Irrigation & drainage infrastructure

- **Anthili & Roditsa Irrigation Networks Upgrade Study, Fthiotida (2023):** This project involved comprehensive studies and tender document preparation for upgrading and undergrounding existing irrigation networks across roughly 3,800 acres. The scope covered hydraulic, electrical/mechanical, topographical, agro-economic, environmental, and geotechnical analyses for both irrigation and drainage systems. Client: Ministry of Rural Development & Food.
- **Design of Asopos dam necessary works in the prefecture of Korinthos and of related irrigation works (2024)**

  The subject of the study is the design of land improvement projects in the Corinth region for the utilization of the Asopos reservoir for irrigation (total surface of 6.700 ha) and for artificial enrichment of the underground aquifer of the lowland area.

  Client: Directorate of Flood Control & Land Reclamation Works (DAEE), Ministry of Infrastructure & Transport

- **Water pumping from the Pinios River for irrigation of the areas of the Koiladas Municipal District of the Municipality of Larissa & the Koiladas Municipal District of the Municipality of Krannonas, Municipality of Kileler (2025)***

  The subject of the study is the design of:
  - a pumping station on the bank of the Pinios River for the abstraction of water, during the winter period, with a total volume of 3,000,000 m^3,
  - an irrigation reservoir in the Koilada Municipality, with a capacity of 1,500,000 m^3, with parallel construction of a pumping station and an underground irrigation network with a total length of 3,495.97 m. The total irrigated area amounts to approximately 400ha
  - an irrigation reservoir in Agii Anargyri area, in the Municipality of Krannonas, with a capacity of 1,500,000 m^3, with parallel construction of a pumping station and an underground irrigation network with a total length of 4,576.14 m. The total irrigated area amounts to approximately 500 ha.

- **Update of the final design study of water transportation and distribution works of Karla Lake Water (2018):** The project focused on updating the final design study and preparing tender documents for Phase A of the Karla Lake water transfer and distribution works. Key components included:
  - Irrigation Infrastructure: Designing extensive irrigation distribution networks (total length of 25,400 m) for 27,200 ha, including a distribution pumping station with six pump sets and large regulation reservoirs (52,000 m^3 storage).
  - Supporting Networks: Developing associated drainage and agricultural road networks within these zones.
  - a 1,030 m steel bypass pipeline for controlled water release of lake Karla water via the Kanalia pumping station, 2,850 m of irrigation distribution ditches and specialized flood management works of Kerasiotis stream.

  Estimated Budget: The civil engineering works for this phase were estimated at €18,250,000 (2017) prices, excluding overheads and contingencies).

  Client: Directorate of Technical Works, Region of Thessaly.

**firm's staff experience*

- **Feasibility study and design of the dams and irrigation system for the plain of Xanthi from the Nestos river**

  The objective of the study is the determination of the appropriate management scheme of surface water resources of the river basins of Nestos and of regions of Xanthi and Rodopi in Northern Greece and the design of the necessary hydraulic works. The area actually faces severe problems of ground water quality degradation due to over- exploitation. The proposed water management scheme will provide solutions for a sound water quality status of the area.

  Principal activities:

  - compilation of the available hydrologic and hydrogeologic data for the area
  - assessment of the available quantity and water quality of the aquifers of the area
  - assessment of the average recoverable quantity from the surface waters and aquifers of the area
  - assessment of the current and expected future water demands in the area for irrigation (total irrigated area 100,000 ha).
  - development of alternative options for the exploitation and allocation of available surface water resources for irrigation in order to decrease groundwater use and improve aquifers water quality.
  - design of necessary hydraulic works (dams, canals, pumping stations etc)
  - assessment of environmental impacts and evaluation of the necessary water quantity for the protection of the rivers delta
  - water quality modelling of the lake of Vistonis (Ramsar Area) for the determination of the most environmentally sound water management scheme
  - assessment of the options and proposal for the recommended direction of development of water resources.
  - assessment of the associated cost for the construction and operation of the necessary works

  Cost of works: 678,740,000 €. (Ministry of Rural Development and Food, 2004)

- **Upgrade of parts of the irrigation network in Ioannina plain.** Final design and Tender Documents preparation for the necessary works to convert the existing open irrigational channels to pressure pipe network for an irrigated are of 2,700 ha. Several layouts and operational scenarios were considered with water abstraction from the Pamvotida Lake. Five regulating storage reservoirs are foreseen, which supply the respective network. Cost of works: 18,173,000 €. (Client: Ministry of Rural Development and Food, 2004).

- **Leakage Study of Aliakmonas–Axios Interconnecting Canal for Thessaloniki Water Supply (2001):** Commissioned by the Ministry of Environment, Physical Planning and Public Works, this study developed a testing program to quantify leakage in the existing 61km Aliakmonas-Axios interconnecting canal (capacities ranging from 75 m^3/sec upstream to 7 m^3/sec downstream). The project assessed the canal's condition, identified critical sections for testing, and detailed measurement methods and required equipment. The firm collaborated with underground flow, leakage, and canal control specialists from Sogreah Consultants (France) and the U.S. Bureau of Reclamation for this innovative study.

- **Necessary works for the use of dam reservoirs in Leros, Kos, Kalymnos, Patmos and Tilos islands for water supply and irrigation purposes.** Final Design and Tender Documents preparation. Detail design of necessary works including pumping stations, main pipelines, pipes under pressure and free flow pipes, storage tanks, water treatment installations, water supply and irrigation network. Cost of works: 7,366,100 €. (Ministry of Rural Development and Food, 1999)

- **Development project for Margariti region in Thesprotia District, Epirus.** Design of irrigation, drainage and rural road systems for the agricultural development of Margariti plain (1,250 ha) partly occupied by temporary swamps. The irrigation system consists of 3 pipe networks, supplied from pumping stations, on a conveyance canal regulated by automatically operating gates. The drainage system discharges to large ponors existing in the karstic limestones surrounding the plain. Cost of works: 9,248,950€. (Ministry of Agriculture, 1994).
- **Irrigation of Moschato – Xynoneri and Gorgovites – Agioi Theodori regions, in Karditsa plain.** Design of two high pressure sprinkler irrigation systems, supplied from the tailwater of Tavropos Hydroelectric Station, after intercalation of a regulating reservoir, for 990 ha and 2,760 ha respectively in Karditsa plain, Western Thessaly (Ministry of Agriculture, 1984-86).
- **Irrigation of Drossero area, Pella district.** Design of a pumping station, of a capacity of 3.3 m^3/sec, a conveyance canal 11.4 km long, and the irrigation, drainage and rural road systems for 4,970 ha in Drossero plain, Macedonia. The project included agroeconomic
- **Irrigation of Mires plain, in Messara, Crete.** Design of an irrigation system, supplied from interconnected boreholes for 1,600 ha in Mires plain, Crete Island (Ministry of Agriculture, 1980-83). Pilot irrigation systems, supplied from boreholes, in Thessaly plain. The study, carried out with the cooperation of SOGREAH (France), concerns the investigation of alternative solutions of pipe distribution systems, supplied from interconnected or independed boreholes, with automatic pressure regulation. The work included the final design of the selected solutions, the supervision of the construction and testing and regulation of the systems. The project has been financed by the World Bank (Ministry of Agriculture, 1975-76)