

Surface Water Drainage System Statement

Proposal: Detached 4no. bedroom dwelling

Location: Treetops, Fleet Hill
Finchampstead, Wokingham
RG40 4LE

Planning References: 220792
222089

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Document Reference: PCA22/2100/SWDS

Date: 1st August 2022

Introduction

This document supports a historical planning application 220792 and a more recent planning application 222089 at Treetops, Fleet Hill, Finchampstead, Wokingham relating to the construction of a 4no. bedroom dwelling.

This document answers condition 7 of application 220792 and supports application 222089.

Two percolation/soakage tests were carried out at the site and the results used to calculate the volume of soakaways required at the site. Tests undertaken and in accordance with BRE 365/SuDS.

The soils revealed by the investigation are loose dark grey sand with gravel and brick fragments to 200mm overlying medium dense brown/grey sand with scattered gravel. The tests indicated an Infiltration Rate (f) of 8×10^{-6} m/sec. The design is based upon a 100yr return storm with a 20% uplift for Climate change.

The hard standing and parking areas are to be provided with permeable paving. Keith Farquharson Associates have considered the surface water drainage for a drained area of 200^m² serviced by two soakaways.

In addition to the proposed surface water drainage system, it is proposed to harvest rainwater by means of two 800ltr water butts connected to the system and any excess water entered back into the system.

Proposed Surface Water Drainage System

The Existing Site

Treetops lies to the south of Fleet Hill, B3348, Finchampstead, Wokingham. The land area at Fleet Hill falls naturally to the east and mostly the south. There is no evidence of a surface water drainage system at the proposed site. Any surface water upon the site drains away naturally in particular to the south of the site. A ditch/water course running west to east within Fleet Hill Copse, lies at the south of the site and further south lies the river Long River, which is connected to the Colerbrook South Lake and other water scapes.

The Proposed Surface Water Drainage System

OSMA 112/150mm guttering, 68mm dia rainwater pipes.

68mm to 110mm underground drain adaptor connected to 110mm dia OSMA underground drainage pipe, connected to a 300mm dia silt trap complete with alloy screen mesh and silt bucket to remove any silt or sediment in the water, before connection to soakaway a minimum of 5m from buildings and boundaries.

The soakaway to be constructed with OSMA, Rainsmart, or similar crates, 24.2 tonne vertical load and 18 tonne per square metre lateral load, offering a heavy loading capacity to allow installation under gardens and driveways. To be complete with geotextile membrane to wrap all of the outward faces of the soakaway. With a void ratio of 95% the system ensures a large contact area for quick infiltration while allowing more water to be stored in less space.

See Keith Farquharson Associates Calculation for surface water disposal, which includes the necessary soakage tests undertaken.

Document Reference: S/082201.

Rainwater Harvesting

The proposed installation of 2no. 800ltr water butts within the site will complement the surface water drainage system.

Driveway, parking, patio and paths

All of these areas to have a permeable build up and finish.

Flood Map for Planning

See separate Environment Agency document.

Document Reference: Treetops Fleet Hill

Site Plan for Surface Water Drainage System.

A3 Drawing Reference: PCA22/2100/Site Plan/SWDS

Includes rain water harvesting by means of water butts.