



uponor

Retention sewage canal

Simple and effective solution
for storm water management

Retention sewage canal

The efficient way to solve the hydraulic overload problem is an innovative retention sewage canal developed by the scientists of the Rzeszów University of Technology in cooperation with the engineers of Uponor Infra. The retention sewage canal simultaneously performs two functions in the sewage system: a hydraulic one, related to the transport of a specific amount of sewage, and a retentive one which makes it possible to collect a periodical excess of incoming waste storm water from the catchment area. Observations of storm water flow prove that even during extremely intense precipitation sewers are not entirely filled and there is a certain reserve of the hydraulic capacity. The solution uses this capacity to retain waste storm water. It is retained in sewage canals with adequately calculated and expanded inner cubic capacity provided for the periodical storage of the sewage.

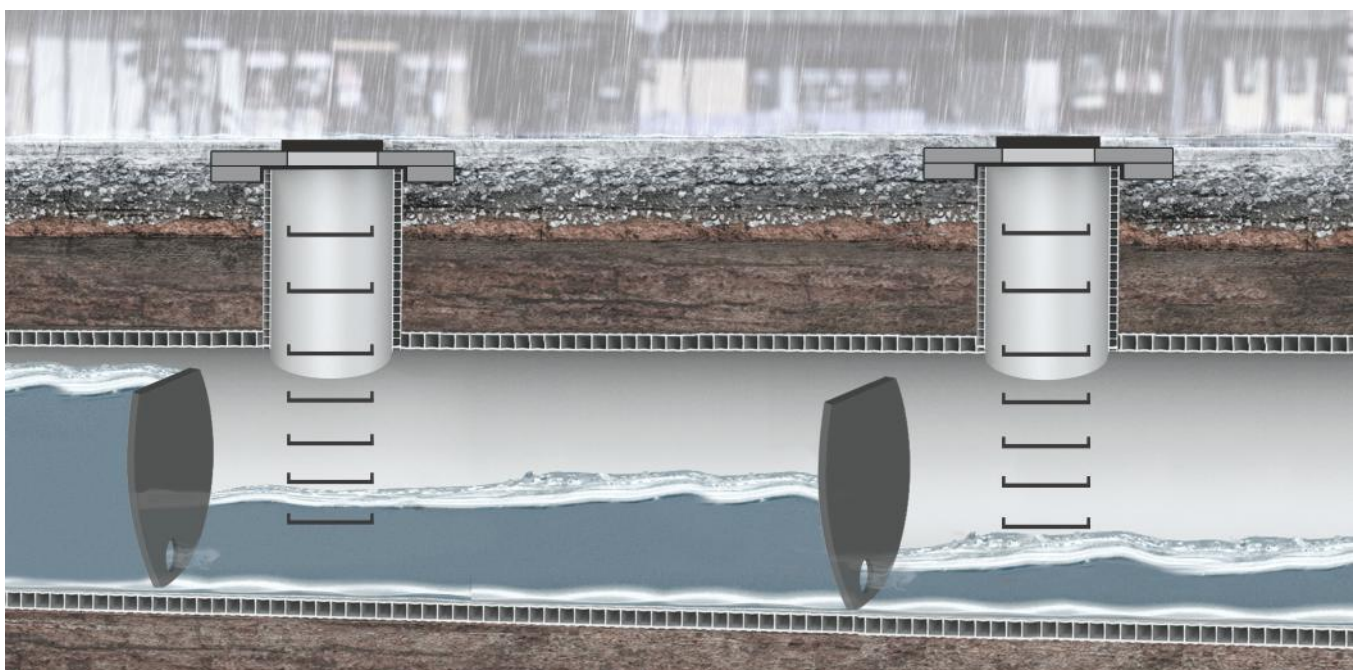
This solution is unique in that the internal space of the canal is divided into chambers by means of baffles installed above the sewer bottom to form flow-through openings. In every case, the spacing of the baffles and the size of the flow-through openings in the baffles are tailored to the individual circumstances. It is also recommended that emergency holes should be developed in the upper baffle section, enabling discharge of the effluent excess to a subsequent chamber and protecting the structure against the impact of pressure.

The retention sewage canal is built using structural pipe of the Weholite system made of homogenous high-density polyethylene (PE-HD) with the diameter to DN 3,000 mm and the ring stiffness to SN 16 kN/m². Joining of the pipes and installation of the baffles are performed by the extrusion welding method which ensures inseparability of joints and 100% leak tightness during the entire life cycle.

ADVANTAGES OF RETENTION SEWAGE CANAL

- Use of free capacity of canals to store waste water
- Reduction of retention facilities' construction costs
- Maintenance-free and automatic operation
- Use of available types of pipes as chambers of the retention sewage canal.
- Possibility to expand the system by additional elements under subsequent projects
- PE-HD technology makes it light (easy to install, transport and unload), durable, flexible, resistant to impacts, resistant to abrasion, corrosion and chemical agents.
- Sewage canal elements are connected by the extrusion welding method which ensures inseparability of joints and 100% leak tightness during the entire life cycle.

In collaboration with the Rzeszów University of Technology, Uponor Infra is capable of providing comprehensive and informed subject-oriented assistance in the process of retention sewer designing. We make the best of our highly qualified scientific and engineering staff as well as state-of-the-art design tools ensuring fully professional choice of design parameters adapted to all investment performance conditions.



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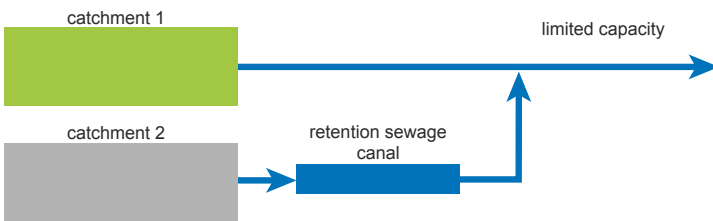
Range of applications

The use of retention sewage canal solves a number of problems related to the discharge of storm water from urbanized areas, especially in a situation when there is no possibility of local storm water management and infiltration. The use of retention sewage canal is particularly justified in cases of:

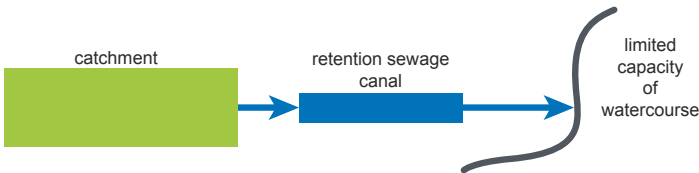
- joining existing sewerage network of the new catchment and the introduction of new amount of sewage
- preventing hydraulic overload of existing networks and sewage facilities
- regulating the outflow of waste water into surface water.



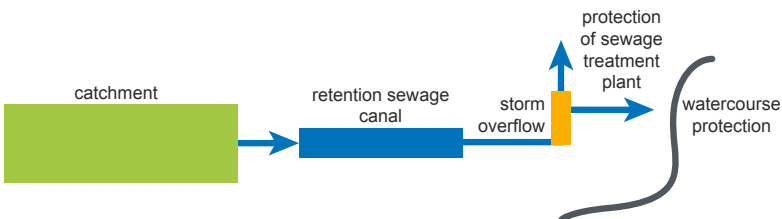
Adjusting outflows from the catchment to the existing sewer systems



Adjusting outflows from new catchments to the existing sewer systems



Adjusting outflows from the catchment to watercourse



Adjusting the number of sewage discharges to watercourses



There is no room for installation of tanks

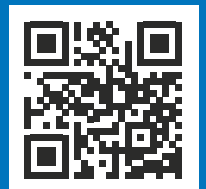
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