

KINGDOM OF ESWATINI



Eswatini Water and Agricultural Development Enterprise Limited (ESWADE)

Lower Usuthu Smallholder Irrigation Project II - (LUSIP II)

Tender Document for Procurement of:

Topographical Survey Check for the Construction of the Main Conveyance System and Related Structures for the Matata Block

Tender No: ESWADE/0441

28 October 2019



Eswatini Water and Agricultural
Development Enterprise Ltd (ESWADE)
3rd Floor, Sincephetelo MVA Building,
Mbhilibhi Street,
PO Box 5836
Mbabane
ESWATINI



T1.0 TENDERING PROCEDURES

**TOPOGRAPHICAL SURVEY CHECK FOR THE
CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM
AND RELATED STRUCTURES FOR THE MATATA BLOCK**



T1.1 TENDER NOTICE AND INVITATION TO TENDER

TOPOGRAPHICAL SURVEY CHECK FOR THE CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM AND RELATED STRUCTURES FOR THE MATATA BLOCK

Tenders are invited from engineering surveying firms that are registered with the Swaziland Construction Industry Council for the Topographical Survey Check for the Construction of the Main Conveyance System and Related Structures for the Matata Block.

Tender documents may be obtained after payment of a non-refundable tender fee of E350.00 to the Eswatini Water and Agricultural Development Enterprise (ESWADE). The method of payment shall be cash or bank guaranteed cheque payable to ESWADE. Tender Documents will be available from **8:00am to 16:00pm** from Monday, 04th November 2019 from **ESWADE Siphofaneni Site Office**

Completed Tender Documents shall be delivered in a sealed envelope to ESWADE Head Office and addressed to:

Eswatini Water and Agricultural Development Enterprise (ESWADE)
MVA Building, 3rd Floor
Mbabane
Eswatini

Not later than 14:10 pm Swaziland time on **04th December 2019** at which time the tenders will be opened in public.

On the outside of the envelope shall be clearly marked:

“Confidential
Tender No. ESWADE/0441
Chairman of the Tender Board
Topographical Survey Check for the Construction of the Main Conveyance System and Related Structures for the Matata Block.

Not to be opened before 14:10 pm Swaziland time on 04th December 2019

The Envelope shall carry no identification whatsoever of the name or mark of the TENDERER nor any means of identification.

Any actions or tendencies that will be interpreted as an attempt to interfere with or influence the tendering process will result in immediate disqualification of the Tenderer. Enquiries, administrative and technical, relating to the Tender may be addressed to Mr Bongani Eugene Magagula. Tel No. 23441873 or 23441671/2/3 Fax No.23441665 E-mail: bonganimagagula@eswade.co.sz.

T1.2 TENDER DATA

1. TENDER DOCUMENTS

The Tender Documents are as follows:

Section T1.0 TENDERING PROCEDURES

T1.1	Tender Notice and Invitation to Tender
T1.2	Tender Data

Section T2.0 RETURNABLE DOCUMENTS

T2.1	List of Returnable Documents
T2.2	Returnable Schedules

Section C1.0 AGREEMENT AND CONTRACT DATA

C1.1	Forms of Offer and Acceptance
C1.2	Contract Data

Section C2.0 PRICING DATA

C2.1	Pricing Instructions
C2.2	Bill of Quantities

Section C3.0 SCOPE OF WORK

C3.1	Description of the Works
C3.2	Specifications
C3.3	Drawings

Section C4.0 SITE INFORMATION

2. ELIGIBLE BIDDERS

This invitation to Tender is open to engineering surveying firms that are registered with the Swaziland Construction Industry Council.

3. ADDRESS

Each Tenderer shall, within two (2) days of the date of collection of the Tender Documents, e-mail to the Employer's Representative at bonganimagagula@swade.co.sz copied to Lusip2@eswade.co.sz stating the e-mail address of his office at which notices may be validly served upon him.

4. NOTICES

Every notice to be served on a Tenderer will be sent by e-mail to the Tenderer's address given in accordance with Clause 3 above and such e-mailing shall be deemed good service of such notice.

5. INTERPRETATION OR CLARIFICATION OF DOCUMENTS

Should there be any doubt as to the meaning or interpretation of any part of the Tender Documents, the Tenderer must set forth such doubt in writing and submit the same to the e-mail address given in accordance with Clause 3 above not later than seven (7) days before the date fixed for the delivery of Tenders. The reply will be e-mailed to all Tenderers to whom a set of Tender Documents has been issued and any interpretation or clarification of the Tender Documents will be made only in writing.

6. INSPECTION OF SITE

The Tenderer at the Tenderer's own responsibility and risk, is encouraged to visit and examine the site of the Works and its surroundings and obtain all information that may be necessary for preparing the tender and enter into a contract for construction of the works. The cost of visiting the site shall be at the Tenderer's own expense.

7. CONTRACT DOCUMENT

The Contract Documents are as follows:

- Agreement and Contract Data
- Pricing Data
- Scope of Work
- Site Information

8. NO ALTERATIONS TO BE MADE TO DOCUMENTS

No additions, alterations, omissions or qualifications shall be made to any of the Tender Documents other than the required entries.

9. TENDER ALL INCLUSIVE

The Tenderer must allow in the tender for all labour, material, equipment, temporary works and everything else necessary for the execution and completion of the works in accordance with the Tender Documents.

The Tenderer shall fill in prices for all items of the works described in the Schedule of Prices. Items for which no price is entered by the Tenderer will not be paid for by the

Employer when executed and shall be deemed to be covered by the other prices in the Schedule of Prices.

All duties, taxes, and other levies payable by the Contractor under the contract, shall be included in the prices submitted by the Tenderer.

10. TENDER QUALIFICATIONS

Tenders must be submitted strictly in accordance with the Tender Documents, i.e. without qualifications. Qualification in the nature of statements of interpretations of tender documents must be avoided and any point of doubt or difficulty should be cleared with the Employer as early as possible during the tender period, following the procedure laid down in Clause 5 above.

11. COSTS INCURRED BY THE TENDERER

The Employer will not be responsible for or pay for expenses or losses which may be incurred by any Tenderer in the preparation of the tender or in visiting the site in connection with the tender.

12. TENDER DOCUMENTS ARE CONFIDENTIAL

Tenderers will treat the details of the Tender Documents as confidential.

13. TENDER BOND

The Tenderer shall submit together with his tender a Tender Deposit in the form of a banker's draft, bank certified cheque or Tender Guarantee from an insurance company or a Bank in Swaziland for a sum of Five Thousand Emalangen (E5, 000.00).

Foreign, including South African, drafts, cheques or guarantees are not acceptable.

The deposit is a surety, and in the event that the approved Tenderer withdraws his tender before the expiry of the tender validity period laid down in Clause 15 below, or fails to execute the Contract Agreement or suffers the disqualification of his tender under Clause 23 below, the entire amount of the deposit shall be forfeited to the Employer to defray expenses for soliciting the tenders and losses consequential upon delay in the commencement of the works.

All Tender Deposits not forfeited under the above conditions will be returned to unsuccessful Tenderers within 60 days from the date of submission of the tender. In the case of the Accepted Tenderer, his Tender Deposit will be returned as soon as the Contract Agreement is executed.

14. **DELIVERY OF TENDER**

The Tender together with the Tender Deposit, valid Tax Compliance Certificate, valid Labour Compliance Certificate, valid Trading License, valid Eswatini Construction Industry Council Certificate, Form J, Form C and Police Clearances for all Company Directors shall be delivered by hand at the address, on the date and time given in the Tender Notice and Invitation to Tender.

No tender delivered after the stipulated time, from whatever cause arising, will be considered.

15. **PERIOD OF VALIDITY AND ACCEPTANCE OF TENDERS**

All tenders shall remain valid for a period of 60 days from the date of submission of the tenders.

In exceptional circumstances, the Employer may request that the Tenderers extend the period of validity for a specified additional period. The request and the Tenderer's responses shall be made in writing. A Tenderer may refuse the request without forfeiting the Tender Bond. A Tenderer agreeing to the request will not be required or permitted to otherwise modify the tender but will be required to extend the validity of the Tender Bond for the period of the extension.

16. **ACCEPTANCE OF TENDER**

The formal acceptance of any tender forms a contract binding upon both the Employer and the Accepted Tenderer.

The Employer does not bind himself to accept the lowest or any tender and will not assign a reason for the acceptance or rejection of any tender.

17. **LEGAL ASPECTS**

- (1) The laws of the Kingdom of Eswatini shall be applicable to the Contract created by the acceptance of a tender and each Tenderer shall indicate a place in the Kingdom and specify it in his tender as his **domicilium citandi et executandi** where any legal process may be served on him.
- (2) Each Tenderer shall bind himself to accept the jurisdiction of the courts of law of Eswatini.

18. **ADDITIONAL INFORMATION REQUIRED**

To assist in the examination, evaluation, and comparison of tenders, the Employer may at the Employer's discretion, ask any Tenderer for clarification of his tender including breakdowns of prices. The request for clarification and the response shall be in writing,

but no change in the price or substance of the tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetical errors discovered by the Employer in the evaluation of the tenders in accordance with clause 19 below.

The Employer reserves the right, in the event of such details being insufficient, to call for further information. The Tenderer shall furnish such additional information within one (1) week of being called upon to do so.

19. **AMENDMENTS TO TENDER BY EMPLOYER**

Arithmetical errors

Tenders shall be checked by the Employer for any arithmetic errors. Errors shall be corrected by the Employer as follows:

- (i) Where there is a discrepancy between the amount in figures and in words, the amount in words shall govern;
- (ii) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted shall govern, unless in the opinion of the Employer, there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted shall govern, and the unit rate shall be corrected.

The amount stated in the tender shall be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Tenderer, shall be considered as binding upon the Tenderer. If the Tenderer does not accept the corrected amount, the tender shall be rejected, and the tender bond may be forfeited.

20. **TENDER RULES BINDING**

The tender rules shall be binding upon all Tenderers submitting a tender for the services stated in the tender documents.

21. **DISQUALIFICATION OF TENDER**

The tender of any Tenderer who has not conformed to the foregoing tender rules may be disqualified at the discretion of the Employer.

22. LANGUAGE

The language of the tender and the Contract will be the English Language. The tender must be completed in English and all correspondence and documents relating to the tender must be written in English.

23. TENDER EVALUATION

Tender evaluation will be conducted as outlined below:

Preliminary Tender Evaluation:

Each tender will be checked for the following:

- (a) Whether or not a valid and original tax compliance certificate has been submitted;
- (b) Whether or not a valid trading license has been submitted;
- (c) Whether or not a valid labour compliance certificate has been submitted;
- (d) Whether or not valid Form C and Form J have been submitted;
- (e) Whether or not a valid Eswatini Construction Industry Council certificate has been submitted;
- (f) Whether or not police clearances for all company directors have been submitted;
- (g) Whether or not a technical proposal has been submitted;
- (h) Whether or not the Curriculum Vitae (CV) for the proposed Professional Surveyor has been submitted;
- (i) Whether or not a valid AESAP registration certificate for the proposed Professional Surveyor has been submitted;
- (j) Whether or not the form of offer has been duly signed by the authorized person; and
- (k) Whether or not all returnable documents with required information have been submitted as per Section T2.0 of the tender document.

Failure to submit any of the above listed documents may result in failure of the preliminary tender evaluation and the tender being dropped from further evaluation.

Technical Tender Evaluation

Only tenders that have passed the preliminary tender evaluation will be subjected to the technical tender evaluation.

To pass the technical tender evaluation, tenders must meet all the following Minimum qualifying criteria:

- (a) A minimum score of 35 out of 50 for Description of Approach, Methodology and Work Plan for Performing the Assignment.

Criteria and point system are:

- i) Technical approach and methodology..... 30 points
- ii) Work Plan..... 20 points

(b) A minimum score of 35 out of 50 for the Professional Surveyor's Qualifications and Experience

Criteria and point system are:

- i) Qualifications..... 25 points
- ii) Experience..... 25 points

A minimum of 10 years post tertiary qualification experience and registration as a professional surveyor with AESAP are required.

(c) A minimum score of 35 out of 50 for Experience of the Firm Relevant to the Assignment.

Criteria and point system are:

- i) More than 5 relevant projects in the last 3 years..... 50 points
- ii) 3 to 5 relevant projects in the last 3 years..... 35 points
- iii) Less than 3 relevant projects in the last 3 years..... 0 points

Failure to satisfy any of the above listed qualifying criterion will result in failure of the technical tender evaluation and the tender being dropped from further evaluation..

Financial Tender Evaluation

Only tenders that have passed the technical tender evaluation will be Subjected to the financial tender evaluation.

- (a) The remaining tenders shall be checked for arithmetic errors and imbalance rates and prices in accordance with item 19 above;
- (b) The remaining Tenderer with the lowest tender sum will be awarded the contract.

T2.0 RETURNABLE DOCUMENTS

**TOPOGRAPHICAL SURVEY CHECK FOR THE
CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM
AND RELATED STRUCTURES FOR THE MATATA BLOCK**

T2.1 LIST OF RETURNABLE DOCUMENTS

Tenderers must return the whole tender document.

T2.2 RETURNABLE SCHEDULES

Tenderers must fill in and return all the schedules included in the Tender Documents.

T2.3 DESCRIPTION OF APPROACH, METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

Tenderers must submit with their tenders a write up describing their approach, methodology and work plan for performing the assignment.

a) Technical Approach and Methodology

Explain your understanding of the objectives of the assignment, approach to the assignment, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. Highlight the problems being addressed and explain the technical approach you would adopt to address them. Explain the methodology you propose to adopt and highlight the compatibility of those methodologies with the proposed approach

b) Work Plan

Propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the Terms of Reference and ability to translate them into a feasible working plan.

**TOPOGRAPHICAL SURVEY CHECK FOR THE CONSTRUCTION OF THE MAIN
CONVEYANCE SYSTEM AND RELATED STRUCTURES FOR THE MATATA
BLOCK**

A. AUTHORITY FOR SIGNATORY

Signatories for companies must establish their authority by submitting the relevant Resolution of the Board of Directors, duly signed and dated. An example is shown below:

“By resolution of the Board of Directors at a meeting on _____2019

Mr _____ has been duly authorised to sign all documents in connection with the tender for the Topographical Survey Check for the Construction of the Main Conveyance System and Related Structures for the Matata Block and any contract which may arise therefrom.

on behalf of (block capitals)

SIGNED ON BEHALF OF THE COMPANY :- _____

IN HIS CAPACITY AS :- _____

DATE :- _____





**TOPOGRAPHICAL SURVEY CHECK FOR THE CONSTRUCTION OF THE MAIN
CONVEYANCE SYSTEM AND RELATED STRUCTURES FOR THE MATATA
BLOCK**

E. DECLARATION OF ELIGIBILITY

[All bidders must meet the following criteria, to be eligible to participate in public procurement. Service Providers must provide a signed declaration on their company letterhead in the following format. If the Tender is being presented by a joint venture or consortium all members must sign the declaration]

[>>> Name of Tenderer, Address, and Date>>>]

To: The Chief Executive Officer
Eswatini Water & Agriculture Development Enterprise (ESWADE)
Sincephetelo MVA Fund Building, 3rd Floor
P.O. Box 5836
Mbabane

Dear Sir,

**Re: ESWADE/0441 - Topographical Survey check for the Construction of the Main
Conveyance System and Related Structures for the Matata Block.**

In accordance with the eligibility requirements of the Procurement Regulations and the Tender document we hereby declare that:

- (a) We, are a legal entity and have the legal capacity to enter into the contract;
- (b) We, further declare that we are not insolvent, in receivership, bankrupt or being wound up, our affairs are not being administered by a court or a judicial officer, our business activities have not been suspended and we are not the subject of legal proceedings for any of the foregoing;
- (c) We, declare that we have fulfilled our obligations to pay taxes and social security contributions;
- (d) We, have not, and our directors or officers have not, been convicted of any criminal offence related to our/their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a contract within a period of five years preceding the commencement of the procurement proceedings; and
- (e) We, do not have a conflict of interest in relation to the procurement requirement.

Authorized Signature:

Date:

C1.0 AGREEMENTS AND CONTRACT DATA

**TOPOGRAPHICAL SURVEY CHECK FOR THE
CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM AND
RELATED STRUCTURES FOR THE MATATA BLOCK**



C1.1 FORM OF OFFER AND ACCEPTANCE

(Agreement)

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

TOPOGRAPHICAL SURVEY CHECK FOR THE CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM AND RELATED STRUCTURES FOR THE MATATA BLOCK

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF ALL TAXES IS

.....
.....Emalangen (in words); E.....(in figures)

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

For the Tenderer:
Signature

.....
Name

.....
Capacity

**Name &
Address of
Organisation:**.....

.....



Signature &

Name of Witness:

Signature

.....

Name

Date:

Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract, are contained in

Part 1 Agreement and Contract Data, (which includes this Agreement)

Part 2 Pricing Data

Part 3 Scope of Work

Part 4 Site Information

And documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereof listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorized representative(s) of both parties.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties,

For the Employer:
Signature

.....
Name

.....
Capacity

**Name and address of
of organization:**

Eswatini Water and Agricultural Development Enterprise Ltd
3rd Floor, Sincephetelo MVA Building
Mbhilibhi Street
P. O. Box 5836
Mbabane
ESWATINI

**Signature and name
of Witness**

.....
Signature

.....
Name

Date:

Schedule of Deviations

Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1. **Subject**.....

Details.....

2. **Subject**.....

Details.....

3. **Subject**.....

Details.....

4. **Subject**.....

Details.....

5. **Subject**.....

Details.....

6. **Subject**.....

Details.....

By the duly authorized representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from the amendments to the documents lists in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and Employer during this process of offer and acceptance.

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

For the Tenderer:

For the Employer:

.....

Signature:

.....

Name:

.....

Capacity:

Name and address or organisation:

Name and address of organisation:

.....

**Eswatini Water and Agricultural
Development Enterprise Ltd
3rd Floor, Sincephetelo MVA Building
Mbhilibhi Street
P O Box 5836
Mbabane
ESWATINI**

.....

.....

.....**Witness Signature:**.....

.....**Witness Name:**.....

.....

Date:.....

CONFIRMATION OF RECEIPT

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the.....(day)

of.....(month)

20.....(year)

at.....(place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

C1.2 CONTRACT DATA

TOPOGRAPHICAL SURVEY CHECK FOR THE CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM AND RELATED STRUCTURES FOR THE MATATA BLOCK

PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works, Third Edition, 2015, published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685 is applicable to this Contract and is obtainable from www.saice.org.za.

CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition, 2015, are applicable to this Contract:

Clause 1.1.1.13:

Not applicable.

Clause 1.1.1.15:

The name of the Employer is **Eswatini Water and Agricultural Development Enterprise Ltd. (ESWADE)**.

Clause 1.1.1.16:

The name of the Employer's Agent is Nippon Koei Co., Ltd in Association with E D Simelane and Associates.

Clause 1.1.1.26:

The Pricing Strategy is **Fixed Price Contract**.

Clause 1.2.1.2:

The address of the Employer is **3rd Floor, Sincephetelo MVA Building,
Mbhibhi Street
P. O. Box 5836
Mbabane
ESWATINI**

Clause 1.2.1.2:

The address of the Employer's Agent is **Lot 195 Karl Grant Street
P. O. Box 2244
Mbabane
ESWATINI**

Clause 1.3.2:

The governing law is **the law of the Kingdom of Eswatini.**

Clause 5.3.1:

Not applicable.

Clause 5.3.2:

Not applicable.

Clause 5.8.1:

The non-working days are **Sundays**

The Special non-working days are

(1) Gazetted public holidays.

(2) The year-end break will be for a period of three calendar weeks.

Clause 5.13.1:

Not applicable.

Clause 5.14.1:

The requirement for achieving Practical Completion is the approval by the Employer's Agent of all the reports outlined in item 4 of the Terms of Reference.

Clause 5.16.3:

Not applicable.

Clause 6.10.1.5:

Not applicable.

Clause 6.10.3:

Not applicable.

Clause 6.10.4:

The Employer shall pay the amount due to the Contractor within 56 days of receipt of the Employer of the payment certificate signed by the Employers Agent.

Clause 8.6.1.1.2:

Not applicable.

Clause 8.6.1.1.3:

Not applicable.

Clause 8.6.1.2:

Not applicable.

Clause 8.6.1.3:

Not applicable.

Clause 8.6.5:

Not applicable.

Clause 10.5.3:

The number of Adjudication Board Members to be appointed is **one**.

Clause 10.7.1:

The determination of disputes shall be by **arbitration**.

PART 2: DATA PROVIDED BY THE CONTRACTOR

Clause 1.1.1.9:

The name of the Contractor is.....

Clause 1.1.1.14:

The time for achieving Practical Completion is..... **weeks**

Clause 1.2.1.2:

The address of the Contractor is (physical address)
.....
..... (postal address)
.....
..... (e-mail address &
..... /or fax number)

Clause 6.2.1:

Not applicable.

Clause 6.5.1.2.3:

Not applicable

C2.0 PRICING DATA

**TOPOGRAPHICAL SURVEY CHECK FOR THE
CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM
AND RELATED STRUCTURES FOR THE MATATA BLOCK**



C2.1 PRICING INSTRUCTIONS

- (1) For the purpose of this Schedule of Prices the following words shall have the meanings hereby assigned to them:

Lump sum : An amount tendered for an item of which the extent is described in the Terms of Reference.

- (2) The Schedule of Prices forms part of the Contract Documents and shall be read in conjunction with all the other documents comprising the Contract Documents. Prices in the Schedule of Prices shall be entered in ink, and all corrections shall be initiated by the person signing the Form of Tender.
- (3) Lump sum amounts shall be inclusive of overheads, profits, incidentals, etc. and shall include full compensation for the completed items of work as specified. Full compensation for completing all the work specified in the Terms of Reference and for all the risks, obligations and responsibilities specified in the General Conditions of Contract.
- (4) Reference shall be made to Clause 6.11 of the General Conditions of Contract regarding Provisional Sums.
- (5) Units of measurement

Abbreviations used in the Schedule of Prices are as follows:

Sum = Lump Sum
Prov. sum = Provisional sum

- (6) All prices quoted in the Schedule of Prices shall be in Emalangeni.

C2.2 SCHEDULE OF PRICES



Schedule of Prices

Item No.	Activity Description	Amount
1	Preliminary and General	
2	Topographical survey and comparison against the existing DTM	
3	Upgrading of DTM (provisional)	
4	As-built quantity calculations	
SUB-TOTAL 1 -----(A)		
VAT (15% of (A)) -----(B)		
TOTAL CARRIED TO FORM OF TENDER (A) + (B)		



C3.0 SCOPE OF WORK

**TOPOGRAPHICAL SURVEY CHECK FOR THE
CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM
AND RELATED STRUCTURES FOR THE MATATA BLOCK**



C3.1 TERMS OF REFERENCE

Contract : LUSIP II – Construction of the Main Conveyance System:

Main Contract (Bid No.) SWADE 0314/IFB/2016/03/01

Subject : Terms of Reference for Independent Topographical Survey Check

1. Introduction

The LUSIP II project consists of the following main infrastructure:

- 5,890m long siphon pipe.
- 29,779m long concrete lined canal.
- 5No. earth-fill embankment balancing dams (3No. of which are four sided embankment reservoirs, and 2No. are conventional in-stream embankment dams).
- 4No. balancing dam off-takes.
- Numerous cross drainage structures and bridges.

Construction of the infrastructure commenced in March 2017 and is now well advanced with completion anticipated during the second quarter of 2020.

The detailed design of this project was performed using a LIDAR survey consisting of over 2.7 million spot heights with coordinates. Subsequently at start of construction, the Contractor installed a leveling bench mark system at an approximate spacing of 200m, from which the Contractor has surveyed by GPS and total station, over 8 thousand spot heights. In general it appears that the LIDAR survey shows original ground levels (OGL) on average 170mm higher than the physical topographic survey. The Contractor has therefore adjusted the LIDAR survey to match the physical topographic survey, the result of which has been adopted for the measurement of construction quantities.

This discrepancy between the LIDAR and the physical topographic survey has contributed to substantial variance in the AS-built quantities when compared with the Detailed Design quantities. Consequently the need has arisen for an independent survey to cross check the Contractor's adjusted digital terrain model (DTM) currently in use.

It must be highlighted that at this time there is no reason to doubt the Contractor's DTM, but that this exercise is aimed at validating the DTM and to give confidence in the calculation of As-built quantities.

This assignment will be instructed and paid through a Variation Order to the Contractor under the existing construction contract between **ESWADE** (the Employer) and **Inyatsi-Essor Joint Venture** (the Contractor). The supervision and management of this Variation Order will be undertaken by **Nippon Koei/ED Simelane** (the Engineer).

2. Available Data

The available data on the Cape Clarke Lo 31 system, is as follows:

- Detailed Design LIDAR survey (2,755,796 million spot heights).
- Control bench marks at approximate 200m spacing (Established by Stuart Young & Associates – South Africa). Some have been lost during construction but most are still available for use.
- Contractor's physical topographic survey data (8551 spot heights).
- Contractor's trial pitting data showing rock levels at 200m spacing.
- Contractor's modified LIDAR survey adjusted to match the physical topographic survey (DTM).
- Relevant Engineering drawings (PDF only) showing all excavation and embankment profiles.

3. Terms of Reference

Suitably qualified, experienced and registered land surveyors are invited to submit a technical and financial proposal to undertake a physical topographic survey to validate or improve on the Contractor's DTM. It is anticipated that this survey cross-check will be undertaken by GPS with at least 20mm accuracy.

The anticipated methodology is as follows:

- Along the siphon trench excavation shoulders (now partly back-filled) pick up OGLs at 100m intervals, along level areas and at 25m intervals along steeply inclined areas.
- Along the canal route pick up the excavation shoulder OGLs at 25m intervals, where the canal is only in excavation section.
- Along the canal route pick up the embankment toe OGLs at 100m intervals along level areas and at 25m intervals along steeply inclined areas, where the canal is only in embankment section.

- Along the canal route pick up the embankment toe OGLs and the excavation shoulder OGLs at 100m intervals along level areas and at 25m intervals along steeply inclined areas, where the canal is in part excavation/part embankment.
- In the excavated dam basins (3No.) pick up the OGLs and basin inverts at 25m embankment toe intervals, including any blasted or hydraulically hammered rock exposed on the internal slopes.
- For all balancing dams (5No.) pick up the OGLs along the embankment toes at 20m intervals.

With the above physical survey data, a comparison should then be made against the Contractor's DTM:

- If the new survey data corresponds well with DTM, then the existing DTM can be adopted as final.
- If the new survey data shows significant differences to the DTM, then the existing DTM should be adjusted to an upgraded DTM

It is anticipated that representatives of the Engineer and Contractor will accompany the survey team during the field work. The comparison of survey results against the DTM will be jointly presented to the Engineer and Contractor, and if necessary, the upgraded DTM will be prepared jointly with the Contractor's Chief Surveyor, under the supervision of the Engineer, to ensure agreement.

Then with this final and agreed DTM, calculate the following key quantities:

- Siphon pipe trench excavation quantities (soft excavation and rock excavation).
- Canal excavation quantities (soft excavation and rock excavation).
- Canal embankment quantities.
- Dam basin (3No.) excavation quantities (soft excavation and rock excavation).
- Dam core trench (2No.) excavation quantities (soft excavation only).
- Dam embankment quantities.

4. Reporting

All reporting will be to the Engineer and will consist of three stages:

Stage 1: Results of physical topographic survey and comparison against the existing DTM.

Stage 2: (if necessary) Results of upgraded DTM.

Stage 3: Results of As-built quantity calculations.

Each of the above three stages will consist of a short written report accompanied by relevant drawings. Electronic survey data and drawings must be submitted with each report stage.

5. Payment and Programme

Interested and qualified Surveyors should provide a detailed quotation for each of the above three stages as well as the duration for each stage.

Payment will be effected in the same stages, through the Main Contract by the Contractor, on the approval of each stage by the Engineer. Payment is typically affected within 56 days of the Contractor submitting his monthly payment certificate application.

C4.0 SITE INFORMATION

**TOPOGRAPHICAL SURVEY CHECK FOR THE
CONSTRUCTION OF THE MAIN CONVEYANCE SYSTEM
AND RELATED STRUCTURES FOR THE MATATA BLOCK**



C4.0 SITE INFORMATION

Available information is listed in Chapter 2 of the Terms of Reference C3.1 and will be issued to the successful Tenderer on commencement of the assignment.

The following drawings are provided with this tender document:

Drawing 111936-L2-00-DR-ZZ-0001	General Layout
Drawing 111936-L2-22-DR-CC-0002	Matata Siphon Layout – Ch0-1300m
Drawing 111936-L2-22-DR-CC-0002	Matata Siphon Layout – Ch1300-26000m
Drawing 111936-L2-22-DR-CC-0002	Matata Siphon Layout – Ch2600-3900m
Drawing 111936-L2-22-DR-CC-0002	Matata Siphon Layout – Ch3900-5200m
Drawing 111936-L2-22-DR-CC-0002	Matata Siphon Layout – Ch5200-5900m
Drawing 111936-L2-21-DR-CC-0130	Matata Canal Layout – Reach 01
Drawing 111936-L2-21-DR-CC-0131	Matata Canal Layout – Reach 02
Drawing 111936-L2-21-DR-CC-0132	Matata Canal Layout – Reach 03
Drawing 111936-L2-21-DR-CC-0133	Matata Canal Layout – Reach 04
Drawing 111936-L2-21-DR-CC-0134	Matata Canal Layout – Reach 05

In addition, on request from the Tenderers, a Google Earth (.kmz) file will be distributed.

