Case Study

Ashley Down Station, Bristol

SDS mitigates environmental impact of recommissioned railway station

Image kindly supplied by BAM Nuttall.

SDS Systems

SDS GEOlight® Tank;
SDS Aqua-Swirl® AS-2 Hydrodynamic Vortex Separator;
SDS SYMBiotIC™ Management Control;
SDS Weholite Flow Control Chamber.

SDS Customer

BAM Nuttall.

Client

Network Rail;
Bristol City Council.

Project

New, access-for-all station at Ashley Down, part of Phase 2 of the MetroWest Rail Improvement Programme.

Purpose

To drive economic growth and de-carbonise the transport network by providing the local population of north-west Bristol with a greater choice of faster, more environmentally friendly access to the city centre and the surrounding region.

Brief to SDS

To deliver a surface water attenuation and treatment system at Ashley Down Station.

sdsinfrastructure.com

SDS Limited, Clearwater House, Castlemills,
Biddisham, Somerset BS26 2RE

T: +44 (0)1934 751303
E: info@sdsinfrastructure.com

Part of SDS Water Group

Company Registered in England & Wales. Registered Number: 04433740

Timing

Construction on-site commenced in late February 2023 with installation of SDS products in July. Completion of the station is scheduled for 2024.

Project Background Information

The West of England Combined Authority*-funded MetroWest will transform rail travel in the region, generating over 2.7 million new rail journeys and giving up to 100,0001 more people access to train services, whilst helping to offset 500 tonnes of carbon dioxide a year by 2030.

One of seven new railway stations to be built in the region over the next five years, the new station at Ashley Down is part of the wider MetroWest 'Phase 2' scheme which will reintroduce passenger services on the Henbury Line, an existing freight-only line. This scheme focuses on increasing the frequency of rail services from Bristol to Yate and its new stations are projected to save 7 million minutes of travel each year, through more efficient journeys, with 1.3 million people expected to travel on the new rail services each year.

Ashley Down is located on the site of the previous Ashley Hill Station, which closed in 1964 in the "Beeching cuts," and will support the development of more than 8,500 new residential properties in the area.

Project Objectives

To maintain continuous rail service operations by ensuring the new station is not exposed to flood risk and to protect the local environment and watercourses from waterborne pollutants.

Project Requirements

To ensure that, despite its location in a lowrisk flood zone, the station's hard and soft landscaping, including platforms, pedestrian footpaths and cycleways, cycle shelter and car park, along with newly introduced green areas are able to accommodate intense rainfall events without risk of flooding and pollution of the local environment.

SDS Product Features

Using a sensor and transmitter aerial fitted to the Aqua-Swirl® Hydrodynamic Vortex Separator, SDS SYMBiotIC™ will provide live information on the level of silt that has built up in the device in order that the timing for its routine extraction and disposal can be optimised.

The installation also includes a Flow Control Chamber, manufactured from long-lasting Weholite HDPE material, which was delivered pre-built to site.

Issues Overcome

A Landscape Plan, created with input from Bristol City Council's Ecologist and Landscape Architect, was required which will allow the site to be sensitive to the existing habitat and ecology. Planting should include native flowering hedges, meadow grassland, spring flowering bulbs, trees and shrubs, whilst bird and bat boxes will be placed within the access improvement scheme area.

Additional safe working procedures were required to account for the steeply sloping and potentially unstable railway embankment, with accessibility made more difficult in parts due to dense, unkept vegetation, particularly along the drainage route.

Results

SDS successfully met the requirement to complete its works on site within a single day.

* The project partnership includes the West of England Combined Authority working with Bristol City Council, Network Rail, Great Western Railways and contractors BAM Nuttall.

[1] Source: travelWEST

Richard Averley, Sales & Marketing Director, SDS, said: *"The MetroWest project is vastly important to both BAM's clients and the travelling public as it is to BAM Nuttall. It will enable residents in the area to access train services locally, thereby improving connectivity to employment, business, entertainment and leisure avenues, at the same time reducing congestion and pollution. As a trusted supplier SDS has delivered a novel and cost-effective surface water storage and treatment solution which we were able to install in a single day thereby limiting its impact on BAM's own tight construction schedule."*

Image kindly supplied by BAM Nuttall.

Image kindly supplied by MegaTech Projects Ltd.

Ashley Down is the second of the first two new rail stations that will be opened in Bristol for almost a century.

sdsinfrastructure.com

SDS Limited, Clearwater House, Castlemills, Biddisham, Somerset BS26 2RE

T: +44 (0)1934 751303
E: info@sdsinfrastructure.com

SDS WATER Part of SDS Water Group

Company Registered in England & Wales. Registered Number: 04433740