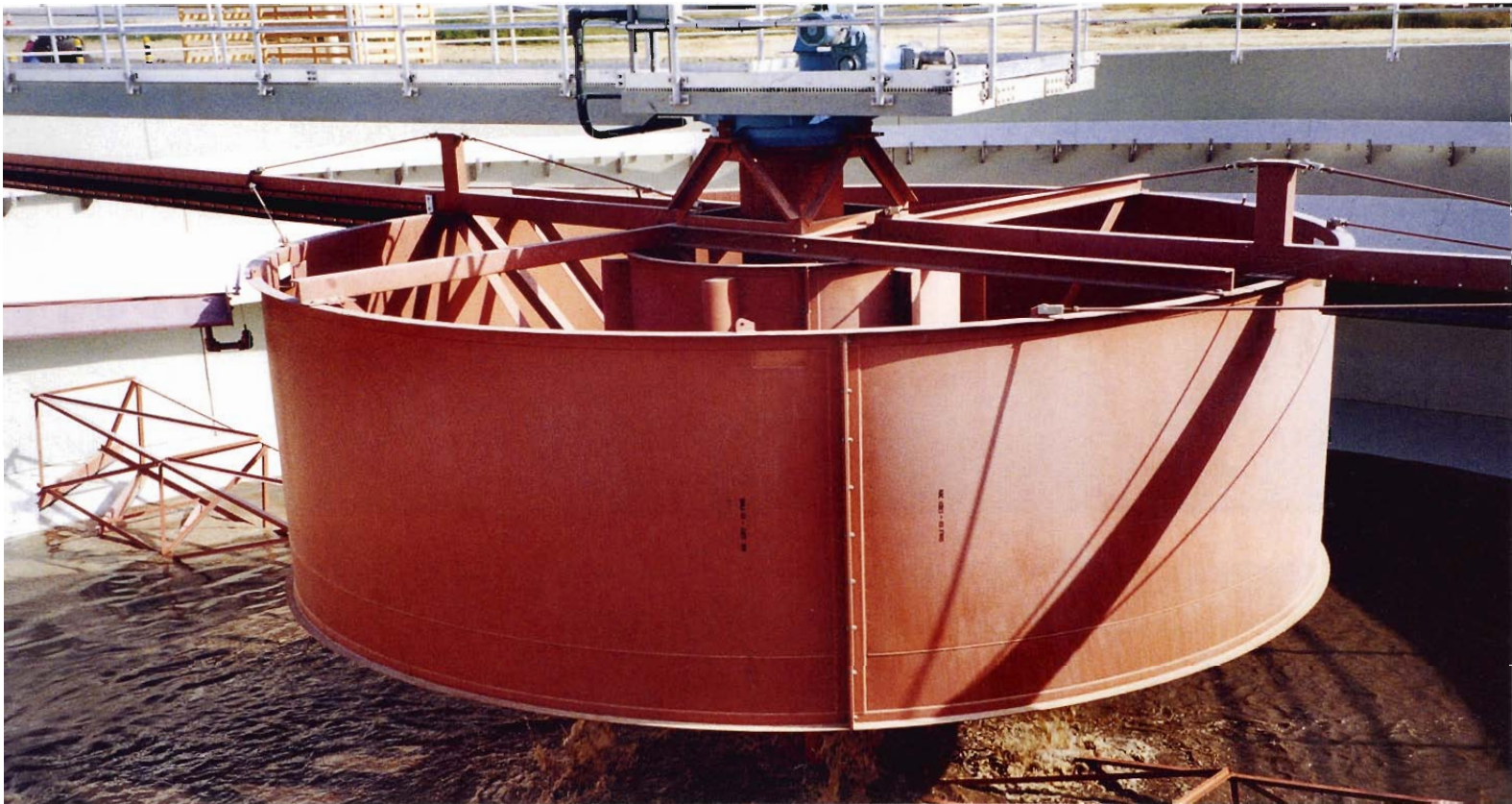


EXPAND WASTE WATER TREATMENT & EFFLUENT REUSE FACILITY – DHAHRAN



PROJECT NAME	EXPAND WASTE WATER TREATMENT & EFFLUENT REUSE FACILITY CONTRACT # 44349/00
LOCATION	DHAHRAN
CLIENT	SAUDI ARAMCO
CONSTRUCTION PERIOD	21 MONTHS

MAC was awarded a Lump Sum Procure and Build (LSPB) contract for the expansion of the Waste Water Treatment Plants at two locations:

- North Sewage Treatment Plant (NSTP) located opposite King Fahd University of Petroleum and Minerals (KFUPM) in Dhahran
- Advanced Wastewater Treatment Plant (AWTP) located within the Saudi Aramco, Dhahran community area

The Project consisted of the following:

NSTP location

- Construction of two 24.4 m diameter settling tanks
- Construction of a Sodium Hypochlorite Building to housing 4 fiberglass tanks as storage for the Sodium Hypochlorite solution, used in the treatment of the effluent in lieu of chlorine dosing, which is adverse to the environment





- Expansion of the holding pond
- Modification of the existing Metering Stations, for which bypasses were made to divert the flow temporarily, until new construction was completed
- Network of piping including RTR piping ranging from 4" to 40" diameter

AWTP - Location

- Construction of one settling tank of 22.4 m diameter
- Construction of a Sodium Hypochlorite building to house the fiberglass tanks as storage for the Sodium Hypochlorite solution used in the further treatment of the secondary effluent coming from NSTP
- Construction of a new irrigation pump station inclusive of civil, electrical, instrumentation, and piping works that houses two 250 HP irrigation pumps
- Expansion of the existing irrigation pump station inclusive of civil, electrical, instrumentation and piping works that houses three 250 HP irrigation pumps
- Construction of one 1.5 Million gallon steel storage tank inclusive of all related piping works
- Construction of a concrete structure housing 24 Continuous Backwash Filter modules to filter the incoming water
- Network of RTR piping ranging from 4" to 36" diameter





Basic features

- The Project was completed on schedule, in 18 months
- 11,000 m of underground C.S. pipe were cement lined internally, FBE coated externally and laid within the community area under difficult conditions such as rocky soil and existing utilities obstructions etc.
- 4,000 m of RTR piping were laid within the community area while preserving Safety, Security and ensuring full noise abatement
- U.S. - European sourced equipment were all procured by MAC including but not limited to:
 - 35 Pumps ranging from 20 HP to 250 HP
 - Drive units including structural steel assembly for 3 new settling tanks
 - 24 filter modules inclusive of all pertinent piping connections to the Continuous Backwash Filter
 - Architectural features such as Aluminum Domes, Handrails, Aluminum pyramids and Aluminum covers
 - All instrumentation system including pressure indicators, transmitters, gauges, and flow meters
 - A Programmable Logic Controller (PLC) System that is the control center of the project and through which the over all activities are controlled in Auto mode through a series of preset commands
 - Numerous tie-ins requiring planning of manpower/material resourcing to ensure that all tie-ins were done during the time frame agreed upon with minimum disturbance to the community



