



Project Prinses Amaliahaven

Emission-free drainage in port of Rotterdam

The Prinses Amaliahaven is part of Maasvlakte II in Rotterdam. For the expansion of the container terminals, 2.4 kilometres of new quay wall are being built here. To realise this on dry ground, Henk van Tongeren Water & Techniek provides drainage. For this, they use 138 electric piston pumps, which are powered by green energy, with additionally installed on-site solar panels and wind turbines. As a family business, they attach great importance to sustainability. That is why this project touches the heart of their business.

The project summarised

- 2.4 kilometres of quay wall will be built
- 138 electric piston pumps pumping the area
- 12,000 kWh generated per Green PowerBox® per year
- 10 million m³ of water pumped per year
- 67 monitoring wells with realtime groundwater level registration
- Start installation of drains: summer 2021
- Pumping operational until April 2024



About the project

It is complex to build several kilometres of wall in a place that is currently sea. Yet Henk van Tongeren Water & Techniek realises the optimal conditions for this. And without any CO₂ emissions either! Many kilometres on both the land side and the water side are provided with drains connected to piston pumps. This will pump around 10 million m³ of water entirely electrically every year, so that the quay wall can be realised on dry land. Real-time monitoring keeps an eye on everything and allows for quick adjustments. By realtime monitoring is also prevents unnecessary groundwater withdrawals. This is better for the environment and costs less energy!

Environmental concerns

Henk van Tongeren Water & Techniek is using only electric pumps for this project. That makes a huge difference in terms of CO₂ emissions. When pumping, water management is of course always important. The less water is pumped, the better it is. Thanks to its knowledge of the subsoil, drainage techniques and pumping techniques, the family business always looks for an optimal installation so that as little water as possible is extracted. Water is always discharged first via infiltration into the soil in the immediate vicinity. If that does not work, the preferred method is discharge into nearby surface water. Only if this is not an option will discharge to the sewer be considered. As patent holder of DSI return drainage (FHVI – Fast High Volume Infiltration), the phenomenon to infiltrate water in a sustainable way, Henk van Tongeren Water & Techniek likes to be at the forefront in this field.

Reuse of dewatering materials is important for waste reduction. Filters can last up to 10 times. Another point of attention is standardisation of materials, so that components can be exchanged easily between drainage systems. Repairing dewatering materials is also done regularly in the company's own workshop. Many pumps are overhauled; the pump housing and frame can sometimes last 50 years with a new motor!

The Green PowerBox® is used to drive the electric pumps in the self-sufficient construction site. This box can generate sustainable, green energy at (remote) locations where large amounts of energy are required. Perfect for working emission-free as well as significantly reducing total energy costs on site. The Green PowerBox® is an intelligent, mobile energy solution that allows Henk van Tongeren Water & Techniek to meet their project's energy needs quickly, green and sustainably. The box provides electricity based on solar and wind energy.





People come first

When it comes to social sustainability, Henk van Tongeren Water & Techniek has also been making great strides for years. For example, by setting up an education programme for lifelong learning. From primary school (What is 'Holland waterland'? How do we ensure a bright future together?) to secondary school and practical education. It is also an ideal way to reach people from other professions who want to retrain.

Through the partnership Draisma Dynamo Verbindt, Henk van Tongeren Water & Techniek organises activities in the broadest sense for various target groups, including people with disabilities. In this way, the company wants to contribute to people in Apeldoorn society. In addition, the family business sponsors various local (sports) initiatives, as well as initiatives that help the unemployed or people with disabilities. Because everyone deserves a place in society!

