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Civil Works/ Hydraulic infrastructure

Expansion of the irrigable area of the Guiamets Reservoir, Tarragona

Client

Department of Agriculture, Livestock, Fishing and Food (DARP) of the Generalitat de Catalunya

Work period

November 2019 – March 2022

Cost

€1,381,990 (excluding VAT)

Scope

Expansion of the irrigable area of the 200.74 ha reservoir, by means of 2 new networks.

Location

Tarragona

Description of the work

Expansion of the irrigable area around the 200.74 ha Guiamets Reservoir, by means of 2 new networks located in the north (152.64 ha) and the south (48.10 ha). The main crops are grapevines, cherry, olive and almond trees. To allow for the increase in irrigation, it is necessary to modify the pumping equipment of the Tosseta pumping station, replacing 390 ml of the discharge by increasing the pumping capacity from PN16 to PN20, and implementing a new pumping system in the southern area.

Piping: New branch to the northern network; formation of new supply networks (secondary and tertiary) for the northern and southern areas. The solution chosen is PN 10-16-20-25 PEAD pipes. In total 34,800 ml.

Earthworks: 12,000 ml track opening; level excavation (18,000 m3); bed formation with material from the excavation (6,700 m3) and 20 cm surrounding filling (10,400 m3).

The works at the Tosseta pumping station are: replacement of valves and flanges to bring them up to PN25; replacement of PN16 surge tanks with PN25; installation of a pressure regulating valve downstream from the connection of the pipe leading to the northern sector, by means of an inverted siphon.

The new pumping system for the southern sector consists of 2+0 75 kW split-chamber pumps, equipped with Ø100 and PN25 discharge pipe.

Hydrants: 2-4" grouping and 1-6-10 dams (in total 15 hydrants), with a total of 86 dams with the corresponding hydraulic valves.

The work is finalised with the electrification of the Tosseta pumping station, the implementation of the new remote control for the new equipment and networks and the application of corrective environmental impact measures.