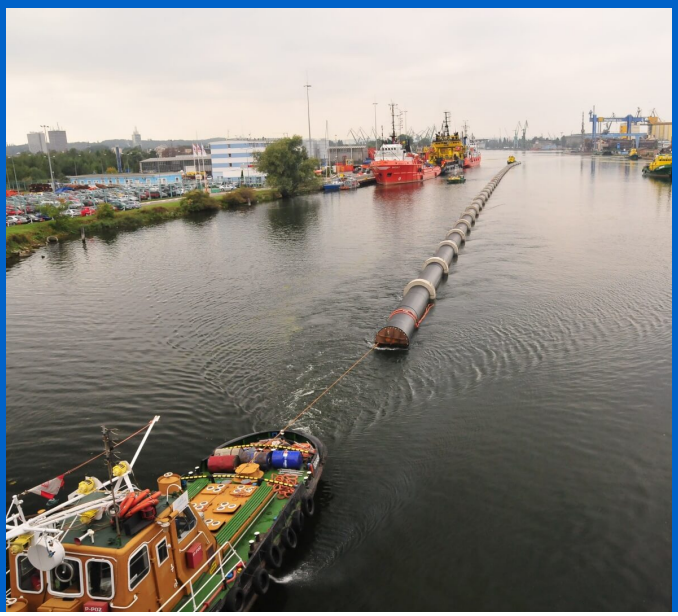
References

Sea outlet - discharge of stream water into the Gdańsk Bay part 2



Uponor involvement

- WehoPipe pipes dn1600 PE100 PN6 SDR26 - 1158 m; dn800÷1000 - 47 m Weho manholes dn1000÷1600 – 9 pcs. and special fittings -19 pcs.

Sea outlet - discharge of stream water into the Gdańsk Bay part 2

A project to convey Sopot area stream waters further out in the Gdańsk Bay was initiated. It is another environmentally friendly project where PE pipes were used.
Sopot, a seaside city and spa resort, is a tourist destination, which together with the neighbouring Gdańsk and Gdynia, form the Tri-City conurbation with a population of over one million. This health-spa and bathing resort town has attracted visitors ever since its first spa opened in the 16th century. Ever since then, the rich and famous have built their mansions in Sopot. It also attracts investors. Intense development is taking place on the waterfront, with new spa resorts and luxurious hotels being built. Like any other tourist destination, Sopot needs to invest in infrastructure to protect the environment.

Project Facts:

Location
Sopot, Poland

Completion
2012

Building Type
Municipal

Product systems
Tailor made constructions

Project Type
New building

Partners

Investor:
Municipality of the city of Sopot
Contractor:
Consortium of
comapnies: Hydrobudowa S.A.
Gdańsk/PRCIP Sp. z o.o. Gdańsk

A project to convey Sopot area stream waters further out in the Gdańsk Bay was initiated. It is yet another of the many environmentally friendly projects that have recently been carried out in Poland. Like other projects aiming to make local water and sewer systems compliant with strict EU standards, the success of this project also depended heavily upon the quality of the materials used, as well as the reduction of cost and construction time. The use of WehoPipe PE-HD pipes made it possible to fulfil all of the requirements.

Construction of a marine outfall is the first and most vital stage of a larger project called ‘‘Protection of Gdańsk Bay waters – construction and modernisation of the storm water drainage system in Sopot’’. Two separate collecting systems "A" and "B" are created for Sopot streams and two double-pipe discharge pipelines are installed deep into Gdańsk Bay, 345 – 375 metres away from the outfalls located on the beach. In 2009 Uponor Infra delivered PE WehoPipe dn1600mm PN6 SDR26 pipes for discharge pipelines and WehoPipe pipes of diameter 1200 ÷ 1600 mm for land part of the piplines for the project.

The second Project entitled ‘‘Protection of Baltic coastal waters -NEFA BALT II" included among others the construction of outlet system ‘‘C’’ discharging water from Sopot stream into the Gdańsk Bay,consisting of the land part pipeline of the length of 407,5m and two discharge pipelines of the length of 375m each. In 2012 Uponor Infra delivered for that Project: PE WehoPipe dn1600mm PN6 SDR26 pipes.
Uponor Infra also supplied a wide range of non-standard inspection chambers, sedimentation chambers and special fittings. The contract also obliged the company to provide welding machines and installation crew, who made most of the joints.

Land section

Having been manufactured in the Uponor Infra factory in Kleszczów near Bełchatów, the pipes were transported to the construction site in 15-metre segments, which were joined by butt welding on the Sopot beach. These several tens of metres long welded, ready-to-install segments were then moved to the construction site and lowered into trenches. In the trenches, individual segments were connected with one another using flange joints.
The pipeline project also included inspection and sedimentation chambers, which were made – as prefabricated components – of pressure pipes with eccentric manhole risers (inspection chambers) or symmetrical ones with straight stubs (sedimentation chambers).

Marine section

Two discharge pipelines with the length of 375m each and diameter of DN/OD 1600 mm were butt welded directly next to the river Martwa Wisła (Dead Vistula).The pipelines were then fitted with end closures, ballasted with reinforced concrete weights and towed by tugboats to Gdańsk Bay. The trenches had been dug in Gdańsk Bay and water was pumped into the pipelines in order to sink them. The last installation phase was under water and involved joining the pipelines with outlet chambers and receiving tanks, which connect outlets with the pipelines installed on the beach. In spite of periodically unfavourable weather conditions, the whole operation was smooth and easy. The installation phase of the project was finished in the end of 2012.

Excellent properties of PE pipes

Polyethylene pipes are flexible, which makes them easily adaptable in various soil conditions and increases their resistance to vibrations, load and soil movement. Due to their low weight, PE pipes are easy and quick to install. They can be manufactured

in considerably longer lengths than traditional pipes, which significantly shortens the installation time. What's more, polyethylene pipes have superior chemical resistance and don't corrode, which is a key factor when it comes to applications in salt water. Therefore, PE-HD pipes are the perfect solution for marine projects.

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