

# Le Havre - Place Jenner storage and outlet basin

Capacity: 50,000 m<sup>3</sup>



## Country

France

## Client

Communauté  
d'Agglomération Havraise

## Date

2005-2010

## Cost of works

€32m exc. VAT

## Sogreah's services

- Design services and project supervision

## Aims

The purpose of this basin is to:

- regulate the discharges flowing in the networks in Place Jenner and past the skating rink in Rue Louis Blanc,
- store overflows from the separate networks into the relief sewer in Rue Louis Blanc,
- limit flooding risks due to the inadequate hydraulic capacity of the networks downstream.

## Description

- Capacity: 50,000 m<sup>3</sup>.
- Structure:
  - Depth: 33 m,
  - Diameter: 50 m.
- Entirely buried structure in an urban site at the exit from a road tunnel (vehicles circulating around the square).

- Diaphragm wall construction.
- Cast-in-place pile foundations.
- Construction of a new stormwater drain in Place Jenner.
- ND 1,800 gravity-flow drainage gallery excavated with a TBM over a distance of 900 m underneath the existing Jenner tunnel; additional drainage by pumping to an existing main.
- Creation of a pressure relief chamber designed for 15 m<sup>3</sup>/s to a height of 30 m.
- Construction of a machinery building away from the basin, connected to it by a tunnel excavated under the road without interrupting traffic circulation.
- Architectural treatment of the machinery building.

## Constraints

Sogreah designed these structures taking into account the following constraints:

- Extent: the structure is situated on the central island of Place Jenner roundabout.
- Traffic: dense traffic circulation around Place Jenner; the site installations had to be positioned elsewhere and linked to the work site by a gangway.
- Operation: the basin includes a set of equipment to ensure the safety of operating staff and keep their presence inside the basin to a minimum.
- Geotechnical conditions, due to the presence of two aquifers and particularly hard ground.

4610242/GNB/VHD/ebd/0409



**Equipment**

- Ventilation / deodorising system to avoid having to treat toxic gases such as CH<sub>4</sub> and H<sub>2</sub>S.
- System of valves for isolating and emptying the basin.
- Screening system.
- Pumping systems for additional emptying.
- Stirrers.
- Hoist and monorail for handling equipment.

- Tilting bucket system for cleaning the basin.
- Instrumentation system for measuring flow rates, water depths and gas concentrations in the various structures.

A physical model (hydraulic scale model) was built in Sogreah's laboratory in order to check the hydraulic operation of the feeder system for the basin and pressure relief chamber.

