



Castilla-La Mancha



UNIÓN EUROPEA

Una manera de hacer Europa



BUENAS PRÁCTICAS

Actuaciones Cofinanciadas

Construction of Wastewater Treatment Plants (WTP)
Group in Sisante (Cuenca)
Castilla-La Mancha Water Agency

Programa Operativo de Castilla la Mancha

Año 2019

Fondo Europeo de Desarrollo Regional

It is presented as a Best Practice by Castilla-La Mancha Water Infrastructures (CLMWI), Public Law Entity attached to the Castilla-La Mancha Water Agency, the construction of Wastewater Treatment Plants (WTP) Group in Sisante (Cuenca).

The action presented consists on co-financing the construction by ERDF of a Wastewater Treatment Plant (WTP) for each of the municipalities of Sisante, Casas de Benítez and Pozoamargo, all of them in Cuenca province, a Pumping of Residual Waters (PRW) in Casas de Benítez, as well as the collectors that direct the discharge to the plant, collectors emitting up to the point of discharge, as well as accesses, electrical connection installations and potable water connection, which guarantees the total treatment of the wastewater produced in the mentioned populations.

The eligible cost has been € 9.438.962 with a € 7.551.170 contribution from the European Regional Development Fund (ERDF).

As a consequence of this action, these three municipalities have been contributed to accomplish their water purification needs, as well as protect their 2,786 inhabitants' health.



This action is considered as Best Practice because:

1st. The ERDF's role has been suitably disseminated among the beneficiaries, potential beneficiaries, and the general public:

Minimum advertising requirements have been met so that the action is financed by European cohesion policy. Specifically, while workings, work posters have been placed, and once completed, permanent plaques have been carried out, , in each of three WTPs

EDAR DE SISANTE



EDAR DE CASAS DE BENÍTEZ



EDAR DE POZOAMARGO



Apart from the above, Castilla-La Mancha Water Agency has given due information on the actions carried out on its European Funds website:



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NOMBRE DE LA OPERACIÓN	COSTE PÚBLICO SUBVENCIONABLE	AYUDA FEDER	DESCRIPCIÓN ADICIONAL
OBRAS DE CONSTRUCCION DE LAS EDARES DE SISANTE, CASAS DE BENITEZ Y POZOAMARGO (CU)	9.438.962,89	7.551.170,31	<p>La actuación engloba la ejecución de las obras de las estaciones depuradoras de aguas residuales de los municipios de Sisante, Pozoamargo y Casas de Benítez (Cuenca). Con ella se conseguirá que los parámetros de vertido al medio de las aguas residuales de los citados municipios cumplan con la directiva comunitaria 91/271/CEE, con el fin de proteger el medio ambiente y la calidad de las aguas. La tecnología y capacidad de tratamiento de cada una de las infraestructuras es la siguiente:</p> <ul style="list-style-type: none">• EDAR Sisante: Aireación prolongada (reactor biológico-Carrusel - 2 líneas) para tratar 7.500 habitantes equivalentes.• EDAR Pozoamargo: Aireación prolongada (reactor biológico-Concéntrico - 1 línea) para tratar 2.067 habitantes equivalentes.• EDAR Casas de Benítez: Para la llegada del caudal de agua bruta a la planta es necesario una EBAR previa a la EDAR. La tratamiento de la EDAR: Aireación prolongada (reactor biológico-Concéntrico 1 líneas) para tratar 4.000 habitantes equivalentes. <p>Las depuradoras cuentan con línea de tratamiento de fangos de deshidratación mediante centrífuga o tornillo prensa en función de la EDAR.</p> <p>La actuación incluye además la ejecución de todas conexiones externas necesarias para su funcionamiento (línea eléctrica, colectores, agua potable, acondicionamiento de camino, etc.)</p>
REDACCIÓN DE PROYECTOS Y OBRAS			<p>La actuación engloba la ejecución de las obras de las estaciones depuradoras de aguas residuales de los municipios de Santa María del Campo Rus, Pinarejo, Osa de la Vega, Tresjuncos, Fuentelespino de Haro y Montalbanejo (Cuenca). Con ella se conseguirá que los parámetros de vertido al medio de las aguas residuales de los citados municipios cumplan con la directiva comunitaria 91/271/CEE, con el fin de proteger el medio ambiente y la calidad de las aguas. La tecnología y capacidad de tratamiento de cada una de las infraestructuras es la siguiente:</p>

In addition, a brochure has been published informing about the performance and its co-financing by ERDF, which was distributed on the day of the inauguration of the facilities:



Infraestructuras
del Agua de
Castilla-La Mancha



Agencia del Agua
de Castilla-La Mancha



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Estaciones Depuradoras de Aguas Residuales Urbanas de Sisante, Casas de Benítez y Pozoamargo.



EDAR DE SISANTE



EDAR DE CASAS DE BENÍTEZ



EDAR DE POZOAMARGO

INVERSIÓN REALIZADA: 10.908.150,55 €

CAUDALES DE DIMENSIONAMIENTO			
	Sisante	Casas de Benítez	Pozoamargo
Número de habitantes equivalentes	7.500	5.256	2.067
Caudal diario agua residual (m³/día)	1.500	788	310
Caudal máximo a pretratamiento (m³/h)	187,5	75	38,8
Caudal máximo a biológico (m³/h)	150	60	31

PARÁMETROS DEL AGUA A TRATAR			
	Sisante	Casas de Benítez	Pozoamargo
DQO (mg/l)	600	800	800
DBO ₅ (mg/l)	300	400	400
Sólidos en suspensión (mg/l)	300	205	320
Nitrógeno Total (mg/l)	60	60	80
Fósforo (mg/l)	7	10	15

PARAMETROS DE CALIDAD DEL AGUA DEPURADA			
	Sisante	Casas de Benítez	Pozoamargo
DQO (mg/l)	125	125	125
DBO ₅ (mg/l)	25	25	25
Sólidos en suspensión (mg/l)	35	35	35
Nitrógeno Total (mg/l)	15	15	15
Fósforo (mg/l)	2	2	2

LINEA DE TRATAMIENTO			
	Sisante	Casas de Benítez	Pozoamargo
Tanque de tormentas	9.000 m³	500 m³ 556 m³ (E.B.A.R.)	303 m³
Tratamiento biológico	Reactor tipo carrusel (2 líneas)	Reactor tipo concéntrico	Reactor tipo concéntrico
Deshidratación de fangos	Espesador + Centrifuga (5,5 m³/h)	Espesador + Prensa de Tornillo 70 kg Sólido Seco / Hora	Prensa de Tornillo 70 kg Sólido Seco / Hora
Otros Sisante	BOMBEO DE PLUVIALES: 936 m³/h (3 Uds. 2+1) IMPULSIÓN: 8.280 m. Tubo Fund. Ø 400 mm. COLECTOR DE HORMIGÓN ARMADO: 1.450 m. Ø 1.500 mm. GRUPO ELECTROGENO: 650 KVA EDIFICIO DE CONTROL Y LABORATORIO		
Otros Casas de Benítez	E.B.A.R.: BOMBEO de 95 m³/h (2 Uds. 1+1) GRUPO ELECTROGENO: 66 KVA.		
Otros Pozoamargo	BALSA DE INFILTRACIÓN		

And a project video has been made, which has been disseminated on two YouTube channels; one from Agricultural Engineers Official College in Albacete, with one of its members who has carried out works project management, and other one from Eiffage Energy, a company that has been part of the joint venture that has carried out the work:

<https://www.youtube.com/watch?v=1rrne3S282w>
https://www.youtube.com/watch?v=IUUqcjF_Ka0



2nd. The action incorporates innovative elements:



These infrastructures have opted for new technologies that guarantee resources more efficient management and autonomous service.

An example of this is WTP Sisante exploitation building where automation system is located, from which facilities operation can be controlled, process variables can be modified, operating data can be collected and even remotely operated on three WTPs equipment.

3rd. Adaptation of obtained results to established objectives:

Thanks to this action, used water is being poured into the receiving medium in an optimal state, complying with discharge parameters established by water regulations.

Apart from the above, it has been possible to eradicate some health problems arising from poor soil treatment and improve Júcar River environmental quality.



4th. Resolution contribution of a regional problem or weakness:



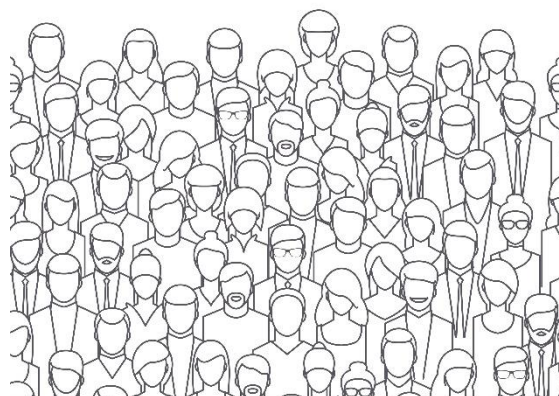
In wastewater treatment field, Castilla-La Mancha has two clear problems: on the one hand, the entire population of the region does not have a treatment system. On the other hand, also a consequence from the previous one, Castilla-La Mancha and, by extension, Spain, does not comply with European regulations on wastewater management, which is why it has received several calls for attention.

These three municipalities did not have an adequate treatment system, which caused them significant environmental consequences, even being sanctioned. Starting-up this WTP group responds to regional weakness in wastewater treatment.

5th. High target population coverage:

Main beneficiaries of the action are all inhabitants of the three municipalities where WTPs have been built, which now have modern treatment facilities adapted to their current and future growth needs.

Together, these WTPs are capable of attending to a residual water volume of 2.410 cubic meters per day, being able to serve up to an equivalent population of 13.567 inhabitants.



6. The horizontal criteria for equal opportunities and non-discrimination, environmental sustainability and/or social responsibility have been taken into account:

Today, water is conceived as heritage, constituting a social, environmental and economic asset directly related to citizens well-being. Undoubtedly, protection and conservation of this resource is present in all Castilla-La Mancha Water Infrastructures actions as it is one of fundamental objectives it pursues..

In turn, during the execution of these infrastructures, governed within the scope of public procurement, it has been guaranteed throughout the contractual process the achievement of certain social, environmental and equal opportunity objectives: both in the award process, taking into account strictly technical criteria in valuation, solvency and selection of contracting company, without discrimination based on gender, as well as strict control of compliance with contract conditions during its execution..

In the same way, it must be borne in mind that a WTP is an excellent example of circular economy in which water is treated and discharged into the channel while using the solid waste generated by WTP itself as composting. This creates a virtuous circle both from a purely economic point of view and from an environmental point of view too.

7. Synergies with other public intervention policies or instruments:

The action carried out is part of the Purification Plan for Castilla-La Mancha, which involves an investment of more than 600 million euros, from private sector and ERDF funds. This plan seeks to alleviate the problems that our region presents in wastewater treatment (those already exposed to provide a treatment system for all the populations in the region and comply with European regulations on wastewater management).

To achieve this double objective, Castilla-La Mancha Regional Government has established a concessions system, in such a way that companies that develop the project in turn they also create around 5,000 jobs. Thus, in addition to fulfilling the “moral duty” of cleaning sewage, employment is created and economy is stimulated.



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