



# Municipal Drinking Water Purification Plant in Griñón – Madrid

1/2



Location	<b>Griñón (Madrid)</b>
Customer	<b>Aguas de la Cuenca del Tajo S.A.</b>
Date of adjudication of contract	<b>4th of October of 2004</b>
Construction period	<b>22 months</b>
Capacity	<b>940 l/s</b>
Budget	<b>11.700.287 €</b>

The works in this project included:

- Design of process, civil engineering and electromechanical equipment.
- Connection catch pit in the Guadarrama Artery from which an 800 mm diameter cast collector runs to the catch pit connecting with the waste water treatment plant.

- Joining of the inlet collectors, Guadarrama Artery collector and the P-4, P-4bis and P-6 pits (the last with a new conduit from the 5,900 m<sup>3</sup> tank to the waste water treatment plant) in a connection catch pit within the waste water treatment plant.
- The building of a drinking water treatment plant for a flow of 940 m<sup>3</sup>/s, enlargeable to 1,200 m<sup>3</sup>/s.
- Building of a balance tank of 21,000 m<sup>3</sup> on the site of the waste water treatment plant.
- Pumping of water to the existing 5,900 m<sup>3</sup> tank and connection to supply Batres by reversing the direction of flow in the current Ø 450 mm fibre cement pipe that fills this tank from the current Ranney well.
- Pressurising of the Griñón system by pumping to retire the current tanks in the Calle del Agua.
- Connection from the new 21.000 m<sup>3</sup> tank to the water distribution system for the population of the Fundación Sur by common pumping with the above point.



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2/2



- Connection from the new 21.000 m<sup>3</sup> tank by pumping to the pipework of the “Confederación Hidrográfica del Tajo Ø 800 Fundación Sur” to supply the Getafe tank. The flow in this pipework can be reversed on occasions to fill the 21.000 m<sup>3</sup> tank, using the existing hydrostatic pressure.
- Pipe from the plant to the nearby canyon to the 5.900 m<sup>3</sup> tank for general outfall from the waste water treatment plant.
- Connections for services, electricity, drinking water, telephone, vehicle access and sewerage.
- Repositioning of services affected by the work.
- Test operation and maintenance for six months

## Designed solution

The treatment line proposed for the waste water treatment plant consists of one water line and one sludge treatment line with the following installations and processes:

## Water Line

- Connection catch pit.
- Mixing and flocculation.
- Reagent storage and dosing.
- Space for future expansion to insert a flocculator and a laminar decanter.
- Filtering (enlargement planned).
- Disinfection and distribution.

## Sludge line

- Pumping to recover filter washing water.
- Laminar decanting and return of clarified water to treatment head.
- Homogenisation of decanted sludge.
- Sludge thickening by floatation.
- Homogenisation and de-gassing of thickened sludge.
- Centrifugal drying.
- Storage of dried sludge.