

KINGSTON METROPOLITAN AREA (KMA) WATER SUPPLY PROJECT

Providing Improved Water Supply to Greater Spanish Town and South East St. Catherine

“The biggest and most critical water supply intervention undertaken in Jamaica and the region!”

THE NEED

Rapid population growth in Greater Spanish Town (GST) and South East St. Catherine (SESC) - the fastest growing community in the English-speaking Caribbean - is outstripping the service capacity of the aging water supply infrastructure in the area. By 2026, it is projected that the population will be 245,000 persons in Greater Spanish Town and 180,000 persons in South East St. Catherine. The increasing population has also threatened the availability and quality of existing water resources for those areas of St. Catherine.

Detailed field evaluation of the water resources and water infrastructure shows that:-

- The Spanish Town water treatment plant is out of service for an average of 40% of the days per year mainly as a result of excessive turbidity in the Rio Cobre surface raw water source;
- The alluvium aquifer in SESC has experienced significant depletion over the last 10 years;
- Both the GST limestone and SESC alluvium aquifers are threatened by saline intrusion and contamination from nitrates;
- Several of the production wells have collapsed or are exhibiting distress and other signs of adverse impact of human activities on the water resources;

If there is to be an adequate, reliable and good quality water supply to the existing and increasing population in those areas of St. Catherine as well as sections of Kingston, a unprecedented comprehensive water supply intervention is needed.

THE SOLUTION

After expert analysis and consultation the Kingston Metropolitan Area (KMA) Water Supply Project was developed as a comprehensive project to address the need to improve the availability, reliability and improved quality of the water supply to the project area.

Project Area

The KMA Project covers the following areas:

- The Greater Spanish Town (GST) communities covered by the project include an area bounded by Angels and St Jago Heights in the north, Green Acres and Fraser's Content in the west, Sydenham and March Pen on the south and Windsor Heights in the east;
- South East St. Catherine (SESC) includes Portmore, Hellshire and sections of Bernard Lodge.
- The southern sections of Kingston will also be impacted on by the project.

Project Scope

The project consists of four (4) major implementation components:-

- rehabilitation of existing water supply facilities
- development of new water supplies
- protection of groundwater resources
- engineering and institutional strengthening consulting services

Construction of the Project

There are four construction contracts to implement the KMA water supply project.

Rehabilitation of Facilities

This construction contract has been awarded to Sogea-Satom and scheduled for implementation from January 2007 to July 2008. These works represent the largest single effort for the rehabilitation of water supply facilities islandwide and will impact on just over 27 mgd of NWC's existing production capacity. Rehabilitation is being pursued as a priority activity as this is expected to be more cost effective than constructing new facilities in existing service areas and includes:-

- a) Cleaning, re-conditioning or replacement of 19 wells;
- b) Upgrading of the Spanish Town Water Treatment Plant to withstand high turbidity levels;
- c) Replacement of old electro-mechanical and other equipment and structures at 21 water production or relift stations;
- d) Replacement of 19 km of aged pipelines;
- e) Refurbishing and re-commissioning of 11 water storage reservoirs;
- f) Reconfiguration of the groundwater well field to achieve improved quality and sustainability.

Development of New Sources

This contract is expected to be implemented between September 2007 and July 2009 and involves:-

- g) Development and commissioning of additional sources to provide 5.3 imgd of additional water;
- h) Installation of 40 km of new transmission pipelines;
- i) Construction of new reservoirs, pumping stations and pressure control stations.

Artificial Groundwater Recharge

This contract is expected to be implemented between September 2007 and July 2009 and involves:-

- j) Construction and modification of facilities to artificially replenish, protect and monitor the groundwater resources.

Engineering Consulting and Institutional Strengthening

These contracts are being implemented and involve:-

- k) extensive engineering and hydrogeological investigation;
- l) environmental impact assessment (EIA) study;
- m) detailed engineering design and supervision of the construction works contracts;
- n) improving NWC's operational efficiency key functional areas of:-
 - i. Unaccounted for Water (UFW) Reduction and Control
 - ii. Customer Relations, Billing and Collection
 - iii. Operations and Maintenance

- iv. Assets Management, Geographic and Management Information Systems
- v. Training

The recommended UfW control strategies have been successfully implemented using Hellshire as a pilot, resulting in a significant improvement in the level of service while reducing the water supplied to this zone.

PROJECT MANAGEMENT

Project Financiers:
Project Owners:
Implementing Agency:
Project Managers:
Supervising Consultants:
Design Engineers:
Project Contractors:

PROJECT IMPLEMENTATION SCHEDULE

Overall Project Timeline - *September 2000 to July 2009*
Consulting Services - November 2002 to May 2008
Construction Works - February 2007 to July 2009

Project Financing

Total Cost - *US\$80.6 million*
JBIC Financing - *US\$55.8 million (6,644 million ¥)*
GOJ Financing - *US\$24.8 million (J\$1,650 million)*