

Case Study

Berewood Phase 2, Hampshire

SDS installs surface water runoff treatment system at residential development



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SDS Systems

SDS Aqua-Swirl® Hydrodynamic Vortex Separators.

Client

Careys.

End Customer

Grainger plc; Hampshire County Council.

Project

Residential development with over 2,500 homes.

Purpose

To provide a high quality, sustainable community that integrates positively with its environmental context.

Brief to SDS

To integrate best-in-class, below ground manufactured Sustainable Urban Drainage Systems (SuDS) with above ground vegetative SuDS amenities.

Timing

Construction of the whole development began in 2012 and is scheduled to continue until 2021; this second phase commenced in late 2017.

Project Background Information

The 500 acre "Newlands" residential development at Berewood, Hampshire, is the largest of its type in the UK and, once completed, will accommodate over 2,500 homes, supported by a range of amenities and around 100,000m² of employment land.

Project Objectives

To minimise the site's impact on its natural surroundings and deliver ecological benefit to the locality.

Project Requirements

To provide pollution prevention services whilst developing a new wetland resource of substantial ecological and amenity value.

Phases of consented land are being released to housebuilders only after the supporting infrastructure has been installed, for which SuDS are considered a priority. As each phase is launched, further SuDS will be installed, with developers integrating the existing surface water drainage scheme into each of the housing and commercial packages.

SDS Product Features

SDS has worked closely with Consulting Engineers, Mayer Brown, to establish the key design criteria for the site's sustainable drainage systems. This has resulted in the adoption of a "SuDS management train" approach, whereby a series of drainage techniques are used to change the flow and quality characteristics of the runoff in stages. In this latest phase, surface water runoff from the roads and the housing development construction site is first cleaned before entering one of seven separate ponds and swales that have been landscaped into the development.

Capacity

A network of 4 SDS Aqua-Swirl® model AS-2 and 3 SDS Aqua-Swirl® model AS-3 Hydrodynamic Vortex Separators has been installed.

Issues Overcome

SDS Aqua-Swirls® were selected due to their ability to surpass Environment Agency required standards, thereby maximising pollution mitigation.

It has also been a requirement of the manufactured features of the scheme that they are capable of performing their role of controlling water not only upon final completion of the development but also during its periods of construction, i.e with a substantially higher level of water-bound contaminants than might normally be expected.

Paul Stewart, Technical Director, Mayer Brown, said: *"Specifying SDS Aqua-Swirl® hydrodynamic separators gave us added flexibility to engineer high-performance water quality protection upstream of SuDS ponds for the latest phase of the Berewood development. SDS's bespoke inhouse manufacturing facilities, together with a wide choice of product sizes and outlet pipe diameters, allowed us to minimise the sizes of the devices we required. With the added benefit of the Aqua-Swirls® lightweight plastic construction, we were therefore able to reduce excavation and construction costs significantly."*

