

- a) A **Project Engineer/Lead**: the person must be registered as a Professional Engineer (PR Eng.) (**only**) with the Engineering Council of South Africa (ECSA), who has at least **twenty (20) years'** verifiable post graduate experience in large complex multi-disciplinary of Water and Wastewater Treatment projects in terms analysis, detail design, construction and commissioning phases. Furthermore he/she must have experience in the conceptualisation and detail design of a water reuse/reclamation plant and who will be responsible for all work carried out in terms of the tender. The Project Leader must, within the last five year period acted as the "Employers Agent" in terms of the General Conditions of Contract for Construction Works, 1<sup>st</sup> Edition 2015 or "Engineer" in terms of FIDIC Suite of Conditions of Contract, 1999 or later. He/she must have a minimum of **ten (10) years** verifiable post graduate experience including a combination of project management and/or construction monitoring and/or contract management in concrete structures with a mechanical and electrical interface. **A list of projects on which the Project Leader has acted as the Employer's Agent (and/or Engineer must be clearly ascertainable from the curriculum vitae submitted (may not be subcontracted).**
- b) A **Process Design Engineer** who is:
  - i. A **Civil Engineer**, professionally registered as an Engineer (PR Eng.) with the Engineering Council of South Africa (ECSA) , who has at least **10 (ten) years'** verifiable postgraduate experience in the analyses and design of Water Treatment Plants and Wastewater Treatment Plants and a Postgraduate qualification in Water and Wastewater Engineering or
  - ii. A **Chemical Engineer**, professionally registered as an Engineer (PR Eng.) with the Engineering Council of South Africa (ECSA) , who has at least **10 (ten) years'** verifiable postgraduate experience in the analyses and design of Water Treatment Plants and Wastewater Treatment Plants.
- c) A **Civil Engineer** who is registered as a **Professional Civil Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has least **fifteen (15) years** verifiable post graduate experience in the analyses, design and construction of Water and/or Wastewater Treatment Plants (**may not be subcontracted**).
- e) **Structural Engineer** who is registered as a **Professional Structural Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA) and capable of acting as the Approved Competent Person in terms of regulation A19 of the National Building Regulations and Building Standards Act, 1977, who has at least **ten (10) years** verifiable post graduate experiences in the analyses, design and construction of structures/buildings and water retaining structures.
- f) **Chemical Engineer** who is registered as a **Professional Chemical Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** verifiable post graduate experiences in the analyses, design and construction of Water and/or Wastewater Treatment Plants.
- g) **Mechanical Engineer** who is who is registered as a **Professional Mechanical Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** verifiable post graduate experience in the analysis, design and construction of the mechanical components in Water and/or Wastewater Treatment Plants (**may not be subcontracted**).
- h) **Electrical Engineer** who is registered as a **Professional Electrical Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** verifiable post graduate experience in the analysis, design and construction of the electrical components in Water and/or Wastewater Treatment Plants (**may not be subcontracted**).
- i) **Electronic Engineer** who is registered as a **Professional Electronic Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** electronics engineering experience, knowledge and experience of: computer networks and their configuration, communication systems technology, data management and data security, infrastructure security, firewalls and intrusion detection systems, programming and scripting languages – and specifically experience in SCADA (Supervisory Control And Data Acquisition) or Industrial, infrastructure based processes Control Systems.

- d) An **Infrastructure Asset Management Specialist** with a Bachelor's degree (NQL Lever 7 or Higher) in Engineering and Finance, Commerce, Economics, or Actuarial Science. He/she must have at least **five (5) years** verifiable experience and broader understanding of economics, financial and legal aspects of infrastructure projects within the local government environment and provide support to the lead financial specialist
- e) An **Engineering Management and Financial Bridging Specialist** with a Bachelor's degree (NQF level 7 or higher) in Engineering with postgraduate financial specialization or a Financial Modelling & Valuation Analyst type certification. He/she must have at least **five (5) years** verifiable experience and broader understanding Public Private Partnerships (PPP) implementation, including financial and commercial background to bridge the technical aspects into the value assessment for the project

Where required, the professional registration numbers of the key personnel must be indicated on the **schedule 12** titled **Key Personnel**, Part C5.2: Returnable Schedules. The *curriculum vitae* of all key personnel (including sub-consultants), must be submitted with the tender submission, appended to this Schedule.

Should it become necessary to replace any of the key personnel listed at the time of tender during the course of this contract, they may only be replaced by individuals with similar or better qualifications and experience, who satisfy the minimum requirements and then only with the written approval of the Employer.

Note:

- 1) An engineer, registered in another country, will need to comply with ECSA's registration requirements in order for them to be considered as a Professional Engineer/Technologist for this project. Tenderers are urged to ensure that the Curriculum Vitae provided in respect of the key personnel contain details of all relevant experience.
- 2) Aside from submitting a **signed** comprehensive CV for each of the key personnel, tenderers must submit a statement for each of the key personnel which highlight any particular fields of specialisation and experience as well as the specific requirements as listed above for each of the key personnel. The CV's must include certified copies of the tertiary qualifications and professional registration certificates from the councils. For all personnel, the list of projects must include the start and end dates of involvement for each project.
- 3) Experience will be classified from the date of obtaining a qualification in the relevant field and as per the requirements listed above. Only experience relevant to each position will count towards scoring. For example, a Civil Engineer with 20 years' total experience but only 10 years' experience in WTW or WWTW design, only the 10 years' experience in WTW or WWTW design will count. Only Experience up to and including the date of tender closing will be assessed.

#### C.2.1.1.1 **Track record of tenderer**

Refer to Clause C.2.1.1.2

#### C.2.1.1.2 **Minimum score for functionality**

In order to be considered for a contract in terms of this tender, tenderers must achieve the minimum score for quality as stated below.

The description of the quality criteria and the maximum possible score for each is shown in the table below. The score achieved for quality will be the sum of the scores achieved, in the evaluation process, for the individual criteria.

Description of quality criteria	Score for Functionality	Weighting Factor	Maximum possible score
Work Experience of Tenderer	50	1	50
Specific experience of key personnel	50	1	50
<i>ISO 9001 : 2015 Certification</i>	5	1	5
<b>Maximum possible score</b>	<b>Not Applicable</b>	<b>Not Applicable</b>	<b>105</b>

### ISO 9001: 2015 Certification

Tenderers who are certified as being compliant to the International Organization for Standardization's **ISO 9001: 2015** quality management standard, will be awarded 5 score points. Proof of certification must be attached to the schedule 17 titled **Confirmation of Tenderer Registration / Accreditation** in order to qualify for these points.

**Note:** Where the entity tendering is a joint venture, the 5 points available for ISO Certification will only be awarded to the tenderer if the party that will take responsibility for the design is **ISO 9001: 2015** certified.

### Specific experience of Key Personnel

The overall score for this criterion will be the sum of the scores for each key personnel with applicable values:

Description	Maximum possible points
Key Personnel	50

Tenderers are urged to ensure that the Curriculum Vitae provided in respect of the key personnel contain details of all relevant experience and must include registration number for each key personnel, where applicable.

For each completed project listed, the tenderer must submit proof, in the form of a Completion Certificate, reference letter to be obtained from the respective Employer, or an affidavit that includes proof of completed project (e.g. a final invoice, signed contract document, close-out report etc.)

Note:

1. The total cost must be expressed in current (2025) rand value. To allow for the time value of monetary inflation, project construction values must be escalated at 4% per annum from the year of completion, compounded annually. Detailed calculations must be submitted to show how escalation was applied. Only projects 15 years prior to tender closing date will be considered. Tenderers are to supply documentary evidence of award values for e.g. a BAC resolution or award letter.
2. Experience will be classified from the date of obtaining a qualification in the relevant engineering field and as per the requirements listed above. Only experience relevant to each position will count towards scoring. For example, a Civil Engineer with 20 years' total experience but only 10 years' experience in WTW or WWTW design, only the 10 years' experience in WTW or WWTW design will count. Only Experience up to and including the date of tender closing will be assessed.
3. The term Water Reuse/Reclamation refers to the treatment of treated wastewater through an advanced water purification plant to produce **potable/drinking water**. *Where Water Reuse experience is required, a completed project can be a project that has completed Detail Design Phase.*
4. For the transactional advisory personnel, a completed project can be:
  - a. Completion of a Section 78 process of the Municipals Systems Act, Act 32 of 2000 (MSA) and/or
  - b. Completion of Section 120 of the Municipal Finance Management Act, Act 56 of 2003 (MFMA) and/or
  - c. Completion of a Public-Private Partnership (PPP) project until end of procurement phase.

Key Personnel	Qualification	Professional Registration	Relevant Experience	Points per Completed Project	Maximum Points per Completed Project	Maximum Points
Chemical Engineer	BSc Eng./ BEng (Chemical Engineering)	PR Eng.	The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:			3
			1. Experience as a Chemical Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analysis, detail design, construction and commissioning phases. The Projects are for either: - A new Water or Wastewater Treatment Plant for 10ML/d or greater - Expansion of additional 10ML/d or greater on existing WTP or WWTW - Substantial upgrade/refurbishment of an existing 10ML/d or greater WTP or WWTW	1 point for each completed project	0 projects = 0 points 1 project = 1 points 2 project or more = 2 points	
			2. Experience in the conceptualisation and detail design of a water reuse/reclamation plant of 10ML/d or greater.	1 point for each completed project	0 projects = 0 points 1 project or more = 1 points	
Structural Engineer	BSc Eng./ BEng (Civil Engineering)	PR Eng.	The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:	1 point for each completed project	0 projects = 0 points 1 project = 1 points 2 project = 2 points 3 project or more = 3 points	3
			1. Experience as a Structural Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analyses, design and construction of water retaining structures and structures.			
Mechanical Engineer	BSc Eng./ BEng (Mechanical Engineering)	PR Eng.	The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:	1 point for each completed project	0 projects = 0 points 1 project = 1 points 2 project = 2 points 3 project or more = 3 points	3
			1. Experience as a Mechanical Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analysis, detail design, construction and commissioning phases. The Projects are for either: - A new Water or Wastewater Treatment Plant for 10ML/d or greater - Expansion of additional 10ML/d or greater on existing WTP or WWTW - Substantial upgrade/refurbishment of an existing 10ML/d or greater WTP or WWTW			
Electrical Engineer	BSc Eng./ BEng (Electrical Engineering)	PR Eng.	The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:	1 point for each completed project	0 projects = 0 points 1 project = 1 points 2 project = 2 points 3 project or more = 3 points	3
			1. Experience as an Electrical Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analysis, detail design, construction and commissioning phases. The Projects are for either: - A new Water or Wastewater Treatment Plant for 10ML/d or greater - Expansion of additional 10ML/d or greater on existing WTP or WWTW - Substantial upgrade/refurbishment of an existing 10ML/d or greater WTP or WWTW			

*The documents that formally reflects the scope, delivery period, delivery details, and all other relevant terms and conditions impacting the execution of the works project.*

### **Works Project Proposal**

*The documentation submitted by the Service Provider that formally reflects the cost, timeline and resources required to execute the works project.*

### **Clause 3.1**

*Delete the heading and replace with “**Governing law and policies**”*

*Amend Clause 3.1 and add the following:*

#### Supply Chain Management Policy

- a) The parties agree that this contract shall also be subject to the Employer's Supply Chain Management Policy ('SCM Policy') that was applicable on the date the bid was advertised, **save that if the Employer adopts a new SCM Policy which contemplates that any clause therein would apply to the contract emanating from this tender, such clause shall also be applicable to that contract.** Please refer to this document contained on the CCT's website.
- b) Abuse of the supply chain management system is not permitted and may result in cancellation of the contract, restriction of the supplier, and/or the exercise by the Employer of any other remedies available to it as described in the SCM Policy.

### **Clause 3.2**

Replace the words “time for completion” with “Framework Contract Period”.

### **Clause 3.4 and Clause 4.3.2:**

*Add the following :*

The authorised and designated representative of the Employer is the Executive **Director**: Error! Reference source not found.

The address for receipt of communications is:

E-mail: Leonardo.manus@capetown.gov.za

Postal Address: Private Bag X98  
BELLVILLE  
7535

Physical Address: Bellville Water & Sanitation Head Office  
Corner of Voortrekker Road and Mike Pienaar Boulevard  
BELLVILLE  
7535

### **Clause 3.4.1:**

*Add the following to the first sentence:*

... , and may be given as set out hereunder and shall be deemed to have been received when:  
hand delivered – on the working day of delivery  
sent by registered mail – five (5) working days after mailing  
sent by email or telefax – one (1) working day after transmission

### **Clause 3.5:**

*Add the following:*

The location for the performance of the Project will be the **LOCAL OFFICE** of the service provider, together with the site of the proposed Works Project as stated in the **Works Project Brief**. **For this Framework Contract, the local office must be within the Cape Town Metropolitan area.**

Key personnel will be expected to work out of the local office as the exigencies of this contract require. The address of the local office will be that as indicated on Schedule 1, Part C5.2: Returnable Schedules, and which will be regarded as the *domicilium citandi et executandi* for the purposes of any contract arising from this tender submission

### **Clause 3.8.4:**

*Add the following new paragraph:*

The Employer reserves the right to reduce, increase or cancel individual Works Projects. This shall be done without adjustment to the agreed rates, sums or fees and without payment of any penalty or surcharge in this regard.

Reference	Description
B17.	<b>Stakeholder Relations Specialist</b> the required personnel must have a Bachelor's degree in public relations, communications, political science, or a related field, with at least 4+ years in stakeholder relations, community engagement, or public affairs. Experience working with government or corporate stakeholders and an understanding of stakeholder mapping and engagement strategy are often preferred.
B18.	<b>Marketing Specialist</b> the required personnel must have a Bachelor's degree marketing, communications, or business administration with at least 3+ years in marketing, community outreach, or event management, with a track record of executing marketing or community engagement initiatives.
B19.	<b>COASTAL ENGINEERING SERVICES</b>
B31.1.	<i>Category A: The required personnel must be professionally registered as a Engineer (Pr. Eng) with Engineering Council of South Africa (ECSA) or other proven equivalent registration, with at least 20 (twenty) years verifiable postgraduate experience in <u>marine and coastal engineering</u>, 5 (five) years of which needs to be verifiable international experience in <u>marine and coastal engineering</u>.</i>
B31.2.	<i>Category B: The required personnel must be professionally registered as an engineer (Pr. Eng) or technologist (Pr. TechEng) with ECSA or other proven equivalent registration, with at least 15 (fifteen) years verifiable postgraduate experience in <u>marine and coastal engineering</u>.</i>
B31.3.	<i>Category C1: The required personnel must be a professionally registered with ECSA or other proven equivalent registration, and has more than 10 (ten) years verifiable postgraduate experience, 3 (three) years of which must be in <u>marine and coastal engineering</u>.</i>
B31.4.	<i>Category C2: The required personnel must be a professionally registered with ECSA or other proven equivalent registration, with less than 10 (ten) years verifiable postgraduate experience, 3 (three) years of which must be in <u>marine and coastal engineering</u>.</i>
B31.5.	<i>Category D: all other salaried technical staff with adequate expertise and relevant experience performing work of an engineering nature with direction and control provided by any person contemplated in categories A, B or C</i>

<b>1: PLANNING, STUDIES, INVESTIGATIONS, ASSESSMENT AND NORMAL SERVICES AND ADDITIONAL SERVICES (STAGES 1 TO 4)</b>				
<b>Time-based fees for Planning, Studies, Investigations, Assessments and Normal Service and Additional Services (ECSA Stages 1 to 4) as described in the Scope of Work for the following disciplines:</b>				
<b>Item No.</b>	<b>Reference</b>	<b>Activity Description</b>	<b>Unit</b>	<b>Rates</b>
1.5.4.	B2.4	Category C2	Hour	
1.5.5.	B2.5	Category D	Hour	
<b>1.6.</b>	<b>B2</b>	<b>ELECTRICAL ENGINEERING SERVICES</b>		
1.6.1.	B2.1	Category A	Hour	
1.6.2.	B2.2	Category B	Hour	
1.6.3.	B2.3	Category C1	Hour	
1.6.4.	B2.4	Category C2	Hour	
1.6.5.	B2.5	Category D	Hour	
<b>1.7.</b>	<b>B2</b>	<b>ELECTRONIC ENGINEERING SERVICES</b>		
1.7.1.	B2.1	Category A	Hour	
1.7.2.	B2.2	Category B	Hour	
1.7.3.	B2.3	Category C1	Hour	
1.7.4.	B2.4	Category C2	Hour	
1.7.5.	B2.5	Category D	Hour	
<b>1.8.</b>	<b>B31</b>	<b>COASTAL ENGINEERING SERVICES</b>		
1.8.1.	B31.1	Category A	Hour	
1.8.2.	B31.2	Category B1	Hour	
1.8.3.	B31.3	Category C1	Hour	
1.8.4.	B31.4	Category C2	Hour	
1.8.5.	B31.5	Category D	Hour	
<b>1.9.</b>	<b>B2</b>	<b>GEOTECHNICAL ENGINEERING SERVICES</b>		
1.9.1.	B2.1	Category A	Hour	
1.9.2.	B2.2	Category B	Hour	
1.9.3.	B2.3	Category C1	Hour	
1.9.4.	B2.4	Category C2	Hour	
1.9.5.	B2.5	Category D	Hour	
<b>1.10.</b>	<b>B3</b>	<b>HYDRAULIC ENGINEER</b>	Hour	

**2: NORMAL SERVICES AND ADDITIONAL SERVICES (ECSA STAGES 5 TO 6)**  
**Time-based fees for Normal Services (ECSA Stages 5 to 6) and Additional Services as described in the Scope of Work for the following disciplines:**

<i>Item No.</i>	<i>Reference</i>	<i>Activity Description</i>	<i>Unit</i>	<i>Rates</i>
2.6.4.	B2.4	Category C2	Hour	
2.6.5.	B2.5	Category D	Hour	
<b>2.7.</b>	<b>B2</b>	<b>ELECTRONIC ENGINEERING SERVICES</b>		
2.7.1.	B2.1	Category A	Hour	
2.7.2.	B2.2	Category B	Hour	
2.7.3.	B2.3	Category C1	Hour	
2.7.4.	B2.4	Category C2	Hour	
2.7.5.	B2.5	Category D	Hour	
<b>2.8.</b>	<b>B31</b>	<b>COASTAL ENGINEERING SERVICES</b>		
2.8.1.	B31.1	Category A	Hour	
2.8.2.	B31.2	Category B1	Hour	
2.8.3.	B31.3	Category C1	Hour	
2.8.4.	B31.4	Category C2	Hour	
2.8.5.	B31.5	Category D	Hour	
<b>2.9.</b>	<b>B2</b>	<b>GEOTECHNICAL ENGINEERING SERVICES</b>		
2.9.1.	B2.1	Category A	Hour	
2.9.2.	B2.2	Category B	Hour	
2.9.3.	B2.3	Category C1	Hour	
2.9.4.	B2.4	Category C2	Hour	
2.9.5.	B2.5	Category D	Hour	
<b>2.10.</b>	<b>B3</b>	<b>HYDRAULIC ENGINEER</b>	Hour	
<b>2.11.</b>	<b>B4</b>	<b>PROCESS DESIGN ENGINEER</b>		
2.11.1.	B4.1	Process Engineer (Civil)	Hour	
2.11.2.	B4.2	Process Engineer (Chemical)	Hour	
<b>2.12.</b>		<b>QUANTITY SURVEYING SERVICES</b>		
2.12.1.		Registered Professional Principals (Specialist)	Hour	
2.12.2.		Registered Professional Principals (> 10 years' experience)	Hour	
2.12.3.		Registered Professional Principals (5 – 10 years' experience)	Hour	



#### 4: RECOVERABLE EXPENSES

##### Recoverable Expenses

Item No.		Activity Description	Unit	Sum
4.1.		Service Provider's cost for materials, equipment, testing and/or any other recoverable expenses not covered in the tender document will be claimed under this item for each individual works project during the Framework Contract Period.	Provisional Sum	R 300 000 (incl VAT)
4.2.		Laboratory Testing and Analysis per works project	Provisional Sum	R 5 000 000.00 (Excl VAT)
4.3.		Security Services per works project	Provisional Sum	R 1 000 000.00 (excl VAT)
4.4.		Geotechnical Testing (Site and Laboratory) per works project	Provisional Sum	R 2 000 000.00 (excl VAT)
4.5.		Applying for wayleave conditions and approvals from all services authorities	Provisional Sum	R 300 000 (incl VAT)

##### Provision for Service Provider's Mark-up on Recoverable Expenses

Item No.		Activity Description	Unit	Tendered Percentage
4.6.		Service Provider's percentage mark-up on item 4.1 to 4.5 above	%	

#### 5: DISBURSEMENTS/RECOVERABLE EXPENSES

Item No.		Description	Unit	
		Recoverable expenses in respect of printing/plotting/copying, traveling expenses, etc. as specified below:		
5.1		Size A0 (Monochrome)	No.	
5.2		Size A1 (Monochrome)	No.	
5.3		Size A2 (Monochrome)	No.	
5.4		Size A3 (Monochrome)	No.	
5.5		Size A4 (Monochrome)	No.	
5.6		Size A4 (Monochrome on colour paper)	No.	
5.7		Size A0 (Colour)	No.	
5.8		Size A1 (Colour)	No.	
5.9		Size A2 (Colour)	No.	
5.10		Size A3 (Colour)	No.	
5.11		Size A4 (Colour)	No.	
5.12		Laminated posters: Size A0 (Colour)	No.	
5.13		Laminated posters: Size A1 (Colour)	No.	
5.14		Laminated posters: Size A2 (Colour)	No.	
5.15		Laminated posters: Size A3 (Colour)	No.	
5.16		Compilation and binding of reports/tender documents, books of drawings, etc.	No.	
5.17		Electronic Data provided on a flash drive (4 GB).	No.	
5.18		Provision of Personal Computer	No.	
5.19		Travel expenses	km	
5.20		Travel expenses (4 X 4)	km	

graduate experience in the analyses, design and construction of Water and/or Wastewater Treatment Plants **(may not be subcontracted)**.

- e) **Structural Engineer** who is registered as a **Professional Structural Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA) and capable of acting as the Approved Competent Person in terms of regulation A19 of the National Building Regulations and Building Standards Act, 1977, who has at least **ten (10) years** verifiable post graduate experiences in the analyses, design and construction of structures/buildings and water retaining structures. **(may not be subcontracted)**.
- f) **Chemical Engineer** who is registered as a **Professional Chemical Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** verifiable post graduate experiences in the analyses, design and construction of Water and/or Wastewater Treatment Plants **(may not be subcontracted)**.
- g) **Mechanical Engineer** who is who is registered as a **Professional Mechanical Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** verifiable post graduate experience in the analysis, design and construction of the mechanical components in Water and/or Wastewater Treatment Plants **(may not be subcontracted)**.
- h) **Electrical Engineer** who is registered as a **Professional Electrical Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** verifiable post graduate experience in the analysis, design and construction of the electrical components in Water and/or Wastewater Treatment Plants **(may not be subcontracted)**.
- i) **Electronic Engineer** who is registered as a **Professional Electronic Engineer (PR Eng.)** with the Engineering Council of South Africa (ECSA), who has at least **ten (10) years** electronics engineering experience, knowledge and experience of: computer networks and their configuration, communication systems technology, data management and data security, infrastructure security, firewalls and intrusion detection systems, programming and scripting languages – and specifically experience in SCADA (Supervisory Control And Data Acquisition) or Industrial, infrastructure based processes Control Systems **(may not be subcontracted)**.
- j) A **Chief/Lead Resident Engineer** who is registered as a **Professional Engineer (PR Eng) or Professional Technologist (PR Tech Eng)** who has at least **twenty (20) years** verifiable post graduate experience in construction monitoring and site supervision of contract work with a civil and mechanical/electrical interface, reinforced concrete, water retaining structures and pipelines. **(may be sub-contracted)**.
- k) **Quantity Surveyor** who is qualified and professionally registered **Quantity Surveyor as a PrQS** and who has a minimum of **ten (10) years** verifiable post graduate experience in contracts with a civil, structural and mechanical/electrical interface and have been a quantity surveyor on construction projects of R50 million or greater **(may be sub-contracted)**.
- l) A **Professional Architect** who is registered as a **Professional Architect (PrArch) or Professional Senior Architectural Technologist (PR SArch T)** with the South African Council for the Architectural Profession (SACAP), with at least **eight (8) years'** verifiable post graduate experience and who has provided architectural input into Water and Wastewater Treatment Plants and Municipal Depots **(may be sub-contracted)**.
- m) A **Transaction Advisory/ PPP Specialist** with a Bachelor's degree (at NQL Level 7 or higher) in Commerce, Engineering or Law. He/she must have at least **ten (10) years** verifiable experience in providing advisory services in infrastructure project corporate and finance transactions, and in the facilitation and function of public-private partnerships (PPPs). Furthermore he/she must demonstrate experience in and understanding of strategic transaction advisory in the local government context with regards to the provision of basic services. **(may be sub-contracted)**
- n) A **Local Government Advisor** with a Bachelor's degree (at NQL Level 7 or higher) in Public Administration, or in Arts, Business or Law majoring in Public Administration and/or Municipal Law. He/she must have at least **ten (10) years** verifiable experience and understanding of broader local government governance regulation and legislation in particular; the Section 33 process of the Municipal Finance Management Act, Act 56 of 2003 (MFMA) and Section 78

**SCHEDULE 12A: SPECIFIC EXPERIENCE OF KEY PERSONNEL CONT'D**

**Civil Engineer**

The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:  
1. Experience as a Civil Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analysis, detail design, construction and commissioning phases. The Projects are for either:  
- A new Water or Wastewater Treatment Plant for 10ML/d or greater  
- Expansion of additional 10ML/d or greater on existing WTP or WWTW  
Substantial upgrade/refurbishment of an existing 10ML/d or greater WTP or WWTW  
2. A large diameter (500mm diameter and greater) water and/or sewer pipeline project.

Name:				Years of Experience (Post Qualification):					
Qualification:				Date of Qualification Obtained:					
Professional Registration:				Professional Registration No:					
Project	Client (Name, Tel, Email)	Project Name	Contract/Project No.	Project Description	Size of Plant (ML/day)/ size of pipe (mm)	Position Held	Value of Work ( R )	Start Date	End Date
1									
2									
3									
4									

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

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

**SCHEDULE 12A: SPECIFIC EXPERIENCE OF KEY PERSONNEL CONT'D**

**Chemical Engineer**

The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:

1. Experience as a Chemical Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analysis, detail design, construction and commissioning phases. The Projects are for either:

- A new Water or Wastewater Treatment Plant for 10ML/d or greater
- Expansion of additional 10ML/d or greater on existing WTP or WWTW
- Substantial upgrade/refurbishment of an existing 10ML/d or greater WTP or WWTW

2. Experience in the conceptualisation and detail design of a water reuse/reclamation plant of 10ML/d or greater.

Name:		Years of Experience (Post Qualification):		Current Employer				
Qualification:		Date of Qualification Obtained:						
Professional Registration:		Professional Registration No:						
Project	Client (Name, Tel, Email)	Project Name	Contract/Project No.	Project Description	Position Held	Value of Work (R)	Start Date	End Date
1								
2								
3								
4								

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

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

**SCHEDULE 12A: SPECIFIC EXPERIENCE OF KEY PERSONNEL CONT'D**

**Structural Engineer**

The key personnel must demonstrate his/her experience by listing at least 1 (one) project for the following experience criteria:  
1. Experience as a Structural Engineer for large complex multi-disciplinary of Water and Wastewater Treatment projects in terms of the analyses, design and construction of water retaining structures and structures.

Name:				Years of Experience (Post Qualification):				
Qualification:				Date of Qualification Obtained:				
Professional Registration:				Professional Registration No:				
Project	Client (Name, Tel, Email)	Project Name	Contract/Project No.	Project Description	Position Held	Value of Work (R)	Start Date	End Date
1								
2								
3								
4								

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

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

TERM TENDER FOR PROVISION OF MULTI-DISCIPLINARY PROFESSIONAL SERVICES IN RESPECT OF WATER REUSE PROJECTS

SCHEDULE 15: FUNCTIONALITY CRITERIA

The Tenderer shall provide information for the functionality criteria listed in Returnable Schedules 11, 12 and 17.

The Tenderer’s attention is drawn to Clause C.2.1.1.2 in the Tender Data for a more detailed explanation of the functionality criteria given in the table below and how the score will be calculated (with applicable values).

Description of quality criteria	Score for Functionality	Weighting Factor	Maximum possible score
Work Experience of Tenderer	50	1	50
Specific experience of key personnel	50	1	50
ISO 9001 : 2015 Certification	5	1	5
Maximum possible score	Not Applicable	Not Applicable	105

The minimum score for functionality is 70. Tenderers that fail to achieve the minimum score for functionality will be declared non-responsive.

SIGNED ON BEHALF OF TENDERER: .....

**SCHEDULE 17: CONFIRMATION OF REGISTRATION / ACCREDITATION**

**ISO 9001: 2015 Certification**

The tenderer is referred to the appropriate clause(s) of the Tender Data and shall state below details of being compliant to the International Organization for Standardization's **ISO 9001: 2015** quality management standard. Proof of certification must be attached to this schedule

Where a quality management standard system has been approved in terms of **ISO 9001: 2015**, state registration certificate number and standard.

Certificate No: .....

**SANS 9001**

Where a QA system has been approved in terms of SANS 9001, state registration certificate number and standard.

Certificate No: .....

**SANS 14001**

Where an Environmental Management System has been approved in terms of SANS 14001, state registration certificate number and standard.

Certificate No: .....

**OHSAS 18001**

Where an Occupational Health and Safety (OHS) Management System has been approved in terms of OHSAS 18001, state registration certificate number and standard.

Certificate No: .....

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

