



Concrete and Special Formwork



Water tank with 7,5000 m³ capacity, in reinforced concrete

Alto de Santa Catarina, Linda-a-Velha, Oeiras (Portugal)

Description of Work

Construction of a new tank in reinforced concrete, consisting of two cells of 5,000 m³ each, next to the existing Final Reservoir of the Western Adductor.

It is a reservoir made up of two square-shaped cells with a unit capacity of 5000 m³ to store drinking water.

The main works in this endeavor are as follows:

- Earthmoving works with emphasis on rock excavation;
- Construction works in reinforced concrete;
- Supply and installation of carbon steel pipes and electromechanical equipment;
- Supply, assembly in cast iron piping (FFD) in ditch;
- Execution of rainwater drainage;
- Execution of connections to existing hydraulic circuits;
- Electrical, instrumentation and safety installations;
- Installation of a telemanagement system;
- Exterior arrangements.

The contract included the supply and assembly of all associated electromechanical equipment.



Main quantities

Excavation: 4.500 m³

Structural fill of the cell foundation, switching chamber and access road 10,000 m³

Landscaping of the enclosure perimeter 11,500 m³

Cyclopean concrete to reinforce the cell foundation and maneuvering chamber 2500 m³

Structural Concrete C35/45 XC4 e C40/50 XA2 1800 m³

Cleaning concrete for leveling foundations 200 m³

Concrete reinforcement 240.000 kg

Formwork 6000 m²

Interior waterproofing of the entire Reservoir (2 cells) 5000 m²

Work Summary

Client	SIMAS Oeiras e Amadora
Contract Type	Lump Sum
Construction Period	2021 - 2023
Cost	€ 2 048 910,91



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Water tank with 5,000 m³ capacity, in reinforced concrete

Alto do Cotão, Cacém (Portugal)

Description of Works

Seth was awarded the contract for the construction of the 3rd cell of 5,000 m³ of the “Alto do Cotão” reservoir, in the parish of Cacém, municipality of Sintra.

With an execution period of 7 months (210 days), the works involved the execution of surveys, general earthworks, reinforced concrete structures, pipes and accessories.

The solution found for the reservoir was the construction of a prefabricated reservoir measuring 55 m long by 17 m wide, in order to take advantage of the available area for implementation.

The location and type of land required the sanitation of the foundations and the execution of cyclopean concrete to guarantee the threshold level of the deposit.

Various drainage works, exterior repairs and paving were carried out.

The works also include the connection to the supply and distribution ducts, as well as all the accessories and valve of the control box.

Main Quantities

- Excavation: 5.400 m³
- Landfill: 1.500m³
- Structural Concrete C40/50: 400 m³
- Cyclopic Concrete C16/20: 650 m³
- Construction Armor: 50.000 Kg
- Pre-fabricated Reservoir: 5000 m³

Work Summary

Client	Marfer / Univ Católica / Montepio
Contract Type	Lump Sum
Construction Period	2021 – 2022
Cost	€ 1 019 265,05





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New Barlavento Water Tank Reserve at Northwest Faro

Espargal, S. Sebastião, Lagos (Portugal)

Description of Work

Construction of a new water tank in reinforced concrete, consisting of two square-shaped cells with a unit capacity of 5,000 m³ each one, next to the existing Final Reservoir of the Western Adductor.

The main works in this endeavor are as follows:

- Earthmoving works with emphasis on rock excavation;
- Construction works in reinforced concrete;
- Supply and installation of carbon steel pipes and electromechanical equipment;
- Supply, assembly in cast iron piping (FFD) in ditch;
- Execution of rainwater drainage;
- Execution of connections to existing hydraulic circuits;
- Electrical, instrumentation and safety installations;
- Installation of a tele-management system;
- Exterior arrangements.

The contract included the supply and assembly of all associated electromechanical equipment.

Main quantities

- General Excavation – 13.640 m³
- Concrete type C30/37 – 3.135,00 m³
- Total weight of steel – 377 ton
- Total formwork area – 9.450 m²



Work Summary

Client	Águas do Algarve, SA
Contract Type	Lump Sum
Construction Period	2020 - 2022
Cost	€ 2 565 000,00



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Civil Works for Desulphurization Plant, at the Thermoelectric Power Plant, Sines EDP Sines (Portugal)

Work Carried Out

The desulphurisation project for the Sines Thermoelectric Power Station consists of implementation of four limestone/gypsum wet flue gas desulphurisation (wet FGD) units, one for each of the respective electricity generators. The desulphurisation process basically consists of removal of the SO₂ from the combustion gases through reaction with an alkaline absorbent, obtaining gypsum as a sub-product.

The main components of the desulphurisation system are indicated hereunder, complete with the associated civils:

- Combustion Gas System: construction of ventilator foundations and reinforced-concrete pipeline supports.
- SO₂ Absorption System: foundations of the absorbers, pumping wells, sundry foundations for equipment.
- Limestone Storage System: very large foundation for two steel limestone tanks, three foundations for ball mills, well to house the limestone unloading system and conveyor belt for transport to the tanks, all the surrounding building and foundations for various items of equipment.
- Gypsum Storage System: construction of a reinforced-concrete silo, diameter Ø24 m, height 40 m, capacity 9,000 m³.
- Desulphurisation Liquid Effluent Treatment System: construction of 2 decantation tanks, 10 square tanks, sludge building, electrical building and sundry retention basins.
- Ancillary Energy Systems: building for an ancillary boiler and sundry basins. Electrical and Central Command Building: construction of a building with basement to house the electrical switchboards, laboratory, command and control room, etc.
- Compressed Air Systems: construction to four buildings next to the generators to provide compressed air to the desulphurisation system. To support the sundry pipework a Pipe Rack was build from the 4 units to what is known as the common zone.

Ancillary work included sundry drainage, landscaping and paving.



Work Summary

Client	Consórcio Hitachi - Coba
Contract Type	Lump Sum
Construction Period	2005 - 2008
Cost	€ 14 000 000,00

Major Quantities

- Excavation: 160.000 m³
- Landfill: 95.000m³
- Structural concrete C35/45: 25.000m³
- Lean concrete C12/15: 8.500m³
- Formwork: 48.000m²
- Construction rebar: 2.600.000kg
- Sundry steel elements: 400.000 kg

