times 1.32$  (1 Bed Flat)  $\times 1$  (number of 1 bed flats proposed) = 124.74 l/d

$94.5 \times 1.88$  (2 Bed Flat)  $\times 1$  (number of 2 bed flats proposed) = 177.66 l/d

**Proposed Total Water Usage with reductions measures = 302.4 l/d**

The Part G Calculation sheet is contained in Appendix C.

This demonstrates, through the use of water efficient fixtures and fittings, a reduction of the 71.78 l/d, in water use from a baseline assessment of the proposals using the flow rates as set out within Part G.

## 6.0 Conclusion

The applicant acknowledges that the issues raised by Water Neutrality are important, and to address the required water usage offset value the proposals are to include water saving measures to reduce the impact of the scheme within the Sussex North Water Resource Zone.

As demonstrate above, the specification of water efficient fixtures and fittings to the development creates a 71.78 l/d, reduction in water use from a baseline assessment of the proposals using the flow rates as set out within Part G.

Based on the calculations within this Water Neutrality Statement it has been demonstrated that the proposed development is deemed as **water neutral**, and in fact is demonstrably water positive, as the proposed building would not cause a significant effect on water usage.

## Appendix A

Water Statements from 15.10.2018 to 15.03.2023

your charges - SPIDs

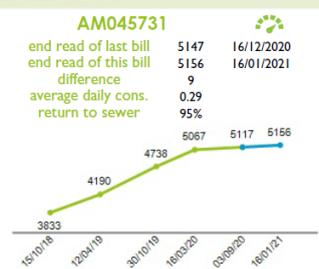
everflow water

The Lamb Inn SPID 3019032113  
 THE LAMB INN, LAMBS GREEN, RUSPER, HORSHAM, W SUSSEX, RH12 4RG

volumetric charges			non-volumetric charges			Total	VAT
Consumption or RV	Unit Rates (£/m <sup>3</sup> )	Charges for this bill	Fixed Annual Charges	Billing Days /365	Charge on this bill		
Water	9m <sup>3</sup>	£1.3050	£23.00	31	£1.95	£13.70	0%
Waste	-	£0.00	£0.00	31	£0.00	£0.00	0%
S.Water Drainage	-	£0.00	£0.00	31	£0.00	£0.00	0%
Highways Drainage	-	£0.00	£0.00	31	£0.00	£0.00	0%
						<b>£13.70</b>	

Start Date 16/12/2020  
 End Date 15/01/2021

meters & subs



Your consumption is estimated (in blue), using your previous actual reads (in green). Help keep your bills as accurate as possible by submitting your own reads.

Your charges - SPIDs

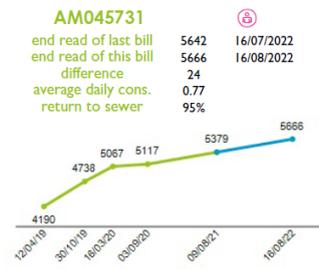
everflow water

The Lamb Inn SPID 3019032113  
 THE LAMB INN, LAMBS GREEN, RUSPER, HORSHAM, W SUSSEX, RH12 4RG

Volumetric charges			Non-volumetric charges			Total	VAT (0%)
Consumption or RV	Unit rates (£/m <sup>3</sup> )	Charges for this bill	Fixed annual charges	Billing days /365	Charge on this bill		
Water	24m <sup>3</sup>	£1.4270	£23.00	31	£1.95	£36.20	0%
Waste	-	£0.00	£0.00	31	£0.00	£0.00	0%
S.Water Drainage	-	£0.00	£0.00	31	£0.00	£0.00	0%
Highways Drainage	-	£0.00	£0.00	31	£0.00	£0.00	0%
						<b>£36.20</b>	

Start date 16/07/2022  
 End date 15/08/2022

Meters & subs



Your consumption is estimated (in blue), using your previous actual reads (in green). Help keep your bills as accurate as possible by submitting your own reads.

Your charges - SPIDs



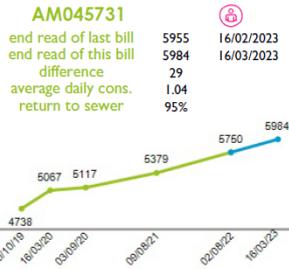
The Lamb Inn  
THE LAMB INN, LAMBS GREEN, RUSPER, HORSHAM, W SUSSEX, RH12 4RG

SPID 3019032113

Start date 16/02/2023  
End date 15/03/2023

	Volumetric charges			+	Non-volumetric charges			=	Total	VAT (0%)
	Consumption or RV	Unit rates (£/m3)	=		Fixed annual charges	Billing days /365	=	Charge on this bill		
Water	29m3	£1.4270	=	£41.39	£23.00	28	=	£1.76	£43.15	0%
Waste	-	-	=	£0.00	£0.00	28	=	£0.00	£0.00	0%
S.Water Drainage	-	-	=	£0.00	£0.00	28	=	£0.00	£0.00	0%
Highways Drainage	-	-	=	£0.00	£0.00	28	=	£0.00	£0.00	0%
									<b>£43.15</b>	

Meters & subs



Your consumption is estimated (in blue), using your previous actual reads (in green). Help keep your bills as accurate as possible by submitting your own reads.

Appendix B

Part G – Water Use Calculator for Proposed Annex Baseline

Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)x(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)		4.42	0.00	0
WC (dual flush)	Full flush Volume (litres)	6	1.46	0.00	8.76
	Part flush Volume (litres)	4	2.96	0.00	11.84
WC (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	6.00	1.58	1.58	11.06
Bath (where shower also present)	Capacity to overflow(litres)		0.11	0.00	0
Shower (where bath also present)	Flow Rate(litres / minute)		4.37	0.00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)	10.00	5.60	0.00	56.00
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	2.1	0.00	17.16
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.50
Waste disposal unit	(Litres/use)	<input type="checkbox"/> Present	3.08	0.00	0
Water Softener	(Litres/person/day)		1.00	0.00	0
	(5)	Total Calculated use (litres/person/day) =SUM(column 4)			122.32
	(6)	Contribution from greywater (litres/person/day)			0
	(7)	Contribution from rainwater (litres/person/day)			0
	(8)	Normalisation factor			0.91
	(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)			111.31
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			116.3

## Appendix C

### Part G – Water Use Calculator for the development with Reduction Measures

**Water Neutrality Statement**

**The Lamb Inn, Lambs Green, Rusper**

<b>Installation Type</b>	<b>Unit of Measure</b>	<b>Capacity/Flow rate (1)</b>	<b>Use Factor (2)</b>	<b>Fixed use (litres/person/day) (3)</b>	<b>Litres/person/day = [(1)x(2)] + (3) (4)</b>
<b>WC</b> (single flush)	Flush Volume (litres)		4.42	0.00	0
<b>WC</b> (dual flush)	Full flush Volume (litres)	6	1.46	0.00	8.76
	Part flush Volume (litres)	4	2.96	0.00	11.84
<b>WC</b> (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
<b>Taps</b> (excluding kitchen/utility room taps)	Flow rate (litres/min)	6.00	1.58	1.58	11.06
<b>Bath</b> (where shower also present)	Capacity to overflow(litres)	139.00	0.11	0.00	15.29
<b>Shower</b> (where bath also present)	Flow Rate(litres / minute)	6.00	4.37	0.00	26.22
<b>Bath Only</b>	Capacity to overflow(litres)		0.50	0.00	0
<b>Shower Only</b>	Flow Rate (litres/minute)		5.60	0.00	0
<b>Kitchen/Utility room sink taps</b>	Flow rate (litres/minute)	6.00	0.44	10.36	13.00
<b>Washing Machine</b>	(Litres/kg dry load)	4.66	2.1	0.00	9.79
<b>Dishwasher</b>	(Litres/place setting)	0.67	3.6	0.00	2.41
<b>Waste disposal unit</b>	(Litres/use)	<input type="checkbox"/> Present	3.08	0.00	0
<b>Water Softener</b>	(Litres/person/day)		1.00	0.00	0
	(5)	Total Calculated use (litres/person/day) =SUM(column 4)			98.37
	(6)	Contribution from greywater (litres/person/day)			0
	(7)	Contribution from rainwater (litres/person/day)			0
	(8)	Normalisation factor			0.91
	(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)			89.52
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			94.5