

La Bassée Pilot Site

Project management of a flood storage site on the River Seine - Geotechnical aspects

2017 – On-going



FRANCE - Seine-et-Marne
Client

EPT BASSIN SEINE
GRANDS LACS

Partners

Setec Organisation
Setec Hydratec

Amount for Terrasol's services
200 k€

Landmarks

8 km of dykes



Overview

The La Bassée pilot site is the first of 9 flood storage sites on the River Seine, which will eventually store 55 Mm³ of water and limit the impacts of floods like the flood in 1910 in the Paris region. This project is located upstream of the confluence of the River Seine and the River Yonne, between the communes of Montereau-Fault-Yonne and Bray-sur-Seine.

The pilot site alone will be capable of storing 10 Mm³. It consists of 7.9 km of dykes, 2 to 3 metres high, of a 40 m³/s pumping station and of outlet structures enabling the site to be drained by gravity once the flood has passed.

The project includes various actions aimed at improving and enhancing the ecological context of the Bassée valley.

Key points of Terrasol's assignment

- Geotechnical summary, combining geophysical and geotechnical surveys
- Dyke design
- Analysis of the materials

Assignment

In partnership with SETEC HYDRATEC, Terrasol's assignment involves carrying out all the geotechnical studies for the design of the dykes, together with their connections to the pumping station and ancillary structures. This assignment is part of a comprehensive project management mission, from preliminary studies to commissioning of the works.

Two main topics were addressed during the study phase: the first, a purely geotechnical topic, consisted of analysing and optimising the dykes, whereas the second topic focused on studying their constituent materials.

Terrasol's involvement from the very beginning of the project enabled the alignment to be adapted to limit the impact on neighbouring areas (railway line, bridge pier, etc.), and the ground investigations to be optimised by cross-referencing geophysical and geotechnical surveys along the entire length of the alignment.

Furthermore, through studying the stability of the dykes (punching, settlement, stability against major sliding and hydraulic checks), judicious adjustments could be proposed for the construction measures to be planned along the alignment (slopes, relief wells, cut-off walls, etc.).

Lastly, Terrasol assisted the Owner in seeking out materials, by defining the requirements, potential procurement sources, temporary storage facilities and by providing assistance and support in discussions with other public stakeholders in the Paris region.