



**DEPARTMENT OF WATER AND SANITATION
REPUBLIC OF SOUTH AFRICA**

REQUEST FOR BID

REQUEST FOR BID NUMBER: WP11527

DESCRIPTION

**MFOLOZI WATER PROJECT PHASE 3: FEASIBILITY STUDY:
LOWER MFOLOZI DAM FOR A PERIOD OF 40 MONTHS**

ISSUE DATE:

1 JULY 2025

CLOSING DATE:

**31 JULY 2025
TIME: 11:00**

Non-Compulsory Briefing Session

Date: 15 July 2025

Time: 10:00

Teams: [Join the meeting now](#)

Meeting ID: 390 474 040 461 0

Passcode: 2ru9tg6T

**SUBMIT TENDER DOCUMENT
TO**

**ALL BID RESPONSES MUST BE SUBMITTED ONLINE THROUGH E-TENDER'S
E-SUBMISSION PORTAL**

**PLEASE NOTE THAT NO BID DOCUMENTS WILL BE ACCEPTED VIA EMAIL OR
DEPARTMENTAL TENDER BOX**

TENDERER: (Company address and stamp)

SCAM ALERT: BIDDERS ARE ALERTED TO SCAM SYNDICATES OPERATING AS DEPARTMENT OFFICIALS. BIDDERS ARE THEREFORE ADVISED TO REPORT ANY SUSPICIOUS INFORMATION TO THE DEPARTMENT. DEPARTMENT OFFICIALS WILL NOT CONTACT BIDDERS FOR BRIBES IN EXCHANGE OF BID AWARDS



DIRECTIVE TO BIDDERS ON COMPLETION OF SBD FORMS AND PACKAGING OF BID PROPOSAL

The purpose of this document is to guide bidders on the completion of SBD forms and packaging of a Bid Proposals with each document being placed under the correct Annexure. The last column of the table below (this column must be ticked as an indication that each document and its requirements have been complied with by the bidder). The dates on this all-SBD forms must be a date which is within the bid advert period

TABLE OF CONTENTS FOR BID PROPSALS

DOCUMENT	ANNEXURE	DIRECTIVE	COMPLIED/NOT COMPLIED
SBD 1	A	Bidders are required to complete this document in full and be signed off. The date on this form must be a date which is within the bid advert period	
SBD .3.3	B	Bidders are required to complete the applicable form in full and ensure that the amounts in the document are properly calculated. The total amount (inclusive of VAT) as reflected herein will be regarded as the Total Bid Price. Bidders who are not VAT Vendors are not allowed to charge VAT Bidders are required to constantly verify their TAX Status on CSD to ensure that their task matters are in order	
SBD 4	C	This document must be completed in full. Bidders' attention is drawn particularly to paragraph 2.3 which requires the bidder to disclose if the company or any of its directors have interest in other companies whether they have bided or not. Bidders are required to provide all information. Should a bidder have more companies to declare, such information can be provided on a separate sheet in the format prescribed in the form and be attached to the SBD 4. Information captured must be in line with what is captured in the CSD report	
SBD 6.1	D	This document must be completed in full. Bidders are advised to ensure that information captured in this this form is aligned to information contained in the CSD Reports.	
BBBEE Certificate/Sworn affidavit	E	Bidders are required to submit a valid BBBEE Certificate or sworn affidavit.	
CSD Report	F	Bidders are requested to provide copies of reg CSD Report.	
Certificate of authority for signatory	G	3 Different forms are attached. Bidders are required to only complete one form which is relevant to their situation	
Copy of an Identity document of the authorised individual	H	The ID copy to be attached should be that of a person authorised to represent the Service provider as per the completed certificate of authority for signatory form	
Copy of Company's CIPC Certificate	I	Bidders are required to attach copies of the CIPC Certificates	
Bid Proposal	J	A detailed bid proposal inline with the Specifications must be attached	

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)

BID NUMBER:	WP11527	CLOSING DATE:	31 JULY 2025	CLOSING TIME:	11H00
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DESCRIPTION	MFOLOZI WATER PROJECT PHASE 3: FEASIBILITY STUDY: LOWER MFOLOZI DAM FOR A PERIOD OF 40 MONTHS
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BID RESPONSE DOCUMENTS

**ALL BID REPOSES MUST BE SUBMITTED ONLINE THROUGH E-TENDER'S E-SUBMISSION PORTAL
PLEASE NOTE THAT NO BID DOCUMENTS WILL BE ACCEPTED VIA EMAIL OR DEPARTMENTAL
TENDER BOX**

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO

CONTACT PERSON	Mr JACOB MABUSELA
TELEPHONE NUMBER	012 336 7240
CELLPHONE	
E-MAIL ADDRESS	mabuselaj@dws.gov.za

TECHNICAL ENQUIRIES MAY BE DIRECTED TO:

CONTACT PERSON	Mr JA BESTER
TELEPHONE NUMBER	012 336 8071
CELLPHONE	
E-MAIL ADDRESS	besterk@dws.gov.za

SUPPLIER INFORMATION

NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No

[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]
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QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?

☐ YES ☐ NO

DOES THE ENTITY HAVE A BRANCH IN THE RSA?

☐ YES ☐

NO

DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?

☐ YES ☐ NO

DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?

☐ YES ☐

NO

IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?

☐ YES ☐

NO

IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.

**PART B
TERMS AND CONDITIONS FOR BIDDING**

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.**
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
- 1.4. **THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).**

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
- 2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER:

.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:

.....

(Proof of authority must be submitted e.g. company resolution)

DATE:

.....

PRICING SCHEDULE
(Professional Services)

NAME OF BIDDER: BID NO: **WP11527**

CLOSING TIME 11:00 CLOSING DATE: **31 JULY 2025**

OFFER TO BE VALID FOR 180 DAYS FROM THE CLOSING DATE OF BID.

ITEM NO	DESCRIPTION	BID PRICE IN RSA CURRENCY ** (ALL APPLICABLE TAXES INCLUDED)	
1.	The accompanying information must be used for the formulation of proposals.		
2.	Bidders are required to indicate a ceiling price based on the total estimated time for completion of all phases and including all expenses inclusive of all applicable taxes for the project.	R.....	
3.	PERSONS WHO WILL BE INVOLVED IN THE PROJECT AND RATES APPLICABLE (CERTIFIED INVOICES MUST BE RENDERED IN TERMS HEREOF)		
4.	PERSON AND POSITION	HOURLY RATE	DAILY RATE
	.....	R.....	.....
	.....	R.....	.....
	.....	R.....	.....
	.....	R.....	.....
	.....	R.....	.....
5.	PHASES ACCORDING TO WHICH THE PROJECT WILL BE COMPLETED, COST PER PHASE AND MAN-DAYS TO BE SPENT		
	.....	R.....	..... days
	.....	R.....	..... days
	.....	R.....	..... days
	.....	R.....	..... days
5.1	Travel expenses (specify, for example rate/km and total km, class of airtravel, etc). Only actual costs are recoverable. Proof of the expenses incurred must accompany certified invoices.		
	DESCRIPTION OF EXPENSE TO BE INCURRED	RATE	QUANTITY AMOUNT
	.....	.....	..... R.....
	.....	.....	..... R.....
	.....	.....	..... R.....
	.....	.....	..... R.....
	TOTAL: R.....		

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

Bid No.:

Name of Bidder:

- 5.2 Other expenses, for example accommodation (specify, e.g. Three star hotel, bed and breakfast, telephone cost, reproduction cost, etc.). On basis of these particulars, certified invoices will be checked for correctness. Proof of the expenses must accompany invoices.

DESCRIPTION OF EXPENSE TO BE INCURRED	RATE	QUANTITY	AMOUNT
.....	R.....
.....	R.....
.....	R.....
.....	R.....

TOTAL: R.....

6. Period required for commencement with project after acceptance of bid
7. Estimated man-days for completion of project
8. Are the rates quoted firm for the full period of contract? *YES/NO
9. If not firm for the full period, provide details of the basis on which adjustments will be applied for, for example consumer price index.
-
-
-

*[DELETE IF NOT APPLICABLE]

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of his invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

.....

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

- 2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

Name of company related to	CSD Registration number of the company related to

3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder 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 consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of

² 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.

the awarding of the contract.

- 3.5 There have been no consultations, communications, agreements, or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 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.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

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

1.2 To be completed by the organ of state

a) The applicable preference point system for this tender is the 80/20 preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \\ \mathbf{Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)} \end{array}$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

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

$$\begin{array}{ccc} \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\ \\ \mathbf{Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)} & \mathbf{or} & \mathbf{Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)} \end{array}$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system: or
- (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Women	5	
People with disability	5	
Youth (35 and below)	5	
Location of enterprise (Province)	2	
B-BBEE status level contributors from level 1 to 2 which are QSE or EME	3	
Total points for SPECIFIC GOALS	20	

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

Partnership/Joint Venture / Consortium

One-person business/sole propriety

Close corporation

Public Company

Personal Liability Company

(Pty) Limited

Non-Profit Company

State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the

company/ firm for the preference(s) shown and I 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 paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering 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) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed necessary.

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

.....

.....

.....

STANDARD EVALUATION CRITERIA IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

THE 80/20 POINTS AWARDED FOR PRICE AND SPECIFIC GOALS

The 80/20 Preferential Procurement System will be used in evaluating these bids:

Evaluation element	Weighting (Points)
SPECIFIC GOALS	20
PRICE	80
Total	100

Price

A maximum of 80 points are allocated for price on the following basis:

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where:

P_s = Points scored for comparative price of bid under consideration

P_t = Comparative price of bid under consideration

P_{\min} = Comparative price of lowest acceptable bid

Preference point system

SPECIFIC GOALS	NUMBER OF POINTS TO BE ALLOCATED
Women	5
People with disability	5
Youth (35 and below)	5
Location of enterprise (Province)	2
B-BBEE status level contributors from level 1 to 2 which are QSE or EME	3
Total points for SPECIFIC GOALS	20

Documents Requirement for verification of Points allocation: -

Procurement Requirement

Women
Disability
Youth
Location
B-BBEE status level contributors from level 1 to 2 which are QSE or EME

Required Proof Documents

Full CSD Report
Full CSD Report
Full CSD Report
Full CSD Report
Valid BBBEE certificate/sworn affidavit
Consolidated BEE certificate in cases of Joint Venture
Full CSD Report

The definition and measurement of the goals above is as follows:

Women, disability, and youth:

This will be measured by calculating the pro-rata percentage of ownership of the bidding company which meets this criterion. E.g., Company A has five shareholders each of whom own 20% of the company. Three of the five shareholders meet the criterion, i.e. they are women/disability/youth. Therefore, this bidder will obtain 60% of the points allowable for this goal.

Location of enterprise

Local equals province. Where a project cuts across more than one province, the bidder may be located in any of the relevant provinces to obtain the points.

B-BBEE status level contributors from level 1 to 2 which are QSE or EME

Measured in terms of normal BBBEE requirements.

Note: Formula for calculating points for specific goals

Preference points for entities are calculated on their percentage shareholding in a business, provided that they are actively involved in and exercise control over the enterprise. The following formula is prescribed:

$$PC = \frac{Mpa \times P\text{-own}}{100}$$

Where

PC= Points awarded for specific goal

Mpa= The maximum number of points awarded for ownership in that specific category

P-own = The percentage of equity ownership by the enterprise or business

RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ *(place)*

on _____ *(date)*

RESOLVED that:

1. The Enterprise submits a Bid /Tender, in consortium/Joint Venture with the following Enterprises:

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Consortium/Joint Venture)

to the Department of Water and Sanitation in respect of the following project:

(Project description as per Bid /Tender Document)

Bid / Tender Number: _____ *(Bid / Tender Number as per Bid / Tender Document)*

2. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ *(Position in the Enterprise)*

and who will sign as follows: _____

be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.

3. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Department in respect of the project described under item 1 above.
4. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

Physical address: _____

_____ *(code)*

Postal Address: _____

_____ (code)

Telephone number: _____

Fax number: _____

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

The bidding enterprise hereby absolves the Department of Water and Sanitation from any liability whatsoever that may arise as a result of this document being signed

Note:

- * Delete which is not applicable.
- NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Bidding Enterprise.
- In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (attach proof of shareholding / ownership hereto).
- Directors / Members / Partners of the Bidding Enterprise may alternatively delegate a person to sign this document on behalf of the Bidding Enterprise, which person must be so authorized by way of a duly completed Delegation of Authority letter, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (proof of shareholding / ownership and Delegation of Authority letter are to be attached hereto).
- Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP



SPECIAL RESOLUTION OF CONSORTIA OR JOINTVENTURES

RESOLUTION of a meeting of the duly authorized representatives of the following legal entities who have entered into a consortium/joint venture to jointly bid for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a Consortium/Joint Venture)*

1.

2.

3.

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8.



Held at _____

(place)
ce) ON

(date)
e)

RESOLVED that:

- A. The above-mentioned Enterprises submit a Bid in Consortium/Joint Venture to the Department of Water and Sanitation in respect of the following project:

(Project description as per Bid /Tender Document)

Bid / Tender Number: _____ (Bid / Tender Number as per Bid /Tender Document)

- B. *Mr/Mrs/Ms: _____ in _____ *his/her
Capacity as: _____ (Position in the
Enterprise) and who will sign as follows: _____

be, and is hereby, authorized to sign the Bid, and any and all other documents and/or correspondence in connection with and relating to the Bid, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid to the Enterprises in Consortium/Joint Venture mentioned above.

- C. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of:

- D. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Department in respect of the project described under item A above.

- E. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Department for the due fulfilment of the obligations of the Consortium/Joint



Venture as mentioned under item D above.

- F. No Enterprise to the Consortium/Joint Venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Department referred to herein.
- G. The Enterprises choose as the *domicilium citandi et executandi* of the Consortium/Joint Venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Department in respect of the project under item A above:

Physical address: _____

(code) Postal Address: _____

_____ (code)

Telephone number: _____

Fax number: _____

	Name	Capacity	Signature
1			
2			
3			
4			
5			



6			
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13			
14			
15			

The bidding enterprise hereby absolves the Department of Water and Sanitation from any liability whatsoever that may arise as a result of this document being signed.

Note:

1. * Delete which is not applicable.
2. **NB:** This resolution must be signed by all the Duly Authorized Representatives of the Legal Entities to the consortium/joint venture submitting this tender, as named in item 2 of **RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES**
3. Should the number of the Duly Authorized Representatives of the Legal Entities joining forces in this tender exceed the space available above, additional names, capacity and signatures must be supplied on a separate page.
4. **RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES**, duly completed and signed, from the separate Enterprises who participate in this consortium/joint venture, must be attached to this **SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES**





RESOLUTION OF BOARD OF DIRECTORS FOR COMPANY /CLOSE CORPORATION/ PARTNERSHIP

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____ *(legally correct full name and registration number, if applicable, of the Enterprise)*

Held at _____ *(place)*

on _____ *(date)*

RESOLVED that:

1. The Enterprise submits a Bid / Tender to the Department of Water and Sanitation in respect of the following project:

_____ *(project description as per Bid / Tender Document)*

Bid / Tender Number: _____ *(Bid / Tender Number as per Bid / Tender Document)*

2. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ *(Position in the Enterprise)*

and who will sign as follows: _____

be, and is hereby, authorized to sign the Bid / Tender, and any and all other documents and/or correspondence in connection with and relating to the Bid / Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Bid / Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			



Resolution of Board of Directors

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20			

The bidding enterprise hereby absolves the Department of Water and Sanitation from any liability whatsoever that may arise as a result of this document being signed.

Note:

1. * Delete which is not applicable.
2. **NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Bidding Enterprise.
3. In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (attach proof of shareholding / ownership hereto).
4. Directors / Members / Partners of the Bidding Enterprise may alternatively delegate a person to sign this document on behalf of the Bidding Enterprise, which person must be so authorized by way of a duly completed Delegation of Authority letter, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Bidding Enterprise (proof of shareholding / ownership and Delegation of Authority letter are to be attached hereto).
5. Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP

Annexure A

GOVERNMENT PROCUREMENT

GENERAL CONDITIONS OF CONTRACT July 2010

NOTES

The purpose of this document is to:

- (i) Draw special attention to certain general conditions applicable to government bids, contracts and orders; and
- (ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract will form part of all bid documents and may not be amended.
- Special Conditions of Contract (SCC) relevant to a specific bid, should be compiled separately for every bid (if applicable) and will supplement the General Conditions of Contract. Whenever there is a conflict, the provisions in the SCC shall prevail.

TABLE OF CLAUSES

1. Definitions
2. Application
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5. Use of contract documents and information; inspection
6. Patent rights
7. Performance security
8. Inspections, tests and analysis
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23. Termination for default
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General Conditions of Contract

1. Definitions

1. The following terms shall be interpreted as indicated:
 - 1.1 “Closing time” means the date and hour specified in the bidding documents for the receipt of bids.
 - 1.2 “Contract” means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - 1.3 “Contract price” means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
 - 1.4 “Corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
 - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
 - 1.6 “Country of origin” means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
 - 1.7 “Day” means calendar day.
 - 1.8 “Delivery” means delivery in compliance of the conditions of the contract or order.
 - 1.9 “Delivery ex stock” means immediate delivery directly from stock actually on hand.
 - 1.10 “Delivery into consignees store or to his site” means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
 - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.

- 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
- 1.17 "Local content" means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- 1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other , related value-adding activities.
- 1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 "Project site," where applicable, means the place indicated in bidding documents.
- 1.21 "Purchaser" means the organization purchasing the goods.
- 1.22 "Republic" means the Republic of South Africa.
- 1.23 "SCC" means the Special Conditions of Contract.
- 1.24 "Services" means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.

- 1.25 “Written” or “in writing” means handwritten in ink or any form of electronic or mechanical writing.
- 2. Application**
- 2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.
- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.
- 3. General**
- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2 With certain exceptions, invitations to bid are only published in the Government Tender Bulletin. The Government Tender Bulletin may be obtained directly from the Government Printer, Private Bag X85, Pretoria 0001, or accessed electronically from www.treasury.gov.za
- 4. Standards**
- 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.
- 5. Use of contract documents and information; inspection.**
- 5.1 The supplier shall not, without the purchaser’s prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 5.2 The supplier shall not, without the purchaser’s prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier’s performance under the contract if so required by the purchaser.
- 5.4 The supplier shall permit the purchaser to inspect the supplier’s records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.
- 6. Patent rights**
- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.
- 7. Performance**
- 7.1 Within thirty (30) days of receipt of the notification of contract award,

security

the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.

- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
 - (b) a cashier's or certified cheque
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

**8. Inspections,
tests and
analyses**

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of the Department or an organization acting on behalf of the Department.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract supplies may on or after delivery be inspected, tested or analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the

cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.

- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

- 10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.

- 10.2 Documents to be submitted by the supplier are specified in SCC.

11. Insurance

- 11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

12. Transportation

- 12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

13. Incidental services

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties,

- provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1 As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

- (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.

15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser

may have against the supplier under the contract.

16. Payment

- 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.
- 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.
- 16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
- 16.4 Payment will be made in Rand unless otherwise stipulated in SCC.

17. Prices

- 17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.

18. Contract amendments

- 18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.

19. Assignment

- 19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

- 20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

- 21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
- 21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.
- 21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.
- 21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily

available.

21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.

21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without canceling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
- (b) if the Supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the

envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the intended penalty as not objected against and may impose it on the supplier.

23.5 Any restriction imposed on any person by the Accounting Officer / Authority will, at the discretion of the Accounting Officer / Authority, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the Accounting Officer / Authority actively associated.

23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

- (i) the name and address of the supplier and / or person restricted by the purchaser;
- (ii) the date of commencement of the restriction
- (iii) the period of restriction; and
- (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7 If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him

25. Force Majeure	<p>25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.</p> <p>25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.</p>
26. Termination for insolvency	<p>26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.</p>
27. Settlement of Disputes	<p>27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.</p> <p>27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.</p> <p>27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.</p> <p>27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.</p> <p>27.5 Notwithstanding any reference to mediation and/or court proceedings herein,</p> <p style="padding-left: 40px;">(a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and</p> <p style="padding-left: 40px;">(b) the purchaser shall pay the supplier any monies due the supplier.</p>
28. Limitation of liability	<p>28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;</p> <p style="padding-left: 40px;">(a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and</p>

		(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
29. Governing language	29.1	The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.
30. Applicable law	30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
31. Notices	31.1	Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
	31.2	The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.
32. Taxes and duties	32.1	A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
	32.2	A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
	32.3	No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.
33. National Industrial Participation Programme (NIP)	33.1	The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.
34. Prohibition of Restrictive practices	34.1	In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder (s) is / are or a contractor(s) was / were involved in collusive bidding (or bid rigging).
	34.2	If a bidder(s) or contractor(s), based on reasonable grounds or evidence obtained by the purchaser, has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in the Competition Act No. 89 of 1998.

- 34.3 If a bidder(s) or contractor(s), has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

Js General Conditions of Contract (revised July 2010)



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

DIRECTORATE: WATER RESOURCE DEVELOPMENT PLANNING

TERMS OF REFERENCE

for the

**MFOLOZI WATER PROJECT PHASE 3: FEASIBILITY
STUDY: LOWER MFOLOZI DAM FOR A PERIOD OF 40
MONTHS**

April 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

DEA	Department of Environment Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DM	District Municipality
DWA	Department of Water Affairs (now DWS)
DWAF	Department of Water Affairs and Forestry (now DWS)
DWS	Department of Water and Sanitation

EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EWR	Environmental Water Requirements

FSL	Full Supply Level
-----	-------------------

H	Horizontal (distance related to slopes)
HFY	Historic firm yield

KZN	KwaZulu-Natal Province
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LM	Local Municipality
LSY	Long-term stochastic yield

MAP	Mean Annual Precipitation
MAR	Mean Annual Runoff
masl	metres above sea level
million m ³	Million cubic metres

NOC	Non-overspill crest
NPV	Net present value

O&M	Operation and Maintenance
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PSC	Project Steering Committee
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PSP	Professional Services Provider
RL	Reduced level (in metres above sea level)
SEF	Safety Evaluation Flood
SMC	Study Management Committee
TOR	Terms of Reference
UDM	Umkhanyakude District Municipality
URV	Unit Reference Value
V	Vertical (distance related to slopes)
WC/WDM	Water conservation and water demand management
WRPM	Water Resources Planning Model
WRSM	Water Resources Simulation Model
WRYM	Water Resources Yield Model
WSS	Water Supply Scheme
WTP	Water Treatment Plant
WTW	Water Treatment Works
ZDM	Zululand District Municipality

1. INTRODUCTION

The current water resources of the Mfolozi River catchment are insufficient to meet the medium- to long-term water requirements of the area. Several short-term interventions have been proposed for implementation in the interim. These interventions include water conservation and demand management measures, reduction of water losses and the short-term use of irrigation allocations that are not being utilised. Past investigations have indicated that these interventions would only address the short-term water requirements in the Mfolozi River catchment and that additional storage is required for the longer term. To this end, the DWS is launching a feasibility study to fully define the parameters of the scheme for the additional storage required.

The envisaged tasks for this feasibility study are set out in Chapter 3, Scope of Services. The objective of the study is to undertake a feasibility level investigation and environmental impact assessment for the Mfolozi Water Project Phase 3: Feasibility Study: Lower Mfolozi Dam. This will consist of water resource analysis, engineering analysis/reviews, scheme optimisation, conceptual design (desktop) and environmental impact assessment. The PSP will be required to liaise closely with the Zululand District Municipality (ZDM) and other role players in the study area, for example the KZN DWS Regional Office.

The PSP team must provide multi-disciplinary skills and expertise required to undertake this Study within the time constraints provided. The study leader must be a professional engineer, experienced in coordinating and managing a study of this nature, who will form the main link between the DWS and the study teams. The deputy study leader must be an Environmental Assessment Practitioner (EAP) who successfully concluded environmental applications for projects in the water resource development environment. Task leaders must be specialists (be able to testify in a court of law as an expert witnesses) in their respective fields.

The PSP will be appointed by DWS to carry out all the necessary work as described in the scope of services (Section 3) to facilitate the successful conclusion of this Study. The scope of services will be the minimum requirements that DWS will accept.

It is estimated that the duration of the feasibility study will be **40 months**.

2. BACKGROUND

2.1. STUDY AREA – THE MFOLOZI RIVER CATCHMENT

The Mfolozi River catchment (see **Figure 1-1**) has a land area of 10 008 km². The Mfolozi River consists of two main tributaries, the Black and White Mfolozi, both of which rise on the eastern escarpment of the Drakensberg Mountain range and flow eastward across the Zululand coastal plain before discharging into the Indian Ocean. The mean annual runoff (MAR) from the Mfolozi River is estimated to be 962 million m³/a.

The average mean annual precipitation (MAP) for the Mfolozi River basin is 803 mm/annum with a maximum value of 1 150 mm/annum which occurs along the eastern seaboard and a minimum value of about 700 mm/annum which occurs inland.

The Mfolozi River catchment consists mostly of tribal land, with the main activity being cattle farming. There is a limited amount of afforestation in the catchment compared to the total area of the catchment (approximately 435 km²). The afforested areas are situated in the upper reaches of the catchment near Vryheid, in the vicinity of Nongoma and near the coast.

There is a significant area under irrigation in the catchment, which is estimated at 72 km². The majority of this is found near the coast where there is about 50 km² of irrigated sugarcane.

The Mfolozi Game Reserve lies in the central part of the catchment. Significant towns in the catchment area Vryheid, Ulundi, Babanango, Nongoma and Mtubatuba. The two water services authority (WSA) in the area include the Zululand District Municipality (ZDM) as well as Umkhanyakude District Municipality (UDM).

The water resources of the Mfolozi River catchment are mostly underdeveloped. The Klipfontein Dam, with a capacity of 18 million m³, is situated in the upper reaches of the White Mfolozi River near Vryheid. This water resource, together with the smaller Bloemveld and Grootgewacht dams, provides water to the town of Vryheid and the surrounding area. Klipfontein Dam also supplies water for irrigation, and they supplement the water supply to Ulundi. Currently very little of the allocation to irrigators downstream of Klipfontein Dam is utilised. The natural mean annual runoff into Klipfontein Dam is 49 million m³/a.

Water is abstracted from the lower Mfolozi River and pumped across to the Mhlathuze River catchment for use by Richards Bay Minerals for their coastal mining operations. The capacity of these works is 18 million m³/a.

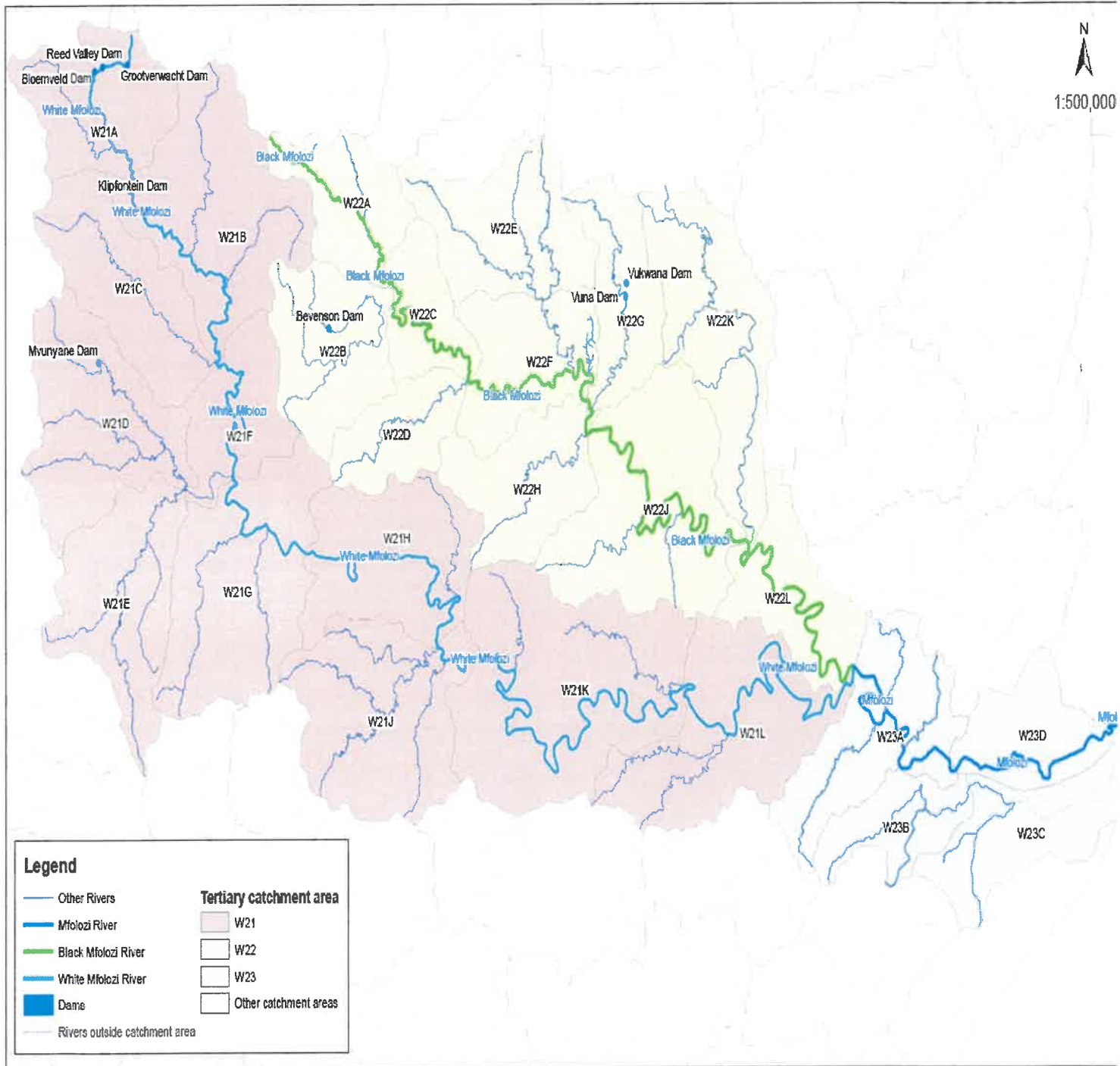


Figure 1-1 Mfolozi Catchment

2.2. PAST PLANNING STUDIES AND OTHER INFORMATION

Various planning studies have been undertaken in the Mfolozi River catchment and other relevant studies are in progress. There are also reports on existing and proposed dams in the catchment. The most relevant reports are listed below, and the findings and recommendations are discussed in the following sections. It should be noted that this is not an exhaustive list and a literature search should be done to source other relevant information.

Previous studies on water resources and water supply include the following:

- a) Internal Strategic Perspective: Usutu to Mhlathuze Water Management Area, Report number PWMA 06/000/00/0304, Department of Water Affairs and Forestry, March 2004.
- b) Development of a reconciliation strategy for all towns in the Eastern region: Zululand District Municipality: First stage reconciliation strategy for Greater Ulundi Water Supply Scheme area - Ulundi local municipality, Contract WP 9712, Department of Water Affairs, June 2011.
- c) Water Resource Modelling of the White Mfolozi River System: Planning Model Report, Zululand District Municipality, February 2012.
- d) White Mfolozi River catchment (Vryheid, Greater Mpungamhlope, Greater Ulundi, Greater EMondlo and Nondweni water supply scheme areas including Klipfontein, Bloemveld, Grootgewacht & Mvunyana Dams as well as the Ulundi balancing weir) - Decision support system, Project No. P RSA 000/00/14711/Eastern Cluster/White Mfolozi River catchment, Department of Water Affairs, February 2013.
- e) Continuation of reconciliation strategies for All Towns in the Eastern region - Background and issues document on the water supply situation in the White Mfolozi River, Project number WP 10588, Department of Water Affairs, June 2013.

The following reports contain relevant information on **Klipfontein Dam**:

- f) Report on the White Mfolozi River Government Water Scheme (Klipfontein Dam), 1980-81, White Paper L-80;
Klipfontein Dam, Capacity Determination, Department of Water Affairs and Forestry, 2000; and
Klipfontein Dam Raising Pre-feasibility: Recommended option for immediate implementation; Determination of the Safety Evaluation Flood; Hydraulic Model Study; Freeboard Analysis; Sources of Sand, DWS Civil Engineering, September 2016.
- g) Klipfontein Dam, Damveiligheidsinspeksie, Report No. W210-12/EY01, Department of Water Affairs and Forestry, May 1993; and
Klipfontein Dam, Dam Safety Inspection report, Report No. W210-12/EY02, Department of Water Affairs and Forestry, 2003.

- h) Update of the water reconciliation strategy of the White Mfolozi river system in Zululand District Municipality for the period -2012 to 2040, Project number WP 10588, Department of Water Affairs, December 2013.

Recently completed studies include the following:

- i) Water Reconciliation Strategy for Richards Bay and surrounding towns: DWS Directorate: Water Resource Planning commissioned this study and has appointed Aurecon South Africa (Pty) Ltd.
- j) Usutu to Mhlathuze Reserve Determination Study: This study includes selected surface water, groundwater, estuaries and wetlands in the Usutu-Mhlathuze water management area. DWS Chief Directorate: Water Ecosystems commissioned this study and has appointed Tlou Consulting (Pty) Ltd.
- k) Usuthu Regional Water Supply Scheme: A pre-feasibility investigation of a proposed off-channel storage dam on the Kwa Nkweme River near Nongoma was completed in April 2012 for the Zululand DM by KV3 Engineers. A water resource assessment was done for this project by WRP (Pty) Ltd and detail is given in a report dated November 2015. Further work is being undertaken by Isimo Engineers and Worley Parsons.
- l) Development, Updating and Review of Strategies to Reconcile Water Availability and Requirement in the East Planning Area by iX Engineers, supported by Wakhiwe, WSM Leshika, WRP Consulting Engineers and Specialists

2.3. RECOMMENDATIONS OF STUDIES AND REPORTS

The recommendations of previous studies dealt with strategies to reconcile water requirements with water supplies in the catchment area, and more efficient operation of existing water supply schemes. Most of these measures should have been implemented by the Zululand DM, Umkhanyakude DM and other role players in the area. However, some of these recommendations may not have been implemented. These and other recommendations may therefore still be relevant for future long term water supply options for the catchment.

There are current studies regarding reserve determination, off channel storage for Nongoma and water transfer options for Richards Bay that are relevant to this feasibility study.

The current and previous studies and reports are discussed briefly in the sections below.

2.3.1 Internal Strategic Perspective

The Internal Strategic Perspective (ISP) report dated March 2004 provided a perspective of the water situation in the various catchments comprising the Usutu to Mhlathuze Water Management Area. The assessment of the water situation in the catchments includes resources (dams, rivers and groundwater), requirements, quality, institutions, infrastructure, etc.

The three strategies proposed for the Mfolozi River catchment in Appendix B of the 2004 report are as follows:

- I. Strategy no. 3.1: Reconciliation of water requirements and available water resources
- II. Strategy no. 3.2: Water conservation and demand management
- III. Strategy no. 3.3: Water quality management

The strategies are set out below.

I.) Strategy no.: 3.1 - Reconciliation of water requirements and available water resources

- *An accurate assessment of the water resources is required to gain a better understanding of the catchment and identify development opportunities. This is however not a priority.*
- *With much of the land communally held, but the bulk of the resource allocated to forestry and irrigation, a strategy is required to address inequities.*
- *Allocate surplus water from the Klipfontein Dam to community users and resource poor farmers.*
 - *Forestry on communal land, in conjunction with the provision of additional storage to offset the reduction in yield.*
 - *Develop off-channel storage and small dams for community irrigation projects.*
 - *Develop the groundwater resources.*
- *The deficits experienced in the lower catchment must be resolved either through the development of additional supply infrastructure upstream, a re-allocation of resources to reduce in-catchment use, or a renegotiation of the transfer of water to Richards Bay Minerals.*

The sectoral water allocation strategy for the Mfolozi River catchment, listed in order of priority, is as follows:

- *Water for poverty eradication/rural supply and urban use;*
- *Assess and make better use of opportunities offered by groundwater;*
- *Allocate available water out of Klipfontein Dam;*
- *Licences for community forestry (see 'forestry' below); and*
- *Development of the resource, preferably off-channel storage.*

Industrial/mining

- Water from Klipfontein Dam - noting that this could compete with equity demands
- Development of the resource, preferably off-channel storage

Irrigation

There is some scope for irrigation allocations from the Klipfontein Dam, with the first call given to equity demands. A detailed investigation is required to ascertain the amount of water available and the level of assurance in more detail. (Note that this is available water, which is currently not being used. Utilising this stored water will not affect the dry-season deficit problems experienced downstream).

Forestry / dry land sugar cane

The Mfolozi River catchment as a whole is stressed and there is little scope for additional forestry and/or dry land sugar cane, although dry land cane cannot currently be controlled based on water use, as it is a de facto but not a declared Stream Flow Reduction Activity (SFRA). The area upstream of the Klipfontein Dam could possibly be considered for additional forestry because the dam is not fully utilized, with the volume of water allocated to forestry released from the dam during the dry season in compensation for forestry water use. Further forestry could be considered should additional replacement storage be provided.

General Authorisations

The construction of larger dams, and the associated abstraction, can be permitted if it can be shown that they contribute to the system yield and will not be to the detriment of downstream users. Off-channel dams will be the preferred option in this catchment due to the high silt load of the Mfolozi River.

II.) Strategy no.: 3.2: Water conservation and demand management

A water resources study of the whole catchment is an important requirement. A solution to Ulundi's reliance on releases from Klipfontein Dam must be found. The distribution and system operation losses in Ulundi, including the operation of Ulundi's water supply network, must also be investigated – and this could form a part of the catchment water resources study. Water made available through increased efficiencies in the use of the Klipfontein Dam should be allocated to poverty eradication programmes as the first priority.

The clearing of invasive alien plants should be undertaken by Working for Water, with any water released being returned to the system to ease downstream deficits. There is little scope for 'water use exchanges' whereby the water released through clearing can be allocated to other users.

Negotiate with the forestry sector regarding both environmental management and the problem of illegal forestry.

III.) Strategy no.: 3.3: Water quality management

Water Quality Management is a serious issue in the Mfolozi Catchment and should be allocated additional resources. The problems span urban pollution (sewage), mining (acid leaching from the mostly abandoned coal mines) and agricultural pollution.

Non-point source pollution needs to be assessed and strategies developed to curb this. This requires national, WMA and catchment level approaches to over-irrigation and excessive fertilisation.

Mine licensing, operation and closure policies need to be very carefully considered and tightly managed. Staff and resources need to be allocated to achieve this.

2.3.2 First Stage Reconciliation Strategy for Greater Ulundi WSS

The development of a reconciliation strategy for the Greater Ulundi water supply scheme (WSS) in June 2011 (refer to report **2.2(b)** above) considered strategies to reconcile water resources and water requirements for the Ulundi WSS area. These strategies needed to be implemented by the Zululand DM. The prioritisation of the water reconciliation strategic options, as given in the report, is as follows (only short extracts from the report are provided):

- *Priority 1: Implement a water conservation and water demand management (WC/WDM) programme*

The Zululand District Municipality, as the Water Services Authority (WSA), is the responsible authority to develop and implement the strategy. The DWA should ensure there are reporting systems for monitoring performance and for the ZDM to report water savings on an annual basis. This can be used to update the water reconciliation strategy in view of the additional water supplies that will be required in the future.

- *Priority 2: Upgrading of the bulk water supply infrastructure*

The existing bulk water supply infrastructure supplying the Ulundi WSS area cannot meet the current and future water requirements even with implementing WC/WDM programmes and upgrading is required urgently.

- *Priority 3: Curtailment of existing unlawful water use*

Curtailment of existing unlawful water use should include validation and verification of existing lawful water users in the White Mfolozi River catchment, in order to determine the extent of illegal water use in the catchments.

- *Priority 4: Water trading to meet the short term water shortages*

Because of the long lead time required for the planning and raising of the Klipfontein Dam or the development of other new storage dams in the White Mfolozi River, it is important that water

trading be undertaken. This will provide short-term bridging and provide the irrigators with funding to improve the efficiency in the irrigation sector.

- *Priority 5: Raising of Klipfontein Dam in the White Mfolozi River*

Although the recommendation is to implement WC/WDM measures and temporary water trading as priorities, in the long term, there is a need to either raise Klipfontein Dam or construct another dam in the White Mfolozi River, as the current Klipfontein Dam will shortly not be able to augment the flow in the White Mfolozi River sufficiently to meet the water requirements at the required assurances of supply.

2.3.3 Water Resource Modelling of the White Mfolozi River

The objective of this investigation was to utilise the Water Resource Planning Model (WRPM) to incorporate the water requirement projections (growth) and the current system storage status as at the beginning of January 2012 into the systems model.

The following recommendations are proposed in this report:

- *Take immediate action to augment the water supply to eMondlo.*
- *Start the necessary pre-feasibility and or feasibility studies to be prepared for the next Water Resource Augmentation project.*
- *Implement the proposed operating rules for Mvunyane, Bloemveld and Grootgewacht Dams.*
- *Make a decision in May 2012 on a restriction strategy for eMondlo. Implement restrictions to eMondlo based on the short-term yield curves and the water requirement projection for 2012.*
- *Continue to track the actual water usage in the system and update the water demand projections regularly.*
- *Monitor all dam levels on a daily basis, including rainfall and evaporation.*
- *Monitor water abstractions and return flows on a daily basis.*
- *Rerun the WRPM every year in May with the updated system storage information and the updated water projections to revise the projected implementation date for the next water resource augmentation project.*
- *Review the recommendations made in the First Order Reconciliation strategies done during Small Town Studies, particular attention should be paid to Water Conservation and Demand Management Strategies in the Zululand DM supply areas.*
- *Review the option of raising the Klipfontein dam as proposed in the First Order Reconciliation strategies with other water resource development alternatives to improve the system yield. The raising of Klipfontein Dam is likely to be expensive due to the potential impact on the road and railway line.*

2.3.4 White Mfolozi River Catchment: Decision Support System

The main objectives of the assignment were to develop water supply and drought operating rules for various dams/schemes within the DWS Eastern Cluster. The report includes an inventory of water resource infrastructure:

- *The Vryheid Regional Water Supply Scheme (WSS) is supplied with water from the Bloemveld and Klipfontein Water Treatment Plants (WTP) respectively. Bloemveld WTP is fed with raw water from Bloemveld Dam supported by Grootgewacht Dam. The Klipfontein WTP is supplied with raw water from the Klipfontein Dam. Areas within this WSS include the town of Vryheid as well as the township of Bhekuzulu/Lakeside.*
- *The eMondlo WSS is supplied with water from the eMondlo WTP that is fed with raw water from the Mvunyana Dam. Two other smaller WTPs, namely the Mvuzini and Purim WTP, also exist within this WSS. The Purim WTP also abstracts water directly from the dam, whereas the Mvuzini WTP abstracts water from the Mvunyana River upstream of the Mvunyana Dam. For the purpose of this study, all three WTPs were lumped together and the total water requirement of the eMondlo WSS was supplied from the Mvunyana Dam. Several smaller areas, e.g. Enhlahleni, Purim, England, Driekwart, etc. are included within this WSS.*
- *The Ulundi WSS is supplied with water from the White Mfolozi River (abstracted at the Ulundi balancing weir), the flow of which is augmented from the Klipfontein Dam. A number of smaller areas, e.g. Mpolweni, Mabedlane, Mkhazane, etc. are included within the Ulundi WSS.*
- *The Mpungamhlope WSS is supplied with water from the Mpungamhlope WTP that is fed with raw water from run off river abstraction works in the White Mfolozi River upstream of the Ulundi balancing weir.*
- *The Nondweni WSS is supplied with water from the Nondweni WTP that is fed with raw water from run of river abstraction works in the Nondweni River, a tributary of the White Mfolozi River.*

This study made recommendations to the Zululand District Municipality regarding the measurement of releases from Klipfontein Dam, recording of dam water levels, updating of water requirement projections, monitoring of return flows and irrigation water use, periodic assessment of growth in land use, quantification of system water losses, implementation of WC/WDM measures, and monitoring of return flow water quality. Operational problems should also be addressed at the Vryheid and Ulundi Water Supply Schemes

2.3.5 The Water Supply Situation in the White Mfolozi River

The background and issues assessment of the White Mfolozi River was undertaken to understand the water use and availability, bulk water supply infrastructure, water shortages, and measures that can be investigated to address water management problems in the catchment.

The report recommends short term intervention measures for implementation by the Zululand DM. These interventions have been identified in previous studies and, if not implemented, should be reviewed in this Study, together with the various water supply options for the catchment. These interventions include:

- Develop and implement comprehensive WC/WDM measures;
- Improvement of the scheme's operating efficiency levels; and
- Develop a drought management plan for the dams in the catchment.

The scope of services to be undertaken with support from DWS was also investigated and needs to be reviewed in this Study together with other water supply options. The options recommended in this report are:

- Raising of Klipfontein Dam;
- Improve the system yield by optimisation of the operating rules of Klipfontein, Bloemveld and Grootgewacht dams;
- Reducing the minimum pumping level for Vryheid at Klipfontein Dam;
- Upgrade abstraction works and pipeline for supplying EMondlo WTW from Klipfontein Dam;
- Rainwater harvesting strategy and implementation plan;
- New dam sites for Ulundi WSS; and
- Improving contribution from groundwater.

2.3.6 Dam on the Lower Mfolozi River

The previous Reconciliation Strategy for Richards Bay and surrounding towns concluded that Mtubatuba town and the surrounding territories water supply system should be augmented. It was recommended that an off-channel storage dam close to Mtubatuba and off-channel to the Mfolozi River should be investigated as an option.

The current reconciliation study "Updating and Review of Strategies to Reconcile Water Availability and Requirement in the East Planning" identified additional on-channel sites that could be developed to augment water supply to Mtubatuba Town and other users, for example agriculture.

Mtubatuba is situated in the Mtubatuba LM of the Umkhanyakude DM. The Mfolozi River is a large river near Mtubatuba. This is the primary source of water supply for Mtubatuba and the adjacent villages and cities, including St Lucia. For many years, Mtubatuba has had water supply challenges and shortfalls during drought conditions. In addition to this the Mtubatuba water needs cannot be satisfied by the Mfolozi River during low flow seasons (July to October each year).

3. SCOPE OF SERVICES REQUIRED

The scope of services for the Mfolozi Water Project Phase 3 (MWP-3) can be divided into the following main components that need to be undertaken:

- a) Inception;
- b) Pre-feasibility study;
- c) Technical feasibility investigation for the proposed dam at the lower Mfolozi Catchment; and
- d) Environmental impact assessments.

3.1. INCEPTION

The appointed PSP will be required to do a thorough research of the available information and to liaise with all relevant organisations and role players in preparation for the feasibility study.

After the signing of the Service Level Agreement (SLA) by both parties the PSP can start with their work. The date for study commencement will be the date that the SLA/Contract is signed by all relevant parties. The SLA/Contract, however, allows for an explanation (finding of common ground) between what was requested in the ToR and what was offered in the PSP proposal upon submission of the inception report. The inception Report will then clarify the final scope of services for the Study after agreement and approval by DWS.

The PSP shall compile an inception report that will consist of a detailed description of tasks and methodology, a study programme, human resource schedule and budget.

The purpose of the inception report is to capture important work that will be necessary for the successful completion of the study, which may for some reason or another, have been overlooked in the compilation of the original Terms of Reference (ToR) or in the proposal submitted by the PSP.

The inception report is a formal document that will cover all the aspects of the original proposal plus the scope of services that were required in the ToR. It will include the contract amount and the contract period. The inception report will list all tasks required, all the team members for each task and their time allocation and hourly rates per task, anticipated disbursements, revised study programme, etc. The rates of all new team members need to be approved before they can be engaged.

For this particular appointment, the inception report should be finalized (co-signed by DWS and PSP) within *three (3) months* of the commencement of the Study.

3.2. PRE-FEASIBILITY

3.2.1. Review of Water Resources

The assessment of the water resources (availability and requirements) for the entire Mfolozi River catchment is available and has been done by the Directorate: Strategic Water Resource Planning.

3.2.2. Sedimentation Impact Assessment

Sedimentation analysis will be done by the appointed PSP for the Mfolozi River and for 2 on-channel and 2 off-channel storage dams (including diversion works). The assessment will be required to better understand the impact of the long-term sediment yield on possible on-channel storage dams and off-channel storage dams.

The WRC regional sediment yield prediction empirical methodology for South Africa must be used as a first step. A detailed hydrological modelling methodology must then be developed to refine the initial sediment yield, by using the SHETRAN model. SHETRAN a physically based rainfall-runoff-sediment transport and routing model must be set up on a 3 arc DEM, and simulated daily catchment flows must be calibrated against the observed flow records. The latest land-use scenario must be considered to predict year 2100 climate and land use change. Long term daily flow record and sediment loads must be simulated to obtain the long-term sediment yield calibrated/validated against observed reservoir sediment yields and compared with the TSS samples collected during fieldwork.

3.2.3. Updating of the Ecological Reserve

The Reserve for the Mfolozi River was determined in 2015 as part of the *Usutu to Mhlathuze Reserve Determination Study*, which was commissioned by the DWS Chief Directorate: Water Ecosystems.

The Mfolozi River Classification Study has been gazetted during 2024, however if additional reserve work will be required in this Study to re-run the reserve determination model to test ecological consequences on the river and estuary.

The appointment of a specialist sub-consultant, to re-run the reserve determination model and update the Reserve for the Mfolozi River, will be required to assess the impact of 4 different dam sites. This will be required to understand the impact of different dams size on the ecological consequences for the river and the estuary.

It should be noted that the DWS reserves the right to withdraw this task or any other task if it deems it not necessary to proceed with.

3.2.4. Yield Assessment

3.2.4.1 Water resource yield model

The objective of this task will be to review the yield analyses (the network diagram, user priority classification)

Typical stakeholders to be involved in the process of compiling a user priority classification table are, but not limited to, the following:

- The forestry industry;
- Zululand District Municipality;
- Umkhanyakude District Municipality;
- Local municipalities;
- Irrigation boards;
- Representatives of informal irrigation;
- Mining companies and major industries;
- Chambers of commerce;
- KZN Department of Local Government and Traditional Affairs;
- Department of Mineral Resources;
- DWS KZN Regional Office; and
- KZN Department of Agriculture and Environment Affairs.

A review and recommendation of current operating rules for the various water supply schemes and or combinations of water resource development options in the catchment must be undertaken in consultation with DWS KZN Regional Office, water services authorities and other role players. This review aims to select the most appropriate operating rules that can be used in the WRYM and WRP analysis to model the existing system and future raising and abstraction options.

The Long-term stochastic yield (LSY) analyses must be undertaken for each of the 4 dam options for long term water supply in the Lower Mfolozi River catchment.

The LSY shall be calculated for the medium growth in-basin water requirements of the Mfolozi River catchment up to 2045 development levels. As in the case of the HFY determinations, the appointed PSP will have to confirm the final dates to be adopted for this Study with DWS. The LSY will be recorded in the report for the following assurances of supply: 75%, 90%, 95%, 98%, 99% and 99.5%.

3.2.4.2 Future water balance

The long-term stochastic yield results and the determined water requirements must be reviewed and updated for annual water balances from 2025 to 2045 to provide an indication of when augmentation will be required for the Mfolozi Water Project's further phases.

3.2.4.3 Short-term stochastic yield reliability curves

Short-term yield analyses must be reviewed for the proposed water supply options and short-term yield reliability curves developed for each decision month as required by system water users. These curves will be used for conducting analyses with the water resources planning model (WRPM).

3.2.4.4 Configuration and testing of the WRPM

The WRPM must be reviewed and updated if required for development options.

The network diagram must be reviewed, updated and included as part of the deliverable of this sub-task.

Before proceeding with any analyses, the WRPM configuration must be thoroughly tested to ensure that all aspects are functioning correctly and that the intended system operation is indeed simulated correctly.

The deliverable for this sub-task includes an electronic copy of the final WRPM for the Mfolozi River catchment, supported by the associated report on USB and hard disk. Electronic copies of scenario runs with the WRPM must be presented / run error free and also be made available to DWS.

3.2.4.5 Development of scenarios

After the WRPM has been updated, the various scenarios to be analysed need to be developed and defined in consultation with DWS and other major water users. Aspects that will have to be taken into account in this sub-task are:

- Alternative operating rules;

- System water requirement scenarios;
- Scenarios for the water requirements of the ecological reserve;
- Variations in the selected user priority classifications;
- Alternative sources of water, such as groundwater; and
- Allowance for different dam sizes

Scenarios developed should cover an analysis period starting from the analysis date until 2045. This end date of the analysis period is not fixed and is subject to change in consultation with DWS when more information is available.

The results of the analysis must be in the form of box plots, where the format and types will be agreed upon with DWS prior to their production. Results of the initial scenarios will be presented and discussed with DWS during the execution of the task, and if needed, these scenarios may either be adjusted or completely new scenarios developed.

3.2.5. Water Supply to Mtubatuba from the Mfolozi River

An off-channel storage dam was recommended in various previous investigations to augment the water supply to Mtubatuba, especially during the winter months and other dry periods. The Ntweni Pan was first identified in 1983 as an off-channel dam site and was recommended in subsequent investigations as the most appropriate water augmentation option for Mtubatuba. The recent investigations are:

- Mtubatuba Water Project Business Plan, CBI Consulting Engineers, 2005; and
- Umfolozi River off-channel storage study: Hydrology report, Terratest, 2005.

The *Water Reconciliation Strategy for Richards Bay* study identified potential off-channel storage dam sites close to the main Mfolozi River channel. The Nkatha Pan, which is close to the Ntweni Pan, was chosen as an off-channel storage site and investigated as water source for a transfer scheme to Richards Bay.

During the pre-feasibility investigation, both the Ntweni and Nkatha pans, as well as other potential dam sites, should be evaluated as a water supply option to Mtubatuba and transfer scheme to Richards Bay. The layout of the scheme to supply water from Ntweni Pan and other potential sites needs to be configured in consultation with the relevant role players.

The layout of the scheme to provide water from Nkatha Pan is described in the *Screening of Options* report. This report states that after comparing the preliminary characteristics of the potential sites, it was decided to evaluate an off-channel storage dam site at the Nkatha Pan site. Two dam sizes were considered with diversion rates of 2,0 m³/s and 2,5 m³/s. Water would be diverted and pumped from a weir in the Mfolozi River to the off-channel storage dam via a 960 m long pipeline. From the off-channel storage dam water will be pumped to a 60 000 m³ storage reservoir via a 3,9 km long pipeline. From the reservoir, water will gravitate either to Nsezi WTW, or to the Mposa River crossing.

The findings of the evaluation of these two options, which need to be verified during the pre-feasibility investigation, are:

- The proposed scheme would in addition provide the bulk water storage which is urgently required for water supply to Mtubatuba and surrounding areas.
- Development of an Mfolozi River scheme could hold significant socio-economic benefits for the region.
- The scheme has a large potential yield.
- Environmental impacts are significant, although it will be less for the off-channel dam than for an on-channel dam.
- The possibility of locating a new WTW at Mtubatuba (as part of the scheme) should be considered, due to the limited capacity of the existing WTW at Mtubatuba, versus treatment at the Nsezi WTW.

A feasibility study of this off-channel or on-channel storage dam on the lower Mfolozi River is part of this Study, as it is assumed to be required for water supply to the Mtubatuba area, and for tender purposes, it must include the inter-basin transfer scheme to Richards Bay.

3.2.6. Existing and Potential Dam Sites for Mtubatuba and Irrigation

Existing dams and potential dam sites are described in the relevant reports. The identified potential dam off-channel dam sites need to be reviewed as part of the pre-feasibility investigation, together with other potential on-channel (for example the proposed KweziBomvu Dam) dam sites identified during this study.

The suitability of potential dam sites will be influenced by factors such as:

- The configuration of proposed water supply options identified during this Study;
- The dam basin characteristics and dam yield;
- The availability of suitable foundations and construction materials;

- The dam types and spillway configurations possible at the potential site;
- The current use and ownership of land affected by the dam;
- The effect of the dam basin on communities and existing infrastructure;
- Environmental and social impacts; and
- The difficulty or ease of access to the site.

A decision matrix must be developed so that the most feasible project can be motivated for further development.

3.2.7. Materials Investigation

The main focus of the geotechnical investigation will be to identify at pre-feasibility level the potential foundations for at least 2 sites. It will therefore be required to do a geophysical assessment for the 2 most appropriate sites.

The main focus of the materials investigation will be to identify suitable sources of material for the construction of dams and other civil works at the identified sites for the various options. During the pre-feasibility investigation of dam options, the availability of sufficient suitable material, at or near the identified dam site, needs to be known. This can usually be determined by inspection and limited material investigation.

The quality and quantity of suitable material for the pre-feasibility level investigation of options needs to be confirmed by adequate sampling and laboratory testing. Material of acceptable quality and quantity found as close as possible to the dam sites, preferably within the dam basin, is regarded as the most suitable material.

The material investigations to be conducted for the evaluation of the various options will include the following:

- Borrow areas for embankment materials;
- Borrow areas for sand (filters and concrete aggregate); and
- Quarries for concrete aggregate, rockfill and rip-rap.

The material sources should be indicated on a map showing their aerial extent and haulage distances to the dam site.

The material investigations must be carried out by an experienced team supervised by a dam design engineer with experience in a variety of large dam types (Category 2 and 3 dams). Borrow areas and

quarry sites must be identified and assessed by an engineering geologist / geotechnical engineer with proven experience in the construction of dams and other large civil works. The PSP's must cost for; 20 test pits. In addition to this cost the bid must include for the testing of 60 samples. It should be noted that if the ecological consequences assessment finds that an on-channel dam is not feasible it might imply that less assessments will be required.

The PSP shall separately price in the financial proposal for the professional time of the professional team members who will be responsible for the procurement of a reputable geotechnical sub-contractor, the supervision of the investigations and reporting on the findings of these investigations. The work done by a specialist geotechnical sub-contractor must be priced in addition to the above (material assessment administration and interpretation). It should be noted that the DWS reserves the right to withdraw this task or any other task if it deems it not necessary to proceed with.

3.2.8. Geotechnical Investigations

This sub-task entails obtaining information on the foundation conditions at dam sites and for other large civil works to facilitate feasibility level investigation and evaluation of these options. The stability of the dam basin slopes at these sites also needs to be assessed. A report on the geotechnical investigations is required and must be of an acceptable standard, especially the core photographs.

The geotechnical investigations required include the following:

a) Dam foundations

Investigations are required to determine all the typical parameters for designing a dam on the particular site, which includes:

- Core drilling at strategic positions on the site;
- Limited pit and trench excavations;
- In-situ permeability tests to estimate grout-takes;
- Petrographic analysis of rock samples;
- Compressive strength testing of rock cores;
- Description and quantification of faults; and
- Description of the weathering resistance of the founding rock.

The results of the investigations will be used to assess the foundation conditions at the proposed dam sites, determine parameters for stability calculations and predict excavation depths for both concrete and embankment dam walls.

b) Slopes within the dam basin

This investigation involves the identification of potentially critical slopes in the dam basin at the sites being evaluated. Detailed investigation of potentially critical slopes includes the following:

- Determination of overburden depth by means of test pits, trenches or core drilling;
- Assessment of overburden material properties in both the dry and submerged states; and
- Assessment of rock strata joint orientation and joint fill material.

These investigations will be concluded with stability analyses, where required, with suitable recommendations on potential methods for slope stabilisation.

c) Large civil works components

A detailed geotechnical investigation must be done, as part of the feasibility level investigations, to confirm foundation conditions for large civil works, such as concrete storage reservoirs.

The investigations described in (a) to (c) above shall be supervised by a qualified engineering geologist / geotechnical engineer with proven experience in dam construction.

The PSP shall separately price in the financial proposal for the professional time of the professional team members who will be responsible for the procurement of a reputable geotechnical sub-contractor, supervision of the investigations and reporting on the findings of these investigations. The PSP's must cost for a desktop assessments consisting of the drilling of 14 boreholes to the depth of 30 metres. In addition to this cost must include for the testing of 140 samples. It should be noted that if the ecological consequences assessment finds that an on-channel dam is not feasible it might imply that less assessments will be required. It should be noted that the DWS reserves the right to withdraw this task or any other task if it deems it not necessary to proceed with.

3.2.9. Topographical Surveys

Certain topographical surveys will need to be undertaken during the pre-feasibility investigation of dam sites to determine the capacity of the dam basin and the extent of the dam wall. More extensive surveys, at a suitable scale for detailed design purposes, will be necessary for the feasibility investigation of the recommended options.

The PSP shall price in the financial proposal for the professional time of the professional team members who will be responsible for surveying of four (4) dams sites.

3.2.10. Dam Type Selection

The pre-feasibility level investigation of the potential dam sites shall include a comparison of dam types suitable for each site. The factors that influence dam type selection on a suitable site include, but are not limited to, the following:

- The foundation requirements and availability of construction materials;
- The suitability of the site for a particular dam type and spillway configuration;
- The magnitude and accommodation of floods;
- River diversion aspects;
- The environmental impact of the dam wall and spillway type, such as side channels and open channels;
- The difficulty or ease of access to the site; and
- The cost of construction in relation to the dam yield.

3.2.11. Storage Capacity and Yield of Dams

The water availability assessment and pre-feasibility investigation of options will include the determination of storage capacities and yields for various dam sizes on the sites under consideration. The yield-cost relationship is one of the criteria for evaluating and comparing the various identified dam sites, and various capacities at a particular site.

The storage capacity of a dam on a particular site can be restricted by factors such as; the available yield, natural saddles in the basin requiring an additional embankment, negative environmental and social impacts, and the inundation of existing infrastructure.

During the feasibility investigation of the recommended options an accurate determination of the elevation-capacity-area relationship must be determined for each dam site.

3.2.12. Optimisation of Water Supply Options

During the evaluation and optimisation of water supply options for the catchment (using updated/latest costs), factors that need to be considered at pre-feasibility level include the following:

- The choice of dam site and capacity, or other suitable water source;
- The locality and detail of works for river abstraction;
- The type and route of the conveyance system from source to the point of supply (bulk storage reservoir, water treatment works, etc.);

- The URV to determine optimum component size (dam, pipeline, pump station) and layout of the option.

The operational requirements and the cost thereof, need to be determined as part of the optimisation process for each option. These requirements include gauging weirs (including site selection and conceptual design), telemetry, operational staff housing and offices.

The operation and maintenance (O&M) costs also need to be determined as part of the economic assessment of the life cycle cost for each option. The life cycle cost of a project includes the initial capital cost plus operation, maintenance, and replacement of mechanical and electrical equipment over a lifetime of say 50 years. The O&M costs of the options being investigated should be estimated according to current best practice. The recommendations in the *Vaal Augmentation Planning Study: Guidelines for the Preliminary Sizing, Costing and Engineering Economic Evaluation of Planning Options* (VAPS), DWA, 1996 can be used as a guideline. Costs should also be verified with the latest water infrastructure projects completed in South Africa.

3.2.13. Pre-feasibility Investigation of Identified Options

The interventions identified as being acceptable options above to supply the water requirements of the Mfolozi River catchment need to be investigated to a suitable (pre-feasibility) level for comparison, evaluation and ranking of the various options. During the investigation of options, the projects currently being undertaken by Zululand DM and other role players, as well as proposed developments, must be taken into consideration.

After completion of the pre-feasibility investigation and recommendation of options, the PSP shall not commence with the feasibility investigation of these options until they have been approved by DWS in writing.

The pre-feasibility and feasibility investigation of options includes, but is not limited to, the following:

- Identification of dam and weir sites, pipeline routes and sites for associated infrastructure;
- Conceptual layouts and design of options;
- Preliminary geotechnical, seismic and material investigations;
- Topographical surveys;
- Dam type selection;
- Flood hydrology and backwater analysis;

- Capacity and yield of dams, and sedimentation analysis;
- Optimisation of the layout and sizing of project components;
- Feasibility design of project components;
- Investigation of hydropower potential;
- Cost estimates and economic analyses;
- Affordability;
- Identification of environmental and social impacts;
- Land acquisition and servitude requirements;
- Assessment of access and power supply to sites;
- Relocation of affected infrastructure;
- Legal, institutional and funding arrangements; and
- Estimation of timeframes for implementation.

3.3. FEASIBILITY INVESTIGATION OF A STORAGE DAM ON THE LOWER MFOLOZI RIVER.

In the *Water Reconciliation Strategy for Richards Bay* study an option to transfer water to Richards Bay from the lower Mfolozi River was evaluated. It was found that this option could also supply water to the Mtubatuba area. The proposed option is described in the *Screening of Options* report and is summarised above. However the recommended option that needs to be investigated at feasibility level will be determined during the pre-feasibility investigation and evaluation of various dam sites and options.

For tender purposes the Technical and Financial proposals should be based on a feasibility investigation and design of the following (assumed) project components:

- A 30 m high off-channel storage dam; An abstraction works in the lower Mfolozi River and pump station; A rising main from the abstraction weir to the dam (assume 1 500 mm diameter and length of 2 km)

or

- An On-Channel Storage Dam with appurtenant works

-
- A balancing storage reservoir of 60 000 m³ capacity;
 - A rising main from the dam to the balancing reservoir (assume 1 500 mm diameter and length of 4 km);

- A gravity pipeline from the balancing reservoir to the Nsezi WTW in Richards Bay (assume 1 500 mm diameter and length of 49 km);
- A gravity pipeline from the balancing reservoir to the Mtubatuba WTW (assume 1 500 mm diameter and length of 12 km); and
- Associated infrastructure, such as access roads and offices.

3.3.1. Feasibility Investigation Background

The required tasks for the feasibility investigation include, but are not limited to, the following:

- a) Topographical surveys to obtain information on the dam basin, dam site and other infrastructure components;
- b) Geotechnical investigations to obtain information on foundation conditions for the dam and other components;
- c) Material investigations to obtain information on availability and quality of materials for construction of the dam and other components;
- d) Optimisation of the layout and detail of the dam and other components;
- e) Evaluation and finalisation of flood hydrology and dam yield;
- f) Backwater analysis, calculation of high flood level and calculation of the dam boundary line;
- g) Review of the dam type selection process and confirmation of the recommended dam type;
- h) Stability analysis and feasibility design of the recommended dam type;
- i) Calculation of spillway capacity and freeboard, confirmation of spillway type, and design of spillway;
- j) Calculation of outlet capacity, and design of a multi-level intake tower (assume free-standing) and outlet pipe work;
- k) Design of river diversion works for construction;
- l) Layout and design of an abstraction weir in the Mfolozi River, pump station and rising main to transfer water to the off-channel storage dam;
- m) Design of a pump station at the dam, a rising main and a 60 000 m³ reservoir;
- n) Design of the two gravity mains to Richards Bay and Mtubatuba;
- o) Electricity requirements for the pump stations and dam wall, and possible route selection for transmission lines;
- p) Assessment of existing infrastructure and dwellings affected by the dam basin and other infrastructure components;
- q) Design of access roads to the dam and other components (assume a total length of 10 km);
- r) Determination of flow gauging requirements;

- s) Preparation of a bill of quantities to include all scheme components and cost items;
- t) Pricing of the bill of quantities;
- u) Specification of operation and maintenance requirements; and
- v) Preparation of the required technical reports on the feasibility investigation.

3.3.2. Materials Investigation

The main focus of the geotechnical investigation will be to identify at feasibility level the potential foundations for one (1) sites. Using info gained from the geophysical assessment terms of references for comprehensive material analysis must be developed by the PSP

The main focus of the materials investigation will be to identify suitable sources of material for the construction of dams and other civil works at the identified sites for the various options. During the feasibility investigation of dam options, the availability of sufficient suitable material, at or near the identified dam site, needs to be known. This can usually be determined by a comprehensive material investigation.

The quality and quantity of suitable material for the feasibility level investigation of options needs to be confirmed by adequate sampling and laboratory testing. Material of acceptable quality and quantity (twice the volume required for the proposed dam) found as close as possible to the dam sites, preferably within the dam basin, is regarded as the most suitable material.

The material investigations to be conducted for the evaluation of the various options will include the following:

- Borrow areas for embankment materials;
- Borrow areas for sand (filters and concrete aggregate); and
- Quarries for concrete aggregate, rockfill and rip-rap.

The material sources should be indicated on a map showing their aerial extent and haulage distances to the dam site.

The material investigations must be carried out by an experienced team supervised by a dam design engineer with experience in a variety of large dam types (Category 2 and 3 dams). Borrow areas and quarry sites must be identified and assessed by an engineering geologist / geotechnical engineer with proven experience in the construction of dams and other large civil works. The PSP's must cost for;

drafting of the ToR, bill of quantities, assistance procurement process, supervision of the investigations and reporting on the findings of these investigations and interpretation of the material assessment.

The sub-contractor for the material assessment will be procured by DWS by making use of a Variation Order or other means.

3.3.3. Seismic and Geomorphology Investigation

This sub-task includes the identification of active faults within 10 km of dam sites and other major infrastructure components. A seismic study must be undertaken at the proposed dam sites during the feasibility investigation component of this Study.

3.3.4. Geotechnical Investigations

This sub-task entails obtaining detailed information on the foundation conditions at dam sites and for other large civil works to facilitate feasibility level investigation and evaluation of these options. The stability of the dam basin slopes at these sites also needs to be assessed. A report on the geotechnical investigations is required and must be of an acceptable standard, especially the core photographs.

The geotechnical investigations required include the following:

a) Dam foundations

Investigations are required to determine all the typical parameters for designing a dam on the particular site, which includes:

- Core drilling at strategic positions on the site;
- Limited pit and trench excavations;
- In-situ permeability tests to estimate grout-takes;
- Petrographic analysis of rock samples;
- Compressive strength testing of rock cores;
- Description and quantification of faults; and
- Description of the weathering resistance of the founding rock.

The results of the investigations will be used to assess the foundation conditions at the proposed dam sites, determine parameters for stability calculations and predict excavation depths for both concrete and embankment dam walls.

b) Slopes within the dam basin

This investigation involves the identification of potentially critical slopes in the dam basin at the sites being evaluated. Detailed investigation of potentially critical slopes includes the following:

- Determination of overburden depth by means of test pits, trenches or core drilling;
- Assessment of overburden material properties in both the dry and submerged states; and
- Assessment of rock strata joint orientation and joint fill material.

These investigations will be concluded with stability analyses, where required, with suitable recommendations on potential methods for slope stabilisation.

c) Large civil works components

A detailed geotechnical investigation must be done, as part of the feasibility level investigations, to confirm foundation conditions for large civil works, such as concrete storage reservoirs.

The investigations described in (a) to (c) above shall be supervised by a qualified engineering geologist / geotechnical engineer with proven experience in dam construction.

The PSP shall separately price in the financial proposal for the professional time of the professional team members who will be responsible for the procurement of a reputable geotechnical sub-contractor, supervision of the investigations and reporting on the findings of these investigations and the interpretations thereof.

3.3.5. Topographical Surveys

Topographical surveys will need to be undertaken during the feasibility investigation of dam sites to determine the capacity of the dam basin and the extent of the dam wall. Extensive surveys, at a suitable scale for preliminary design purposes, will be necessary for the feasibility investigation of the recommended option.

3.3.6. Dam Type Selection

The feasibility level investigation of the potential dam site shall include a comparison of dam types suitable for the preferred site. The factors that influence dam type selection on a suitable site include, but are not limited to, the following:

- The foundation requirements and availability of construction materials;
- The suitability of the site for a particular dam type and spillway configuration;
- The magnitude and accommodation of floods;

- River diversion aspects;
- The environmental impact of the dam wall and spillway type, such as side channels and open channels;
- The difficulty or ease of access to the site; and
- The cost of construction in relation to the dam and system yield.

3.3.7. Storage Capacity and Yield of the Preferred Dam

The water availability assessment and feasibility investigation of options will include the determination of storage capacities and yields for various dam sizes on the sites under consideration. The yield-cost relationship is one of the criteria for evaluating and comparing the various identified dam sites, and various capacities at a particular site.

The storage capacity of a dam on a particular site can be restricted by factors such as; the available yield, natural saddles in the basin requiring an additional embankment, negative environmental and social impacts, and the inundation of existing infrastructure.

During the feasibility investigation of the recommended options an accurate determination of the elevation-capacity-area relationship must be determined for each dam site.

3.3.8. Flood Determination and Backwater Calculations

The determination of flood magnitudes at the various dam sites is required for the various return periods needed for feasibility design purposes, namely:

- River diversion works (1:5, 1:10, 1:20 or 1:50 year flood, depending on dam type);
- High flood line (1:100 year flood);
- Spillway design and freeboard (1:200 year flood); and
- Safety evaluation flood (Regional maximum flood).

These flood determinations need to be undertaken by an experienced hydrologist / hydraulics engineer.

Backwater calculations are required during the feasibility investigation of dam options to determine the high flood level (1:100 year flood) in the dam basin. The impact of 50 years of sediment deposition on this flood level must be included in these calculations. The flood routing should assume that the dam would be full when the high flood occurs.

The elevation of the dam boundary (purchase) line for the dam basin is determined by adding a buffer zone to the high flood level. The buffer zone is an additional 1.5 m, measured vertically in steep areas, or 15 m, measured horizontally in flat areas of the basin. This principle is applied to the high flood level to obtain a series of straight lines that define the area to be acquired for the dam basin. The final dam boundary line is determined during implementation after the spillway design has been finalised as this affects the backwater level.

3.3.9. Land and Servitude Requirements

The land and servitude requirements need to be determined for the feasibility level investigation of options. This includes the area required for:

- The dam basin (as described above);
- The dam wall and associated works;
- Storage reservoirs;
- Pipeline and access road servitudes; and
- Any other structures required for the various options.

The ownership of the land required for each option, including servitudes, needs to be determined, namely:

- Privately owned land, which is acquired at market value, including betterments and financial losses due to the acquisition; and
- State-owned land, which is managed or utilised by government departments, municipalities, traditional leaders or other authority. Compensation is applicable for the relocation of infrastructure and people on this land.

A cost estimate of land and servitude acquisition shall be determined for the recommended options based on land ownership, betterments, relocation of affected communities and infrastructure, land utilisation. The estimated cost for the relocation of roads and power lines shall also be determined and reported under a separate item.

3.3.10. System/Catchment Management

The PSP must assess losses on the Mfolozi River. This task will improve the operation of the system, including providing optimum water use/releases for environmental requirements. To achieve this, a Water Balance **Model** (WBM) for the Mfolozi River must be configured. This model must be user friendly for later use by DWS operators and planners. The interaction between streamflow and groundwater must also be investigated. Further the PSP must develop a calibrated hydrodynamic model for the Mfolozi River. The following parameters must be considered for the study:

- main channel and tributary flow,
- water released for irrigation and for domestic use,
- return flow by WWTW's and WTW's,
- pump abstractions by all water users,
- provision for identification modelling of illegal use,
- rainfall and evaporation on the water surface, and
- evapotranspiration.

For costing purposes bidders must cost for 30 cross sections on the Mfolozi River and the surveying of 6 structures that might be on the Mfolozi River for example; low level crossings, measuring- and abstraction weirs. The White Mfolozi River must be prioritised during project conceptualization.

The above information must be used to assist, recommend or determine the optimum pumping time for the Mfolozi Water Project Phase 2: The Usuthu Off-Channel Storage Dam on the Black Mfolozi River.

The model must be developed to assist with current water measuring practises or as an future alternative to measuring of water river balances.

3.3.11. Optimisation of Water Supply Options

During the evaluation and optimisation of water supply options for the catchment, factors that need to be considered include the following:

- The choice of dam site and capacity, or other suitable water source;
- System yields;
- The locality and detail of works for river abstraction;
- The type and route of the conveyance system from source to the point of supply (bulk storage reservoir, water treatment works, etc.);
- The URV to determine optimum component size (dam, pipeline, pump station) and layout of the option.

The operational requirements and the cost thereof, need to be determined as part of the optimisation process for each option. These requirements include gauging weirs (including site selection and conceptual design), telemetry, operational staff housing and offices.

The operation and maintenance (O&M) costs also need to be determined as part of the economic assessment of the life cycle cost for each option. The life cycle cost of a project includes the initial capital cost plus operation, maintenance, and replacement of mechanical and electrical equipment over a lifetime of say 50 years. The O&M costs of the options being investigated should be estimated according to current best practice. The recommendations in the *Vaal Augmentation Planning Study: Guidelines for*

the Preliminary Sizing, Costing and Engineering Economic Evaluation of Planning Options (VAPS), DWA, 1996 can be used as a guideline. Costs should also be verified with the latest water infrastructure projects completed in South Africa.

3.3.12. Assessment of the Potential for Hydropower Generation at the Dam

The potential to develop hydropower at an on-channel (if recommended) is expected to be small, but needs to be investigated at a feasibility level. However if it is an off-channel storage dam is recommended hydropower generated at the abstraction works should be investigated.

The assessment to be conducted should determine whether it is economically viability to develop a hydropower capability at the dams. The results are to be discussed with DWS to get a decision on whether to include hydropower, or infrastructure required for its later addition, in the feasibility investigation. All results must be well documented in the final reports. However this task will not be required if an off-channel dam is recommended.

3.3.13. Record of the Final Operating Rules

This sub-task comprises a record in the report of the final operating rules for the recommended development option, existing dams and to be built dams for the Mfolozi River Catchment as derived from the results of the WRPM analysis.

3.3.14. System Configuration

The objective of the feasibility investigation of identified intervention or recommended options (Mfolozi Water Project Phase 1, 2 and 3) is to objectively and rationally assess the practicality and economic viability of improving of the long-term water requirements of the Mfolozi River Catchment. This chapter describes the investigations required to achieve this objective.

3.3.15. Cost Estimate

The primary cost of options shall be estimated by a cost engineer or other suitably qualified person who has both a proven record and experience in estimating construction costs and is still employed in this field. The cost estimate shall include all the items in the bill of quantities for each option. The design engineers will therefore need to assist in identifying the billing items that should be included in the cost estimates.

Typical billing items can be found in the *Vaal Augmentation Planning Study: Guidelines for the Preliminary Sizing, Costing and Engineering Economic Evaluation of Planning Options* (VAPS), DWA, 1996. Costs for items that will make up 80% of the project construction costs, e.g. excavation, fill material, concrete, etc., should be developed from first principles considering the costs of labour, plant, material, energy and transport (hauling). The remaining items having a minor impact on the overall cost of the project may be estimated by other means. Costs should also be verified with the latest water infrastructure projects completed in South Africa.

Rates determined shall exclude contingencies and VAT. Cost estimates are required for both the feasibility screening of options as well as the feasibility investigation of the recommended options.

3.4. IMPLEMENTATION ACTIONS

3.4.1. Implementation Programme for Recommended Option

The timing of the project from a water resources perspective will be determined by means of analysis performed with the Water Resources Planning Model. This analysis will be conducted as part of the system analysis task. However, the date so obtained may have to be adjusted as a result of practical constraints with regards to lead times and the actual construction time required.

Hence this task entails determining the required implementation programme, in MS Project format, for the recommended options, comprising the following main programme components:

- Approvals, authorisations, funding and institutional arrangements;
- Appointment of project management team;
- Detailed geotechnical and material investigations for design;
- Tender design of the recommended options;
- Compliance with conditions of environmental authorisation;
- Appointment of environmental control officer and heritage specialist;
- Detail design (will follow on tender design and carry on during construction);
- Land acquisition and relocation of affected people;
- Vetting of tenders;
- Adjudication and award of contract, and
- Actual construction.

3.4.2. Project Summary

The Project Summary Report covers technical, environmental aspects, and other aspects dealt with outside of the feasibility study. Information on some of these aspects may only become available after completion of the Feasibility Study and therefore the PSP will essentially produce a preliminary Project Summary for each of the projects recommended for Implementation.

The summary will be drafted in a format suitable for publication in the Government Gazette if the project is implemented as a government water works. This format will also be suitable for other uses, such as applications for funding. The Summary should be in Arial 11 font with a length of about 5 to 10 pages. The Summary shall contain some elementary drawings to illustrate the project area and some of the most important infrastructure.

3.4.3. Record of Implementation Decision

The appointed PSP will be responsible for writing a Record of Implementation Decisions (RID) document, which describes to the implementing agent what needs to be implemented. A template for the format of the RID will be provided by DWS and agreed upon with the PSP before it is drafted. The RID includes:

- The scope of the Project;
- A summary of the feasibility investigation and design;
- The specific configuration of the scheme to be implemented;
- The required implementation time lines;
- The finalisation of required institutional arrangements;
- The required environmental mitigation measures as described in the Environmental Impact Report;
- The environmental authorisation and conditions prescribed by the Department of Forestry, Fishery, and the Environment (DFFE).

3.4.4. Institutional, Financial and Operational Aspects

Financial aspects:

The financial aspects to be investigated and addressed as part of this Study include:

- The financial viability of the recommended options; and
- The affordability of water supplied by these options with regard to the various user groups and DWS Pricing Strategy.

Institutional and operational aspects:

The institutional arrangements for the implementation of the recommended options need to be investigated. These arrangements are determined by the role players responsible for implementation and operation, as well as the funding options for the project.

Recommendations need to be made on the legal, administrative and financial arrangements and responsibilities for project implementation.

3.4.5. Socio-Economic Analysis

An economic and socio-economic analysis of the various options is required. This analysis must establish what the socio-economic benefits/losses for the catchment and region will be and what the impact will be if these projects are not implemented (no project option).

In addition to the above, the appointed PSP will be required to do a local socio-economic impact assessment.

3.5. ENVIRONMENTAL IMPACT ASSESSMENT, AUTHORISATION, WATER USE LICENSE AND OTHER APPROVALS

APPLICABLE LEGISLATION

The applicable legislation to the EIA stage for this study includes, but is not limited to the following:

- National Environmental Management Act (No. 107 of 1998, as amended 2014)
- National Environmental Management: Waste Act (No. 59 of 2008, as amended)
- Mineral and Petroleum Resources Development Act (No. 28 of 2002, as amended)
- National Environmental Management: Biodiversity Act (No. 10 of 2004, as amended)
- National Water Act (No. 36 of 1998, as amended)
- National Forests Act (No. 84 of 1998, as amended)
- National Heritage Resources Act (No. 25 of 1999, as amended) (NHRA)

3.5.1. Environmental Screening

It will be required from the PSP for the purposes of this task to undertake a comprehensive environmental screening of the proposed development options.

The environmental screening aims at identifying and investigating any fatal flaws and negative impacts at an early stage to guide the choice and scheme configuration. The environmental screening will also define the scope of work required for the EIA.

The screening output will be used by the Environmental Action Plan (EAP) for the EIA process. The environmental screening work undertaken by the appointed PSP will have to ensure that there is a smooth transition of relevant information towards the EAP for the EIA as well as fast tracking of the EIA process.

DELIVERABLES: An updated Environmental Screening Report produced in a manner that satisfies the requirements of the applicable legislation and all relevant authorities.

3.5.2. Environmental Impact Assessment

In terms of Section 24 of the National Environmental Management Act, 1998 (Act No.107 of 1998 as amended) (NEMA), the proposed infrastructure will require environmental authorisation. Therefore, the environmental process must fulfil the requirements of all relevant legislation quoted above.

The PSP shall be required to undertake all tasks needed for the completion of the EIA report and follow all prescribed processes until authorisation is obtained and all applicable licenses are issued by the relevant authorities. Previous studies that have been undertaken will be made available and the PSP should utilise all available information without repeating work already undertaken in the past. The required tasks shall include, but shall not be limited to the following main activities:

- Pre application meeting with Authorities;
- Site visits during scoping and EIA stages;
- Scoping report and plan of study for EIA;
- EIA Report and Draft Environmental Management Programmes (EMP'r);
- Public participation activities to the extent required by legislation in the circumstances;
- Attend to queries from authorities and the public and follow all due processes until the environmental authorisation and licenses are obtained.
- The additional specialist studies that may be required as part of this EIA process would include, but are not limited to the following: Agriculture, Aquatic, Botanical, Heritage, and Social.

The bidders should study the available information and should include in their tenders all specialist reports that will be required:

Various specialist studies will be required, as part of the EIA Process, to quantify and assess social and environmental impacts in order to identify suitable mitigation measures. Standard specialist studies that are envisaged for this project are, but not limited to, the following:

- Impact Assessment on aquatic ecology, flora, fauna and avifauna;
- Heritage Impact Assessment;
- Visual Impact Assessment;
- Local Social Impact Assessment;
- Water Quality Study;
- Re-allocation Framework;
- Wetland Study;
- Biodiversity Offset Study, and
- Environmental management programme.

Bidders shall make provision in their Financial Proposal for all costs associated with conducting the above-mentioned specialist studies. Bidders should also make provision for any anticipated additional specialist study requirements that are not included in the above list.

A list of the proposed specialist team members must be included in the Technical Proposal, together with their curriculum vitae and previous experience on similar projects.

Should further unforeseen specialist studies be required for the EIA Process, the necessary specialist/sub-consultant must be appointed. Prior approval will, however, be required from the DWS before such a specialist/sub-consultant can commence with any work. Variation orders will be required for the appointment of sub-consultants and specialists. It is expected that about 10 Variation Orders will be required to complete the EIA.

The need to ensure continuity for Interested and Affected Parties (I&APs) between the feasibility phase and the final design phase should be noted. Therefore, the I&AP database developed in the initial phase of the project will be extended to ensure that all registered parties are informed about the EIA process. Appropriate comprehensive public participation process must be undertaken in accordance with the legislative requirements and should be outlined in the technical proposals submitted by bidders and priced in the financial proposals. The public participation process should include notification of the environmental authorisation.

TYPICAL DELIVERABLES: Scoping, Environmental, Comments and Responses and Social Impact Assessment Reports produced in a manner that satisfies the requirements of the applicable legislation and all relevant authorities (**including Treasury**), including all records of the public participation process. Following the required processes until environmental authorisation is obtained.

3.5.3. Assist with Appeals

The PSP will remain involved until final project authorization has been obtained from the Department of Forestry, Fisheries and the Environment (DFFE). As such, it is required that the PSP provides a support service to DWS in handling all comments received and appeals lodged with DFFE against the project. This implies that the PSP will have to perform all administrative and other tasks, such as setting up meetings with DFFE, meetings with appellant parties and to assist with responses, etc. This task will require close collaboration with DWS at all times on all issues. Allowance for 6 months was made in the program for this.

To cover the cost of possible appeals must form part of the proposal. PSP should provide for 80 hours of assistance in their proposals. If specialist work is required, a variation order will be must be submitted to DWS for approval.

3.5.4. Water Use Licences

The PSP must compile the information necessary for submitting applications for the Water Use Licences (WUL) that will be required in terms of Section 21 of the National Water Act, Act 36 of 1998 (NWA) before implementation of any development activities can commence. It is expected that Water Use Licence applications will have to be made in terms of Sections 21 (a), (b), (c) and (i) but the PSP must confirm whether applications in terms of the other sub-sections of the NWA are also required.

DELIVERABLES: All requisite WUL applications for applicable licenses should be prepared, submitted to all relevant authorities and approval obtained (in the name of DWS).

3.5.5. Other Approvals

Advanced consultations should be held with the relevant authorities and owners of reserves and land, to establish their wayleave requirements. The methods and conditions for registration of servitudes should also be confirmed with the relevant authorities. Consultations with a sample of affected private landowners should also be held. Provision for meeting the conditions should be made in costing.

It is anticipated that raising can take place by using existing quarries and borrow areas (commercial quarries), however suitable quarries and borrow areas that will be utilised for construction must also be identified during the feasibility phase if required. In accordance with the requirements of the Minerals and Petroleum Resources Development Act, Act 28 of 2002 (M&PRDA), all mining activities, including the extraction of material from borrow pits and quarries that are greater than 5 ha in size, require authorisation from the Department of Mineral Resources. This permit process would require the following:

- An application form and fee for the permit application;
- An EMP that must describe the surrounding environment, assess the potential impacts of the proposed prospecting or mining operation on the environment, socio-economic conditions and cultural heritage, as well as propose suitable mitigation measures for closure and rehabilitation; and
- A survey and site mine plan of suitable quarries and borrow areas.

Depending on the size and location of the quarries and borrow areas, approval may also be required in terms of NEMA and the NHRA. A proposed programme for the required processes and time allowed for decision-making by authorities must be provided in the proposals, including key milestones and deliverables.

At this stage, it will not be required to obtain wayleaves for the installation of pipelines and infrastructure and to register servitudes. However, the PSP shall carry out consultations with the relevant authorities and owners of reserves and land, to establish their wayleave requirements in respect to environmental and social matters. Consultations with a sample of affected private landowners should also be held.

DELIVERABLES: All requisite applications for applicable licenses should be prepared, submitted to all relevant authorities and approvals obtained.

3.5.6. Provision of Information for the DWS Website

It will be necessary to provide information to the DWS web service manager to develop, update and maintain the DWS-Project website that will be used for dissemination of information during the study period. The following information must be published:

- Notices of all public meetings;
- Minutes of all public meetings, including any presentations, etc;
- Scanned versions of newspaper advertisements in terms of GNR 543;
- Scanned versions of notices in the Government Gazette whereby the Minister of Water Affairs invites comment on the project in terms of section 110(1)(b) of the National Water Act, 1998 (Act 36 of 1998)
- Approved Scoping Report;

- Approved EAP document,
- Approved Environmental Impact Report and presentations, and
- A copy of the official Environmental Authorisation (EA) and amendments, if required, for the project issued by DFFE.

3.6. PROJECT MANAGEMENT

Project management and coordination of the Study will be the responsibility of the PSP under the supervision of the DWS Project Manager. This will involve various meetings and the PSP must make provision as specified in **Table 3-1** below.

Table 3-1: Study Meetings to be priced by PSP in the Financial Proposal

Meeting type	No.	Place	PSP obligations
Study Management Committee (SMC), excluding inception meetings	Once every four months (total 9 to 10)	Assume the venue is Pretoria for half the meetings and at PSP's offices for the other half	Arrangements for meetings Attendance Power Point presentation of study progress Preparation and distribution of all relevant meeting documentation.
Project steering committee (PSC) and/or Stakeholder meetings	Once every six months (total 6 to 7)	In the study area. Assume venue is Vryheid/Ulundi for all meetings	Arrangements for meetings Attendance Power Point presentation of study progress Minute taking and distribution Preparation and distribution of all relevant meeting documentation.
Presentation to DWS management	Three (3)	DWS Pretoria	High quality Power Point presentations by one or two team members
Public meetings with stakeholders (arranged by PSP)	Three (3) events (six meetings)	Ulundi and Vryheid (three events at each venue)	Arrangements for meetings Progress reports PowerPoint presentations Minute taking and distribution Preparation and distribution of all relevant meeting documentation.
Liaison with role players (Municipalities, other government departments, etc.)	As required (price for 15)	Project area	Arrangements for meetings Attendance Power Point presentation of study progress Minute taking and distribution.

Authorities Meetings	Six (6) meetings	Pretoria / Vryheid / Pietermaritzburg / Richards Bay or St. Lucia	Arrangements for meetings Attendance Power Point presentation of study progress Minute taking and distribution
Public Participation and I&AP meetings	Five (5) events	Richards Bay Ulundi and Vryheid (three events at each venue)	Arrangements for meetings Attendance Power Point presentation of study progress Minute taking and distribution. Preparation and distribution of all relevant meeting documentation.

The PSP will be responsible for the subsistence and travel costs of study team members attending meetings and site visits with DWS. The PSP will provide secretarial services at all meetings and workshops.

Project Steering Committee meetings

DWS will provide the PSP with the names and contact details of DWS officials and other officials who will be nominated to the Project Steering Committee. The coordination, arrangement and cost of public meetings will be the responsibility of the PSP appointed for this Study.

Liaison with role players

The PSP will be responsible for arranging liaison meetings with role players which may or may not be attended by the DWS Project Manager and the KwaZulu-Natal Regional Office. Typical third parties would be:

- Local municipalities;
- Zululand and Umkhanyakude district municipalities;
- Mhlathuze Water and members of the Richards Bay Water Supply System Strategy Steering Committee regarding water transfer options from the Mfolozi; and
- Other government departments and institutions.

Coordination and management of study team

It will be the Study Leader's responsibility to ensure that all team members and tasks are activated and completed at the right times. The appointed PSP will be responsible for providing project progress for PSC meetings.

Quality control of Study reports

It will be the responsibility of the Study Leader to review all reports (draft or final) before submission to DWS. The study leader shall ensure that all reports are produced in the format required by DWS and conform to the template that will be provided at the start of the Study. Quality control of reports includes ensuring that language use and grammar are of a high standard, and reports contain all information

required to take the project to the implementation stage. Any reports that display a lack of review and scrutiny by the study leader will be sent back to the PSP before the DWS Project Manager reviews them.

External specialist Reviewers

DWS reserves the right to appoint external specialist reviewers, as required, to review the technical content of selected specialist reports, in order to confirm or improve the quality of these reports. Specialist reviewers will be appointed and paid via the PSP contract as described in **paragraph 5.2.2**.

Financial management

The study leader shall ensure that DWS will be invoiced as required and that invoices will be supported by all the necessary documentation that is required by DWS. It is the responsibility of the PSP to ascertain DWS requirements at the onset of the study. It is important that a progress report is submitted that covers the invoice period. This progress report is in addition to the one that has to be prepared for PSC meetings that cover the period between two successive PSC meetings.

Payments will be made for **approved draft reports and signed final reports**. The Project Manager for MWP-3 will approve the draft reports and the Dir. WRDP will sign off on the final reports

4. PROJECT PROGRAMME

The envisaged project programme is shown in the table below. The timing of the design and construction phases will be revised once the project planning has been completed.

Project stage	Duration
Project planning	40 months
Appeals and Institutional arrangements	18 months
Construction	30 months

5. PROJECT PROPOSAL

Bidders are required to submit, at their own cost, the project proposal, which consists of the following documents:

- Standard bidding documents which have to be completed in full and signed by the authorised signatory;
- A **Technical Proposal**, to show the ability of the PSP to perform all aspects of the study described in this terms of reference; and

A **Financial Proposal**, to provide the cost of performing this Study

5.1. PREPARATION OF THE TECHNICAL PROPOSAL

One (1) original document of the Technical Proposal must be submitted.

The Technical Proposal should be prepared in accordance with the guidelines presented in **Annexure B** and must address the following main aspects:

- Past experience of the PSP on similar studies;
- Methodology and proposed approach indicating the PSP's understanding of the scope of services and the expected deliverables for this Study;
- The capability of the proposed team to perform the required tasks for this Study; and
- Capacity building and training.

A list of similar projects and the cost of services provided need to be indicated, including the contact details of clients so that verification can be done if required.

The capability of the technical team is an important aspect of the evaluation of technical proposals. It is therefore important that the technical proposal must present the key personnel in the team, their capability, experience and their roles in the Study. Abbreviated CVs of the key personnel in the team must form attachments to the technical proposal.

The PSP can also use the technical proposal to present innovative approaches, or other special features, in response to the ToR. The cost for execution of such unforeseen tasks should be included in a separate section of the financial proposal, where the cost of these tasks should be clearly and separately specified, but not included in the bid price.

The PSP shall nominate a study leader representing the PSP in the execution of the study and in dealing with DWS. The PSP must also nominate an alternate study leader, who will take over from the primary nominee in the event of that person being temporarily unavailable, or not being able to take the Study to its completion. The alternative candidate shall have similar credentials to the primary nominee.

Bidders should submit comprehensive technical and financial proposals, as this study will be managed to avoid variation orders as far as possible. Bidders who submit bids that show that they do not understand the scope of services and who do not supply comprehensive proposals will be evaluated accordingly.

5.2. PREPARATION OF THE FINANCIAL PROPOSAL

One (1) original document of the Financial Proposal must be submitted as a separate document from the Technical Proposal and marked accordingly.

The financial Proposal is a stand-alone document that should provide comprehensive information on the cost of performing the study. It should show the cost of deliverables, based on the allocation of resources to the various tasks, sub-tasks and other activities required for the Study. The anticipated cash flow over the contract period is also required.

Provision shall be made in the Financial Proposal for escalation of professional fees and disbursements over the estimated contract period, but no percentage must be added to totals for contingencies

A summary of the Financial Proposal is required in a format proposed in **Annexure C.3**.

A variation order to the original contract amount shall only be considered in circumstances, such as additional work that was not reasonably foreseen and cannot be accommodated in the study budget by a re-allocation of funds. It is therefore expected that the PSP shall make provision in the financial proposal for all costs and expenses to undertake and complete the tasks described in the scope of services.

5.2.1 Cost of deliverables

The cost of deliverables must be defined in the financial proposal as it is the intention to manage this Study on the basis of deliverables and not on the number of hours worked. The man-hours, which also need to be provided, must therefore be linked to suitable deliverables that can be achieved on a regular basis to facilitate the required cash flow.

This information on the cost of deliverables will form the basis of the **study budget** and shall include:

- a) Professional time-based costs and disbursements for each task;
- b) Sub-consultants (if required) whose costs will be recovered from DWS;
- c) Value Added Tax (VAT) at 14% on the total estimated cost (Summary sheet);
- d) Cash flow and estimated total cost;
- e) Links to the proposed Work Programme;
- f) A breakdown by study team member of fees to be earned by Historically Disadvantaged Individuals (HDI).

The DWS minimum requirement for total expenditure on HDI's is **10%**. This provision must be clearly reflected in the Financial Proposal.

The Financial Proposal shall include an estimate of man-hours, broken down to each task and study team member. Within each task a break down is required for personnel of the main consultant and each sub-consultant comprising the following information:

- Name of each person
- Number of hours for each person
- Hourly rate (excluding VAT) for each person
- Anticipated cost escalation over study period
- Total cost for the Task
- Total VAT
- Total cost of Task including VAT

This information shall be presented in tables, examples of which are attached in **Annexure C.1** and **Annexure C.2**.

5.2.2 Provision for specialist sub-contractors and sub-consultants

Specialist sub-contractors and sub-consultants will need to be appointed during the study to undertake the following specialised tasks:

- a) External specialist reviewers to review certain tasks/ reports.
- b) A Sub-consultant to re-run the reserve determination model with the updated hydrology from this Study and, if required, to re-calibrate this model and update the Reserve for the Mfolozi River.
- c) Appointment for unforeseen specialist studies during this EIA Study.
- d) Geotechnical feasibility assessments

The PSP shall, when required during the Study, obtain the necessary quotations/tenders from reputable sub-contractors and sub-consultants for the tasks specified above. The quotations, with a recommendation from the PSP, shall then be submitted to DWS for approval before the sub-contractor and or sub-consultant can be appointed. The relevant government procurement regulations shall apply to this appointment process.

For the above-mentioned tasks PSP will need to add an admin and interpretation (professional services/opinions/interruption) fee sub-contractors/consultants.

5.3. ADMINISTRATIVE COMPLIANCE

Bidders are required to comply with the following listed below:

No	Criteria	Yes	No
1.	Companies must be registered with National Treasury's Central Supplier Database. Provide proof of print out from CSD.		
2.	Tax compliant with SARS (to be verified through CSD).		
3.	Complete, sign and submit SBD 1, SBD 3.2, SBD 4 and SBD 6.1		
4.	General Conditions of Contract (GCC)		
5.	Active registration with Company Intellectual Property Commission (to be verified through CSD and CIPC) Attach copy of CIPC/CIPRO Certificate		
6.	The service provider (and in the case of a consortium or joint venture – at least one member of such consortium or joint venture) should submit		

No	Criteria	Yes	No
	a notary agreement between the parties must clearly identify the lead partner (if applicable)		
7.	CERTIFICATE OF AUTHORITY FOR SIGNATORY (bidders to complete the relevant form.)		
8.	Copy of an Identity document of the authorised individual to represent the Service provider as per the CERTIFICATE OF AUTHORITY FOR SIGNATORY form		
9.	Non Compulsory Hybrid Briefing Session		

5.4. EVALUATION SYSTEM

Department of Water and Sanitation will evaluate all proposals in terms of the Preferential Procurement Regulations (PPR's) 2022. In accordance with the PPR's 2022, submissions will be adjudicated on 80/20 points system and the evaluation criteria. A three phase evaluation criteria will be considered in evaluating the bid. On the receipt of the proposals, the evaluation criteria shown below will be used for the selection of the most suitable bidder to undertake the assignment.

PHASE 1: MANDATORY COMPLIANCE (IF NOT COMPLIED WITH BIDDER WILL BE DISQUALIFIED)

PHASE 2: FUNCTIONAL / TECHNICAL EVALUATION

PHASE 3: POINTS AWARDED FOR PRICE AND SPECIFIC GOALS (80/20 PREFERENTIAL SYSTEM)

5.4.1 Phase 1: Mandatory Compliance

Please note that all bidders must comply with the following mandatory requirement. Failure to submit the document listed below will render your bid non-responsive and will be disqualified.

NO	DESCRIPTION	COMPLY	DO NOT COMPLY
1.	Attach a valid proof of membership/registration for the study leader, deputy study leader and task leaders with either of the below Professional body: Study Leader: Engineering Council of South Africa (ECSA) for Engineers.		

	Deputy Study Leader: Environmental Assessment Practitioner Association South Africa (EAPASA) Task Leaders: Engineering Council of South Africa (ECSA); South African Council of Natural Science Professions (SACNASP); similar relevant professional association or proof of expertise must be provided.		
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5.4.2 Phase 2: Functionality (Technical) Evaluation

The 80/20 point system will be used in evaluating all proposals. The criteria and guideline weighting points applicable are detailed in the following paragraphs.

Definition of values: 1= Very Poor... 2 = Poor...3 = Average.....4 = Good.... 5 = Excellent

Criteria	Sub-Criteria	Points Value	Weight of Criterion	Bidder Score
Past experience of the company: 30% Provide details of work of a similar nature undertaken by the bidding PSP.	Specific details must be given to indicate the extent to which these previous studies relate to the work described below: <ul style="list-style-type: none"> • Feasibility designs of water recourse projects (Dams); • Environmental impact assessments for water resource developments; • Final designs of water recourse projects (Dams); <i>(Attach testimonial letters or references with contact details as proof of past experience)</i>		30%	
	≥10 years on all 3 items	5		
	≥6 to 10 years on all 3 items	4		
	≥4 to 6 years on all 3 items	3		
	≥2-4 years on all 3 items	2		
	2 years and below on all 3 items	1		
Team Capability: 25%	The Study leader must be a professional engineer (ECSA registered), with		10%	

Criteria	Sub-Criteria	Points Value	Weight of Criterion	Bidder Score
<p>Team should have a range of experts in various fields (water resource engineer, hydrologist, geohydrologist, water quality specialist, environmentalist, stakeholder engagement specialist). A study team organogram must be provided indicating key positions such as Study Leader, Task Leader and supporting Specialists. The organogram shall also indicate the levels at which there will be interaction with the client and/or other interested bodies. Persons proposed for these positions must be identified and supported by CVs of one page each to be included in an Appendix. Brief capability statements must be given for each designated team member, emphasizing recent experience relevant to the task envisaged</p>	<p>relevant experience, and in coordinating and managing the following studies.</p> <ul style="list-style-type: none"> • Feasibility Designs of Water Recourse Projects (Dams); • Environmental Impact Assessments for water resource developments; • Final Designs of Water Recourse Projects (Dams); <p><i>(Bidders are required to attach abbreviated (2pages max) Curriculum Vitae (CV) highlighting the areas of work that was previously conducted).</i></p>		Of 25%	
	With more than 10 years' experience in at least 2 of the above	5		
	With above 8 to 10 years' experience in at least 2 of the above	4		
	With above 6 to 8 years' experience in at least 2 of the above	3		
	With above 4 to 6 years' experience in at least 2 of the above	2		
	With less than 4 years' experience in at least 2 of the above	1		
	<p>The Deputy Study Leader must be an Environmental Assessment Practitioner (EAP) who successfully concluded environmental applications for projects in the water resource development environment (Dams, large pumpstations and bulk water pipelines).</p> <p><i>(Bidders are required to attach abbreviated (2pages max) Curriculum Vitae (CV) highlighting the areas of work that was previously conducted)..</i></p>		5% Of 25%	
	above 10 years' experience	5		

Criteria	Sub-Criteria	Points Value	Weight of Criterion	Bidder Score
	above 8 to 10 years' experience	4		
	above 6 to 8 years' experience	3		
	above 4 to 6 years' experience	2		
	less than 4 years' experience	1		
	The Task leaders (hydrologists/engineers/scientists) <i>(Bidders are required to attach abbreviated (2pages max) Curriculum Vitae (CV) highlighting the areas of work that was previously conducted).</i>		10% Of 25%	
	Task leader with more than 10 years' experience	5		
	Task leader with above 8 to 10 years' experience	4		
	Task leader with above 6 to 8 years' experience	3		
	Task leader with above 4 to 6 years' experience	2		
	Task leader with less than 4 years' experience	1		
Methodology: 35% Present a short concise description of the Scope of Work, such as to reveal understanding of the study required . The proposed approach and methods to be used during the study should be outlined with emphasis on the important or critical	Considers the responsiveness to the ToR, the level of detail in the proposal, attention to project management and innovative approaches and ideas. General approach planned methodology and proposed activities towards the undertaking of the project. The following items must be clearly indicated in detail: The methodology will be evaluated on the following:		35%	

Criteria	Sub-Criteria	Points Value	Weight of Criterion	Bidder Score
aspects of each task. This section may also be used by the bidding PSP to briefly present alternative proposals, innovative approaches or other special features of their proposal.	1. Broad methodologies in line with the task descriptions outlined under project scope/ task description.			
	2. Clear milestones, timeframes and man hours required for each task to be completed.			
	3. Detailed programme.			
	4. Detailed method statement for each task within the study area.			
	5. Demonstrate innovation			
	All 5 items above included.	5		
	Item 2, 3, 4 and 5 included	4		
	Item 1, 2, 3 and 4 included.	3		
	Any two of the items above	2		
	Any one or less items above included	1		

Skill transfer: 10%	<p>In terms of building capacity and ensuring skills transfer in the DWS, the PSP will be responsible for establishing a capacity building programme aligned to the skills developmental needs of identified officials responsible for water resource planning process.</p> <p>Provide clear proposals on Capacity Building and Training of 5 DWS officials in project management and/or technical aspects to be undertaken as part of this study.</p> <p>Capacity building is realised through the following components:</p> <ol style="list-style-type: none"> 1. Hands on practical training including field work. 2. Inclusion of DWS officials in all phases of the project. 3. Develop a capacity building programme with quantifiable measures. 4. Relevant software training and training manuals; and 5. Inclusion of local specialists and stakeholders. <p><i>(The Service provider is requested to attach a capacity building programme to demonstrate how they will transfer skills through the identified components above)</i></p> <p><u>PSP to submit a previous project with skills transfer plan executed and output thereof.</u> (Provide portfolio of evidence).</p>		10%	
	All 5 items above included.	5		
	Item 2, 3, 4 and 5 included.	4		
	Item 1, 2, 3 and 4 included.	3		
	Item 1, 2 and 3 included.	2		
	Any 2 items above included.	1		
Total			100%	

Bidders must score the required minimum of **70 points (70%)**, or higher, for **Functionality** (Past Experience, Methodology, Team Capability, and Capacity Building and Training), in order to qualify for further evaluation. Further evaluation is based on **Price and Preference** after the minimum score has been achieved by the bidder.

Please note, that in order to achieve a qualifying score for Functionality, bidders must have experience and capability to successfully undertake the updating of the water resource assessment and feasibility investigations of this Study.

Bidders can form a joint venture, or other similar arrangement, to ensure that they are qualified for all aspects of this Study.

5.4.3 Phase 3: The 80/20 principle based on Price and Specific Goals

The 80/20 Preferential Procurement System will be used in evaluating these bids:

Evaluation element	Weighting (Points)
SPECIFIC GOALS	20
PRICE	80
Total	100

Price

A maximum of 80 points are allocated for price on the following basis:

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where:

P_s = Points scored for comparative price of bid under consideration

P_t = Comparative price of bid under consideration

P_{\min} = Comparative price of lowest acceptable bid

Preference point system

SPECIFIC GOALS	NUMBER OF POINTS TO BE ALLOCATED
Women	5
People with disability	5
Youth (35 and below)	5
Location of enterprise (Province)	2
B-BBEE status level contributors from level 1 to 2 which are QSE or EME	3
Total points for SPECIFIC GOALS	20

Documents Requirement for verification of Points allocation: -**Procurement Requirement****Required Proof Documents****Women****Full CSD Report****Disability****Full CSD Report****Youth****Full CSD Report****Location****Full CSD Report****B-BBEE status level contributors from level 1 to 2 which are QSE or EME**

Valid BBBEE certificate/sworn affidavit
Consolidated BEE certificate in cases of Joint Venture

Full CSD Report**The definition and measurement of the goals above is as follows:****Women, disability, and youth:**

This will be measured by calculating the pro-rata percentage of ownership of the bidding company which meets this criterion. E.g., Company A has five shareholders each of whom own 20% of the company. Three of the five shareholders meet the criterion, i.e. they are

women/disability/youth. Therefore, this bidder will obtain 60% of the points allowable for this goal.

Location of enterprise

Local equals province. Where a project cuts across more than one province, the bidder may be located in any of the relevant provinces to obtain the points.

B-BBEE status level contributors from level 1 to 2 which are QSE or EME

Measured in terms of normal BBEE requirements.

Note: Formula for calculating points for specific goals

Preference points for entities are calculated on their percentage shareholding in a business, provided that they are actively involved in and exercise control over the enterprise. The following formula is prescribed:

$$PC = \frac{Mpa \times P\text{-own}}{100}$$

Where

PC= Points awarded for specific goal

Mpa= The maximum number of points awarded for ownership in that specific category

P-own = The percentage of equity ownership by the enterprise or business

5.5. WORK PROGRAMME

A detailed Work Programme, broken down into specific tasks with time allocated for each task, must be submitted. The critical path shall be indicated. The Work Programme must indicate all milestones and target dates for deliverables.

6. DELIVERABLES

Deliverables such as reports, presentations, analyses, letters and databases must be provided in Microsoft applications and in PDF-format (where applicable). Text for all documents shall be Arial 11 font at 1.5 spacing, unless otherwise stated or agreed.

Provision must also be made to supply deliverables, such as reports and letters, in hard copy format. The standard and format of reports must be confirmed with DWS before drafting and submitting the required reports for this Study. Reports are typically submitted as first Draft, Draft Final and Final.

Table 6-1 provides a guideline of the deliverables required for this Study, but is not an exhaustive list. Bidders should scrutinise the list and submit an updated comprehensive list of expected deliverables in their Technical Proposal. These deliverables should be chosen to be achievable on a regular basis in order to ensure a steady (monthly) income for the PSP over the duration of this Study.

Table 6-1: Guideline of deliverables for this Study	
No.	Description
a	A Work Plan setting out the various tasks that must be undertaken, with a detailed description of each task / sub-task / work package, and showing the expected technical deliverables
b	Study status reports to summarise information and progress to date on the various tasks, and provide other relevant information
c	A Study Gantt chart showing the various tasks, sub-tasks and work packages with delivery dates
d	Formal Study progress reports including information on expenditure
e	Minutes of project steering committee, study management committee, and other meetings
f	A decision register with processes to record substantial decisions
g	A record of liaison with role players and stakeholders
h	Applications in the required form and supported by appropriate documentation for all permits, licences and authorizations required for the Project to proceed to the implementation phase
i	Executive reports on the findings and recommendations of the Study
j	A typical feasibility study has the following reports as deliverables: <ul style="list-style-type: none"> • Inception report • Hydrological assessment of the catchment • Water resources assessment

	<ul style="list-style-type: none"> • Water requirements and return flows • Water quality • Geotechnical investigations • Topographical surveys • Assessment of alternative water supply options • Environmental screening • Engineering feasibility design • Project cost estimates • Hydropower assessment • Land matters • Economic analysis and Socio-economic impact • Legal, Institutional and financing arrangements • Main report • Book of maps • Summary report
k	A Record of Implementation Decisions (RID) report for the formal hand over of the project to the implementing agent. Three RID reports are envisaged for this Study.
l	An implementation programme for the recommended options

7. GENERAL INFORMATION

7.1. CLIENT AND STUDY NAME

The Department of Water and Sanitation (DWS) will act as the Client for the proposed assignment. The assignment shall be called: **Mfolozi River Regional Water Supply Scheme: Technical Feasibility Study of water supply options.**

7.2. REGISTRATION ON DWS DATABASE

The PSP must be registered on the DWS PSP Database to be considered for award of this Study.

7.3. NON-COMPULSORY HYBRID BRIEFING SESSION

Bidders are required to attend a non-compulsory hybrid briefing session at a date and venue to be specified in the tender advertisement.

During the non-compulsory hybrid briefing meeting bidders will have the opportunity to ask clarifying questions. The clarification of questions will be confirmed by e-mail. It is therefore important for bidders to provide their e-mail address and to make sure that it is correct and readable.

7.4. STANDARD BIDDING DOCUMENTS

All Standard Bidding Document (SBD) forms contained in this Bid document (refer **5.3.1.2**) must be completed in full, signed by the authorised signatory and submitted with the Technical Proposal, except SBD 3.3, which must be submitted in the Financial Proposal.

7.5. SUBMISSION OF PROPOSALS

Bidders should take note of the following requirements regarding the submission of Proposals:

- One (1) original document of the Technical Proposal must be submitted.
- One (1) original document of the Financial Proposal must be submitted.

- Envelopes must be clearly addressed according to the instructions on the Invitation to Bid (Form SBD 1) and marked with the Bid number, and Bidder's name and address.

Joint ventures are required to submit a formal agreement between the parties involved in the joint venture. The percentage involvement of each firm in the joint venture must be clearly stated.

The Department of Water and Sanitation is under no obligation to accept any bid, for whatever reasons it may consider appropriate, and reserves the right not to proceed with the appointment of any firm that responded to the invitation to tender. If a decision is made not to proceed with this appointment, official notification will be given to all bidders who attended the non-compulsory hybrid briefing session

7.6. INTELLECTUAL PROPERTY OWNERSHIP

The ownership of all Intellectual Property derived from this Study shall vest with DWS. This stipulation will be included in the contract between the appointed PSP and DWS.

7.7. RETENTION ON PSP CONTRACTS

It is DWS practice to impose a retention amount equal to 10% of the approved contract amount until the Final reports are submitted and approved by DWS. The retention clause comes into effect near the end of the Study, if the Final reports are still outstanding. The retention is reduced to 5% if the Draft Final reports have been submitted and accepted by DWS.

7.8. INVOICES

The Financial Proposal, and hence invoices submitted for payment, must be set up in such a way that it will be possible for payments to be linked to deliverables (refer 5.2 above). DWS needs to be in a position to track the contract progress by checking deliverables achieved and hours worked. Payments will be made after DWS has received satisfactory proof of deliverables. Examples of deliverables are discussed in Section 6 above.

The invoice format needs to be agreed with DWS at the commencement of the contract. It should also be noted that only one invoice per month can be submitted to DWS, but an invoice does not need to be submitted for each month.

8. CONTACT PERSON

This Terms of Reference and proposal invitation to bid is being administered by the Directorate: Options Analysis (East). The contact person for enquiries about this Study is:

For technical matters	Address
Mr JA Bester Tel: 012 336 8071 E-mail: besterk@dws.gov.za	Private Bag X 313 PRETORIA 0001

NOTE: All e-mail correspondence regarding this Bid should be sent to both contact persons above.

ANNEXURE A

GUIDELINES FOR PREPARATION OF A TECHNICAL PROPOSAL

The contents of the Technical Proposal must be to the point and limited to the information required. It should reflect a clear understanding of the Study to be undertaken and should concentrate on and stress the expertise and competence of the team.

The Technical Proposal should be in Arial font size 11 at 1.5 line spacing.

No financial information is to be included in the Technical Proposal.

C.1	Introduction
	Limited to two (2) A4 pages
1.a	An introductory section should provide a brief overview of the bidding organization with particular emphasis on available capacity to perform the Study.
C.2	Past Experience
	Limited to five (5) A4 pages
2.a	Information must be provided on recent (past five years) relevant assignments undertaken by the bidding organization. Specific details must be given to indicate the extent to which these studies relate to the Scope of Services. The responsibility of the proposed Study Leader and the other key team members (Task Leaders and Specialists) for these past assignments must be specified. The Client organization, indicative professional fees and duration of the work programme must also be specified for each assignment.
C.3	Methodology
	Limited to 30 A4 pages
3.a	Bidders are required to provide a brief description of their approach and methodology, and comment on the TOR, illustrating their understanding of the challenges of the Study, time frames, and deliverables. This section may also be used to briefly present alternative proposals, innovative approaches or other special features of the Technical Proposal.
3.b	The Bidder is expected to provide a brief outline of the work to be done, placing emphasis on the important or critical aspects of each task. Where the Scope of Services is silent on particular issues, bidders must clearly state which issues can be expected to arise during

	the Study and which additional tasks may be necessary. These assumptions / additional tasks must then be scheduled and budgeted for in a separate section of the Financial Proposal, which is clearly indicated as additional tasks.
3.c	The Bidder must submit a proposed programme of work illustrating their understanding of the best way to organise the Study. This representation should show phases of the Study, tasks within phases and, where necessary, sub-tasks. The work programme must be presented in a Gantt chart (MS Projects) illustrating the dates at which critical milestones can be reached and indicating the critical path.
C.4	Team Capability
	One to two A4 pages per CV
4.a	<p>A project team organogram must be provided indicating key positions such as Study Leader, Task leaders and Specialists. Persons proposed for these positions must be identified and supported by CVs to be included in an Appendix. The CVs shall clearly contain the following critical information:</p> <ul style="list-style-type: none"> • Name of the person • Proposed position on the project team • Current employer • Present position with the current employer • Qualifications and dates obtained • Citizenship (in the case of HDIs both present and in 1994) • Membership of professional bodies (Name of the body, registration number, registration date) • Specialisation • Applicable experience, related to the position in the project team
4.b	Brief capability statements must be given for each designated team member, emphasising recent experience relevant to the task envisaged. The availability of each designated team member for the expected duration of the Study must be indicated by reference to limitations that may be placed by other known commitments.
4.c	Information must also be given on the key support staff envisaged for the Study, supported by brief CVs, also included in an Appendix. Company profiles, etc. can be provided in a separate Appendix, but will not be used for the evaluation of bids.

4.d	Members of the proposed project team must be assigned to the tasks identified in the work programme. A schedule is required to indicate the anticipated time contribution of each member of the project team to each main task.
C.5	Capacity Building and Training
	Limited to five (5) A4 pages
5.a	The PSP must make provision for capacity building and training of DWS officials or interns in the water resource planning process, project management and technical aspects, to be undertaken as part of this Study. The content of the capacity building programme will need to be approved by DWS.
5.b	<p>The interns could be seconded to the PSP for certain portions of the Study to gain practical experience. In this case the cost to the PSP would be time to mentor the interns and the provision of office space.</p> <p>Another option is the presentation of a one-day workshop(s) to present certain technical aspects of the study to DWS officials.</p>
5.c	<p>The PSP shall make provision in the Financial Proposal for:</p> <ul style="list-style-type: none"> • Five (5) interns/officials to be seconded for a period of ten (10) months each; and • The presentation of two (2) one-day workshops.

ANNEXURE B.1

EXAMPLE: SUMMARY OF MANPOWER, TIME AND COST SCHEDULE

Team member	Company name	Company position	Study position (Activity)	Applicable experience in activity	HDI / woman	Hourly rate	Time on study	% of time on study	Total cost
				Years	Yes/No	R/h	Hours		Rand
Initials & Name	ABC Consult	Director	Project leader	25	Y / N	520	20	10	10 400
Initials & Name	ABC Consult	Associate	Task leader, Hydrology	15	N / N	480	50	25	24 000
Initials & Name	ABC Consult	Engineer	Dam design	13	N / N	400	30	15	12 000
Initials & Name	ABC Consult	Director	Task leader, Dam design	6	Y / Y	500	40	20	20 000
Initials & Name	ABC Consult	Associate	Hydrology	10	N / Y	120	15	10	1 800
Initials & Name	ABC Consult	Technician	Support	2	Y / Y	110	35	20	3 850
TOTAL							190	100	72 050

ANNEXURE B.2 – EXAMPLE: TIME AND COST SCHEDULE

Task no.	Team member	Company name	Position	HDI	Study position/activity	Time schedule	Hourly rate (Excl. VAT)	Total cost (Excl. VAT)
				Yes/no		Man hours	Rand/hour	Rand
1. TASK: INCEPTION REPORT:								
1.1	Initials and Name	ABC Consult	Director	Y	Project Leader	6	440,00	2 640,00
1.2	Initials and Name	ABC Consult	Director	N	Task Leader: Dam Design	7	380,00	2 660,00
	Subtotal for professional fees					13		5 300,00
	Disbursements:							
	- Travel							2 000,00
	- Accommodation							1 000,00
	- Subsistence							550,00
	- Printing							350,00
	Subtotal for disbursements							3 900,00
	TOTAL COST TASK 1							9 200,00
2. TASK: DAM DESIGN								
2.1	Initials and Name	ABC Consult	Director	Y	Task Leader	125	380,00	47 500,00
2.2	Initials and Name	ABC Consult	Associate	N	Structural design	96	350,00	33 600,00
2.3	Initials and Name	ABC Consult	Associate	N	Hydraulics	72	320,00	23 040,00
2.4	Initials and Name	ABC Consult	Engineer	Y	Flood hydrology	80	300,00	24 000,00
2.7	Initials and Name	ABC Consult	Associate	N	Seismic assessment	40	300,00	12 000,00
	Subtotal for Professional Fees					413		142 290,00
	Disbursements:							
	- Travel							45 000,00
	- Accommodation							7 500,00
	- Subsistence							2 500,00
	- Printing							1 000,00
	Subtotal for disbursements							56 000,00
	TOTAL COST TASK 2							198 290,00
SUBTOTAL THIS PAGE (carry forward to next page)						426		207 490,00

ANNEXURE B.3

EXAMPLE: SUMMARY SHEET FOR FINANCIAL PROPOSAL

Task no.	Task description	Total cost of Task as per cost and time schedule (Excl. VAT)	14% VAT	Total Task cost
		Rand	Rand	(Incl. VAT) Rand
1.	Inception report	14 240,00	2 093,28	17 045,28
2.	Water resources	150 000,00	22 050,00	179 550,00
3.	Systems analyses	80 000,00	11 760,00	95 760,00
4.	Hydrology and yield analysis	120 000,00	18 480,00	150 480,00
5.	Pre-feasibility investigation	450 000,00	75 600,00	615 600,00
6.	Pre-feasibility of transfer options	104 900,00	17 623,20	143 503,20
7.	Feasibility design of dams	352 240,00	59 176,32	481 864,32
8.	Pump Station layout and design	136 400,00	21 005,60	171 045,60
9.	Pipeline alignment and design	214 800,00	33 079,20	269 359,20
10.	Economic studies	100 000,00	14 700,00	119 700,00
11.	Study management and reports	250 000,00	45 500,00	370 500,00
	TOTAL COST OF STUDY	1 972 580,00	321 067,60	2 614 407,60