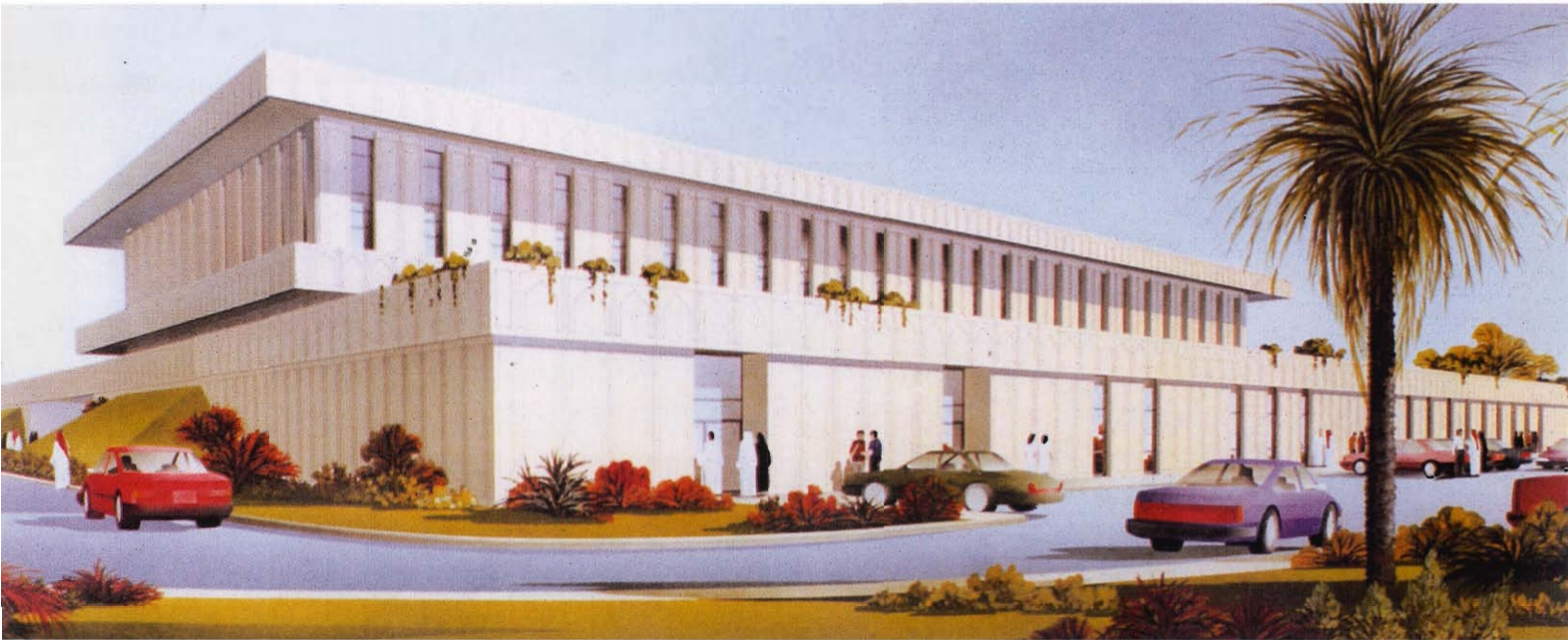


# KHAMIS MUSHAYT & JEDDAH ARMED FORCES HOSPITALS EXTENSION

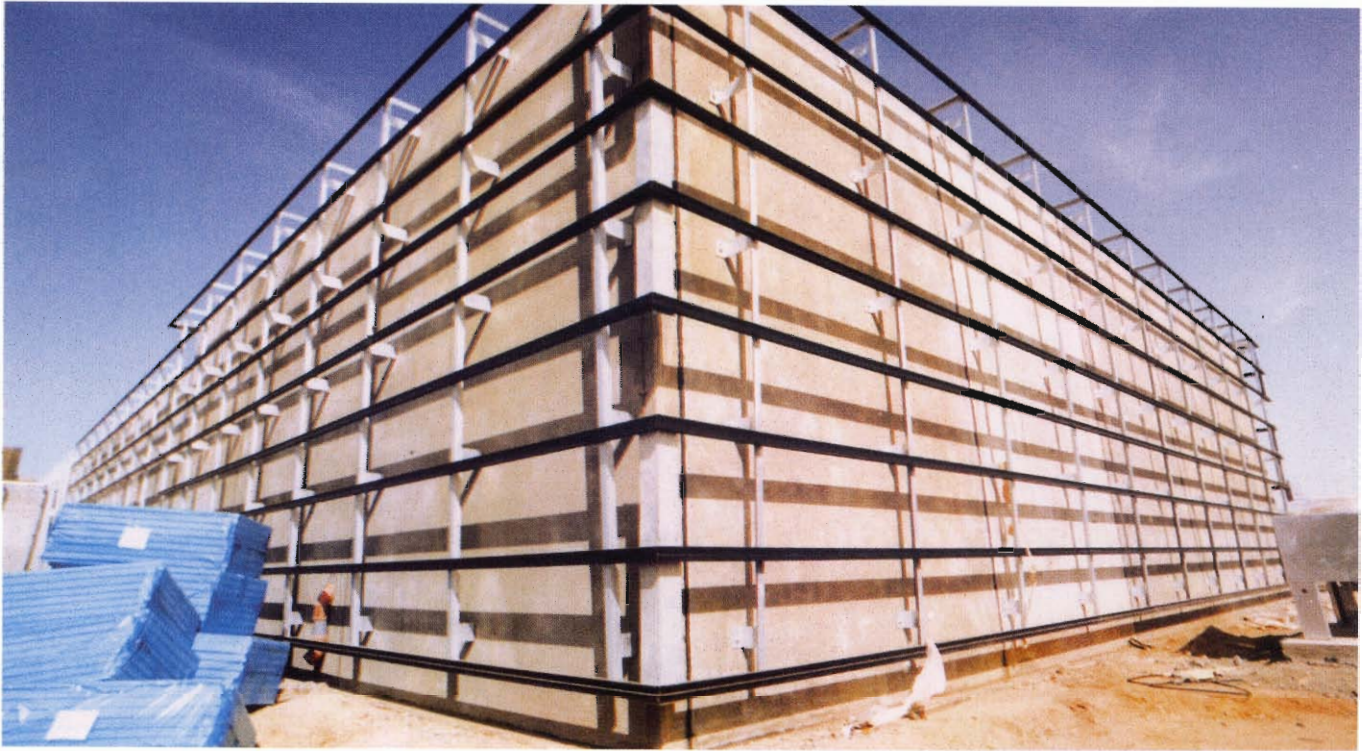


PROJECT NAME	ARMED FORCES HOSPITALS - DEVELOPMENT PROGRAMME
LOCATION	KHAMIS MUSHAYT & JEDDAH SAUDI ARABIA
CLIENT	MODA / SETME
CONSTRUCTION PERIOD	2 X 7 MONTHS

MAC Construction was entrusted by South East Thames Medical Enterprises on behalf of the Ministry of Defence & Aviation to execute on a fast track basis, simultaneous turnkey design, procure and build contracts for two hospitals extensions on the West Coast of Saudi Arabia, in Khamis Mushayt & Jeddah, 625 miles apart from each other, and 1000 miles from MAC's base in Al-Khobar.

- For Armed Forces Hospital, Khamis Mushayt:  
Building of a new Radio Diagnostic building of 1000 sq.m., including Magnetic Resonance Imaging (MRI), Angiography and Cardiac Catheterization and a new Pathology Laboratory building of 1300 sq.m. together with interconnecting corridors between new and old buildings.
- For the King Fahd Military Hospital, Jeddah:  
Building of a new Radiology and a Day Surgery/Endoscopy extension of 3000 sq. m.

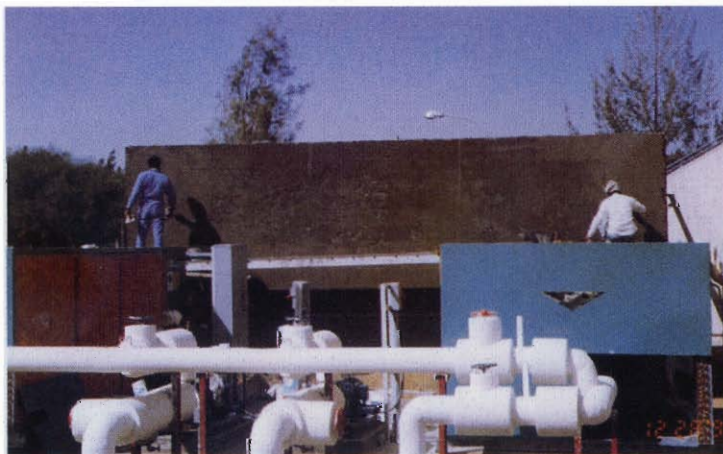
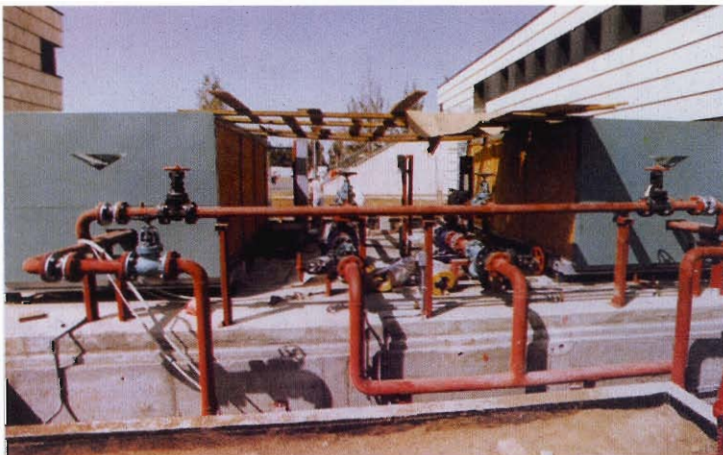




Detailed design, procurement and construction was conducted briskly in each city during a record short period of 7 months at 3 months start-intervals by using a precast reinforced concrete solution and utilizing state of the art management and coordination techniques.

Starting from a functional layout drawing, submitted by the Client's medical Consultant Llewelyn-Davies Weeks, detailed design of the extensions was done by MAC Construction engineering staff, who achieved a significant portion of pre-design during the bidding stage, through close coordination and communication with hospital engineering and medical personnel and with the various vendors for specialized equipment, such as:

- Diagnosis Machines: Magnetic Resonance Imaging (MRI), Gamma Camera, Computer Tomography Scanner (CT Scan), Angiography, Laser Camera
- Operating and Treatment Machines: Lithotripter, Endoscopy.
- Piped Medical Gases,
- Radio Frequency (R.F.) Shielding,
- Radioactive Shielding,
- Uninterrupted Power Supply U.P.S.),
- Communication System,
- Nurse Call System,
- Fire Fighting & Fire Alarm System,
- Reverse Osmosis Haemodialysis Water Treatment Plant,
- Airconditioning with 100% Filtration for Operating Theatres.



Final detailed design work and drawings were executed by an architectural consulting firm in Al-Khobar, Architectural design was made to blend in the new buildings facades with the existing ones and whilst detailed design work was in progress, soil investigation analysis was carried out and, poor soil results, led to driving piles for the Jeddah Hospital.

Simultaneously, orders for long lead items were placed with suppliers whilst targeting competitive pricing and timely deliveries. Precast concrete elements, which were ordered immediately after contract award, were fabricated on the East Coast, cured and transported 1000 miles overland and construction started within 1 month from award. This fast-track solution permitted completion of the entire new buildings shells to be achieved 3 months from award leaving the remaining 4 months for executing internal partitioning, utilities installation and total finishing of the buildings to very high standards, allowing handing over of the buildings to the hospital authorities 7 months from award.

MAC Construction was also entrusted to refurbish:

- 40% of the existing hospital in Khamis Mushayt, for the:
  - Burns Unit,
  - Renal Ward Unit,
  - Intensive Care Unit,
  - Renal Dialysis,
  - Radiology,
  - Day Investigation Ward &
  - Out Patient Department (O.P.D.)

- 20% of the existing King Fahd Military Hospital, Jeddah for the:
  - Renal Dialysis Unit,
  - Pathology Laboratory &
  - V.I.P. Ward.

Work was done in fully operational hospitals, and extreme care was taken not to interfere with the operations, maintaining the highest hygiene and safety standards and ensuring that no disruption was caused to the services. Shutdown work was scheduled by close coordination with hospital operations personnel, and executed promptly during pre-agreed upon periods corresponding to low hospital activities and whilst ensuring standby and/or replacement facilities were available.

