



water & sanitation

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Water and Sanitation
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Ref: WP11547 APPOINTMENT OF A PROFESSIONAL SERVICE PROVIDER (PSP) FOR THE STUDY: UPDATING OF STRATEGIES TO RECONCILE WATER AVAILABILITY AND WATER REQUIREMENTS FOR THE INTERGRATED VAAL RIVER SYSTEM IN THE PLANNING AREA CENTRAL FOR A PERIOD OF 36 MONTHS

BID NO AND DESCRIPTION: WP11547

Questions raised by prospective bidders and the answers. Questions and answers.

Question	Response
The ToR states the following: "A provisional budget of R 900 000 (exclusive of VAT) is to be included by the PSP in the proposal for the once off "snapshot" sampling exercise."However, it is our experience that DWS do not allow provisional sums anymore. We do foresee a risk here that any expenditure from this provisional sum amount will not be approved by DWS' Bid Adjudication Committee during the project. Please advise on this to ensure that it does not become a constraint during the project.	Price the provisional sum in accordance with the approved Terms of Reference.
Reserve and classification studies are mentioned in the literature review, but not included explicitly in the rest of the work packages. Although gazetted, do DWS foresee that we need to undertake additional surveys to determine the Reserve for smaller, but important tributaries that were not included in the gazette. Also, the gazette is based on work that was done 2006-2010, thus biologically outdated. The recent Joint Basin Survey 2021 did surveys a few of the existing EWR sites, but more comprehensive overview of the Reserve for the entire catchment is required.	Although Component 2 focuses on the fitness for use of receiving water resources, it does not require specialised Reserve studies to be undertaken for Water Resource Classification purposes. Similarly no additional surveys will be required for component 3.
How many catchment models should be costed under Groundwater?	All aquifers with significant contribution/impact to the water balance of the IVRS including the mining basins
Our understanding is that DWS have obtained SAWS data for the whole of the country prior to the SAWS data breach and that if this is the case, and it could be used, then it would save significant costs.	We must price for this. DWS don't have access to it due to conditions attached to the data.
The whole of Component 2 (WQ recon) is very complex and uncertain and a significant study on its own and has now been incorporated along with the standard Recon	Yes, budget provision was made

<p>Study (Component 3). Is the budget for this (and the normal recon) available within DWS for the project timeframe?</p>	
<p>Under the eutrophication management option for consideration under WP4, there is reference to a pilot investigation on investigating the impacts of controlled releases involving “intensive concurrent monitoring over approximately 6-8 weeks at 15 sites along a 350km stretch. This is a full-on project in itself and logistical challenge which will have an impact on the budget. Can DWS please advise on the requirements for tests to be done as part of this monitoring as to ensure that all bidders price on the same basis?</p>	<p>The ToR indicates that approximately 15 samplers would be required to monitor nutrient distribution and primary production responses along the Vaal River, at a suitable frequency to support robust conclusions. The purpose of the pilot investigation is to- (1) gather data to support model calibration, as required; and (2) test the feasibility of pulse releases and water-replacement dynamics to control algal blooms and manage nuisance conditions by altering nutrient concentrations and/or disrupting algal growth dynamics.</p>
<p>It does appear that there are some duplication between the deliverables of WP4 and WP6, e.g. the Waste Load Accounting Reprot under WP4 seems to be included again in the Reconciliation and Allocation of Water Quality Report of WP6.</p>	<p>The <i>Waste Load Accounting Report</i> provides an account of all relative waste load contributions (WP 4: Forward Planning), whereas the <i>Reconciliation and Allocation of Water Quality Report</i> benchmarks loads and concentrations in receiving water resources against relevant water quality goals and incorporates scheduled, targeted interventions, such as waste load reduction strategies, to satisfy allocations (WP 6: Intervention Planning).</p>
<p>Configuration, calibration and use of predictive tools - The note at the bottom of this section mentions the WQT model, and the SWAT+ model. It is our understanding that we need to review available Water Quality models, make a recommendation and proceed with the preferred model as agreed with DWS. Can DWS please provide guidance with regards to the water quality parameters that they are interested in, as this will provide guidance in terms of the WQ model to be used?</p>	<p>The water quality constituents for modelling include salinity and nutrient parameters, with additional parameters to be incorporated if other constituents of concern are identified. For tender purposes, ten conservative and non-conservative water quality constituents should be assumed.</p>
<p>Related to previsou question if SWAT+ is the preferred WQ Model:There is reference to a SWAT+ model being set up for “part of the IVRS” (page 14) and that the WRPM will require modifications to enable coupling of SWAT+. Again this is very vague and should be clarified. I am aware that IWMI have developed as SWAT model for portions of the Olifants Basin (<i>should this be Vaal Basin?</i>), but I’m not sure if this is what is being referred to or if there is a separate study. The challenge with SWAT is the much higher resolution required similar to ACRU – and actually if they are looking at reviewing SWAT models for incorporation into the WRMP they should also be considering ACRU model and then doing some assessment in terms of alignment with PITMAN and adjusting the model outputs to integrated into the</p>	<p>The requirement to couple SWAT+ with the Water Resources Planning Model (WRPM) mirrors the existing integration between the WQT (TDS/DMS) Model and WRPM. Professional Service Providers (PSPs) may either develop a WQT-type model specifically tailored to the key water quality parameters of concern in the Integrated Vaal River System (IVRS), or use SWAT+ (or a similar model) for coupling with the WRPM. The SWAT+ model referenced in the ToR was originally developed by the Department of Water and Sanitation’s (DWS) Water Resource Information Management unit for the Upper and Middle Vaal . If the SWAT+</p>

<p>WRPM rather than the other way round. Note that there is also a WRC study that has just been launched to further develop the WRPM (and pitman and WRYM) that is looking at possible “Modification requirements, but not necessarily to integrate SWAT (or ACRU) hydrological model out puts. Also are they interested in the water quality aspects of SWAT, or the hydrological aspects, or the fact that it can model the potential impacts of land use change (a key theme in global WR studies to show benefits of Nature-based Solutions) which is not easily done in Pitman.</p>	<p>and WRPM coupling approach is selected, this existing model must be reviewed and updated. SWAT+ is included in the ToR primarily because it can simulate the specific water quality parameters currently presenting challenges in the IVRS, which ACRU cannot.</p>
<p>On page 22, the first bullet states that a 2 day training course is required, but then the next bullet states that six 4-day courses (24 days total) are required. This does seem very excessive, and we need to have a better understanding of exactly what is required.</p>	<p>Price as provided in the ToR.</p>
<p>The text of the Proposal should be to the point and not longer than twenty-five (25) pages (A4), excluding CVs, shall be Arial font size of 11 and a line spacing of 1.5. What must be included in these 25 pages?</p>	<p>These 25 pages is the response to the actual technical methodology. The project experience and programme can be included outside of these 25 pages.</p>
<p>From the briefing meeting, our understanding is that any office in Gauteng will score the points, even if it is not within the catchment. Is this correct?</p>	<p>Yes</p>
<p></p>	<p>Bidders are required to propose a total cost of contract against 5 % CPI increase annually for comparative costing.</p>