



Name of Project: Maragua 4 Dam Water Supply

DESIGN BUILD AND FINANCE PROJECT

EXPRESSION OF INTEREST FOR FUNDING DESIGN AND BUILD FOR THE PROPOSED MARAGUA 4 DAM AND MURANG'A SOUTH WATER SUPPLY PROJECT

TENDER NO. AWSB/EPCF/RE01/01/2017

1. General background

Athi water service board was established under water act 2002 in accordance with the provisions of the State Corporations Act Cap 446 of the Laws of Kenya, as an autonomous agency reporting to the Ministry of Water and Irrigation, it became operational on October 2004.

The Board was created to improve delivery of water services within areas of its jurisdiction which include Nairobi county, Kiambu county, and Gatanga constituency.

2. Project background

Water resources availability has been decreasing with time due to environmental degradation, increased water demand due to population explosion and irrigated agriculture within the rural setups besides industrial development in the city and towns. This has over stretched the available sources of water especially to the City of Nairobi and the immediate surrounding satellite towns. The existing water resources namely; Thika, Sasumua and Ruiru dams are not able to meet the present water demand. This has resulted in water rationing in most parts of the city and the surrounding satellite towns. Against this background, Athi Water Services Board prepared the water Masterplan for Nairobi and 13 satellite towns which identifies various interventions for implementation within specific timelines so as to meet the water demand up to the year 2035. Only some the identified interventions which will bring an additional 200,000 cubic meters per day have received funding from the Government of Kenya and development partners. In order to be able to address the financing gaps of other identified unfinanced projects AWSB now intends to construct another dam on Maragua river to supplement the existing sources on design and build (DB) basis.

3. Project area

Maragua 4 Dam is proposed to be located at the confluence of Irati and Gikigie Rivers in the Aberdare Catchment Area. The Feasibility Study and Master Plan for developing New Water Sources for Nairobi

and Satellite Towns (egis/MIBP JV, 2012) proposed a number of water sources to be developed in Murang'a County for supply to Murang'a and Nairobi City. The proposed project will involve:

- Construction of 3.36Km long and 3m wide South Mathioya Tunnel to transfer 0.69m³/s to Maragua River,
- Construction of Maragua 4 embankment dam with a maximum height of 100m at the confluence of Irati and Gikigie Rivers in the Aberdare Catchment Area with a storage capacity of 60Million Cubic Meters,
- a DN 1,400 raw water gravity pipeline to transfer 1.68m³/s from the Maragua dam to Kigumo a distance of 15Km, a DN 1,200 raw water gravity pipeline to transfer 1.38m³/s from Kigumo area to Ndunyu Chege Tworks a distance of 12Km where a water treatment works will be constructed, Construction of raw water offtake to Kigumo Water Treatment Plant to transfer 0.23m³/sec.
- Construction of Ndunyu Chege water treatment plant with a capacity to treat 120,000m³/day and Kigumo Water Treatment Plant with have a capacity of 20,000m³/day.

The treated water will then be delivered to Nairobi through a constructed DN 1,000 pipeline to Gigiri reservoirs a distance of 41Km to serve additional 830,000 people in Nairobi. The treated water transmission for Murang'a County will comprise of approximately 42Km water pipelines of various lengths which will distribute water to the areas of Kaharati, Maragua town, Saba Saba, Kenol, Makuyu, Kabati, etc. to serve an additional 170,000 people in Murang'a South

4. Previous investigations and reports

The Feasibility Study and Master Plan for developing New Water Sources for Nairobi and Satellite Towns (egis/MIBP JV, 2012) proposed a number of water sources to be developed in Murang'a County for supply to Nairobi City. It is therefore proposed that local source areas be considered for water supply improvement interventions. The main development objective of the project is:

- a.) To increase bulk water supply to Nairobi City by 120,000m³/day to serve an additional 830,000 people and meet the projected water demand for 2022.
- b.) To increase water supply to Murang'a South (Maragua) by 20,000 m³/day to serve an additional 170,000 people in Sabasaba, Kabati, Maragua town, Makuyu, Kenol and kaharati areas of Murang'a County

5. Request for expression of interest

Athi Water Services Board hereby invites competing proposals to source for funds, build and transfer Maragua 4 Dam and the ancillary treatment and transmission & Distribution pipelines from interested joint ventures of construction companies and consultants firms with capabilities to identify suitable financier for the project.

6. Scope of works

6.1 Sourcing of funds

The following should be taken into account when sourcing for funds

- i. Terms of Payment including interest rates, payment period and grant element
- ii. Credit terms to be within the limits acceptable by the Republic of Kenya-Ministry of Finance.

6.2 Dam design

- i. Carry out social economic, environmental, geotechnical and hydrological study of the proposed works.
- ii. Carry out detailed dam design including spillways and intake structure.
- iii. Carry out detailed Transfer Tunnel design including intake structure
- iv. Carry out detailed treatment works design on the capacities 140,000m³/day and 20,000m³/day.
- v. Carry out detailed design of pumping house and electromechanical works.
- vi. Carry out detailed design of transmission and distribution main.

6.3 Construction works

Construction phase should be done within the minimum period of 2 years and the terms and the constructed works must meet best industry standards.

7. Pre-Qualification Criteria

Athi Water Services Board now invites eligible joint ventures of contractors and consulting firms ('Consultants') to indicate their interest in sourcing of funds, providing the consulting services and construction of works. Interested Joint Ventures should provide information demonstrating that they have the required financial capabilities or backing technical qualifications and experience to perform the services and works. Pre-qualification/shortlisting criteria are;

- i. Experience in implementation of two "fund, design and build" works of similar nature and complexity in the last 10 years.
 - ii. Necessary equipment for construction of Transfer Tunnel, Dam, Treatment Plants and Transmission Pipelines.
 - iii. Experience in similar Conditions i.e. in developing country.
 - iv. Availability of appropriate skilled staff including, Dam Expert, Tunneling experts, Water Treatment Engineer, Hydraulic and Hydrological Engineer, Structural Engineer, Geotechnical Tunnel Specialists, land economist, Environmental Expert, Health and Safety Expert, Construction Manager, Construction Supervisors and Foremen, etc.
8. Invitation for Proposals will be issued to qualifying shortlisted firms. Competitive Bidding will be conducted in accordance with the Government of Kenya Procurement Law and Regulations.
9. Interested Joint Ventures may obtain further information at the addresses below between 0800hours to 1700hours from Monday to Friday excluding public holidays.

10. Prospective bidders are advised to register their details and seek for clarification if any via email: info@awsboard.go.ke. The requests for clarifications deadline is **14 Days to the Closing date**, the response to clarifications will be posted to the AWSB website www.awsboard.go.ke,
11. Expression of interest must be delivered or emailed to the address below by **6th February 2018** not later than 12.00hrs East African Time.

**Chief Executive Officer
Athi Water Services Board
3rd Floor, Africa Re Centre,
Hospital Road, Upper Hill
P.O. Box 45283-00100
Nairobi, Kenya,
Email : info@awsboard.go.ke.**

Clearly Marked:

“EXPRESSION OF INTEREST FOR FUNDING DESIGN AND BUILD FOR THE PROPOSED MARAGUA 4 DAM AND MURANG’A SOUTH WATER SUPPLY PROJECT, TENDER NO. AWSB/EPCF/RE01/01/2017”.