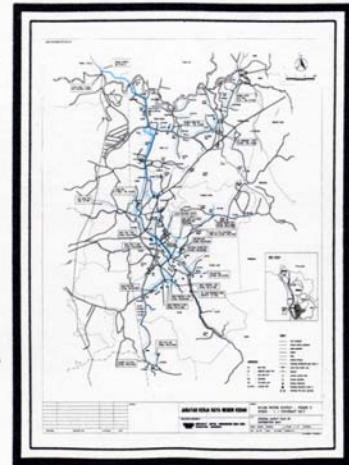


**PROJECT** : KULIM DISTRICT, WATER SUPPLY PHASE II  
**LOCATION** : KEDAH  
**CLIENT** : JABATAN KERJA RAYA, KEDAH  
**PROJECT COST** : RM 170 MILLION  
**COMMENCEMENT** : 1992  
**COMPLETION** : 1995  
**SERVICES** : FEASIBILITY STUDIES, DETAILED INVESTIGATION, DETAILED DESIGN AND SUPERVISION OF CONSTRUCTION



The whole control system is SCADA automated

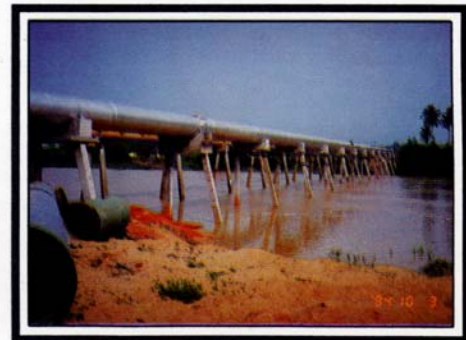
The Project is planned to augment the supply of potable water to meet the projected water demand of 200 Mld of the whole District of Kulim in particular the High Technological Industrial Park of Kulim up to year 2010. The scheme abstracts raw water from Muda River at Pinang Tunggal. 150 Mld of water is treated and pumped through 24km of 1300mm diameter steel mains to 32 MI Concrete Balancing Reservoir at Bukit Jelutong adjacent to the Kulim High Technological Industrial Park. From the 32 MI balancing reservoir, potable water is transmitted via a distribution system to supply the Industrial Areas and the whole District of Kulim.



Overall view of Intake and Treatment Plant

Intake and Treatment Plant	Commissioning		
	1995 Stage 1A	2000 Stage 1B	2010 Stage 2
1. Civil Works	150 Mld	-	-
2. M & E Works	75 Mld	45 Mld	30 Mld
3. Sludge Lagoons	120 Mld	-	30 Mld
4. Power Supply Standby (Generator)	75 MLd	-	-

Mains	Description
1. Pumping Mains	<ul style="list-style-type: none"> <li>1 km of 1500mm dia. raw water main</li> <li>24 km of 1300mm dia. steel pipes with 1 river crossing (Sg. Muda) and 5 locations of pipe jacking through roads (total length 140m)</li> <li>16.2 km of 700mm dia. steel pipes</li> </ul>
2. Distribution Mains	<ul style="list-style-type: none"> <li>The existing distribution system is expanded and strengthened with over 122 km of pipes ranging from 150mm to 1000mm dia. of steel and HDPE material made. A Master Plan, from a Computer Modelling for the distribution of Water in Kulim District up to 2010 is prepared for implementation.</li> </ul>



200m long of 1300mm dia. M.S. pipe at River Muda



Interior of 32 MI Bukit Jelutong Balancing Reservoir

Storage Facilities	Description
1. Balancing Reservoirs	<ul style="list-style-type: none"> <li>32 MI reinforced concrete reservoir at Bukit Jelutong has 2 compartments for easy maintenance.</li> <li>23 MI Paya Telunjok reinforced concrete reservoir.</li> </ul>
2. Service Reservoirs	<ul style="list-style-type: none"> <li>There are 8 reservoirs with a total storage capacities of 33 MI to be constructed on reinforced concrete to make up a one-day storage for whole District of Kulim.</li> </ul>