Water Offsetting Statement

Coombewick House, London Road
Ashington
Class Q Scheme

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1. Executive Summary

1.1. This document has been written in response to Natural England's position statement for all applications which fall within Sussex North's Water Supply Zone.

1.2. In particular it is pursuant to the Regulation 77 of the conservation of habitats and species Regulations 2017 reference HRA/22/0006 for a Class Q Barn approval (DC/22/1633 granted 17th October 2022) at Coombewick, Ashington, and the Horsham District Planning Authority request for a scheme of water offsetting.

1.3. This water offset statement assesses the proposals against relevant National and Local policy and regulations relating to sustainable development and water efficiency.

1.4. The policy imperatives are to achieve water neutrality for the Class Q Barn consent at London Road, Ashington through the use of a local offset opportunity.

1.5. The water assessment for the Class Q has been carried out under Approved Document Part G of the Building Regulations and the Horsham District Council web document as a guidance. It uses the Part G compliant Water Calculator online.

1.6. Calculations for the offset are clearly shown and benefit from bill data as the baseline. Other calculations seen in this document are provided to give a full picture of the impacts of the proposal against the offset option.

1.7. A 3-stage review of water use for the Class Q consent concludes that:

- Stage 1 - Reduce - The baseline is set to zero as there are no measurable water uses on site. Predicted water demand for the proposed Class Q as designed by a Part G calculator at 108.64l per person per day (l/p/d). See 4.8 to 4.12 for details and appendix A

- Stage 2 – Reuse - gives a water demand of approximately 103.9l/p/d after normalization factors have been accounted for. See 4.13 to 4.20 for details and appendix A

- Stage 3 – Offset - An offset at a local pub reaches water neutrality through replacement sanitary facilities in the customer toilets. See 4.20 to 4.39 (pages 5 to 7) for details and appendix B

2. Development Description

2.1. The following report relates to the Class Q Barn approval at Coombewick, Ashington, as approved under DC/22/1633.

The existing development

2.2. The site lies within a rural location northeast of Ashington, outside of any defined settlement boundary. The site is not located within the National Park, Area of Outstanding Natural Beauty (AONB) or the Green Belt.

2.3. On the site at present the barn has extant consent for conversion to a four bedroomed dwelling (permitted under Class Q Prior Approval –see figure 1).

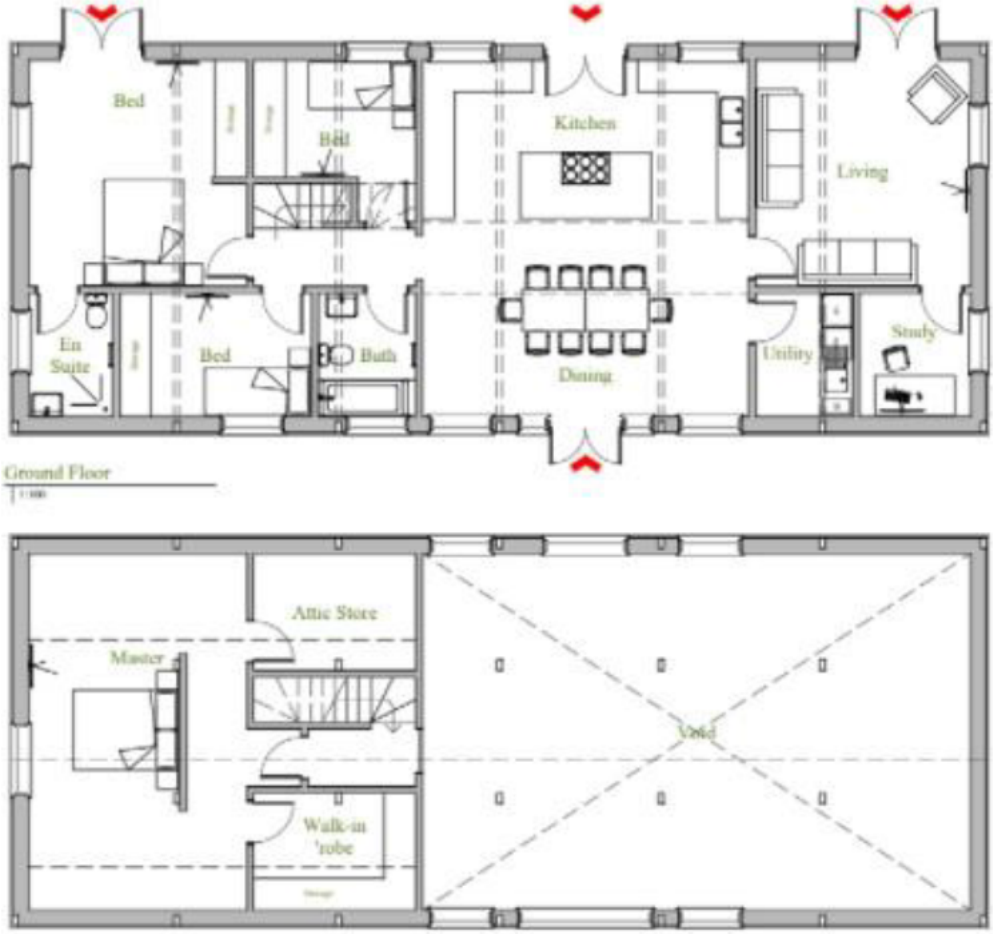


Figure 1: Existing permission drawings

2.4. This document shows the impact of this development on water locally.

3. Relevant planning policy & water consumption targets

Horsham District Planning Framework

3.1. Policy 37 of the Horsham Planning framework (2015) sets out the water efficiency requirements for all new developments erected within the region.

3.2. A target figure of 110 Litres/person/day must be achieved or bettered for all new developments. The full wording of Policy 37 (Sustainable Design and Construction,)can be viewed below:

> **10.18 Water is a key resource in the district and has a fundamental part to play in contributing to the economy, ecosystems and overall health of the district's population. Much of the South East has now been designated as an 'area of serious water stress' by the Environment Agency. This is something which is recognised in the Water Resource Management Plans (WRMP) of the two water companies operating in the District;Southern Water and Thames Water. Climate change has the potential to place further stress on this supply, causing longer periods of drought and reducing river flow which could impact the quality of the district's rivers. On the basis of this, Horsham District Council have taken the decision to implement the tighter level of water efficiency as set out in the Housing Standards Review. This requires developments to limit water usage to 110 litres/person/day and will be enforced through building regulations.**

Natural England's position statement

3.3. In September 2021, Natural England released a position statement regarding all development within the Sussex North's water supply zone.

3.4. The statement is focused on the current stresses on the water network. The statement determines that all new developments must demonstrate the water consumption of new development on completion will be no greater than the consumption of the site as existing.

3.5. It goes on to state that where possible, water consumption on site should be minimised by using water efficient appliances within the dwelling, incorporating smart meters and the inclusion of grey andrainwater harvesting.

3.6. The Natural England stepped approach to minimise water consumption is represented in the schematic (from Waterwise) shown on the right.

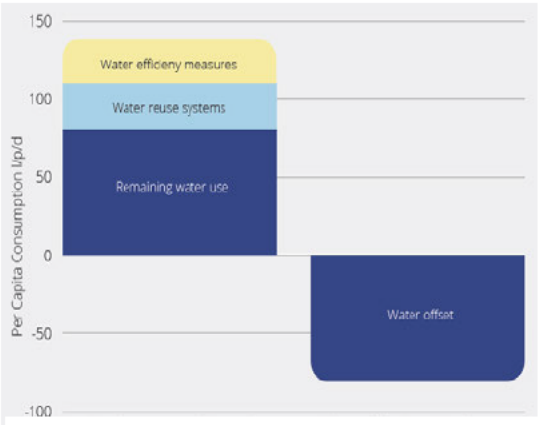


Figure 2: Water demand reduction

3.7. As well as the Natural England position Statement Horsham District Council have defined water neutrality as follows:

> "The use of water in the supply area before the development is the same or lower after the development is in place."

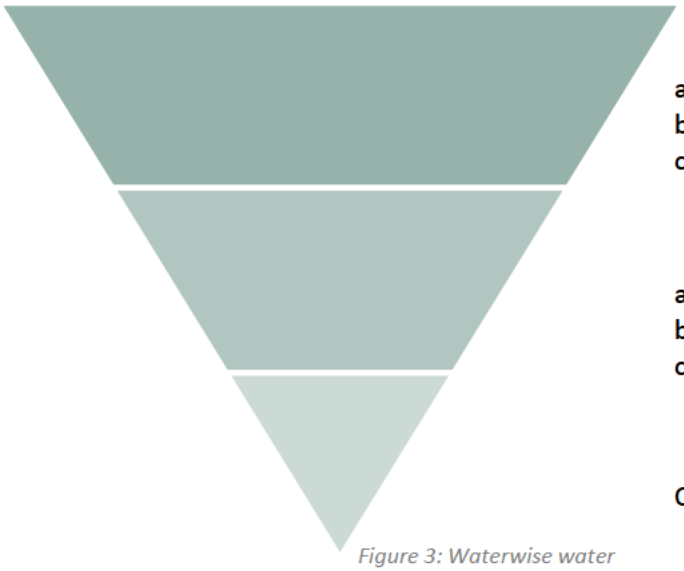


Figure 3: Waterwise water

3.8. It is this definition going forwards that will be used throughout this document.

3.9. In addition to the definition above the Waterwise document identifies a helpful three step water hierarchy as shown in figure 4 above that will be used as a guide to meet the standards in this document.

3.10. The steps focus on making any new development as water efficient as is possible prior to the first occupation of the development in order to represent effective mitigation.

3.11. The offsetting of the remaining water is proposed to be carried out through an investment scheme set up for each local area and water resource zone and should be carried out in collaboration with the water supply companies.

3.12. Due to the complexities of implementation, such a scheme is yet to be confirmed and actioned within the Horsham LPA.

4. Water Neutrality Calculation.

4.1. This section will detail the three stages of the water hierarchy and highlight at each point the methods, assumptions and water in litres for permission reference DC/22/1633.

4.2. Currently the Class Q site comprises a permanent barn and temporary mobile home on the same meter with a collective use of 180,487l over an 18 month period (see appendix C for details of latest meter reading).

4.3. The council has requested the baseline for the site be set at zero in order that the assessment be robust considering the part temporary nature of the current use.

4.4. Using the zero figure as a baseline it is necessary to assess a notional amount (proposal Demand) for the Class Q scheme against the Building Regulations in order to determine the figure needed to be saved to meet the neutrality status.

4.5. The following calculations for the Class Q Barn have been carried out in accordance with Part G of the Building Regulations using a water efficiency calculator tool provided by WRC plc in accordance with the Approved Document.

4.6. The table below highlights the predicted consumption for the proposed Class Q dwelling in accordance with Part G in litres per person per day before efficiency savings is 108.64.

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)	4	1.46	0.00	5.84
	Part flush Volume (litres)	2.6	2.96	0.00	7.70
WC (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	5.00	1.58	1.58	9.48
Bath (where shower also present)	Capacity to overflow(litres)	130.00	0.11	0.00	14.30
Shower (where bath also present)	Flow Rate(litres / minute)	7.78	4.37	0.00	33.98
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	11.00	0.44	10.36	15.20
Washing Machine	(Litres/kg dry load)	6.30	2.1	0.00	13.23
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.50
Waste disposal unit	(Litres/use)	☐ Present	3.08	0.00	0
Water Softener	(Litres/person/day)	0.00	1.00	0.00	0.00
	(5)	**Total Calculated use (litres/person/day) =SUM(column 4)**			104.23
	(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)			94.85
	(10)	External water use			5.0
	(11)	**Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)**			99.8
Click here to fill in details before printing: ☑					

Figure 5: Water calculation table

4.7. Using the Horsham 2011 Census information[1] the expected property occupation level will be 2.87.

[1] https://www.horsham.gov.uk/planning/water-neutrality-in-horsham-district/water-neutrality-and-planning-applications

Step 1 – Reduce Water Use

4.8. As detailed in the hierarchy above step one includes the setting of a baseline for current usage, before incorporating energy efficiency measures to reduce.

4.9. Water efficient devices have been specified for the development and are included in the Part G calculator tool above. These include:

- low flush toilets;
- aerated taps and shower heads;
- water efficient washing machine and dishwasher and
- water guns on outdoor hoses to control flow.

4.10. Smart metering will be included within the construction phase and a display meter fitted inside the property for occupant use.

4.11. A water saving culture will be promoted through the use of the building manual encouraging awareness raising and monitoring of consumption levels including shower timers and hot water reduction through insulated pipes, using a bowl to wash fruit and veg and re-using the contents, turning off taps while brushing teeth etc.

4.12. Baseline water demand. Using the Part G compliant calculator shown in figure 5 above the 'total calculated use' shown after the inclusion of efficiency measures as part of 'step one' is 108.64 l/p/d. This meets the current Approved Document Part G Building Regulations requirement of 125l/p/d.

Step 2 - Water Re-Use

4.13. Step 2 of the Water Hierarchy looks at re-use options.

4.14. The proposed Class Q development will include water re-use through the use of rainwater butts for irrigation purposes, car washing, path cleaning etc.

4.15. The Environment Agency Report Harvesting rainwater for domestic uses: an information guide suggests[2] that domestic rainwater harvesting is less likely to be impactful that commercial options with high potable water use. It states that "substituting mains water with rainwater for toilet flushing will inevitably reduce mains water use, it will not reduce total water use".

4.16. Rainwater butts cost a fraction of the price of a rainwater harvesting system and have far lower environmental impacts as they are less low tech. They allow homeowners to set up irrigation systems to water the gardens to best effect.

4.17. For these reasons, rainwater collection butts are the preferred approach as they make environmental sense to install in a highly water efficient modern domestic dwelling.

[2] https://www.waterwise.org.uk/wp-content/uploads/2018/02/EA-2010_Harvesting-Rainwater-for-Domestic-Uses_An-Information-Guide.pdf

4.18. The Part G water calculation tool allows for a 5l daily amount for external water use.

4.19. Despite not including any rainwater collection figures in the Part G calculation tool, the inclusion of external water use and the normalisation factor set at 0.91 the daily amount is reduced to **103.9l/p/d**.

Step 3 - Water Offsetting.

4.20. The anticipated water consumption of the Class Q Barn has been compiled into table 4 below and as stated (4.6 above) the proposed water efficiency measures of the Class Q on occupation are 103.9l/p/d or a total of 298.19l per day total (occupancy levels at 2.87).

4.21. In order to offset the proposed water demand to meet the required neutrality status the applicant has entered into a voluntary Memorandum of Understanding (MOU) with the local pub The Fountain (see submission pack).

4.22. The MOU with the pub is designed to apply measures to reduce current water usage and increase efficiency in order that savings can be offset for the Class Q development.

4.23. The table below identifies a 12 month billing cycle for the pub from June 2022 to June 2023 totaling 641,000 litres. Bill data is shown in appendix B. As both the opening and end bills show actual readings the amount shown is a factually correct representation of the actual amount used over the last 12 months.

	Cubic meters (M^3)	Litres
June 22 to Sept 22	104	104,000
Sept 22 to Jan 23	269	269,000
Dec 22 to March 23	118	118,000
March 23 to June 23	150	150,000
Total Current Usage	**641**	**641,000**

4.24. Horsham Water Neutrality Guidance[3] identifies a 3 year actual billing cycle for assessment. Appendix B shows bill data from June 21 (actual reading) to June 23 (actual reading). Bill data for the period 20-21 has not been used due to the pandemic affecting both the availability of actual readings and the closure of the pub. Making numbers lower overall.

4.25. The pub serves both food and drink and appendix E shows a print out from the pub of the number of diners only across a 12 month period a total of 39,215.

[3] https://www.horsham.gov.uk/planning/water-neutrality-in-horsham-district/water-neutrality-and-planning-applications

4.26. A full list of water uses can be found in appendix F.

4.27. The public facilities for customer use at the pub include male and female toilets incorporating urinals and toilets in the men's and toilets in the women's as well as a sink in each for handwashing.

4.28. Other water uses include:

- Staff toilets;
- Kitchen uses;
- Glass washing;
- Live-in bathroom and kitchen facilities for the on-site landlord/staff.

4.29. The existing landlord has been licensed at the property for over 10 years and the public sanitary facilities have not been upgraded during this time. Photos of the current sanitaryware can be seen in appendix F.

4.30. There are no efficiency devices fitted at present to any of the public facilities. Assumptions and references on numbers and use patterns can be found in appendix G. In brief these are as follows:

- All public toilets at the pub are dual flush.
- The 1999 Water Regulations[4] stipulate that there should be a maximum water usage of 7.5 litres per urinal bowl per hour.
- The taps in the public facilities are all of the type that allows water to flow freely and be stopped by the user. 6 litres per minute has been assumed using the 1999 Water regulations guidance and BREEAM Table 43 Base with a washing time of 30 seconds[5].

4.31. The table below identifies calculated amounts for the public toilet and handwashing facilities at the Fountain pub using BREEAM Table 43 base as guidance (appendix H).

BREEAM Base for Existing	Table 43 Base Performance Litres per Use / Hour	Litres Per day	Litres per year
Toilets (Dual Flush)	**6 l/flush**	**222**	**70,596**
Taps	**12 l/minute**	**222**	**70,596**
Urinals	**7.5 l/hour each**	**180**	**57,240**
		624	**198,432**

4.32. The BREEAM document explains that 'Table 43 outlines the standards, by component

[4] https://www.legislation.gov.uk/uksi/1999/1148/schedule/2/crossheading/wcs-flushing-devices-and-urinals/made

[5]https://www.food.gov.uk/sites/default/files/media/document/consumer_handwashing_in_a_pandemic_research_report.pdf

type, used to define the performance levels set in BREEAM. These defined levels of efficiency have been steered by a range of published sources of information (see references[45]) and therefore reflect robust levels of typical, good, best and exemplary practice.'[6]

4.33. The offset options from efficiency measures at the public toilet facilities focus on those items most available to customers and most frequently used to raise public awareness.

4.34. The table below calculates that Improving the efficiency of the public facilities by replacing:

- Toilets with more efficient versions from 6 to 3.75l per flush
- Manual taps with sensor taps that stop immediately and do not allow for any over run time lag or improper closure from 12 to 3.75l per minute.
- Replacing low flow urinals moving from 7.5l per hour to 0.75 l per hour.

4.35. The inclusion of Waterless Airflush[7] urinals the added benefit of being retrofitted thus reducing waste by retaining the existing working urinals. Details can be found in appendix I. Lowflush urinals using the BEEAM Level 4 of 0.75l has been used for consistency.

BREEAM Level 2 Replacement	Litres per Use / Hour	Litres Per day Use	Saving litres per day	Yearly Saving
Toilet	**4.5**	**167**	**56**	**17649**
Taps Sensor	**7.5 l/minute**	**46**	**176**	**55889**
Urinals	**0.75 l/hour each**	**18**	**162**	**51516**
		231	**393**	**125,054**

4.36. Using the Horsham census 2011 data in terms of average household occupancies the Class Q with 4 bedrooms has an average of 2.87. With a daily use per person of 103.9l there is a whole house use of 298.19l. Making this the daily offset amount.

4.37. Using the Level 4 BREEAM efficiency table allows the efficiency measures proposed to help the pub to generate daily savings of 393l.

4.38. The usage for the Class Q combined with the pub offset meets the council's aspiration of water neutrality.

	Class Q Barn (Litres/Person/day)

[6] https://files.bregroup.com/breeam/technicalmanuals/internationalRFO2015/#resources/output/rfrb_pdf_screen/sd225_rfo_int_2015_scr.pdf

[7] https://natsol.co.uk/airflush-urinals/

Total predicted use of Class Q – before offset measures at pub	-103.9
Total predicted offset at pub	137.02
Excess Saving	**33.12l**

Table 2: Summary of water consumption

6. Conclusion

6.1. Green & Castle Ltd have carried out an assessment to determine the estimated water consumption of the approved Class Q Barn at Coombewick using the methodology laid out under Horsham Council's 3 step guidance.

6.2. Measures to offset the water consumption for the barn conversion with savings include installing water efficient sanitaryware, smart meters and an offset at the Fountain pub.

6.3. The water consumption of the Class Q Barn in line with Part G using an LABCapproved online calculation tool has been calculated at 103.9l/person/day.

6.4. The calculation methodology offset includes a cautious approach and efficiencies have been assessed at their worst possible rather than best potential to ensure successful outcomes overall

6.5. It is concluded that post-development, predicted water usage of the Class Q barn, along with offsetting at the pub, will not impose any burden on the existing water resources in the region.

6.6. The development at Coombewick, Ashington is therefore compliant under the requirements and guidance of the Horsham Planning framework (2015) water consumption target and objectives of Natural England's position statement relating to water neutrality.

Water Neutrality Summary Table	
House Total Consumption (Part G)	108.64
Total Part G After Normalisation	103.9
Occupants	2.87
Daily Total Household Use	298.19
Pub Saving per person	137.02
Total Additional Offset	**-33.12**

7.

Appendices

Appendix A – Part G Domestic Calculator Tool

Appendix B - Pub Water Usage Bill Data

Appendix C – Meter Reading

Appendix D – Pub Licence

Appendix E - Pub Covers Report (part redacted for privacy)

Appendix F – Sanitaryware Item List and Photos

Appendix G - Assumptions

Appendix H – BREEAM Table 43

Appendix I – Air Flush Urinals

Appendix A – Part G Domestic Calculator Tool

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

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)	4	1.46	0.00	5.84
	Part flush Volume (litres)	2.6	2.96	0.00	7.70
WC (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	5.00	1.58	1.58	9.48
Bath (where shower also present)	Capacity to overflow(litres)	130.00	0.11	0.00	14.30
Shower (where bath also present)	Flow Rate(litres / minute)	7.78	4.37	0.00	34.00
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	11.00	0.44	10.36	15.20
Washing Machine	(Litres/kg dry load)	5.60	2.1	0.00	11.76
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.50
Waste disposal unit	(Litres/use)	☐ Present	3.08	0.00	0
Water Softener	(Litres/person/day)	5.86	1.00	0.00	5.86
	(5)	Total Calculated use (litres/person/day) =SUM(column 4)			108.64
	(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)			98.86
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			103.9

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on WCs

WC Type	Effective Flushing volume* (litres) (a)			Quantity (No.) (b)	Total per Fitting Type = (a)x(b) (c)
Multiple Fittings?	☐				
Dual Flush?	☑				
	Full Flushing volume x 0.33	Part Flushing volume x 0.67	(a)		
1	4	2.6	3.062	2	6.12
Total (Sum of all Quantities) (d)				2	
Total (Sum of all totals per fitting type) (e)					6.12
Average effective flushing volume (litres)=(e)/(d)					3.06
Calculate					

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on taps (other)

Tap Fitting Type	Flow rate (litres/min) (a)	Quantity (No.) (b)	Total per Fitting Type =(a)x(b) (c)
1	5	2	10.00
2			
3			
4			
5			
6			
Total (Sum of all Quantities) (d)		2	
Total (Sum of all totals per fitting type) (e)			10.00
Average flow rate (litres/min) = [(e)/(d)]			5.00
Maximum flow rate (litres/min) (f)			5.00
Weighted Average flow rate (litres/min) = [(f)x0.7]			3.50
Calculate			

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on taps (kitchen)

Tap Fitting Type	Flow rate (litres/min) (a)	Quantity (No.) (b)	Total per Fitting Type =(a)x(b) (c)
1	11	2	22.00
2			
3			
4			
5			
6			
Total (Sum of all Quantities) (d)		2	
Total (Sum of all totals per fitting type) (e)			22.00
Average flow rate (litres/min) = [(e)/(d)]			11.00
Maximum flow rate (litres/min) (f)			11.00
Weighted Average flow rate (litres/min) = [(f)x0.7]			7.70
Calculate			

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on baths

Bath Fitting Type	Capacity to overflow(litres) (a)	Quantity (No.) (b)	Total per Fitting Type =(a)x(b) (c)
Are there any showers present?	☑		
1	130	1	130.00
2			
3			
4			
5			
6			
Total (Sum of all Quantities) (d)		1	
Total (Sum of all totals per fitting type) (e)			130.00
Average capacity to overflow(litres) = [(e)/(d)]			130.00
Maximum Capacity to overflow (litres) (f)			130.00
Weighted Average capacity to overflow(litres) = [(f)x0.7]			91.00
Calculate			

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on dishwashers

Type of Dishwasher	Litres per place setting (a)	Quantity (No.) (b)	Total per Fitting Type =(a)x(b) (c)
1	1.25	1	1.25
2			
3			
4			
5			
6			
Total (Sum of all Quantities) (d)		1	
Total (Sum of all totals per fitting type) (e)			1.25
Average litres per place setting = [(e)/(d)]			1.25
Maximum litres per place setting (f)			1.25
Weighted Average litres per place setting = [(f)x0.7]			0.88
Calculate			

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on washing machines

Type of washing machine	Litres per kilogram of dry load (a)	Quantity (No.) (b)	Total per Fitting Type =(a)x(b) (c)
1	5.6	1	5.60
2			
3			
4			
5			
6			
Total (Sum of all Quantities) (d)		1	
Total (Sum of all totals per fitting type) (e)			5.60
Average litres per kilogram of dry load = [(e)/(d)]			5.60
Maximum litres per kilogram of dry load (f)			5.60
Weighted Average litres per kilogram of dry load = [(f)x0.7]			3.92
Calculate			

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on showers

Shower fitting Type	Flow rate (litres/min) (a)	Quantity (No.) (b)	Total per Fitting Type =(a)x(b) (c)
Are there any Baths Present?	☑		
1	9.5	1	9.50
2	6.06	1	6.06
3			
4			
5			
6			
Total (Sum of all Quantities) (d)		2	
Total (Sum of all totals per fitting type) (e)			15.56
Average flow rate (litres/min) = [(e)/(d)]			7.78
Maximum flow rate (litres/min) (f)			9.50
Weighted Average flow rate (litres/min) = [(f)x0.7]			6.65
Calculate			

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on water softeners

Water softener consumption calculation for New Dwellings		
Total Capacity used per regeneration (%)	(a)	7
Water Consumed per regeneration (litres)	(b)	20.5
Average number of regeneration cycles per day (No.)	(c)	2
Number of occupants served by the system (No.)	(d)	3
Water consumed beyond 4% (litres/day) [1-[4/(a)]]x[(b)x(c)]=	(e)	17.57
Water consumed beyond 4% (litres/person/day) [(e)/(d)]=		5.86

Calculate

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on greywater

The greywater collection calculation for New Dwellings				
Bath, shower and wash hand basin usage (litres/person/day) (a)	Percentage of used water (a) to be recycled (%) (b)	Greywater available for use (litres/person/day) (c)=(a)x[(b)/100] (c)	Greywater demand litres/person/day) (d)	Greywater savings (litres/person/day) Where (c) is greater than (d), (e)=(d), otherwise (e)=(c) (e)
0	0	0.00	0	0

Calculate

Not Secure — wrcpartgcalculator.co.uk

The Water Efficiency Calculator for New Dwellings

Water Efficiency Calculator for new dwellings

Home | Calculator | FAQs

Click here for instructions on using the Water Calculator

Water Calculator | WC | Taps (Other) | Taps (Kitchen/Utility) | Baths | Dishwashers | Washing Machines | Showers | H2O softeners | Greywater | Rainwater

Click here for instructions on entering data on rainwater

The rainwater collection calculation for New Dwellings		
Rainwater Collected	(a)	0
Rainwater demand	(b)	0
Rainwater savings* (c)=(a)/(b)*(b)=	(c)	0

Calculate

Rainwater collection

The water efficiency calculator for new dwellings methodology document available in Appendix A of The Building Regulations 2010 Part G (here) allows calculation of rainwater collection volume according to two methodologies, both of which are based upon BS8515:2009. These are outlined in Section A21 of the methodology document. The daily rainwater per person (litres) figure calculated by either method should be entered into row (a).

Rainwater demand

For any appliance (WC, or washing machine) where rainwater is to be used for supply to all of the appliances of that type within the property, the volume of water for rainwater demand can be taken directly from the relevant appliance row in Column (4). For any appliance (WC, or washing machine) where rainwater is to be supplied to only a proportion of the appliances of that type within a property, the volume of water for rainwater demand should be calculated according to an alternative methodology. This can be found in Section A26 of the water efficiency calculator for new dwellings methodology document (available here) and allows calculation of the water demand from only the appliances where rainwater is to be used. The total volume of rainwater demand calculated in accordance with either of the above methodologies (as appropriate) should be summed for WCs and/or washing machines and entered into Row (b).

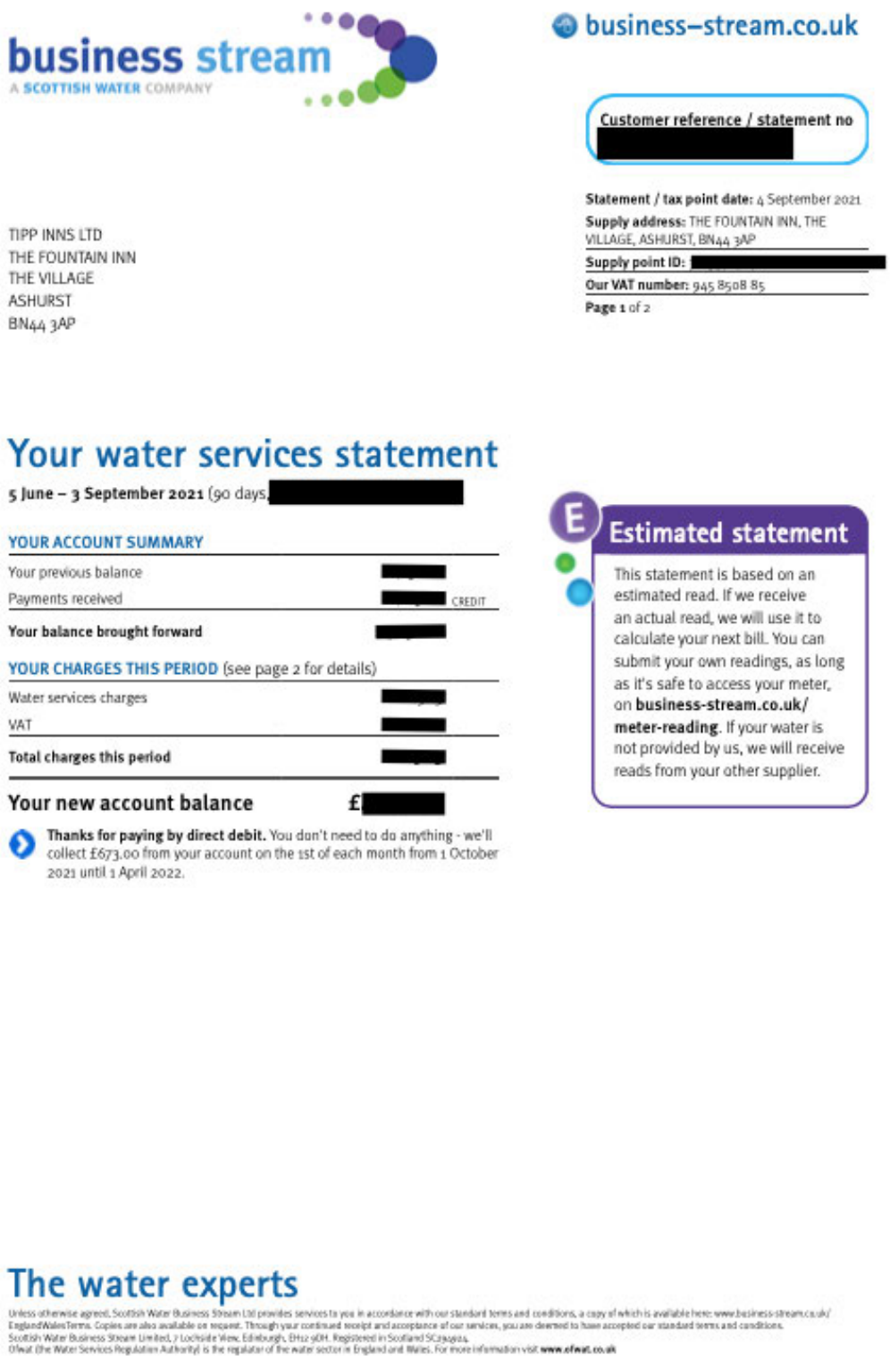
wrc LABC

©Water Research Centre Limited 2023

Terms and Conditions
System Requirements

Appendix B - Pub Water Usage Bill Data

21 - 23 Start and End Actual Readings – Summary (Redacted for GDPR) Bill Data.



business stream
A SCOTTISH WATER COMPANY

business–stream.co.uk

Customer reference / statement no [redacted]

Statement / tax point date: 4 September 2021
Supply address: THE FOUNTAIN INN, THE VILLAGE, ASHURST, BN44 3AP
Supply point ID: [redacted]
Our VAT number: 945 8508 85
Page 1 of 2

TIPP INNS LTD
THE FOUNTAIN INN
THE VILLAGE
ASHURST
BN44 3AP

Your water services statement

5 June – 3 September 2021 (90 days) [redacted]

YOUR ACCOUNT SUMMARY

Your previous balance	[redacted]
Payments received	[redacted] CREDIT
Your balance brought forward	[redacted]

YOUR CHARGES THIS PERIOD (see page 2 for details)

Water services charges	[redacted]
VAT	[redacted]
Total charges this period	[redacted]
Your new account balance	£[redacted]

Thanks for paying by direct debit. You don't need to do anything - we'll collect £673.00 from your account on the 1st of each month from 1 October 2021 until 1 April 2022.

Estimated statement

This statement is based on an estimated read. If we receive an actual read, we will use it to calculate your next bill. You can submit your own readings, as long as it's safe to access your meter, on **business-stream.co.uk/meter-reading**. If your water is not provided by us, we will receive reads from your other supplier.

The water experts

Unless otherwise agreed, Scottish Water Business Stream Ltd provides services to you in accordance with our standard terms and conditions, a copy of which is available here: www.business-stream.co.uk/EnglandWalesTerms. Copies are also available on request. Through your continued receipt and acceptance of our services, you are deemed to have accepted our standard terms and conditions.
Scottish Water Business Stream Limited, 7 Lochside View, Edinburgh, EH12 9DH. Registered in Scotland SC314301.
Ofwat (the Water Services Regulation Authority) is the regulator of the water sector in England and Wales. For more information visit **www.ofwat.co.uk**

GREEN & CASTLE

Customer reference / statement number: [redacted] **Statement / tax point date:** 4 September 2021 **Page:** 2 of 2

Your charges in detail

Meter number / meter size: 4T014751 KENT / 15mm

Water charges			Units	Rate	VAT	Charge
Fixed water charge						
Yearly fee [redacted]	5 Jun 21 – 2 Sep 21		90 days			[redacted]
Volumetric water charge						
Estimated reading	3 Sep 21	23556				
Actual reading	5 Jun 21	23452				
= Volume used this period			104.00 m³			
Charges	5 Jun 21 – 3 Sep 21		104.00 m³			[redacted]
Total water charges						[redacted]

A yearly fee for the upkeep of external pipes and pumps that supply water to your property.

The charge for the recorded amount of water you've used, measured by your meter.

Subtotal	[redacted]
VAT	
Total charges this period	

VAT on our charges
Most of our services are zero rated (Z) but some are standard rate (S) or outside scope (O). See **business-stream.co.uk/vat** for more information.

Need help?

Complaints
If for any reason you feel your query hasn't been resolved as expected, you can make a complaint and escalate your concerns to our customer relations team:
Post: Customer relations team, Business Stream, 7 Lochside View, Edinburgh EH12 9DH.
Online: Via our website business-stream.co.uk

The Consumer Council for Water
If you have followed our complaints process but are still unhappy, the Consumer Council for Water offers free independent advice. You can visit their website ccwater.org.uk, call them on 0300 034 2222, or write to them at Consumer Council for Water, c/o 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ

business stream
A SCOTTISH WATER COMPANY

business-stream.co.uk

0330 123 2000

For emergencies, please contact your:
Water wholesaler: Southern Water
Visit **business-stream.co.uk/emergencies**

TIPP INNS LTD
THE FOUNTAIN INN
THE VILLAGE
ASHURST
BN44 3AP

Customer reference / invoice no
[redacted]

Invoice / tax point date: 10 June 2023

Supply address: THE FOUNTAIN INN THE VILLAGE, ASHURST, WEST SUSSEX, BN44 3AP

Water supply point ID: [redacted]

Our VAT number: 945 8508 85

Your water services invoice

10 March - 9 June 2023 (92 days [redacted])

Your account summary

Your previous balance	[redacted]	
Payments received	[redacted]	CREDIT
Your balance brought forward	[redacted]	CREDIT

Your charges this period (see page 2 for details)

Water services charges	[redacted]
VAT	[redacted]
Total charges this period	[redacted]
Your new account balance	[redacted]

Thanks for paying by Direct Debit. You don't need to do anything [redacted] from your account on 1 July 2023.

Water efficiency toolkit

We're committed to supporting our customers to reduce their water usage by up to 20%. Download our free water efficiency workplace tools at **business-stream.co.uk/water-efficiency**

Carbon consumption

Based on this period your annual carbon consumption is **229.28kgCO2e/yr**, based on National Government statistics.

Ways to pay

Direct Debit
Paying by Direct Debit is the quickest and easiest way to pay your bills. Visit **business-stream.co.uk/direct-debit** or call us on **0330 123 2000**.

Online
Visit **business-stream.co.uk/pay online** with your debit or credit card details.

By phone
Call **0330 123 2000** to pay over the phone using your debit or credit card details.

By bank transfer
Sort code: 30-00-02. **Account number:** 03029919. **Account name:** Business Stream Revenue Account. Please include this reference number: [redacted]

Payment slip
Complete the enclosed **payment slip** and present it, with your invoice, to your bank branch or to a post office, to pay by cash, card or cheque. You may be charged for this service.

Alternatively, you can send a cheque, and the completed payment slip enclosed, to **Business Stream, PO Box (17381), Edinburgh EH12 9GT.** Cheques should be payable to 'Business Stream' and include your customer reference number on the back. Please don't send cash in the post and allow 10 days for payment to be processed. For more information, visit **business-stream.co.uk/ways-to-pay**

Naturally *different*.

Scottish Water Business Stream Limited trading as Business Stream. Registered in Scotland. Company no. SC294924. Registered office address and principal place of business: 7 Lochside View, Edinburgh, EH12 9DH. Ofwat, the Water Services Regulation, is the regulator of the water sector in England and Wales. For more information visit ofwat.gov.uk. Unless otherwise agreed, Scottish Water Business Stream Ltd provides services to you in accordance with our standard terms and conditions, a copy of which is available at business-stream.co.uk/yorkshire/useful-info. Copies are also available on request. Through your continued receipt and acceptance of our services, you are deemed to have accepted our standard terms and conditions.

GREEN & CASTLE

Your charges in detail

Meter number / meter size: 4T014751 / 15mm

Water charges			Units	Rate	VAT	Charge
Fixed water charge						
Yearly fee [redacted]	10 Mar 23 - 31 Mar 23		22 days	[redacted]		
Yearly fee [redacted]	1 Apr 23 - 9 Jun 23		70 days	[redacted]		
Volumetric water charge						
Actual reading	30 May 23	24982				
Estimated reading	10 Mar 23	24835				
= volume used this period			147 m³			
Actual reading	1 Jun 23	24985				
Actual reading	30 May 23	24982				
= volume used this period			3 m³			
Estimated reading	10 Jun 23	25003				
Actual reading	1 Jun 23	24985				
= volume used this period			18 m³			
Charges	10 Mar 23 - 31 Mar 23		39.926 m³	[redacted]		
Charges	1 Apr 23 - 29 May 23		11.446 m³	[redacted]		
Charges	1 Apr 23 - 29 May 23		95.628 m³	[redacted]		
Charges	30 May 23 - 31 May 23		3 m³	[redacted]		
Charges	1 Jun 23 - 9 Jun 23		18 m³	[redacted]		
Total water charges						[redacted]

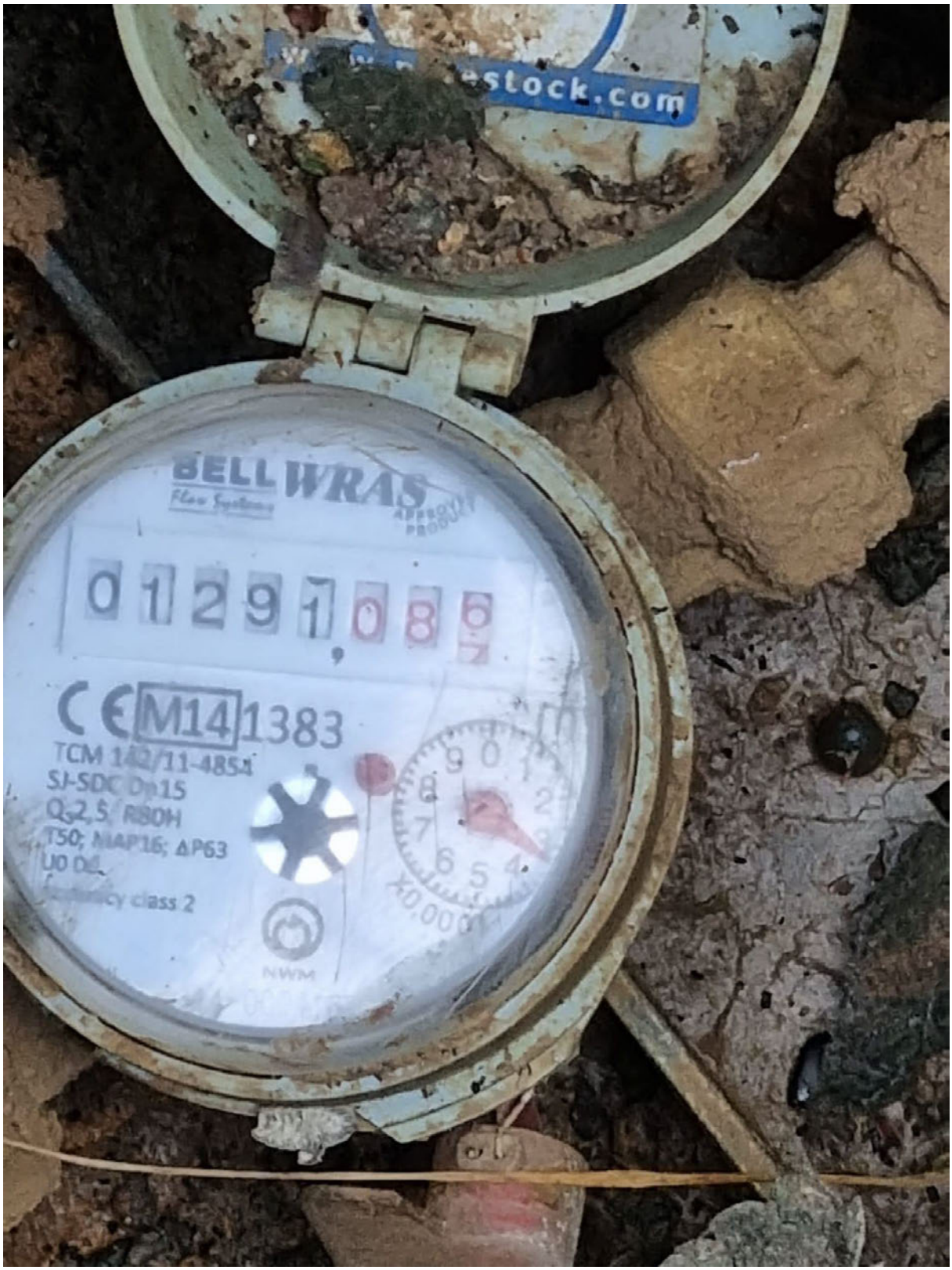
This is a fee for the upkeep of external pipes and pumps that supply water to your premises.

This is a charge for the amount of water you've used, as recorded by your water meter. The rate you are charged can vary based on your location and your water consumption. Find out more at **business-stream.co.uk/yorkshire/useful-info**

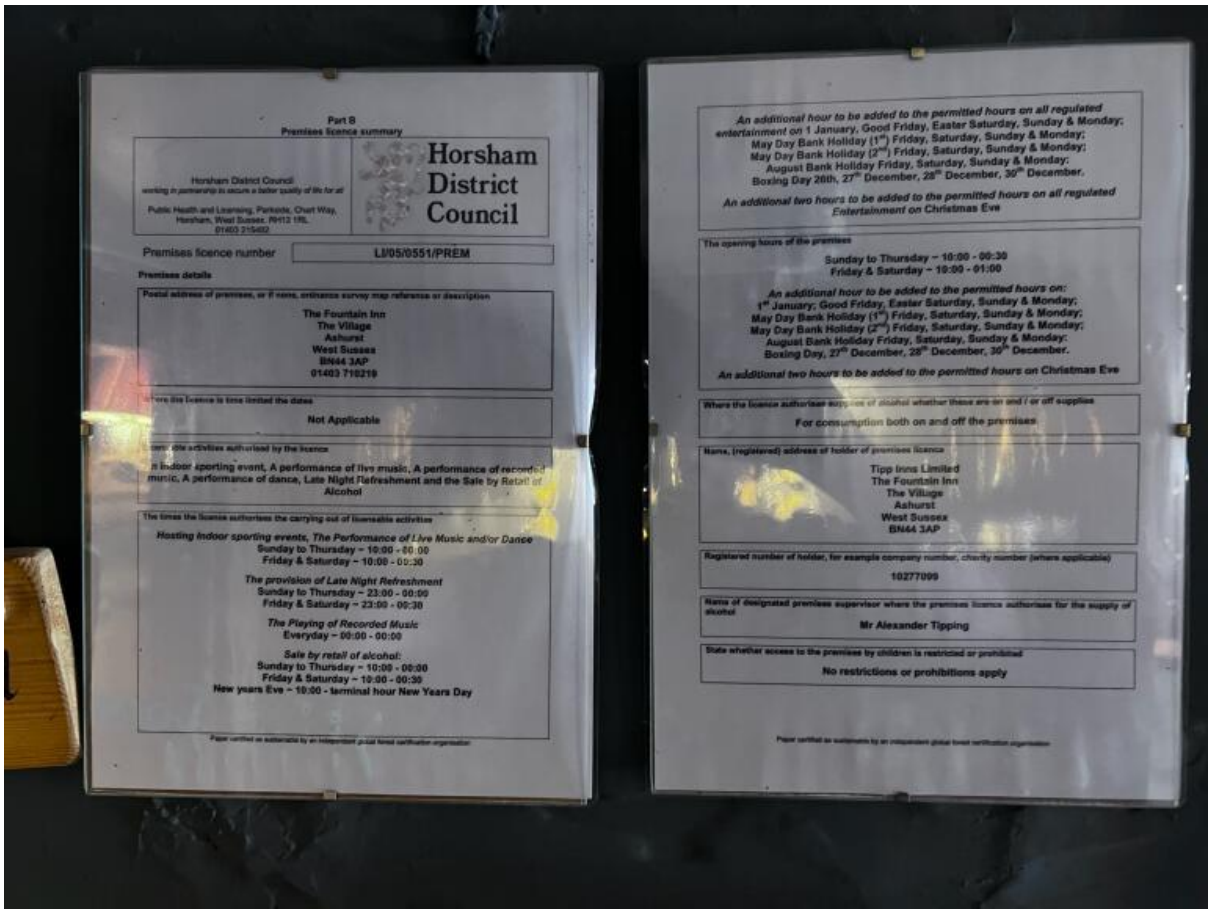
Subtotal	[redacted]
VAT	[redacted]
Total charges this period	[redacted]

Most of our services are zero-rated (Z) but some are standard rate (S) or outside scope (O). See business-stream.co.uk/vat for more information.

Appendix C – Meter Reading



Appendix D – Pub Licence



Part B
Premises licence summary

Horsham District Council

Horsham District Council
working in partnership to secure a better quality of life for all

Public Health and Licensing, Parkside, Chart Way, Horsham, West Sussex. RH12 1RL
01403 215462

Premises licence number: LI/05/0551/PREM

Premises details

Postal address of premises, or if none, ordnance survey map reference or description

The Fountain Inn
The Village
Ashurst
West Sussex
BN44 3AP
01403 710219

Where the licence is time limited the dates

Not Applicable

...the activities authorised by the licence

...n indoor sporting event, A performance of live music, A performance of recorded ...music, A performance of dance, Late Night Refreshment and the Sale by Retail of Alcohol

The times the licence authorises the carrying out of licensable activities

Hosting indoor sporting events, The Performance of Live Music and/or Dance
Sunday to Thursday – 10:00 - 00:00
Friday & Saturday – 10:00 - 00:30

The provision of Late Night Refreshment
Sunday to Thursday – 23:00 - 00:00
Friday & Saturday – 23:00 - 00:30

The Playing of Recorded Music
Everyday – 00:00 - 00:00

Sale by retail of alcohol:
Sunday to Thursday – 10:00 - 00:00
Friday & Saturday – 10:00 - 00:30
New years Eve – 10:00 - terminal hour New Years Day

Paper certified as sustainable by an independent global forest certification organisation

An additional hour to be added to the permitted hours on all regulated entertainment on 1 January, Good Friday, Easter Saturday, Sunday & Monday; May Day Bank Holiday (1st) Friday, Saturday, Sunday & Monday; May Day Bank Holiday (2nd) Friday, Saturday, Sunday & Monday; August Bank Holiday Friday, Saturday, Sunday & Monday; Boxing Day 26th, 27th December, 28th December, 30th December.

An additional two hours to be added to the permitted hours on all regulated Entertainment on Christmas Eve

The opening hours of the premises

Sunday to Thursday – 10:00 - 00:30
Friday & Saturday – 10:00 - 01:00

An additional hour to be added to the permitted hours on:
1st January; Good Friday, Easter Saturday, Sunday & Monday; May Day Bank Holiday (1st) Friday, Saturday, Sunday & Monday; May Day Bank Holiday (2nd) Friday, Saturday, Sunday & Monday; August Bank Holiday Friday, Saturday, Sunday & Monday; Boxing Day, 27th December, 28th December, 30th December.

An additional two hours to be added to the permitted hours on Christmas Eve

Where the licence authorises supplies of alcohol whether these are on and / or off supplies

For consumption both on and off the premises

Name, (registered) address of holder of premises licence

Tipp Inns Limited
The Fountain Inn
The Village
Ashurst
West Sussex
BN44 3AP

Registered number of holder, for example company number, charity number (where applicable)

10277099

Name of designated premises supervisor where the premises licence authorises for the supply of alcohol

Mr Alexander Tipping

State whether access to the premises by children is restricted or prohibited

No restrictions or prohibitions apply

Paper certified as sustainable by an independent global forest certification organisation

GREEN & CASTLE

Appendix E - Pub Covers Report for Dining

Generated by Alex (04-May-2023 08:12:54). All figures in GBP except where noted

The Fountain (Tipp Inns Ltd)
The Village - The Fountain West Sussex
BN44 3AP Ashurst

Condensed report for Custom 03/05/22 - 03/05/23

Order type	Total sales	% of Total	Covers	% of Total	GBP/cover	Receipts	% of Total	GBP/receipt
Eat-in	[redacted]	78.5%	39,214	100.0%	[redacted]	[redacted]	54.4%	[redacted]
Take away	[redacted]	0.0%	1	0.0%	[redacted]	[redacted]	0.0%	[redacted]
Other	[redacted]	21.5%	0	0.0%	[redacted]	[redacted]	45.6%	[redacted]
Total sales	[redacted]	**100.0%**	**39,215**	**100.0%**	[redacted]	[redacted]	**100.0%**	[redacted]

A. Summary

Net sales		[redacted]
+ Tax collected		[redacted]
Total revenue		[redacted]
Discounts	0	0.00
Complimentary	646	[redacted]
Loss/Broken	1	[redacted]
Voids	2	[redacted]
Rounding Total		0.00
Training Total		0.00

B. Accounts

Carried over	[redacted]	[redacted]
+ Accounts opened	[redacted]	[redacted]
- Accounts paid	[redacted]	[redacted]
+ Transferred IN	[redacted]	[redacted]
- Transferred OUT	[redacted]	[redacted]
+ Carried forward	[redacted]	[redacted]
Outstanding	[redacted]	[redacted]
Corrections	[redacted]	[redacted]
Aborted	[redacted]	[redacted]

C. Cash report

Cash sales + tips	[redacted]

1

Appendix F - Pub Sanitary Facilities

Photos of existing pub sanitaryware



Mens urinals and sink



Mens toilet



Womens sink



Womens toilet

GROUND FLOOR		FIRST FLOOR
Gents Toilets - Urinals x 2 - WC dual flush - Sink taps hot/cold	Staff Toilet - Electric Shower - WC dual flush - Sink mixer tap	Bathroom 1 - Bath/Shower with mixer taps - WC single flush - Sink mixer tap
Ladies Toilets - WC dual flush x 2 - Sink taps hot/cold	Kitchen - Sinks (2 Taps) x 4 - Steam Oven - Glass Washer	Bathroom 2 - Bath 2 taps - Sink 2 Taps - WC single flush
Cellar - Tap and Sink/hose - Drinks cooler/mixer	Outside 2 x taps/hoses	Kitchen - Sink mixer tap - Washing Machine

Appendix G - Pub Water Use calculation assumptions

Use of the BREEAM WAT01 tool to show expected levels and efficiency savings is not viable as the pub falls outside of the benchmarked building range. As such any outputs require input data from the user making it unreliable.

In order to more accurately calculate the usage BREEAM Table 43 (appendix H) and the following figures/assumptions have been used:

Facts:

- Annual Usage in Litres from bill data (appendix B) = 641,000
- Annual diners (appendix E) = 39,215
- Pub days open per year = 318. The pub is closed Mondays ex. Bank Holidays = (365 – 52) + 5 BH Mondays.

Assumptions:

- 30% of diners use the toilet facilities = 39,215/3 = 11,764 users per year or 37 per day
- Urinals operate opening hours only 11am to 11pm = 12 hours
- Taps with flow rates at 3.5l/m and below such as the Dolphin infrared sensor tap DB1400 / DB1425 are available for commercial premises, so the use of the BREEAM level 4 identifies moderation.
- Hand washing – a 20 second hand washing time based on FSA report Consumer Handwashing Research[8] most commonly reported time in seconds (20-24 seconds) has been used.
- The table below shows assumptions on use patterns.

	Per use / hour	Notes on use	Efficiency Savings
Toilets	6	6 litres x 37 customers	
Taps	6	6 litres per minute 30 seconds average handwash inc. up to 10 seconds for on/off	3.5 litres[9] per min instant on/off sensor tap assumes 20 second use
Urinals	7.5	7.5l per hour per urinal	0.75[10]

[8] https://www.food.gov.uk/sites/default/files/media/document/consumer_handwashing_in_a_pandemic_research_report.pdf (Figure 3 and pages 23-4) and Franke Research CPD https://www.building.co.uk/cpd/cpd-22-2019-saving-water-and-energy/5102895.article

[9] https://www.dolphinsolutions.co.uk/product/dolphin-infrared-sensor-tap-db1400-db1425/

[10] https://natsol.co.uk/airflush-urinals/

- Water Softener - A standard system to calculate the water softener amount from Kinetico.co.uk (brochure attached) has been used. This shows a water use of 20.5 litres per regeneration – 7% of daily use. The system regenerates every 400l so less than once daily given the daily usage predicted at 298.19l for the household.

- The overall proportion of annual pub usage for the public facilities is as follows 233,730 / 641,000 = 36.5%

Appendix H – BREEAM Table 43

https://files.bregroup.com/breeam/technicalmanuals/internationalRFO2015/#resources/output/rfrb_pdf_screen/sd225_rfo_int_2015_scr.pdf

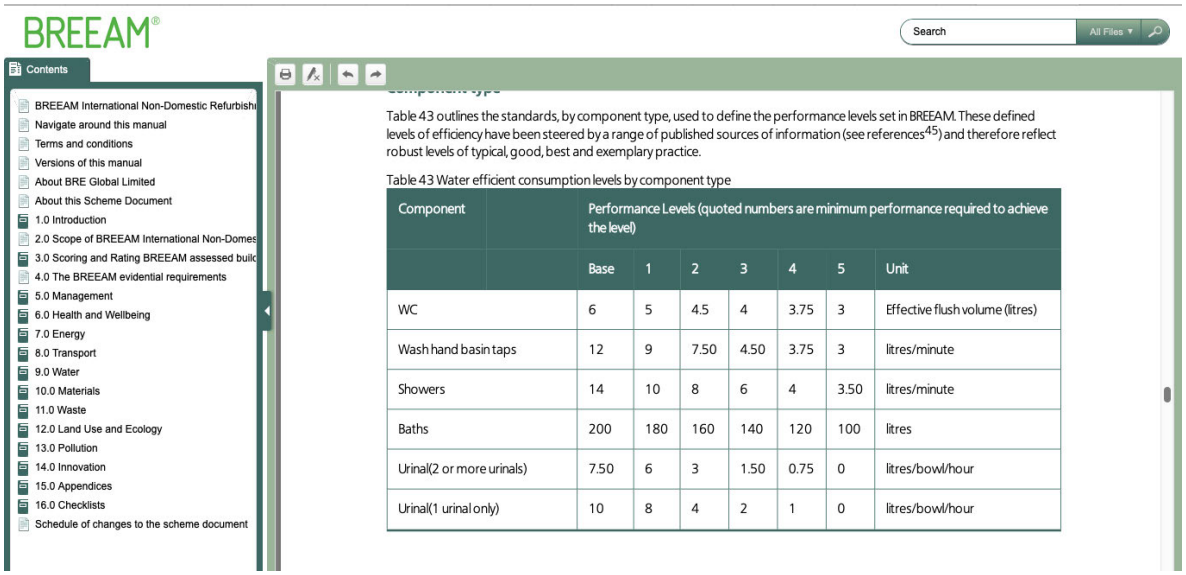


Table 43 outlines the standards, by component type, used to define the performance levels set in BREEAM. These defined levels of efficiency have been steered by a range of published sources of information (see references[45]) and therefore reflect robust levels of typical, good, best and exemplary practice.

Table 43 Water efficient consumption levels by component type

Component	Performance Levels (quoted numbers are minimum performance required to achieve the level)						
	Base	1	2	3	4	5	Unit
WC	6	5	4.5	4	3.75	3	Effective flush volume (litres)
Wash hand basin taps	12	9	7.50	4.50	3.75	3	litres/minute
Showers	14	10	8	6	4	3.50	litres/minute
Baths	200	180	160	140	120	100	litres
Urinal(2 or more urinals)	7.50	6	3	1.50	0.75	0	litres/bowl/hour
Urinal(1 urinal only)	10	8	4	2	1	0	litres/bowl/hour

Appendix I – Air Flush Urinals

See Brochure (attached) and installation diagram below from: https://natsol.co.uk/airflush-urinals/

