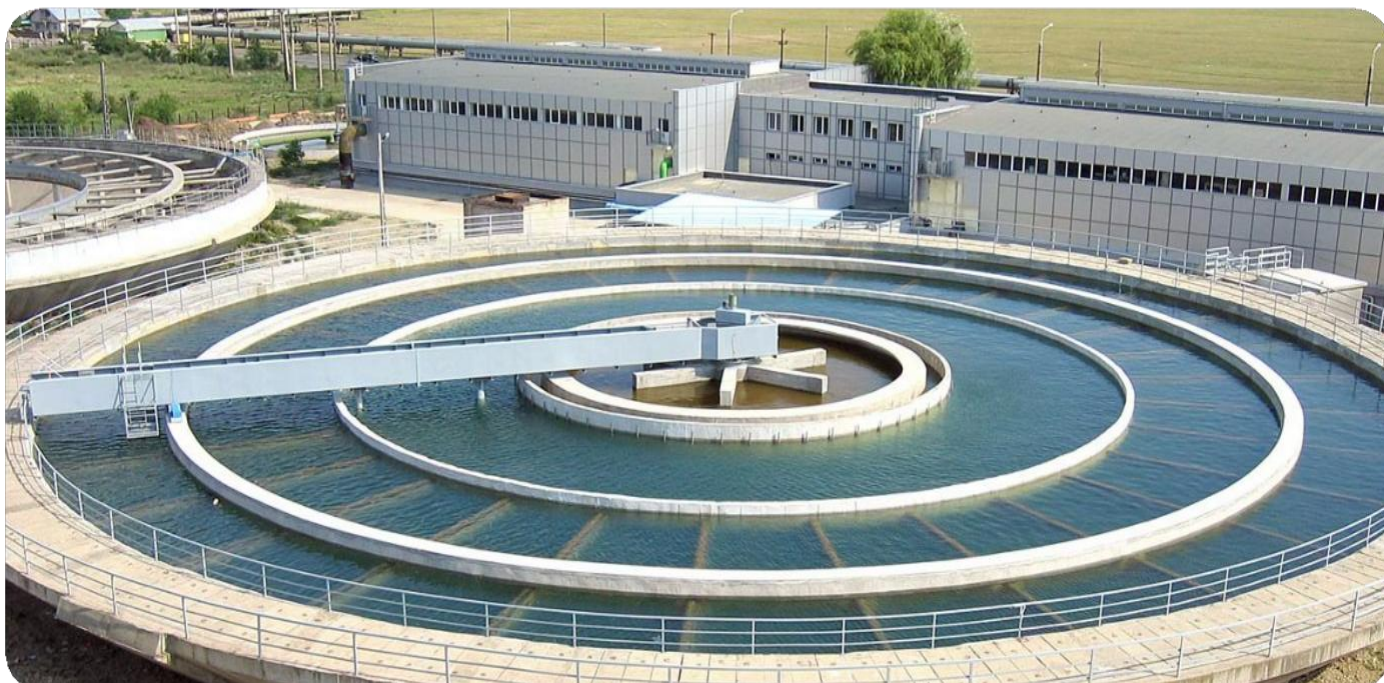


Chirita WTP – Iasi County, Romania

EPC of brown-field Municipal WTP



NAIAD Water Solutions was awarded the contract for the complete rehabilitation, extension and upgrade of the existing water treatment plant, initially built in 1961, in Chirita, Iasi County.

The upgrade to a state-of-the-art water treatment plant included the implementation of automation systems as well as a sizeable process technology enlargement.

NAIAD Water Solutions designed a modern, multi-stage water treatment system for surface water from the Prut River and the Chirita Lake, which ensures the production of drinking water. The project was financed by the European Union (ISPA funding).

Commissioning started in 2007, the official start-up taking place in March 2008.

Features:

- Capacity: 99.360 m³ /d
- Refurbishment, enlargement, upgrade turn-key execution
- Multi-barrier-system which includes two-step oxidation, clarifiers, drainage filtration system and BAC filtration
- Automation implementation through (PLC, SCADA)



Client

RAJA Iasi

Commissioning

2007

Raw Water

Surface Water
(lake and river water)

Product

Drinking Water

Main Parameter

Suspended Solids,
Hygienic parameters

Technology

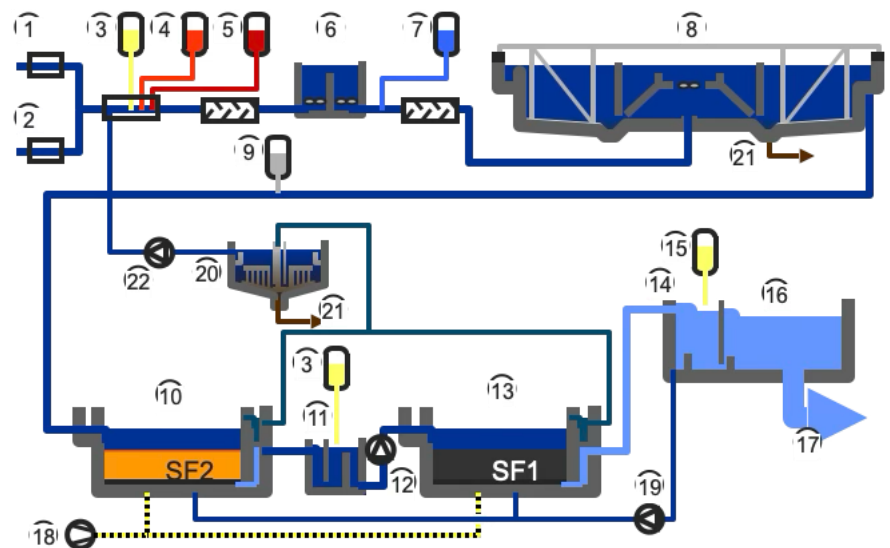
Multi-Barrier-System

Capacity

99.360 m³/d

Main Process Steps:

- Preoxidation (using ClO₂)
- Flocculation & sedimentation (2 units)
- Gravity sand filters (8 filters)
- Intermediate oxidation (using ClO₂)
- Granular activated carbon filtration (GAC – 8 filters)
- Disinfection (using Cl₂)
- Backwash water recycling



- | | | | |
|---|---|-------------------------------------|--|
| 1. Valve chamber Prut River | 7. Polyelectrolyte dosing | 13. 8 GAC filters (SF1) | 19. Backwash water pumps |
| 2. Valve chamber Chirita Lake | 8. Clarifiers (2 individual units) | 14. Backwash water reservoir | 20. Recycle backwash water |
| 3. Pre-oxidation agent dosing (using ClO ₂) | 9. pH adjustment [using Ca(OH) ₂] | 15. Disinfection (Cl ₂) | 21. Sludge disposal into sewer buffer tank |
| 4. Acid dosing (HCl) | 10. 8 sand filters (SF2) | 16. Treated water reservoir | 22. Recycle backwash water pumping station |
| 5. Flocculant (FeCl ₃) | 11. Filtered water reservoir | 17. To existing pumping station | |
| 6. Reaction Tank | 12. Filtered water pumping station | 18. Air blowers station | |

Together with the implementation of new process steps, the following structural expansions have been done:

- Intake structure with preoxidation, coagulation, pH value regulation
- Reaction tank with polyelectrolyte dosing, flocculation
- Chemical products building including preparation and dosing stations
- New pre and intermediate oxidation steps
- Rehabilitation of filter basins with drainage filtration system
- Conversion of existing sand filtration to GAC filtration
- Conversion to fully automated operation (PLC incl. SCADA)
- Full-fledged laboratory

