

PLACE DES FARINEAUX, BRUAY-SUR-L'ESCAUT, FRANCE

Installing buried infiltration tanks with oil-biodegrading aquatextiles



Industry: Site development
Sub-industry: Stormwater management
Location: Bruay-sur-l'Escaut, France
Product: OSMORIA™ Geoclean®

of two buried attenuation and infiltration tanks below the town hall's Place des Farineaux. The project was managed by AMODIAG Environnement and executed by RAMERY under the supervision of the local land use planning authorities (DDTM).

Overview

In July 2019, a project was undertaken in Bruay-sur-l'Escaut, France, to construct a sustainable water pollution control solution utilizing OSMORIA Geoclean oil-biodegrading aquatextile. The aim was to mitigate stormwater volume in the town's sewage network and reduce annual discharge from stormwater overflows. This initiative involved the installation

Disconnect networks and infiltrate runoff at source: the SIAV's preferred solution for better stormwater management in the city center of Bruay-sur-l'Escaut.

CASE STUDY

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Challenge

Bruay-sur-l'Escaut faced a significant challenge in managing stormwater runoff from urban areas, including car parks, roads, pavements, and roofs. The runoff water was contaminated with oil leaks and other pollutants, increasing the burden on the town's sewage system and resulting in frequent stormwater overflows. The objective was to develop a solution that could effectively manage the runoff, reduce pollutant levels, and ensure sustainable infiltration into the ground. Traditional hydrocarbon separation techniques were either inefficient or costly in maintenance, necessitating an innovative approach.

Solution

The solution involved the construction of buried infiltration tanks made with crates, integrating OSMORIA Geoclean Origin aquatextile. The runoff water, polluted with oil and other contaminants, was collected in injection wells equipped with total suspended solid (TSS) filters like MEAPUR. The water was then directed into two underground attenuation tanks before infiltrating the ground.

The tanks featured an Ultralight Alveolar Structure placed on a drainage gravel layer, providing a total infiltration area of approximately 1,300 m² at the tank bottom. These Sustainable Drainage Systems (SuDS), around 60 cm high, could store about 780 m³ of partially polluted water.

The aquatextile, designed to fix hydrocarbons and Polycyclic Aromatic Hydrocarbons (PAHs) and enhance their biodegradation, wrapped around the crates on the tank bottom and vertical walls. Polluted water percolated through the aquatextile, which captured hydrocarbons in its oleophilic continuous filaments. The purified water then flowed through a drainage gravel layer, infiltrating the soil with a residual hydrocarbon content of less than 0.7 mg/L.

The choice of OSMORIA Geoclean aquatextile was ideal due to its low operating cost, maintenance-free nature, and superior pollutant treatment compared to other methods. The project effectively addressed the challenge, ensuring sustainable stormwater management and pollution control in the urban setting of Bruay-sur-l'Escaut.



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