Land Adjacent To The Spinney

1.0 DRAINAGE STRATEGY

1.1 General

1.1.1

The site area totals some 185m2 approximately.

1.1.2

It is proposed to manage development surface water run-off through the use of local surface water drainage systems. All untainted roof waters are proposed to be discharged directly to these dedicated systems.

1.2 Design Criteria and Allowances for Climate Change

1.2.1

The publication 'Sewers for adoption', 7th edition requires that surface water drainage systems for new developments should be designed to prevent pipe surcharging during a 1 in 2 year storm event. The system should also accommodate a 1 in 30 year event without surface flooding. During extreme wet weather events, it should be demonstrated that flood waters would be routed away from buildings, and not cause a nuisance elsewhere.

1.2.2

It is proposed that this development is designed to prevent flooding above ground level during a 1 in 100 year storm event with an additional allowance for climate change to the year 2115.

1.3 Applicability of Sustainable Drainage Systems

1.3.1

Current guidance and advice recommends that surface water run-off shall discharge to one of the following, listed in order of priority:

a) an adequate soakaway or some other adequate infiltration system, or where that is not reasonably practicable,
b) a watercourse, or, where that is not reasonably practicable,
c) a sewer.

1.3.2

A Sustainable Drainage Systems (SuDs) scheme will therefore be required to control discharge to an acceptable level. SuDs can incorporate some or all of the following:

- source control measures including rainwater recycling, green roofs and permeable pavements;
- wetlands providing both stormwater attenuation and treatment;
- infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities;
- swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns;
- filtration, through vegetation, shallow landscaped depressions and a sand bed providing high pollutant removal; and
- detention basins to hold excess water after rainfall which allow controlled discharge to avoid flooding.

1.3.3

In accordance with CIRIA C697 The SuDs Manual – Chapter 5 SuDs Selection, the application of these options is outlined below.

(i) The use of infiltration SuDs such as subterranean drainage blankets, soakaways and swales are likely to be acceptable throughout the site.
(ii) Source control methods such as rainwater harvesting and permeable pavements could be acceptable as part of the development.

1.4 Outline of Surface Water Strategy

1.4.1

Local infiltration rates are likely to be in the order of x10-6 m/s, as with the propensity of devoted ground water levels landscaped swales are likely to offer the most effective form of surface water drainage.

1.4.2

Infiltration testing should be undertaken to determine an accurate infiltration rate for design. This will enable a decision to be made on the most appropriate drainage system.

1.4 Outline of Foul Water Strategy

1.5.1

A foul water sewer is located approximately 20m to the southwest of the proposed development.

1.5.2

Peak dry weather flows for the proposed development will be in the order of 0.04L/s and therefore unlikely to prove a nuisance to the local system.

2.0 Conclusions

2.1
Infiltration testing should be undertaken to design surface water infiltration systems (detailed in section 1.4).

2.2
Winter ground water monitoring wells have been installed and a full data set has been recorded to inform the design of the surface water infiltration system.