

ABSTRACT

Factors Involved in the Repair/Rehabilitation of
Large Concrete Municipal Water Service
Reservoirs in Trinidad and Tobago

PAUL EDWARD TAYLOR

The need for concrete municipal service reservoirs in Trinidad and Tobago to be kept in a good operating condition is important in three respects. Firstly, these reservoirs account for a large percentage of the listed storage capacity and are therefore integral to the country's water supply which plays a major role in economic development and in safeguarding a good standard of health and sanitation. Secondly, the operating cost of these reservoirs is minimised and capital expenditure for replacing them due to early failure can be deferred. Thirdly, socio-economic and legal consequences of either catastrophic reservoir failure or leakage are likely to be avoided. In the present situation however, several concrete municipal service reservoirs, including some large ones, are leaking and must be either repaired or replaced.

This report examines the possibilities for the repair of large concrete municipal service reservoirs in Trinidad and Tobago and reviews those factors which affect reservoir repair/rehabilitation. In the process, the types and importance of

service reservoirs, causes and effects of their failure and reservoir repairs in lieu of replacement are also treated. The report includes a case study of an existing service reservoir which has been sustaining serious leaks for many years.

Based on international experience and a survey of local conditions, it is concluded that repair/rehabilitation of large concrete municipal service reservoirs in Trinidad and Tobago is possible and is the preferred alternative to reservoir replacement. Substantial economic benefits can be realised by the repair/rehabilitation of these reservoirs which allow high capital expenditure for replacing them to be deferred. This has positive financial implications for Trinidad and Tobago, a country which is presently experiencing a depressed economy due to a fall in oil revenues.