

# H+H Drainage

Tremayne, Mortimer's Cross, Herefordshire HR6 9TG  
Phone: 0845 2008421. Mobile: 07837 628764

15<sup>th</sup> February 2022

For the Attention of Mr T James

TR James & Sones  
Poston Court Farm  
Peterchurch  
Herefordshire  
HR2 0SF

Dear Sir,

**Ref: The off-mains foul drainage system at Bricklands, Westbrook, Herefordshire, HR3 5SY.**

Many thanks for your instruction to attend Bricklands. We have recently attended the property and we hope that the following information is more than satisfactory to you.

We can confirm that this property is served by a septic tank. The septic tank is located in the paddock beside the property. The septic tank is located within reach of a vacuum tanker in line with Building Regulations. The septic tank is also sufficiently distant from the habitable building, again in line with the Building Regulations.



Septic tank and outlet inspection chamber.



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We estimate that the septic tank at this property was built in the 1950's. As specified in the Environment Agency General Binding Rules, a septic tank must conform to the regulations in force at the time of its construction. This septic tank pre-dates Building Regulations.

The septic tank is a triple settlement chamber system constructed from brickwork, with a cast-in-situ concrete cover slab. This type of septic tank is common and deemed to be sufficient at the time of installation. The brickwork and concrete cover slab appeared to be in good condition at the time of inspection.

At the time of our inspection the septic tank effluent was found to be at the correct working level. This indicates that the septic tank does not leak as required by the General Binding Rules.

The cover slab has three inspection access covers. The access points were found to be sufficient, and the cast iron access covers and frames were found to be in good order.

Cast iron access covers



We can confirm that the working capacity of this septic tank was found to be approximately 1.7m<sup>3</sup>. As mentioned, this septic tank was built before regulations existed. As such, this septic tank is sufficient in capacity for the existing dwelling, but it is insufficient by modern standards.



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Modern Building Regulations specify that a septic tank must have working capacity of at least 2.7m<sup>3</sup> to serve 4-persons plus an additional 0.15m<sup>3</sup> for each additional person in line with British Water Flows & Loads 4.

As can be seen below, two dip pipes are in place and are functioning correctly. The outlet dip pipe is missing, although the evidence suggests that there may never have been an outlet dip pipe fitted. The outlet dip pipe is an integral part of the septic tank system. As such, this should be replaced.



Two dip pipes in good order.



There is an outlet manhole chamber immediately downstream of the septic tank. There is currently no effective cover and frame on this chamber as the existing cover and frame is rotten. The outlet chamber has a single outlet drain and appears to be in a reasonable condition.



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Outlet inspection  
chamber

The outlet drain was rodded and we can confirm that the septic tank discharges to ground by means of a drainage field. The drainage field lies within the curtilage of the property (paddock) and the evidence suggests that the drainage field is more than 10m away from the adjacent watercourse. We can also confirm that the drainage field is more than 15m away from any dwelling.

The evidence suggests that the drainage field is in working order and is sufficient. A simple visual inspection of the probable drainage area showed no signs of pollution or failure. In addition, a visual inspection of the watercourse also showed no evidence of pollution.

There is no low-level vent on the septic tank. Such a vent was not required at the time of installation.



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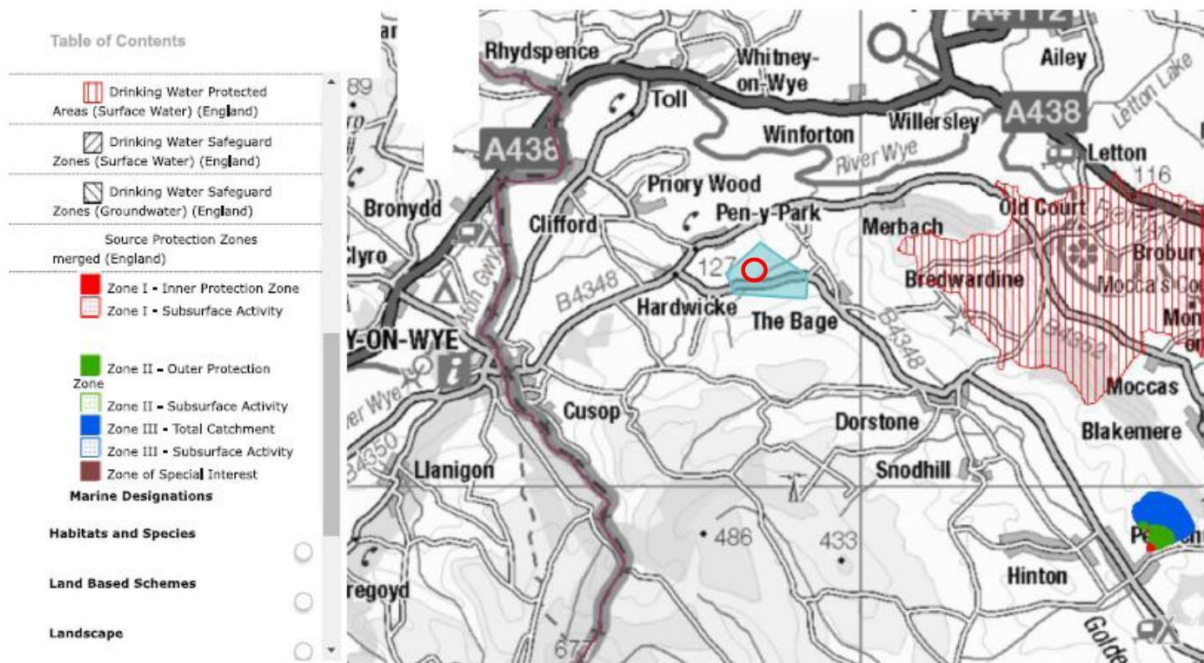
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We can confirm that the septic tank discharges to ground and we can confirm that there are no SPZ1 or SPZ2 Source Protection Zones within 50m of this drainage field. As shown in the following plan.



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As noted, the septic tank at this property was installed prior to 2015 and is therefore classed as existing. The bullet points are taken from the Environment Agency General Binding Rules:

#	Discharges to surface water	Discharges to ground	General binding rule	
1		X	The discharge must be 2 cubic metres or less per day in volume.	✓
2	X		The discharge must be 5 cubic metres or less per day in volume.	N/A
3	X	X	The sewage must only be domestic.	✓
4	X	X	The discharge must not cause pollution of surface water or groundwater.	✓
5		X	The sewage must receive treatment from a septic tank and infiltration system (drainage field) or a sewage treatment plant and infiltration system.	✓
6	X		The sewage must receive treatment from a sewage treatment plant.	N/A
7		X	The discharge must not be within a groundwater Source Protection Zone 1 or within 50 metres from any well, spring or borehole that is used to supply water for domestic or food production purposes.	✓
8	X		For discharges in tidal waters, the discharge outlet must be below the mean spring low water mark.	N/A



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#	Discharges to surface water	Discharges to ground	General binding rule	
9	X	X	All works and equipment used for the treatment of sewage effluent and its discharge must comply with the relevant design and manufacturing standards ie the British Standard that was in force at the time of the installation, and guidance issued by the appropriate authority on the capacity and installation of the equipment.	✓
10	X	X	The system must be installed and operated in accordance with the manufacturer's specification.	✓
11	X	X	Maintenance must be undertaken by someone who is competent.	✓
12	X	X	Waste sludge from the system must be safely disposed of by an authorised person.	✓
13	X	X	If a property is sold, the operator must give the new operator a written notice stating that a small sewage discharge is being carried out, and giving a description of the waste water system and its maintenance requirements.	✓
14	X	X	The operator must ensure the system is appropriately decommissioned where it ceases to be in operation so that there is no risk of pollutants or polluting matter entering groundwater, inland fresh waters or coastal waters.	N/A



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As can be seen from the previous information, the existing septic tank at Bricklands conforms to the General Binding Rules. However, the proposal is to utilise the existing septic tank to serve the proposed shepherd's hut.

As noted in this report the existing septic tank is serviceable and is working correctly. However, the working capacity of this septic tank is approximately 1.7m<sup>3</sup>. As mentioned, this septic tank was built before regulations existed. As such, this septic tank is sufficient in capacity for the existing dwelling, but it is insufficient by modern standards.

Modern Building Regulations specify that a septic tank must have working capacity of at least 2.7m<sup>3</sup> to serve 4-persons plus an additional 0.15m<sup>3</sup> for each additional person in line with British Water Flows & Loads 4.

British Water Flows & Loads 4 states that a 3-bedroom dwelling has a design population of 5-persons; as shown in the following excerpt. In addition, the proposed shepherd's hut will be designed for a maximum population of 2-persons.

## 5 Domestic housing

- A treatment system for a single house with **up to and including 3 bedrooms** shall be designed for a minimum population (P) of 5 people.
- The size of a treatment system for a single house with more than 3 bedrooms shall be designed by **adding 1 P for each additional bedroom** to the **minimum single house value of 5 P**, eg:
  - house with 3 bedrooms = **minimum 5 P system**
  - house with 4 bedrooms = **minimum 6 P system (5+1)**
  - house with 6 bedrooms = **minimum 8 P system (5+3)**.
- For groups of small 1 and 2 bedroom houses or flats
  - flat with 1 bedroom = **allow 3 P**
  - flat with 2 bedrooms = **allow 4 P**
- A treatment system serving a group of houses shall be designed by adding together the P values for each house calculated independently, eg:
  - for a group of two houses (3 and 4 bedrooms, respectively) the system shall be for a minimum of 11 P (5+6)
- If the calculated total P for a group of houses exceeds 12 P then **some reduction may be made** to allow for the balancing effects on daily flow of a group of houses (round UP not down)
  - Where the total is **13-25 P** multiply the total by 0.9 to give an adjusted P value, e.g. if there are four four-bedroom houses the total P will be 24 P (4 x 6) and the adjusted P will be 22 P (24 x 0.9 = 21.6)
  - Where the total is **26-50 P** multiply the total by 0.8 to give an adjusted P value, e.g. if there are four three-bedroom houses and three four-bedroom houses the total P will be 38 P (4 x 5 and 3 x 6) and the adjusted P will be 31 P (38 x 0.8 = 30.4)
- Where there are larger groups of houses, the P should be estimated using both the expected total load and the flow, considering both peak and total flow
- These are minimum recommended population (P) loads, they should not be modified downwards, upward modification may be necessary because of particular characteristics of each property or groups of properties.
- The above assessments of population (P) should be used for both existing and new properties



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Therefore, we can see that the off-mains foul drainage system must be sufficient for a design population of 7-persons.

With the above in mind, we can see that modern Building Regulations would require the septic tank to have 3,150-litres working capacity (2,700-litres + (3 x 150-litres) = 3,150-litres).

As can be seen, the current septic tank has insufficient capacity to serve the existing cottage and the proposed shepherd's hut.

However, the existing septic tank has a working capacity of 1,700-litres. In theory, an additional settlement chamber could be installed to give sufficient capacity. The additional settlement chamber would need to be at least 1,450-litres.

Alternatively, a single preformed septic tank can be installed with more than 3150-litres working capacity. Such tanks can be concrete, plastic or GRP.



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In conclusion, we can confirm that the septic tank at this property conforms to the Environment Agency General Binding Rules, PPG4 and Building Regulations Part H. In addition, we can confirm that there was no evidence of pollution at the time of our visit.

As mentioned, the outlet dip pipe is missing. We must recommend that this dip pipe is replaced in order to ensure that settlement continues correctly within the septic tank.

The existing septic tank is insufficient in capacity to serve the additional proposed shepherd's hut. It would be feasible to install an additional 1,450-litre primary settlement chamber in order to increase the working capacity for the proposed shepherd's hut.

The evidence suggests that the current drainage field is sufficient, and there is no evidence of pollution or failure. In addition, the location of the drainage field appears to be in accordance with Building Regulations Part H.

We hope that the above information is more than sufficient for your needs and we look forward to hearing from you in the future. If you have any further questions relating to this or any other drainage matter, please do not hesitate to contact the undersigned.

Yours Faithfully,

Alex Taysum-Hunter  
British Water Accredited.



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