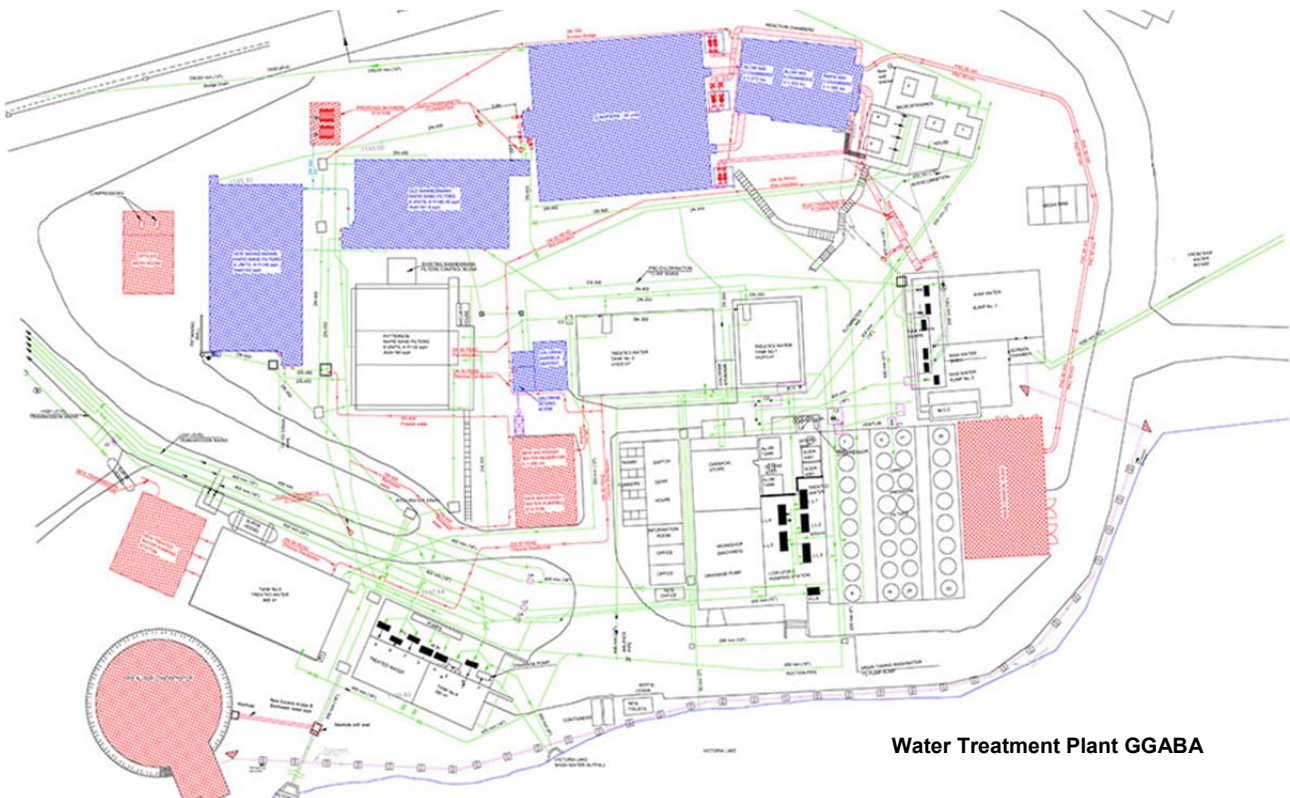




UGANDA

KAMPALA WATER PROJECT "QUICK WIN NO REGRET"



Client NWSC National Water and Sewerage Corporation Kampala

Financing KfW, EIB, AFD

Duration of Services 06/2012 – 09/2017

Value of Services 2,796,300 Euro

Project Costs 30 Mio Euro

Scope of Services

- Appraisal of existing situation and definition of new treatment process,
- Advice on new filter media and source, water quality analysis,
- Hydraulic modelling of trunk mains from water works to primary reservoirs,
- Preparation of Preliminary and Detailed Designs, and Tender Documents (instructions to tenderer, conditions of contract as to FIDIC red book 1999, bill of quantities as to CESMM3, technical specification, drawings),
- Preparation of Engineer's cost estimate,
- Assistance in tendering and contract award,
- Construction supervision, commissioning of the works and superintending the defects notification period,
- Reporting to Employer and donor

Brief Project Description

The “Quick Win and No Regret” Short Term Measures project, which is within the framework of the main KW-LV WatSan Project, is aimed at providing short-term solutions to the water supply challenges of Kampala. The short term measures project entails Rehabilitation and Water Production Capacity Optimisation of Ggaba Water Treatment Complex & Minor Transmission Improvements dubbed “Quick Win and No Regret” Measures.

This project is to re-establish the production capacity of two of the three Kampala water treatment works operated by the National Water and Sewerage Corporation (NWSC) to their design output. These are: Ggaba I constructed in 1929, then later modified, upgraded & rehabilitated (design 72,000 m³/d, now 26,000 m³/d) and Ggaba II constructed in 1992 (design 80,000 m³/d, now 50,000 m³/d), the decline being partly as a result of deteriorating raw water quality of the Inner Murchison Bay of Lake Victoria. The production should be increased by at least 50,000 m³/d.

In addition, the KW-LV WatSan Short-term Measures project originally included undertaking of some associated but limited measures on transmission mains and storage improvements to provide for 4,000 m³ reservoir capacity on Namasuba Hill and to re-arrange inlets and outlets at Muyenga reservoirs to make full use of all 5 tanks.

As result of the Hydraulic Modelling it was decided to provide a new dedicated transmission main DN 700 for the additionally produced water from Ggaba I to Namasuba Hill and to increase the reservoir capacity to 8,000 m³.

Ultimately the scope of works included following measures:

(a) Ggaba I WTP (design capacity 72,000 m³/d)

- Upgrading of raw water pumping main from the raw water pumps to the rapid mix chambers;
- Remodelling of coagulation and flocculation system;
- Installation of associated mechanical and electrical works, and pipework installation;
- Adaptation of clarifiers to allow for sludge recycling to the reaction chambers;
- Modification of filters to constant level and variable flow;
- Roof and supporting steel structure for all mixing chambers, clarifier and filters;
- Re-arrangement of filter backwash system by new backwash water tank & pump station with air blowers;
- Construction of a new sludge concentrator; and sludge drying beds;
- Construction of new chemical store and refurbishment of chlorination plant;
- Full automation of the process and integration of all measures in the SCADA system.

(b) Ggaba II WTP (design capacity 80,000 m³/d)

- Upgrading coagulation and flocculation system by construction on new distribution and reaction chambers;
- Remodelling of clarifiers by reconfiguration of inlet and outlet channels, installation of precast hopper elements and lamellar modules, and installations for sludge recycling to the new reaction chambers;
- Modification of filters to constant level and variable flow;
- Roof and supporting steel structure for all reaction chambers, clarifier and filters;
- Re-arrangement of filter backwash system by new backwash water tank & pump station with air blowers;
- Construction of a new sludge concentrator;
- New chemical storage building which also contains water chemical laboratory and training facilities;
- Full automation of the process and integration of all measures in the SCADA system.

(c) New Transmission Mains

- Transmission Main from Ggaba WTW complex to Namasuba Hill with a length of 10 km (DI pipes DN 700, PN 25);
- Replacement of a section prone to frequent pipe bursts by 600 m of the transmission to Naguru by DI pipes DN 500, PN 25.

(d) Namasuba Reservoir

- Removal of two existing steel tanks and construction of new Storage Reservoirs of in total 8,000 m³ capacity on Namasuba Hill

(e) Muyenga Reservoirs

- Modification of pipework and valves at Muyenga Reservoirs to enable full use of all 5 tanks.

(f) Ggaba 3 Improvement

- Definition of operational improvement measures
- preparation of implementation instructions
- preparation of standard operation procedures
- specification of required repair works and constructional improvement measures

Above interventions will increase the daily water production for the Kampala Water Supply Area from present 156,000 m³/d to 232,000 m³/d.

The Consultant shall further carry out supervision of construction works for the rehabilitation measures awarded to the successful contractor.