

Nutrient Statement

Project:	45 High Street, Pewsey, Wiltshire, SN9 5AF	Date:	8 th May 2026
Subject:	Nutrient budget	Author:	Matilda Taragel & Nicola French

1.0 Background

- 1.1. This Nutrient Statement has been prepared to provide information to Wiltshire Council (WC) in support of a retrospective planning application for the conversion of part of an existing residential dwelling into a short-term holiday let at 45 High Street, Pewsey, Wiltshire, SN9 5AF. The application also seeks to regularize an artistic installation to chimney pot.
- 1.2. The information within this Nutrient Statement is provided under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).
- 1.3. In January 2024, Defra issued a policy paper¹ notifying the designation of sensitive river catchments sensitive to nutrient pollution. This includes the River Avon Special Area of Conservation (SAC), identified as being in unfavourable condition on account of phosphorous pollution². The implication of this is that any local planning authority within the catchment of the Hampshire Avon cannot grant consent for new residential development unless it can be shown to be net phosphorous neutral. A phosphorous calculation is therefore required to ensure that WC has sufficient information to carry out an appropriate assessment to consider impacts of the application on the River Avon SAC, required to approve the planning application.
- 1.4. This note takes full account of all information provided by WC on the Council's dedicated nutrient neutrality website³ and draws on the calculator and guidance resources on the Government website *Tools and resources for calculating nutrient neutrality*⁴, most recently updated on 27th May 2025.

¹ January 2024, DEFRA. The Designation of Sensitive Catchment Areas Notice 2024

² <https://www.gov.uk/government/publications/notice-of-designation-of-sensitive-catchment-areas-2024/notice-of-designation-of-sensitive-catchment-areas-2024>

³ <https://www.wiltshire.gov.uk/planning-bio-phosphorous-nitrogen-mitigation>

⁴ <https://www.gov.uk/government/collections/tools-and-resources-for-calculating-nutrient-neutrality>

2.0 Nutrient neutrality calculations

- 2.1. Box 1 below sets out the parameters and assumptions used to assess the additional phosphorous loading that the short-term holiday let generates.

Box 1: Assumptions relevant to the assessment of additional nutrient loading for x1 short-term holiday let 45 High Street, Pewsey, Wiltshire, SN9 5AF

- **Occupancy for the dwelling:** the holiday let comprises one double bedroom and has capacity for two people to stay overnight. Average data collected from 2015 when first used as an Air BnB shows that the room is let for 4 days per week. Over the course of a single year this is equivalent to 1.14 people.
- **Total wastewater produced by single person:** 150 litres per day. This is advised as appropriate by Natural England because an existing property is very unlikely to have the water saving features required of new build by Building Regulations. It is unlikely that the occupants of the short stay accommodation unit will use water at this rate, but without data to support an alternative figure, a standard water consumption is assumed and is very precautionary.
- **Method of waste processing:** foul waste from the short-term holiday let is currently served by a septic tank, installed in 2000, which also serves the main house building to which the unit is attached. It is intended that the existing septic tank serving the Air BnB will be upgraded to a Graf One2Clean system. This system does not rely on dosing with ferric sulphate or other inorganic compound to optimise phosphate removal. The system is effective at stripping phosphorous from the treated effluent without dosing and certified at 1.6mg TP per litre (see Appendix 1).
- **Total plot area:** The total area of the plot is 23.7m² (0.002ha).
- **Land use:** The site is best described as **residential urban land**.
- **Proposed development:** There is no change in land use.

- 2.2. The most recent Natural England Phosphorous Calculator for the River Avon has been used to calculate the nutrient load generated by the treated foul from the short-term holiday let using the new PTP for installation.

Stage 1: nutrients from wastewater – Air BnB using PTP due for installation

Water infrastructure information		
Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may be required
Date of first occupancy (dd/mm/yyyy):	01/12/2026	
Average occupancy rate (people/dwelling or people/unit):	1.14	
Water usage (litres/person/day):	150	
Development proposal (dwellings/units):	1	
Wastewater treatment works:	Package Treatment Plant user defined	
Current wastewater treatment works P permit (mg TP/litre):	Enter value in cell C10	1.6
Not applicable	Not applicable	
Not applicable	Not applicable	
Final calculation of nutrient load from wastewater		
Description of values generated	Values generated	
Wastewater nutrient loading		
Additional population (people):	1.14	
Wastewater by development (litres/day):	171.00	
Annual wastewater TP load (kg TP/yr):	0.10	

- 2.3. The calculations show that the treatment of foul from the short-term holiday let unit will generate **0.10kg of Total Phosphorous** per year once the new PTP is installed. Note that the 20% buffer has not been applied to this calculation. Rather it is applied to the final calculation once the overall budget for the site is established.
- 2.4. To address the overall net nutrient budget for the scheme, it is important to also consider how rates of phosphorous leaching from the ground will change in response to a changed land use. Stages 2 & 3 of the calculation assess the Total phosphorous loading to the water environment that is currently taking place and compares this to the loading that is occurring with the short-term holiday let. For this scheme, stages 2 & 3 cancel out because there is no change in land use. The total nutrient loading therefore derives from just the loading that will arise from treatment of foul from the short-term holiday let. For completeness, both stages are set out below, using the categorisations and land area set out in Box 1.
- 2.5. Note that although the data entry is to 3dp, the area presents as '0.00' because the calculator rounds the figure of 0.002ha to 2 decimal places. The calculator calculates on the basis of the data entered.

Current land use information			
Description of required information	Data entry column - user inputs required		
Operational catchment:	Avon Hampshire		
Soil drainage type:	Freely draining		
Annual average rainfall (mm):	800.1 - 850		
Within nitrate vulnerable zone (NVZ):	Yes		
Current land uses			
Existing land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)	
Residential urban land	0.00	0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
		0.00	
Totals:	0.00	0.00	

Future land uses		
New land use type(s) - user inputs required	Area (ha) - user inputs required	Annual phosphorus export (kg TP/yr)
Residential urban land	0.00	0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
		0.00
Totals:	0.00	0.00

- 2.6. Finally, the calculator generates a net phosphorous loading for the scheme to take account of both loading from treated foul and the change of use of the land for development. This is set out in Stage 4, below.

Stage 4: final nutrient budgets – Air BnB using PTP for installation

Total nutrient budget calculations	
Description of values generated	Values generated
Wastewater TP load (kg TP/year):	0.10
Net land use TP change (kg TP/year):	0.00
TP budget:	0.10
TP budget + 20% buffer:	0.12
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	0.12

- 2.7. The calculations show that the use of the Air BnB at 45 High Street, Pewsey will generate 0.12kg TP per year with the installation of the new PTP.
- 2.8. To ensure net nutrient neutrality, **mitigation is required** to address the additional phosphorous load that the short-term holiday let generates.

3.0 Mitigation

- 3.1. The short-term holiday let and main house to which it is attached are currently served by an existing septic tank installed in the 2000s (**Appendix 3**). The 2-chamber tank is brick built and internally rendered with internal dimensions supplied as 1830mm x 1020mm x 1450mm.
- 3.2. The existing septic tank drains to ground and does not meet the small-scale thresholds guidance i.e. its nutrient load to the water environment is material and cannot be discounted (see **Appendix 4**). This is because it sits within 200m of other private drainage services.
- 3.3. Note too that upgrade of this septic tank can be used as an offset for the holiday let because to do so is consistent with recent advice from Natural England. This states that septic tank / PTP upgrades that discharge to ground can only be used for development where it too, also discharges to ground. In this instance, both the existing and proposed tanks will drain to ground.
- 3.4. Replacement of the existing septic tank at 45 High Street, Pewsey with a new PTP will reduce nutrient loading to the water environment. This saving can be used as an offset against which to balance the nutrient budget of the holiday let. The expectation of this arrangement is that the treatment of foul water from the holiday let and main house it sits within, all using a modern PTP, will result in a smaller nutrient loading than the old septic tank serving the main house at the current time. If a net reduction in nutrient loading can be shown, and assuming that this can be properly secured, this will allow WC to conclude that the planning application will not adversely affect the integrity of the River Avon SAC alone or in combination with other projects.
- 3.5. The River Avon nutrient calculator can be used to calculate an estimate of the nutrient loading of the existing septic tank to the water environment. Assuming a default septic tank setting, the standard occupancy rate and a daily water usage of 150 litres per person (advised as appropriate by Natural England because an existing property is very unlikely to have the water saving features required of new build by Building Regulations), the nutrient calculator calculates that the tank releases 1.53kg of TP/year for the main house (see Stage 1 below).

Water infrastructure information	
Description of required information	Data entry column - user inputs required
Date of first occupancy (dd/mm/yyyy):	01/12/2026
Average occupancy rate (people/dwelling or people/unit):	2.40
Water usage (litres/person/day):	150
Development proposal (dwellings/units):	1
Wastewater treatment works:	Septic Tank default
Current wastewater treatment works P permit (mg TP/litre):	11.60
Not applicable	Not applicable
Not applicable	Not applicable
Final calculation of nutrient load from wastewater	
Description of values generated	Values generated
Wastewater nutrient loading	
Additional population (people):	2.40
Wastewater by development (litres/day):	360.00
Annual wastewater TP load (kg TP/yr):	1.53

- 3.6. Stages 2 & 3 of the calculator are not relevant to this calculation as the replacement of the old septic tank for new provision in the adjacent development plot does not involve a change of land use. Furthermore, advice received from Natural England is that it is not appropriate to apply the 20% buffer to this calculation, because it works in the other direction to the assessment of the loading from the proposed solution. This would mean that inclusion of the 20% buffer would result in a less precautionary calculation. Stage 4 is therefore excluded from this assessment, to leave the final loading of the existing septic tank to the water environment as 1.53kg of TP/year.
- 3.7. To establish whether the proposed mitigation strategy is effective, the question arises as to whether this figure is more or less than the nutrient loading that will arise from the Air BnB in conjunction with the new loading that will arise from 45 High Street, Pewsey once the existing septic tank is replaced with a new Graf One2Clean system.
- 3.8. Stage 1 sets out the loading for the existing dwelling using a new PTP.

Water infrastructure information		
Description of required information	Data entry column - user inputs required	Additional data entry column - user inputs may be required
Date of first occupancy (dd/mm/yyyy):	01/01/2026	
Average occupancy rate (people/dwelling or people/unit):	2.40	
Water usage (litres/person/day):	150	
Development proposal (dwellings/units):	1	
Wastewater treatment works:	Package Treatment Plant user defined	
Current wastewater treatment works P permit (mg TP/litre):	Enter value in cell C10	1.6
Not applicable	Not applicable	
Not applicable	Not applicable	
Final calculation of nutrient load from wastewater		
Description of values generated	Values generated	
Wastewater nutrient loading		
Additional population (people):	2.40	
Wastewater by development (litres/day):	360.00	
Annual wastewater TP load (kg TP/yr):	0.21	

- 3.9. Stages 2 & 3 of the calculator are not relevant to this calculation as the replacement of the old septic tank for new provision does not involve a change of land use.
- 3.10. Stage 4, below, concludes the calculation of nutrient loading with the application of a 20% buffer to the results of stage 1:

Total nutrient budget calculations	
Description of values generated	Values generated
Wastewater TP load (kg TP/year):	0.21
Net land use TP change (kg TP/year):	0.00
TP budget:	0.21
TP budget + 20% buffer:	0.25
Annual nutrient budget	
The total annual phosphorus load to mitigate is (kg TP/yr):	0.25

- 3.11. This shows that the existing property with a new PTP will load 0.25kg/TP to the water environment per year.
- 3.12. To calculate the overall loading to the environment of the treatment of foul from the x1 short-term holiday let and the adjacent existing property, with all using the Graf One2Clean PTP, together with the land use change associated with the planning application, it is necessary to sum the outputs of both calculator results, as follows:

Total loading of phosphorous = $0.25 + 0.12 = 0.37\text{kg TP/year}$

- 3.13. Table 1 below compares the nutrient loading deriving from the new dwelling together with the existing property, all with an upgraded PTP, and compares this to the existing situation whereby the existing property is served by an old septic tank.

Scenario	Existing dwelling	Holiday let + existing, with new PTP	Difference in nutrient loading
Total phosphorous	1.53kg of TP/year	0.37kg of TP/year	Saving of 1.16kg TP per year

- 3.14. Table 1 clearly shows that the treatment of foul from 45 High Street, Pewsey as an existing property using its own new PTP, together with the treated foul from the x1 short-term holiday let, will result in a smaller nutrient loading to the water environment than is currently occurring from the old septic tank of 45 High Street, Pewsey alone. This is because the proposed new PTP will be more effective in the strip of nutrients than the existing septic tank. The overall result of installing the Graf One2Clean PTP to treat the foul from the two properties will be a net overall reduction in nutrient loading to the water environment. In other words, the

combined treatment of foul from the short-term holiday let along with foul from the existing house using the new PTP will result in a better than nutrient neutral solution.

4.0 Conclusion & analysis

- 4.1. A nutrient budget calculated in line with the current Natural England guidance and calculator for a short-term holiday let at 45 High Street, Pewsey shows that replacement of the existing septic tank serving the existing property to which the Air BnB is attached with a new Graf One2Clean will result in a better than nutrient neutral scheme.
- 4.2. On this basis, Wiltshire Council can conclude that the proposed residential property will not adversely affect the integrity of the River Avon SAC, either alone or in combination with other plans and projects.

NF130526

Appendix 1
Graf One2Clean PTP Certification



Prüfinstitut für
Abwassertechnik
GmbH

PERFORMANCE RESULTS

Otto Graf GmbH

Carl-Zeiss-Str. 2 - 6, 79331 Teningen, Germany

EN 12566-3

Small wastewater treatment systems for up to 50 PT

Small wastewater treatment system one2clean

SBR plant in one two-zone polypropylene tank

Test report PIA2014-216B14.01.e

Nominal organic daily load*	0.27	kg/d	
Nominal hydraulic daily load	0.75	m³/d	
Material	polypropylene		
Treatment efficiency (nominal sequences)		Efficiency	Effluent
	COD	94.2 %	43 mg/l
	BOD ₅	98.0 %	7 mg/l
	SS	96.3 %	14 mg/l
	NH ₄ -N**	98.3 %	0.5 mg/l
	N _{tot} **	87.0 %	7.9 mg/l
	P _{tot}	80.2 %	1.6 mg/l
Electrical consumption	0.63	kWh/d	

*at a test influent of ≥ 300 mg/l BOD₅ (mean)

**determined for temperatures $\geq 12^{\circ}\text{C}$ in the bioreactor

Performance tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH

(PIA GmbH)

Hergenrath Weg 30

52074 Aachen, Germany

This document replaces neither the declaration
of performance nor the CE marking.



Notified Body
No.: 1739



Certified according to
ISO 9001:2008



Deutsche
Akkreditierungsstelle
D-PL-17712-01-00



Elmar Lancé

November 2014

Appendix 2
Evidence for existing septic tank
at 45 High Street, Pewsey

Appendix 2
Evidence of septic tank at 45 High Street, Pewsey



Photo to show manhole cover over existing double chamber septic tank at 45 High Street, Pewsey

Appendix 3

Assessment of 45 High Street septic tank against small scale thresholds

Appendix 3: Assessment of septic tank serving 45 High Street against the small scale threshold criteria¹

For a septic tank to meet the small scale thresholds, all of the following conditions must be met:

Threshold	Threshold met	Comment
The drainage field is more than 50m from the designated site boundary (or sensitive interest feature)	Yes	The drainage field at 45 High Street is approximately 145m distant to the closest part of the River Avon SAC, which lies to the west.
The drainage field is more than 40m from any surface water feature e.g. ditch, drain, watercourse, and	Yes	Google Maps shows that the River Avon SAC is the closest surface water feature to the proposal and lies approx. 145m away, to the west.
The drainage field in an area with a slope no greater than 15%, and	Yes	
The drainage field is in an area where the high-water table groundwater depth is always at least 2m below the surface, and	Unlikely but not certain	Information not available.
The drainage field will not be subject to significant flooding, e.g. it is not in flood zone 2 or 3, and	Yes	The septic tank lies in flood zone 1
There are no other known factors which would expedite the transport of phosphorus for example fissured geology, insufficient soil below the drainage pipes, known sewer flooding, conditions in the soil/geology that would cause remobilisation phosphorus, presence of mineshafts, etc. and	Unlikely but not certain	Information not available.
To ensure that there is no significant in combination effect, the discharge to ground should be at least 200m from any other discharge to ground and	No	The septic tank lies within 200m of at least 1 other residential property (it is a shared tank).
The percolation test has been performed of the proposed location of the drainage field with the resulting value lying within the required range under the Building Regulations 2010, which specify an average Vp value of between 12 & 100	Unknown	Information not available.
Conclusion: the septic tank that serves 45 High Street does not meet all of the small scale thresholds and cannot therefore be considered a small scale private drainage. It is therefore appropriate to upgrade for purposes of offsetting the nutrient loading associated with the attached Air BnB.		

¹ Taken from Somerset Council Interim Guidelines Quick Guide: Conditions that must be met to fulfil the Interim guidelines on small scale thresholds