	DBSA
SOL-PLAATJE LOCAL MUNICIPALITY, NORTHERN CAPE PROVINCE	

PROCUREMENT OF A PROFESSIONAL SERVICES PROVIDER (PSP) TO DEVELOP A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASIBILITY STUDY IN SUPPORT OF SOL-PLAATJE LOCAL MUNICIPALITY (SPLM)

Tender Number: RFP318/2022

REQUEST FOR PROPOSAL DOCUMENT
[Based on the CIDB Professional Services Contract] - (July 2009)

27 October 2022

Issued by:
Development Bank of Southern Africa Limited
1258 Lever Road, Headway Hill
Midrand, Johannesburg
Gauteng Province

Contact Persons:

All Inquiries to be directed to:
Name: **Tebogo Saudi**
Email: tebogoSCM@dbsa.org/scmqueries@dbsa.org

Name of Tenderer: . . . . . .

GENERAL TENDER INFORMATION

TENDER ISSUED	: **27 October 2022**
DATE & TIME CLARIFICATION MEETING	: **04 November 2022 at 10h00**
VENUE FOR CLARIFICATION MEETING	: **Click here to join the meeting**
CLOSING DATE	: **16 November 2022**
CLOSING TIME	: **23h55 Telkom Time**
CLOSING VENUE	: **Designated Electronic Box provided by DBSA SCM**
TENDER SUBMISSION	: The Tender Document (which includes the Form of Offer and Acceptance) completed in all respects, plus any additional supporting documentation required, must be submitted in an electronic folder with the name and address of the tenderer, the Tender No. and Title and the Electronic Box details provided by DBSA SCM. The electronic folder containing the proposals must be deposited into the designated electronic box before the tender closing time. The onus remains with the tenderer to ensure that the tender submission is placed in the correct electronic tender box provided. Please ensure that an email confirmation is sent to DBSA SCM confirming that the submission has been made electronically.

TENDER SUMMARY PAGE

NAME OF TENDERER: _____

DETAILS OF CONTACT PERSON

NAME: _____

TELEPHONE NUMBER: _____

FAX NUMBER: _____

E-MAIL ADDRESS: _____

ADDRESS OF TENDERER: _____

_____

_____

VAT REGISTRATION NO.: _____

PREFERENCE POINTS CLAIMED: _____

CONTRACT PERIOD OFFERED* _____ **(Maximum X months)**

DATE OF TENDER: _____

TENDERER 'S SIGNATURE: _____

(Person authorised to sign the TENDER)

Contents

Part T1: Tendering procedures

T1.1 Tender Notice and Invitation to Tender

The Development Bank of Southern Africa Limited invites tenders from experienced firms to work as a Professional Services Provider (PSP) regarding the **Updating of the Water Services Development Plan (WSDP)** together with the **upgrading of the capability of the existing GIS System** in support of Sol-Plaatje Local Municipality.

The Tender Document is attached to this email invitation to tender. DBSA will post any addendums and responses to any queries related to this tender via the DBSA Tender Website. Only written correspondence will be accepted for inquiries.

Queries may be addressed to Tebogo Saudi on email: scmqueries@dbsa.org

The cut-off date for tender enquiries is three (3) working days before tender closing date.

Non-Compulsory tender briefing session will take place at the Employers premises as detailed below:

- **Location:** **Click here to join the meeting**
- **Date:** **04 November 2022**
- **Starting Time:** **10h00**

The closing time for receipt of tenders is **23H55 (Telkom time)** on **16 November 2022** at the electronic **Tender Box provided by DBSA SCM Unit.**

Tenders may only be submitted on the tender documentation that has been issued. Telegraphic, telephonic, telex, facsimile and late tenders will not be accepted. Bidders should ensure that Bids are delivered timeously and to the correct address (reflected on the cover of this document). If the bid is late, or not submitted in the tender box it will not be considered for evaluation.

Requirements for sealing, addressing, delivery, opening and assessment of submissions are stated in the Tender Data. Please continue to visit our website for any changes, alterations and updates for this tender.

Tenderers need to submit the following on a Flash drive, with your Hardcopy tender submission:

- Complete Tender document (pdf)
- All Returnable and additional documents (pdf)
- Bill of Quantities/ Rates/ Price Schedule (pdf & electronically)

Tenderers need to ensure compliance to both the Flash Drive and mandatory Hard Copy submission.

NOTES:

i. The DBSA reserves the right to award the scope in full or part thereof, subject to budget Availability.

ii. The subsequent Appointment/ Contract of the successful Tenderer, will be the full & final offer with no option whatsoever to increase the contract amount after award.

iii. In the event of a partial award, the DBSA reserves the right for items excluded from the award, to be retendered in a new tender process.

iv. Bidders are not guaranteed to be invited again, subject to the DBSA Rotation Principles.

v. It is the intention of the DBSA to award the full scope of work to one (01) Professional Service Provider (PSP) to support the municipality. However, the DBSA reserves the right to award the full scope of work to more than one (01) PSP in cases where the value-for-money principle remains adversely compromised, post negotiations with the first ranked bidder.

vi. The decision to award will be based on best commercial offer and value-for-money principle for the DBSA.

vii. Where the next highest ranked bidder is being considered for an offer of award (based on the value-for-money principle), the DBSA reserves the right to negotiate with the next highest ranked bidder in hierarchical order, to ensure the value for money principle is not compromised.

ix. In cases where negotiations are unsuccessful, the DBSA may revert to a higher ranked bidder.

T1.2 Tender Data`

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of Board Notice 86 of 2010 in Government Gazette No. 33239 of 28 May 2010, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement. (See www.cidb.org.za), to which tenderers are referred to for their information purposes in relation to this Tender Data.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

The following variations, amendments and additions to the Standard Conditions of Tender as set out in the Tender Data below shall apply to this tender:

Clause number	Tender Data
F.1.1	The Employer is the **Development Bank of Southern Africa Limited.**
F 1.1.4	The Employer aims to award full scope of works to one successful tenderer.
F.1.2	The Tender Documents issued by the Employer consists of the following documents: **THE TENDER** **Part T1: Tendering procedures** T1.1 - Tender notice and invitation to tender T1.2 - Tender data **Part T2: Returnable documents** T2.1 - List of returnable documents T2.2 - Returnable schedules **THE CONTRACT** **Part C1: Agreements and Contract data** C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Occupational Health and Safety Agreement **Part C2: Pricing data** C2.1 - Pricing Assumptions C2.2 - Pricing Data **Part C3: Scope of work** C3 - Scope of work **Part C4 : Site information** C4.1 Site information **CIDB Professional Services Contract (July 2009)**
F.1.4	The Employer's Agent, for the purposes of any communication between the employer and tenderer, is: **Development Bank of Southern Africa** Name: Tebogo Saudi Address: 1258 Lever Road, Headway Hill, Midrand, Gauteng Tel: (011) 313 3409 Fax: (011) 206 3409 E-mail: scmqueries@dbsa.org

DBSA	The Tender	Tender No. RFP318/2022: PROCUREMENT OF A PROFESSIONAL SERVICES PROVIDER (PSP) TO DEVELOP A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASIBILITY STUDY IN SUPPORT OF SOL-PLAATJE LOCAL MUNICIPALITY (SPLM)

<table>
<tr><th>Clause number</th><th>Tender Data</th></tr>
<tr><td></td><td>Attention is drawn to the fact that verbal information given by the employer's agent prior to the close of tenders will not be regarded as binding on the Employer. Only information issued formally by the employer in writing to tenderers will be regarded as amending the tender documents.</td></tr>
<tr><td>F 1.5</td><td>The employer reserves the right to reject award to the highest scoring tenderer (as calculated according to Clause F13.11.5 should the offer pose a commercial {and/or} delivery risk to the successful completion of the project and the Employer.</td></tr>
<tr><td>F.1.6.2</td><td>A competitive negotiation procedure will not be followed.</td></tr>
<tr><td>F.1.6.3</td><td>A two-stage system will not be followed.</td></tr>
<tr><td>F.2.1</td><td>Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders, and to have their tender submissions evaluated:

1. The tenderer has in its employ registered professionals such Engineers, Town Planners etc. or has obtained a firm undertaking from professional service providers who have in their employ such professionally registered persons, that are capable of providing such services listed in the table below:
<table>
<tr><th>ID</th><th>Key Resource / Expert</th><th>No.</th><th>Minimum Qualifications, Category of Professional Registration and Experience</th><th>Key Service(s) Discipline</th></tr>
<tr><td>1</td><td>Project Manager and Team Leader: Civil Engineering</td><td>x1</td><td>Registration as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least 15 years' post-graduation experience in WC/WDM in the municipal sphere in South Africa.</td><td>Project Leadership, Management and Coordination</td></tr>
<tr><td>2</td><td>Civil Engineer: Water Services Planning, Management and Operations</td><td>x1</td><td>Registration as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least 15 years' post-graduation experience WC/WDM in the municipal sphere in South Africa.</td><td>Civil Engineering Services</td></tr>
<tr><td>3</td><td>Development Planner (Municipal Infrastructure)</td><td>X1</td><td>Registration as a Professional Planner in terms of the Planning Professions Act, 2003, with at least 15 years' post-registration experience in development planning in the municipal and/or public sector environment.</td><td>Development Planning Services</td></tr>
<tr><td>4</td><td>Financial Analyst / Infrastructure Investment Analyst</td><td>x1</td><td>Professional registration as a Chartered Accountant CA (SA), or as a Chartered Financial Analyst (CFA). Must be a member of the Chartered Institute of Public Finance and Accountancy (CIPFA) or similar public-sector professional body. Must have at least 15 years post-graduation experience within any of the following areas:
Project Finance, Investment Analysis, Investment Planning, Financial Planning, Financial Analysis, Municipal Financial Management.</td><td>Infrastructure Investment Analysis</td></tr>
<tr><td>5</td><td>Environmental Management Practitioner</td><td>X1</td><td>Registration as a Professional Natural Scientist in terms of the National Scientific Professions Act, 2003. Must have at least 15 years post-registration experience in the environmental assessments, climate change mitigation, compliance and management aspects of integrated waste and materials management field in South Africa.</td><td>Environmental Management Practitioner</td></tr>
<tr><td>6</td><td>Geo-Information Science (GISc) Expert</td><td>X1</td><td>Bachelor's Degree in information Science or in Land Surveying. Must be registered as a Professional Geo-Information Science Practitioner PrGISc by the South African Council of Professional and Technical Surveyors</td><td>Geo-Information Services</td></tr>
</table>
</td></tr>
</table>

Clause number	Tender Data
	established in terms of the Professional Land and Technical Surveyors (PLATO) Act No. 40 of 1984, (or registered by the South African Geomatics Council in terms of the Geomatics Profession Act - Act 19 of 2013), and preferably be a member of the Geo-Information Society of South Africa (GISSA). Must have **at least 15 years post-registration experience** in the planning and establishment of GIS systems for public or private sector entities in South Africa
	2. The tenderer's primary business is to provide services in the built environment and the tenderer has experience in the provision of consulting engineering, infrastructure planning and related services. 3. 4. The tenderer confirms that it has put in place specifically for the purpose of this tender, professional indemnity insurance cover (which cover is effective from not later than the closing date of this tender) issued by a reputable insurer of an amount of not less than R4million in respect of a claim without limit to the number of claims. In the case of a Joint Venture, Consortium or Association, the lead party must have met this minimum requirement. 5. The tenderer (including all parties in a Joint Venture, Consortium, or Association) submits with his tender an original tax clearance certificate (active Tax Compliance Status (TCS) PIN) issued by the South African Revenue Services (SARS) which must be valid for the duration of the tender validity period. 6. 7. The Tenderer, or a member of the tenderer's team, is not on the lists of tender defaulters published by National Treasury in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. In addition, the tenderer, or any of his principals, is not/are not under any restriction(s) to do business with the employer.
F.2.7	The arrangements for a non-compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. Attendance register will be compiled by the DBSA SCM Unit. Addenda will be issued to all prospective tenderers who attended the meeting.
F.2.10.3	Rates and prices are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.
F.2.12	No alternative tender offers will be considered.
F.2.13.1	Where the tendering entity is a joint venture, it is recommended that the standard CIDB Joint Venture Agreement document be used.
F.2.13.3	Parts of each tender offer communicated ***via the electronic submission*** shall be submitted as one electronic copy respectively – (e.g. one electronic copy of the technical proposal and one electronic copy of the financial proposal for a two-envelope system).
F.2.13.4	The tender shall be signed by a person duly authorized to do so. Tenders submitted by joint ventures of two or more firms shall be accompanied by the document of formation of the joint venture, authenticated by a notary public or other official deputed to witness sworn statements, in which is defined precisely the conditions under which the joint venture will function, its period of duration, the persons authorized to represent and obligate it, the participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning.

DBSA	The Tender	Tender No. RFP318/2022: PROCUREMENT OF A PROFESSIONAL SERVICES PROVIDER (PSP) TO DEVELOP A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASIBILITY STUDY IN SUPPORT OF SOL-PLAATJE LOCAL MUNICIPALITY (SPLM)

Clause number	Tender Data
F.2.13.5	The employer's address for delivery of submissions and identification details to be shown on the submission are: Location of tender box: **Electronic Tender Box** provided by the DBSA Supply Chain Management **(SCM)** Physical address: **Access Link provided by DBSA** Supply Chain Management (SCM) Identification details: **RFP318/2022: PROCUREMENT OF A PROFESSIONAL SERVICES PROVIDER (PSP) TO DEVELOP A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASIBILITY STUDY IN SUPPORT OF SOL-PLAATJE LOCAL MUNICIPALITY (SPLM)**
F.2.13.10	*(Add after clause F.2.13.9)* By signing the offer part of C1.1 Form of Offer and Acceptance the tenderer declares that all information provided in the tender submission is true and correct.
F.2.15	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is **120 Days.**
F.2.16.2	1 (One) Professional Service provider to be appointed
	The tenderer is required to submit with his tender: 1) An active Tax Compliance Status (TCS) PIN issued by the South African Revenue Services. 2) A copy of the entity's professional indemnity insurance. 3) A declaration signed by all parties that the team used during the functionality assessment is still and will remain in place until the end of the contract period (if applicable). 4) An original or certified Copy of the B-BBEE Certificate/ Affidavit.
F.3.4	The Tender offers received will not be opened immediately by the Employer after the closing time. However, a record of the Tender offers received will be made by the Employer immediately after the closing time.
F.3.5	The two-envelope system will be followed for this Tender. **Non-adherence to this will disqualify the submission.**
F.3.11.1	The procedure for the evaluation of responsive tenders is **Method 4:** Financial offer, Quality and Preference}.
F.3.11.5	The procedure for the evaluation of responsive tenders is **Method 4** modified to comply with the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017. **Evaluation Criteria** The tenders will be evaluated in accordance with Method 4 of the CIDB Standard Tender Evaluation Methods in three stages, namely: Stage 1 : Responsiveness Stage 2 : Quality (Functionality) Stage 3 : Financial Offer and Preferential Evaluation Stage 4 : Risk Analysis and Other Objective Criteria **Stage 1: Responsiveness** **A.** Tenderers who do not adhere to those criteria listed as PRE-QUALIFIER, will be **disqualified immediately**:

Clause number	Tender Data

	Responsiveness Criteria	Prequalifying Criteria	Applicable to this Tender (Y/N)
1	Adherence in submitting Tender as two-stage folders: **Folder 1**: Pre-qualifiers and functionality proposal **Folder 2**: Financial proposal	**Pre-Qualifier**	Y
2	Attendance register for Compulsory Briefing session.	**Pre-Qualifier**	N
3	Proof of Registration with a recognized professional body/ institution, relevant to tender requirement (To be determined in line with Tender Requirement).	**Pre-Qualifier**	Y
4.	In terms of the DBSA Transformation Imperative Targets, the DBSA will consider companies that are EME's and QSE's witha minimum B-BBEE status of Level 2 who will contribute to meaningful B-BBEE initiatives as part of the tender process	**Pre-Qualifier**	Y
5	The successful Tenderer, if not itself an EME or QSE with a minimum B-BBEE status level 2, as per Section 4(1)(a) and (b)of the PPR 2017, must subcontract a minimum of 30% of the value of the contract to the following category referred to in Section 4(1)(c) of the PPR 2017: **(i).** an EME or QSE which is at least 51% owned by black people.	**Pre-Qualifier**	Y

B Tenderers who do not adhere to the response time indicated for clarification inquiries by the Employer will be deemed non-responsive and not be evaluated further.

Clause number	Tender Data

	Responsiveness Criteria	Clarification Time	Applicable to this Tender (Y/N)
6	Standard conditions of tender as required.	48 hours	Y
7	Returnable documents completed and signed.	48 hours	Y
8	Submission of Proof of Registration with National Treasury Central Supplier Database (CSD) Summary Report or A Valid and Active Tax Compliance Status Pin issued by SARS for Tax Compliance Status Verification: N.B - Bidder must be fully registered & tax compliant in order to do business with the DBSA.	7 working days	Y
9	A valid and active Tax Compliance Status Pin issued by SARS.	48 hours	Y
10	Valid original/ certified letter of good standing (COIDA).	48 hours	N

Stage 2: Quality {Functionality}

The following criteria will be used to evaluate and score functionality:

Clause number	Tender Data

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
1. Proposed Methodology and Approach:		**10**
Details of the proposed methodology and approach that the Tenderer intends to follow with regards to the effective provision of the professional services required for the development of the WC/WDM Bankable Feasibility Study for Sol-Plaatje Local Municipality (SPLM).	**Excellent = 10 points** The important issues are approached in an innovative and efficient way, indicating that the Tenderer has outstanding knowledge of state-of-the- art approaches. The approach paper details ways to improve the project outcomes and the quality of the outputs	10
	Good = 7 points The approach is specifically tailored to address the specific project objectives and methodology and is sufficiently flexible to accommodate changes that may occur during execution. The quality plan and approach to managing risk etc. are specifically tailored to the critical characteristics of the project.	
	Acceptable = 5 points The approach is generic and not necessarily tailored to address the specific project objectives. The approach does not meaningfully deal with the critical characteristics of the project. The quality plan, and approach to managing risk etc. are too generic.	
	Poor = 3.5 points The technical approach and / or methodology is poor / is unlikely to satisfy project objectives or requirements. The Tenderer has misunderstood certain aspects of the scope of work and does not deal with the critical aspects of the project.	
	Non-responsive = 0 points No response. Failed to address the methodology and approach.	
2. Experience / Track Record of the Tenderer (Lead Tenderer and Entities in JV, Consortium, Association, etc.):		**40**
Tenderer's experience and track record in executing work of similar nature to the development or updating implementing WC/WDM Bankable Feasibility Study/ Strategy in support of Sol-Plaatje LM. The tenderer must have completed at least **5** projects in same.	**Excellent = 40 points** Tenderer has demonstrated experience and track record in completing five (5) or more WC/WDM Bankable Feasibility Study Or Strategies in the past 10 years in South Africa.	40
	Good = 28 points Tenderer has demonstrated experience and track record in completing at least four (4) WC/WDM Bankable Feasibility Study Or Strategies in the past 10 years in South Africa.	
	Acceptable = 20 points Tenderer has demonstrated experience and track record in completing at least three (3) WC/WDM Bankable Feasibility Study OR Strategies in the past 10 years in South Africa.	

Clause number	Tender Data		
		Poor = 14 points Tenderer has demonstrated experience and track record in completing at least two WC/WDM Bankable Feasibility Study OR Strategies in the past 10 years in South Africa.	
		Non-Responsive = 0 points No response. Failed to provide any evidence of experience and track record or completed less than two WC/WDM Bankable Feasibility Study OR Strategies in the past 10 years in South Africa.	
	3. Experience and Qualifications of the Tenderer's Proposed Key Resources / Experts:		**40**
	1. Project Manager and Team Leader: Civil Engineering Registration with **ECSA** as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least **15 years' post-graduation** experience in WC/WDM in the municipal sphere in South Africa. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience.**	**Excellent:** From 15 years upwards post-registration experience = 10 **points**. **Good:** From 10 years to less than 15 years' post-registration experience = **7 points.** **Acceptable:** From 5 years to less than 10 years post experience = **5 points.** **Poor:** From 2years to less than 5 years post experience = **3.5 points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	10
	2. Civil Engineer/Technologist: Water Services Planning, Management and Operations: Registration with **ECSA** as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least **15 years' post-graduation** experience in WC/WDM in the municipal sphere in South Africa. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Excellent:** From 15 years upwards post-registration experience = **10 points.** **Good:** From 10 years to less than 15 years post-registration experience = **7 points.** **Acceptable:** From 5 years to less than 10 years post-registration experience= **5 points.** **Poor:** From 2 years to less than 5 years post-experience= **3.5 points** **Non-responsive:** Less than 3 years post-registration experience = **0 points.**	10
	3. Development Planner (Municipal Infrastructure): Registration with **SACPLAN** as a Professional Planner in terms of the Planning Professions Act, 2003, with at least 1**5 years' post-registration experience** in development planning in the municipal and/or public sector environment. **Attach copies of professional Registration, qualifications and CV's**	**Excellent:** From 15 years upwards post-registration experience = **10 points.** **Good:** From 10 years to less than 15 years post-registration experience = **7 points.** **Acceptable:** From 5 years to less than 10 years post-registration experience= **5 points.**	5

Clause number	Tender Data		
	clearly indicating a detailed profile of their previous work experience		
	4. Environmental Management Practitioner Registration as a Professional Natural Scientist in terms of the National Scientific Professions Act, 2003. Must have **at least 15 years post-registration experience** in the environmental assessments, climate change mitigation, compliance and management aspects of integrated waste and materials management field in South Africa. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Excellent:** From 15 years upwards post-registration experience = **5 points**. **Good:** From 10 years to less than 15 years = **3.5 points** **Acceptable:** From 5 years to less than 10 years = **2.5 points** **Poor:** From 2 years to less than 5 years = **1.75 points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	5
	5. Financial Analyst / Infrastructure Investment Analyst: Professional registration as a Chartered Accountant CA (SA), or as a Chartered Financial Analyst (CFA). Must be a member of the Chartered Institute of Public Finance and Accountancy (CIPFA) or similar public-sector professional body. Must have **at least 15 years post-graduation experience** within any of the following areas: Project Finance, Investment Analysis, Investment Planning, Financial Planning, Financial Analysis, Municipal Financial Management. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Excellent:** From 15 years upwards post-registration experience = **5 points**. **Good:** From 10 years to less than 15 years = **3.5 points** **Acceptable:** From 5 years to less than 10 years = **2.5 points** **Poor:** From 2 years to less than 5 years = **1.75points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	5
	6. Geo-Information Science (GISc) Expert: Bachelor's Degree in information Science or in Land Surveying. Must be registered as a Professional Geo-Information Science Practitioner PrGISc by the South African Council of Professional and Technical Surveyors established in terms of the Professional Land and Technical Surveyors (PLATO) Act No. 40 of 1984, (or registered by the South African Geomatics Council in terms of the Geomatics Profession Act - Act 19 of 2013), and preferably be a member	**Excellent:** From 15 years upwards post-registration experience = **5 points**. **Good:** From 10 years to less than 15 years = **3.5 points** **Acceptable:** From 5 years to less than 10 years = **2.5 points** **Poor:** From 2 years to less than 5 years = **1.75 points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	5

Clause number	Tender Data

of the Geo-Information Society of South Africa (GISSA). Must have **at least 15 years post-registration experience** in the planning and establishment of GIS systems for public or private sector entities in South Africa **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**		
4. Lead Tenderer's Quality Management System:(ISO 9001:2008 certification)		**10**
The Lead Tenderer's policies relating to Quality Management with regard to the effective provision of professional services required for the successful delivery of the WC/WDM Feasibility Study Or Strategies in support of Sol-Plaatje LM.	**Excellent = 10 points** The Tenderer demonstrates that they employ a reasonable quality assurance system and can prove that this system is in place and in use. In addition, they have obtained ISO 9001: 2008 Certification	10
	Good = 7 points The Tenderer demonstrates employment of a reasonable quality assurance system and can prove that this system is in place and in use.	
	Acceptable = 5 points The Tenderer fails to demonstrate employment of a reasonable quality assurance system and fails to prove that this system is in place and in use.	
	Non-responsive = 0 points No Quality Assurance System submitted.	
Maximum possible score (Points)		**100**
Minimum threshold score for Tenderer's Financial Proposal to be considered		**70**

****Note**: *These are the minimum resources required. The Tenderer can provide Additional resources that might be required for the execution of the project and they should be specified, in terms of names, experience, CVs, registration etc. and provide an Organogram to specify the roles and responsibilities of all the resources*

Please note: Tenderers must achieve a minimum overall score of 70 as well as the minimum score per criteria in order to be considered further.

Clause number	Tender Data
	Stage {3}: Financial Offer and Preference Evaluation With reference to the PPPFA 2017, the evaluation shall be based on the 80/20 Principle and the points for evaluation criteria are as follows: **Evaluation Criteria** / **Points** 1. Price — 80 2. Broad Based Black Economic Empowerment — 20 3. Total — 100 *The contract may be awarded to a tenderer that did not score the highest points, in accordance with section 2(1)(f) of the PPPFA 2017. **Stage {4}: Risk Analysis & Other Objective Criteria** a) Firstly, in addition to the financial offer and preference evaluation, the Tenderers having the highest ranking / number of points, will additionally be reviewed against the following points listed as "**Other Objective Criteria**" in terms of the PPPFA Regulations of 2017, in order to ascertain suitability for award. i) If having passed Responsiveness, the tenderer will again be checked I terms of having a Compliant Tax Status at time of recommendation to confirm that the status has not changed, based on an active and Tax Complaint Pin issued by the South African Revenue Services. ii) Fully compliant and registered with the National Treasury Central Supplier Database. iii) No misrepresentation in the tender information submitted. iv) Any non-performance on DBSA, or DBSA client projects. v) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and vi) The tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract. vii) Prohibited from doing business with the public sector viii) Listed on the Register of Tender Defaulters by the National Treasury ix) Convicted by a court of law for fraud and corruption x) Removed from a contract between them and any organ of state on account of failure to perform on or comply with the contract. xi) Financial health of the bidder may be assessed if deemed necessary, to ensure that the PSP will be able to operate as per required deliverables. i) The contents of project specific tender returnables will be assessed i.e. project specific resources, professional indemnity insurance, professional registration, approach and methodology which are to be included in the contract. ii) The placement of tendered resources will be assessed to ensure that resources indicated by CV's and tendered to work on the program will indeed work on the program and will not be replaced by more junior or less competent resources
F.13.13	Tender offers will only be accepted for evaluation if: a) the tenderer submits an active Tax Compliance Status (TCS) PIN issued by the South African Revenue Services or submits an original written confirmation from SARS that the Tenderer has made arrangements to meet outstanding tax obligations;

Clause number	Tender Data
	b) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and c) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract d) the tenderer includes in his submission all the returnable documents mentioned in T2, T.2.1 of this procurement document
F.3.17	The number of paper copies of the signed contract to be provided by the Employer is one.
F.4	**Additional Conditions of Tender** None
F.4.1	**Invalid tenders** Tenders shall be considered invalid and shall be endorsed and recorded as such in the tender opening record, by the responsible official who opened the tender, in the following circumstances: a) If the two-envelope process was not adhered to, if it was stated as a requirement; b) if the tender offer is not submitted on the Form of Offer and Acceptance bound into this tender document (form C1.1, Part C1: Agreements and Contract Data); c) if the tender is not completed in non-erasable ink; d) if the Form of Offer and Acceptance has not been signed; e) If the Form of Offer and Acceptance is signed, but the name of the tenderer is not stated or is indecipherable.
F.4.2	**Negotiations with preferred tenderers** The Employer may negotiate the final terms of a contract with tenderers identified through the competitive tendering process as preferred tenderers provided that such negotiation: a) does not allow any preferred tenderer a second or unfair opportunity; b) is not to the detriment of any other tenderer; and c) Does not lead to a higher price than the tender as submitted. Minutes of any such negotiations shall be kept for record purposes.

Part T2: Returnable Documents

T2.1 List of Returnable Documents

The tenderer must complete the following Returnable Documents in **black ink**:

1. Returnable Schedules required for tender evaluation purposes

In terms of this Request for Proposals (**RFP318/2022),** the following documentation must be submitted for the tender response to be deemed valid for consideration:

T2.2.1: Briefing Session: Declaration of Attendance
T2.2.2: Record of Addenda to Tender Documents
T2.2.3: Proposed Amendments and Qualifications by Tenderer
T2.2.4: Compulsory Enterprise Questionnaire
T2.2.5: Certificate of Authority for Joint Ventures
T2.2.6: Tenderer's active Tax Compliance Status (TCS) PIN issued by the South African Revenue Services (SARS).
T2.2.7 Tenderer's Central Supplier Database Summary Report
T2.2.8: Bid Commitment and Declaration of Interest
T2.2.9: Declaration of Tenderer's Past Supply Chain Management Practices
T2.2.10: Certificate of Independent Bid determination [SBD 9]
T2.2.11: Professional Indemnity Insurance
T2.2.12: Preferencing Schedule:
T2.2.13: Copy of Joint Venture Agreement
T2.2.14: Evaluation Schedule: Proposed Methodology and Approach
T2.2.15: Evaluation Schedule: Experience and Track Record of the Tenderer in Executing Work of Similar Nature
T2.2.16: Evaluation Schedule: Experience and Qualifications of the Tenderer's Proposed Key Resources / Experts
T2.2.17: Evaluation Schedule: Lead Tenderer's Quality Management System

2. Other documents required for tender evaluation purposes

a) A copy of the Joint Venture Agreement (if applicable), Consortium or Association Agreements which is to be appended to Schedule T2.2.13 (to illustrate validity of previous commitment)

3. The offer portion of the C1.1 Offer and Acceptance

4. Contract Data (Part 1 and Part 2)

5. Price Schedules

T2.2.1 BRIEFING SESSION – DECLARATION OF ATTENDANCE

Where applicable, the DBSA may choose to utilise an Attendance Register at the Brief that will be used as the proof of attendance.

TENDER NUMBER	**RFP318/2022**		
TENDER DESCRIPTION	**PROCUREMENT OF A PROFESSIONAL SERVICES PROVIDER (PSP) TO DEVELOP A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASIBILITY STUDY IN SUPPORT OF SOL-PLAATJE LOCAL MUNICIPALITY (SPLM)**		
TENDER CLOSING DATE	**16 November 2022**	**CLOSING TIME**	**23h55**

DBSA is acting as the Programme Implementing Agent (PIA) on behalf of the **Sol-Plaatje Local Municipality**. The goods / services are therefore required by the Customer Department / Institution, as indicated in this tender documentation.

CUSTOMER DEPARTMENT	**SOL-PLAATJE LOCAL MUNICIPALITY**						
BRIEFING SESSION	**Yes**		**No**		**DATE**		**TIME**	
VENUE							

I/We hereby declare that I/we attended the compulsory briefing session to understand the requirements of the DBSA in order to supply all or any of the supplies and/or to render all or any of the services described in the attached tender documents, on the terms and conditions and in accordance with the specifications stipulated in the tender documents.

I, THE UNDERSIGNED (NAME) _____CERTIFY THAT THE INFORMATION FURNISHED AT THE BRIEFING SESSION WAS UNDERSTOOD.

TENDERER (OR ASSIGNEE(S) NAME		**POSITION**		**SIGNATURE**		**DATE**	
FULL COMPANY NAME							
DBSA OFFICIAL NAME		**POSITION**		**SIGNATURE**		**DATE**	

SIGNATURE OF DBSA REPRESENTATIVE

T2.2.2 RECORD OF ADDENDA TO TENDER DOCUMENTS

I/We confirm that the following communication received from the Employer before the submission of this tender, amending the tender documents, have been taken into account in this tender submission and are attached herewith

ID	DATE	TITLE OR DETAILS
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

All Addenda to be attached to this page. Attach additional pages of this table if more space is required.

SIGNED ON BEHALF OF TENDERER: ……..... **Date:**…….

T2.2.3 PROPOSED AMENDMENTS AND QUALIFICATIONS BY TENDERER

The Tenderer should record any **proposed** deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such proposed deviations and qualifications in a covering letter attached to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the Employer's handling of material deviations and qualifications.

If no deviations or modifications are desired, the schedule hereunder is to be marked NIL and signed by the Tenderer.

PAGE	CLAUSE OR ITEM	PROPOSAL

Number of sheets, appended by the tenderer to this Schedule..... (If nil, enter NIL).

SIGNED ON BEHALF OF TENDERER: ……..... **Date:**……

T2.2.4 COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a joint venture, consortium or association, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise: . . . . . .

Physical address of enterprise: . . . . . .

(LOCAL OFFICE) . . . . . .

. . . . . .

Section 2: VAT registration number, if any: . . . . . .

Section 3: CIDB registration number, if any: . . . . . .

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

***** Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number . . . . . .

Close corporation number . . . . . .

Tax reference number . . . . . .

Date tenderer commenced provision of services in built-environment……..

Section 6: Record of service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Provinces
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ a member of the National Assembly or the National Council of Province
- ☐ a member of the board of directors of any municipal entity
- ☐ an official of any municipality or municipal entity
- ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ an employee of Parliament or a provincial legislature

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the enterprise:

i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or with the Employer and his Agents that could cause or be interpreted as a conflict of interest; and
v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Note: Please attach company registration /incorporation documents to this page

SIGNED ON BEHALF OF TENDERER: . . . . . **Date:**. . . . . .

Non-Collusion Form

I, the undersigned

_____

In my capacity as

_____

(insert Sole Owner, Partner, Director, President, Secretary or other title)

Of _____

(insert name of the Company).

Acknowledges that on behalf of the above mentioned Company, I submit to Development Bank of Southern Africa, a tender and that all statements in such tender are of fact and are both true and correct.

That such tender was not made in the interest of or on behalf of any undisclosed Person , Partnership, Company, Association, Organization or Corporation.

That such tender is genuine and not collusive or a sham.

That I have not directly or indirectly by agreement, communication or reference with anyone, attempted to induce action prejudicial to the interest of Development Bank of Southern Africa, or any other bidder or anyone interested in the proposed contract.

That prior to the opening and reading of bids,

a. **I did not, directly or indirectly, induce or solicit anyone else to submit a false or sham tender**
b. **I did not, directly or indirectly, collude, conspire, connive or agree with anyone else that the said bidder or any one else would submit a false or sham tender, or that anyone should refrain from tendering or withdraw his tender.**
c. **I did not, in any manner, directly or indirectly, seek by agreement, communication or conference with anyone to raise or fix my tender price or anyone else, or to raise or fix any overhead, profit or cost element of his tendered price of that of anyone else.**
d. **I did not directly or indirectly, submit this tender price or any breakdown, thereof, or the contents thereof, or divulge information or data relative thereof, to any Corporation, Partnership, Company, Association, Organisation, Tender Depository, or to any member or agent thereof, or to any individual group of individuals, except to the Parent Company holding a controlling interest (above 50%) in my business.**

Dated at _____**on this** _____**day of** _____

_____

Signed on behalf of the tenderer

T2.2.5 CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This returnable schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer (in support of our expression of interest) in joint venture, consortium or association under a formal legal arrangement and hereby authorize Mr./Ms ……., authorised signatory of the company, joint venture, consortium, association, close corporation or partnership ……..., acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTORISED SIGNATORY
		Signature…….. Name…… Designation……..
		Signature…….. Name…… Designation……..
		Signature…….. Name…… Designation……..

Note: A copy of the Joint Venture Agreement, Consortium Agreement, or Association Agreement (Refer to F2.13.1 in Part T1.2) showing clearly the **percentage contribution of each partner** to the Joint Venture shall be appended to this schedule.

T2.2.6 TENDERER'S VALID TAX COMPLIANCE STATUS (TCS) PIN

IT IS A CONDITION OF THIS TENDER THAT THE TAXES OF THE TENDERER MUST BE IN ORDER, OR THAT SATISFACTORY ARRANGEMENTS HAVE BEEN MADE WITH THE SOUTH AFRICAN REVENUE SERVICES (SARS) TO MEET THE RESPONDENT'S TAX OBLIGATIONS.

BIDDERS TAX STATUS MUST REMAIN COMPLIANT IN RESPECT TO THE EVALUATION PROCESS THROUGHOUT THE TENDER PROCESS, IN ORDER FOR A BIDDER TO BE EVALUATED.

1. The active Tax Compliance Status (TCS) PIN issued by the South African Revenue Services must be submitted together with this tender and appended to this page. Failure to submit the active Tax Compliance PIN will result in the **invalidation/ disqualification** of the tender submission.
2. Valid Tax Compliance is a mandatory requirement for successful bidders post the tender process.
3. Where Joint Ventures/ Consortia/ Associations, etc. are involved, the Tax Compliance PIN of the main Joint Venture Partner as well as that of all the Joint Venture Partners must be appended to this page.

SIGNED ON BEHALF OF TENDERER: . . . . . **Date:** . . . . . .

T2.2.7: TENDERER'S CENTRAL SUPPLIER DATABASE SUMMARY REPORT

Tenderers are to append the summary report of the Government's Central Supplier Database in respect of the Tenderer, or of the main JV Partner to this page.

Tax Compliant Status and CSD Registration Requirements

All PROSPECTIVE BIDDERS MUST HAVE A TAX COMPLIANT STATUS EITHER ON THE CENTRAL SUPPLIER DATABASE (CSD) OF THE NATIONAL TREASURY OF SARS E FILING PRIOR TO APPOINTMENT/AWARD OF THE BID.

REGISTRATION ON THE CSD SITE OF THE NATIONAL TREASURY IS A COMPULSORY REQUIREMENT FOR A BIDDER TO BE APPOINTED, TO CONDUCT BUSINESS WITH THE DBSA. THE ONUS IS ON THE SUCCESSFUL BIDDER TO REGISTER ON THE CSD SITE AND PROVIDE PROOF OF SUCH REGISTRATION PRIOR TO APPOINTMENT/AWARD OF THE BID.

CSD Registration Number:	

SIGNED ON BEHALF OF TENDERER: . . . . . **Date:** . . . . . .

T2.2.8 BID COMMITMENT AND DECLARATION OF INTEREST

PART A: BID COMMITMENT

1. I/We hereby bid to supply all or any of the supplies and/or to render all or any of the services described in the attached tender documents to the Development Bank of Southern Africa (DBSA), on the terms and conditions and in accordance with the specifications stipulated in the tender documents (and which shall be taken as part of, and incorporated into, this tender) at the prices and on the terms regarding time for delivery and/or execution inserted therein.

2. I/We agree that -

   a) the offer herein shall remain binding upon me/us and open for acceptance by the DBSA during the validity period indicated and calculated from the closing time of the bid;

   b) this tender and its acceptance shall be subject to the terms and conditions contained in the tender documents and Preference Points Claim Form – General Conditions and Definitions of the Preferential Procurement Policy Framework Act – PPPFA 2017 with which I am/we are fully acquainted;

   c) if I/we withdraw my/our tender within the period for which I/we have agreed that the tender shall remain open for acceptance, or fail to fulfil the contract when called upon to do so, the DBSA may, without prejudice to its other rights, agree to the withdrawal of my/our tender or cancel the contract that may have been entered into between me/us and the DBSA and I/we will then pay to the DBSA any additional expense incurred by the DBSA having either to accept any less favourable tender or, if fresh tenders have to be invited, the additional expenditure incurred by the invitation of fresh tenders and by the subsequent acceptance of any less favourable tender; the DBSA shall also have the right to recover such additional expenditure by set-off against moneys which may be due or become due to me/us under this or any other tender or contract or against any guarantee or deposit that may have been furnished by me/us or on my/our behalf for the due fulfilment of this or any other tender or contract and pending the ascertainment of the amount of such additional expenditure to retain such moneys, guarantee or deposit as security for any loss the DBSA may sustain by reason of my/our default;

   d) if my/our tender is accepted the acceptance may be communicated to me/us by letter or order by ordinary post or registered post and that SA Post Office Ltd shall be regarded as my/our agent, and delivery of such acceptance to SA Post Office Ltd shall be treated as delivery to me/us;

   e) the law of the Republic of South Africa shall govern the contract to be created by the acceptance of my/our tender and that I/we choose *domicile citandi et executandi* in the Republic at (full address of this place);

FULL ADDRESS	

3. I/We furthermore confirm that I/we have satisfied myself/ourselves as to the correctness and validity of my/our tender; that the price(s) and rate(s) quoted cover all the work/item(s) specified in the tender documents and that the price(s) and rate(s) cover all my/our obligations under a resulting contract and that I/we accept that any mistakes regarding price(s) and calculations will be at my/our risk.

4. I/We hereby accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me/us under this agreement as the Principal(s) liable for the due fulfilment of any contract, which might be awarded based on this offer.

5. I/We agree that any action arising from the contract to be entered into, may in all respects be instituted against me/us and I/we hereby undertake to satisfy fully any sentence or judgment which may be pronounced against me/us as a result of such action.

6. I/We declare that I/we have participation/no participation* in the submission of any other offer for the supplies/services described in this tender document. If in the affirmative, state names(s) of Tenderer(s) involved

* Delete whichever is not applicable.

OTHER TENDERERS INVOLVED	

7. AUTHORIZATION

Are you duly authorized to sign the bid?	INDICATE			
	Y		N	

8. DECLARATION

Has the Declaration of Interest (part B of this form) been duly completed?	INDICATE			
	Y		N	

T2.2.8 BID COMMITMENT AND DECLARATION OF INTEREST [Continued]

PART B: DECLARATION OF INTEREST

9. Any legal person, including persons employed by the state[1], or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes an advertised competitive bid, a limited bid, a proposal or written price quotation). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the Tenderer or his/her authorized representative declare his/her position in relation to the evaluating/adjudicating authority where-

   - the Tenderer is employed by state; and/or
   - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved with the evaluation and / or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and / or adjudication of the bid

10. **In order to give effect to the above, the following questionnaire shall be completed and submitted with the bid.**

10.1 Full Name of Tenderer or his/ her representative:	
10.2 Identity Number:	
10.3 Position occupied in the company : (director, trustee, shareholder[2], member)	
10.4 Registration number of company, enterprise, close corporation, partnership agreement or trust	
10.5 Tax Reference Number:	
10.6 Vat Registration Number:	
10.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and if applicable, employee / PERSAL numbers must be indicated in paragraph 11 below	

*"State" means-

a) any national and provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999),
b) any municipality or municipal entity
c) provincial legislature
d) national Assembly or the national Council of provinces, or
e) Parliament

[2]"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise/business and exercises control over the enterprise.

10.7 Are you or any person connected with the Tenderer, presently employed by the state?	Y		N	
If so, furnish the following particulars	Name of person/Director/shareholder/member: Name of Institution to which the person is connected: Position occupied in the institution:			

	Any other particulars:

10.8 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector?	Y		N	
10.8.1 If yes, did you attach proof of such authority to the bid document? (Note: Failure to submit proof of such authority, where applicable, will result in the disqualification of the bid).	Y		N	
If no, furnish reasons for non-submission of such proof				

10.9 Did you or your spouse, or any of the company's directors /trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months?	Y		N	
If YES, furnish particulars				

10.10 Do you, or any person connected with the Tenderer, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this tender?	Y		N	
If so, furnish particulars				

10.11 Are you, or any person connected with the Tenderer, aware of any relationship (family, friend, other) between any other Tenderer and any person employed by the state who may be involved with the evaluation and or adjudication of this tender?	Y		N	
If so, furnish particulars				

10.12 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are tendering for this contract?	Y		N	
If so, furnish particulars				

11. Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	Personal Income Tax Reference Number	State Employee Number / Persal Number

DECLARATION

I, THE UNDERSIGNED (NAME)…….....CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 10.1 to 10.12 ABOVE IS CORRECT.

I ACCEPT THAT THE **DBSA** MAY ACT AGAINST ME BY DISQUALIFYING MY TENDER AND BY TAKING ANY OTHER NECESSARY ACTION SHOULD THIS DECLARATION PROVE TO BE FALSE.

NAME AND SIGNATURE OF TENDERER AND ASSIGNEES	Name:_____ Signature:_____	DATE		POSITION	

T2.2.9 DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

The tenderer is obliged to complete the following declaration and where necessary furnish the required particulars in relation to persons or firms that are, or have been:

a) Prohibited from doing business with the public sector

b) Listed on the Register of Tender Defaulters by the National Treasury

c) Convicted by a court of law for fraud and corruption

d) Removed from a contract between them and any organ of state on account of failure to perform on or comply with the contract.

Item	Question	Yes	No
1.1	Is the Tenderer or any of its directors listed on the National Treasury's database as a company or person prohibited from doing business with the public sector? **(Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the *audi alteram partem* rule was applied).**	Yes ☐	No ☐
1.1.1	If so, furnish particulars:		
1.2	Is the Tenderer or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? **(To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number 012 3265445).**	Yes ☐	No ☐
1.2.1	If so, furnish particulars:		
1.3	Was the Tenderer or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
1.3.1	If so, furnish particulars:		
1.4	Was any contract between the Tenderer and any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
1.4.1	If so, furnish particulars:		

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief and knowledge both true and correct.

Signature:	
Date:	
Name:	
Position:	
Respondent:	

.

T2.2.10 CERTIFICATE OF INDEPENDENT BID DETERMINATION [SBD 9]

CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Standard Bidding Document (SBD) must form part of all bids[1] invited.

2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.

3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:

a. disregard the bid of any Tenderer if that Tenderer, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.

b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.

4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

[1] **Includes price quotations, advertised competitive bids, limited bids and proposals.**

[2] **Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.**

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

{(Bid (Tender) Number and Description)}

in response to the invitation for the bid made by:

_____

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of:_____that:

[Name of Tenderer (Tenderer)]

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the Tenderer to sign this Certificate, and to submit the accompanying bid, on behalf of the Tenderer;
4. Each person whose signature appears on the accompanying bid has been authorized by the Tenderer to determine the terms of, and to sign the bid, on behalf of the Tenderer;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
    (a) Has been requested to submit a bid in response to this bid invitation;
    (b) Could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
    (c) Provides the same goods and services as the Tenderer and/or is in the same line of business as the Tenderer
6. The Tenderer has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium[3] will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
    (a) prices;
    (b) geographical area where product or service will be rendered (market allocation)
    (c) methods, factors or formulas used to calculate prices;

(d) the intention or decision to submit or not to submit, a bid;

(e) the submission of a bid which does not meet the specifications and conditions of the bid; or

(f) bidding with the intention not to win the bid.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

…… ……

Signature Date

…… ……

Position Name of Tenderer (Tenderer)

[3] **Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.**

T2.2.11 PROFESSIONAL INDEMNITY INSURANCE

The tenderer is referred to clause F.2.1. of the Tender Data and shall state below details of the professional indemnity insurance held by the tenderer. Where the tenderer is a joint venture, consortium or association, each party to the joint venture must submit details of their professional indemnity insurance. Proof of insurance or confirmation from a reputable Insurance Broker that the tenderer is eligible for the prescribed professional indemnity insurance cover should he/she be awarded the contract, must be appended to this schedule.

DETAILS OF PROFESSIONAL INDEMNITY INSURANCE		
NAME OF INSURED	**NAME OF INSURER**	**LIMIT OF INDEMNITY IN RESPECT OF EACH CLAIM**

SIGNED ON BEHALF OF TENDERER: . . . . . **Date:** . . . . . .

T2.2.12 PREFERENCING SCHEDULES: BBBEE

PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000: PREFERENTIAL PROCUREMENT REGULATIONS, 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

---

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to {not exceed} R50 000 000 (all applicable taxes included) and therefore the {80/20} preference point system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

(a) Price; and

(b) B-BBEE Status Level of Contribution.

1.4 The maximum points for this bid are allocated as follows:

ITEM / DESCRIPTION	POINTS
PRICE	**80**
B-BBEE STATUS LEVEL OF CONTRIBUTION	**20**
TOTAL POINTS FOR PRICE AND B-BBEE MUST NOT EXCEED	**100**

1.4.1 if it is unclear which preference point system will be applicable, either the 80/20 or 90/10 preference point system will apply and the lowest acceptable tender will be used to determine the applicable preference point system.

1.5 Failure on the part of a bidder to submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS), or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or a sworn affidavit confirming annual turnover and level of black ownership in case of an EME and QSE together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser/employer reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser/employer.

2. DEFINITIONS

(a) **"all applicable taxes"** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

(b) **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;

(c) "**B-BBEE status level of contributor"** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

(d) **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;

(e) **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

(f) **"comparative price"** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;

(g) **"consortium or joint venture"** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;

(h) **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

(i) **"EME"** means an Exempted Micro Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

(j) **"Firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

(k) **"functionality"** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;

(l) **"non-firm prices"** means all prices other than "firm" prices;

(m) **"person"** includes a juristic person;

(n) **"QSE"** means a Qualifying Small EEnterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

(o) **"rand value"** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

(p) ***"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;*

(q) **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;

(r) **"trust"** means the arrangement through which the property of one person is made over or

bequeathed to a trustee to administer such property for the benefit of another person; and

(s) **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

3.1 The bidder obtaining the highest number of total points will be awarded the contract, subject to "Other Objective Criteria" listed under the Tender Data.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.

3.3 Points scored must be rounded off to the nearest 2 decimal places.

3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.

3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

4.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\min}{P\min}\right)$$

Where

Ps = Points scored for comparative price of bid under consideration

Pt = Comparative price of bid under consideration

Pmin = Comparative price of lowest acceptable bid

5. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

5.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5.2 A bidder who qualifies as an EME in terms of the B-BBEE Act must submit a sworn affidavit confirming Annual Total Revenue and Level of Black Ownership.

5.3 A Bidder other than EME or QSE must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.

5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.

5.6 Tertiary Institutions and Public Entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

5.7 A tenderer may not be awarded points for B-BBEE status level of contributor if the tender documents indicate that the tenderer intends subcontracting more than 25% of the value of the contract to any other person not qualifying for at least the points that the tenderer qualifies for, unless the intended subcontractor is an EME that has the capability to execute the subcontract

5.8 A tenderer awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the tenderer concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

6. BID DECLARATION

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 5.1

7.1 B-BBEE Status Level of Contribution: = ……(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or a sworn affidavit.

8. SUB-CONTRACTING

8.1 Will any portion of the contract be sub-contracted?

(***Tick applicable box***)

YES		NO	

8.1.1 If yes, indicate:

i) What percentage of the contract will be subcontracted: ……%

ii) The name of the sub-contractor:

…….....

iii) The B-BBEE status level of the sub-contractor: ……

iv) Whether the sub-contractor is an EME/ QSE.
(Tick applicable box)

YES		NO	

9. **DECLARATION WITH REGARD TO COMPANY/FIRM**

9.1 Name of company/firm:

……..

9.2 VAT registration number: ……

9.3 Company registration number: ……..

9.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

……
……
……
……..

9.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[*TICK APPLICABLE BOX*]

9.7 Total number of years the company/firm has been in business: …….

9.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in

paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

i) The information furnished is true and correct;

ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –

(a) disqualify the person from the bidding process;

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

(d) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution.

WITNESSES

1. ……..

2. …….

……
SIGNATURE(S) OF BIDDERS(S)

DATE: ……..

ADDRESS: ……..

……..

……..

T2.2.13 COPY OF JOINT VENTURE AGREEMENT

i) Tenderers are to append a copy of the Joint Venture Agreement (if applicable), Consortium, or Association Agreements or Letters to this schedule.

ii) Declaration of the team that all team members are still as per submission during the functionality assessment stage, if functionality is applicable.

iii) Tenderers who invited from an approved Panel, may only submit a bid in the name of the invited company. Any subsequent contracting that may arise, will only be concluded with the invited company.

SIGNED ON BEHALF OF TENDERER: . . . . . **Date:**. . . . . .

T2.2.14 EVALUATION SCHEDULE: PROPOSED METHODOLOGY AND APPROACH

The proposed methodology and approach paper must respond to the scope of work and outline the proposed approach / methodology including that relating to development facilitation, environment, health and safety. The approach paper should articulate what value-add the respondent will provide in achieving the stated objectives for the project.

The respondent must explain his / her understanding of the objectives of the assignment and the Employer's stated and implied requirements, highlight the issues of importance, and explain the technical approach they would adopt to address them. The approach paper should include the methodologies to be adopted to achieve the intentions of the proposed approach. The approach should include a project plan that outlines processes, procedures and associated resources, the applicants and times to achieve requirements. Further, it ought to indicate risk management, quality assurance measures to be effected, and acceleration delivery methods to be used to ensure delivery within anticipated programme.

The respondent must attach his / her approach paper to this page. The approach paper **should not be longer than five (5) pages**. The scoring of the methodology and approach will be as outlined in F.3.11.5 of the Tender Data.

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the Bidder, confirms that the contents of this schedule are within their knowledge and are to the best of their belief both true and correct.

Signature:	
Date:	
Name:	
Position:	
Respondent:	

T2.2.15 EVALUATION SCHEDULE: EXPERIENCE / TRACK RECORD OF THE TENDERING ENTITY IN EXECUTING WORK OF SIMILAR NATURE

The experience of the Tenderer (or that of the constituent member in a joint venture, consortium or association) in the execution of projects related to the development of a Water Conservation Water Demand Management in the municipal sphere over the past 10 years will be evaluated. Tenderers should very briefly describe their experience in this regard and attach this to this schedule. The description should be put in the Tables provided below and attached to this schedule. The scoring of the Tenderer's experience will be as outlined in F.3.11.5 of the Tender Data.

Schedule T2.2.15: Summarized Details of Experience / Track Record of the Tendering Entity in Executing Work of Similar Nature

EXPERIENCE / TRACK RECORD OF THE TENDERER OVER THE PAST 10 YEARS IN: The development of a Water Conservation Water Demand Management (WC/WDM) Bankable Feasibility Study or Strategy in the municipal sphere in South Africa.				
Employer, contact person and telephone number and email address	**Description of Professional Services Provided in the development of a WCWDM Bankable Feasibility Study oR strategy in the municipal sphere in the last 10 years.**	**Value of Service provided (inclusive of VAT (Rand)**	**Date Service Commenced**	**Date Service Ended**

EXPERIENCE / TRACK RECORD OF THE TENDERER OVER THE PAST 10 YEARS IN: The development of a Water Conservation Water Demand Management (WC/WDM) Bankable Feasibility Study or Strategy in the municipal sphere in South Africa.				
Employer, contact person and telephone number and email address	**Description of Professional Services Provided in the development of a WCWDM Bankable Feasibility Study oR strategy in the municipal sphere in the last 10 years.**	**Value of Service provided (inclusive of VAT (Rand)**	**Date Service Commenced**	**Date Service Ended**

Tenderer's are to submit a Reference Letter in support of the claimed experience / track record of the Tenderer (or that of the constituent member in a joint venture, consortium or association) in the execution of projects related to the development / of a water Conservation Water Demand Management Bankable Feasibility Study or similar in the municipal sphere over the past 10 years.

The template of the Letter of Reference is attached to this schedule and must be submitted by the Tenderer.

Please, note that failure to submit Reference Letter (on the Client's Letterhead) of the completed previous work will automatically result to the experience not recognised. The reference should be addressed to one of the bidding organisation(s). With respect to subcontracted References; note that subcontracted professional services will need to be confirmed by the Client or Implementing Agent of the project.

LETTER OF REFERENCE

[To be provided by each Employer cited in SCHEDULE T2.2.15]

TO WHOM IT MAY CONCERN

This letter serves to confirm that the Tenderer…… successfully provided the professional services described below and cited in SCHEDULE T2.2.16:

Description of Professional Services Provided by the Tenderer in the area of Development of Water Conservation/ Water Demand Management (WC/WDM) Bankable Study or Strategy:

……

……

……..

……..

I, the undersigned, duly authorised to do so on behalf of the Employer providing this reference, confirm that the content of this schedule is to the best of my belief both true and correct.

Signed:		Date:	
Name:		Position:	
Contact details:			

STAMP OF EMPLOYER
PROVIDING THE REFERENCE

The undersigned warrants that he / she is duly authorized to do so on behalf of the enterprise, confirms that the contents of this schedule are within their personal knowledge and are to the best of their belief both true and correct.

Signature:	
Date:	
Name:	
Position:	
Respondent:	

T2.2.16 EVALUATION SCHEDULE: EXPERIENCE AND QUALIFICATIONS OF THE TENDERER'S PROPOSED KEY RESOURCES / EXPERTS

The tenderer is referred to clause F.3.11.5. of the Tender Data and shall insert in the spaces provided below details of the key experts and other personnel required to be in the employment of the tenderer or from a professional services provider consultant/firm, in order for the tenderer to be eligible to submit a tender for this project. The Curriculum Vitae of each individual of not more than five (5 nr) pages must be appended to this schedule.

The experience of proposed team members in relation to the scope of work will be evaluated from the:

i. **Post-registration experience** in the relevant area outlined in Clause F.3.11.5 of the Tender Data.

A CV of each of the Tenderer's proposed Key Resources / Experts of not more than 5 pages should be attached to this schedule as per the template provided in this schedule. Each CV should be structured under the following headings:

a) Personal particulars
- name
- date and place of birth
- place (s) of tertiary education and dates associated therewith
- professional awards

b) Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)
c) Skills
d) Name of current employer and position in enterprise
e) Overview of post graduate / diploma experience (year, organization and position)
f) Outline of recent assignments / experience that has a bearing on the scope of work

Furthermore, the experience of the proposed Key Resources / Experts are to be summarized in the Summary Tables provided in this section.

The tenderer must ensure that, if selected for the assignment, the nominated staff will be assigned as proposed to meet the minimum requirements. Failure to do so may result in the award being cancelled by the Employer.

The scoring of the points for the Experience of the Tenderer's proposed Key Experts will be as outlined in F.3.11.5 of the Tender Data.

CURRICULUM VITAE TEMPLATE (Page 1 of 3)

Proposed role in the project	

1. Surname	
2. First Name	
3. Date and place of birth	
4. Nationality	
5. Membership of Professional Bodies and Professional Registration with date achieved.	Professional Body / Association: Registration (Membership) Number: Date of Registration:

6. **Education / Qualifications**

Institution (date from – Date to)	Diploma(s) or Degree (s)) obtained

7. **Post-Registration Diploma/ Graduate Experience**

Company/Organisation	**(Date from – Date to)**	**Years of Employment**	**Position**

8. **Key Experience Relevant to Project**

9. **Knowledge of issues pertinent to project**

CURRICULUM VITAE TEMPLATE (Page 2 of 3)

10. **Post-Registration Experience in development / updating of WSDP / WSMP in Municipal Sphere**

Project Name and Locality	
Project Dates	
Project Position	
Description of duties	
Reference Name and Position	
Reference Contact Details	Tel:
	Cell:
	e-mail:

Project Name and Locality	
Project Dates	
Project Position	
Description of duties	
Reference Name and Position	
Reference Contact Details	Tel:
	Cell:
	e-mail:

Project Name and Locality	
Project Dates	
Project Position	
Description of duties	
Reference Name and Position	

Reference Contact Details	Tel:
	Cell:
	e-mail:

CURRICULUM VITAE TEMPLATE (Page 3 of 3)

Project Name and Locality	
Project Dates	
Project Position	
Description of duties	
Reference Name and Position	
Reference Contact Details	Tel:
	Cell:
	e-mail:

Project Name and Locality	
Project Dates	
Project Position	
Description of duties	
Reference Name and Position	
Reference Contact Details	Tel:
	Cell:
	e-mail:

I, ……, hereby declare that I am aware of the inclusion of my Curriculum Vita in the proposed project team for Bidder …… and make myself available for this project.

Signature:…….

Date: ……

Commissioner of Oath Stamp

(The declaration must be signed by the individual himself/herself only and not any other person)

The undersigned warrants that he / she is duly authorized to do so on behalf of the enterprise, confirms that the contents of this schedule are within their personal knowledge and are to the best of their belief both true and correct.

Signature:	
Date:	
Name:	
Position:	
Respondent:	

T2.2.17 EVALUATION SCHEDULE: LEAD TENDERER'S QUALITY MANAGEMENT SYSTEM

The Lead Tenderer's policies relating to quality management shall be evaluated in relation to the indicative scope of work and the required services thereof.

The Lead Tenderer providing the required infrastructure planning, project preparation, project implementation and associated project support services in a JV, Consortium or Association, should submit a copy of their quality management policy to this schedule.

Tenderers should attach to this schedule a copy of the Lead Tenderer's Quality Management Policy and proof of achieving SANS 9000 / ISO 9001 certification, or alternatively, proof of currently undergoing the certification process.

The undersigned warrants that he / she is duly authorized to do so on behalf of the enterprise, confirms that the contents of this schedule are within their personal knowledge and are to the best of their belief both true and correct.

Signature:	
Date:	
Name:	
Position:	
Respondent:	

COVER PAGE TO FINANCIAL PROPOSAL

FINANCIAL PROPOSAL

[TO BE PUT IN A SEPARATE FOLDER / ENVELOPE]

NAME OF TENDERER	
SIGNATURE OF TENDERER (Duly Authorized)	
CLOSING DATE AND TIME OF SUBMISSION	23h55 on Friday **16 November 2022**
PLACE OF SUBMISSION	Designated Electronic Tender Box Depository Indicated by DBSA Supply Chain Management (SCM) for this Tender

Note: This is a Two-Envelope Tender. Thereofore the contents of this RFP document from this cover Page to the end of this document must be placed in a separate envelope (folder) marked "Financial Proposal".

Failure to separate this financial proposal from the technical (functional) proposal will result in a disqualification of the tender submission.

Part C1: Agreements and Contract Data

Pages

C1.1 FORM OF OFFER AND ACCEPTANCE

C1.1.1 Offer

The Employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of: **TENDER No: RFP318/2022: PROCUREMENT OF A PROFESSIONAL SERVICES PROVIDER (PSP) TO DEVELOP A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASIBILITY STUDY IN SUPPORT OF SOL-PLAATJE LOCAL MUNICIPALITY (SPLM)**

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the service provider under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

{Rand} .....

.....(in words);

{R} ..... (in figures).

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the service provider in the conditions of contract identified in the contract data.

Signature .....

Name .....

Capacity .....

For the tenderer

Name of Tenderer .....

Address of Tenderer) .....

Name of witness .....

Signature of witness ..... Date .....

C1.1 FORM OF OFFER AND ACCEPTANCE (Continued)

C1.1.2 Acceptance

By signing this part of this form of offer and acceptance, the Employer identified below accepts the tenderer's offer. In consideration thereof, the Employer shall pay the service provider the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1: Agreements and contract data, (which includes this agreement)
Part C2: Pricing data
Part C3: Scope of work.
Part C4: Site information

and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's representative (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor**)** within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature . . . . . .

Name . . . . . .

Capacity . . . . . .

for the Employer **Development Bank of Southern Africa Limited**
1258 Lever Road, Headway Hill,
Midrand, Gauteng Province

Name of witness . . . . . .

Signature of witness . . . . . Date . . . . . .

Schedule of Deviations

1 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

2 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

3 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

4 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

5 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

By the duly authorised representatives signing this agreement, the Employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

For the Tenderer:

Signature(s) . . . .

Name(s) . . . .

Capacity . . . .

Name of Tenderer . . . .

Address of Tenderer . . . .

. . . .

Name of witness . . . .

Signature of witness . . . . Date . . . .

For the Employer:

Signature(s) . . . .

Name(s) . . . .

Capacity . . . .

Name of Employer: **Development Bank of Southern Africa Limited**

Address of Employer 1258 Lever Road, Headway Hill, Midrand, Gauteng Province

Name of witness . . . .

Signature of witness . . . . Date . . . .

C1.2 CONTRACT DATA

Part 1: Contract Data provided by the Employer

GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract are the **CIDB's Standard Professional Services Contract (July 2009) (Edition 3 of CIDB document 1015)**, as published by the Construction Industry Development Board.

Copies of these General Conditions of Contract may be obtained from the Construction Industry Development Board's website **www.cidb.org.za**. Copies of the General Conditions of Contract are also available for inspection and scrutiny at the offices of the Employer.

The pro-forma attached to the Standard Professional Services Contract (July 2009) on pages 17 to 24 shall not apply to this Contract and shall be replaced with the documentation bound into this Contract Document.

The General Conditions of Contract make several references to the Contract Data for specific data, which together with the standard contract collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

The General Conditions of Contract shall be read in conjunction with the variations, amendments and additions set out in the Contract Specific Data below. Each item of data given below is cross-referenced to the clause in the General Conditions of Contract to which it mainly applies.

CONTRACT SPECIFIC DATA

The following contract specific data is applicable to this Contract:

Clause 1:

Add the following to the definition of ***Employer:***

The **Employer** is the **Development Bank of Southern Africa Limited**

The definition of ***Project:***

The project is the **Development of a Water Conservation/ Water Demand Management (WC/WDM) Feasibility Study in Support of Sol-Plaatje Local Municipality**

Add the following to the definition of ***Period of Performance:***

The period of performance is **a maximum of 10 months.**

Add the following to the definition of ***Service Provider:***

The contracting party may also be a consortium/joint venture contracting as a formally constituted Joint Venture Partnership, in which all parties are jointly and severally liable. In terms of this definition, the words consortium and joint venture shall be regarded as synonymous.

Add the following to the definition of ***Start Date:***

The **Start Date** is the date when the Tenderer/Service Provider is introduced by the Employer to the municipality (Sol-Plaatje Local Municipality).

Clause 3.4 and Clause 4.3.2:

Add the following:

The authorized and designated representative of the Employer is: Tebogo Saudi : **Development Bank of Southern Africa (DBSA)**

The address for receipt of communications is:

Telephone:	(011)3133911…….
Facsimile:	(011)206 3609……
E-mail:	tebogoSCM@dbsa.org…….
Postal Address:	P. O. Box 1234, Halfway House 1685 ……..
Physical Address:	1258 Lever Road, …….. Headway Hill, Midrand…….. Gauteng Province…….. ……...

Clause 3.5:
Add the following:

The location(s) for the performance of the Project will be Sol-Plaatje Local Municipality Offices, Sol-Plaatje Local Municipality Municipal Area, the DBSA and Offices of the Tenderer.

Clause 3.9.3
Add the following:
The time-based fees (hourly rates) used to determine changes to the Contract Price are as stated in the Pricing Data.

Clause 3.12.1
Add the following:
The daily penalty is 0.05% of the Contract Price up to a maximum amount of 10% of the Contract Price shall apply.

Clause 3.15.1:

Add the following:
The programme shall be submitted within 7 days after the Inception Date

Clause 3.16.2:
Add the following:
The indices are those contained in Table A of the P0141 Consumer Price Index for the CPI for all services published by Statistics South Africa.

Clause 4.7
Add the following:
For payment purposes, refer to Part C2.1: Pricing Assumptions for the basis and assumptions on the pricing and on the basis of payment.

Insert:

Payment to the Service Provider shall be upon the completion of the following:

- The achievement (completion) of specific deliverables associated with the provision of the respective required services.
- Sign off (approval and acceptance) of the completed deliverables by the Project Steering Committee (PSC) established between the Employer and the beneficiary Municipality on the project.
- Sign off by the beneficiary Municipality's authorized representative, of the Employer's Disbursement Claim Form.
- Submission by the Service Provider to the Employer of the relevant invoice together with the above items of supporting and approval documentation.

Any payment made to the Service Provider shall remain due and refundable to the Employer on first demand in the event Service Provider is unable to pay for services rendered to other service providers on behalf of the Employer, the contract has come to an end, and or there was an over claim and payment failing which the Employer shall be entitled to withhold any payments due to the service provider.

Clause 5.4.1:
Add the following:
The Service Provider is required to take out, and maintain, for the full duration of the performance of this contract, the following insurance cover:

1. **Professional Indemnity Insurance** providing cover in an amount of not less than **R5 million** in respect of each and every claim during the period of insurance.
2. **Public Liability Insurance** with a limit of indemnity of not less than **R5 million** for any single claim, the number of claims to be unlimited during the contract period.
3. **Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases (COID) Act,** Act No 130 of 1993.

And shall provide proof of insurance with its tender submission and or within seven (7) days of the Letter of Appointment.

The Service Provider shall ensure that any contractor and subcontractors engaged in construction activities shall, in addition to the Public Liability and COID Act Insurances as described above, also take out and maintain contractors all risks insurance to the value of the work being undertaken plus 10%.

Clause 5.5:
Add the following:
The Service Provider is required to obtain the Employer's prior approval in writing before taking any of the following actions:

1. Replacing any of the key personnel listed at the time of tender
2. Occupying any public land or facility for any purpose that will cause disruption and or inconvenience to the users of such land or facility in respect of any construction contract
3 The issuing of notices to contractors in relation to extensions of time, the cancellation of the contract between the Employer and a contractor, and instructions to contractors requiring significant scope changes, removal of work or which may increase the contract price of such contract
4. Appointing Subcontractors (i.e. Sub-Consultants) for the performance of any part of the Services

Clause 7.2:

7.2.1 The Service Provider is required to provide appropriate Personnel for such time periods as required in terms of the Contract and enter all data pertaining to Personnel including titles, job descriptions, qualifications and estimated periods of engagement on the performance of the Services in the Personnel Schedule located in contract data Part C1.2.

Clause 8.1:
Add the following:
The Service Provider is to commence the performance of the Services on the **Start Date** defined above.

Clause 8.4.1:
Add the following:
Upon termination the Service Provider shall compile and submit to the Employer within 30 days but before final payment is made, a schedule of all documents and records, permits, reports, recordings relevant to the scope of service in the whole including a detailed *close out report* in the format required by the Employer incorporating but not limited to records of work done, suppliers' warranties and guarantees, subcontractors details, outstanding and or remaining work Inclusive of the Final Account based on work done and work still to be completed as per the approved scope of work.

Clause 8.4.3(c):
Add the following:
The period of suspension under Clause 8.5 is not to exceed 2 months.

Clause 8.4.4:
Add the following:
The Service Provider's remuneration and reimbursement shall be subject the Service Provider submitting to the Employer within 30 days but before a final payment is made, a schedule of all documents and records, permits, reports, recording relevant to the scope of service in the whole including a detailed *close out report* in the format required by the Employer incorporating but not limited to records of work done, suppliers' warranties and guarantees, subcontractors details, outstanding and or remaining work.

Clause 9.1:
Add the following:
Copyright of documents prepared for the project and which has been paid for by the Employer shall be vested with the **Employer** and the Service Provider shall take all steps necessary to obtain such rights for the Employer at no extra cost to the Employer

Clause 9.3:
This clause is to be deleted.

Clause 11.1:
Add the following:
A Service Provider may not subcontract any work which he has the skills and competency to perform, unless he/she has the Employer's prior written approval and may not subcontract more than 30% of the value of the professional fees relating to the full scope of service.
The Service Provider may be requested to procure additional specialist consultants and a recommendation of such appointment will be defined by submission of detailed scope of work to be done, program and three quotations or procurement method prescribed by the Employer.

Clause 12.1.2:
Add the following:
Interim settlement of disputes is to be by **mediation**.

Clause 12.2.1:
Add the following:
In the event that the parties fail to agree on a mediator, the mediator is nominated by the Deputy Director-General: Inter-Governmental Fiscal Relations, Department of National Treasury.

Clause 12.2.4:
Add the following:
Final settlement is by **arbitration.** In the event the Parties fail to appoint an arbitrator by agreement, the president or his nominee from the Association of Arbitrators Southern Africa shall appoint an arbitrator.

Clause 14.2

Replace Clause 14.2 with the following:
Amounts due to the Service Provider shall, as far as practicable, be paid by the Employer within thirty (30) Days of receipt by the Employer of the correct invoice with the relevant substantiation of work (deliverables) completed. The Employer shall take all reasonable, effective and efficient steps to pay the amounts due to the Service Provider within 30 days. No interest shall accrue on unpaid amounts beyond the 30 days on the invoices submitted by the Service Provider to the Employer.

Notwithstanding the above, should the Service Provider's tax clearance certificate expire during the contract period, and or the Service Provider fail to provide the service to the satisfaction of the Employer and or fail to carry a legal and proper instruction of the Employer, the Employer shall be entitled to withhold payment without incurring any liability for interest, until a valid tax clearance certificate is submitted to the Employer or the Employer's requirement have been met.

Add the following new Clause after Clause 14.4:

Clause 14.5: Tax Invoices

Section 20(1) of the Value Added Tax Act of 1991 (Act 89 of 1991) requires that a supplier (person supplying goods or services) who is registered as a VAT vendor issue to the recipient a tax invoice within 21 days of the date of a supply whether requested or not.

The Service Provider shall provide a tax invoice (VAT invoice) which shall be included with each account delivered to the Employer in terms of Clause 14. Failure by the Servicer Provider to provide a tax invoice (VAT invoice) timeously may delay payment by the Employer and no interest shall accrue.

Clause 15:
Add the following:
The interest rate will be the prime interest rate of the Employer's Bank at the time the amount is due.

C1.2 CONTRACT DATA [Continued]

Part 2: Data provided by the Service Provider

Clause 1. The **Service Provider** is:.....

.....

Postal Address: .....

Physical Address: .....

.....

Telephone:.....

Facsimile:.....

Clause 5.3. The **authorized and designated representative** of the Service Provider is:

Name:.....

The address for receipt of communication is:

Address:.....

Telephone:.....

Facsimile:.....

Clause 5.5 and Clause 7.1.2. The Service Provider's Key Persons / Experts and their jobs /functions in relation to the Services are:

NAME OF KEY PERSON / EXPERT	POSITION IN SERVICE PROVIDER'S TEAM	SPECIFIC DUTIES
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		

14.		
15.		
16.		

Clause 7.2.1. **The Service Provider's Personnel Schedule** is as outlined in the Table below *(Additional copies of this table can be used if necessary):*

NAME	TITLE / POSITION	JOB DESCRIPTION	QUALIFICATIONS	ESTIMATED PERIOD OF ENGAGEMENT ON THE SERVICES (weeks)

SIGNED ON BEHALF OF TENDERER **DATE**

C1.3 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

HEALTH, SAFETY AND ENVIRONMENTAL AGREEMENT
BETWEEN EMPLOYER AND A PROFESSIONAL SERVICE PROVIDERS

Person responsible for this contract:

……

Contract Number:

WRITTEN AGREEMENT BETWEEN

DBSA – DEVELOPMENT BANK OF SOUTHERN AFRICA LIMITED
……
EMPLOYER

AND

……

Professional Service Providers (hereinafter referred to as "the Mandatory")

AS ENVISAGED BY SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, NO 85 OF 1993, AS AMENDED.

I …… (name) representing ……. **(Company)** (**Mandatory**) do hereby acknowledge that …….. (**Mandatory name**) is an employer in its own right with duties as prescribed in the Occupational Health and Safety Act No (85 of 1993, as amended) and I agree to ensure that all work will be performed, or machinery and plant used in accordance with the provisions of the said Act. I further more agree to comply with all other relevant Acts while providing a service to the **DBSA – DEVELOPMENT BANK OF SOUTHERN AFRICA LIMITED** (Employer).

I acknowledge having received the necessary induction/training regarding the rules and regulations of **DBSA – DEVELOPMENT BANK OF SOUTHERN AFRICA LIMITED** (Employer) I will ensure that all Contractors and Sub-contractors are properly informed and adhere to all the rules and regulations and

relevant legislation while on the premises. I will liaise with the person responsible, should I, for whatever reason, not be able to complete the task/project or perform in the terms of this agreement.

My company is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational and Diseases Act, 1993 (Act No. 130 of 1993). My registration number is……

We/I also agree that; the **Professional Service Providers**, by their signatures hereto, do unreservedly and irrevocably indemnify **DBSA – DEVELOPMENT BANK OF SOUTHERN AFRICA LIMITED** (Employer) and hold it harmless against all the clause demands, actions, clauses of actions and suits at law, which may be made or instituted against it for:

- any death, injury or incident to the PSP consortium and/or PSP sub-consultant, Contractor, Sub-contractor and/or their employees or any agent customer or visitor of the Contractor;
- any damage caused to property of the PSP, Contractor, Sub-contractor, and/or their employees or any agent customer or visitor of the Contractor, including any loss of such property from whatsoever, while on the premises; and
- any claims resulting from non-compliance with legislation.

Reporting

The Mandatory and/or his designated person, appointed in terms of Section 16(2) of the Occupational Health and Safety Act 85 of 1993 ("the OHS Act"), shall report to the Risk Control Manager and/or a representative designated by the Employer prior to commencing the work at the premises.

Warranty of compliance

In terms of this agreement the Mandatory warrants that he agrees to the arrangements and procedures as prescribed by the Employer and as provided for in terms of Section 37(2) of the OHS Act for the purposes of compliance with the Act.

The Mandatory acknowledges that this agreement constitutes an agreement in terms of Section 37(2) of the OHS Act, whereby all responsibility for health and safety matters relating to the work that the Mandatory and his employees are to perform on the premises shall be the obligation of the Mandatory.

The Mandatory further warrants that he and/or his employees undertake to maintain such compliance with the OHS Act. Without derogating from the generality of the above, nor from the provisions of the

said agreement, the Mandatory shall ensure that the clauses as hereunder described, are at all times adhered to by himself and his employees.

The Mandatory hereby undertakes to ensure that the health and safety of any other person on the premises is not endangered by the conduct and/or activities of any of his employees while they are on the Employer's premises.

Mandatory an employer

The Mandatory shall be deemed to be an employer in his own right while on the Employer's premises. In terms of Section 16(1) of the OHS Act, the Mandatory shall accordingly ensure that the requirements of the OHS Act are complied with by himself and/or his nominated Chief Executive Officer.

Appointments and training

The Mandatory shall appoint competent persons as per Section 16(2) of the OHS Act. Any such appointed person shall be trained on any occupational health and safety matter and the OHS Act provisions that are pertinent to the work that is to be performed under his responsibility. Copies of any appointments made by the Mandatory shall immediately be provided to the Employer.

The Mandatory shall further ensure that all his employees are trained on the health and safety aspects relating to the work and that they understand the hazards associated with such work being carried out on the premises. Without derogating from the foregoing, the Mandatory shall, in particular, ensure that all his users of any materials or operators of any machinery or equipment are properly trained in the use of such materials, machinery or equipment.

Notwithstanding the provisions of the above, the Mandatory shall ensure that he, his appointed responsible persons and his employees are at all times familiar with the provisions of the OHS Act, and that they comply with the provisions of the Act.

Supervision, discipline and reporting

The Mandatory shall ensure that all work performed on the Employer's premises is done under strict supervision and that no unsafe or unhealthy work-practices are permitted. Discipline regarding health and safety matters shall be strictly enforced against any of his employees regarding non-compliance by such employee, with any health and safety matters.

The Mandatory shall further ensure that his employees report to him all unsafe or unhealthy work situations immediately after they become aware of the same and that he in turn immediately reports these to the Employer and/or his representative.

Access to the OHS Act

The Mandatory shall ensure that he has an updated copy of the OHS Act on site at all times and that this is accessible to his appointed responsible persons and employees. However the parties may make arrangements for the Mandatory and his appointed responsible persons and employees to have access to the Employer's updated copy/copies of the Act.

Cooperation

The Mandatory and/or his responsible persons and employees shall provide full co-operation and information if and when the Employer or his representative inquiries into occupational health and safety issues concerning the Mandatory. It is hereby recorded that the Employer and his representative shall at all times be entitled to make such inquiry.

Without derogating from the generality of the above, the Mandatory and his responsible persons shall make available to the Employer and his representative, on request, all and any checklists and inspection registers required to be kept by him in respect of any of his materials, machinery or equipment

Work procedures

The Mandatory shall be entitled to utilize the procedures, guidelines and other documentation as used by the Employer for the purposes of ensuring a healthy and safe working environment. The Mandatory shall then ensure that his responsible persons and employees are familiar with and utilize the documents.

The Mandatory shall implement safe work practices as prescribed by the Employer and shall ensure that his responsible persons and employees are made conversant with, and adhere to, such safe work practices.

The Mandatory shall ensure that work for which a permit is required by the Employer is not performed by his employees prior to the obtaining of such a permit.

Health and safety meetings

If required in terms of the OHS Act, the Mandatory shall establish his own health and safety committee(s) and ensure that his employees, being the committee members, hold health and safety meetings as often as may be required and at least once every three (3) months. The Employer may elect to permit the Mandatory's health and safety representatives to attend the Employer's health and safety committee meetings.

Compensation registration

The Mandatory shall ensure that he has a valid registration with the Compensation Commissioner, as required in terms of the Compensation for Occupational Injuries and Diseases Act 130 of 1993, and that all payments owing to the Commissioner are discharged. The Mandatory shall further ensure that the cover shall remain in force while any such employee is present on the premises.

Medical examinations

The Mandatory shall ensure that all his employees undergo routine medical examinations and that they are medically fit for the purposes of the work they are to perform.

Incident reporting and investigation

All incidents referred to in Section 24 of the OHS Act shall be reported by the Mandatory to the Department of Labour and to the Employer. The Employer shall further be provided with copies of any written documentation relating to any incident.

The Employer retains an interest in the reporting of any incident as described above as well as in any formal investigation and/or inquiry conducted in terms of Section 32 of the OHS-Act into such an incident.

Sub-contractors

The Mandatory shall notify the Employer of any sub-contractor he may wish to perform work on the Employer's premises. It is hereby recorded that all the terms and provisions contained in this clause shall be equally binding upon the subcontractor prior to the subcontractor commencing with the work. Without derogating from the generality of this paragraph:

1. The Mandatory shall ensure that training, as discussed under appointments and training, is provided prior to the subcontractor commencing work on the Employer's premises.
2. The Mandatory shall ensure that work performed by the subcontractor is done under strict supervision and discipline.
3. The Mandatory shall inform the Employer of any Health and Safety hazard and/or issue that the subcontractor may have brought to his attention.
4. The Mandatory shall inform the Employer of any difficulty encountered regarding compliance by the subcontractor with any health and safety instruction, procedure and/or legal provision applicable to the work the subcontractor performs on the Employer's premises.

Security and access

The Mandatory and his employees shall enter and leave the premises only through the main gate(s)

and/or checkpoint(s) designated by the Employer. The Mandatory shall ensure that employees observe the security rules of the Employer at all times and shall not permit any person who is not directly associated with the work to enter the premises.

The Mandatory and his employees shall not enter any area of the premises that is not directly associated with the work.

The Mandatory shall ensure that all materials, machinery or equipment brought by himself onto the premises are recorded at the main gate(s) and/or checkpoint(s). A failure to do this may result in a refusal by the Employer to allow the materials, machinery or equipment to be removed from the premises.

Fire precautions and facilities

The Mandatory shall ensure that an adequate supply of fire-protection and first-aid facilities are provided for the work to be performed on the Employer's premises, save that the parties may mutually make arrangements for the provision of such facilities.

The Mandatory shall further ensure that all his employees are familiar with fire precautions at the premises, which include fire-alarm signals and emergency exits, and that such precautions are adhered to.

Hygiene and cleanliness

The Mandatory shall ensure that the work site and surrounding area is at all times maintained to a reasonably practicable level of hygiene and cleanliness. In this regard, no loose materials shall be left lying about unnecessarily and the work site shall be cleared of waste material regularly and on completion of the work.

No nuisance

The Mandatory shall ensure that neither he nor his employees undertake any activity that may cause environmental impairment or constitute any form of nuisance to the Employer and/or his surroundings.

The Mandatory shall ensure that no hindrance, hazard, annoyance or inconvenience is inflicted on the Employer, another Mandatory or any tenants. Where such situations are unavoidable, the Mandatory shall give prior notice to the Employer.

Intoxication not allowed

No intoxicating substance of any form shall be allowed on site. Any person suspected of being

intoxicated shall not be allowed on the site. Any person required to take medication shall notify the relevant responsible person thereof, as well as of the potential side-effects of the medication.

Personal protective equipment

The Mandatory shall ensure that his responsible persons and employees are provided with adequate personal protective equipment (PPE) for the work they may perform in accordance with the requirements of General Safety Regulation 2(1) of the OHS Act. The Mandatory shall further ensure that his responsible persons and employees wear the PPE issued to them at all material times.

Plant, machinery and equipment

The Mandatory shall ensure that all the plant, machinery, equipment and/or vehicles he may wish to utilize on the Employer's premises is/are of sound order at all times and fit for the purpose for which it/they is/are intended, and that it/they complies/comply with the requirements of Section 10 of the OHS Act.

In accordance with the provisions of Section 10(4) of the OHS Act, the Mandatory hereby assumes the liability for taking the necessary steps to ensure that any article or substance that it erects or installs at the premises, or manufactures, sells or supplies to or for the Employer, complies with all the prescribed requirements and will be safe and without risks to health and safety when properly used.

No usage of the Employer's equipment

The Mandatory hereby acknowledges that his employees shall not be permitted to use any materials, machinery or equipment of the Employer's unless the prior written consent of the Employer has been obtained, in which case the Mandatory shall ensure that only those persons authorized to make use of same, have access thereto.

Transport

The Mandatory shall ensure that all road vehicles used on the premises are in a roadworthy condition and are licensed and insured. All drivers shall have relevant and valid driving licenses and no vehicle shall carry passengers unless it is specifically designed to do so. All drivers shall adhere to the speed limits and road signs on the premises at all times.

In the event that any hazardous substances are to be transported on the premises, the Mandatory shall ensure that the requirements of the Hazardous Chemical Substances Act 15 of 1973 are complied with at all times.

Clarification

In the event that the Mandatory requires clarification of any of the terms or provisions of this agreement, he should contact the Risk Control Manager of the Employer.

Duration of agreement

This agreement shall remain in force for the duration of the work to be performed by the Mandatory and/or while any of the Mandatory's workmen are present on the Employer's premises.

Headings

The headings as contained in this agreement are for reference purposes only and shall not be construed as having any interpretative value in themselves or as giving any indication as to the meaning of the contents of the paragraphs contained in this agreement.

Confirmation and Acceptance	**Initials**
I _____ confirm that I have read and understood the appointment as set out above.	
I _____confirm that I have read and understood the appendices and confirm my intention to comply with all the legal requirements.	
I _____ confirm my acceptance and understanding of the assigned responsibilities and duties involved.	
I _____ confirm that I have received training in the assigned responsibilities and duties required of me.	

THUS AGREED TO AND SIGNED AT_____ on this the _____ day

of _____2016, in the presence of the undersigned witness:

Signature _____ Date_____

Witness Name_____ Signature_____

Signed on behalf of …….. (Professional Service Provider)

THUS AGREED TO AND SIGNED AT_____ on this the _____ day

of _____2016, in the presence of the undersigned witness:

Signature _____ Date_____

Witness Name_____ Signature_____

Signed on behalf of DBSA – DEVELOPMENT BANK OF SOUTHERN AFRICA LIMITED
(Employer)

Part C2: Pricing Data

C2.1 PRICING ASSUMPTIONS

GENERAL ASSUMPTIONS

Pricing Assumptions mean the criteria as set out below, read together with all Parts of this contract document, which it will be assumed in the contract that the tenderer has taken into account when developing his prices.

1. The short descriptions given in the schedules below are brief descriptions used to identify the services and related cost items for which prices are required. Detailed descriptions of the services to be priced are provided in the Scope of Work (Part C3.1 of this document) and the relevant statutory body.

2. The bidder must price for normal services as contained in the Government Gazette.

3. For the purpose of the service or cost item, the following words shall have the meanings hereby assigned to them: The fee scales shall be calculated as per the Government Gazette Vol. 606 December 2015, No. 39480 reduced by any applicable discounts.

WORD	MEANING
Unit	The unit of measurement for each item of work.
Quantity	The number of units of work for each item.
Rate	The agreed payment per unit of measurement
Amount	The product of the quantity and the agreed rate for an item
Sum	An agreed lump sum payment amount for an item, the extent of which is described in the Scope of Work, but the quantity of work which is not measured in any units.
Professional Fee	The agreed fee for a service, the extent of which is described in the Scope of Work and may (where required) be expressed as a percentage of the estimated construction contract value or part thereof.

4. A rate, sum, professional fee and/or price as applicable, is to be entered against each item in the schedules. An item against which no price is entered will be considered to be covered by the other prices or rates in the relevant Table of Quantities.

5. The rates, sums, professional fees and prices in the schedules are to be fully inclusive prices for the work described under the several items. Such prices and rates are to cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data and in the Scope of Work, as well as overhead charges and profit.

6. Where quantities are given in the Table of Quantities, these are provisional and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Table of Quantities. In respect of time-based services, the allocation of staff must be agreed with the employer before such services are rendered.

7. Tendered time-base fees (where the unit of measurement is time based) shall be adjusted in terms of clause 3.16 of the Standard Professional Services Contract. Tenderers are to note that apart from the stated adjustment to the time-based fees, there will be no adjustment in the tendered professional fees and/or other rates tendered during the initial term of the contract. If the successful tenderer is given any extension with respect to their appointment term, the tendered time-base fees shall be adjusted for the extension with respect to their appointment term, in terms of Clause 3.16 of the Standard Professional Services Contract and shall **not** revert

automatically to the recommended prevailing time-based fees contained the various gazettes and notices of the relevant respective professional bodies.

8. The tendered professional fee or rate for construction monitoring staff shall include all overtime costs in respect of construction monitoring services provided outside of normal working hours.

9. Tenderers are to carefully note that only those recoverable expenses listed in the schedules will be reimbursed to the Service Provider.

10. Items for printing/copying shall be for specified contract documents, reports, manuals and drawings, excluding general correspondence, minor reports, progress reports, etc. which shall be deemed to be included in the professional fees. Payment will only be made for copies of reports and drawings submitted to the Employer or issued, as specified or requested by the Employer, and all drafts shall be for the Service Provider's account.

11. The per kilometre rate for the reimbursement of travel expenses shall be limited to the kilometre rates published by the Department of Public Works from time to time for vehicles with engine capacities of various capacities but not exceeding the maximum of 2500cc for the purpose of this contract. If 4x4 vehicles or other vehicles exceeding 2500cc are required due to accessibility or poor road conditions, the applicable rate needs to be agreed between the Service Provider and the Employer upfront before trips are undertaken. **The prices tendered in Schedule C2.2.12 should be on the basis of a vehicle with 2500cc engine capacity**

12. **Scope Variation by the Employer:** While the Employer has every intent to complete the full scope of works, the Employer reserves the right to reduce or increase the scope of works according to the dictates of the budget, or to terminate this contract, without adjustment to the agreed rates, sums or professional fees and without payment of any penalty or surcharge in this regard. The Service Provider shall however be entitled to a pro-rata payment for all services carried out in terms of any adjustment to the Scope of Works or, in the case of termination, remuneration and/or reimbursement as described in Clause 8.4.4 of the Standard Professional Services contract.

13. **Limitation to Hourly Rates and Professional Fees:** The hourly rates and professional fees of Experts that are used by the Tenderer to provide the services shall not exceed the hourly rates and professional fees applicable for professionals in the respective disciplines as stipulated by the relevant Government Gazette in the various Guidelines to Scope of Services and Tariffs of Fees for the various disciplines. **The bidder must price for normal services as contained in the various Guidelines to Scope of Services and Tariffs of Fees for the various disciplines. The fees shall be calculated as per the relevant Fee Scale reduced by any applicable discounts.**

14. **Professional / Technical Services Fees:** These are to be based on a realistic estimate of the cost of all the services required to achieve all the specific deliverables listed in the Scope of Work. The professional fees are to be completed in the schedules of this section. The completed schedules are to be completed and returned with the tender proposals. Tenderers are to attach a breakdown of the total proposed fee per deliverable to the relevant page (schedule). The breakdown is to clearly indicate the scope of work or key deliverables, the elements of the scope of work, the resources applied, the estimated duration and rates of the applied resources for each element of the scope of work. The elements of the scope of work or key deliverable are outlined in section C3.1 of this tender document.

15. **Operational Expenses (Accommodation):** These expenses are not applicable to this contract.

16. **Operational Expenses (Subsistence Expenses):** These expenses (e.g. for meals) are not applicable to this contract.

17. **Operational Expenses (Printing /Copying Expenses):** Where applicable (see section 10 above), these expenses shall be reimbursed based on the actual expenses incurred, plus an adjustment. Service Providers are required to indicate a preferred adjustment rate to the printing / copying expenses in the priced schedules to be returned with the proposal.

18. **Combination and Fixing of travelling, printing, binding and copying:** For the purpose of this tender, the operational expenses for travelling, printing, binding and copying (where applicable), have been combined and must never exceed a maximum of 15% of the relevant professional fees applicable to the project deliverable or project phase.

19. **Payment is for specific completed deliverables:** In line with Clause 4.7 of the Contract Data (Part C1.2), the Service Providers will be appointed on a specific scope of work and will be compensated upon the achievement (completion) of specific deliverables. The pricing schedules in Part C2.2 of this document have been aligned to the specific deliverables expected from the Service Providers.

20. **Fixed Price Contract:** This assignment will be based on a lump sum (fixed price) contract in (ZAR) Rands. Bidders are required to price total contract price using the tables (scheduled) in the next page:

C2.2.1 TIME-BASED FEES OF DESIGNATED KEY PROFESSIONALS / EXPERTS

ID	KEY RESOURCE / EXPERT	No.	HOURLY RATE FOR SERVICES (Excl. VAT) (RAND/HR)	DISCOUNT TO HOURLY RATE (%)	NET HOURLY RATE OF KEY PROFESSIONAL (Excl. VAT) (RAND/HR)
1	Project Manager and Team Leader: Civil Engineering	**1**			
2	Civil Engineer: Water Services Planning, Management and Operations	**1**			
3	Development Planner (Municipal Infrastructure)	1			
4	Financial Analyst / Infrastructure Investment Analyst	1			
5	Environmental Management Practitioner	1			
6	Geo-Information Science (GISc) Expert	1			
TOTAL		**6**			

C2.2.2 PRICING DATA: DEVELOPLMENT OF A WATER CONSERVATION WATER DEMAND MANAGEMENT (WC/WDM) BANKABLE FEASILIBILITY STUDY FOR SOL-PLAATJE LM [PART 1 OF THE SCOPE OF WORK]

The detailed description of the scope of work or key deliverable are outlined in section C3.1 of this tender document.

Please Note: The maximum duration for the completion of all Key Deliverables in the Scope of Work for WCWDM is 10 months.

ID	SCOPE OF WORK / KEY DELIVERABLE(S) - *Refer to Section C.3.1.4.4 of Part C3: Scope of Work*	PAYMENT MILESTONE	PROPOSED PROFESSIONAL FEES AND OPERATIONAL COSTS (Excl. VAT) (Rand)	OPERATIONAL COSTS @ 5% OF PROFESSIONAL FEES (Excl. VAT) (Rand)	TOTAL PROPOSED FEES AND OPERATIONAL COSTS FOR SCOPE OF WORK (Excl. VAT) (Rand)
1	**STAKEHOLDER ENGAGEMENT AND ESTABLISHMENT OF THE WCWDM WORK TEAM AND PROJECT STEERING COMMITTEE (PSC)** a) Project Implementation Plan (PIP) Project Inception Report (PIR) in the framework issued by the DBSA.	Approved PIP and PIR	LUMP SUM	LUMP SUM	90 000,000
2	**COMPREHENSIVE OVERVIEW OF EXISTING ENVIRONMENT OF WATER SERVICES IN THE MUNICIPAL AREA** a) Current Resources	Approved Water Services Assessment Report			

ID	SCOPE OF WORK / KEY DELIVERABLE(S) - *Refer to Section C.3.1.4.4 of Part C3: Scope of Work*	PAYMENT MILESTONE	PROPOSED PROFESSIONAL FEES AND OPERATIONAL COSTS (Excl. VAT) (Rand)	OPERATIONAL COSTS @ 5% OF PROFESSIONAL FEES (Excl. VAT) (Rand)	TOTAL PROPOSED FEES AND OPERATIONAL COSTS FOR SCOPE OF WORK (Excl. VAT) (Rand)
	b) Current Bulk Supply Infrastructure c) Identification of New Management Zones d) Reticulation Networks and Current Consumption e) Cost Assessment f) Conclusions and Critical Comments				
3	**CURRENT DEMAND, LOSS ESTIMATION AND RISK IDENTIFICATION:** **a**) Zero Based Estimate of Current Demand b) Estimate of Recoverable Real Losses c)Cost Recovery & Recovery Risk d)Conclusions and Critical Comments	Current demand, Loss estimation and risk identification report			

ID	SCOPE OF WORK / KEY DELIVERABLE(S) - *Refer to Section C.3.1.4.4 of Part C3: Scope of Work*	PAYMENT MILESTONE	PROPOSED PROFESSIONAL FEES AND OPERATIONAL COSTS (Excl. VAT) (Rand)	OPERATIONAL COSTS @ 5% OF PROFESSIONAL FEES (Excl. VAT) (Rand)	TOTAL PROPOSED FEES AND OPERATIONAL COSTS FOR SCOPE OF WORK (Excl. VAT) (Rand)
4	**FUTURE DEMAND:** **a)** Spatial Development and Development Risk b) Future Demand c)Conclusions and Critical Comments	Associated report			
5	**SOCIAL:** **a)** Community Participation b) Conclusion and Critical Comments	Communication Plan including a risk plan			
6	**LOCAL ECONOMIC DEVELOPMENT:** a) Local Industrialisation and Technology b) Conclusions and Critical Comments	Approved LED Report			
7	**ENVIRONMENTAL** a) Environmental Requirements	Environmental Report			

ID	SCOPE OF WORK / KEY DELIVERABLE(S) - *Refer to Section C.3.1.4.4 of Part C3: Scope of Work*	PAYMENT MILESTONE	PROPOSED PROFESSIONAL FEES AND OPERATIONAL COSTS (Excl. VAT) (Rand)	OPERATIONAL COSTS @ 5% OF PROFESSIONAL FEES (Excl. VAT) (Rand)	TOTAL PROPOSED FEES AND OPERATIONAL COSTS FOR SCOPE OF WORK (Excl. VAT) (Rand)
	b) Conclusions and Critical Comments				
8	**PROGRAMME DEFINITION AND EVALUATION** **a)** sub-project details b) programme evaluation c) Additional programme details d) Pilot Project	Programme definition and Evaluation Report			
9	**IMPLEMENTATION SCHEDULE AND PROGRAMME** **a)** Sub-Project Terms of Reference b) Schedule and Programme	Terms of Reference, Schedule and Programme			
10	**ADVANCE METERING INFRASTRUCTURE (AMI)** a) Objectives b) Conceptual Design c) Conceptual Design Outputs d) Conceptual Design Activities e)Performance Objectives	AMI Report			

ID	SCOPE OF WORK / KEY DELIVERABLE(S) - *Refer to Section C.3.1.4.4 of Part C3: Scope of Work*	PAYMENT MILESTONE	PROPOSED PROFESSIONAL FEES AND OPERATIONAL COSTS (Excl. VAT) (Rand)	OPERATIONAL COSTS @ 5% OF PROFESSIONAL FEES (Excl. VAT) (Rand)	TOTAL PROPOSED FEES AND OPERATIONAL COSTS FOR SCOPE OF WORK (Excl. VAT) (Rand)
11	**MONITORING AND VERIFICATION OF RESULTS**	Detailed Report			
12	**INSTITUTIONAL ISSUES AND OVERVIEW** a) Cost Recovery b) Operations and Maintenance	Report			
13	**FINANCE AND IMPLEMENTATION OF SUB-PROJECTS** a) Alternative financing and implementation options b) Recommendations c) Conclusions	Report on Financing Options			
14	**BANKABLE FEASIBILITY STUDY REPORT** a) Recommendations b) Conclusions	Detailed Final report			

ID	SCOPE OF WORK / KEY DELIVERABLE(S) - *Refer to Section C.3.1.4.4 of Part C3: Scope of Work*	PAYMENT MILESTONE	PROPOSED PROFESSIONAL FEES AND OPERATIONAL COSTS (Excl. VAT) (Rand)	OPERATIONAL COSTS @ 5% OF PROFESSIONAL FEES (Excl. VAT) (Rand)	TOTAL PROPOSED FEES AND OPERATIONAL COSTS FOR SCOPE OF WORK (Excl. VAT) (Rand)
15	**PROJECT CLOSE-OUT REPORT AS PER DBSA FRAMEWORK**	Close-Out Report			
16	**TOTAL TENDER PRICE FOR THE PROJECT CARRIED FORWARD TO C1.1 FORM OF OFFER AND ACCEPTANCE**				

SIGNED ON BEHALF OF TENDERER: ……..... **Date:**.....…

Part C3: Scope of Work

C3.1 Scope of Work

SOL-PLAATJE LOCAL MUNICIPALITY: TERMS OF REFERENCE /SCOPE OF WORK FOR THE WC/WDM BANKABLE FEASIBILITY STUDY

FUNCTIONAL SPECIFICATION FOR FEASIBILITY STUDY

This section details the functional specification for the feasibility study to be conducted for the Municipal Programme. The feasibility study specification should be read in conjunction with the paper: "*A holistic approach in the analysis of and turn-around strategies for municipal water supply systems*" as many of the concepts referred to in here are introduced, explained and discussed in the paper (attached).

It is envisaged that the Programme will comprise of a number of similar sub-projects to be rolled out sequentially over a specified timeframe.

The feasibility study will have a number of objectives such as follows:

1. To provide a detailed definition of the Programme as well as each sub-project to serve as the basis for management of the further Programme preparation;
2. To provide detailed financial analysis of the Programme to prove its financial viability and quantify various cost-benefit parameters;
3. To conduct sufficient analysis of each sub-project in order to rank sub-projects according to risks and returns;
4. Compare and incorporate yielding results from the implemented pilot project to inform and underpin all viability and cost benefit calculations;
5. To enable the application of mind to the Programme in terms of relevant legislation and to approve the implementation of the programme and provide all other approvals, directives, notices etc. that may be required for the further preparation, implementation and financing of the Programme;
6. To enable the Development Finance Institutions and potential other financiers to conduct comprehensive and quantitative credit and risk review of the Programme with the aim to: (i) approve a long-term loan facility for the implementation of the programme and (ii) identify and propose certain risk mitigation mechanisms;
7. To serve as a reference document for a long-term loan agreement with specific reference to :
    a. Overall performance targets to be achieved through the Programme;
    b. Specific targets to be achieved through each sub-project as a condition precedent for draw-down of funding for subsequent sub-projects;
    c. On-going monitoring and verification of the benefits of the Programme over the term of the loan

Given this broad set of objectives, the requirements of the feasibility study may extend beyond the norm that the Municipality and their consultants are accustomed to. This detailed functional specification aims to eliminate any delays, wastage, uncertainty and ambiguity in this regard. To achieve these objectives, the feasibility study will be conducted and structured according to the outline provided below. The detailed functional specification outlined is relevant to all areas within the jurisdiction of the Municipality, including the Pilot Project area which will be implemented in parallel to the feasibility study.

Overview of the Existing Environment

This section will discuss the existing environment of water services in the municipal area in terms of the following sub-sections:

1.1.1 Current Resources

i. Provide full details of all current water resources utilised, potential resources as well as historical raw water consumption figures (5 years).
ii. Consider any known or expected trends in resource yields (such as impact of silting, catchment degradation etc.).

1.1.2 Current Bulk Supply Infrastructure

i. Provide a detailed overview of all bulk treatment and distribution infrastructure.
ii. Identify existing individual supply regions and existing metering zones across the entire supply area.
iii. Provide asset register detail of bulk infrastructure with specific focus on current condition of infrastructure, replacement cost and current capacity.

1.1.3 Identification of New Management Zones

i. Delineate and map new management zones taking into consideration existing supply regions and metering zones for entire municipality.
ii. All management zones should be sectored with up to 5000 connections.
iii. Recommend the position of new management zone meters to be installed during the feasibility study phase.

1.1.4 Reticulation Networks and Current Consumption

i. Provide maps of reticulation networks per management zone indicating location of isolating valves and meters as well as pipe layouts.
ii. Provide asset register detail of reticulation infrastructure with specific focus on current condition of infrastructure, replacement cost and current capacity.
iii. Calculate the infrastructure leakage index (“ILI”) for each management zone.
iv. Establish a demand baseline by providing full details of current water consumption (inclusive of losses etc.) per management zone as measured from bulk meters (or inferred).
v. Calculate Aggregate Water Consumption for all management zones (System Input Volume).

1.1.5 Cost Assessment

i. Prepare a zero based economic cost model to calculate the cost of delivery of water at the endpoint. This zero based cost model should provide for all input, operation, maintenance, administrative, billing and recovery costs on a best practice/benchmarked basis. Model should also provide for cost of capital charge and appropriate risk premium
ii. Compare economic cost to current water tariffs.

1.1.6 Conclusions and Critical Comments

Comment on critical issues that were identified above.

Current Demand, Loss Estimation and Risk Identification

1.2.1 Zero Based Estimate of Current Demand

i. Utilise best practice technology to provide a zero based estimate for each of domestic, commercial and industrial demand for water per management zone as well as in the aggregate. Note (a) Zero based demand should be determined independently from any historical demand or current demand figures; (b) Pilot project management zone should receive first priority.
ii. Quantify demand risk per management zone as well as in the aggregate and represent this risk through suitable probability density functions.

1.2.2 Estimate of Recoverable Real Losses

i. Utilise best practice technology to provide an estimate of unavoidable real losses (“URL”) per management zone or on a sub-regional basis as well as in the aggregate. URL should be presented through suitable probability density functions.

ii. Based on the above and current consumption figures provide a risk estimate (presented through a suitable probability density function) of recoverable real losses ("RRL") per management zone or on a sub-regional basis as well as in the aggregate.
iii. Conduct qualitative analysis to test for presence of over-consumption and attempt (if possible) to quantify over-consumption and recoverable physical losses.

1.2.3 Cost Recovery & Recovery Risk

i. Provide a detailed risk estimate (presented through a suitable probability density function) of recovery risk on a management zone or sub-regional basis as well as in the aggregate.
ii. Calculate the Potential Risk Adjusted Revenue Volume (i.e. assuming consumer metering inaccuracies and unbilled-unmetered consumption are fully eliminated) on a management zone or sub-regional basis as well as in the aggregate.
iii. Calculate the Potential Risk Adjusted Revenue based on current tariffs on a management zone or sub-regional basis as well as in the aggregate.
iv. Calculate true recovery rate based on current revenue and Potential Risk Adjusted Revenue
v. Conduct critical analysis of current income surplus or shortfall based on economic cost, actual revenue and Potential Risk Adjusted Revenue

1.2.4 Conclusions and Critical Comments

Comment on critical issues that were identified above.

Future Demand

1.3.1 Spatial Development and Development Risk

i. Identify spatial development scenarios in terms of new domestic -, commercial – and/or industrial developments per management zone or on a sub-regional basis as well as in the aggregate; Identify the current and future housing demand for each market segment i.e. fully subsidized, gap market, social housing, affordable and upper middles class housing. Each segment has its unique service requirements and financing dynamics. The spatial development scenarios must make cognizance of this
ii. Identify development scenarios in terms of other large-scale point consumption developments
iii. Quantify development risk per management zone or on a sub-regional basis as well as in the aggregate and represent this risk through suitable probability density functions
iv. Quantify the demand for water based on each spatial development proposal that is outlined in the Spatial Development Framework. Present the water infrastructure requirements that are needed to support the transformed Spatial Form (Economic, Intergrated human settlements and Services Provisioning (social, community and basic services)
v.

1.3.2 Future Demand

Project future demand for raw and potable water per management zone or on a sub-regional basis as well as in the aggregate, over a 20 year planning horizon taking into consideration:

i. The spatial development scenarios identified
ii. Potential upgrading of level-of-services
iii. Estimates of future URL
iv. Estimates of future RRL scenarios
v. Quantify demand risk per management zone or on a sub-regional basis as well as in the aggregate and represent this risk through suitable probability density functions.

1.3.3 Conclusions and Critical Comments

Comment on critical issues that were identified above.

Social

1.4.1 Community Participation

Community participation, involvement and buy-in into the Programme is key to its ultimate success. Interventions proposed for implementation in sensitive areas will be guided by inputs from the Community Liaison Officers (CLO's) and the community. The following should be included:

i. Development of a detailed community liaison, awareness and schools' education campaign ("Communication Plan") in collaboration with the municipality, DWS and other municipal bulk water services providers per sub-project. The Communication Plan should determine how the engagement with communities will be conducted and managed during the implementation of the Programme and should distinguish between the various interventions that will form part of the Programme. The Communication Plan should further include a detailed risk plan which should identify all risks that may impact the successful roll out of the Programme as well as proposed mitigation measures.
ii. Detailed implementation cost of the Communication Plan to be included under section 1.7.1.

1.4.2 Conclusion and Critical Comments

Comment on critical issues that were identified above.

Local Economic Development

1.5.1 Local Industrialisation and Technology

i. Investigate ways to optimize local industrialization, local technology and manufacturing and participation in the Programme.

1.5.2 Conclusions and Critical Comments

Comment on critical issues that were identified above.

Environmental

The Programme scope of work will primarily be limited to existing infrastructure within existing built up area of the Municipality. The following are applicable:

1.6.1 Environmental Requirements

i. An Environmental Fatal Flaw Analysis should be conducted based on planned interventions in each sub-project.
ii. Provide detailed recommendations on environmental processes or approvals that will be required per sub-project.
iii. Provide a detailed estimate on the associated environmental cost per sub-project to be included under section 1.7.1.

1.6.2 Conclusions and Critical Comments

Comment on critical issues that were identified above.

Programme Definition and Evaluation

Programme evaluation shall be carried out in terms of classical discounted cash flow analysis[1] and will rely on 3 sources of cash flow to repay the capital invested:

1. Savings in terms of potable water purchases as well as certain variable O&M costs due to elimination of RRL;
2. Additional revenue due to enhanced cost recovery; and
3. Present value benefit of deferring or eliminating capital expenditure on additional bulk supply infrastructure;

It is further envisaged that the first two items above will be fully accounted for in the analysis of the sub-projects while the third item will be quantified by way of separate analysis.

[1] **Note:** Unit Reference Value analysis as often utilized for project evaluation but is not a discounted cash flow analysis as required in this instance.

1.7.1 Sub-project Details

i. Each sub-project will cover a complete management zone or sub-region and must be fully defined in terms of:
   a. Current and projected spatial development
   b. Current and projected profile in terms of URL, real recoverable losses, revenue, potential risk adjusted revenue, recovery risk, etc.
   c. Proposed Capital Investment (refer to table below)
   d. Proposed start date, end date and capex profile in terms of base programme
   e. Savings cash flow profile due to elimination of losses
   f. Marginal revenue cash flow profile due to enhanced recovery
   g. Envisaged payback period of capital invested and NPV as at base date
   h. Benchmarked annual maintenance expenditure after completion (2017 base)

ii. Capital expenditure for the sub-project will be defined as per the table below.

Item	Comment
Reticulation refurbishment / installation	Refurbishment work on reticulation system to eliminate RRL, replacement of pipes and installation of new pipes to upgrade level-of-service
Secondary bulk pipeline refurbishment / installation	Refurbishment work on distribution lines to eliminate RRL, replacement of pipes and installation of new pipes to increase capacity for upgraded level-of-service or new developments
Valve refurbishment / installation (Reticulation)	
Valve refurbishment / installation (Secondary bulk)	
Meter refurbishment / installation (Reticulation)	▪ Installation of new consumer meters to enhance cost recovery, leak detection and monitoring ▪ Refurbishment/replacement of existing meters
Meter refurbishment / installation/(Secondary Bulk)	▪ Installation of new bulk meters to enhance leak detection and monitoring ▪ Refurbishment/replacement of existing meters
Management zone specific AMI system	Installation of AMI system in the management zone to enable monitoring and verification as well as enhanced leak detection, demand management and control
Key bulk meters (AMI installation)	Installation of AMI system on bulk and link lines to enable monitoring and verification as well as enhanced leak detection, demand management and control
Work required to ensure proper zoning	Any modifications to reticulation system and/or link lines to ensure isolated metering of the management zone to enhance leak detection, monitoring and verification

Item	Comment
Consumer data base update	All expenditure including surveys etc. to clean-up consumer database and eliminate errors
Billing – and Management Information System update	Any upgrades required to billing - and/or AMI system to enhance cost recovery, customer service, monitoring and verification
Asset register and Compliance	Update of asset register to ensure full compliance
Community Participation	Communication Plan
Environmental	Allowance for any environmental cost per sub-project.
Contingency	A suitable capital expenditure contingency

iii. DCF analysis of each sub-project should take full account of all applicable risk variables previously quantified.
iv. All sub-project details as listed above to be presented in an annexure.
v. Provide a summary table ranking the sub-projects from best to worst in terms of NPV.

1.7.2 Programme Evaluation

i. From the aggregate cash flow profile of the sub-projects present the overall programme cash flow profile
ii. Calculate key programme risk parameters such as:
    a. Programme NPV
    b. Peak (external) funding requirement
    c. Overall funding ratio - external funding and internal funding
    d. Proposed debt quantum and repayment profile
    e. Surplus cash generated after debt service and key cash flow ratios

1.7.3 Additional Programme Benefits

In this section, the benefit (if any) of deferring or even eliminating construction of new bulk supply infrastructure due to the reduction in demand through elimination of real recoverable losses and reduction in over consumption must be calculated. This analysis should be based on real option analysis taking into consideration the risk profile of the estimated real recoverable losses.

1.7.4 Pilot Project

i. All sections outlined in the feasibility study detailed specification are also applicable to the pilot project.
ii. The pilot project results should be compared to calculated estimates as required in this specification and incorporated to inform and underpin all viability and cost benefit calculations in the feasibility study.

Implementation Schedule and Programme

1.8.1 Sub-project Terms of Reference

For each identified sub-project provide a detailed Terms of Reference suitable to procure and appoint a service provider for the sub-project implementation phase.

1.8.2 Schedule and Programme

Provide the Programme implementation schedule indicating key milestones for the implementation of each sub-project.

Advanced Metering Infrastructure

1.9.1 Objectives

It is the mission of the Municipality to provide the most economical and reliable service available to its customers and to manage its scarce water resources such that it can continue to support sustainable economic growth for the Municipality. The Municipality is of the view that this mission can best be accomplished if it:

i. Ensures that it's water consuming customers are provided with a high level of service;
ii. Ensures that its customers who pay for water services receive accurate and timely bills that are based on independently verifiable, accurate meter data, to which the customer will also have access;
iii. Implements a system that will improve the ability to manage its revenue collection;
iv. Implements a system with which it can monitor, control and reduce water wastage, over-consumption and inefficiencies. Through these measures capital investment in the development and exploitation of new water resources may be deferred thereby contributing further to the sustainability and affordability of its water supply service;
v. Implements a system that will continuously provide organisation-wide information on utility operations and utility delivery infrastructure, so as to improve operational efficiencies and to better manage infrastructure.
vi. Implements a system that will in general contribute towards the efficient use of scarce water resources, both at consumer level as well as within Municipality's delivery systems.
vii. Whilst implementing the system(s), it is a further objective to create decent jobs in the "green" economy.

1.9.2 Conceptual Design

During the execution of the feasibility study, the Advanced Metering Infrastructure (AMI) Managed Service Provider (AMS Provider) will perform conceptual designs of:

i. The AMI for each of the water management zones in the Municipal area, based on the functional specification attached hereto as Annexure 2;
ii. The real-time data acquisition system for the bulk water supply systems in the Municipal area, based on the functional specification attached hereto as Annexure 2;
iii. Additional infrastructure and systems to integrate and analyse data from the systems in i and ii above to meet the performance objectives of the Municipality as outlined in section 1.9.5;
iv. Any additional infrastructure or systems to integrate the data with the enterprise management systems of Municipality to meet the performance objectives of Municipality as outlined in section 1.9.5.

1.9.3 Conceptual Design Outputs

The conceptual design will:

i. Define the overall AMI, data acquisition as well as other systems infrastructure to be installed through the entire Programme;
ii. Enable accurate (90% accuracy) capital costing of the proposed systems defined above;
iii. Enable accurate costing and budget of the AMI Management Services to be provided;
iv. Provide a detailed 20-year schedule for the replacement of specific equipment;
v. Define the critical work elements that must be completed by the Employer as well as critical base data that must be provided by the Employer for each management zone before the installation of AMI for that management zone can commence;
vi. Provide sufficient details of output data, reports etc. and reliability in order to meet the performance objectives of the Municipality as outlined in section 1.9.5.

This data gleaned from the conceptual design will provide key inputs to the feasibility study. The process of conceptual design may be an iterative process as the feasibility study unfolds.

1.9.4 Conceptual Design Activities

It is envisaged that the conceptual design will inter alia include the following activities conducted by the AMS Provider:

i. Meter audit to determine suitability of meters to connect to AMI system;
ii. Report on the need for replacement and / or new installation of AMI-compliant billing meters;
iii. Specification of (additional) data required in the meter / billing database to achieve effective integration;
iv. Initial layout of all endpoints and network access points etc.
v. Development of a web-based interface for multi-stakeholder secure viewing of utility metering data, taking “live reads” on demand and sending of control signals to utility devices
vi. Generation of draft reports to demonstrate typical outputs etc.

1.9.5 Performance Objectives

The following performance objectives of the Municipality should be noted:

i. Establish a virtual, web-based control room that will display all relevant metering data at different levels:
    a. Overall summary
    b. Regional
    c. Primary bulk
    d. Secondary bulk
    e. Management Supply Zones
    f. Metering zone
    g. Consumer/Consumer cluster
ii. Enable the online updating and display of the water balance for each level;
iii. Enable continual estimation of losses at each level;
iv. Enable continual monitoring of consumption data;
v. Enable on-line monitoring of changing conditions to identify new leaks/losses or abnormal consumption. Produce exception reports for physical investigation;
vi. Continual estimation of ILI per management zone and overall;
vii. Provide accurate monthly metering data for billing purposes;
viii. Provide accurate monthly estimate of potential revenue based on metering data and tariffs per management zone and overall;
ix. Based on agreed Recovery Risk Parameters (as may be amended from time to time) provide accurate monthly estimate of Risk Adjusted Revenue per management zone and overall.

Monitoring and Verification of Results

It is of critical importance that Programme – and sub-project performance (as measured through various key parameters) can readily be measured, verified and reported on a regular basis during the implementation period as well as for the duration of any loan facility.

It is essential that the feasibility study must outline the measures and infrastructure that will be put in place and included in the definition of the sub-projects as per section 1.7.1 to achieve this requirement. The following considerations should be noted:

i. Ongoing verification of the performance of all sub-projects already implemented will be a condition for draw-down for any new sub-project commencing;
ii. Verification of performance should preferably be conducted by independent 3rd party;
iii. Key performance parameters will include inter alia the following:

a. Maintenance of cash flow savings due to elimination of RRL as per the target included in the financial analysis of the relevant sub-project as per section 1.7.1.e as demonstrated through the water balance of each management zone;
b. Maintenance of the ILI in each management zone below target value;
c. Maintenance of the true cost recovery ratio in each management zone as per the target included in the financial analysis of the relevant sub-project as per section 1.7.1.i.f above;
d. Maintenance of the annual expenditure in each management zone in terms of operations and maintenance as set through the target/benchmarked values for the relevant sub-project as per 1.7.1.i.h above;

Institutional Issues and Overview

1.11.1 Cost Recovery

i. Provide a detailed review of current tariffs and tariff structure and make suitable recommendations in this regard;
ii. Assess the impact of any changes recommended as per section 1.11.1.i above on the financial viability (NPV) and other key Programme risks;
iii. Conduct a detailed assessment of the institutional capacity of the Municipality in terms of: (a) financial management and cost recovery, (b) administration and compliance as well as (c) customer service;
iv. Conduct a detailed assessment of the billing and management information systems of the Municipality;
v. In the light of these assessments, critically analyse the ability of the Municipality to achieve and maintain the cost recovery levels reflected in the financial analyses of the sub-projects as per section 1.7.1.i.f and recommend any remedial activities that should be included in the Programme to address any shortcomings;

1.11.2 Operations and Maintenance

i. Conduct a critical analysis of annual expenditure on operations and maintenance in terms of economic model as per section 1.1.5 versus actual expenditure during the last financial year;
ii. Conduct a detailed assessment of the institutional capacity of the Municipality in terms of operations and maintenance;
iii. In the light of these assessments, critically analyse the ability of the Municipality to achieve and maintain the cash flow savings levels reflected in the financial analyses of the sub-projects as per section 1.7.1.i.e. and 1.7.1.i.f above and recommend any remedial activities that should be included in the Programme to address any shortcomings;

Finance and Implementation of Sub-Projects

1.12.1 Alternative financing and implementation options

The Consultant shall investigate and recommend alternative options to finance and implement the identified sub-projects taking into consideration the following.

i. Municipal special purpose vehicle

Investigate the option to finance and implement the sub-projects through a municipal special purpose vehicle (SPV). The investigation should consider different mandate scenarios with all institutional and legal issues.

ii. Performance Based Contracting (PBC) models.

The following four PBC models as expressed in the figure and described in the narrative below should be investigated as options:

Starting on the bottom right side of the diagram (highest risk transfer, lowest speed), the four options are:

DBOM Contract: These contracts provide high levels of incentive and risk transfer by making the contractor responsible for all costs, with payment dependent on the volume of loss reduction achieved. They also require construction of district metered areas (DMA) and other physical infrastructure. This contract type has several variants. The differences between the variants mostly concern the degree of risk transfer to the contractor, and how prescriptive the network rehabilitation and remodelling requirements are. The value of risk transfer and value for money that it offers need to be weighed against the time it may take to get the benefits.

24/7 Self-Optimizing Contract: This model provides the contractor with incentives based on the value to the utility of key outputs—including customers moved to 24/7 supply, and revenue collected—as well as the value of inputs, such as bulk water used. This design provides flexibility and reduces the engineering work required in contract preparation. So long as the utility can value the outputs it wants to achieve, the design of the works is adapted by the contractor as it gains more information.

Incentivized Program Manager Contract: Program management contracts separate the 'brains' of the operation from the 'brawn' of implementing the works. A program management contract is a professional services contract, in which the utility pays a team of experts to design, procure, and supervise NRW reduction works. Actual implementation is done by third-party works contractors. The program manager is paid a program management fee—typically around 10 percent of the value of the works—and is also incentivized with performance pay for improvements on specified key performance indicators (KPIs).

Cost-Plus Contract: Under this contract type, the contractor is paid for work done on NRW reduction at actual cost plus a margin. Actual cost is disclosed though an agreed 'open book' process that allows the utility to see the costs the contractor incurred. The 'plus' component would be a standard profit element, typically less than 10 percent over costs. Modest incentive payments for improvement in specified key performance indicators can also be included.

This approach brings in several contractors to start work on selected zones. They share information with the utility that will generally be more useful than consulting engineers can gather, and which the utility can then use to prepare contracts with greater risk transfer for the rest of the network.

1.12.2 Recommendations

Provide clear recommendations on preferred options with a detailed institutional and legal road map on requirements.

1.12.3 Conclusions

Conclusions

Recommendations

2.0. Project Administration and Governance Requirements

2.1 Project Implementation Plan (PIP)

The successful Professional Service Provider is expected to submit the Project Implementation Plan (PIP) within the time period stated in the letter of appointment which shall not exceed two weeks from the date of appointment. The PIP will include the activities that are listed in the scope of work including brief description and individual duration that shall not exceed the total maximum specified duration. The timelines (schedule) of submission of each Deliverable must be in the PIP. The DBSA will provide a template for the development of the PIP to the successful Tenderer.

2.2 Project Steering Committee (PSC)

In terms of the Grant Agreement between the DBSA and the Municipality, a Project Steering Committee (PSC) will be established to strategically oversee the implementation of the project. The PSC is to be chaired by the Municipality and will strategically oversee the successful implementation of the project using the PIP cited above amongst others.

2.3 Periodic Progress Reports

The successful Professional Service Provider will provide periodic progress reports in accordance with the timeframe to be agreed with the DBSA and the Project Steering Committee (PSC). The intervals for the Progress Reports must not exceed one month. Progress Reports must give a summary of the following information:

i. Amount of time spent by each team project member on a specific task;
ii. Total amount of time and cost to date;
iii. Time cost since the previous report;
iv. Percentage of work completed per specific task and the overall percentage completion;
v. Other information that will be determined by either PSC or Service Provider;
vi. Risks and mitigations and
vii. Lessons learnt.

2.4 Submission of Final Reports on the Key Deliverables

The successful Service Provider will develop and submit to the DBSA and Uthukela District Municipality copies of the completed final key Deliverables in accordance with the following requirements:

i. Five original printed/hard copies and five (editable & non-editable) full electronic copies on external hard drive (flash / thumb drive – USB Stick) to the DBSA.
ii. Five original printed/hard copies and five (editable & non-editable) full electronic copies on external hard drive (flash / thumb drive – USB Stick) submitted to Uthukela District Municipality.

2.5 Reporting Lines

The PSP will report directly to the designated Project Manager of the DBSA, to the designated Project Champion of Sol-Plaatje Local Municipality, and to the Project Steering Committee (PSC) during the implementation of the project. The interim progress and final reports will be submitted to designated Project Manager of the DBSA and to the municipality via the Project Steering Committee (PSC). All interim reports (Deliverables and Progress) must be presented, discussed and approved in the PSC meeting.

2.6 Accountability

During the execution of this contract, the successful Service Provider will be required to work closely with the municipality's relevant departments staff , NC COGHSTA PMU and the DBSA Project Manager. The PSP will report to the PSC in accordance with meeting schedule as agreed at the PSC and any others that the Service Provider will deem necessary for the execution of the project. The DBSA will retain all its right as the Employer in terms of the professional services contract to be concluded with the successful PSP. Such rights include issuing written notices and instruction to the Service Provider in line with the conditions of contract.

2.7 Implementation Time Frames, Assumptions, Risks and Dependencies

2.7.1 Implementation Time Frames

The DBSA anticipates the WC/WDM feasibility study to be completed within ten (**10**) months from the Start Date. The PSP shall provide commensurate resources for the successful execution of the project within the indicated time frames.

2.7.2 Underlying Assumptions

Success of this Project depends on the following assumptions:

a) There is full buy-in, ownership and support from the Municipality regarding the support being provided
b) The Sector Departments – Provincial and National COGTA/DT, National Treasury, etc. provide full and sustained facilitation and assistance to the infrastructure planning project.
c) Ongoing and sustained involvement and cooperation of all stakeholders including the local communities;
d) Effective inter-departmental planning and co-ordination is established through a Project Steering Committee that will be established by SPLM.

2.7.3 Risks and Risk Mitigation

The PSP shall identify applicable risks to the project and factor them into the Pricing Schedule and mitigate them during project execution. These risks may include:

a) Limited information for the WC/WDM;
b) Lack of infrastructure data and information from the Municipality and other stakeholders;
c) Insufficient stakeholder involvement;
d) Delays by the Municipality and other stakeholders in providing relevant information;
e) Unclear information and parameters from relevant stakeholders.

i. ELIGIBILITY CRITERIA

Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders, and to have their tender submissions evaluated:

1) The tenderer has in its employ registered professionals such Engineers, Town Planners etc. or has obtained a firm undertaking from professional service providers who have in their employ such professionally registered persons, that are capable of providing such services listed in the table below:

ID	Key Resource / Expert	No.	Minimum Qualifications, Category of Professional Registration and Experience	Key Service(s) Discipline
1	Project Manager and Team Leader: Civil Engineering	x1	Registration as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least **15 years' post-graduation** experience in WC/WDM in the municipal sphere in South Africa.	Project Leadership, Management and Coordination
2	Civil Engineer: Water Services Planning, Management and Operations	x1	Registration as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least 1**5 years' post-graduation** experience WC/WDM in the municipal sphere in South Africa.	Civil Engineering Services
3	Development Planner (Municipal Infrastructure)	X1	Registration as a Professional Planner in terms of the Planning Professions Act, 2003, with at least 1**5 years' post-registration experience** in development planning in the municipal and/or public sector environment.	Development Planning Services
4	Financial Analyst / Infrastructure Investment Analyst	x1	Professional registration as a Chartered Accountant CA (SA), or as a Chartered Financial Analyst (CFA). Must be a member of the Chartered Institute of Public Finance and Accountancy (CIPFA) or similar public-sector professional body. Must have **at least 15 years post-graduation experience** within any of the following areas: Project Finance, Investment Analysis, Investment Planning, Financial Planning, Financial Analysis, Municipal Financial Management.	Infrastructure Investment Analysis
5	Environmental Management Practitioner	X1	Registration as a Professional Natural Scientist in terms of the National Scientific Professions Act, 2003. Must have **at least 15 years post-registration experience** in the environmental assessments, climate change mitigation, compliance and management aspects of integrated waste and materials management field in South Africa.	Environmental Management Practitioner
6	Geo-Information Science (GISc) Expert	X1	Bachelor's Degree in information Science or in Land Surveying. Must be registered as a Professional Geo-Information Science Practitioner	Geo-Information Services

			PrGISc by the South African Council of Professional and Technical Surveyors established in terms of the Professional Land and Technical Surveyors (PLATO) Act No. 40 of 1984, (or registered by the South African Geomatics Council in terms of the Geomatics Profession Act - Act 19 of 2013), and preferably be a member of the Geo-Information Society of South Africa (GISSA). Must have **at least 15 years post-registration experience** in the planning and establishment of GIS systems for public or private sector entities in South Africa	

2) The tenderer's primary business is to provide services in the built environment and the tenderer has experience in the provision of consulting engineering, infrastructure planning and related services.

3) The tenderer confirms that it has put in place specifically for the purpose of this tender, professional indemnity insurance cover (which cover is effective from not later than the closing date of this tender) issued by a reputable insurer of an amount of not less than R4million in respect of a claim without limit to the number of claims. In the case of a Joint Venture, Consortium or Association, the lead party must have met this minimum requirement.
4) The tenderer (including all parties in a Joint Venture, Consortium, or Association) submits with his tender an original tax clearance certificate (active Tax Compliance Status (TCS) PIN) issued by the South African Revenue Services (SARS) which must be valid for the duration of the tender validity period.

5) The Tenderer, or a member of the tenderer's team, is not on the lists of tender defaulters published by National Treasury in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. In addition, the tenderer, or any of his principals, is not/are not under any restriction(s) to do business with the employer.

4. EVALUATION CRITERIA

The procedure for the evaluation of responsive tenders is **Method 4** modified to comply with the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017.

4.1 Evaluation Criteria Overview

The tenders will be evaluated in accordance with Method 4 of the CIDB Standard Tender Evaluation Methods in three stages, namely:

Stage 1 : Responsiveness
Stage 2 : Quality (Functionality)
Stage 3 : Financial Offer and Preferential Evaluation
Stage 4 : Risk Analysis and Other Objective Criteria

4.2 Stage 1: Responsiveness

The Tenderer should be able to provide all the relevant information required in the Supplier Information Form (SIF) which will include but not limited to;

- Standard conditions of tender as required.
- Returnable documents completed and signed.
- An active Tax Complaint PIN issued by the South African Revenue Services
- Confirmation of Attendance of compulsory briefing session
- Adherence to the two-envelope process
- Proof of Registration with a recognised professional body/institution of key experts
- Proof of Professional Indemnity Insurance to the value specified in the tender data.
- Submission of National Treasury Central Supplier Database (CSD) Summary Report.
- Submission of electronic copies of all the documents as listed in the Tender.
-

4.3 Stage 2: {Functionality}

The following criteria will be used to score functionality:

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
1. Proposed Methodology and Approach:		**10**
Details of the proposed methodology and approach that the Tenderer intends to follow with regards to the effective provision of the professional services required for the development of the WC/WDM Bankable Feasibility Study for Sol-Plaatje Local Municipality (SPLM).	**Excellent = 10 points** The important issues are approached in an innovative and efficient way, indicating that the Tenderer has outstanding knowledge of state-of-the- art approaches. The approach paper details ways to improve the project outcomes and the quality of the outputs	10
	Good = 7 points The approach is specifically tailored to address the specific project objectives and methodology and is sufficiently flexible to accommodate changes that may occur during execution. The quality plan and approach to managing risk etc. are specifically tailored to the critical characteristics of the project.	
	Acceptable = 5 points The approach is generic and not necessarily tailored to address the specific project objectives. The approach does not meaningfully deal with the critical characteristics of the project. The quality plan, and approach to managing risk etc. are too generic.	
	Poor = 3.5 points The technical approach and / or methodology is poor / is unlikely to satisfy project objectives or requirements. The Tenderer has misunderstood certain aspects of the scope of work and does not deal with the critical aspects of the project.	

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
	Non-responsive = 0 points No response. Failed to address the methodology and approach.	
2. Experience / Track Record of the Tenderer (Lead Tenderer and Entities in JV, Consortium, Association, etc.):		**40**
Tenderer's experience and track record in executing work of similar nature to the development or updating implementing WC/WDM Bankable Feasibility Study/ Strategy in support of Sol-Plaatje LM. The tenderer must have completed at least **5** projects in same.	**Excellent = 40 points** Tenderer has demonstrated experience and track record in completing five (5) or more WC/WDM Bankable Feasibility Study Or Strategies in the past 10 years in South Africa.	40
	Good = 28 points Tenderer has demonstrated experience and track record in completing at least four (4) WC/WDM Bankable Feasibility Study Or Strategies in the past 10 years in South Africa.	
	Acceptable = 20 points Tenderer has demonstrated experience and track record in completing at least three (3) WC/WDM Bankable Feasibility Study OR Strategies in the past 10 years in South Africa.	
	Poor = 14 points Tenderer has demonstrated experience and track record in completing at least two WC/WDM Bankable Feasibility Study OR Strategies in the past 10 years in South Africa.	
	Non-Responsive = 0 points No response. Failed to provide any evidence of experience and track record or completed less than two WC/WDM Bankable Feasibility Study OR Strategies in the past 10 years in South Africa.	
3. Experience and Qualifications of the Tenderer's Proposed Key Resources / Experts:		**40**
1. Project Manager and Team Leader: Civil Engineering Registration with **ECSA** as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least **15 years' post-graduation** experience in WC/WDM in the	**Excellent:** From 15 years upwards post-registration experience = 10 **points**. **Good:** From 10 years to less than 15 years' post-registration experience = **7 points.** **Acceptable:** From 5 years to less than 10 years post experience = **5 points.** **Poor:** From 2years to less than 5 years post experience = **3.5 points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	10

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
municipal sphere in South Africa. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience.**		
2. Civil Engineer/Technologist: Water Services Planning, Management and Operations: Registration with **ECSA** as a Professional Engineer or as a Professional Engineering Technologist in terms of the Engineering Professions Act, 2000. Must have at least **15 years' post-graduation** experience in WC/WDM in the municipal sphere in South Africa. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Excellent:** From 15 years upwards post-registration experience = **10 points.** **Good:** From 10 years to less than 15 years post-registration experience = **7 points.** **Acceptable:** From 5 years to less than 10 years post-registration experience= **5 points.** **Poor:** From 2 years to less than 5 years post-experience= **3.5 points** **Non-responsive:** Less than 3 years post-registration experience = **0 points.**	10
3. Development Planner (Municipal Infrastructure): Registration with **SACPLAN** as a Professional Planner in terms of the Planning Professions Act, 2003, with at least 1**5 years' post-registration experience** in development planning in the municipal and/or public sector environment. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Excellent:** From 15 years upwards post-registration experience = **10 points.** **Good:** From 10 years to less than 15 years post-registration experience = **7 points.** **Acceptable:** From 5 years to less than 10 years post-registration experience= **5 points.**	5
4. Environmental Management Practitioner Registration as a Professional Natural Scientist in terms of the	**Excellent:** From 15 years upwards post-registration experience = **5 points**. **Good:** From 10 years to less than 15 years = **3.5 points**	5

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
National Scientific Professions Act, 2003. Must have **at least 15 years post-registration experience** in the environmental assessments, climate change mitigation, compliance and management aspects of integrated waste and materials management field in South Africa. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Acceptable:** From 5 years to less than 10 years = **2.5 points** **Poor:** From 2 years to less than 5 years = **1.75 points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	
5. Financial Analyst / Infrastructure Investment Analyst: Professional registration as a Chartered Accountant CA (SA), or as a Chartered Financial Analyst (CFA). Must be a member of the Chartered Institute of Public Finance and Accountancy (CIPFA) or similar public-sector professional body. Must have **at least 15 years post-graduation experience** within any of the following areas: Project Finance, Investment Analysis, Investment Planning, Financial Planning, Financial Analysis, Municipal Financial Management. **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Excellent:** From 15 years upwards post-registration experience = **5 points**. **Good:** From 10 years to less than 15 years = **3.5 points** **Acceptable:** From 5 years to less than 10 years = **2.5 points** **Poor:** From 2 years to less than 5 years = **1.75points** **Non-responsive:** Less than 2 years post-registration experience = **0 points.**	5
6. Geo-Information Science (GISc) Expert: Bachelor's Degree in information Science or in Land Surveying. Must be registered as a Professional Geo-	**Excellent:** From 15 years upwards post-registration experience = **5 points**. **Good:** From 10 years to less than 15 years = **3.5 points** **Acceptable:** From 5 years to less than 10 years = **2.5 points** **Poor:** From 2 years to less than 5 years = **1.75 points**	5

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
Information Science Practitioner PrGISc by the South African Council of Professional and Technical Surveyors established in terms of the Professional Land and Technical Surveyors (PLATO) Act No. 40 of 1984, (or registered by the South African Geomatics Council in terms of the Geomatics Profession Act - Act 19 of 2013), and preferably be a member of the Geo-Information Society of South Africa (GISSA). Must have **at least 15 years post-registration experience** in the planning and establishment of GIS systems for public or private sector entities in South Africa **Attach copies of professional Registration, qualifications and CV's clearly indicating a detailed profile of their previous work experience**	**Non-responsive:** Less than 2 years post-registration experience = **0 points.**	
4. Lead Tenderer's Quality Management System:(ISO 9001:2008 certification)		**10**
The Lead Tenderer's policies relating to Quality Management with regard to the effective provision of professional services required for the successful delivery of the WC/WDM Feasibility Study Or Strategies in support of Sol-Plaatje LM.	**Excellent = 10 points** The Tenderer demonstrates that they employ a reasonable quality assurance system and can prove that this system is in place and in use. In addition, they have obtained ISO 9001: 2008 Certification	10
	Good = 7 points The Tenderer demonstrates employment of a reasonable quality assurance system and can prove that this system is in place and in use.	
	Acceptable = 5 points The Tenderer fails to demonstrate employment of a reasonable quality assurance system and fails to prove that this system is in place and in use.	

Evaluation criteria	Scoring (for whole or each sub-element where applicable)	Maximum number of points
	Non-responsive = 0 points No Quality Assurance System submitted.	
Maximum possible score (Points)		**100**
Minimum threshold score for Tenderer's Financial Proposal to be considered		**70**

****Note**: *These are the minimum resources required. The Tenderer can provide Additional resources that might be required for the execution of the project and they should be specified, in terms of names, experience, CVs, registration etc. and provide an Organogram to specify the roles and responsibilities of all the resources*

Stage 3: Financial Offer and Preference Evaluation

With reference to the PPPFA 2017, the evaluation shall be based on the 80/20 Principle and the points for evaluation criteria are as follows:

Evaluation Criteria		Points
1.	Price	80
2.	Broad Based Black Economic Empowerment	20
3.	Total	100

*The contract may be awarded to a tenderer that did not score the highest points, in accordance with section 2(1)(f) of the PPPFA 2017.

4.4 Stage 4: Risk Analysis & Other Objective Criteria

b) Firstly, in addition to the financial offer and preference evaluation, the Tenderers having the highest ranking / number of points, will additionally be reviewed against the following points listed as "**Other Objective Criteria**" in terms of the PPPFA Regulations of 2017, in order to ascertain suitability for award.

xii) If having passed Responsiveness, the tenderer will again be checked I terms of having a Compliant Tax Status at time of recommendation to confirm that the status has not changed, based on an active and Tax Complaint Pin issued by the South African Revenue Services.

xiii) Fully compliant and registered with the National Treasury Central Supplier Database.

xiv) No misrepresentation in the tender information submitted.

xv) Any non-performance on DBSA, or DBSA client projects.

xvi) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and

xvii) The tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the Employ of the state are permitted to submit tenders or participate in the contract.

xviii) Prohibited from doing business with the public sector

xix) Listed on the Register of Tender Defaulters by the National Treasury
xx) Convicted by a court of law for fraud and corruption
xxi) Removed from a contract between them and any organ of state on account of failure to perform on or comply with the contract.
xxii) Financial health of the bidder may be assessed if deemed necessary, to ensure that the PSP will be able to operate as per required deliverables.
iii) The contents of project specific tender returnables will be assessed i.e. project specific resources, professional indemnity insurance, professional registration, approach and methodology which are to be included in the contract.

The placement of tendered resources will be assessed to ensure that resources indicated by CV's and tendered to work on the program will indeed work on the program and will not be replaced by more junior or less competent resources.

5. LIST OF DOCUMENTS TO BE REQUESTED FROM TENDERERS

The tenderer must complete the following Returnable Documents in **black ink**:

1. Returnable Schedules required for tender evaluation purposes

In terms of this Request for Proposals (**RFPxxyy/2020),** the following documentation must be submitted for the tender response to be deemed valid for consideration:

T2.2.1: Briefing Session: Declaration of Attendance
T2.2.2: Record of Addenda to Tender Documents
T2.2.3: Proposed Amendments and Qualifications by Tenderer
T2.2.4: Compulsory Enterprise Questionnaire
T2.2.5: Certificate of Authority for Joint Ventures
T2.2.6: Tenderer's active Tax Compliance Status (TCS) PIN issued by the South African Revenue Services (SARS).
T2.2.7 Tenderer's Central Supplier Database Summary Report
T2.2.8: Bid Commitment and Declaration of Interest
T2.2.9: Declaration of Tenderer's Past Supply Chain Management Practices
T2.2.10: Certificate of Independent Bid determination [SBD 9]
T2.2.11: Professional Indemnity Insurance
T2.2.12: Preferencing Schedule:
T2.2.13: Copy of Joint Venture Agreement
T2.2.14: Evaluation Schedule: Proposed Methodology and Approach
T2.2.15: Evaluation Schedule: Experience and Track Record of the Tenderer in Executing Work of Similar Nature
T2.2.16: Evaluation Schedule: Experience and Qualifications of the Tenderer's Proposed Key Resources / Experts
T2.2.17: Evaluation Schedule: Lead Tenderer's Quality Management System

2. Other documents required for tender evaluation purposes

b) A copy of the Joint Venture Agreement (if applicable), Consortium or Association Agreements which is to be appended to Schedule T2.2.13 (to illustrate validity of previous commitment)

3. The offer portion of the C1.1 Offer and Acceptance

4. Contract Data (Part 1 and Part 2)

5. Price Schedules

6. SITE INFORMATION / LOCATION MAP

The indicative location of the Project Site is shown in the figure 1 below:

The indicative location of the Project Site is shown in the figure below

7. APPROVAL / SIGN OFF SIGNATURES:

PREPARED (ORIGINATED) BY:

_____ _____ _____

Bangephi Moyo **Signature** **Date**
(Project Manager: LGS Unit)

SUPPORTED AND RECOMMENDED BY:

_____ _____ _____
Chucheka Mhlongo **Signature** **Date**
(Head: LGS Unit)

ANNEXURES

ANNEXURE 1: AMI GLOSSARY
ANNEXURE 2: FUNCTIONAL SPECIFICATION FOR AMI
ANNEXURE 3: BACKGROUND ARTICLE

ANNEXURE 1: AMI GLOSSARY

ADSL – Asymmetric Digital Subscriber Line is a type of digital subscriber line technology, a data communications technology that enables faster data transmission over copper telephone lines than a conventional voice band modem can provide. It does this by utilizing frequencies that are not used by a voice telephone call. ADSL can generally only be distributed over short distances from the telephone exchange (the last mile), typically less than 4 kilometres, but has been known to exceed 8 kilometres if the originally laid wire gauge allows for further distribution. At the telephone exchange the line generally terminates at a digital subscriber line access multiplexer (DSLAM) where another frequency splitter separates the voice band signal for the conventional phone network. Data carried by the ADSL are typically routed over the telephone company's data network and eventually reach a conventional Internet Protocol network. (Source – Wikipedia). In the context of this tender, ADSL may be used as a preferred WAN technology in a hybrid AMI system.

AMI – Advanced Metering Infrastructure is the technology of connecting utility devices (meters, gauges, control equipment) with the utility's enterprise systems (billing, asset management, operations, maintenance, electricity demand-side management, water demand management, etc.) as well as with consumers (for billing verification, home energy management, dispute resolution, etc.), through a fixed bidirectional communication system linked to an "open source" database or data bus, through which the AMI system can be remotely accessed by authorised users from secure, password protected web-based interfaces. See figure 1 below for the basic system architecture of an AMI system.

AMR – Automatic Meter Reading is the technology of automatically collecting consumption, diagnostic, and status data from water meter or energy metering devices (gas, electric) and transferring that data to a central database for billing, troubleshooting, and analyzing by the utility. AMR technology can be delivered with walk-by, drive-by or fixed communication networks.

AMS – AMI Managed Services are deployments of advanced metering infrastructure (AMI) systems in which a third party other than the utility operates the AMI system on a day-to-day basis.

AMS Provider – An entity such as a company that provides AMI Managed Services (AMS) to utilities.

APN – An Access Point Name is the name of a gateway between a GPRS (or 3G, etc.) mobile network and another computer network, frequently the public Internet. A mobile device making a data connection must be configured with an APN to present to the carrier. The carrier will then examine this identifier to determine what type of network connection should be created, for example: what IP addresses should be assigned to the wireless device, what security methods should be used, and how or if, it should be connected to some private customer network. More specifically, the APN identifies the packet data network (PDN), that a mobile data user wants to communicate with. In addition to identifying a PDN, an APN may also be used to define the type of service, (e.g. connection to wireless application protocol (WAP) server, multimedia messaging service (MMS)), that is provided by the PDN. APN is used in 3GPP data access networks, e.g. general packet radio service (GPRS), evolved packet core (EPC). (source – Wikipedia).

ASCII – The American Standard Code for Information Interchange is a character-encoding scheme originally based on the English alphabet. ASCII codes represent text in computers, communications equipment, and other devices that use text. Most modern character-encoding schemes are based on ASCII, though they support many additional characters.

CIS – Customer Information System.

CRM – Customer Relationship Management.

Daily Read Period – means the 24-hour period for collecting Meter Reads. The Daily Read Period ends at 12:00 midnight of each day.

DSM – Demand Side Management of energy consumption.

Endpoint – An Endpoint device is any utility meter, gauge or control device that is connected to an AMI system.

ESM – Energy Savings Measures.

Gateway Device – A Gateway device is a type of router (see "router" below) that connects a LAN to a WAN in an AMI system. A Gateway device manages bidirectional communication between the LAN and WAN.
GIS – Geographical Information System is a computer-based system for managing geographically-located data and objects and that can display the objects and data with relation to a physical geographical background.
GPS – The Global Positioning System is a space-based satellite navigation system that provides location and time information anywhere on the Earth, where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the United States government and is freely accessible to anyone with a GPS receiver.
GSM – Global System for Mobile Communications, originally Groupe Spécial Mobile, is a standard set developed by the European Telecommunications Standards Institute (ETSI) to describe protocols for second generation (2G) digital cellular networks used by mobile phones. The GSM standard was developed as a replacement for first generation (1G) analog cellular networks, and originally described a digital, circuit switched network optimized for full duplex voice telephony. This was expanded over time to include data communications, first by circuit switched transport, then packet data transport via GPRS (General Packet Radio Services) and EDGE (Enhanced Data rates for GSM Evolution or EGPRS). Further improvements were made when the 3GPP developed third generation (3G) UMTS standards followed by fourth generation (4G) LTE Advanced standards. "GSM" is a trademark owned by the GSM Association. (Source – Wikipedia).
GSM-RF Gateway – A GSM-RF Gateway is a Gateway device that connects an RF LAN to a GSM WAN.
GPRS – General Packet Radio Services. See GSM.
Hall Effect Sensor – A solid state electronic pulse pick-up sensor (no moving parts) with built-in histeresis, i.e. the ability to filter out "bounce" from the pulse generators of utility meters.
HEM – Household Energy Management.
Hybrid LAN – A LAN that incorporates more than one type of communications network, e.g. RF and GSM, or PLC and GSM, or RF and ADSL, etc.
ILI – Infrastructure Leakage Index is an index that indicates the condition of water supply infrastructure. An ILI of 1 (one) means that the infrastructure is in as good a condition as it can be. Any number above 1 (one) means that the infrastructure is not in as good a condition as it can be. ILI is measured by the rate of leakage from water distribution infrastructure, for specific type (material) of pipes, pipe diameter, pipe length, number of off-take points on the distribution system and the volume (rate) of water dispensed through the system.
IP Code Rating – The IP Code, Ingress Protection Rating, sometimes also interpreted as International Protection Rating, classifies and rates the degree of protection provided against the intrusion of solid objects (including body parts like hands and fingers), dust, accidental contact, and water in mechanical casings and with electrical enclosures. IP Code ratings are expressed with a numerical suffix to the "IP" and that indicates the degree of specific measurable protection. For example, IP68 relates to "water proof", IP64 to "splash or rain proof", IP54 to "dust proof", etc.
LAN – Local Area Network (for communication of data). LAN's could be based on RF, landline, fibre or PLC technology.
Meter Read – is a number generated by a meter that reflects cumulative electricity or water consumption at a specific point in time.
M&V – Measurement and Verification. The process of quantifying savings or the impact by determination of actual consumption and relevant consumption-governing factors, and to develop baselines and baseline adjustments.
NRW – Non-Revenue Water as defined by the water accounting model of the International Water Association (IWA). This is essentially the difference between all water purchased by the utility (in volumetric terms) and for which the utility did not receive revenues. This includes all unaccounted for water, water metered but not billed and water metered and billed but not paid for.

PLC – Power Line Carrier communication systems in which data are transmitted from and to endpoint devices via the electric utility's power supply wires and cables. PLC systems by necessity incorporates modems and converters to bridge "obstructions" in the power lines.
Pulse – The electronic or electromagnetic pulse generated by a utility meter that can be detected by a "pulse pick-up" device and converted into units of consumption. Utility meters fitted with pulse outputs are generally compatible with AMR and AMI systems.
Pulse Weight – Means the number of pulses that represents a particular measure of utility consumption, e.g. kWh for electricity or kl for water.
Reed Switch – A mechanical device for detecting electronic-magnetic pulses.
RF – Radio Frequency communication systems.
RF Mesh – Radio Frequency communication fixed network in which RF devices communicate with each other in a mesh network configuration. RF mesh networks are usually ultra-low-powered, battery-driven systems.
RF Point-to-Point – Radio Frequency communication fixed network in which each endpoint device communicates directly with an RF tower. These RF systems are usually high-energy systems.
Router – A router is a device that forwards data packets between computer networks, creating an overlay internetwork. A router is connected to two or more data lines from different networks. When a data packet comes in one of the lines, the router reads the address information in the packet to determine its ultimate destination. Then, using information in its routing table or routing policy, it directs the packet to the next network on its journey. Routers perform the "traffic directing" functions on the Internet. A data packet is typically forwarded from one router to another through the networks that constitute the internetwork until it gets to its destination node.
SIM Card – Subscriber Identity Module or Subscriber Identification Module is an integrated circuit that securely stores the International Mobile Subscriber Identity (IMSI) and the related key used to identify and authenticate subscribers on mobile telephony devices (such as mobile phones and computers). A SIM is embedded into a removable SIM card, which can be transferred between different mobile devices. A SIM card contains its unique serial number (ICCID), international mobile subscriber identity (IMSI), security authentication and ciphering information, temporary information related to the local network, a list of the services the user has access to and two passwords: a personal identification number (PIN) for ordinary use and a personal unblocking code (PUK) for PIN unlocking. (Source – Wikipedia).
Smart Meter – A Smart meter often refers to an electricity meter, but it also may mean a device measuring natural gas or water consumption. Smart Meters usually involve real-time or near real-time sensors, power outage notification, and power quality monitoring. It records consumption of electric energy in intervals of an hour or less.

TCP/IP – Transmission Control Protocol and Internet Protocol is the set of communications protocols used for the Internet and similar networks, and is generally the most popular protocol stack for wide area networks (WAN). TCP/IP provides end-to-end connectivity specifying how data should be formatted, addressed, transmitted, routed and received at the destination. It has four abstraction layers, each with its own protocols. From lowest to highest, the layers are:
The link layer (commonly Ethernet) contains communication technologies for a local network.
The internet layer (IP) connects local networks, thus establishing internetworking.
The transport layer (TCP) handles host-to-host communication.
The application layer (for example HTTP) contains all protocols for specific data communications services on a process-to-process level (for example how a web browser communicates with a web server).
UFW – Unaccounted for water, meaning that portion of the total volume of bulk water purchased by a utility over a specific period, that the utility is unable to account for through metering to its customers or other uses.
WAN – Wide Area Network (for communication of data). WAN's could be based on GSM, GPRS, RF, landline, microwave, broadband or satellite systems.
WC/WDM – Water Conservation / Water Demand Management. Water conservation is the activity or measures through which the available amount of water is conserved and more efficiently utilised. Water demand management is a consumer-side intervention that leads to reduced consumption of water.
WSM – Water Savings Measures

ANNEXURE 2: FUNCTIONAL SPECIFICATION FOR AMI

1. OPERATIONAL FUNCTIONALITY OF THE AMI SYSTEM

In order to meet the objectives and implementation strategy of the Municipality, it intends to ensure that the specified AMI system would be able to deliver the following operational functionality:

1.1 Retention of Existing Infrastructure

The Municipality intends to implement the AMI system as cost-effectively as possible, and to not get locked into purchasing meters, gauges and devices from a single supplier. Hence it wishes to retain as large a portion as possible of its current metering and gauging infrastructure and to be certain that a single AMI system should be able to connect to all of its existing utility meters and gauges, that is to any meter or gauge supplied by any recognised mainline supplier of utility meters and gauges in South Africa, provided that such meters and gauges are equipped with reliable, accurate and low-cost data output facilities that can be connected to an AMI system. The Municipality will replace only unsuitable meters and gauges identified during the AMS Provider's audit process, with AMI-compliant meters and gauges.

1.2 Revenue Management

The Municipality intends to dramatically improve its revenue management processes through improving its metering, billing, payment and credit control processes and systems. This would inter alia involve the ability to obtain accurate, reliable, short-time-interval meter readings, to automatically upload meter readings into a billing system, to make provision for more convenient payment mechanisms such as using mobile telephony and secure electronic tokens, to provide an option for "smart pre-paid" metering and to have the ability, on an individual merited basis, to remotely disconnect and re-connect services as a credit control mechanism. It would also require the ability to detect tampering and by-passing of services remotely, so that the Municipality can immediately take action against offenders.

1.3 Resource Efficiency (WC/WDM)

The Municipality intends to significantly enhance its resource efficiency within its supply area through water conservation and water demand management (WC/WDM). This can only be achieved if the Municipality has a single data collection and information system that has the ability to detect leaks, calculate losses in the supply networks, locate the areas of biggest losses, detect trends (e.g. an increase or decrease of losses), logging usage profiles, measure & verify (M&V) water savings measures (WSM), and that can monitor and control devices used for ESM and WSM (e.g. timer controllers and pressure controllers), etc.

1.4 Operational Efficiency through Process Automation

The Municipality intends to improve its operational efficiencies, *inter alia* by making available the right information at the right time to the right people within its organisation, to ensure that they can act in the most effective and efficient manner to drive the Municipality's business processes. These business processes may include, but is not limited to, managing its supply networks, metering water consumption, revenue management processes, dealing with customer complaints and queries, water balancing, leakage and loss control, maintaining an asset register for infrastructure, assessing infrastructure asset conditions, planning and budgeting for the upgrading, replacement and/or maintenance of infrastructure, etc. The Municipality is of the view that this can best be achieved by integrating the data obtained from the AMI system with its other enterprise systems and by producing customised reporting and "dashboards" that will enable its staff to be more pro-active instead of being reactive in dealing with a wide range of infrastructure asset management, service delivery, customer relationships and financial issues pertinent to the Municipality's operations. In other words, many operational processes that are currently manually driven, or defective, or non-existent, can be implemented and automated through putting in place systems that are fed with data from the AMI system.

1.5 Asset Management

The Municipality has a legal obligation to maintain an asset register of its utility distribution infrastructure. It also has a legal obligation to maintain the infrastructure in a serviceable state so that it can continue to deliver the vital utility services to its customer base. The Municipality is of the view that this can best be achieved if it obtains relevant and timely information on the performance of its infrastructure, in an actionable format, delivered to the right people at the right time. The information that can be obtained through an AMI system will fulfil a vital role in achieving this objective, and for this reason, the specified AMI system must possess the technical features to deliver the required information.

For example, for the management of water distribution infrastructure, it is important to obtain accurate and reliable information on a regular basis so as to calculate unaccounted-for water (UFW) and non-revenue water (NRW) in accordance with the International Water Association (IWA) water balance model.

In addition to the above, it is also necessary to:

1. Calculate the infrastructure leakage index (ILI) from data obtained from the AMI system.
2. Monitor and report on the performance of pressure control devices, reservoir levels, etc.
3. Log and report outage events and measure & verify the effectiveness of WSM's.

1.6 CRM

It is the intention of the Municipality to use the AMI system not only to improve its own internal efficiencies with regard to producing more accurate, reliable and timely utility bills, but to also allow its customers access to information on their own utility usage, so that they can independently verify their utility consumption off the same metering platform used by the Municipality and so that they can use this information to budget for and to improve their own efficiencies with regard to utility use.

It is the intention of the Municipality to leverage off other existing and pervasive technologies like cellphone communications, to make available this information in a number of different ways to consumers, from a medium as simple as sms text messaging to providing rich information in graph or other formats through a web interface to smart phones and tablets.

The Municipality wants to also use this technology for electronic payment of utility services, through employing secure electronic tokens.

1.7 Creation of Decent Jobs in the "Green" Economy

The Municipality is keenly aware of the implications that the introduction of an AMI system would have on existing manual meter readers. However, the Municipality views the introduction of an AMI system as an opportunity to upgrade manual meter readers from performing a menial, low-value task to becoming an integral, value-adding component to the Municipality's endeavors to operate, maintain and improve utility distribution networks and to provide an enhanced customer service. This will be achieved, inter alia, by retraining current meter readers (who already have good knowledge of their operational areas), firstly to install and maintain the AMI field devices (LAN & routers), and secondly, into users of the information delivered by the AMI system, namely to be able to rapidly attend to leaks, losses, pipe bursts, tampering, power outages and faulty infrastructure, etc.

Furthermore, in order to support local job creation and enterprise development in line with the recommendations of DTI policies, as well as to ensure local product support, the Municipality will give preference to locally developed, owned and manufactured AMI systems, provided that these systems meet all of the functional requirements of the Municipality, as set out herein.

2. TECHNICAL FEATURES OF THE AMI SYSTEM

To be able to deliver the operational functionality as set out in Section 4 above, the AMI system should at a minimum meet the technical features as set out below.

2.1 Multi-Utility, Multi-Device & Manufacturer-Independent

The AMI system should include a comprehensive metering and gauging system for all water services and all devices (meters, gauges, sensors, loggers, control equipment, switches, etc.) from all mainline manufacturers (see specifications below for list of manufacturers).

2.2 Automated, Remote Meter Reading

The AMI system should be able to regularly download data from the metering and gauging instruments and deliver information from these metering and gauging devices via an automated, remote meter reading and communications system through a fixed communications network.

2.3 Bi-directional Communication System

The AMI system should have a fully bi-directional communication system, i.e. it should be able to communicate data from field endpoint devices as well as from a central computer to field endpoint devices, both to interrogate devices on demand and to remotely control devices.

2.4 Integration with Enterprise Software Systems

The AMI system should be fully intergratable with the municipality's enterprise systems, both those currently in use, as well as any new systems to be acquired under separate contract at a later date.

2.5 Open Source Database

In order to achieve this integration between the AMI system and the municipality's other enterprise systems, it will be necessary for the AMI system to store its collected utility data in an "open source", as opposed to "proprietary" database, preferably a database such as MySQL, from where most other systems can seamlessly extract data.

2.6 Web-based

It would also be necessary for the AMI system to be "web"-based, meaning that all data query, reporting and control functions of the system, should be accessible through a secure web interface.

3. AMI BASIC SYSTEM ARCHITECTURE

The basic system architecture of an AMI system is depicted in Figure 1 below. The different technology options for each of the components of the AMI system is listed below the AMI system component.

Figure 1: - AMI Basic System Architecture

Bidirectional Communication ⟷

Endpoints	LAN	Collectors	WAN	System Software	Database
Pulse Smart ASCII RS232/485 Optical 4-20mA	Mesh RF Point-Point RF PLC Hybrid	Gateways Routers Concentrators Towers	GSM/GPRS Telephony Broadband RF Fibre	Proprietary Open Standard Server Based Cloud	Proprietary Open Standard Free/Unlicensed Licensed Server Based Cloud

4. METER CONNECTIVITY

4.1 Compatibility with Utility Gauging Devices

The system must be able to communicate with (download data from) ANY utility meter and gauge, provided that the meter or gauge is equipped with a data output facility that is compatible with most data pick-up systems. Specifically, electronic pulse output, data registers (as in "smart meters") and 4-20 mA analogue output devices, should be accommodated by the AMI system. This requirement will obviate the need for the municipality to undertake a wholesale replacement of all its utility meters and gauges, and/or to adopt multiple AMI systems, and/or to become locked into purchasing utility meters and gauges from a single supplier.

The AMI system must be able to "read" data from the following output formats:

- Digital pulse
- 4-20mA analogue current output
- ASCII Data from electronic data registers via RS232/485 ports

The AMI system must be able to communicate with all AMI-compliant utility metering devices from all mainline suppliers, which at a minimum would include, but not limited to the following manufacturers:

WATER

- Sensus
- Elster Kent
- Actaris / Itron
- Safmag
- Siemens

The AMI system must be able to "read" data from the following types of utility devices:

WATER

- Mechanical, electromagnetic, electronic and ultrasonic water meters
- Pressure transmitters
- Ultrasonic level transmitters

5. DATA LOGGING

5.1 Data Logging Capability

The meter interface units shall be configurable to log meter data at intervals of between 5 minutes and 24 hours. In order to comply with 5-minute sampling periods and to minimize data transmission frequency, the Contractor must demonstrate the size of the data memory on the local meter interface unit. The available memory of the meter interface unit shall store at least 500 readings on a continuous memory basis.

5.2 Meter Reading Synchronisation

The AMI system shall synchronise the meter reading in the AMI system database with the meter reading as it appears on the meter face.

5.3 Read Time Synchronisation

The AMI system must be capable of logging meter readings at the exact same synchronised times so that it is possible to conduct accurate water/energy balances and water/energy loss audits for management zones.

5.4 Resetting Data Logging Intervals

It must be possible to remotely reset meter reading intervals from the central server, so that individual meters can temporarily be used as data loggers, i.e. taking readings at very short time intervals, that is down to 5-minute intervals, for a period not exceeding 24 hours.

5.5 Normal Operating Conditions

Under normal operating conditions, the AMI system must take ½-hourly meter readings for electricity and daily meter readings for water and automatically transmit these meter readings on a daily basis to the AMI database.

The AMI system must follow a weekly read period of 24 hours that terminates at 24h00 midnight every day.

5.6 Data Logging Integrity at MIU Level

If, for a period longer than 24 hours, it is not possible to communicate meter data to the database, for example because of power failures or the WAN going down, the AMI system shall continue to log and store meter reading data at the meter reading interface unit (MIU). When the MIU data register is full, it shall drop off the oldest meter readings and continue to log the latest meter reading, at the time intervals specified.

6. POWER SUPPLY

6.1 Power Supply Sources

The proposed system shall not be reliant on external power sources and therefore must be self-powered for the duration of the contract. In the event where an external power source is required for a specific field device, the Contractor must be able to demonstrate that such a device can be continually powered by another source other than mains power, under normal operating conditions, for a period not less than 12 hours.

Alternatively, the Contractor must be able to demonstrate that the AMI system that he offers will not cause data to be lost during power outages. In other words, data should be stored locally at the meter interface device and be delivered when power is back on.

The AMI system must, by virtue of its operating environment, be powered by batteries. It is required that the AMI system should be able to function under normal operating conditions for a period not less than 6 years, without the need to replace any batteries. If it becomes necessary to replace batteries within 6 years after installation, then the Contractor will do that at his own cost.

7. COMMUNICATIONS

7.1 Third Party Communications Systems

In the event that the Bidder offers a system that is dependent on a third party communication system, he shall demonstrate that he has the capability to easily switch to an alternative supplier of third party communications infrastructure at affordable costs and within a very short time frame.

This compulsory requirement is to ensure that the AMI system will remain functional or can be maintained functional in the event that the third party communications provider, through whatever cause, renders the system unoperational or unaffordable to maintain.
The system should not have a high built-in cost to operate and maintain (such as a system predominantly operated through cellphone networks that require the installation and management of thousands of SIM-cards).

7.2 Remote Communication Capabilities

It must be possible to remotely establish communication with any AMI device and with utility meters, gauges and control devices, that is connected to the AMI system, from any computer with an internet connection, through a secure web portal.
This means that the AMI system shall be based on a fixed communications network, connected directly to a computer database, from where data can be received, or through which instructions can be sent to, various utility meters, gauges or control devices.
Stand-alone pre-paid, “Walk-by” and “drive-by” systems do not qualify as systems with “remote communication” capability. These systems are, for the purpose of this tender, classified as “proximity communications” systems.

7.3 Bidirectional Communication Capability

Bidirectional communication is mandatory in order to:

1. remotely, from any device with internet access, obtain “live” readings on demand
2. exercise field control functions from any computer connected to the AMI system, including but not limited to service suspension and re-connection for credit control purposes, re-setting data logging intervals so as to turn a consumption meter into a data logging device for short periods (24 hours), for remotely closing valves, etc.

It is an additional desired functionality that the bidirectional communication capability shall improve data transmission capabilities and / or data transfer rates, by operating on a ‘connectionless’ (e.g. UDP) channel or remain ‘idle’ and wait for an incoming connection (listening TCP/IP), i.e. not maintaining an ‘always open’ connection that will tie up communication resources.

8. DATA MANAGEMENT

8.1 Security and Non-Interference Characteristics

Bidders must be able to demonstrate the technological measures and characteristics of their system in order to ensure that:

1. data is collected and transferred accurately and reliably
2. any possible interference with the communications network and data transmission is prevented
3. no data can be intercepted or accessed by unauthorised parties

8.2 "Open" Database (i.e. Not Proprietary) In Secure Facility

The entire system shall be controlled from a central and open source fully managed database from where data is accessible by means of standard database queries.

The system must store the collected utility data in a secure, commercial, off-site facility (such as used by banks and other financial institutions), to ensure that the utility data will not be lost if something should cause loss of data on the municipality's own data servers.

8.3 Automated Daily Data Transfer Capability

The system must be able to collect stored data from meter interface units or data concentrators automatically on a daily basis.

9. SYSTEM OPERATIONS

9.1 Automatic Fault Resetting Capability

1. Alarm conditions and other "events" shall be displayed, recognized and cleared on the AMI software events log.
2. Where the proposed system incorporates a GSM network as part of the transmission of data it will be mandatory to have a diagnostics and "self-healing" system implemented as part of the communications network monitoring software so as to ensure that the field GSM devices register themselves back onto the GSM network after a GSM network failure.

9.2 Remote Network Reconfiguration

1. The complete network data routing paths must be set remotely.
2. The communications network must be capable of being remotely reconfigurable with an alternative data routing path in the event of lost or poor communication from specific field devices.
3. It shall be possible to edit data logging intervals, data download intervals and pulse weight factors (conversion of pulses into consumption units) remotely from any computer or mobile device with internet access provided that the appropriate software applications are loaded onto those computers.

9.3 Remote Network Management and Operational Capabilities

Where the AMI system is dependent on third party GSM communications, the GSM devices must be equipped with full SIM and PIN code management as part of the onboard software and the device must have an onboard diagnostic read-out display reporting device status. At least one TCP/IP channel support will be necessary.

9.4 GIS Capability

All field-installed AMI devices will be displayed on a geographic map indicating their respective positions and this map should be accessible through the main system software and displayed on a web interface.

9.5 Detection of Exception Conditions and Automated Alarms

The AMI system must be able to detect exception conditions at MIU level. These would include tamper detection, communication interruptions, leak detection, reservoir level limits, power outage, pressure limits, etc., and automatically deliver alarm notifications, inter alia via email and/or the internet.

10. SAFETY, HEALTH & ENVIRONMENTAL CRITERIA

10.1 Compliance with Electromagnetic Emissions Standards

The system shall meet electromagnetic emission safety standards as provided for in ETS300-220, FCC part 15.

10.2 Weatherproofing

All future field-installed units will have at least an IP66 rating. AMI devices installed in water meter boxes that are recessed underground (pit boxes) should have a water proof rating of at least IP68.

10.3 Vandal Resistance

All future outdoor AMI devices shall have a hard, vandal resistant casing and shall be installed inside a further protective housing, so as to minimise the risk of vandal damage.

10.4 Aesthetics

All field-installed units shall be small in size, supplied in muted colours and installed out-of-sight as far as is possible, with the view of rendering the total system installation as unobtrusive as possible.

11. REGULATORY

11.1 Government Notices, Gazettes and SANS Standards

The AMI system must meet the requirements of Government Notice No. R 773; Government Gazette 31250; Government Gazette No. 31308; and SANS Standard NRS 049, which requires that the system must be able to:

1. Measure energy and water consumed on a short time interval basis
2. Establish a two-way communication between the customer/end-user and the utility provider
3. Store time interval data and transfer the data remotely to the utility provider
4. Remote load management / service suspension

11.2 Compliance with Communications Standards

The system should not require any licensing approvals from ICASA, in other words, the AMI system must be able to operate license free. For AMI systems using RF communications technology, this means broadcasting in the worldwide license-free ISM (industrial / scientific / medical) bandwidths of 433 MHz, 868 MHz and 915 MHz

12. INTEGRATION OF AMI DATABASE WITH ENTERPRISE SYSTEMS

The AMI data will be stored in an open source database such as MySQL and allow secure access to any authorized user to extract data by means of standard database queries.

The supplier shall integrate the AMI database with the municipality's other enterprise systems, specifically the billing and asset management systems. This shall be achieved by writing data export queries that would automatically extract the correct data in the correct format at specified times from the "open" AMI database and insert this data into the enterprise systems.

All relevant meter reading data shall be automatically captured and uploaded in the correct format for the Employer's Billing system to produce utility bills every month.

The meter readings that are recorded and uploaded for the purpose of producing utility bills, shall be the meter reading taken at midnight (24h00) of the last calendar day of each month.

The data uploading from the AMI database into the Employer's Billing system shall take place within a maximum period of 48 hours after midnight (24h00) of the last calendar day of each month.

13. WEB-BASED INTERFACES

A web interface that is linked directly to the database will form part of the total system. The web site will be interactive and authorized users will be able to view and export a meter's historic data as well as have the ability to request a "live" reading on demand from a specific meter. Meter data must be displayed in graph and tabular format. A GIS map background with the positions of all meters must be available to authorized users.

The supplier shall develop a web interface to display utility data to both the municipality as well as to consumers. The web interface must be able to operate on most computers through most internet browsers. Specifically, the web interface should function on computers, PC's, laptops, tablets and smart phones that run on Windows, Apple and Android operating systems.

The web interface should at a minimum:

1. Be username and password protected
2. Display consumption profiles through short-time-interval meter readings in tabular and graph format, for selected time intervals and date periods

3. Display the actual meter reading
4. Obtain “live” meter readings on demand
5. Be able to export data into a spreadsheet
6. Be able to email data to another recipient

Annexure 3: Background Article

A holistic approach in the analysis of and turn-around strategies for municipal water supply systems
The perspectives of a financier

Background
As South Africans are becoming more aware of the scarcity of water and the risk that water shortages pose for all of us, there is renewed focus on the current state of municipal water supply systems. This focus is long overdue as for many years municipal supply systems have been operated and maintained inefficiently with little focus (and spending) on critical issues such as maintaining the integrity of the infrastructure, managing demand and adequate cost recovery. In many instances, throughout the value chain, systems have been poorly designed, not properly implemented and are in a poor state of repair and operation. This has led to a steady decline in customer service levels and reliability of supply countered by ever increasing water losses. The situation has reached critical proportions in many districts as losses have increased to such an extent that supply to consumers are failing and existing resources can no longer meet the required supply.

From a financial perspective the impact on municipalities has been significant. What should have been a service running at a healthy surplus and boosting municipal funds to be deployed on other services has become a financial drain for most municipalities. This has contributed largely to most municipalities struggling to remain financially viable and sustainable. If the political will to address this situation was lacking in the past, recent protest action over poor and unreliable service delivery (often relating specifically to water supply) as well as some high profile regional breakdowns that impacted large consumer populations are hopefully changing this.

More importantly, there is growing realisation that development of new water resources to supply the current and growing demand will be: (i) expensive and (ii) not sustainable, given the status quo. Simply put, it may be cheaper and make more economic sense to revamp existing systems to eliminate water losses and to reduce demand. The problem is that often this is viewed as a simple process of replacing old pipes with new pipes. But, achieving a sustainable water supply business that is financially viable and economically optimised is much more complex than replacing old pipes.

Added to that is the fact that the quantum of investment required to address the situation is of such a magnitude that it lies outside the normal capital expenditure budget range of most municipalities. An obvious solution is for municipalities to secure external finance for these works, but the credit and risk evaluation requirements of financiers go way beyond a simple plan to replace pipes.

The DBSA is keenly interested to participate in the funding of projects of this nature not only due to the positive impact it is expected to have on a key client base of the bank (municipalities) but also on the economy as a whole. Towards this goal it is looking to identify specific risk areas that must be assessed and suitably addressed in order to render these projects "bankable". In this process it has become clear that existing methods used by municipalities to identify projects of this nature are typically one-dimensional and lacking in adequate risk assessment. A new, more holistic approach, through which key risks are managed, is required and DBSA is looking to inform its clients accordingly. Ultimately DBSA is looking to provide a clear guideline to municipalities for the identification, evaluation and motivation of such projects, with the main purpose to facilitate granting of finance for these projects.

Current analysis approach

To put the need for a new approach in context it is best to start with current practice of analysing a municipal water supply system. Figure 1 below illustrates the 'Best Practice' Water Balance as published by the International Water Association ("IWA").

<table>
<tr><td rowspan="8">System Input Volume (corrected for known errors</td><td rowspan="4">Authorised Consumption</td><td rowspan="2">Billed Authorised Consumption</td><td>Billed Metered Consumption (including water exported)</td><td rowspan="2">Revenue Water</td></tr>
<tr><td>Billed Unmetered Consumption</td></tr>
<tr><td rowspan="2">Unbilled Authorised Consumption</td><td>Unbilled Metered Consumption</td><td rowspan="6">Non-Revenue Water (NRW)</td></tr>
<tr><td>Unbilled Unmetered Consumption</td></tr>
<tr><td rowspan="4">Water Losses</td><td rowspan="2">Apparent Losses</td><td>Unauthorised Consumption</td></tr>
<tr><td>Metering Inaccuracies</td></tr>
<tr><td rowspan="3">Real Losses</td><td>Leakage on Transmission and/or Distribution Mains</td></tr>
<tr><td>Leakage and Overflows at Utility's Storage Tanks</td></tr>
<tr><td>Leakage on Service Connections up to point of Customer metering</td></tr>
</table>

Figure 1: Best Practice Water Balance

This water balance identifies different components that make-up the total demand for water as measured at the input of a water supply system. Most of these components are self-explanatory and each one of them can be analysed to identify specific issues in the water supply value chain Water of a municipality. For example, the ratio of *Revenue Water/System Input Volume* can be used as a simple indicator of the sustainability of the operation. Clearly, a low ratio indicates an operation that is not sustainable – unfortunately the status quo in most municipalities. This water balance figure is useful to highlight specific issues and to formulate simple strategies to enhance the (financial) viability of a supply system. For example, it is easy to identify the elimination of *Metering Inaccuracies* as a specific strategy to reduce *Water Losses* or the conversion of *Unbilled Authorised Consumption* to *Billed Authorised Consumption* to increase *Revenue Water*. During the past decade, the IWA, has significantly progressed the application of and body of knowledge around the Water Balance through specific research and publications.

A key problem is that most of these sub-components are not readily quantifiable. As an example, to determine the extent of *Real Losses* in the system requires careful design of the reticulation network and an extensive metering system on top of it – something that does not exist in most locations in this country.

The dilemma that a municipality faces is this: how to evaluate a project to reduce the *Real Losses* and motivate the required capital investment if the quantum of the *Real Losses* is unknown or at the very least highly uncertain?

This dilemma is multi-faceted and includes the following issues:

- How is the project to reduce *Real Losses* formulated?
- How is the required capital estimated at an adequate level of confidence, given that the quantum of *Real Losses* is at the very least highly uncertain? and
- How is the required capital investment motivated given the high level of uncertainty (around the payback) and the already strained financial position of the municipality?

Addressing, this dilemma is one of the key focus areas for DBSA and is explored further in this article.

Various methods to estimate the *Real Losses* have been developed over the years - monitoring of night flows and flows under reduced pressure are examples.

However, in this context one should differentiate between identification of the presence of *Real Losses* versus the quantification thereof. For example, monitoring of night flows (on a continuous basis) in an area can quickly indicate the presence of new leaks which can then be fixed – this would be part of the on-going maintenance function. At some point in time however, the frequency of new leaks etc. would indicate the need for overall replacement of the distribution/reticulation system. At this point in time the need to quantify *Real Losses* would arise, as it would play a critical role in the capital investment decision.

There is one further issue with regard to the reduction of *Real Losses* that is worth discussing briefly. It is fairly obvious and widely understood that no system can operate at zero *Real Losses*. The critical question is: what level of *Real Losses* is acceptable? Until recently this level was internationally, loosely agreed at 15%. It is however clear that a uniform figure cannot apply to every system and that the 'law of diminishing returns' applies to the reduction of *Real Losses*. The absence of an extensive metering system through which *Real Losses* can be quantified and located makes it impossible to analyse the impact of the 'law of diminishing returns' and exacerbates the dilemma of municipalities outlined above. In response to this the IWA has developed the concept of *Unavoidable Annual Real Losses* (in this article we will simple refer to *Unavoidable Real Losses* ("URL")) and more importantly a methodology for estimating URL – this estimation depends on a number of parameters such as total length of pipeline, number of connections, operating pressure etc. Although it is not based on financial or economic analysis (as would typically be the case to illustrate diminishing returns) it does at least move away from the 'one size fits all approach'. Based on this development the *Real Losses* in a system can be split into two components: the URL and *Recoverable Real Losses*. From a financing perspective, it is held that only capital invested to eliminate the *Recoverable Real Losses* can be motivated.

But the problem of achieving a sustainable (and bankable) system goes further than eliminating the *Recoverable Real Losses*. There are critical factors in play that are not immediately evident from the Water Balance reflected in Figure 1. It is the view of the authors that unfortunately in our municipal sector the focus has been isolated on *Real Losses* at the expense of ignoring these critical parameters. For example, when looking at the Water Balance the impression may be gained that the component *Revenue Water* translates directly into revenue for a municipality and that through maximising this component the revenue of the municipality will be maximised. That is not true! The process of converting *Revenue Water* to revenue is a risky process. The significant amounts of debt that municipalities write off every year attests to this fact.

It is critical that '*Recovery Risk*' be assessed and adequately factored into a project. To achieve this, the Water Supply System must be designed to minimise this risk and it is clear that the pricing -, metering-, billing -, accounting - and collection functions are part of this Water Supply System. To understand this risk better, the consumer base can be evaluated and the *Revenue Water* can be divided into the components as shown in Figure 2 below.

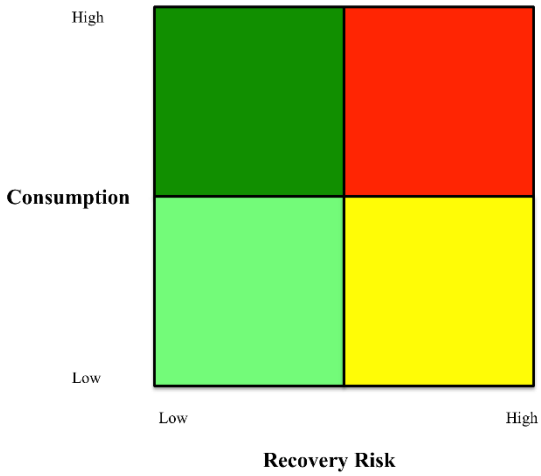


Figure 2: Consumer base analysis

The impact of the fo evenue of a municipality will differ significant s of green (the '*Low Recovery Risk*' por) to the municipality. Traditionally, Recovery Risk is a function of the social – and financial profiles of consumers served as well as historical cost recovery data.

It is easy to see that in general different water supply strategies, - systems, - service levels and recovery strategies should be applied to all four components above. This is especially true where a specific component dominates a geographical area or supply district/zone. In practice, different strategies are seldom applied or implemented. It is also clear that capital expenditure that will rely on revenue collected from the '*High Recovery Risk*' components will be more difficult to motivate for finance.

Another critical factor in play revolves around the economic phenomenon of 'price elasticity of demand' – which dictates that as the price of a commodity declines demand/consumption will increase and vice versa. Water is a (scarce!) commodity and does experience some degree of price elasticity of demand. To illustrate the impact of this further we define the concept of '*Economic Cost of Water*' (units R/kl) as that cost that fully provides for all system input costs, system operating and maintenance costs, billing and collection costs, cost of capital as well as a charge for risk.

A typical price elasticity of demand curve is illustrated in Figure 3 below.

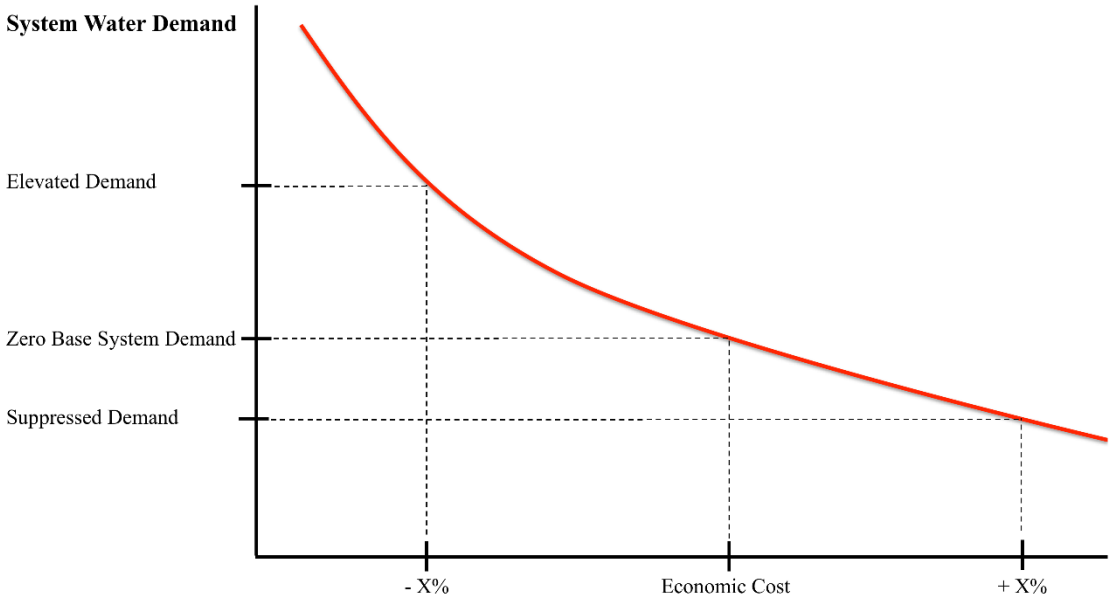


Figure 3: Price elasticity of demand

This figure highlights three key parameters:

- **Zero Base System Demand**: the demand for water that will result in the system if water is priced at the *Economic Cost* and there is no other restriction on consumption (such as supply constraints etc.);
- **Elevated Demand**: the demand for water that will result in the system if water is priced below the *Economic Cost* and there is no other restriction on consumption (such as supply constraints etc.); and
- **Suppressed Demand**: the demand for water that will result in the system if water is priced above the *Economic Cost* or there are other restrictions on consumption (such as supply constraints etc.);

The difference between Elevated Demand and Zero Base System Demand is labelled '*Over Consumption*' for simplicity. It is proposed that *Over Consumption* is widespread and significant in many municipalities in South Africa for the following reasons:

- Many municipalities have not correctly determined their *Economic Cost* and have set water tariffs (significantly) below this critical level;
- The widespread occurrence of unmetered, unbilled supply – which effectively sets the price at zero; and
- The widespread occurrence of metered, unbilled supply - which also effectively sets the price at zero;

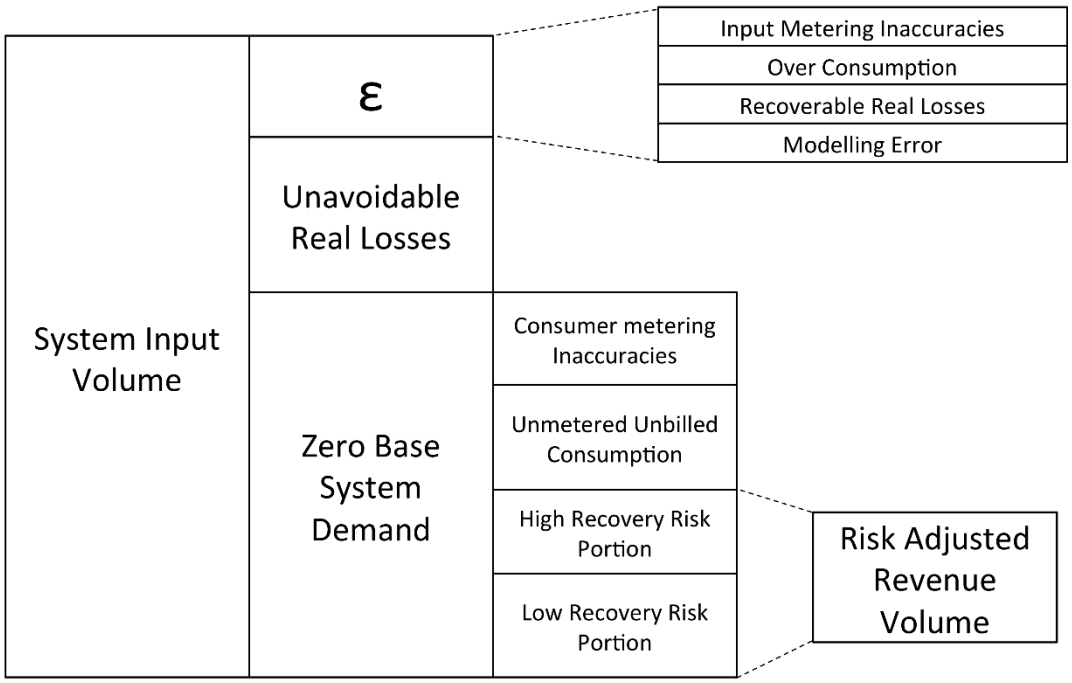
In itself, *Over Consumption* is not necessarily a bad thing – depending on the operating leverage the increased consumption may compensate for the increased cost. There are two situations however where *Over Consumption* is financially debilitating for municipalities and is critical to eliminate:

- When *Over Consumption* occurs in the *High Recovery Risk* portion of the consumer base; and
- When new water resources have to be developed (at great cost) to meet growing demand.

Both these situations are prevalent in many municipalities and highlight the critical nature of *Over Consumption*.

An alternative more holistic approach

The discussion above leads us directly to an alternative, more holistic perspective of the water balance, which is presented in Figure 4 below.



Water Balance

Key issues around this alternative perspective of the Water Balance are as follows:

Zero Base System Demand: as discussed above, this is the system demand that will result if water is priced at the *Economic Cost* and there is no other restriction on consumption (such as supply constraints etc.). There are various methods and models through which this important parameter can be estimated. Of key importance is that this remains an estimate and any model used should preferably be based on reliable statistical analysis that will provide quantitative information on the uncertainty in the estimate. This uncertainty represents '*Demand Risk*' - one of the key risks in the water value chain of a municipality and it is critical from a financing perspective that this risk must be adequately mitigated. *Zero Base System Demand* is thus a statistical variable with an associated probability distribution as illustrated from an actual case-study in Figure 5 below.

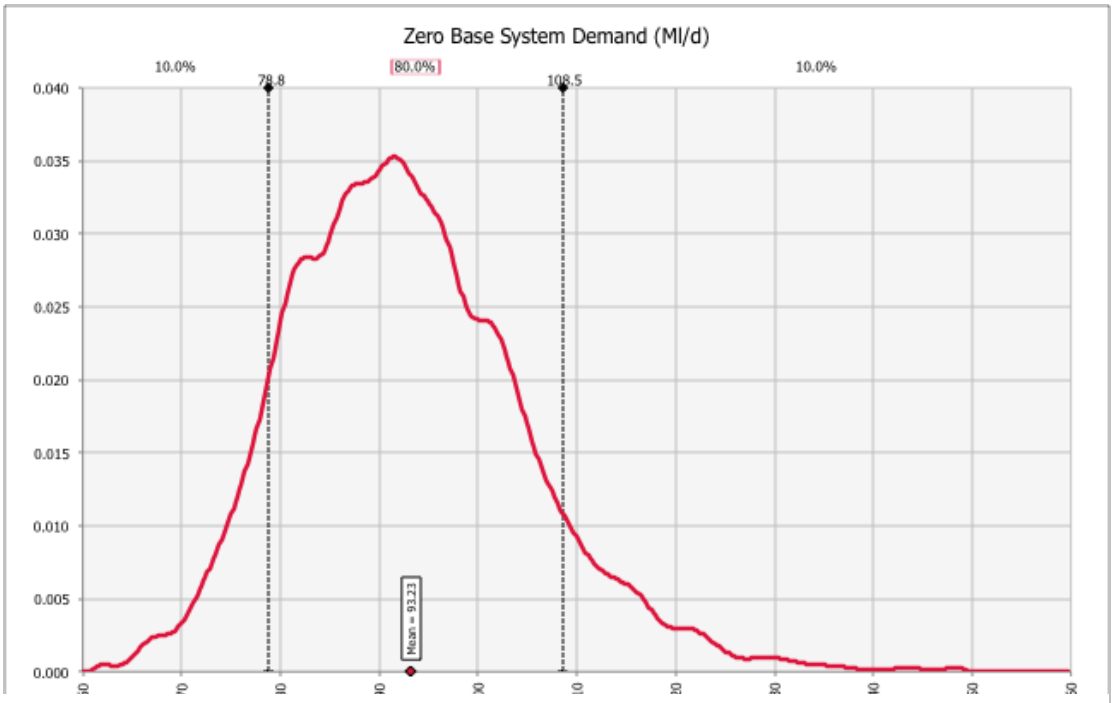


Figure 5: Example of the probability distribution of Zero Base System Demand

ns there is 50% likelihood that the true demand is less than this value and 50% likelihood that the true demand is greater than this value. From Figure 5 it is also clear that there is 80% certainty that the true demand lies in the range 78.8 to 108.5 Ml/day. This range is a direct measure of the '*Demand Risk*' of the relevant system although in practice the variance of the distribution would be used for this purpose. In the absence of a complete and accurate measurement system this distribution represents the best estimate of the true system demand.

Given the particular distribution, it is clear that ignoring '*Demand Risk*' in any analysis of the system would be perilous.

Unavoidable Real Losses: is estimated as per the guidelines of the IWA. Due to the uncertainties around different parameters that are likely to exist in any system, this parameter should also be a statistical variable with an associated probability distribution.
ε: is a difference parameter that is obtained by subtracting the aggregate *Zero Base System Demand* and the aggregate *Unavoidable Real Losses* from the aggregate *System Input Volume* for a given time period. It is proposed that this time period should not be less than 6 months and preferably at least 12 months. The parameter ε will also be a statistical variable with an associated probability distribution as illustrated in Figure 6 below.

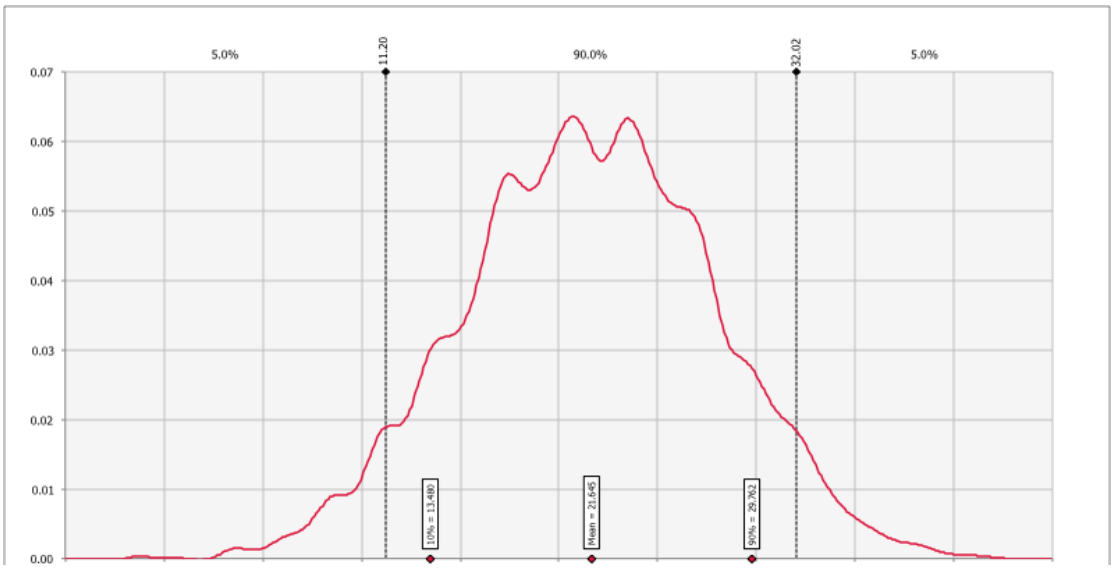


Figure 6: Example of a probability distribution of ε

In this variable is and how risky it would be to base any calculations etc. on a single value.

In the alternative perspective presented in Figure 4, ε is the aggregate of four different statistical variables:

- Input Metering Inaccuracies – these are metering inaccuracies in the measurement of the *System Input Volume* only (other metering inaccuracies are not in play here). As such, this will typically represent a relative small number of meters that need to be calibrated in order to eliminate the impact of this parameter;

- *Over Consumption* – as discussed above, *Over Consumption* may be present in the system due to specific features of the system. Other than such qualitative indicators as to its likely presence, *Over Consumption* can only be quantified if consumption of all consumers in a system is measured. This is highly unlikely except for relatively small systems;
- Recoverable Real Losses – these are physical losses in the system that can (and should) be eliminated through a suitable leak detection and repair programme;
- Modelling Error – this parameter represents any differences between the statistical model of the consumer population, used to calculate the *Zero Base System Demand* and the 'true' consumption of the consumer population;

If the *Input Metering Inaccuracies* are eliminated as proposed above and it is assumed (for the moment) that the *Modelling Error* is relatively small, then the probability distribution of the parameter ε represents an upper bound for the probability distribution of the sum of *Over Consumption* and *Recoverable Real Losses*. In the absence of extensive metering and other analysis that will allow these two variables to be quantified or specific loss situations that are known and clearly manifest (such as a distribution pipeline reaching the end of its useful life) they should be treated as inseparable. At best, in situations where there is reasonable certainty that none of the factors that would typically indicate the presence of *Over Consumption* as discussed above are present, it may be assumed that *Over Consumption* is relatively insignificant. This implies that the formulation of any water conservation project must aim to address both these parameters and this highlights the risk of focussing on elimination of *Real Losses* in isolation.

The alternative perspective of the Water Balance in Figure 4 assists to identify two generic types of projects:

- **Conservation Projects**: these projects will aim to reduce the *System Input Volume* through a reduction in the risk variable ε; and
- **Demand Side Projects**: these projects will aim to supply the (current and future) *Zero Base System Demand* through an increase in the risk variable *Risk Adjusted Revenue Volume*.

The capital investment for any Conservation project will be motivated through:

- The potential cost savings through a reduction in the *System Input Volume* – typically only variable costs will be saved.

- The probability distribution of the parameter ε represents the risk that this saving will materialise and will thus enable robust risk analysis of the proposed investment;
- The financial benefit that will result if capital expenditure on development of new water resources can be delayed for any length of time due to the reduction in the *System Input Volume*. This represents a real option for the municipality that can readily be priced with the information available;

The capital investment for any Demand Side project must be motivated through an appropriate increase in the *Risk Adjusted Revenue Volume* and the associated increase in revenue to the municipality. It is important to note that the ratio of the *Risk Adjusted Revenue Volume/Zero Base System Demand* represents the true performance of the municipality from a recovery perspective (the '*Recovery Ratio*') – a parameter that is seldom calculated nor reported accurately by municipalities.

Any turn-around programme to re-establish the sustainability and financial viability of the water business of a municipality must focus on the maximisation of the *Risk Adjusted Revenue Volume* as a priority – thus Demand Side projects. From this perspective it is critical to:

1. Understand the geographical distribution of the *High Recovery Risk* consumer population and the *Low Recovery Risk* consumer population;
2. Formulate separate strategies for the supply to and recovery from these consumer population groups with a specific view to mitigate *Recovery Risk* and minimise *Over Consumption* in *High Recovery Risk* areas;
3. Adjust the overall system design to implement the strategies formulated in 2 above;
4. Maintain the *Recovery Ratio* of the municipality above a suitable and appropriate threshold;

Municipal tariffs

The importance of setting the water tariff of a municipality to at least equal the *Economic Cost* is clear from the discussions above. There are specific issues with regard to the determination of the *Economic Cost* (and thus the appropriate tariff) that is evident from the alternative perspective of the Water Balance as per Figure 4 that warrants further discussion.

In the first instance, great care should be taken to ensure that the full cost of the *Unavoidable Real Losses* is included in the *Economic Cost*. Secondly, the *Economic Cost* should include a 'cost for carrying risk' and the key risks to be included in this regard are '*Demand Risk*' and '*Recovery Risk*'. There are various ways that these risks can be priced to include its impact in the *Economic Cost*. Experience indicates that many municipalities are pricing water services significantly below the *Economic Cost*. Determining and setting the appropriate tariff is a key step towards financial turn-around and sustainability.

It should also be noted that the *Economic Cost* is dynamic – as circumstances change so will this important parameter change. Capital expenditure, changes in the maintenance regime and changes in the overall risk profile are all examples of parameters that will impact on the *Economic Cost*.

Real Losses revisited

Earlier in this article, it was noted that often there is an isolated focus on eliminating *Real Losses* in the system and a more integrated approach was urged. A different perspective in this context is to highlight the need to redesign municipal water distribution and reticulation systems with the specific aim to: (i) implement specific supply and recovery strategies, (ii) monitor and manage specific risks, (iii) monitor and verify overall system performance, (iv) detect leaks, wastage and *Over Consumption* and (v) collect data that will over time enhance knowledge and understanding of the system itself thereby facilitating better strategies and management. Any project through which large-scale repair, refurbishment or replacement of existing networks and systems is envisaged presents an ideal opportunity to implement a redesigned system. Such opportunities should not be missed.

What about the future?

Analysis of municipal water supply systems cannot focus only on current demand. Indeed, as mentioned previously the need to develop new, costly water resources to meet future/projected demand may be the very issue that triggers the rigorous analysis of the status quo. As is the case with the refurbishment of existing systems (as discussed in the previous paragraph) the expansion of a system or sub-system provides an ideal opportunity to implement a redesign of the system.

Municipal water supply systems have long planning horizons, which renders *Demand Risk* as one of the key risks to be managed. Future demand estimates should thus be based on a projection of the *Zero Base System Demand*. In this regard it would be critical to also project the impact of future development(s) on:

1. The *Unavoidable Real Losses*; and
2. Envisaged changes in the profile of the consumer base which may impact on *Recovery Risk*;

Conclusion

In conclusion, the basis of a more integrated and holistic approach in the turnaround of municipal water supply systems and re-establishing financial viability and sustainability may be summarised as follows:

1. Use of a suitable model to establish the *Zero Base System Demand* and to quantify '*Demand Risk*';
2. Use of a suitable model to estimate the *Unavoidable Real Losses*;
3. Analysis of the consumer base to establish the different '*Recovery Risk*' and consumption components and to suitably quantify the *Risk Adjusted Revenue Volume*;
4. Calculation of the existing *Recovery Ratio* of the municipality as a key performance measure signalling the need for intervention;
5. Calculation of the *Economic Cost* of water supply;
6. Adopting an appropriate tariff structure to facilitate and achieve specific strategies (such as eliminating *Over Consumption* etc.);
7. Identification and formulation of suitable Conservation projects on a zone -, district – or sub-regional basis through:
    a. Testing for the likely presence of *Over Consumption* and factors contributing towards *Over Consumption*;
    b. Estimation of the aggregate of *Recoverable Real Losses* and *Over Consumption* (i.e. ε);
    c. Redesign of the relevant supply system of elements thereof;
    d. Cost/benefit analysis through a suitable risk model;
8. Identification and formulation of suitable Demand Side projects on a zone -, district – or sub-regional basis through:
    a. Setting an appropriate target for the *Recovery Ratio* in the relevant zone, district or sub-region;
    b. Designing a suitable recovery strategy for the relevant zone, district or sub-region;
    c. Redesigning existing distribution and reticulation systems where necessary;
    d. Integrating future system requirements of the relevant zone, district or sub-region in the design;
    e. Conducting cost/benefit analysis through a suitable risk model;