Proposed Family Entertainment Centre,
Springfields Outlet Shopping & Festival Gardens,
Spalding, PE12 6EU

Surface & Foul Water Drainage Statement

For
UBS Triton Property Fund

Report Ref	Issue	Prepared by	Reviewed by	Date
P17-194-3E-00-XX-RP-C-9000	1	J Mitchell	S Thorpe	Sept 2017
	2	J Mitchell	A Cooper	Oct 2017

Client
UBS Triton Property Fund

3e Consulting Engineers Ltd
4 Calder Close
Calder Park
Wakefield
WF4 3BA

Tel : 01924 240420
Fax : 01924 240421

Proposed Family Entertainment Centre

Proposed Surface Water Disposal

The proposed surface water drainage system should seek to meet the requirements of the NPPF. Additionally, the current Building Regulations now requires disposal of new development surface water run off to discharge by infiltration (to ground), to watercourse or to surface water sewer in that order of priority.

Sustainable Urban Drainage Systems (SUDS) should also be used wherever possible to mimic as far as practicable the natural run off regime, improve water quality, reduce run-off volume and attenuate peak flows. These should be designed in accordance with the current guidance, Ciria C753 'The SuDs Manual'.

Previous ground investigations and a recent desk top study indicate that ground conditions are likely to support the use of soakaways for the disposal of surface water run-off. Significant depths of sandy silts and very silty clays are present within the site which appear to be laminated with sand partings. Monitoring indicates that the groundwater table is relatively high at approximately 1.3m below existing ground levels and may be affected by tidal influences.

There are no available watercourses within or adjacent to the site boundary into which surface water could be disposed. An existing private surface water drainage system is present within the Springfields Outlet Shopping Centre, however, this system is attenuated and ultimately pumped off site to the south.

Historical drainage records confirm that the existing land uses, including the playbarn building, discharge surface water run-off to ground via a network of gravel lined trenches. These significant lengths of gravel trenches are all interconnected and serve to attenuate surface water flows before being discharged to ground.

It is intended to utilise these existing drainage systems to serve the proposed new development. The existing playbarn, once converted into an American Diner, will utilise all existing connection as will the adjacent hard paved areas.

All new impermeable areas will be served by additional infiltration trenches constructed in new locations determined by the proposed levels scheme. These will be constructed as per the existing trench network and will consist of 500mm wide x 750mm deep trenches lined with geotextile and filled with 14-22mm clean pea gravel. Permeable pavements will also be utilised where feasible to maximise infiltration.

It should be noted that there are no flooding issues present on site resulting from the existing drainage infrastructure. Furthermore, the additional impermeable areas will be minimal compared to the existing drained areas.

As no formal parking/washing/vehicle repair facilities are proposed then we do not consider any petrol/oil interceptors are required as part of this development.

Proposed Foul Water Disposal

Foul water flows from the existing playbarn building currently discharges into the Springfields Outlet Shopping Centre drainage system via a package pumping station. This pump station is located immediately to the south of the building with the rising main passing over the existing bridge structure.

All foul water flows from the Springfields Outlet Shopping and Festival Gardens discharge into an adopted Anglian Water pumping station and are discharged off site to the south.

It is proposed to re-use the majority of the existing pumped foul water system for all foul water discharges from the proposed development.

The current proposals will add several new WC's and wash basins together with additional food prep areas and associated pot wash facilities.

Given the additional inflows, it is likely that the existing pump station will need to be upgraded to provide additional flow rate and/or additional storage within the wet well.

It is unlikely that any additional peak flow rate will be observed at the adopted Anglian Water pump station downstream due to the distance travelled and attenuation within the below ground gravity drainage network.

It is also noted that the Wastewater Treatment Centre has available capacity to serve the development.

Grease/fat traps and/or enzyme dosing measures will be provided above ground within the proposed American Diner kitchen area.

No trade effluent discharges are proposed from the development.