

COMMERCIAL CAR PARK, THOUARÉ SUR LOIRE, FRANCE

Managing polluted stormwater from an impervious car park surface



Industry: Site development
Sub-industry: Stormwater management
Location: Thouaré sur Loire, France
Product: OSMORIA™ Geoclean®

due to the low permeability of the subsoil, which limited the amount of rainwater that could infiltrate. The solution involved a buried attenuation tank designed to store and infiltrate runoff water from the car park.

Overview

In January 2019, a project was undertaken in Thouaré sur Loire, France, to create a new commercial area with a 120-slot car park and roads for restaurants. The project required an effective stormwater management solution

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CASE STUDY

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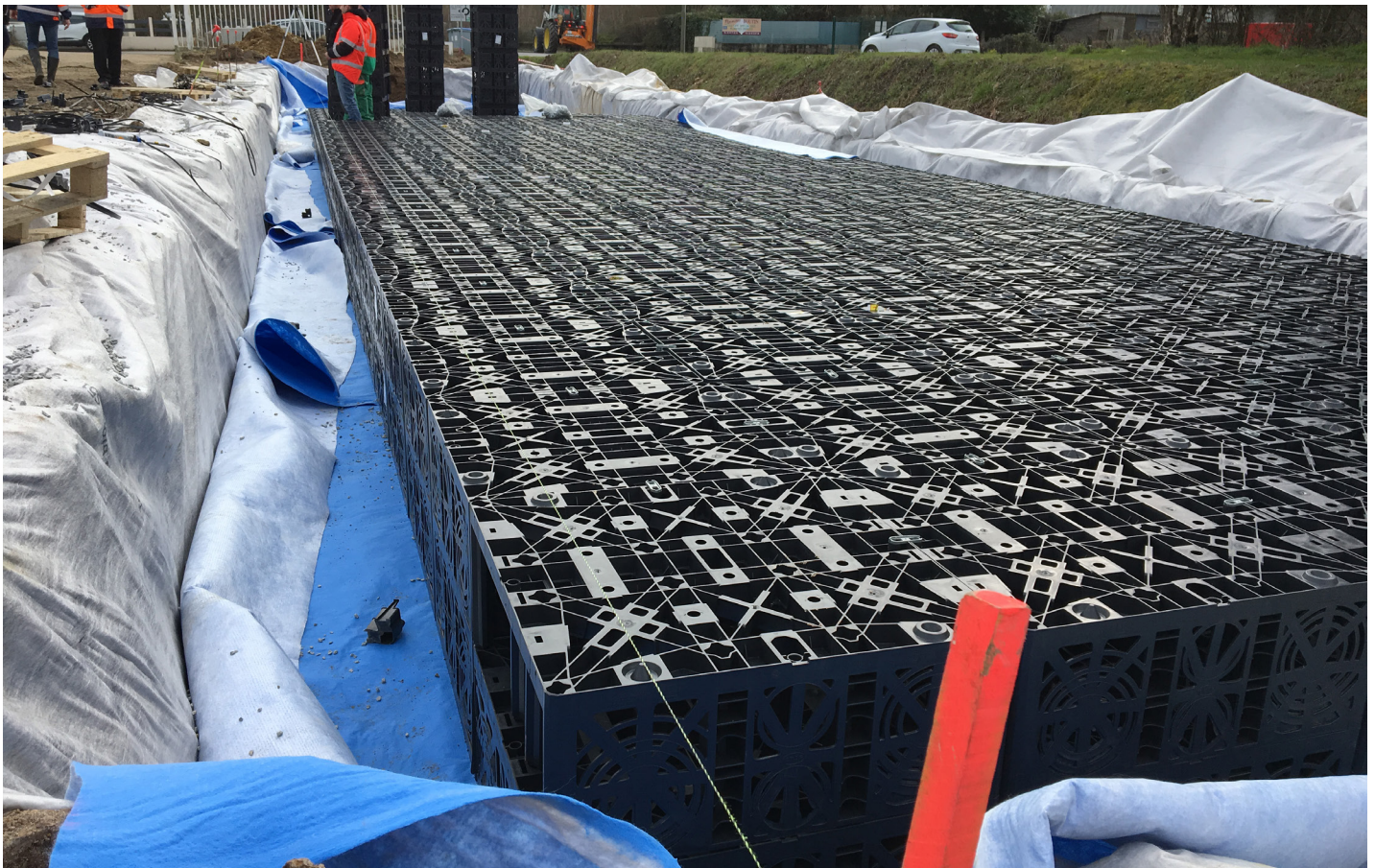
Challenge

The main challenge was to manage the runoff water from the impervious pavement, which was polluted by hydrocarbon leaks from traffic. The low permeability subsoil in the area allowed only a limited amount of rainwater to infiltrate. This necessitated a robust stormwater management system to collect, store, and treat the polluted runoff water effectively. Additionally, the system needed to ensure long-term functionality by continuously degrading the trapped hydrocarbons.

Solution

The solution implemented was a buried retention basin, approximately 30 m long, 1 m wide, and 6 m deep, consisting of an Ultra-Light Alveolar Structure made with crates. The basin was surrounded by draining gravel and included the installation of OSMORIA™ Geoclean® oil-biodegrading aquatextile at the

interface between the structure and the gravel. The runoff water collected from the car park was directed through a network of pipes to the retention basin. The aquatextile, with its oleophilic continuous filaments, trapped hydrocarbons as the water percolated through it. Clean water was then collected into the gravel layer and infiltrated into the soil with a residual hydrocarbon content of less than 0.7 mg/L. In case of rising water levels in the tank basin, an outlet pipe regulated the water volume, directing the clean water to the rainwater collective network. The natural growth activator on the surface of the aquatextile's continuous filaments facilitated rapid colonization by micro-organisms in the soil and water, which degraded the retained hydrocarbons and maintained the retention capacity of the aquatextile over the long term. A MIRAFI™ Bidim® separation geotextile was also laid between the gravel and the natural soil to ensure effective soil separation. The use of OSMORIA Geoclean aquatextile was particularly suitable given the urban environment and limited traffic of light vehicles in the area.



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