



# Aquaviva urban wastewater treatment plant



With the wastewater treatment plant designed in 1977 no longer meeting European standards, SIAUBC (Syndicat Intercommunal d'Assainissement Unifié du Bassin Cannois – Intercommunal Syndicate for the Unified Sanitation of the Cannes Basin) signed a concession in 2009 to build and operate a new plant with Eau France (operations) and its partners SUEZ, Triverio and GTM (design-build). The new plant, named "Aquaviva", will have a capacity of 300,000 PE and treat up to 8,800 m<sup>3</sup> of wastewater per hour. Thanks to its technical performance and cutting-edge response to environmental requirements, Aquaviva will be the world's first carbon-neutral wastewater treatment plant.

It will feature a combination of ambitious and innovative technologies:

- the Ultrafor™ process, which eliminates twice the amount of pollution required by statutory regulations. Water thus treated can be re-used to water golf courses and green spaces, for cleaning, irrigation, etc.
- on-site sludge drying, which reduces evacuated tonnage by a factor of five
- processes to recover the heat contained in wastewater and sludge
- an eco-designed service building and visitor center built in compliance with high environmental quality standards (HQE)
- 4,000 m<sup>2</sup> of photovoltaic panels.

\* Towns served: Auribeau-sur-Siagne, Cannes, Le Cannet, Mandelieu-la-Napoule, Mougins, Pégomas, La Roquette-sur-Siagne and Théoule-sur-Mer

# the Ultrafor™ process

Ultrafor™ is a wastewater treatment process (municipal and industrial wastewater) that uses ultrafiltration membranes. It combines biological treatment with membrane filtration and can be customized to fit any size facility.



Ultrafor™ incorporates biological treatment by activated sludge with clarification by immersed membrane ultrafiltration. Water to be treated enters a reactor where it is put in contact with a purifying bacterial mass before passing through the membranes.

## a boosted removal of SS

- Ultrafor™ functions according to the **Out-to-In principle of immersion filtration**; in other words, a filtration flow from the outside to the inside.
- The membranes are **assembled in modules and set within racks**, which are placed next to each other in an **immersion tank**.
- These **hollow-fiber membranes**, manufactured by GE, have a nominal pore size of 0.035 µm, which creates a **physical barrier** to eliminate bacteria and helminth eggs and reduce fecal coliforms.

## Ultrafor™ advantages

- production of high-quality effluent
- protection of the natural environment and its biodiversity with effluent compliant with discharges into sensitive areas
- protection of resources thanks to the possibility of re-using effluent for irrigation, watering of parks and green spaces, etc.
- compactness to reduce plants' environmental footprints
- fully automated operation for operator safety

## plant features

project period

**42 months**

## capacity

- off-peak: **33,000 m³/d**
- mid-peak: **52,000 m³/d**
- peak: **86,000 m³/d**

## water treatment objectives

- BOD<sub>5</sub>: **10 mg/l** i.e. 95% efficiency
- COD : **50 mg/l** i.e. 95% efficiency
- SS : **5 mg/l** i.e. 90% efficiency
- Fecal coliforms: **100 / 100 ml**
- Total coliforms: **500 / 100 ml**
- E. Coli : **250 / 100 ml**
- Intestinal enterococci: **100 / 100 ml**

## sludge and air treatment line

- Volume treated: **15 T DS/D**
- Dry solids content: **90 %**
- Odor control: 2 series of 3 towers

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Since March 2015, all the Group brands (Degrémont, Ozonia, Aquasource, Ondeo IS, Ameriwater, Infilco, Poseidon...) became SUEZ.

Meanwhile, from now own, the technologies and know-how of our Treatment Solutions offer will be distinguished with the label degrémont®.