

SURFACE WATER DRAINAGE STRATEGY

**New detached dwelling house on land at Pear Tree
House, Manor Orchard, Cricklade, Wilts SN6 6PN**

24th June 2026

1. Introduction:

This surface water drainage strategy is compiled for Mr & Mrs Chambers in relation to a project to construct a single bungalow dwelling house. The strategy includes assessment and details to discharge rainwater and surface water.

New proposal is to construct a detached dwelling house with detached garage and onsite parking.

Note: This report is to be read in conjunction with NWD Design Ltd drawing references: 4408 / D09 & D10.

1.1 Site Address:

Land at Pear Tree House, Manor Orchard, Cricklade, Wiltshire, SN6 6EA

1.2 Local Planning Authority and Lead Local Flood Authority (LLFA):

Wiltshire Council.

2. Existing Site Context:

2.1 Site Description:

The site is the currently part of the front garden of Pear Tree House. There is no development on the land, with the exception of a temporary shed which is to be removed. The site surface is covered with grass and plant borders with small areas of gravel paving.

- The site is within Flood Risk Zone 1 (NOT flood risk)
- The site is NOT in (or within the catchment of) groundwater SPZ1
- Access to the site is via a private road (non-adopted)

2.2 Topography:

The site is very level and ground levels vary only 200mm between 79.60 & 79.80.

2.23 Geological Ground Conditions:

Based on geological mapping information the site is underlain by clay deposits at unknown layer depth. This is confirmed by previous site information drawn from the previous construction of Pear Tree House by the same applicant in 2003. Trial holes during construction confirmed the sub-layer of clay and subsequently percolation tests at the time demonstrated that surface water drainage via filtration was not feasible.

Further trial holes can be carried out on site if required but this report assumes the previous information to be unchanged. Therefore, the underlying depth of geology and the impermeable nature of the ground makes the discharge by infiltration unviable for the roof and new paving/driveway surfaces.

2.24 Existing Surface Water Management:

A land drain exists to free drain the front garden area that forms the proposed site where the building footprint is located. The site is very level and the existing surface water discharges to the culvert at a slow, unattenuated rate.

3. Proposed Development:

3.1 Design Constraints and Guidance applied to surface drainage design:

- The site is NOT within the Wiltshire Council Surface Water Management Plan (2011) designated areas.
- The site is NOT within Flood Risk Zone 2 or 3 and does not require a Strategic Flood Risk Assessment.
- The site is NOT a Site of Special Scientific Interest (SSSI)
- The site is NOT a Designated Special Area of Conservation (SAC)
- The site is NOT a Special Protection Area (SPA)
- The site is NOT a Listed RAMSAR site
- The site is NOT a Scheduled Ancient Monuments (SAM)
- Wiltshire Council Developers Guidance Note (Surface Water Soakaways)
- BRE Digest 365 Soakaways
- UK Gov. Guidance on the Permeable Surfacing of Front Gardens
- UK Gov. National Standards for Sustainable Drainage Systems (SuDS)
- Environment Agency's Approach to Groundwater Protection.
- Wiltshire Council Drainage & Betterment Strategy (June 2024)

3.2 Site Area:

723m²

3.3 Building Footprint:

144m² (main house) & 28m² (detached garage)

3.4 Project Designation:

The proposal is to construct a single dwelling. Hard landscaping is limited to 18m² surface area and installed to permeable design detailing.

The Town and Country Planning (Development Management Procedure) (England) Order 2015 defines major development as development involving any one or more of the following– a) the winning and working of minerals or the use of land for mineral-working deposits; b) waste development; c) the provision of dwellinghouses where– i) the number of dwellinghouses to be provided is 10 or more; or ii) the development is to be carried out on a site having an area of 0.5 hectares or more.

The designation of these works is a **Minor Application**.

4.0 Design Principles:

4.1 The roof rainwater and surface drainage is to be collected using SuDS and not by traditional drainage methods (not routed via a mains piped system). The proposals are designed to retain the existing site surface natural water run-off and infiltration methods.

4.2 Rainwater collection:

Environment Agency's Approach to Groundwater Protection states:

"G12 - Discharge of clean roof water to ground The discharge of clean roof water to ground is acceptable both within and outside SPZ1, provided that all roof water down-pipes are sealed against pollutants entering the system from surface run-off, effluent disposal or other forms of discharge. The method of discharge must not create new pathways for pollutants to groundwater or mobilise contaminants already in the ground. No permit is required, if the above criteria can be met."

The rainwater pipes are specified to be sealed against pollutants (see drwg 4408 / D10) therefore no permit is required.

4.3 Rainwater & Surfacewater Runoff:

National Standards for Sustainable Drainage (and similar National Planning Policy Guidelines) requires the following hierarchy for run-off:

- priority 1: collected for non-potable use
- priority 2: infiltrated to ground
- priority 3: discharged to an above ground surface water body
- priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- priority 5: discharged to a combined sewer

Similarly, Wiltshire Council Drainage & Betterment Strategy also requires the following hierarchy:

- Rainwater re-use (rainwater harvesting/greywater recycling). Rainwater reuse should be utilised in conjunction with other SuDS features as it may not provide sufficient attenuation of design storm events in isolation.
- An adequate soakaway or other infiltration system
- Hybrid solution of infiltration and discharging to a surface water body
- To a surface water body (e.g. an ordinary watercourse)
- To a surface water sewer, highway drain, or other drainage system
- To a combined sewer

These proposals utilise Priority 3 (ground surface water body) for routed clean rainwater roof runoff to the existing adjacent surface/rain water culvert. The existing surface water currently infiltrates to the ground to the extent that the existing clay geology permits and incidentally already to the culvert via a land drain. The area served by the land drain is below the proposed garage footprint and so the outfall to the culvert is to be redirected for connection to the rainwater pipes via storm drains (see drawing 4408 / 10).

The site area is small and the proposed development does not utilise the Priority 1 designation – ‘collection for non-potable use’. There is no specific need for landscape irrigation, the site is not designated as seriously over-stressed, nor is there a need for supplying a catchment area.

The existing site geology (clay layer) and previous construction (Pear Tree House 2003) trial holes indicates that infiltration (Priority 2) will not be feasible. The intention is to carry out additional trial holes and a percolation test prior to commencement. If percolation is unexpectedly discovered to be of limited feasibility then a hybrid approach may be applied using mostly run-off to the culvert (ground surface water body) and soakaway (infiltration).

Existing ground levels are retained. The new house finished floor level is 79.850. Consequently, the existing run-off criteria rates are retained as existing and do not surcharge the existing drainage runoff method.

5.0 Soakaways:

As stated above, the use of infiltration for this site is high unlikely to be successful. However, as part of a low potential hybrid solution this section provides the design criteria for a soakaway, if at all possible.

In accordance with Wiltshire Council Drainage & Betterment Strategy a single dwelling can be served by a soakaway. The design and construction should be carried out in accordance with BRE Digest 365 and the Building Regulations Part H5.

Runoff from roofs can be discharged directly to a soakaway if percolation rates allow. Additionally, a minimum of 1m clearance between the base of the soakaway and the maximum groundwater level is required, taking into account seasonal variations to protect the groundwater from contamination.

Driveway and pathway surfaces are all to be permeable and installed to permeable design details (see drawing 4408 / D10) in accordance with National Standards for SuDS.

6.0 Conclusion:

The proposed drainage design is based on a minor application and makes use of existing run-off routes to the adjacent culvert. The surfaces finishes and build-ups are of permeable design. The need for control of permeable surfaces is therefore not required. Existing filtration to ground via soft landscaping areas is retained a part of the proposals. Roof clean rainwater run-off is to be routed to the existing adjacent culvert (to the east of the site) using an existing land drainage outfall location that is no longer required.

These proposals comply with the National (E.A. & Govt.) and Local Authority (Wiltshire Council LLFA) standards and guidance.