

LEACHATE TREATMENT PLANT IN CATANIA

The project involves the construction of a leachate treatment plant serving the entire landfill site located in c.da Codavolpe (CT), owned by Sicula Trasporti.

In the authorized treatment plant the leachate coming from the landfill is processed as follows:

- equalization and preliminary sedimentation of rough materials of coarse solids;
- ultrafiltration;
- 3-stage reverse osmosis;
- reverse osmosis at high pressure (for concentrate).

The leachate is temporarily stored inside the storage units and it is pumped inside an equalization tank which has buffer function to homogenize the wastewater to be treated inside this tank, moreover, the sedimentation of the suspended solids of larger dimensions takes place.

From the tank, the leachate is pumped into the filtration section, for the separation of the remaining suspended solids; the permeate from this treatment step is pumped into a feed tank for the subsequent reverse osmosis phases, while the UF concentrate is sent back into the accumulation tank.

The UF permeate then undergoes reverse osmosis treatment divided into three distinct phases; in each of them, in any case, the pressure applied to the fluid allows the separation of dissolved solids in the passage through the membranes.

Finally, from the third reverse osmosis stage, the permeate, which is purified from all the polluting components of the untreated leachate, is discharged into the underground storage tank. The treatment plant is completely automatic and also provides the possibility of remote control and telediagnosis; the plant is equipped with one MMI interface and SCADA system.

DESIGN DATA

Private client

SICULA TRASPORTI s.r.l.

Type of service Executive planning and construction management

Project cost € 4.100.000,00

Location c.da Grotte S. Giorgio, Lentini (SR)

Design period

October 2018 - August 2019

TECHNICAL DATA

Treatment capacity

500 m³/day

Clarified permeate

430 m³/day

Amount of concentrate

70 m³/day

