SEWAGE TREATMENT PLANT IN CATANIA

The plant is placed within a very strategic area because it's near the port of Catania, well served by the railway tracks. The platform is designed to treat both oily emulsions and the so-called bilge water that may come from the nearby port area of Catania. The system can also treat hazardous and non-hazardous liquid waste from the industrial centers of eastern Sicily (e. g. Priolo Gargallo, Siracusa, Gela, etc.).
The plant architecture provides the possibility to treat wastewater of different nature on separate lines. A first slurry line will be devoted to the treatment of sewage with a high organic load (such as the food industry waste and the spoils of septic tanks), for which an initial solids separation by grill and a physical - chemical pretreatment in clariflocculator are provided. A second process line will be dedicated to acidic and alkaline wastewater, for which a preliminary neutralization and the physical-chemical treatment in clariflocculator are provided. Finally, A third line slurry will be suited for the treatment of liquid waste with a high content of oily emulsions, bilge water and so called "recalcitrant" waste (such as surfactants) and a sedimentation with intercepting of oil and a preliminary oxidation with Fenton reagent are provided. After the different stages of pre-treatment, all the sewage lines are equalized and subjected to biological treatment with activated sludge. Subsequent steps of denitrification and final sedimentation are then provided. Finally, the tertiary treatments provide a filtration with sand and activated carbon and a final UV disinfection. The sludge line is constituted by a mechanical dewatering for the chemical-physical sludge and a thickening followed by aerobic stabilization and mechanical dehydration for the biological one. All plant sections are equipped with air suction devices in order to reduce VOC emissions.

DESIGN DATA

Private client
WISCO s.p.a.
Tasks assigned and carried out Final and executive design, Environmental Impact Assessment and Integrated Environmental Authorization application
Cost € 6.150.772,56
Location Catania
UTM Coord. (Zone 33S) 506,715 E - 4,148,950 N
Site area 11.000 m²
Design period 2010

TECHNICAL DATA

Operations according to Encl. B and C referring to Part IV of Law Decree No. 152/06 (D.Lgs. 152/06) and further amendments D8, D9, D15
Maximum potential 225.000 m³/y; 750 m³/d
Working days per year 350
Treatment sections
preliminary solid separation with grill
acidic and alkaline waste neutralization
Sand and oil separation
Biological treatment with activated sludge with denitrification section
final sedimentation
UV disinfection
sludge line thickening, aerobic biostabilization and mechanical dehydration.
ACCESSORY EQUIPMENT
Air treatment fan system and air treatment from plant
Section with higher production of odorous substances 45.000 Nm³/h
Biofilter surface 400 m²