| RWA23001-10007 – "Consultancy for a Feasibility Study, Digital Twin Development, and Detailed Design for Real-Time Water Network Monitoring for Water Quality and Leakages Detection in the Bugesera and Rwamagana Water Distribution Systems to Enhance Resource Management" |
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| No | QUESTIONS | CLARIFICATIONS |
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| | **Question about Data** | |
| 1 | **COMPLETENESS OF SECONDARY DATA / CAN BIDDERS ASSUME ALL SECONDARY DATA IS COMPLETE?** Can the bidders assume that the Consultant will use secondary data on the water asset and operation data, which will solely be verified via field activities, and that all the secondary data required by the Consultant for this Assignment is complete? | Bidders shall not assume that all secondary data is complete. The Service Provider is required to: <br>• propose the list of data needed and their sources; <br>• conduct field assessments to collect missing or additional data; <br>• perform mapping and analysis using existing datasets complemented by field data where required. <br><br>While the Contracting Authority (through MININFRA and WASAC) will facilitate access to existing studies, maps and records, the responsibility for data adequacy, validation and completeness remains with the Service Provider. <br><br>**Tender documents ref.:** <br>• **Section 5.4 Methodology and approach** <br>• **Section 5.8 MININFRA and WASAC responsibilities** |
| 2 | **DATA COLLECTION - DESCRIPTION OF WATER SUPPLY SYSTEMS IN SCOPE** To be able to estimate the level of effort and cost the work for the "Baseline Data Collection and Analysis" and the "Digital Twin Development", can you please provide detailed description and features of the water supply systems, which are part of the scope of the ToR? | The Tender Specifications identify the Bugesera and Rwamagana water distribution systems as the scope of the assignment together with the expected activities (baseline data collection, modelling, digital twin prototyping, feasibility and investment planning). <br><br>As indicated in the Tender documents, existing studies, reports, datasets and network maps will be made available to the selected Service Provider during implementation, while the Service Provider is expected to verify and complement available data through field assessments. <br><br>Therefore, bidders are requested to estimate the level of effort based on the scope of work and methodological requirements outlined in Sections 5.4 and 5.5 of the Tender Documents. <br><br>**Tender documents ref.:** |

| | | • **Section 5.4 Methodology and approach;** |
| | | • **Section 5.5 Deliverables; and** |
| | | • **Section 5.8 MININFRA and WASAC responsibilities.** |
| 3 | *FIELD MEASUREMENTS VS IOT MEASUREMENTS* <br><br> *Will the field measurements mentioned in activity 5.4.3.b (Hydraulic Modeling), be provided to the Consultant prior to the IoT sensors installation foreseen in activity 5.4.3.c (Model testing, validation and System Integration) ? Or are the ToR referring to field measurements via the IoT sensors (activity 5.4.3.c)?* | *in accordance with the Tender documents:* <br><br> - *The field measurements required for Activity 3.b (Hydraulic Modelling) are not provided in advance to the Service Provider and are not intended to be generated through the IoT sensors foreseen under Activity 3.c.* <br><br> *The Field measurements mentioned in Activity 3.b shall be collected by the Service Provider through field assessments, as part of the baseline/modelling work.* <br><br> - *The IoT sensors installed under Activity 3.c serve for prototype testing, validation and system integration.* <br><br> *Tender documents ref.:* <br> • **Section 5.4.3 Digital Development phase** <br> • **Section 5.5 Deliverables** <br> **Section 5.8 MININFRA and WASAC responsibilities** |
| 4 | *GRID SIZE AND PLANS* <br><br> *Could you kindly provide the grid size and grid plans? This will allow us to estimate the number of leakage detection devices required to cover the entire network within a given timeframe.* <br><br> *Could you confirm the pipe lengths to be studied in each district, the number of networks and the range of pipe diameters in each district?* | <table><tr><td colspan="3" align="center">**Grid Size in Km**</td></tr><tr><td></td><td align="center">*currently*</td><td align="center">*in Two year*</td></tr><tr><td>*Bugesera*</td><td align="center">*1,698.31*</td><td align="center">*1,705.46*</td></tr><tr><td>*Rwamagana*</td><td align="center">*1,105.20*</td><td align="center">*1,112.20*</td></tr></table> <br> *The figures above are high-level indicative lengths of the distribution network.* <br> *The detailed datasets are internal to WASAC and cannot be disclosed during the tender due to confidentiality and infrastructure-security reasons. In line with Section 5.8, the awarded consultant will receive access during the inception phase. For bidding, propose a scalable methodology that adapts to different grid sizes and timelines for device deployment.* <br><br> *Tender documents ref.:* <br> • **Section 5.8 MININFRA and WASAC responsibilities** |
| 5 | *AS-BUILT DRAWINGS* <br><br> *Are there as-built drawings available for these water supply* | *As-built drawings are held by WASAC and are not shared at bidding stage; they will be made available to the awarded consultant during inception pursuant to Section 5.8. Information* |

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| | *systems and can those be shared during the bidding phase? Could you confirm whether fire hydrants are installed on these grids?* | *on the presence, location and specifications of fire hydrants is part of WASAC's internal asset database and will likewise be shared post-award. Verification/ground-truthing of such assets is part of the baseline activities under Section 5.4.* <br><br> ***Tender documents ref.:*** <br> • ***Section 5.4. Methodology and Approach*** <br> • ***Section 5.8 MININFRA and WASAC responsibilities*** |
| 6 | ***SHAPEFILES*** <br> *We would like to request the shapefiles of the water supply systems for GIS-based analysis.* | *Network shapefiles and related GIS layers are internal WASAC datasets and cannot be released during the tender.* <br><br> *In accordance with Section 5.8, they will be shared only with the selected consultant. For proposal preparation, describe a GIS methodology capable of incorporating WASAC datasets once released.* <br><br> ***Tender documents ref.:*** <br> • ***Section 5.4. Methodology and Approach*** <br> • ***Section 5.8 MININFRA and WASAC responsibilities*** |
| 7 | ***BASELINE ASSESSMENT DATA SOURCES*** <br> *According to the ToR (page 30), a baseline assessment will be carried out. Could you clarify whether the consultant is expected to collect and use existing data (studies, as-built drawings etc) only, or whether a field survey will have to be carried out to assess the current conditions of the water supply networks.* <br><br> *If these documents are available, we would kindly request access to them, as they will help us prepare a detailed and understandable methodology.* | *As mentioned in the tender documents in section 5.4.2, the successful bidder will analyse the existing water distribution networks (mainly using available water network datasets plus other required field data) including the network's auxiliary facilities, to establish baseline conditions and identify critical monitoring points.* <br><br> *it is clearly indicated that the consultant is expected to use existing water network assets. In case of need, the consultant can conduct the field survey to validate a special condition* <br><br> ***Tender documents ref.:*** <br> • ***Section 5.4. Methodology and Approach*** <br> • ***Section 5.8 MININFRA and WASAC responsibilities*** |
| 8 | ***GIS DATA*** <br> *We understand that updating the existing network is not included in the scope of works. We would like to confirm that WASAC have an updated GIS containing all information related to the WSS?* | *Yes, WASAC have an updated GIS.* <br><br> *Data are in shapefile and include pipes, valves, meters. GIS and imagery Data are available and will be shared to the successful consultant.* <br><br> *They may not be complete as far as the assignment is considered, missing data will be* |

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| | *Kindly advise on the available water network GIS Data format and the layers included (e.g. pipes, valves, meters, etc.)?* <br><br> *In regard to the pipe connectivity/topology, does WASAC has validated node-to-node connectivity?* <br><br> *The Consultant understands that auxiliary data such as DEM, administrative boundaries, zoning, etc. are available and will be provided. Kindly confirm?* | *collected by the consultant. As per section 5.4.2 of the tender documents.* <br><br> *The consultant is required to refer to the section 3.4.7.4 - Award criteria and make relevant assumptions in its proposal.* <br><br> ***Tender documents ref.:*** <br> • ***Section 5.4.2 Baseline Data collection and analysis.*** <br> • ***Section 3.4.7.4 Award Criteria.*** |
| 9 | **CALIBRATION DATA** <br> *The Consultant assumes that historical pressure and flow data necessary for hydraulic model calibration will be made available by WASAC. Additional field tests will be conducted as required to complement the data that will be provided by the client.  Please confirm.* | *No reliable historical pressure or flow data is currently available from WASAC for hydraulic model calibration.* |
| 10 | **GIS – SCADA – MODEL** <br> *Please specify the current data availability and provide a qualitative assessment (Good, Fair, Missing) of the same:* <br> *a. GIS asset registry for the water transport and distribution system* <br> *b. Current SCADA data streams (flows, pressures, tank levels, Pump settings and characteristics)* <br> *c. Current available (old, recent) hydraulic model (steady state, EPS – dynamic model)* <br> *d. Customer billing records (monthly, annual)* | *GIS asset registry for the water transport and distribution system – GOOD* <br><br> *Current SCADA data streams (flows, pressures, tank levels, Pump settings and characteristics – MISSING* <br><br> *Current available (old, recent) hydraulic model (steady state, EPS – dynamic model) – MISSING* <br><br> *Customer billing records (monthly, annual) - GOOD* |
| 11 | ***AVAILABILITY OF WATER*** <br> *It is our understanding that 24/7 pressurized water supply is available in the study area (not intermittent water supply). Please confirm.* | *No, for the moment there is intermittent water supply.* |
| 12 | ***HISTORICAL DATASET*** <br> *What historical dataset is available to train predictive models & what's its period & quality level?* | *Water Network infrastructure data,* <br> *Full data will be shared with successful bidder* |

| 13 | *DATA QUALITY AND AVAILABILITY* <br> *Are the following data sets available and usable from project start: Georeferenced network with validated topology; Historical flow data; Incident & leakage history; Water quality data (residual chlorine, turbidity)?* | *Water network GIS shapefiles, incident and leakage history, and water quality data are available.* |
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| | **Question about the prototype and Scope** | |
| 14 | *MINIMUM IoT STANDARDS / PROVISIONAL SUM* <br> *If the Client wants to set minimum standards for the IoT, can they be shared as addendum to the ToR? If not, can the Client share a provisional sum to be used by all bidders as a maximum budget for the IoT sensors?* | *The Tender Specifications do not define minimum technical standards for the IoT sensors. Under the technical award criteria, bidders are expected to propose their own hardware/software tools, as well as the methodology to be applied. The proposed solution should rely on industry-standard interoperability protocols and be designed to allow integration with WASAC systems.* <br><br> *The Technical Specifications further indicate that prototype sensors are to be procured by the Service Provider as part of the assignment (art. 5.4.3.c. - "test sensors to be procured by the consultant").* <br><br> *In addition, the Price Form includes a lump-sum item for "Proposed Prototype materials," which each bidder must price individually. Accordingly, bidders are required to present their proposed IoT solution, including the prototype sensors, and the associated cost estimate in both the technical proposal and the financial offer.* <br><br> ***Tender documents ref.:*** <br> • **Section 3.4.7.4 Award Criteria** <br> • **Section 5.4 Methodology and approach** <br> • **Section 6.2 Tender Forms** |
| 15 | *EXTENT OF THE STUDY* <br> *Could you clarify the extent of the study? Parts of the ToRs refer to the entire districts of Bugesera and Rwamagana while other parts refer to the urban parts only. Which networks are to be studied? Only the urban systems? All the systems? In case there are interconnections between districts/systems (planned or existing), are these parts of the* | *In accordance with section 5.2. of the tender documents, the consultancy aims to assess the technical and financial feasibility of introducing real-time water network monitoring system for leakages and water quality detection in the Bugesera and Rwamagana water distribution network.* <br><br> *The study will be done for the entire districts.* <br><br> ***Tender documents ref.:*** |

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| | *study? Could you provide the exact geographical extent of the studies to clarify these aspects?* | • *Section 5.2. General Objectives* |
| 16 | **PROTOTYPE AND SENSOR**<br>*It is understood that bidders may propose in their methodology a set of sensors to be installed as part of the prototype. However, further clarification would be helpful.*<br><br>*Regarding the prototype, could you clarify what is meant by "small-scale"? Should it be understood in terms of number of users served, length of pipe network, number of valves ?*<br><br>*The ToRs refer generally to "sensors" to be installed (which we understand may include devices such as flow meters and pressure sensors). Could you provide additional information regarding the location of valves and their diameters in order to better assess the magnitude of the hardware component?*<br><br><br>*Given that the extent of the prototype will significantly influence its complexity and cost, the absence of more precise specifications may lead to proposals that are difficult to compare. To facilitate proper costing and ensure comparability of offers, could you clarify whether a minimum or indicative number of sensors and their specifications are expected?* | *Section 5.5.4 of the tender documents states that the Minimum Viable System Prototype (MVSP) shall consist of an installed and functional system demonstrating the practical implementability of the study findings through a small-scale, operational test system including all core functional components, such as:*<br><br>*-Sensing Layer (Field Devices);*<br>*-Edge Device / Data Logger for collecting sensor data, Communication Layer data transfer.*<br>*-Power Supply System to ensure continuous operation;*<br>*-Backend & Data Platform (preferably existing platform)/Central system for water network data ingestion, storage, and processing.*<br>*-Visualization & User Interface (web dashboards);*<br>*-Alerts & Decision Support (Leak/burst detection alerts);*<br>*-Digital Twin for Scenario simulation (pressure management, leak isolation).*<br><br>*The information regarding the location of valves and their diameters are held by WASAC and are not shared at bidding stage; it will be made available to the awarded consultant during the inception phase in accordance with Section 5.8.*<br><br>*Bidders are expected to base their proposal on a limited pilot covering one network zone (e.g. one DMA or equivalent), including an indicative and reasonable number of sensors sufficient to demonstrate all core functionalities of the MVSP. Bidders remain free to refine and justify their proposed configuration in their methodology, provided that all required components are covered.*<br><br>*Tender documents ref.:*<br>• *Section 5.4 Methodology and approach;*<br>• *Section 5.5 Deliverables; and*<br>• *Section 5.8 MININFRA and WASAC responsibilities.* |
| 17 | **SCOPE OF THE ASSIGNMENT: DIGITAL TWIN DEVELOPMENT AND NRW REDUCTION OBJECTIVES** | The focus is both as per general and specific objectives |

| | | Could you please clarify whether the primary focus of the assignment is on NRW reduction outcomes or on the development of the digital twin itself?<br><br>In addition, Section 5.4.3(d) highlights pump optimization and energy efficiency as important objectives. As these aspects are not directly related to leakage detection and may not necessarily require a digital twin at an early stage, could you confirm whether more basic or existing approaches have already been implemented before considering the development of a digital twin? | *Tender documents ref.:*<br>• *Section 5.2. General Objectives*<br>• *Section 5.3. Specific Objectives*<br>• *Section 5.4. Methodology and approach*<br>• *Section 5.5. Deliverables* |
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| 18 | **LEAK DETECTION EXPECTATIONS**<br>*Is there a target performance level (e.g., minimum sensitivity, detection delay, expected % NRW reduction) for the leak detection solution?* | *There are national targets in the Rwanda's 2nd National Strategy for Transformation (NST2) NST2, which may inform the approach of the bidders.*<br>*By way of indication, the solution is expected to aim at:*<br>*-1L per hour sensitivity,*<br>*-NRW reduction of 20%;*<br>*-Real-time detection*<br><br>*These elements are provided to support the preparation of offers and should be considered in line with the Tender Specifications.* | |
| 19 | *SCALE OF THE RESPECTIVE PARTS OF THE DELIVERABLES*<br>o *Hydraulic models – full extent*<br>o *Prototype – small scale*<br>o *Digital twin (as understood – fed with real time data): the type of data linked to the twin tend to indicate it should be for the prototype only, but section 5.5 seems to indicate it should be for the full extent. With which data should it be fed in this case* | *Hydraulic models will cover the full network extent, while the prototype will be implemented at a limited, small-scale level.*<br><br>*The data to be used under this assignment consist of both existing data and field data. The consultant is expected to determine and justify the appropriate use of each type of data depending on the specific task and context.*<br><br>*Tender documents ref.:*<br>• *Section 5.4. Methodology and approach*<br>• *Section 5.5. Deliverables* | |
| 20 | *SPECIFIC TOOLS/USER INTERFACES*<br>*Does WASAC wish to prioritize specific digital field tools and/or user interfaces?* | *As stated in section 3.4.7.4.1.b of the tender documents we are open for proposals as far as they are compatible with its existing platforms.*<br><br>*Tender documents ref.:*<br>• *Section 3.4.7.4. Award criteria* | |

| 21 | **PILOT AREA** | The consultant may propose the pilot District among the focus Districts which are Bugesera and Rwamagana. |
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| | We understand that the mission includes implementing a pilot project. Could you clarify in which district it is intended to implement the pilot, or whether Consultant may propose the District? | The consultant and the client will jointly identify the exact pilot site during implementation. |
| 22 | Given that this project is intended as a pilot phase, could it be implemented within a restricted area (e.g. up to 10,000 inhabitants) to allow for better control of the study? We wish also to confirm that the hydraulic model will only cover the area where the pilot project will be implemented. | The Study will cover the entire two Districts. For bidding purpose, the extent of the prototype coverage is up to the bidder to propose the Minimum viable prototype extent. |
| 23 | In terms of the implementation roadmap and capacity building, could you please confirm that the implementation plan relates to scaling the pilot at the scale of the two Districts? | As far as this project is concerned the implementation will be in the two Districts. The immediate scale up implementation extent will be defined in the study |
| 24 | Is the area already defined or to be proposed?  Should MVS rely on:  -off-the-shelf, -configured tool Integrated, or demonstrator tools? | Bidders are free to propose the most appropriate approach for the MVSP, whether based on off-the-shelf solutions, configured and integrated tools, or demonstrator-type developments. The proposed solution should remain proportionate to the pilot nature of the assignment and ensure timely implementation, operational reliability, and compatibility with existing systems. Proposals should clearly justify the chosen approach, taking into account scalability, maintainability, and overall cost-effectiveness. |
| 25 | **DIGITAL TWIN SCOPE AND NETWORK SIZE** The consultant understands that the digital twin development under this assignment is limited to a pilot-scale implementation covering selected sections of the network for demonstration and validation purposes and does not require full scale solution deployment and hydraulic modelling, nor real-time instrumentation for the entire | As indicated in Section 5.4, the digital twin model belongs to one phase of the assignment and must cover the entire project area. This is confirmed in Section 5.2 (first paragraph) and Section 5.5, Deliverables point 3. Only the prototype functional solution (Section 5.5, Deliverables point 4) is required at full scale for demonstration purposes For the Selected pilot area size, the client is open for proposals.  **Tender documents ref.:** • **Section 5.2. General Objectives** |

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| | *networks of both districts within the 110 person-day allocation. Please confirm and advise of the expected size of these selected areas, expected length of pipes, number of connections, and any relevant hydraulic information for instance number of sources, feed points, hydrant spacing, etc.* | • **Section 5.4. Methodology and approach**<br>• **Section 5.5. Deliverables**<br>• **Section 3.4.7.4. Award criteria** |
| 26 | ***PROTOTYPE SIZE & EXTENT***<br>*The consultant assumes that the minimum viable system (prototype) will be limited to a single defined pilot area. Please advise on the expected geographical extent, approximate network length, estimated number of connection points, and number of supply points feeding the area in order to properly assess the quantum of work required.* | *During the bidding stage, bidders shall propose the geographical extent of the Minimum Viable System (prototype), in line with the proofofconcept objective described in Section 5. The purpose of the prototype is to establish a basis for assessing the feasibility, costs, and modalities of a future fullscale deployment across the two districts.*<br>*Prototype size/extent, the client is open for proposals.*<br><br>*The exact pilot site will be defined and agreed upon during the inception phase.*<br><br>***Tender documents ref.:***<br>• **Section 3.4.7.4. Award criteria** |
| 27 | ***DELIVERABLES***<br>*The consultant understands that the deliverables are limited to technical reports, figures/ sketches, hydraulic models, cost estimates (boq), and technical specifications required to define the proposed system. the consultant's scope does not include the preparation of detailed design drawings. please confirm.* | *No. As indicated in Section 5.5 (Deliverables), the assignment includes all deliverables specified therein. The consultant shall prepare all required design outputs as defined in Section 5.5.*<br><br>***Tender documents ref.:***<br>• **Section 5.2. General Objectives**<br>• **Section 5.5. Deliverables** |
| 28 | ***SCALE-UP TORS***<br>*The Consultant understands that the "Scale-up ToRs" referenced in the RFP are intended to be technical SPECIFICATIONS, and not the preparation of full Request for Proposal (RFP) or tender documents. Please confirm.* | *Yes, and any other required technical information that can be put in the implementation tender document for smooth works execution.* |
| | **Question about client/WASAC's Existing Systems/Platforms.** | |
| 29 | ***INTEROPERABILITY WITH WASAC GROUP SYSTEMS***<br>*Can you please list the 3rd party systems across the WASAC Group for which* | *The proposed solution is expected to demonstrate the capacity to interoperate with existing enterprise systems, tably SCADA, GIS, ERP and other related operational systems currently used within WASAC.* |

| | interoperability shall be ensured?<br><br>*Which systems are currently operational at WASAC (SCADA, GIS, ERP, AMR/AMI), and which protocols/APIs are available? Could you specify the tools currently used by WASAC to ensure compatibility and interoperability with the proposed solutions?* | *Bidders are expected to propose an interoperability approach (architecture, interfaces, data governance), which will be refined during implementation in coordination with WASAC.*<br><br>*RestAPIs are supported (where applicable).*<br><br>***Tender documents ref.:***<br>• ***Section 3.4.7.4 Award Criteria***<br>• ***Section 5.5 Deliverables***<br>• ***Section 5.8 MININFRA and WASAC responsibilities*** |
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| 30 | *Are there existing licenses for systems for GIS or water modeling like ESRI or Bentley?* | *There are existing licenses for GIS systems / ESRI Licenses.* |
| 31 | *What are the available existing systems that we need to ensure compatibility with? What is the expected compatibility? What are the available integration protocols?* | *Existing enterprise systems, are Billing system, ArcGIS, ERP and related operational systems* |
| 32 | *We would appreciate clarification on which GIS software WASAC currently uses to monitor its water network. Should we prioritize any GIS software?* | *WASAC currently uses ArcGIS for monitoring its water network. However, WASAC remains open to alternative GIS solutions proposed by the consultant.* |
| 33 | **EXISTING LEAKAGE DETECTION METHODS, DMAS AND DATA PLATFORMS**<br>*In section 5.4.3 digital twin development phase - b, the ToRs indicate to test alternative leakage detection methods. What current methods are being used? Are their existing DMAs in the studied area? If so, can you provide a description of these DMAs? What platform is currently used to retrieve and analyse the data? What internal reference tools should be considered (including ERP, etc.)?* | *Visible leakages WASAC team walk around to see; and non-visible leakages manual methods are used using acoustic leak detector, pressure data logger, pipe locator, boring bars, etc.*<br><br>*DMAs exist (3 in Bugesera and 4 in Rwamagana) and there are ongoing activities to improve them their complete description shall be provided to the successful bidder. Platform currently used to retrieve and analyse the data is ArcGIS.*<br>*Internal reference tool to be considered is ArcGIS.* |
| 34 | ***INTEGRATION OF THE PROTOTYPE WITH THE URBAN DYNAMIC MAP (UDM) PLATFORM***<br>*The prototype is expected to be integrated into the Urban Dynamic Maps. Kindly confirm the* | *Urban Dynamic Map (UDM) is an ArcGIS based platform. Further information and appropriate access credentials will be shared with the selected Service Provider during the implementation phase.* |

| | reference portals/platforms it is required to integrate it. Kindly share the specifications of these platforms to ensure compatibility of the solutions offered. | Bidders are therefore expected to propose a solution compatible with standard ArcGIS environments and capable of supporting integration with the UDM platform. |
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| 35 | Does WASAC have an Urban Dynamic Map (UDM)? If so, does WASAC use digital tools (tablets or smartphones) to view, modify, and update the GIS in the field? What software does WASAC currently uses for its UDM? | WASAC do not have access to the UDM; it is rather based in MININFRA but the plan is to give them access as well. The UDM is based on ArcGIS enterprise. |
| 36 | Please clarify this statement in RFP p. 30 under "5.5 Deliverables" section: "operational models integrated in the Urban Dynamic Map (UDM) for the Bugesera and Rwamagana water distribution systems, including simulation results ". | This refers to the requirement that the models developed by the Consultant are designed in such a way that they can be integrated into, and visualised on, the Urban Dynamic Map (UDM), which is an Enterprise ArcGIS-based mapping system used by MININFRA. |
| 37 | We would appreciate clarification on which hydraulic modelling software WASAC currently. Should we prioritize a modelling software? | The consultant is required to refer to the section 3.4.7.4 - Award criteria and make assumptions in the proposal.<br><br>Additional specific information will be provided to the successful bidder. WASAC currently uses EPANET for hydraulic modelling but remains open to alternative modelling software proposed by the bidders. |
| 38 | What remote management equipment has WASAC already installed (e.g. sensors, remote transmission systems, user interfaces)? Is this implemented at the national level, district level, or both? Are there any specific tools that WASAC would like to prioritize? | WASAC is open for proposals concerning remote-management equipment.<br><br>Further specific information will be shared to the successful bidder. |
| 39 | **EXISTING HYDRAULIC MODELS**<br>The Consultant assumes that hydraulic models (e.g., WaterGEMS, or similar) already exist for the Bugesera and Rwamagana water distribution systems and will be made available to the Consultant for review and update. Please confirm. | No reliable Hydraulic models are currently available to WASAC for the Bugesera and Rwamagana water distribution systems. |
| 40 | ***INFRASTRUCTURE AND DATA CENTER*** | Yes, there is a national data centre and on-premises WASAC data centre. |

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| | *Regarding the infrastructure, are there any established data centers?* | |
| 41 | ***CLOUD SUBSCRIPTIONS AND SOFTWARE LICENSES***<br>*Can you please clarify if the Consultant shall cost the access to such cloud-based digital twin applications (i.e. any subscription fee) or if the cost will be borne directly by the Client or by the beneficiary (WASAC Group)? If the Consultant shall cost them, please indicate if the costing shall include licenses for the Client and/or WASAC Group (how many for how long)* | *In accordance with the Tender Specifications, the Consultant's prices are deemed to include all costs necessary to perform the Assignment, including the purchase or leasing or subscription to third-party software or services required for contract performance.*<br><br>*Accordingly:*<br><br>• *Where access to cloud-based digital twin applications or software licenses is required for prototyping, demonstration, testing or validation purposes during the Assignment, the Service Provider shall include the related costs in its financial proposal.*<br><br>   *In such case, the licensing period shall be limited to the duration strictly necessary perform the activities under the Assignment.*<br><br>*Bidders shall clearly state in their technical and financial offers the scope, duration and assumptions related to any proposed cloud services or licenses.*<br><br>***Tender documents ref.:***<br>• ***Section 3.4.3. Determination of the prices***<br>• ***Section 3.4.7.4. Award criteria***<br>• ***Section 5.4 Methodology and approach***<br>• ***Section 6.2 Tender Forms*** |
| 42 | *Our understanding is that cloud hosting is acceptable for the digital twin and MVSP solution, given that it is a pilot solution and this will allow us to avoid incurring additional IT infrastructure costs to the* | *Yes, cloud hosting is acceptable on local cloud (National Data centre)* |
| 43 | ***ARCHITECTURE CONSTRAINTS***<br>*Is there any preference or constraint regarding:*<br>*• Cloud vs on-premises hosting;*<br>*• Data sovereignty (data hosted within Rwanda, administrator access);*<br>*• Cybersecurity or specific national standards (e.g., RISA);*<br>*• Logging and access traceability?* | *Local cloud (National data center) and on-premise are both acceptable depending on the hosting technical and financial implications*<br><br>*Data sovereignty: Data remains in Rwanda as per the national data protection guidelines*<br><br>*Cybersecurity standards should be aligned with the national cybersecurity guidelines* |

| 44 | *Are there any data management standards (retention, archival, etc.) to comply with?* | *Yes. See the Rwanda National data privacy policy and guidelines* |
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| 45 | *Are there any requirements for Business Continuity and Disaster Recovery?* | *YES. As per the Rwanda National data centre service guidelines* |
| 46 | *Are there pre-defined KPIs or success metrics for AI models?* | *NO* |
| | **Other Administrative Questions** | |
| 47 | **MAXIMUM BUDGET** <br> *What is the maximum budget for this project?* | *This tender does not disclose a maximum budget or financial ceiling.* <br><br> *This approach is intended to ensure:* <br> • *fair and equal treatment of all bidders;* <br> • *unbiased competition based on each bidder's independent technical and financial assessment; and* <br> • *the integrity of the tender procedure.* <br><br> *Bidders are therefore invited to submit their proposals based on their own cost estimation and technical understanding of the project requirements, as defined in the Tender Documents.* |
| 48 | **PROPOSAL FORMAT** <br> *We would appreciate confirmation on:* <br> *-The format for company references/experience.* <br> *-The format for experts' CVs.* <br> *-Any other technical documents required under this category.* | *Section 5.6 states the minimum technical requirements but does not impose formats for the technical proposal. However, Section 6 provides guidelines regarding the administrative and financial forms to be used.* <br><br> *Therefore, tenderers may structure their technical proposal as they deem appropriate, for example:* <br><br> *-Company references using their standard format (ensuring relevance to Section 5.6.1 requirements);* <br> *-Expert CVs in their preferred format, provided they clearly demonstrate compliance with Section 5.6.2;* <br> *-Other technical sections (methodology, work plan, team distribution, tools, risks) independently, ensuring all ToR elements are addressed and are consistent with the award criteria set out in Section 3.4.7.4.* <br><br> *Please also refer to Section 7 of the tender documents – Documents to be included in the proposal/offer.* <br><br> ***Tender documents ref.:*** |

| | | | • *Section 3.4.7.4. Award criteria* |
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| | | | • *Section 5.6 Minimum required technical profile of the consulting firm and the proposed key expert* |
| | | | • *Section 7 Documents to be included in the proposal/offer* |
| 49 | **DURATION AND TIME INPUT** | | |

| 49 | **DURATION AND TIME INPUT**<br>o *The duration of the assignment is indicated as 8 months. The maximum (time based) input is expected to be in total 110 man-days. This accounts for less than 80% of a full-time equivalent expert to be spread over a team of 4 key experts.*<br><br>*Does this mean the design time for the prototype is not accounted for in this total and should be quoted for in the lump sum (material components)?*<br>o *The "digital twin" phase: 14 weeks: including model development, prototype development, installation, calibration, simulations. Is it a limited time dedicated to collect data? Would it make sense to design, install and not take advantage of the work done to run it for a while to fine tune it?*<br><br>*How about shipping lead time (in the context of VAT exemption as requested in the quotation table format)?* | *On the duration, refer to the section 2.5 and 5.7. of the tender documents.*<br>*The contract shall enter into force upon notification of the award decision and shall have an overall duration of eight (8) months. The total level of effort is estimated at a maximum of 110 Person- days*<br><br>*All deliverables including the prototype must be delivered within the contract period. It is up to the bidders to plan accordingly.*<br><br>***Tender documents ref.:***<br>• *Section 2.5. Term of the procurement contract*<br>• *Section 5.5. Deliverables*<br>• *Section 5.7 Expected deliverables and timeline.* |
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| 50 | **TIMING AND INPUT**<br>*We understand that the total time for the mission is 8 months, including reports and validation periods. Could you please confirm how long you will have to provide feedback on each delivery?* | *Feedback will be provided promptly upon submission of each deliverable, subject to the timely availability of all required stakeholders.* |
| 51 | **REPORTING – SUPERVISION – VALIDATION PROCESS**<br>*How is the decision making and validation process organized for this assignment? How is the validation process expected to be* | *Decision-making involves the Contracting Authority (Enabel/ CLIMURBA project) and the partner institutions (MININFRA, WASAC, and the districts).*<br><br>*Enabel acts as the Contracting Authority and contract manager, while MININFRA and WASAC* |

| | | conducted and how fast it is expected to be? | serve as partner entities and service beneficiaries.  Validation and feedback will be provided by the Contracting Authority in consultation with the relevant partner institutions.

While no fixed validation timeframe is specified, feedback will be provided within a reasonable timeframe to allow the proper progress of the Assignment.

*Tender documents ref.:*
- *Section 4.15.1 Acceptance of the services performed*
- *Section 5.9 Reporting and Supervision* |
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| 52 | **PROJECT DURATION**
*The Consultant understands that the 8-month contract period is based on the availability of required data and site access without delay, and that no field surveys / tests are included within this duration. Please Confirm*
*If the above query is not confirmed, the Consultant may propose an adjusted project duration in the technical proposal to accommodate additional survey activities. Please confirm.* | *The project duration and deliverables are indicated in Section 5.7 (Expected Deliverables and Timeline): the implementation period of the entire assignment is eight (8) months, including review and approvals.*
*Access to data and coordination with stakeholders will be ensured as described in Sections 5.8 and 5.9.*

*Tender documents ref.:*
- *Section 5.7 Expected deliverables and timeline.*
- *Section 5.8 MININFRA and WASAC responsibilities.*
- *Section 5.9 Reporting and Supervision* |
| 53 | **PERSON-DAY ALLOCATION**
*The Consultant understands that the 110 person-days specified in the RFP are allocated to the key experts. Given the anticipated scope and complexity of the assignment, the Consultant seeks confirmation as to whether the proposed level of effort is indicative, and whether the Consultant may propose an adjusted level of effort and corresponding fees to ensure successful project delivery.* | *The 110 person-days indicated in the tender specification, represent the maximum total effort for the entire assignment and apply to both the Key Experts and any additional support staff proposed by the bidder.*
*This ceiling may not be exceeded. Bidders shall structure their proposed team and level of effort within this maximum to ensure successful delivery of the assignment.* |
| 54 | *Specifically, we would appreciate confirmation on the following points:*

*1. Whether the 110 man-days represent the total cumulative expert input across all consortium* | *1.The 110 person-days represent the total cumulative expert input for the entire consortium. Once a consortium is formed, it becomes a single bidder, and therefore the full consortium must jointly remain within the 110-day ceiling. This is a global maximum defined in Sections 2.5 and 5.7 of the Tender Specifications.* |

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| | *members over the full 8-month contract duration;*<br>*2. Whether the 8-month period refers strictly to the implementation timeline (excluding approval/review periods), or if it includes time allocated for validation, stakeholder feedback, and potential revisions of deliverables;*<br>*3. Whether there is flexibility in the distribution of man-days across phases, provided the total ceiling of 110 man-days is respected.* | *2.The 8-month period covers the entire assignment, including all phases of implementation as well as approval, review, validation, stakeholder feedback, and any required revisions of deliverables.*<br><br>*This is aligned with the Tender Specifications, particularly Sections 2.5, 5.4 and 5.5, which explicitly place deliverable preparation, submission, review, and iteration within the contractual period*<br><br>*3.Yes. Person-days may be distributed flexibly across phases, provided that the proposed distribution ensures sufficient effort for all required tasks throughout the assignment.*<br><br>*Bidders are free to structure their resource plan in line with their proposed methodology, as long as the overall ceiling of 110 person-days is strictly respected.* |
| 55 | **PROTOTYPE COSTS, REIMBURSABLE EXPENSES AND FORMAT OF DELIVERABLES**<br>*What conditions are applicable for the prototype and reimbursables?*<br><br><br>*Assuming deliverables should be handed in as hard copies, how many copies of each deliverable are expected and how many revisions (for instance draft and final as hard copies, while potential additional versions could be only soft copies).* | *The prototype shall be priced under Materials/Components in the financial offer.*<br><br>*Only international travel and visa costs are reimbursable, in accordance with the provisions of the Tender Documents.*<br><br><br>*Deliverables shall primarily be submitted in digital format during the drafting and review stages.*<br><br>*Draft versions and intermediate revisions may be submitted in electronic format only.*<br><br>**Tender documents ref.:**<br>• **Section 3.4.3. Determination of the prices**<br>• **Section 6.2 Tender Forms** |
| 56 | *PROFILES*<br>*The expertise of the different profiles is complementary and highly relevant in light of the project's objectives. We could nevertheless like to clarify whether the specific experiences and requirements can be* | *Each Key Expert must individually meet all minimum requirements; these requirements cannot be redistributed among experts. However, additional experts are acceptable.* |

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| | *distributed between the roles whilst retaining the overall expertise and named KE roles?* | |
| 57 | *KEY EXPERTS*<br>*On the same subject, we wanted to confirm whether we can include non-key experts (NKE) to reinforce our team whilst maintaining the overall maximum mobilization (110 expert-days)?* | *YES, bidders are free to propose NKEs, provided that the total mobilisation remains within the maximum of 110 person-days and all Key Expert requirements remain unchanged.* |
| 58 | *We would like to confirm that the contract is based on the actual time spent doing the tasks?* | *No, payments are based on deliverables rather than the actual time spent.* |
| 59 | *Allowing bidders to propose their professional services fees based on their own technical assessment of the scope, level of effort, and required resources, rather than restricting the assignment to a predefined budget that may not reflect the actual magnitude of work.* | *As indicated in Section 2.5 and Section 5.7 of the Tender Specifications, the ceiling of 110 person-days is an integral part of the procurement framework and applies uniformly to all bidders. Under the applicable public procurement rules governing this procedure, the level of effort (number of person-days) and the corresponding pricing structure cannot be modified during the tender stage, as this would constitute a material change to the competition conditions.* |
| 60 | *Either separating the hardware supply and field implementation components so they are procured, paid, and managed directly by the Client, or alternatively defining and limiting the hardware scope to a clearly specified and reasonable number, thereby enabling accurate and transparent pricing at the bidding stage.* | *No, As specified in Section 3.4.3.1 and Section 5.4–5.5 of the Tender Specifications, the procurement, installation, and commissioning of prototype hardware (sensors, telemetry devices, pressure/flow equipment, and associated components) form an integral part of this consultancy contract.*<br>*For this reason, these components cannot be separated from the contract scope and procured directly by the Client, as such a modification would constitute a material change to the published tender and is therefore not permissible under the applicable public procurement rules.* |
| 61 | *With reference to Section 6.2 Tender Forms of the RfP, our understanding is that the "proposed prototype materials" item should cover all hardware and software costs associated with the prototype. Please confirm.* | *Yes. As per Section 6.2 (Tender Forms), the item 'Proposed Prototype Materials' is a lump-sum amount covering all hardware and software components required for the prototype* |
| 62 | *COST OF WATER*<br>*Cost of water and/or power consumed while conducting field* | Yes. |

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| | *investigations and tests for model calibration and delivering of the functional prototype shall be borne by the client. please confirm.* | |
| 63 | *To make an informed choice on the technical and financial proposal we would like clarification on whether procurement of the software(e.g. WaterGEMS as referenced in the terms of reference) required for implementation of the digital twin modelling will be procured by the procuring entity and/or the implementing agency for integration with the existing system and also to facilitate the review of the outputs from the system itself by the client* | *The procuring entity will only provide support mentioned in the section 5.8 MININFRA and WASAC Responsibilities and section 5.9 Reporting and supervision* |
| 64 | **SUBMISSION FORMAT**<br>*-Could you confirm if an electronic (PDF) submission by email or on USB would be acceptable instead of hard copies?*<br><br>*- Is it possible to submit the tender documents electronically via email, considering cross-border logistics, or is physical submission in Kigali strictly required?*<br><br><br>*-Could you please confirm whether electronically generated or digitally certified signatures are acceptable for the "original" and the copies?* | *The tender will be drawn up in 3 copies, one of them being the original and two copies.*<br><br>*A Soft Copy (Exactly identical to the hard copy) must be submitted in one or more PDF files on a USB stick.*<br><br>*In accordance with the tender requirements, submissions via email are **not** accepted and shall **not** be considered.*<br>*For further details, we kindly invite you to consult the Enabel website, where you can access the complete tender specifications.*<br><br><br>*Electronically generated, digitally certified, or scanned signatures on the tender documents are acceptable, provided that the identity of the signatory and their authority to legally bind the bidder can be verified.*<br><br>*The Contracting Authority reserves the right to request supporting evidence confirming the signatory's authority.*<br><br>**Tender documents ref.:**<br>      **Section 3.4.4. How to submit tenders**<br>• **Section 7 Document to be included in the proposal/offer** |
| 65 | **DETAILED DESIGN SCOPE** | *Yes, as well as any other relevant technical information that may be required for inclusion* |

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| | *Should the Detailed Design include: A complete BOQ ready for tendering? • Technical specifications for sensors & telecommunications? • A detailed IT architecture with server sizing?* | *in the implementation tender to ensure smooth execution of the works.* |
| 66 | **SCOPE FOR FIELD INVESTIGATIONS AND SURVEYS** *in the absence of the expected geographical extent, size, network length, number of service connections, and other relevant hydraulic information for the study area, it is difficult to identify the quantum of field works required both for model calibration and for setting up the mvsp at this stage. as such, the consultant will identify all the required field testing and investigations during the coursework to be paid directly by the client. please confirm. If the above query is not confirmed, the Consultant reserves the right to include the estimated cost of any additional required surveys, field tests, and field works required to set the MVSP as Provisional Sum items in the financial proposal. Please confirm.* | *As indicated in Section 4.15.2 (Invoicing and Payment of Services), only services foreseen in the Terms of Reference and performed correctly may be invoiced. All required field investigations and surveys necessary to complete the assignment shall be identified by the consultant in their proposal and must be fully included in the financial offer. Provisional sums for additional surveys or field tests may not be introduced by bidders.* |