

Rental of a complete dewatering solution simplifies residential construction in Cádiz

The Spanish construction company Obenasa was contracted to build a multi-family residential building in the Southern city of Cádiz. Situated on a plot of just under 6'000 m², the building was to have two basement levels; one situated a full meter below the phreatic level. Working at this depth would require constant pumping of considerable amounts of water, with any failure posing risks to the foundation's structural stability.



“Sulzer provided valuable support in achieving a successful pumping operation. They have well-proven solutions and trustworthy experience. Sulzer’s people ensured successful pumping with immediate results.”

Sergio Romanos, Site Manager, Obenasa – Grupo Obras Especiales



Construction site located a full meter below the phreatic level

The challenge

Excavation for the two basement levels of the 135-apartment residential building required a maximum digging depth of -9.50 m. Given that the phreatic level was -5.0 to -5.5 meters, this meant fighting both produced and accumulated water.

A further challenge was the long-term nature of the project. To protect the structure’s stability, pumping would be required constantly for many months. Also, the location of the pumping wells had to be planned so that they would not interfere with the building work.

The solution

As a first step, a laboratory made tests to determine the water volume to be pumped. Using this information, the location of the wells was planned so that they would not disturb the construction work.

Sulzer designed the system with 14 high-capacity drainage wells and pumps, connected by two high-volume water collection pipes surrounding the site. Each pipe passed through a settling tank that safeguarded the pumps by removing sand and fine solids.

Customer benefit

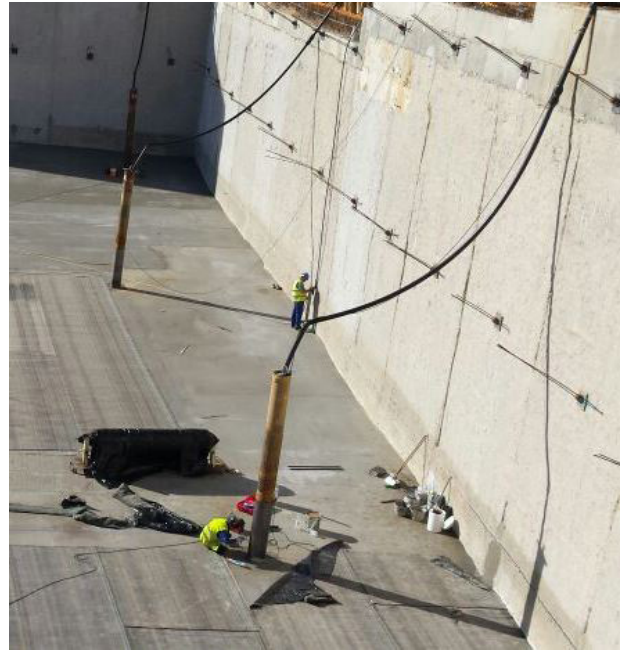
- The entire system was supplied, run and maintained by Sulzer on a rental basis.
- The Sulzer solution was immediately successful in lowering the phreatic level.
- The dewatering system kept the water away for the entire eight-month building phase.
- Obenasa was able to work without water-related delays or structural risks to the finished building.

The Sulzer difference

- Sulzer has extensive experience in the dewatering of construction sites, as well as a deep understanding of the behavior of produced and accumulated water.
- Sulzer provides robust dewatering pumps for continuous operation under tough conditions, but also a full range of control and monitoring solutions to ensure the most effective operation.
- Sulzer offers large and long-term dewatering solutions on a rental basis.

Scope of delivery

- Setup of 14 drainage wells (drilling and sheathing in DN 320 mm)
- Supply and installation of surrounding collection pipe in HDPE DN160 and DN 200, plus valves and meters
- Eight-month rental supply of
 - 14 submersible dewatering pumps JC 54 ND
 - 2 GSM control panels controlling seven pumps each



Installation of drainage wells and dewatering pumps

For any inquiries please contact

manuel.olmo@sulzer.com

[sulzer.com](https://www.sulzer.com)

A10217 en 11.2024, Copyright © Sulzer Ltd 2024

This case study is a general product presentation. It does not provide a warranty or guarantee of any kind. Please contact us for a description of the warranties and guarantees offered with our products. Directions for use and safety will be given separately. All information herein is subject to change without notice.