

O. R. TAMBO DISTRICT MUNICIPALITY



O.R. TAMBO
DISTRICT MUNICIPALITY

CONTRACT NO.: ORTDM SCMU 17-25/26

**KING SABATA DALINDYEBO PRESIDENTIAL INTERVENTION
BULK WATER SUPPLY**

**CONSTRUCTION OF 50ML/D Highbury Water Treatment Works &
Raw and Clear Water Pumpstations: Mechanical &
Electrical**

VOLUME 1: RETURNABLES

SEPTEMBER 2025

NAME OF TENDERER:

TENDER AMOUNT:

CSD SUPPLIER NUMBER:

CLOSING DATE & TIME: 07 NOVEMBER 2025 AT 12H00

Prepared for:

The Municipal Manager
O. R. TAMBO District Municipality
Private Bag X6043
MTHATHA
5099

Tel. No. (047) 501 6400

Prepared by:

The Infrastructure Water and Sanitation Services
O. R. Tambo District Municipality
Private Bag X6043
MTHATHA
5099

Tel. No. (047) 501 6425

GENERAL TENDER INFORMATION

TENDER ADVERTISED	:	26 September 2025
ESTIMATED CIDB CONTRACTOR GRADING	:	9ME
COMPULSORY BRIEFING AND COMPULSORY SITE VISIT SESSION	:	10h00 on Thursday, 09 October 2025 Meet at O. R. Tambo District Municipality office Myezo, thereafter proceed to Highbury WTW Site at coordinates: S 31°32' 31", E 28° 45' 17"
CLOSING DATE	:	Friday, 07 November 2025
CLOSING TIME	:	12:00
CLOSING VENUE	:	Tender Box O. R. Tambo District Municipality MTHATHA
BID SUBMISSION		Sealed bids clearly marked TENDER No. ORTDM SCMU 17-25/26: CONSTRUCTION OF 50ML/D HIGHBURY WATER TREATMENT WORKS & RAW AND CLEAR WATER PUMPSTATIONS: MECHANICAL & ELECTRICAL and submitted to ORTDM Offices. Insert large envelope or parcel containing <u>Volume 1</u> of the Tender Document only (not other volumes) and accompanying returnable documents file into the tender box on or before the closing date and time. Telephonic, telefaxed, facsimile, electronic, e-mailed or late bids will not be accepted.

TENDERER'S REPRESENTATIVE CONTACT INFORMATION:

NAME OF TENDERER:

CONTACT PERSON:

TELEPHONE NUMBER: CODE.....NUMBER.....

CELL PHONE NUMBER:.....

EMAIL ADDRESS:.....

PLEASE CHECK

x / √

1. That you have read all the pages of the tender document.
2. That you have completed ALL the forms required to be completed
in NON-ERASEABLE INK.
3. That your arithmetic calculation in the pricing schedule is correct.
4. That you have attached ALL necessary documentation relating to the
Composition of the tendering entity, i.e.
 - (a) Company registration documents naming the shareholders and
Directors / members of the company, close corporation etc.
 - (b) Joint venture agreement, if tendering entity is a joint venture.
5. That only the **required** tender documents are submitted (Volume 1 and file with supporting documents,
but not Volume 2 or the Tender Drawings)
.....
6. That the **FORM OF OFFER** is completed in full and signed.
7. That ALL returnable documents are submitted.
8. That ALL returnable schedules are completed and signed.
9. Ensure that your tender is submitted by **12h00** on the closing date of the tender.

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T2: Returnable documents		
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T1: Tendering Procedures

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T1.1 TENDER NOTICE AND INVITATION TO TENDER



O. R. TAMBO DISTRICT MUNICIPALITY

BID NO: ORTDM SCMU 17-25/26

**KING SABATA DALINDYEBO PRESIDENTIAL INTERVENTION BULK WATER
SUPPLY: CONSTRUCTION OF 50ML/D HIGHBURY WATER TREATMENT WORKS &
RAW AND CLEAR WATER PUMPSTATIONS: MECHANICAL & ELECTRICAL**

TENDER NOTICE AND INVITATION TO TENDER

Tenders are hereby invited from suitably qualified and experienced contractors who are registered with CIDB for the construction of the following RBIG-funded project under the O. R. Tambo District Municipality.

Tender No	: ORTDM SCMU 17-25/26
Tender Description	: King Sabata Dalindyebo Presidential Intervention Bulk Water Supply: Construction of 50Ml/d Highbury Water Treatment Works & Raw and Clear Water Pumpstations: Mechanical & Electrical
Tender Advertised	: Friday, 26 September 2025
Tender Closing	: 07 November 2025 at 12:00 at ORTDM Tender Submission Box at Address.
Compulsory Attendance	: The municipality will not repeat any matters already covered in the compulsory briefing session or site visit to the bidders who arrive more than 10 minutes late to the meetings, nor will it allow such bidders to complete the attendance registers. Any bid received from a bidder who did not attend the briefing meeting and sign the attendance register will not be considered.
Compulsory briefing and Site inspection session date and Time	: A compulsory clarification meeting with representatives of the client will take place at 10h00 on Thursday 09 October 2025 at the O. R. Tambo District Municipal Offices, Myezo, before proceeding to site.
Estimated CIDB	: Main contractor 9ME.
Evaluation Criteria	: First stage: Minimum Requirements Second Stage: Minimum of 80 points for Functionality Criteria Third Stage: 90/10 Price and preference points system.

Bid Documents	:	No hardcopies of the Tender documents will be issued to Tenderers. Volumes 1 & 2 of the Bid documents shall be downloaded from the e-Tender website (www.etenders.gov.za) alternatively on the O. R. TAMBO website (www.ortambodm.gov.za) at no cost. In terms of the O.R. Tambo District Municipality SCM Policy Section 72 and 73, the Municipality will apply Fair Distribution of Municipal Resources on Capital Infrastructure Projects, Objective criteria on the evaluation and award of bids. Volumes 1 & 2 of the tender documents are made available on OR Tambo District Municipality's Tender website. The website will also provide a pdf document with a download link to a Sharepoint folder which contains all additional documents needed for tender (drawings, returnable electrical schedules, BoQ in excel format etc).
Bid submission	:	Sealed bids clearly marked Tender No. ORTDM SCMU 17-25/26: King Sabata Dalindyebo Presidential Intervention Bulk Water Supply: Construction of 50Mℓ/d Highbury Water Treatment Works & Raw and Clear Water Pumpstations: Mechanical & Electrical and submitted in the Open Tender Box, Ground Floor, O. R. Tambo District Municipality Building, Nelson Mandela Drive, Myezo Park, Mthatha, Eastern Cape. Insert large envelope or parcel containing a printed-out hardcopy of Volume 1 of the Tender Document and Tenderer's supporting returnable documents file into the tender box on or before the closing date and time. Telephonic, telefaxed, facsimile, electronic, e-mailed or late bids will not be accepted. It must be expressly understood that the Municipality does not accept responsibility for ensuring that bid submissions sent by courier or post, or delivered in any other way, are deposited in the Tender Box. It is therefore preferable for the bidder to ensure that its bid submission is placed in the Tender Box by its own staff or representative(s). Tender submissions will be opened in public on the closing date and time at the municipality. The Municipality reserves the right not to accept the lowest priced tender or any tender at all, or to accept the whole or part of any tender.

TENDER EVALUATION PROCEDURE

The tender submissions will be evaluated in three stages. To meet the minimum conditions of the tender, a tender offer must be deemed responsive after the evaluations in Stages 1 and 2. If the offer is responsive at these stages, it will then be scored according to the Preferential Procurement Policy Framework Regulations, 2022, during stage 3. The stages are as follows:

- Stage 1 – Mandatory Requirements
- Stage 2 – Minimum Conditions of Tender / Functionality
- Stage 3 – Price and Specific Goals

Stage 1: Compliance with Bid Rules and other Requirements

RETURNABLE DOCUMENTS TO BE SUBMITTED WITH THE BID:

- Copy of business registration documents, as issued by CIPC.
- Certified copy of identity documents of directors/ shareholders/ partners / members, as the case maybe.
- Original Valid Tax Clearance Certificate or a Confirmation of Tax Validity with the pin issued by SARS.

INVALID OR NON-SUBMISSION OF THE FOLLOWING RETURNABLE DOCUMENTS WILL DISQUALIFY A BID SUBMISSION:

- Complete fully the bid document or to provide the information requested, or to sign the bid at the appropriate spaces provided or next to errors.
- Fill and properly sign the form of offer.
- Attach proof of registration with CSD.
- Attach **latest** audited annual financial statements of the bidding entity (for projects in excess of R10 million);
- Attach unaudited annual financial statements for close corporations and companies if the public interest score is below 350 in line with the companies act of 2008;
- Attach proof of latest municipal rates and taxes statement of the bidder and each company director and each company indicating that rates and taxes are not in arrears for more than 3 months.
- Attach proof of latest municipal water and sanitation charges statement of the bidder and each company director indicating that rates and taxes are not in arrears for more than 3 months.
- Attach a confirmation of address from a ward Councillor where the bidder and company directors operate and reside in a peri-urban area where no rates and taxes and service charges are not billed.
- Attach a copy of a valid lease agreement where the bidder does not own the property they are operating from.
- Attach proof or registration with the Construction Industry Development Board (CIDB).
- Attach joint Venture Agreement or Consortium Agreement signed and initialed on each page (if applicable).
- NOTE: Joint Ventures and Consortiums will only be considered provided they submit consolidated company registration documents and on award will be required to submit a joint venture or consortium bank account and a joint venture or consortium SARS Tax PIN.

Copies of all Addenda issued during the bid period (if any).

The completed pricing schedule in black ink and signed

<i>Failure to supply the required information will compromise the bid</i>	
Stage 2 of Evaluation: Functionality	Min 80/100
Company Experience with respect to similar projects	Max 20
Sufficient information is included in the tender submission for the Employer's Agent to be able to confirm whether or not all 8 of the key mechanical systems and equipment offered (as listed) broadly conform to the specified requirements	Max 60
All 9 Returnable Electrical Schedules satisfactorily completed and submitted and the contents generally all in accordance with the specifications	Max 20
Only bidders who score <i>80 points or more</i> on stage 2 will be evaluated further and therefore eligible for award. The maximum score for functionality is 100.	
Stage 3 of Evaluation: Price & Specific Goals	100
Price	90
Specific Goals [Promotion of 51% Black-owned enterprises: 4; Promotion of 100% Women-owned enterprises: 2; Promotion of 100% Youth-owned enterprises: 2; The promotion of enterprises located in O.R Tambo District: The Tenderer and Directors are based in the ORTDM region and pay their municipal rates and taxes: 2]	10

CONDITIONS OF THE TENDER WITH REGARDS TO SUB-CONTRACTING

It is a condition of contract that successful tenderer shall subcontract a specified ring-fenced portion of the Works to local SMMEs. This involves mainly civil works (pipelines, trenching for cables, small buildings etc) and some electrical work (small power & lighting in buildings). A Prime Cost amount has been included in the BoQ to cover the cost of the ringfenced work.

Tenders may only be submitted on tender documentation issued. No late, faxed, e-mailed, or other form of tender will be accepted.

Technical enquiries: Mr. N. Noto, telephone number 047 501 6425 or email: nkosiyabon@ortambodm.gov.za.

All Supply Chain Management enquiries may be directed to Mr. S. Hopa, telephone number 047 501 6449 or Email: sakhiwoh@ortambodm.gov.za during office hours: Monday to Friday 08H00-13H00 and 13H30-16H30.

B Mase

Municipal Manager

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the CIDB Standard for Uniformity as published in Government Gazette No 42622 of 8 August 2019 and as amended and supplemented by the Tender Data in this Part T1.2. The complete extract entitled “Annex C” of the CIDB Standard for Uniformity as published in Government Gazette No 42622 of 8 August 2019 with its originally published page numbers “21” to “31” is bound into Part T1.3.

These Conditions of Tender are furthermore subject to the requirements of the Preferential Procurement Framework Act, 2000: Preferential Procurement Regulations, 2022 published in Government Gazette No 47152 dated 4 November 2022. The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have preference in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of Tender Data given below is cross-referenced to the relevant clause in the Standard Conditions of Tender to which it mainly applies.

Clause	
C.1.1.1	The Employer is: O. R. Tambo District Municipality Private Bag X6043 Mthatha, 5099 Tel: (047) 501 6400 Email: nkosiyabon@ortambodm.gov.za Contact person: Mr. N. Noto – 047 501 6425
C.1.2	The Tender documents issued by the Employer comprise of two volumes and consist of the following: VOLUME 1 (pdf to be printed and submitted) Tender T1.1 Tender Notice and invitation to Tender T1.2 Tender Data T2.2 Returnable Documents for tender evaluation purposes T2.3 Tenderer's Supporting Returnable Documents to be incorporated into the contract Contract C1 : Agreements and Contract Data C1.1 Contract Agreement C1.2 Contract Data C1.3 Pro-forma Performance Guarantee C1.4 Disputes and Arbitration C1.5 Occupational Health Agreement C2 : Pricing Data C2.1 Pricing Instructions C2.2 Bill of Quantities VOLUME 2 (pdf's of non-returnable documents) C3 : Scope of Works C3.1 Description of the Works C3.2 Engineering C3.3 Procurement C3.4 Construction C3.5 Management C3.6 Project Specifications: Pumping Equipment C3.7 Project Specifications: Waterworks Equipment C3.8 Project Specifications: Electrical Equipment C3.9 Variations and Additions to Standard Specifications C3.10 General Specifications C4 Environmental Management Plan C5 OH&S Specifications C6 Tender Drawings C7 Ringfenced BoQ for Local SMMEs

C.1.3	Interpretation The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these tender conditions.
C.1.3.4	Add the following new Clause: Communication: Communication with all stakeholders shall be through the O. R. Tambo Municipality's PMU Manager. Communication shall be in the English language. The Employer shall not take any responsibility for non-receipt of communications from or by a tenderer.
C.1.4	The employer's agent is: Lead Consultant : GIBB (Pty) Ltd 36 Stanford Terrace Mthatha 5100 Email: dshaw@gibb.co.za Contact Person : Mr. D Shaw
C.1.5	The employer's right to accept or reject any tender offer
C.1.5.1	Reject or accept The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such a cancellation and rejection but will give written reasons for such action upon written request to do so.
C.1.6	Procurement procedures
	A contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.
C.1.6.1	The competitive negotiation procedure shall be applied. The Employer may negotiate the final terms of a contract with tenderers identified through a competitive tendering process as preferred tenderers provided that such negotiation: - Does not allow any preferred tenderer a second or unfair opportunity. - Is not to the detriment of any other tenderer; and - Does not lead to a higher price than the tender as submitted. Minutes of any such negotiations shall be kept for record purposes.
C.2	Tenderer's obligations
C.2.1	Add the following to the clause: Tenderers are to note the following eligibility criteria: - CIDB Registration and Grading Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a 9ME class of construction work, are eligible to have their tenders evaluated. - Joint ventures are eligible to submit tenders provided that: - every member of the joint venture is registered with the CIDB; - the lead partner has a contractor grading designation in the 9ME class of construction work; or not lower than one level below the required grading designation in the class of works construction works under considerations and possess the required recognition status; or - the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for an 9ME class of construction work or a

	value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations. 3) Accept that all returnable documents and schedules which are required to be certified are done so by a registered Commissioner of Oaths of the Republic of South Africa. 4) The bidder's primary business is to provide supplies or services as per the bid invitation 5) The Tenderer has not: (i) Abused the Construction Industry Development Board System; or (ii) Failed to perform on any previous contracts and has been given a written notice to this effect. 6) The Tenderer or any of its Directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. 7) Only authorised signatories may sign the original and all copies of the tender offer where required in terms of Clause C.2.13.4 of these conditions of tender. 8) Certified original valid tax clearance certificate: Tenderers shall be registered and in good standing with the South African Revenue Services (SARS) and should be able to submit an original tax clearance certificate issued by SARS. Each party to a Consortium/Joint Venture should be able to submit a separate valid Tax Clearance Certificate and attach it to the schedule. 9) The tenderer should be able to complete the Compulsory Enterprise Questionnaire and confirm that there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are not permitted to submit tenders or participate in the contract. 10) Municipal Bidding Documents (MBD) The following standard MBD's should be completed (if applicable) legibly and in full in terms of the requirements of the Department of National Treasury of the Republic of South Africa: (i) MBD1: Schedule D: Municipal Bid Document (ii) MBD4: Declaration of interest (iii) MBD5: Declaration for procurement above 10 million (iv) MBD6.1: Preference points claim form (i) MBD8: Declaration of bidder's past supply chain management practices (ii) MBD9: Certificate of independent bid determination 11) The tenderer should be able to submit the following: (i) Certified copy of certificate of Incorporation if tenderer is a company (ii) Certified copy of founding statement if tenderer is a closed corporation (iii) Certified copy of Partnership agreement if tenderer is a partnership (iv) Certified copy of Identity document if tenderer is a one-man concern (v) Certified copy of joint venture agreement if tenderer is a joint venture. 12) Certified Copy of VAT Registration Certificate (if VAT No not stated on original tax clearance: The tenderer should be able to submit a Certified copy of his VAT registration Certificate if his VAT number is not stated on the original tax clearance and attach it to the schedule. 13) Certified copy of latest Unemployment Insurance Fund (UIF) return (if not stated on original tax clearance: The tenderer should be able to submit a certified copy of his latest UIF return if his UIF contributions are not stated on the original tax clearance and attach it to the schedule. 14) The Tenderer should be able to attach certified proof of expenditure on skills development as per the Skills Development Levies Act, 1999. 15) The tenderer should be able to attach certified proof of registration and in Good Standing with the Compensation Commissioner or with a licensed compensation insurer. 16) The Tenderer should be able to attach a certified copy of confirmation from the Department of Labour that their Employment Equity Policy has been submitted in terms of Employment Equity Act, 55 of 1998. 17) The tenderer should be able to provide financial statements prepared in accordance with Generally Accepted Accounting Practice (GAAP) or the International Financial Reporting
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	Standard (IFRS) for the preceding financial year within 6 months of the financial year end, and in terms of Clause F.2.18.1 of these conditions 18) The tenderer should be able to provide a bank grading letter with a grade determined for this particular tender. Tenderers should have in their employ management and supervisory staff satisfying the requirements of the scope of work for labour intensive competencies for supervisory and management staff.					
C.2.1.2	CIDB Grading The required CIDB grading for this project is 9ME .					
C.2.2	Cost of tendering Accept that the Employer will not compensate the tenderers for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.					
C.2.3	Check documents Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.					
C2.4	Confidentiality and copyright Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.					
C.2.5	Reference documents Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference. Add the following: ▪ "South African Bureau of Standards: Standardized Specifications for Civil Engineering Construction", (SANS 1200)" ▪ "Conditions of Contract for Plant and Design Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition 1999 (Yellow Book) published by the International Federation of Consulting Engineers (FIDIC). ▪ "Preferential Procurement Regulations, 2022" published in Government Gazette No 47452 dated 4 November 2022 ▪ "Construction Regulations, 2014" ▪ "Occupational Health and Safety Act", 1993 (Act No. 85 of 1993)					
C.2.6	Acknowledge Addenda Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary, apply for an extension of the closing time stated in the tender data, in order to take the addenda into account.					
C.2.7	The arrangements for a compulsory clarification meeting are: <table><tr><td>Date: Thursday 09 October 2025</td><td>Location: ORTDM offices, Myezo, then proceed to site</td></tr><tr><td>Starting time: 10h00</td><td></td></tr></table>		Date: Thursday 09 October 2025	Location: ORTDM offices, Myezo, then proceed to site	Starting time: 10h00	
Date: Thursday 09 October 2025	Location: ORTDM offices, Myezo, then proceed to site					
Starting time: 10h00						
C.2.8	Seek Clarification Request clarification of the tender documents, if necessary, by notifying the employer at least ten working days before the closing time stated in the tender data.					
C.2.10	Pricing the tender					
C.2.10.1	Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.					
C.2.10.2	Show VAT payable by the employer separately as an addition to the tendered total of the prices.					
C.2.10.3	Provide rates and prices that are fixed for the duration of the Contract, and not subject to adjustment except as provided for in the conditions of contract identified in the Contract data.					

C.2.10.4	State the rates and prices in South African Rand
C.2.11	Alterations to documents Not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.
C.2.12	Alternative tender offers A Tenderer may, together with his tender for the original designs and specifications contained in the Tender Document, submit alternative designs and tender offers for consideration. All designs, calculations, drawings and Operation and Maintenance manuals shall be fully endorsed by a third-party registered engineer, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor. Such alternative designs and offers shall be subject to the following conditions and requirements. Tenders An alternative offer or design will be considered only if the tender for the original items has been fully priced and completed. The alternative tender offer is to be submitted in the same envelope as the main tender offer, together with a schedule that compares the requirements of the tender documents with the alternative requirements the Tenderer proposes. No alternative tender will be considered unless a tender free from qualifications is also submitted. Unless the alternative offer stipulates to the contrary, it shall be assumed that the period for completion of the Works shall be the same as for the original design.
C.2.13.5	The Employer's address for delivery of Tender offers and identification details to be shown on each Tender offer package are: Location of Tender box: Tender Box, Ground Floor, O. R. Tambo District Municipality Building, Nelson Mandela Drive, Myezo Park, Mthatha, Eastern Cape. Physical address: O. R. Tambo House, Nelson Mandela Drive, Mthatha
C.2.14	Information and data to be completed in all respects Accept that tender offers, which do not provide all the data or information requested completely and, in the form, required, may be regarded by the employer as non-responsive.
C.2.15	Closing time The closing time for submission of Tenders is 12:00 Friday, 07 November 2025.
C.2.15	Telephonic, telegraphic, telex, facsimile or e-mailed Bid offers will not be accepted.
C.2.16	Tender offer validity The Tender offer validity period is 90 Days as stated in the tender data.
C.2.16.1	The tender offer validity period is 90 days. Add the following to the clause: If the tender validity expires on a Saturday, Sunday or public holiday, the tender shall remain valid and open for acceptance until the closure of business on the following working day.
C.2.17	Clarification of tender offer after submission The tenderer shall provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include clarification of systems or equipment offered or providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.
C.2.18	Provide other material The tenderer shall, when requested by the Employer to do so, Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements or technical information considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.
C2.20	Submit securities, bonds, policies Submit to the employer before formation of the contract, documentary evidence of the ability to provide certificates of insurance required in terms of the conditions of contract identified in the contract data.

C.2.23	The tenderer is required to submit with his tender: (1) a valid Tax Verification Pin issued by the South African Revenue Services; and (2) Certified copy of the original of all the Companies / CC Registration documents. (3) Joint Venture Agreement where applicable in CIDB format (signed and initialed on each page). (4) Proof of registration with CIDB (5) Certified copies of the original green bar-coded ID or ID card of Members of the companies.
C.3	The employer's undertakings
C.3.1	Respond to requests from the tenderer
C.3.1.1	Respond to a request for clarification received up to ten working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.
C.3.2	Issue Addenda If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until seven days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.
C.3.4	Opening of tender submissions
C.3.4.1	The employer shall open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.
C.3.4.2	Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.
C.3.4.3	The Employer shall not be obliged to make available the record outlined in C.3.4.2 to any tenderer who fail to attend the tender opening.
C.3.6	Non-disclosure The Employer shall not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.
C.3.7	Grounds for rejection and disqualification Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.
C.3.9	Arithmetical errors, omissions and discrepancies
C.3.9.1	Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.
C.3.9.2	Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for: a) the gross misplacement of the decimal point in any unit rate; b) omissions made in completing the pricing schedule or bills of quantities; or c) arithmetic errors in: i) line-item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or ii) The summation of the prices.
C.3.9.3	Notify the tenderer of all errors or omissions that are identified in the tender offer and invite the tenderer to either confirm the tender offer as tendered or accept the corrected total of prices.
C.3.9.4	Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows: a) If bills of quantities or pricing schedules apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the line-item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line-item total as quoted shall govern, and the unit rate shall be corrected. b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and

	the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.																								
C.3.10	Clarification of a tender offer Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.																								
C.3.11	Evaluation of tender offers <i>Replace the contents of the entire sub-clause with the following:</i> The procedure for evaluation of responsive tender offers will be method 2 of table F.1 of SANS 294: 2004. Financial offer & Preferences. The bid will be awarded to the bidder who has scored the highest points for price and preferences combined BUT the prerequisite will be to obtain at least 80 points for quality (functionality), which will be explained in Stage 2 below. Nevertheless, O. R. Tambo District Municipality retains the right to accept any bid. The stages of evaluation are as followed.																								
	Stage 1: Compliance with Bid Rules and other Requirements The bids will be checked to ensure that they comply with the bid rules and all other requirements of the project document. In particular the following documentation must be completed and/or included within the bid. • The form of Offer and Acceptance • Audited financial statements for any tender price over R10million • Certified company registration documents and ID of members • Form C: Compulsory Enterprise Questionnaire • Form D: Certificate of Authority for Signature • Form E: Amendments, Qualifications and Alternatives • Form H: Certificate of Good Standing • Form I: Relevant company experience • Form J: Details of key staff and CVs • Form M: Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2022 • All information supporting the above forms • Addenda issued during the bid period, if any • The pricing schedule. Failure to supply the required information will compromise the bid.																								
	<table><tr><td colspan="3">STAGE 2: FUNCTIONALITY EVALUATION</td></tr><tr><td>ITEM</td><td colspan="2">WEIGHT</td></tr><tr><td>Minimum Conditions of Tender / Functionality (see detailed criteria below)</td><td colspan="2">100</td></tr><tr><td> • Experience with respect to similar projects </td><td colspan="2">20</td></tr><tr><td> • Key Mechanical Systems and Equipment Offered: Sufficiency of Information </td><td colspan="2">60</td></tr><tr><td> • Returnable Electrical Schedules </td><td colspan="2">20</td></tr></table> Only bidders who score 80 points or more on stage 2 will be evaluated further and therefore eligible for award. The maximum score for functionality shall be 100, distributed as follows: Tender functionality claimed <table><tr><td></td><td>Category of Quality / Functionality</td><td>Points</td></tr><tr><td>1</td><td>Experience on similar projects (if JV or Consortium, lead partner’s experience or, if equal partners, either or both their experiences)</td><td>20</td></tr></table>	STAGE 2: FUNCTIONALITY EVALUATION			ITEM	WEIGHT		Minimum Conditions of Tender / Functionality (see detailed criteria below)	100		• Experience with respect to similar projects	20		• Key Mechanical Systems and Equipment Offered: Sufficiency of Information	60		• Returnable Electrical Schedules	20			Category of Quality / Functionality	Points	1	Experience on similar projects (if JV or Consortium, lead partner’s experience or, if equal partners, either or both their experiences)	20
STAGE 2: FUNCTIONALITY EVALUATION																									
ITEM	WEIGHT																								
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• Returnable Electrical Schedules	20																								
	Category of Quality / Functionality	Points																							
1	Experience on similar projects (if JV or Consortium, lead partner’s experience or, if equal partners, either or both their experiences)	20																							

	Supply, installation and commissioning of mechanical and electrical equipment for Water Treatment Works or Wastewater Treatment Works of minimum design capacity of 10MI/d. Copies of Certificate of Completion (or Taking Over Certificate) and documentary evidence of design capacity MUST be submitted with the bid. Projects submitted for scoring must have been completed within the last 10 years. Practical Completion Certificate will not be considered.			
	At least THREE qualifying mechanical & electrical contracts		20	
	At least TWO qualifying mechanical & electrical contracts		10	
	ONE or NO qualifying mechanical & electrical contracts		0	
	2	Key Mechanical Systems and Equipment Offered: Sufficiency of Information	60	
	All the relevant information is included in the tender submission for the Employer to be able to confirm whether or not the key systems and equipment offered (as listed below) broadly conform to the specified requirements. All the relevant information shall be provided for the following systems: • Polyelectrolyte dosing (including polyelectrolyte bulk storage tanks and streaming-flow current detector for regulating dosage); • Chlorine gas handling, regulating and dosing system; • Chlorine gas leak detection and dry scrubber system; • Sludge dehydrator system. All the relevant information shall be provided for the following equipment: • Clariflocculator rotating bridge and sludge scraper (General Arrangement drawing/s and list of materials and bridge drive unit technical data sheets) • Filter bed false-floor structural and materials details (including filter nozzle and stem details) • Clear Water pumpsets for Rosedale • Clear Water pumpsets for Ngadu NOTE: a) Information on systems and equipment listed above to include details of: a. Local supplier/s (or international if applicable); b. Manufacturer's Technical Data Sheets (<i>clearly marked to show the specific model, Duty Point / performance characteristics priced-for in the BoQ</i>) c. Local Service Agent for imported equipment / proprietary systems. b) Printed copies of documents and the other required key information are to be included in Supporting Documents lever-arch file in respect of Returnable Schedule B11. Pdf copies of the full technical data sheets can be submitted on a flashdrive. c) The Employer reserves the Right to request clarification (and additional information if necessary) on any of the information submitted. d) Acceptance of any particular tender offer and signing of a contract by the Employer will not constitute contractual approval of any of the systems and equipment submitted with the tender; the Contract requires that the appointed Contractor meets all the specifications with respect to equipment and systems performances, materials and quality and each component will be subject to a rigorous approval process before contractual approval and acceptance by the Employer's Agent is given in writing.			
	All the relevant information is included in the original tender submission for the Employer to be able to confirm that all 8 key systems and equipment offered as		60	

	listed broadly conform to the specified requirements.		
	All the relevant information is included in the original tender submission for the Employer to be able to confirm that at least 7 out of 8 key systems and equipment offered as listed broadly conform to the specified requirements.	40	
	All the relevant information is included in the original tender submission for the Employer to be able to confirm that at least 6 out of 8 key systems and equipment offered as listed broadly conform to the specified requirements.	20	
	No or insufficient information is supplied with the original tender submission or more than 2 of the 8 key systems and equipment offered clearly do not broadly conform to the specified requirements	0	
B1.2	Returnable Electrical Schedules: Sufficiency of Information	20	
	The Tenderer shall download and print hardcopies of the following pdf documents made available from the given website and fill-in the required information and attach the completed and signed hardcopies under Returnable Schedule B12:  #1_ELEC RETURNABLE_GSE05a Miniature Substations  #2_ELEC RETURNABLE_GSE06 LV distribution cubicles  #3_ELEC RETURNABLE_GSE08 PVC Insulated Cables  #4_ELEC RETURNABLE_GSE17a Telemetry  #5_ELEC RETURNABLE_GSE36 Emergency Genset  #6_ELEC RETURNABLE_GSE50 MV Cables  #7_ELEC RETURNABLE_GSE52 Battery Chargers - Industrial Type  #8_ELEC RETURNABLE_GSE12 MV Switchgear  #9_ELEC RETURNABLE_Dry Type Transformer		
	Note: a) Printed copies of electrical returnable schedules in respect of B12: Returnable Electrical Schedules are to be included in a Supporting Documents lever-arch file. b) The Employer reserves the Right to request clarification (and additional information if necessary) on any of the information submitted in any of the Electrical Returnable Schedules. Acceptance of any particular tender offer and signing of a contract by the Employer will not constitute contractual approval of the information set-out in the electrical returnable schedules submitted with the tender; the Contract requires that the appointed Contractor meets all the specifications (and any agreed deviations) with respect to electrical equipment, materials and quality and each component will be subject to a rigorous approval process before contractual approval and acceptance by the Employer's Agent is given in writing.		
	All 9 Returnable Electrical Schedules submitted and satisfactorily completed and the contents generally all in accordance with the specifications	20	
	8 out of 9 Returnable Electrical Schedules submitted and satisfactorily completed and the contents are generally all in accordance with the specifications	15	
	7 out of 9 Returnable Electrical Schedules submitted and satisfactorily completed and the contents are generally all in accordance with the specifications	10	
	6 out of 9 Returnable Electrical Schedules satisfactorily completed and submitted and the contents are generally all in accordance with the specifications	5	

More than 3 Returnable Electrical Schedules incomplete or missing or substantially deviating from the specifications to the extent that it cannot be confirmed that the equipment offered is in general accordance with the specifications	0
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STAGE 3: EVALUATION FOR PRICE AND PREFERENCE (90/10)

The procedure for Stage 3 of evaluation is as follows:

a) PRICE:90

b) SPECIFIC GOALS10

Points Awarded for Price (Ps)

A total of 90 points will be awarded to the Tenderer with the lowest balanced price. The **other tenders will be awarded points on the ratio to bench mark price as follows:**

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where:

Ps = Points scored for price of bid under consideration
Pt = Rand value of bid under consideration
Pmin = Rand value of lowest acceptable bid

c) Points awarded for specific goals

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 a table below as may be supported by proof/ documentation included with:

The specific goals allocated points in terms of this tender

**Number of points
Allocated on
90/10 system**

Promotion of 51% Black-owned enterprises

4

Promotion of 100% Women-owned enterprises

2

Promotion of 100% Youth-owned enterprises

2

The promotion of enterprises located in a specific region (O.R Tambo District): The Tenderer and Directors are based in the ORTDM region and pay their municipal rates and taxes

2

The total calculated points will be rounded to the second decimal place.

C.3.13 Acceptance of Tender Offer

- C.3.13.1 **Note that the objective Criteria as per the SCM Policy Paragraph 72 and 73 will be applied:**
- 72. Fair Distribution of Municipal Resources on Capital Infrastructure Projects on Awards**
- Tenders will be evaluated and adjudicated as per legislation requirements, treasury guidelines and municipal policy. Fair distribution will be achieved as follows:
 - A bidder will not be awarded the same commodity of work more than once in within a period of three months.
 - If the highest scoring bidder has been previously awarded for the same commodity tender within that three months, then the next highest scoring bidder will be considered for recommendation and award.
 - If the highest scoring bidder has been previously recommended for award in the same sitting for a tender of the same commodity, the next highest scoring bidder will be considered for recommendation and award.

73. Objective criteria on the evaluation and award of bids

	- The objective criteria on the evaluation and awards of bids by the municipality will be based on the following criteria and reasoning: - Where the bidders price offer is below the engineer's estimate, that bid will be rejected as it will pose a risk to the municipality of non-completion of the project to be implemented thus leading to underspending on grants and delays in completion of projects within projected time period. - Further in line with CIDB Practice Note 5, paragraph 3.4 (3), the municipality will judge the reasonableness of financial offers and reject all tender offers with unrealistic financial offers. Accept the tender offer, if in the opinion of the employer, it does not present any unacceptable commercial risk and only if the tenderer: a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement, b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract, c) has the legal capacity to enter into the contract, d) is not insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing, e) complies with the legal requirements, if any, stated in the tender data, and f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest. g) Upon request by the Employer, produce a letter from their proposed Surety Provider within 5 business days which states that arrangements have been confirmed for providing a Surety if the named Tenderer is awarded the Contract.
C.3.13.2	Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful tenderer as described in the form of offer and acceptance.
C.3.13.3	Notice to unsuccessful tenderers After the successful tenderer has acknowledged the employer's notice of acceptance, after written request, the employer will notify the tenderers that their tender offers have not been accepted on the O. R. Tambo District Municipality's website: www.ortambodm.gov.za, by listing the successful tender.
C.3.14	Prepare Contract documents If necessary, revise documents that shall form part of the Contract and that were issued by the employer as part of the tender documents to take account of: a) addenda issued during the tender period, b) inclusion of some of the returnable documents, c) other revisions agreed between the employer and the successful tenderer, and d) The schedule of deviations attached to the form of offer and acceptance, if any.
C.3.17	Provide copies of the Contract The number of paper copies of the signed Contract to be provided by the Employer is 1.
C.3.18	Issue final contract Add the following new Clause: Prepare and issue the final draft of the contract to the successful tenderer for acceptance as soon as possible after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any).
C.4	Additional Conditions applicable to this Tender
C.4.1	Subcontracting as condition of tender O.R. Tambo District Municipality will apply subcontracting as a condition of Contract to advance designated groups for this Contract. The successful tenderer shall subcontract a ring-fenced package of civil works to a locally-based EME or QSE which is at least 51% owned by:

	a. Black people. b. Black people who are youth. c. Black people who are women. d. Black people with disabilities. e. Black people living in rural or underdeveloped areas or townships. f. A cooperative owned by black people. g. Black people who are military veterans. Items for the ring-fenced BoQ shall not be priced at tender stage of this contract. A Prime Cost Sum item is provided in the BoQ to cover the estimated value of the ring-fenced work. Upon commencement of the Contract, the successful Tenderer shall arrange for Quotes from qualifying local EMMes / OSEs for separate sections of the ring-fenced BoQ. In addition to the above, the successful Tenderer is required to source (through a Community Liaison Officer and Project Steering Committee) any needed unskilled and any available semi-skilled labourers from the local community.
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T2: Returnable Documents

Number	Heading	Pages
T2.1	Schedule Of Returnable Documents	21
T2.2	Returnable Documents	22

T2.1 SCHEDULE OF RETURNABLE DOCUMENTS

T2.1.1. General

The complete 'As Issued' Volume 1 of the Tender Document shall be submitted. All returnable schedules shall be properly completed, and the document shall not be altered in any way whatsoever. The Tenderer is required to complete each and every Schedule listed below to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete all the Schedules to the satisfaction of the Employer will prejudice the tender and may lead to rejection on the grounds that the tender is not responsive.

T2.1.2. Returnable Schedules, Forms and Certificates

SCHEDULE	DESCRIPTION	PAGE
	Company Specific	
A1	Authority To Sign Documents	23
A2	Certificate Of Attendance At Clarification Meeting / Site Inspection	24
A3	Certificate Of Authority For Joint Ventures	25
A4	Joint Venture Agreement	26
A5	Compulsory Enterprise Questionnaire	27
	Municipal Bid Documents (MBD)	
MBD 1	Schedule D: Municipal Bid Document	28
MBD 4	Declaration of Interest	30
MBD 5	Declaration for Procurement above R10 million (all applicable taxes included)	33
MBD 6.1	Preference Points Claim Form	35
MBD 8	Declaration of Bidder's past Supply Chain Management Practices	38
MBD 9	Certificate of Independent Bid Determination	40
	Technical and Evaluation	
B1	Proposed Organisation and Organogram	43
B2	Schedule of Proposed Subcontractors	44
B3	Tenderers Expertise and Experience	45
B4	Experience of Key Personnel	46
B5	Preliminary Quality Assurance Plan	47
B6	Health and Safety Plan	48
B7	Preliminary Program	49
B8	Schedule of Estimated Monthly Expenditure	50
B9	Amendments / Alternative and Qualifications by Tenderer	51
B10	Record of Addenda to Tender Document	52
B11	Returnable Mechanical Systems and Equipment Schedule	53
B12	Returnable Electrical Schedules	54
	Contractual	
C1.1	Contract Agreement	56
C1.2	Contract Data	61
C1.3	Pro-forma Performance Guarantee	76
C1.4	Disputes and Arbitration	79
C1.5	Occupational Health & Safety Agreement	80
	Pricing Data	
C2.1	Pricing Instructions	82
C2.2	Bill of Quantities	89

T2.2 RETURNABLE DOCUMENTS

NB: TENDERERS MUST COMPLETE THESE DOCUMENTS / FORMS IN BLACK INK

A1. AUTHORITY TO SIGN DOCUMENTS

I/We*, the undersigned, am/are* duly authorised to sign the form of tender on behalf of

.....

by virtue of the Articles of Association/Resolution of the Board of Directors*, of which a certified copy is attached, or

.....

.....

(*Delete whichever is inapplicable)

Indicate the status of the tenderer by ticking the appropriate box hereunder :

A Company	B Partnership	C Joint Venture	D Sole Proprietor	E Close Corporation
☐	☐	☐	☐	☐

1.

--

NAME

--

SIGNATURE

--

DATE

2.

--

NAME

--

SIGNATURE

--

DATE

WITNESSES:

1.

--

NAME

--

SIGNATURE

--

DATE

2.

--

NAME

--

SIGNATURE

--

DATE

A2. CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING / SITE INSPECTION

INSERT ISSUED CERTIFICATES OF ATTENDANCE HERE

This is to Certify that I/We*

of (Tenderer)

of (address)

.....

Telephone numberFax number.....

E-mail

have attended the clarification meeting and examined the Site of the Works and its surroundings for which I/we* am/are* submitting this Tender and have, so far as is practicable, familiarised myself/ourselves* with all information, risks, contingencies and other circumstances which may influence or affect my/our* tender.

****Delete whichever is inapplicable***

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

SIGNED ON BEHALF OF O. R. TAMBO DISTRICT MUNICIPALITY:

NAME

SIGNATURE

A3. CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This Returnable Schedule is to be completed only if Tenderer is a joint venture.

We, the undersigned, are submitting this tender offer in joint venture and hereby authorise

Mr/Ms, authorised signatory of the company, close corporation or partnership.....acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature :..... Name :..... Designation :.....
		Signature :..... Name :..... Designation :.....
		Signature :..... Name :..... Designation :.....
		Signature :..... Name :..... Designation :.....

Note:

A copy of the Joint Venture Agreement showing clearly the percentage contribution of each partner to the Joint Venture shall be appended to this Schedule.

A4. JOINT VENTURE AGREEMENT

The Tenderer, if a Joint Venture, must attach the Joint Venture Agreement here as per the requirements of the Tender Data.

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

A5. COMPULSORY ENTERPRISE QUESTIONNAIRE

The following particulars must be furnished. In the case of a **Joint Venture or Consortium**, **separate** enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise

Section 2: VAT registration number, if any

Section 3: CIDB registration number, if any

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 4 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: MBD1 must be completed for each JV or Consortium Partner

Section 7: MBD4 must be completed for each JV or Consortium Partner

Section 8: MBD6.1 must be completed for each JV or Consortium Partner

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

- authorises the Employer to obtain a tax Clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- confirms that neither the name of the enterprise nor the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise, has within the last five years been convicted of fraud or corruption;
- confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

SIGNED:

ENTERPRISE NAME

DATE

NAME

POSITION

SIGNATURE

SCHEDULE D: MUNICIPAL BIDDING DOCUMENTS (MBDs)

MBD 1

**PART A
INVITATION TO BID**

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF O. R. TAMBO DISTRICT MUNICIPALITY					
BID NUMBER:	ORTDM SCMU 17:25/26	CLOSING DATE:	07 November 2025	CLOSING TIME:	12.00PM
DESCRIPTION:	KING SABATA DALINDYEBU PRESIDENTIAL INTERVENTION BULK WATER SUPPLY: CONSTRUCTION OF 50ML/D HIGHBURY WATER TREATMENT WORKS & RAW AND CLEAR WATER PUMPSTATIONS: MECHANICAL & ELECTRICAL				
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT:					
TENDER BOX, GROUND FLOOR, O. R. TAMBO DISTRICT MUNICIPALITY BUILDING					
NELSON MANDELA DRIVE					
MYEZO PARK, MTHATHA					
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					
TAX COMPLIANCE STATUS	TCS PIN:		CSD No:		
STATEMENT OF RATES AND TAXES OF THE BIDDER [TICK APPLICABLE BOX]	☐ Yes ☐ No		STATEMENT OF RATES AND TAXES OF THE BIDDER	☐ Yes ☐ No	
[STATEMENT OF RATES AND TAXES OF THE BIDDER AND OF THE COMPANY/ LEASE AGREEMENT FOR LEASED PROPERTY MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES, ANSWER PART B:3]	
TOTAL NUMBER OF ITEMS OFFERED			TOTAL BID PRICE	R	
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:			TECHNICAL INFORMATION MAY BE DIRECTED TO:		
DEPARTMENT	SCM DEPARTMENT		CONTACT PERSON	Mr. N. NOTO	
CONTACT PERSON	MR. SAKHIWO HOPA		TELEPHONE NUMBER	047 501 6425	
TELEPHONE NUMBER	047 501 6449		FACSIMILE NUMBER	N/A	
E-MAIL ADDRESS	sakhiwoh@ortambodm.gov.za		E-MAIL ADDRESS	nkosiyabon@ortambodm.gov.za	

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).
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, CONDITIONS OF CONTRACT FOR CONSTRUCTION FOR BUILDING AND ENGINEERING WORKS DESIGNED BY THE EMPLOYER, SECOND EDITION 2017 (RED BOOK) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
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 VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA .
2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS
3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO
3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO
3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO
3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO
3.5. 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 ABOVE.

**NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.
NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.**

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.
 - 3.1 Full Name of bidder or his or her representative.....
 - 3.2 Identity Number:
 - 3.3 Position occupied in the Company (director, trustee, shareholder²):
.....
 - 3.4 Company Registration Number:
 - 3.5 Tax Reference Number:
 - 3.6 VAT Registration Number:
- 3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
 - 3.8 Are you presently in the service of the state?..... **YES / NO**
 - 3.8.1 If yes, furnish particulars.....
.....

¹ MSCM Regulations: "in the service of the state" means to be –

- (a) a member of –
 - (i) any municipal council;
 - (ii) any provincial legislature; or
 - (iii) the national Assembly or the national Council of provinces;
- (b) a member of the board of directors of any municipal entity;
- (c) an official of any municipality or municipal entity;
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

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

3.9 Have you been in the service of the state for the past twelve months? **YES / NO**

3.9.1 If yes, furnish particulars.....
.....

3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?..... **YES / NO**

3.10.1 If yes, furnish particulars
.....

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?..... **YES / NO**

3.11.1 If yes, furnish particulars.....
.....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?..... **YES / NO**

3.12.1 If yes, furnish particulars
.....

3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?..... **YES / NO**

3.13.1 If yes, furnish particulars.....
.....

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract?..... **YES / NO**

3.14.1 If yes, furnish particulars
.....

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

Full name	Identity number	State employee number

.....
Signature

.....
Date

.....
Capacity

.....
Name of Bidder

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

NO.	QUESTION	ANSWER (TICK WHICH RESPONSE IS APPLICABLE)	
		YES	NO
1.	Are you by law required to prepare annual financial statements?		
1.1	If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the last 3 years.		

NO.	QUESTION	ANSWER (TICK WHICH RESPONSE IS APPLICABLE)	
		YES	NO
2.	Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than 3 months or any other service provider in respect of which payment is overdue for more than 30 days?		
2.1	If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than 3 months or other service provider in respect of which payment is overdue for more than 30 days.		
2.2	If yes, provide details:		

NO.	QUESTION	ANSWER (TICK WHICH RESPONSE IS APPLICABLE)	
		YES	NO
3.	Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?		
3.1	If yes, provide details:		

NO.	QUESTION	ANSWER (TICK WHICH RESPONSE IS APPLICABLE)	
		YES	NO
4.	Will any portion of the goods or services be sourced from outside the Republic, and if so, what portion, and whether any portion of payment from the municipality is expected to be transferred outside of the Republic?		
4.1	If yes, provide details:		

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

MBD 6.1

**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
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 System applicable to this Tender

- a) The applicable preference point system for this tender is the 90/10 preference point system.
- b) The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

1.3 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.

1.4 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) **“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 90 points is allocated for price on the following basis:

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

$P_{\min}$ = Price of lowest 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:

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system)	Number of points claimed by Tenderer (To be completed by the Tenderer)
Promotion of 51% Black-owned enterprises	04	
Promotion of 100% Women-owned enterprises	02	
Promotion of 100% Youth-owned enterprises	02	
The promotion of enterprises located in a specific region (O. R. Tambo District): The Tenderer and Directors are based in the ORTDM region and pay their municipal rates and taxes	02	

The following documents shall be submitted to prove compliance with the above Specific Goals where claimed:

- Copy of business registration documents, as issued by CIPC.
- Certified copy of identity documents of directors/ shareholders/ partners / members, as the case may be.
- Original Valid Tax Clearance Certificate or a Confirmation of Tax Validity with the pin issued by SARS.
- Proof of latest municipal rates and taxes statement of the bidder indicating that rates and taxes are not in arrears for more than 3 months.
- Proof of latest municipal rates and taxes statement of each company director indicating that rates and taxes are not in arrears for more than 3 months.
- Proof of latest municipal water and sanitation charges statement of the bidder indicating that rates and taxes are not in arrears for more than 3 months for bidders who reside in the O. R. Tambo District Municipality area.
- Proof of latest municipal water and sanitation charges statement of each company director indicating that rates and taxes are not in arrears for more than 3 months for bidders who reside in the O. R. Tambo District Municipality area.
- Confirmation of address from a ward councillor where the bidder and company directors operate and reside in a peri-urban area where no rates and taxes and service charges are not billed.
- A copy of a valid lease agreement where the bidder does not own the property they are operating from.

5. DECLARATION WITH REGARD TO COMPANY/FIRM

5.1. Name of company/firm.....

5.2. Company registration number:

5.3. 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]

5.4. 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:

- 1 The information furnished is true and correct;
- 2 The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- 3 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;
- 4 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:

.....

.....

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the homepage.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

4.5	Was any contract between the bidder and the municipality / municipal entity or anyother organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND
CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN
AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

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

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

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

BID NO.: ORTDM SCMU 17-25/26

**CONSTRUCTION OF 50ML/D HIGHBURY WATER TREATMENT WORKS & RAW AND CLEAR WATER
PUMPSTATIONS: MECHANICAL & ELECTRICAL**

in response to the invitation for the bid made by:

O. R. TAMBO DISTRICT MUNICIPALITY

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

I certify, on behalf of:

_____ that:
(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. 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 consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any

competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

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

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

B1. PROPOSED ORGANISATION AND STAFFING

The tender offer shall include an organogram showing the team of key personnel the Tenderer proposes to assign to the Contract and how responsibilities for the various disciplines or work and components of the Works will be assigned. The name, roles and responsibilities of each person must be clearly set out, and corresponding job descriptions must be provided as an addendum to the organogram.

In the case of a Joint Venture or where major sub-contractors are made use of, the organogram must show how respective responsibilities are to be allocated.

As a minimum, the organogram must show how respective responsibilities are to be allocated. As a minimum, the organogram must include for the personnel detailed in Returnable Schedule B4: Experience of Key Personnel.

The Tenderer shall include the requisite organogram and CVs in the Supporting Documentation file.

In addition to the detail request above, ***the names of the following shall be entered below***

Construction Manager (Site Agent)	
Installation Electrician	
Health & Safety Officer	

SIGNED BY/ON BEHALF OF TENDERER:

--

NAME

--

SIGNATURE

--

DATE

B2. SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

SUBCONTRACTORS			
Category/type	Subcontractor Name/Address/Contact Person/Phone/e-mail/Details of Organisation/Firm/ Experience	Items of work (pay items) to be undertaken by the Subcontractor	Estimated Cost of Work (Rand)
TOTAL (Excluding VAT)			

If there is insufficient space above, the Tenderer may include the additional sheets in the Supporting Documentation file.

Number of additional sheets submitted by the Tenderer to this Schedule(If nil, enter NIL)

Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any of the subcontractors not be approved subsequent to acceptance of the tender, this shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed above being approved by the Engineer.

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

B3 TENDERERS EXPERTISE AND EXPERIENCE

The evaluation of the Tenderer's relevant Construction Experience shall be based on the minimum qualifying criteria for Functionality Scoring set out in Tender Data and reproduced below:

1	Experience on similar projects (if JV or Consortium, lead partner's experience or, if equal partners, either or both their experiences)	20
Supply, installation and commissioning of mechanical and electrical equipment for Water Treatment Works or Wastewater Treatment Works of minimum design capacity of 10MI/d. Copies of Certificate of Completion (or Taking Over Certificate) and documentary evidence of design capacity MUST be submitted with the bid. Projects submitted for scoring must have been completed within the last 10 years.		
At least THREE qualifying mechanical & electrical contracts		20
At least TWO qualifying mechanical & electrical contracts		10
ONE or NO qualifying mechanical & electrical contracts		0

The Tenderer shall include the requisite documentation in the Supporting Documentation file.

SIGNED BY/ON BEHALF OF TENDERER:

--

NAME

--

SIGNATURE

--

DATE

B4 EXPERIENCE OF KEY PERSONNEL

Curriculum Vitae (CV), up to a maximum of five (5) pages must be submitted, for each of the above key personnel. The CVs must specifically include the qualifications, professional accreditation and relevant experience in construction projects of a similar nature.

Each CV must be clearly cross-referenced to and labelled to correspond with the organogram submitted in terms of Returnable Schedule **B1 Proposed Organisation and Staffing**, so as to indicate which role the person in question is proposed to fulfil in the Contract.

The Tenderer shall include the requisite CVs in the Supporting Documentation file.

KEY PERSONNEL CVs : MINIMUM INFORMATION TO BE SUPPLIED

Name:
Professional:
Date of Birth:
Parent Firm:
Position in Firm:
Years with Firm:
Nationality:

Tertiary Education (and year obtained):

Professional Accreditation (and year obtained):

Years of Relevant Experience: *Relevant experience shall relate to their proposed roles in this Contract.*

Countries of Work Experience:

Key Qualifications: *Under this heading, give outline of staff members experience and training most pertinent to the assigned work on the team.*

Relevant Experience: *Describe degree of responsibility held by staff member on relevant previous assignments, and give dates, project values and locations. For experience in the last ten years, also give types of activities performed and Employer references where appropriate.*

Summary of Other Experience: *Under this heading, list all positions held by staff member since graduation, giving dates, names of employing organisation, title of position held and location, type and value of construction projects.*

References

Declaration

I confirm that the above information contained in the CV is an accurate description of my experience and qualifications and that, at the time of signature, I am available and will serve in the position indicated for me in the proposal.

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

B5 PRELIMINARY QUALITY ASSURANCE PLAN

The Tenderer must submit a Preliminary Quality Assurance Plan.

The Preliminary Quality Assurance Plan must outline processes, procedures and associated resources, applied by whom and when, to meet the requirements and indicate how risks will be managed

Particular attention in the plan must be given to the following:

- a) The preparation and internal approval process for the Contractors Documents.
- b) The proposed internal quality management procedures pertaining to the Works and including aspects such as:
 - Control and tracking of the Contractor's Documents
 - Testing procedures

This plan must address the Tenderer's plans for completing the Works within the specified Time for Completion, paying particular attention to:

- a) Interfacing with the Tenderer's own sub-contractors or Joint Venture Partners; and
- b) The sequencing of the Works in terms of the requirements of C3: Scope of Work.

The Tenderer must include the required Quality Assurance Plan and supporting information in the Supporting Documentation file.

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

B6 HEALTH AND SAFETY PLAN

Tenderers are to note the requirements of the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2014 issued in terms of Section 43 of the Act. The Tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.

In this regard, the Tenderer shall prepare and attach a Health and Safety Plan in respect of the Works in order to demonstrate the necessary competencies and resources to perform the construction work all in accordance with the Act and Regulations. The Health and Safety specification for the Employer is attached. The Tenderer's Health and Safety Plan shall cover inter-alia the following details:

- 1) Management Structure, Site Supervision and Responsible Persons including a succession plan
- 2) Contractor's induction training program for employees, sub-contractors and visitors to the Site
- 3) Health and safety precautions and Procedures to be adhered to in order to ensure compliance with the Act, Regulations and Safety Specifications
- 4) Regular monitoring Procedures to be performed
- 5) Regular liaison, consultation and review meetings with all parties
- 6) Site security, welfare facilities and first aid
- 7) Site rules and fire and emergency Procedures.

Tenderers are to note that the Contractor is required to ensure that all sub-contractors or others engaged in the performance of the contract also comply with the above requirements.

The Tenderer shall also take into account the additional requirements stated in the Scope of Work when drawing up the Health and Safety Plan for the contract.

Details of the Health and Safety Plan shall be appended to this Schedule.

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

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

B7 PRELIMINARY PROGRAM

The Tenderer shall provide a preliminary program in Gantt Chart format showing how the requirements of C1.2: Contract Data and Part C3: Scope of Work will be met; and outlining the key activities and milestones for the Works and the sequencing thereof.

The program must be based on the tendered Time for Completion and take cognisance of the programming limitations given in the Project Specifications.

The preliminary program must be included in the Supporting Documentation file.

SIGNED BY/ON BEHALF OF TENDERER:



NAME



SIGNATURE



DATE

B8 SCHEDULE OF ESTIMATED MONTHLY EXPENDITURE

The Tenderer shall state his estimated expenditure indicating the values of each monthly claim in terms of Clause 6.10 of the General Conditions of Contract, which he/she estimates will arise based on his/her preliminary program and tendered rates, in the table below.

MONTH	VALUE
1	R
2	R
3	R
4	R
5	R
6	R
7	R
8	R
9	R
10	R
11	R
12	R
13	R
14	R
15	R
16	R
17	R
18	R
19	R
20	R
21	R
22	R
23	R
24	R
TOTAL	R

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

B9 AMENDMENTS / ALTERNATIVES AND QUALIFICATIONS BY TENDERER

The Tender should not make any departures from the provisions of this contract.

(The schedules below are not an invitation for amendments, deviations or alternatives but should the Tenderer desire to make any departures from the provisions of this contract he shall set out his proposals clearly hereunder.)

I / We herewith propose the amendments, alternatives and discounts as set out in the tables below:

(a) AMENDMENTS

PAGE, CLAUSE OR ITEM NO	PROPOSED AMENDMENT

- (1) *Amendments to the General and Special Conditions of Contract are not acceptable;*
- (2) *The Tenderer must give full details of all the financial implications of the amendments and qualifications in a covering letter attached to his tender.*

(b) ALTERNATIVES

PROPOSED ALTERNATIVE	DESCRIPTION OF ALTERNATIVE

- (1) *Individual alternative items that do not justify an alternative tender and an alternative offer for time for completion should be listed here.*
- (2) *In the case of a major alternative to any part of the work, a separate Bill of Quantities, program, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.*
- (3) *Alternative tenders involving technical modifications to the design of the works and methods of construction shall be treated separately from the main tender offer.*

(c) QUALIFICATIONS

ITEM ON WHICH QUALIFICATION IS MADE	DESCRIPTION OF QUALIFICATION

- (1) *The Tenderer must give full details of the discounts offered in a covering letter attached to his tender, failing which, the offer will be prejudiced.*

If there is insufficient space above, the Tenderer may append additional sheets.

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

SIGNED BY/ON BEHALF OF TENDERER:

--

NAME

--

SIGNATURE

--

DATE

B10 RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

No.	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

If there is insufficient space above, the Tenderer may include the additional sheets in the Supporting Documentation file, to be submitted in accordance with the Tender Data

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

SIGNED BY/ON BEHALF OF TENDERER:

--

NAME

--

SIGNATURE

--

DATE

B11 RETURNABLE SCHEDULES: MECHANICAL SYSTEMS & EQUIPMENT

The evaluation of the Tenderer's offerings in respect of mechanical Systems and Equipment shall be based on the qualifying criteria for Functionality Scoring set out in Tender Data and reproduced below:

2	Key Mechanical Systems and Equipment Offered	60
Sufficient information is included in the tender submission for the Employer's Agent to be able to confirm whether or not the key systems and equipment offered (as listed below) broadly conform to the specified requirements. Sufficient information shall be provided for the following systems: • Polyelectrolyte dosing (including polyelectrolyte bulk storage tanks and streaming-flow current detector for regulating dosage); • Chlorine gas handling, regulating and dosing system; • Chlorine gas leak detection and dry scrubber system; • Sludge dehydrator system. Sufficient information shall be provided for the following equipment: • Clariflocculator rotating bridge and sludge scraper (General Arrangement drawing/s and list of materials and bridge drive unit technical data sheets) • Filter bed false-floor structural and materials details (including filter nozzle and stem details) • Clear Water pumpsets for Rosedale • Clear Water pumpsets for Nqadu NOTE: e) Information on systems and equipment listed above to include details of: a. Local supplier/s (or international if applicable); b. Manufacturer's Technical Data Sheets (<i>clearly marked to show the specific model, Duty Point / performance characteristics priced-for in the BoQ</i>) c. Local Service Agent for imported equipment / proprietary systems. f) Printed copies of documents and the other required key information are to be included in Supporting Documents lever-arch file in respect of Returnable Schedule B11. Pdf copies of the full technical data sheets can be submitted on a flashdrive. g) The Employer reserves the Right to request clarification (and additional information if necessary) on any of the information submitted. h) Acceptance of any particular tender offer and signing of a contract by the Employer will not constitute contractual approval of any of the systems and equipment submitted with the tender; the Contract requires that the appointed Contractor meets all the specifications with respect to equipment and systems performances, materials and quality and each component will be subject to a rigorous approval process before contractual approval and acceptance by the Employer's Agent is given in writing.		
All the relevant information is included in the original tender submission for the Employer to be able to confirm that all 8 key systems and equipment offered as listed broadly conform to the specified requirements.		60
All the relevant information is included in the original tender submission for the Employer to be able to confirm that at least 7 out of 8 key systems and equipment offered as listed broadly conform to the specified requirements.		40
All the relevant information is included in the original tender submission for the Employer to be able to confirm that at least 6 out of 8 key systems and equipment offered as listed broadly conform to the specified requirements.		20
No or insufficient information is supplied with the original tender submission or more than 2 of the 8 key systems and equipment offered clearly do not broadly conform to the specified requirements		0

The Tenderer shall include the requisite documentation in the Supporting Documentation file.

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

B12 RETURNABLE SCHEDULES: ELECTRICAL

The Tenderer shall download and print hardcopies of the following pdf documents made available from the Employer's Contact Person and fill-in the required information and attach the completed and signed hardcopies under this Returnable Page number in the Supporting Documentation file.

 #1_ELEC RETURNABLE_GSE05a Miniature Substations

 #2_ELEC RETURNABLE_GSE06 LV distribution cubicles

 #3_ELEC RETURNABLE_GSE08 PVC Insulated Cables

 #4_ELEC RETURNABLE_GSE17a Telemetry

 #5_ELEC RETURNABLE_GSE36 Emergency Genset

 #6_ELEC RETURNABLE_GSE50 MV Cables

 #7_ELEC RETURNABLE_GSE52 Battery Chargers - Industrial Type

 #8_ELEC RETURNABLE_GSE12 MV Switchgear

 #9_ELEC RETURNABLE_Dry Type Transformer

The evaluation of the Tenderer's offerings in respect of Electrical Returnable Schedules shall be based on the qualifying criteria for Functionality Scoring set out in Tender Data.

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

C1: Agreements and Contract Data

Number	Heading	Pages
C1.1	Contract Agreement	56
C1.2	Contract Data	61
C1.3	Pro-forma Performance Guarantee	76
C1.4	Disputes and Arbitration	79
C1.5	Occupational Health & Safety Agreement	80

C1.2. Contract Agreement

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

BID NO: ORTDM SCMU 17-25/26 - CONSTRUCTION OF 50 ML/D Highbury Water Treatment Works & Raw and Clear Water Pumpstations: Mechanical & Electrical

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 Schedule of Returnable Documents, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorised, 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, within the Contract Period stated below.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF 15% VALUE ADDED TAX IS:

.....
.....

..... RAND (in words); R(in figures)

THE OFFERED TIME FOR COMPLETION (ref Appendix to Tender Part 2: Data Provided by the Contractor):

87 (Eighty-Seven) Weeks (including 4 month Trial Operation Period)

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.

SIGNED ON BEHALF OF/BY THE TENDERER:

--

NAME

--

SIGNATURE

--

CAPACITY

--

DATE

NAME AND ADDRESS OF TENDERER:

.....

SIGNED BY WITNESS:

--

NAME

--

SIGNATURE

--

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 and for the contract period offered. 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:

- C1: Agreements and Contract Data
- C2: Pricing Data
- C3: Scope of Work
- C4: Environmental Management Plan
- C5: OH&S Specification
- C6: Tender Drawings
- C7: Ringfenced BoQ for Local SMME's

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto as listed in the Returnable Documents 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 authorised representative(s) of both parties.

The tenderer shall within two weeks of signing this Agreement, including the Schedule of Deviations (if any), or when or just after this Agreement comes into effect, contact the employer's implementing agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date of signature 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.

SIGNED ON BEHALF OF/BY THE EMPLOYER:

NAME	SIGNATURE
CAPACITY	DATE

Name of Tendering Entity and principal address

.....

.....

.....

SIGNED BY WITNESS:

NAME	SIGNATURE	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

.....

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2. Subject

Details

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3. Subject

Details

.....

.....

.....

4. Subject

Details

.....

.....

.....

By the duly authorised 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 and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Returnable Documents, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and Acceptance.

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

Schedule of Deviations (continued)

SIGNED ON BEHALF OF/BY THE TENDERER *(only on award of Contract):*

NAME

SIGNATURE

CAPACITY

DATE

SIGNED BY WITNESS *(only on award of Contract):*

NAME

SIGNATURE

DATE

SIGNED ON BEHALF OF O. R. Tambo District Municipality:

NAME

SIGNATURE

CAPACITY

DATE

SIGNED BY WITNESS:

NAME

SIGNATURE

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) (year)

at (place)

SIGNED ON BEHALF OF/BY THE CONTRACTOR (*only on award of Contract*):

NAME

SIGNATURE

CAPACITY

SIGNED BY WITNESS (*only on award of Contract*):

NAME

SIGNATURE

C1.2. Contract Data

Part 1: Contract Data Provided by the Employer

GENERAL CONDITIONS OF CONTRACT

The following standardised General Conditions of Contract apply to this Contract:

Conditions of Contract for Plant and Design Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition 1999 (Yellow Book) published by the International Federation of Consulting Engineers (FIDIC).

Copies of these Conditions of Contract (Yellow Book) may be obtained from the South African Institution of Civil Engineering (SAICE) (tel 011 805 5947) or Consulting Engineers South Africa (CESA) (tel 011 463 2022).

The Annexes and Forms bound in the Conditions of Contract (Yellow Book) shall not apply to this Contract and shall be replaced with the documentation bound into this Contract Document.

The General Conditions make reference to the Appendix to Tender and Particular Conditions (contained in the Contract Data) which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

The General Conditions shall be read in conjunction with the variations, amendments and additions set out in the Appendix to Tender and Particular Conditions below. Each item of data given below is cross-referenced to the Clause or Sub-Clause in the General Conditions to which it mainly applies.

PARTICULAR CONDITIONS OF CONTRACT

The Particular Conditions of Contract are as numbered and set out below. These Clauses are the only variations from and/or additions to the clauses of the General Conditions of Contract. The variables are summarised in an Appendix ("Appendix to Tender Part 1: Data Provided by the Employer") at the end of this section.

1.1 Definitions

1.1.1 The Contract

*Delete the text of **Sub-Clause 1.1.1.1** and substitute: "Contract" means the documents comprising the terms of the contract as listed in that section of C1.1: Form of Offer and Acceptance called "Acceptance".*

*Delete the text of **Sub-Clause 1.1.1.3** and substitute: "Letter of Acceptance" means that section of C1.1: Form of Offer and Acceptance called "Acceptance".*

*Delete the text of **Sub-Clause 1.1.1.4** and substitute: "Letter of Tender" means that section of C1.1: Form of Offer and Acceptance called "Offer".*

*Delete the text of **Sub-Clause 1.1.1.5** and substitute the following:*

"Employer's Requirements" means the document detailing the Scope of Work together with all specifications and drawings issued by the Employer as included in the Contract, and any additions and modifications to such document and drawings in accordance with the Contract. Such document and drawings specify the purpose, scope, and/or design and/or other technical criteria, for the Works.

*Delete the text of **Sub-Clause 1.1.1.6** and substitute: "Schedules" means the Returnable Schedules and Documents that are identified in T2.1 to be part of the Contractor's Proposal, and which are completed by the Contractor and submitted with the tender. Such document(s) may include data, lists and schedules of payments and/or prices."*

*Delete the text of **Sub-Clause 1.1.1.7** and substitute: "Contractors Proposal" means the Schedules, plus any other supporting documentation that the Contractor submitted with the Offer, as included in the Contract."*

*Delete the text of **Sub-Clause 1.1.1.8** and substitute: "Tender" means that section of C1.1: Form of Offer and Acceptance called "Offer" and all other documents which the Contractor submitted with the Offer, as included in the Contract."*

*Delete the text of **Sub-Clause 1.1.1.9** and substitute: “Appendix to Tender” means the completed section entitled Appendix to Tender included in C1.2: Contract Data.”*

*Add new **Sub-Clauses 1.1.1.11 Drawings**.*

“1.1.1.11 **Drawings**” means all drawings, calculations and technical information forming part of the Tender Documents (other than information contained in the Specifications) and any modifications thereof or additions thereto from time to time approved in writing by the Engineer or delivered to the Contractor by the Engineer.”

1.1.2 Parties and Persons

*Replace the contents of **Sub-Clause 1.1.2.2 Employer** with the following:*

“The Employer is O. R. Tambo District Municipality represented by such person or persons duly authorised thereto by O. R. Tambo District Municipality in writing and the legal successors in title to this person.”

*Replace the contents of **Sub-Clause 1.1.2.3 Contractor** with the following:*

“The Contractor means the person(s) named as contractor in the Appendix to the Tender and whose offer has been accepted by the Employer and the legal successors in title to this person(s).”

*Add the following to the end of **Sub-Clause 1.1.2.4 Engineer**:*

“The Engineer, referred to in the documents, is the firm of Consulting Engineers, GIBB (Pty) Ltd acting through a director, an associate or an official authorised thereto in writing.”

1.1.3 Dates, Tests, Periods and Completion

*Delete the **Sub-Clause 1.1.3.9 Day** and replace with the following:*

“ “day” means a calendar day and where a specific number of days is allowed in the Contract for the performance of any act or is stipulated for the extinction of any right or the duration of any event or circumstance, the special non-working days and the days falling within the year end break as stated in the Appendix to Tender and the day from which the period concerned is stated to commence shall be excluded from the calculation of the number of days concerned. “Year” means 365 days.”

1.1.6. Other Definitions

*Add the following to the end of **Sub-Clause 1.1.6.5 Laws**:*

“The law of the Republic of South Africa shall apply.”

1.1.7. Terms that may be used elsewhere in other portions of the document

*Add new **Sub-Clause 1.1.7 Terms that may be used elsewhere in other portions of the document to Clause 1.1.***

1.1.7 Terms that may be used elsewhere in other portions of the document

- 1.1.7.1 “Certificate of Completion” is synonymous with “Taking-over Certificate”.
- 1.1.7.2 “Defects Liability Period” is synonymous with “Defects Notification Period”.
- 1.1.7.3 “Guarantee” and Deed of Suretyship” are synonymous with “Performance Security”.
- 1.1.7.5 “Final Approval Certificate” is synonymous with “Performance Certificate”.
- 1.1.7.6 “Contract Price Adjustment Factor” is synonymous with “table of adjustment data” as used in Sub-Clause 13.8 [Adjustments for Changes in Cost].
- 1.1.7.7 “Contract Data” means the General Conditions and the “Particular Conditions”.
- 1.1.7.8 “Offer” is synonymous with “Tender”.
- 1.1.7.9 “Form of Offer” is synonymous with “Letter of Tender”.
- 1.1.7.10 “Scope of Work” is synonymous with “Employer’s Requirements”.
- 1.1.7.11 “Site Agent” is synonymous with “Contractor’s Representative”.
- 1.1.7.12 “Plant” is synonymous with “Contractor’s Equipment” where the context so indicates”.

1.4 Law and Language

*Add the following to the end of **Clause 1.4 Law and Language**:*
"The law of the Republic of South Africa shall apply."

1.5 Priority of Documents

*Delete **Sub-Clause 1.5** and replace with the following:*
"The documents forming the Contract are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found, the priority shall be such as may be accorded by the governing law. The Engineer has authority to issue any instruction which he considers necessary to resolve an ambiguity or discrepancy".

1.6 Contract Agreement

*Delete **Sub-Clause 1.6** and substitute:*
"The Parties shall enter into a Contract Agreement after the Contractor is called upon to do so by the Employer, and in accordance with the conditions stated in C1.1: Form of Offer and Acceptance". The Agreement shall be the fully completed Offer and the fully completed Acceptance and Schedule of Deviations (if any)".

2.0 The Employer

2.1 Right of Access to the Site

*In the first paragraph of **Sub-Clause 2.1**, delete the last sentence and replace with the following:*
"However, the Employer may withhold any such right or possession until the Performance Security, Proof of Insurance, Contractor's Health and Safety Plan and file in compliance with the Occupational Health and Safety Act (Act No 85 of 1993) and the latest Construction Regulations (2014) in terms of that Act (eg Construction Permit) and any requirements in terms of the Scope of Work, Detailed Programme and Letter of good standing from the compensation commissioner with respect to compliance in terms of the COID Act".

3.0 The Engineer

3.1 Engineers Duties and Authority

*In the third paragraph of **Sub-Clause 3.1**, delete "Particular Conditions" and replace with "Appendix to the Tender".*

3.2 Delegation by the Engineer

*In the first paragraph of **Sub-Clause 3.2 Delegation by the Engineer**, after "resident engineer" insert "Engineer's representative".*

4.0 The Contractor

4.2 Performance Surety

*In the second paragraph of **Sub-Clause 4.2**, delete "within 28 days" and substitute "within the time stated in the Appendix to Tender".*

*Add the following to the end of **Sub-Clause 4.2**:*

"A performance Security, as indicated in the Appendix to Tender is required. If the Performance Security is in the form of a bank guarantee, it shall be issued either (a) by a bank located in the Country, or (b) directly by a foreign bank acceptable to the Employer. If the Performance Security is not in the form of a bank guarantee, it shall be furnished by a financial entity registered, or licensed to do business, in the Country registered as an authorised financial services provider with the Financial Services Board".

4.5 Nominated Subcontractors

*In **Sub-Clause 4.5** delete "means a Subcontractor" and substitute "means a subcontractor named in the Contract and/or a Subcontractor".*

4.6 Co-operation

See also any requirements with regard to co-operation in the Project Specification.

4.9 Quality Assurance

In the first paragraph of **Sub-Clause 4.9**, delete “The system shall be in accordance with the details stated in the Contract”.

*Add the following to the end of the **Sub-Clause 4.9**:*

“See also any requirements with regard to Quality Assurance in the Project Specification.”

4.10 Site Data

*In the first paragraph of **Sub-Clause 4.10**, after the first sentence, add the following:*

“The relevant data referred to in the previous sentence shall be the data provided in the Employer’s Requirements”.

*Add **Sub-Clause 4.10.1 Contractor deemed to have inspected the site** to Clause 4.10.*

4.10.1 Contractor deemed to have inspected the site

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender (as far as practicable) as to:

- a) the form and nature of the Site and its surroundings, including subsurface conditions,
- b) Condition and nature of existing mechanical and electrical equipment, pipework and associated items
- c) the hydrological and climatic conditions
- d) the extent and nature of work and materials necessary for the execution and completion of the Works,
- e) the means of access to the Site and the Accommodation he may require, and
- f) in general, shall be deemed to have obtained all information (as far as is practicable) as to risks, contingencies and all other circumstances which may influence or affect his tender
- g) No subsequent claims by the Contractor arising from his lack of knowledge of perceptible conditions on the site or its surroundings or of information available in connection therewith shall be entertained.

4.12 Site Unforeseeable Physical Conditions

*In the second to last paragraph of **Sub-Clause 4.12**, delete “(ii) The Engineer may also review....” and substitute “(b) The Engineer may also review...”.*

4.18 Protection of the Environment

*Add the following paragraph to the end of **Sub-Clause 4.18**:*

“The Contractor shall ensure compliance with the environmental requirements as set out in the Scope of Work”.

4.22 Security of the Site

In Sub-Clause 4.22, Item (a), delete “the Site” and replace with the following:

“those parts of the Site where the Permanent Works are being executed or which have been designated by the Engineer for the Contractor’s use”.

5.0 Design

5.1 General Design Obligations

*Delete the third sentence of paragraph one of **Sub-Clause 5.1** and replace with the following:*

“The Contractor shall ensure that all design work to be undertaken by the Contractor or on behalf of the Contractor is undertaken by registered professionals. If required by the Engineer, the Contractor shall submit to the Engineer for the consent the name and particulars of each proposed designer and design Sub-Contractor.”

5.2 Contractors Documents

*In paragraph six of **Sub-Clause 5.2** delete Item (a) (iii).*

6.9 Contractor’s personnel

*In paragraph one of **Sub-Clause 6.9**, after the first sentence, insert the following:*

"The Contractor shall assign suitable personnel to each of the Key Personnel Roles identified in the respective Returnable Schedule submitted with the Tender Offer, who shall be dedicated to these roles full- time on Site for the duration stated in the schedule where applicable. The personnel proposed in the abovementioned Returnable Schedule shall not be changed without written permission of the Engineer, and such permission will not be granted unless the alternate scores the same or higher than the originally offered key person in terms of the Functionality Criteria prescribed in T1.2: Tender Data.

8.1 Commencement of Work

*In the second line of the second paragraph of **Sub-Clause 8.1** after the words "Commencement Date", insert "but no later than the period stated in the Appendix to Tender"*

8.3 Programme

*In the first sentence of **Sub-Clause 8.3** replace "within 28 days" with "within the time stated in the Appendix to Tender":*

*Add the following items to be included in the programme to the end of paragraph one of **Sub-Clause 8.3**:*

- "(e) the Contractor's monthly cashflow forecast, and*
- (f) details of the Contractor's environmental management measures and health and safety plans in respect of all construction activities."*

*Add the following to the end of the **Clause 8.3**:*

"The Contractor's Programme will not be accepted as a basis for Claims for additional compensation without due reference to all associated factors."

See also any requirements with regard to Programme in Part C3 Scope of Works.

8.6 Rate of Progress

*In **Sub-Clause 8.6**, the first paragraph, add "and/or" to the end of Item (b), and add: "(c) actual progress is too slow to complete an aspect of the required work in accordance with the Work Breakdown Schedule and/or in accordance with the Right of Access to Site as specified in C3.5 of the Scope of Work,"*

8.7 Delay Damages

*Change the name of **Sub-Clause 8.7** "Delay Damages" to "Penalties" and delete all references to "delay damages" and substitute "penalties".*

9.1 Contractors Obligation

In the third paragraph of Sub-Clause 9.1 in Item (b), after "which shall include" insert: "putting the whole of the Works into operation and".

*Delete item (c) in paragraph three of **Sub-Clause 9.1** and replace with the following:*

- "(c) trial operation, if a trial operation is required in terms of the Appendix to the Tender or the Employers Requirements and for the period stated therein which shall have demonstrated that the Works or Section perform reliably and in accordance with the Contract."*

*Add the following after the fourth paragraph of **Sub-Clause 9.1**:*

"The trial operation will be deemed to have commenced only once the Engineer certifies in writing to the Contractor and the Employer, that the Works have passed the commissioning tests in terms of Sub-item (b). Such certification will be given within 21 days of receipt by the Engineer, of the documentation specified in the Scope of Work to be submitted by the Contractor to demonstrate that the Works have passed the commissioning tests. Further requirements concerning the Contractor's obligations during the trial operation are specified in the Scope of Work."

10.0 Employers Taking Over

10.1 Taking over of the Works and Sections

*Delete the words "or is deemed to have been issued" from paragraph one of **Sub-Clause 10.1**.*

*Delete paragraph four of **Sub-Clause 10.1**.*

10.2 Taking over of Parts of the Works

*Delete "it is used" from item (a) in paragraph two of **Sub-Clause 10.2** and replace it with "the trail operation ends"*

10.3 Interference with Tests on Completion

*Delete paragraph one and paragraph two of **Sub-Clause 10.3**.*

11.0 Defects Liability

11.3 Extension of Defects Notification Period

*Delete the last sentence of paragraph one of **Sub-Clause 11.3**.*

11.11 Clearance of Site

*Delete the first paragraph of **Clause 11.11** and replace with the following:*

"With the exception of Plant, Materials and Contractor's Equipment required to complete any outstanding work or to remedy defects or damage as notified by, or on behalf of the Employer and which Plant, Materials and Contractor's Equipment have been agreed and recorded by the Engineer and the Contractor, the Contractor shall, upon receipt of the Taking-Over Certificate, remove all Contractor's Equipment and surplus material, wreckage, rubbish and Temporary Works, from the Site unless otherwise instructed by the Engineer."

13.0 Variations and Adjustments

13.3 Variation Procedure

*Delete the third paragraph of **Clause 13.3** and replace with the following:*

"Each instruction to execute a Variation, unless the Variation is to be executed on a Daywork basis, shall be a written instruction presented in the form of a Variation Order. The Variation Order shall be presented to the Employer, who shall signify his approval before the Order is signed by the Engineer and issued to the Contractor, who shall acknowledge his acceptance by signing the Order. The Contractor shall not accept a Variation Order that is not approved and signed by the Employer."

13.8 Adjustments for Changes in Costs

*In the third paragraph of **Sub-Clause 13.8** delete from "The formulae shall be of the following ..." up to and including the fourth paragraph and replace with the following:*

"The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate schedule and certified in Payment Certificates, shall be determined from the "Haylett" formula and indices as set out below.

$$CPA = a + b \text{ Ln/Lo} + c \text{ Pn/Po} + d \text{ Mn/Mo} + e \text{ Fn/Fo}$$

Where:

"CPA" is the adjustment factor for calculation of escalation for the particular certification month.

"a" is a fixed coefficient representing the non-adjustable portion in contractual payments.

"b", "c" and "d" are coefficients representing the estimated portion of each cost element related to the execution of the Works

"Ln", "Pn", "Mn", "Fn" are the current month cost indices for a given Payment Certificate.

"Lo", "Po", "Mo", "Fo" are the base month cost indices

Values of the coefficients shall be:

X = 0,10; a (labour index) = 0,05 b (plant index) = 0,05; c (mechanical and electrical materials index) = 0,80 ; d (fuel index) = 0,10

The Site is situated in: Eastern Cape Province.

The base month is: The month prior to that in which tenders closed.

The indices for "L", "P", "M" and "F" are the following:

1. "L" is the "Labour Index" and shall be the relevant monthly value given in P0141: (Consumer Price Index) Table A: Consumer Price Indices: Main Areas: "Geographical Areas: Eastern Cape" as published by Statistics South Africa.
2. "P" is the "Plant and Equipment Index" and shall be the relevant monthly value given in P0151.1 (Construction Materials Indices) Table 4: Mining and Construction Plant and Equipment: "Plant and Equipment index code JB000107" as published by Statistics South Africa.
3. "M" is the "Materials Index (mechanical and electrical)" and shall be the relevant monthly value given in P0151.1 (Construction Materials Indices) Table 5: Electrical and Mechanical Engineering Input Indices: "Electrical Engineering index code JB000066" as published by Statistics South Africa.
- 4.. "F" is the "Fuel Index" and shall be the relevant monthly value given in P0142.1 (Producer Price Index) Table 1: PPI for Final Manufactured Goods: "Diesel" as published by Statistics South Africa.

No adjustments for foreign exchange fluctuations for imported items shall be made. The CPA calculations above shall cover all imported and local items subject to escalation.

Payments made to the Main Contractor in respect of 'Ringfenced' work to be carried out by appointed local sub-contractors shall not be subject to escalation as this is escalated separately (see below).

CPA for Ringfenced Work carried out by local subcontractors

The value of the work to paid by the Main Contractor to each of the local subcontractors in respect of ringfenced work shall be adjusted in accordance with the Haylett formula with the following coefficients / indices / references:

- 1)

x	= 0.10
a (labour)	= 0.20
b (equipment)	= 0.25
c (materials)	= 0.45
d (fuel)	= 0.10
- 2) The relevant geographical area is "Eastern Cape".
- 3) The base month will be the month the local subcontractor's Quote is submitted for evaluation.
- 4) "L" is the "Labour Index" and shall be the "Consumer Price Index" for the urban area nearest to the Site as stated in the Contract Data and as published in the Statistical News Release P0141, Table 7 All areas of Statistics South Africa.
- 5) "P" is the "Plant and Equipment Index" and shall be the relevant monthly value given in P0151.1 (Construction Materials Indices) Table 4: Mining and Construction Plant and Equipment: "Plant and Equipment index code JB000107" as published by Statistics South Africa
- 6) "M" is the "Materials Index (civil)" and shall be the relevant monthly value given in P0151.1 (Construction Materials Indices): "Civil Engineering-Total" index code JB000053" as published by Statistics South Africa.
- 7) "F" is the "Fuel Index" and shall be the relevant monthly value given in P0142.1 (Producer Price Index) Table 1: PPI for Final Manufactured Goods: "Diesel" as published by Statistics South Africa.

14.1 Contract Price and Payment

The provisions for measurement and evaluation are as stated in Part C2 Pricing Data.

14.3 Application for Interim Payment Certificates

Delete item (a) from paragraph two of Sub-Clause 14.3 and replace with the following:

"(a) the estimated contract value of the Works executed as determined from the Bill of Quantities up to the end of the month (including Variations but excluding items described in subparagraphs (b) to (g) below."

14.5 Plant and Materials Intended for the Works

Add the following paragraph to the end of Sub-Clause 14.5:

"If so agreed in writing by the Employer, the provisions of this Sub-Clause 14.5, as amended herein, shall apply equally to Plant and Materials intended for incorporation in the Permanent Works and stored at places other than the Site."

14.6 Issue of Interim Payment Certificates

*In the second line of the first paragraph of **Sub-Clause 14.6** replace “28 days” with “within the time stated in the Appendix to Tender”*

14.11 Application for Final Payment Certificate

*In the third paragraph of **Sub-Clause 14.11** replace the last sentence with the following:
“Thereafter, when the dispute is finally resolved, the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.”*

14.15 Currencies of Payment

*Delete “damages” from item (b) of **Sub-Clause 14.15** and replace with “penalties”.*

17.0 Risk and Responsibility

17.1 Indemnities

*Add the following to the end of **Sub Clause 17.1**:*
“In terms of (b) (i) above, where the Contractor’s activities have caused damage to the Employer’s property, including damage to other contractor’s works, the Engineer shall have the right to instruct the Contractor to rectify the damage by a stated date. If the Contractor fails to rectify acceptably and within the period stated, the Engineer is entitled to engage others to rectify the damage and is further entitled to deduct the cost of such work from money due, in terms of the Contract, to the Contractor.”

17.3 Employer’s Risks

*Add the following paragraph to the end of **Clause 17.3**:*
“If the Main Contract shall have been cancelled, the Employer shall have the right, by written notice given to the Nominated Subcontractor (this Contract) not later than 28 days after the said cancellation, to convert the subcontract concerned to a direct contract between the Employer and the Subcontractor, provided that: the terms of the said direct contract shall mutatis mutandis be those of the subcontract concerned, and the Employer shall have the said right, notwithstanding any breach of the subcontract by the Contractor, subject to his forthwith paying to the Subcontractor all amounts then owing to the Subcontractor by the Contractor and perform any obligation which the Contractor has failed to perform.

18.0 Insurances

18.1 General Requirements for Insurances

*Add the following paragraph to the end of **Sub-Clause 18.1**:*

“In all instances defined by Clause 18, other than on the Site of the works as indicated below, the Contractor shall be the insuring Party, and the insurances shall be in the joint names of the Employer and the Contractor.

18.2 Insurance for Works and Contractors Equipment

*Add item (f) to paragraph four of **Sub-Clause 18.2**:*

- “(f) which are to be effected and maintained by the Contractor and endorsed to note the interests of the Employer are:
 - (i) transit insurance enroute to Site, including whilst in temporary storage (and intended for incorporation in the Contract), and
 - (iii) where the Contract involves manufacturing and/or fabrication of the Works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the Works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such Works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor’s policies of insurance”.

18.4 Insurances against Injury to Contractor’s personnel

*In **Sub-Clause 18.4**, add “The insurance shall be in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act (Act No 130 of 1993)”.*

*Insert new Clause, **Clause 18.5 Special Risk***

18.5 Special Risks

If required in terms of the Appendix to the Tender, the Contractor shall effect and maintain, in the joint names of the Employer and the Contractor a Coupon Policy for Special Risks Insurance issued by the South African Special Risks Insurance Association".

20 Claims, Disputes and Arbitration

Delete Sub-Clauses 20.2 to 20.8 and substitute:

20.2 Notice of Disagreement

In respect of any matter not required to be dealt with in terms of Sub-Clauses 20.1 *[Contractor's Claims]* or 20.8 *[Special Disputes]*, the Contractor shall have the right by written notice with supporting particulars to the Engineer to require him to consider any disagreement which he raises with the Engineer provided that the said written notice shall be given within 28 days after the cause of disagreement has arisen.

20.3 Engineer to Rule on Disagreements

The Engineer shall, within 28 days after the Contractor has delivered his disagreement, give effect to Sub-Clause 3.5 *[Determinations]* and give his ruling on the disagreement in writing to the Employer and the Contractor, referring specially to this Sub-Clause.

20.4 Dispute Notice

The Contractor and the Employer, hereinafter referred to as "the parties" shall have the right to dispute any ruling given by the Engineer in terms of Sub-Clause 20.1 *[Contractor's Claims]* or Sub-Clause 20.3 *[Engineer to Rule on Disagreements]*;

Provided that, unless the Contractor or the Employer shall, within 28 days after his receipt of a ruling, give written notice (hereinafter referred to as a "Dispute Notice") to the Engineer, referring to this Sub-Clause, with a copy to the other party, disputing the validity or correctness of the whole or a specified part of the ruling, he shall have no further right to dispute that ruling or the part thereof not disputed in the said notice.

If the Engineer fails to give his ruling according to Sub-Clause 20.1 *[Contractor's Claims]* or Sub-Clause 20.3 *[Engineer to Rule on Disagreements]*, the Contractor shall have the right to submit his claim or disagreement as a Dispute Notice within 28 days after the ruling should have been given. If the Contractor fails to do this within 28 days, the Employer shall be discharged from all liability in connection with the claim or disagreement.

All further references herein to a ruling shall relate to the ruling, or part thereof, set out in the Dispute Notice, as varied or added to by agreement between the Contractor and the Engineer or by the Mediator's opinion or the Adjudicator's decision to the extent that it has become binding in terms of paragraph 8 of Sub-Clauses 20.5 *[Mediation]* or Sub-Clause 20.6 *[Arbitration]*.

If either party shall have given notice in compliance with this Sub-Clause 20.2, the dispute shall be referred immediately to mediation.

Notwithstanding that the parties may, in respect of a ruling, have given a Dispute Notice, the ruling shall be of full force and carried into effect unless and until otherwise agreed by both parties in terms of paragraph 8 of Sub-Clause 20.5 *[Mediation]* or as determined in an arbitration award.

20.5 Mediation

The mediation shall be conducted by a Mediator selected by agreement between the parties or, failing such agreement within 7 days after a written request by either party for such agreement, nominated on the application of either party by the President for the time being of the South African Institute of Mechanical Engineering or the South African Institution of Civil Engineering, as appropriate.

Neither party shall be entitled to be represented at any hearing before or at any meeting or in any discussion with the Mediator except by:

- a) The party himself, if a natural person
- b) A partner in the case of a partnership
- c) A chief executive officer or an executive director in the case of a company
- d) A member in the case of a close corporation
- e) The Engineer
- f) A bona fide employee of the party concerned

- g) A professional engineer appointed for the purpose by the party concerned.

Such limitation shall not be construed as preventing any person from giving evidence as a witness.

The Mediator shall, as he deems fit, follow formal or informal procedure and receive evidence or submissions orally or in writing, sworn or unsworn, at joint meetings with the parties or separately or from any person whom he considers can assist in the formulation of his opinion;

Provided that:

- a) Each party shall be given reasonable opportunities of presenting evidence or submissions and of responding to evidence or submissions of the other party, and
- b) Each party shall be given full details of any evidence or submissions received by the Mediator from the other party or any other person otherwise than at a meeting where both parties are present or represented.

The Mediator shall have the power to propose to the parties compromise settlements of or agreements in disposal of the whole or portion of the dispute.

The Mediator shall, as soon as reasonably practical, give to each of the parties his written opinion on the dispute, setting out the facts and the provisions of the Contract on which the opinion is based and recording the details of any agreement reached between the parties during the mediation.

The Mediator's opinion shall become binding on the parties only to the extent that it is correctly recorded as being agreed by the parties in the Mediator's written opinion or otherwise as recorded as being agreed in writing by both parties subsequent to the receipt of the Mediator's opinion.

The dispute on any matter still unresolved after the application of the provisions of the above paragraph shall be resolved by arbitration.

Save for reference to any portion of the Mediator's opinion which has become binding in terms of paragraph 8 of this Sub-Clause, no reference shall be made by or on behalf of either party, in any proceedings subsequent to mediation, to the Mediator's opinion, or to the fact that any particular evidence was given, or to any submission, statement or admission made in the course of the mediation.

Irrespective of the nature of the Mediator's opinion:

- a) Each party shall bear his own costs arising from the mediation
- a) The parties shall in equal shares pay the Mediator the amount of his expenses and the amount of his fee based on a scale of fees as agreed between the Mediator and the parties before the commencement of the mediation.

20.6 Arbitration

If a dispute is still unresolved as provided in paragraph 9 of Sub-Clause 20.5 *[Mediation]* or the dispute is one to which Sub-Clause 58.8 *[Special Disputes]* refers:

The matter shall be referred to a single Arbitrator to be agreed on between the parties or, failing such agreement within 28 days after delivery to the parties of the Mediator's opinion, or the Adjudicator's decision, nominated on the application of either party by the President for the time being of the South African Institute of Mechanical Engineering or the South African Institution of Civil Engineering, as appropriate, and any such reference shall be deemed to be a submission to the arbitration of a single arbitrator in terms of the Arbitration Act (Act No 42 of 1965, as amended), or any legislation passed in substitution therefore;

In the absence of any other agreed procedure, the arbitration shall take place in accordance with the Rules for the Conduct of Arbitrations issued by the Association of Arbitrators (Southern Africa) which are current at the time of the referral to arbitration;

The Arbitrator shall, in his award, set out the facts and the provisions of the Contract on which his award is based.

Arbitration shall be final and contractually binding.

20.7 Common Provisions

Nothing herein contained shall deprive the Contractor of the right to institute immediate Court proceedings in respect of failure by the Employer to pay the amount of a payment certificate on its due date or to refund any amount of retention money on its due date for refund.

No ruling or decision given by the Engineer in accordance with the provisions of the Contract shall disqualify him from being called as a witness and giving evidence before the Arbitrator or the Court on any matter whatsoever relevant to the dispute concerned.

The Arbitrator and the Court shall have full power to open up, review and revise any ruling, decision, order, instruction, certificate or valuation of the Engineer relevant to the matter in dispute and neither party shall be limited in such proceedings before such Arbitrator or Court to the evidence or arguments put before the Engineer for the purpose of obtaining his ruling.

The following provisions shall apply in respect of the appointment of a mediator or arbitrator in terms of this Clause:

- a) If, for any reason, the person appointed fails to assume or to continue in the office concerned, the provisions of this Clause shall apply with the necessary changes in the appointment of a successor, and
- b) In making his nomination in terms of the first paragraph of Sub-Clause 20.5 *[Mediation]* or the last paragraph of Sub-Clause 20.6 *[Arbitration]*, the President for the time being of the South African Institution of Civil Engineers shall, at his own discretion, act in consultation with the Presidents for the time being of the South African Association of Consulting Engineers and the South African Federation of Civil Engineering Contractors, and
- c) the President required to make a nomination in terms of this Clause shall have a direct or indirect interest in the subject matter of the dispute, the nomination shall be made by the next senior officer of the body concerned who has no such interest.

20.8 Special Disputes

Notwithstanding anything elsewhere provided in this Clause, any dispute between the Contractor and the Employer:

- a) Not relating to a ruling, decision, order, instruction or certificate by the Engineer, or
- b) Arising after the completion of the Contract or, if a Defects Notification Period is provided, after the termination of that period

shall be determined, without the application of the provisions of Sub-Clause 20.4 *[Dispute Notice]* and Sub-Clauses 20.5 *[Mediation]*, by arbitration and which may be initiated by either party, in which event the provisions of Sub-Clauses 20.6 *[Arbitration]* and 20.7 *[Common Provisions]* shall apply.

20.9 Continuing Validity of Sub-Clauses 20.4 to 20.8

Sub-Clauses 20.4 to 20.8 is a separate, divisible agreement from the rest of the Contract and shall remain valid and applicable notwithstanding that the Works may have been completed or that the rest of the Contract may be void or voidable or may have been cancelled for any reason.

Appendix to Tender Part 1: Data Provided by the Employer

[Note: with the exception of the items for which the Employer's requirements have been inserted, the following information must be completed before the Tender is submitted]

Item	Sub-Clause	Data
The Employer is	1.1.2.2 & 1.3.	O. R. Tambo District Municipality
The Employer's address for receipt of communications is:		The Municipal Manager O. R. Tambo District Municipality Magwa House Nelson Mandela Drive Mthatha 5100 Attn: Ms N Tshicilela
The Engineer is:	1.1.2.4 & 1.3	The Engineer is the official holding the position of a partner/director/member of the firm GIBB (Pty) Ltd duly authorised thereto in writing
The Engineer's address for receipt of communications is:	1.1.2.4 & 1.3.3	GIBB (Pty) Ltd 36 Stanford Terrace, Mthatha, 5100 Attn: Mr D Shaw
Time for completion of the whole of the Works (<i>including the 4 month Trial Operation Period</i>):	1.1.3.3	87weeks
Defects Notification Period	1.1.3.7	8 months (starting from end of Trial Operating Period)
Special non-working days	1.1.3.9	Public holidays and the year-end break which shall be defined for the purposes of this Contract as 16 December to 6 January, inclusive.
Electronic transmission systems	1.3	Formal signed correspondence may be submitted in PDF format and issued via email messaging for information (the originals sent as per method of formal communication). All other correspondence may be sent directly by email messaging.
Governing Law	1.4	South Africa
Ruling language	1.4	English
Language for communications	1.4	English
Time for access to the Site	2.1	28 days after Commencement Date or as soon as Surety, insurances and OH&S Plan have been approved whichever is the sooner
Approval of Employer required for:	3.1	The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties: a) Delegation of Engineer's authority b) Providing consent for subcontracting part of the contract c) Authorizing the Contractor to repair and make good, excepted risks d) The issuing of a variation order e) Suspend the progress of the works

Item	Sub-Clause	Data
		f) The issuing of an instruction to accelerate progress g) The approval of any extension of time for completion h) The reduction of a penalty for delay i) The giving of a ruling on a contractor's claim"
Performance Security: a) Time for delivery to the Employer b) amount and currency c) Expiry date	4.2	a) 21 days b) 10% of the Accepted Contract Amount in ZAR c) Issue of Performance Certificate (end of Defects Notification Period)
Design and Drawings – time for delivery	5.1	As agreed with the Engineer
Period for notifying unforeseeable errors, faults and defects in the Employer's Requirements	5.1	28 days
Normal working hours	6.5	07:00 to 17:00
Locally recognised days of rest	6.5	Saturdays and Sundays
Commencement of Work	8.1	The Engineer shall issue a Notice to Commence the Work and Site Handover only after: • The Contractor has been introduced to the local community leadership. • A Construction Work Permit has been received from the Dept. of Labour • All conditions for right of access set-out in 2.1 (as amended) have been met
Time for submission of programme	8.3	Within 21 days of receipt of notice under 8.1
Amount of damages	8.7 & 14.15(b)	0.02% of the final Contract Price of each Part, per calendar day for delay in date of issue of the Taking Over Certificate
Maximum amount of delay damages	8.7	10% of the final Contract Price
Period of Trial Operation	9.1	4 months
Adjustments for Changes in Cost; Table(s) of adjustment data	13.8	No adjustments for foreign exchange fluctuations for imported items shall be made. The CPA calculations given in the Contract Data shall cover all items subject to escalation.
Total Advance payment	14.2	Not applicable
Percentage of retention	14.3(c)	10% per interim payment until Limit of Retention Money is reached
Limit of Retention Money	14.3(c)	5% of the Accepted Contract Amount (excluding VAT)
Time for Engineer to issue interim payment certificates to Employer	14.6	Within 14 days of receipt by the Engineer of Contractor's statement

Item	Sub-Clause	Data
Minimum amount of Interim Payment Certificates	14.6	Not applicable
Time for payment of interim payment certificates	14.7(b)	Within 30 days of receipt by the Engineer of Contractor's statement and supporting documents
Time for Engineer to issue Final Payment Certificate	14.13	Within 28 days of receipt by the Engineer of final statement
Time for payment of final payment certificates	14.7(c)	Within 30 days of receipt by the Employer of Final Payment Certificate
Currency of payments	14.15	South African Rand
Currency Unit	Percentage payable in the Currency	Rate of Exchange: Units of Local per unit of Foreign:
Responsibility for obtaining insurance	18.1	The Contractor shall be responsible for obtaining and paying the premiums for all the insurances specified.
Periods for submission of insurance: a) evidence of insurance b) relevant policies	18.1	a) 21 days b) 21 days
Maximum amount of deductibles for insurance of the Employer's risks	18.2(d)	R 5 000-00 See Special Conditions of Contract
Minimum amount of third party insurance	18.3	R 5 000 000.00
Special Risks coupon policy	18.5	Required

ADDITIONAL CONDITIONS OF CONTRACT

Add the following new clauses:

Clause 59: Contractor to Provide Everything Necessary

The Contractor is to provide all labour, material, workmanship, machinery and everything which is or may be necessary in and for the execution and entire completion of the Contract in accordance with the Conditions of Contract, Drawings and Scope of Work.

Clause 60: Details to Be Confidential

The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without prior written consent of the Engineer.

Appendix to Tender Part 2: Data Provided by the Contractor

[Note: with the exception of the items for which the Employer's requirements have been inserted, the following information must be completed before the Tender is submitted]

Item	Sub-Clause	Entry
The Contractor is:	1.1.2.3	
The Contractor's address for receipt of communications is:		Tel: e-mail:..... Address:
Time for Completion of the whole of the Works including the 4-month Trial Operation Period:	1.1.3.3	Tenderer to insert Time for Completion in weeks: weeks

SIGNED ON BEHALF OF/BY THE TENDERER:

NAME

SIGNATURE

CAPACITY

DATE

C1.3. Pro-forma Performance Guarantee

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor: means:

.....

Physical address:

.....

"Employer" means: **O. R. TAMBO DISTRICT MUNICIPALITY**

"Contractor" means:"

.....

"Engineer" means: **GIBB (Pty) Ltd**

"Works" means: **CONSTRUCTION OF 50ML/D Highbury Water Treatment Works & Raw and Clear Water Pumpstations: Mechanical & Electrical**

"Site" means:

.....

"Contract: means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of R

.....

Amount in words:

.....

"Guaranteed Sum" means: The maximum aggregate amount of R

.....

Amount in words:

.....

"Expiry Date" means:

.....

CONTRACT DETAILS

Engineer issues: Interim Payment certificates, Final Payment certificate and the certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Final Taking Over Certificate or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:
 - 3.1. any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2. its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

-
- 4.1. A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2. A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3. A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
 5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding Balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1. the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2. a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
 - 5.3. the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
 6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
 7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
 8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
 9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
 10. The Employer shall have the absolute right to arrange his/her affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his/her release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
 11. The Guarantor chooses the physical address as stated above for the service of all Notices for all purposes in connection herewith.
 12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
 13. This Performance Guarantee, with the required demand Notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
 14. Where this Performance Guarantee is issued in the Republic of South Africa, the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

SIGNED AT:

.....

GUARANTOR (1)

SIGNATURE

DATE

CAPACITY

GUARANTOR (2)

SIGNATURE

DATE

CAPACITY

WITNESS (1)

SIGNATURE

WITNESS (2)

SIGNATURE

C1.4 Disputes and Arbitration

Dispute resolution shall be as set out in the Contract Data.

C1.5 Occupational Health and Safety Agreement

AGREEMENT MADE AND ENTERED INTO BETWEEN O. R. TAMBO DISTRICT MUNICIPALITY (HEREINAFTER CALLED THE "EMPLOYER") AND

.....
(Contractor/Mandatory/Company/CC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, ACT No. 85 OF 1993 AS AMENDED 2014

I,

representing

....., as an employer in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (OHSA) and the Regulations promulgated there under.

I furthermore confirm that I am/we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I/We are insured with an approved licensed compensation insurer.

COID ACT Registration Number:

OR Compensation Insurer: Policy No.:

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any subcontractors employed by me will enter into an Occupational Health and Safety Agreement separately, and that such subcontractors comply with the conditions set.

I hereby declare that I have read and understand the appended Occupational Health and Safety Conditions and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan.

Signed at on the day of 20

SIGNED BY/ON BEHALF OF CONTRACTOR - MANDATORY

--

NAME

--

SIGNATURE

--

DATE

SIGNED BY WITNESS:

--

NAME

--

SIGNATURE

--

DATE

Signed at on the day of 20

SIGNED BY/ON BEHALF OF O. R. TAMBO DISTRICT MUNICIPALITY

NAME

SIGNATURE

DATE

SIGNED BY WITNESS:

NAME

SIGNATURE

DATE

Occupational Health and Safety Conditions

1. The Chief Executive Officer of the Contractor shall assume the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act (as amended). Should the Contractor assign any duty in terms of Section 16(2), a copy of such assignment shall immediately be provided to the representative of the Employer as defined in the Contract.
2. All work performed on the Employer's premises shall be performed under the supervision of the construction supervisor who understand the hazards associated with any work that the Contractor performs on the site in terms of Construction Regulations 2014.
3. The Contractor shall appoint a Competent Person who shall be trained on any occupational health and safety aspect pertaining to them or to the work that is to be performed.
4. The Contractor shall ensure that he familiarises himself with the requirements of the Occupational Health and Safety Act and that he/she, his/her employees, and any sub-contractors, comply with them.
5. Discipline in the interests of occupational health and safety shall be strictly enforced.
6. Personal protective equipment shall be issued by the Contractor as required and shall be worn at all times where necessary.
7. Written safe work Procedures and appropriate precautionary measures shall be available and enforced, and all employees shall be made conversant with the contents of these practices.
8. No substandard equipment/machinery/articles or substances shall be used on the site.
9. All incidents referred to in terms of Section 24 of the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour and the Employer.
10. The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act and into any incident involving a Contractor and/or his/her employees and/or his/her sub-contractor/s.
11. No use shall be made of any of the Employer's machinery/plant/equipment/substance/personal protective equipment or any other article without prior arrangement and written approval.
12. No alcohol or any other intoxicating substance shall be allowed on the site. Any person suspected of being under the influence of alcohol or any other intoxicating substance shall not be permitted access to or allowed to remain on the site.
13. Prior to commencement of any work, verified copies of all documents mentioned in the agreement, must be presented to the Employer.

C2: Pricing Data and Bill of Quantities

Number	Heading	Pages
C2.1	Pricing Instructions	83
C2.2	Bill Of Quantities	88

C2.1. Pricing Instructions

1. Measurement and payment shall be in accordance with the relevant provisions of Clause 8 of each of the SANS 1200 Specifications for Civil Engineering Construction referred to in the Scope of Work. The Preliminary and General items shall be measures in accordance with the provisions of SANS 1200-A, General.

2. The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

%	=	percent	m ² .pass	=	square metre-pass
h	=	hour	m ³	=	cubic metre
ha	=	hectare	m ³ .km	=	cubic metre-kilometre
kg	=	kilogram	MN	=	meganewton
kl	=	kilolitre	MN.m	=	meganewton-metre
km	=	kilometre	MPa	=	megapascal
km-pass	=	kilometre-pass	No.	=	number
kPa	=	kilopascal	Prov sum	=	Provisional sum
kW	=	kilowatt	PC sum	=	Prime Cost sum
l	=	litre	sum	=	lump sum
m	=	metre	t	=	ton (1 000 kg)
mm	=	millimetre	W/day	=	Work day
m ²	=	square metre			

3. Unless otherwise stated, items are measured net in accordance with the drawings with no allowance for waste.
4. The prices and rates to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the items. Such prices and rates shall cover all costs and expenses that may be required in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices shall be used as a basis for assessment of payment for additional work that may have to be carried out.
5. It will be assumed that prices included in the Bill of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.sabs.co.za or www.iso.org for information on standards).
6. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered for such items.
7. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
8. The quantities set out in the Bill of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.
9. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.
10. The short descriptions of the items of payment given in the Bill of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
11. Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the SANS 1200 Standardised Specifications.
12. If there is a discrepancy in description of items between the Bill of Quantities and the Drawings, the Bill of Quantities Description shall be used.

MEASUREMENT AND PAYMENT

PI 1 General

The tendered rates or sums shall cover the costs of compliance with all requirements of the Contract Data and the Scope of Work not billed separately.

The tendered rates or sums shall cover the costs of anything not specially mentioned but which an experienced contractor can reasonably foresee as being required, (e.g. all ancillaries, including all bolts, fastenings and brackets, safety guards and any work or material or equipment required for the proper installation of such apparatus and equipment, piping, valves,

gauges, instruments, either severally or collectively in complete working order), to enable the Works to be installed and to pass the tests on completion and to function safely and correctly as specified. No claims whatsoever for extras will be allowed on the grounds that a necessary piece of equipment or a part thereof is not specifically mentioned in the Bill of Quantities.

PI 2 Preliminary & General and Civil Works

Preliminary and General items and civil works shall be measured for payment under SANS 1200 specifications (as amended).

PI 3 Design

Design and submit details, QCPs and shop drawings for ... (describe equipment / system / scope)Unit: Sum

The tendered sum shall cover the cost of preparing and submitting designs of the Scope of Works described in the BoQ and submitting all necessary technical information (makes, models, materials of construction etc), shop drawings and QCPs to the Engineer for approval before ordering the equipment.

This item shall become payable once the Engineer approves the details, QCPs and shop drawings.

PI 4 Fabricate / Manufacture / Procure / Supply and Deliver

Unit:No or Sum

The tendered rate for the described items in the BoQ shall cover:

- All costs associated with the manufacture / fabrication / procurement / supply of the goods, testing as specified and as required by Act No. 85, provision of test certificates certifying compliance of the goods with SANS, IEC, ISO or BS standards, corrosion protection, if designated and not scheduled separately, and supply of all special tools and keys specified. The tendered rate shall include the cost of arranging FAT by the Engineer where this is required in terms of the Scope of Work (transport and accommodation of the Engineer covered separately).
- All costs associated with the delivery of the goods and offloading at the Site (including storage, labour, plant, equipment, tools, consumables, attendance, overheads and profit).
- All costs associated with on-site protected storage until ready for installation.

Payment of this item will only be certified for payment once the Engineer has verified that the approved equipment is safely and appropriately-stored on Site.

PI 5 Storage off-Site

Unit:Month

The tendered rate shall cover:

- All costs associated with obtaining approval from Employer to not bring the equipment to Site for whatever reason and supply suitable guaranties / proof of insurances/ / certificate of ownership for storing the equipment at designated approved premises. Storage will only be measured for payment if the Employer agrees to pay for the supply and delivery of the equipment at approved off-site storage facilities.

No separate costs associated with loading from storage, delivering and offloading on-Site will be measured. Such costs are deemed to be included in the tendered rates.

PI 6 Installation, O&M Manual, Pre-commissioning tests and Commission

Unit:No or Sum

The tendered rate shall cover:

- All costs associated with preparing the draft Operations and Maintenance Manual in accordance with the specifications, submitting it for approval and revising where necessary and re-submitting for approval. This may be submitted separately in sections relevant to the equipment being installed so that measurement for payment of this stage can be made.

- All costs associated with all necessary site-oriented activities such as handling, sorting, erecting, installing, all painting, pre-commissioning tests, transport and accommodation of temporary specialist personnel and their erection gear to Site.
- Where pipes are required to pass through walls of structures constructed by others, and where openings have been provided for this purpose, the rate shall include for building/grouting the pipe into the wall (including supply of all necessary materials) and finishing to match the surrounding structure. Where items of equipment are to be grouted in (such as for anchors and pumpset base plates), the installation sum shall include for such work.
- All costs associated with pre-commissioning testing to bring individual components to a fully-commissioned state (where possible), ready for commissioning the Works as a whole, including carrying out and documenting pre-commissioning testing performance data and submitting to the Engineer for review and approval.
- Supply of all lubricants, coolants and the like ready to 'wet' test, commission and acceptance testing ('wet' testing), attending to all issues until equipment is demonstrated to be 'fit-for-purpose' (ie operating correctly, reliably, smoothly and steadily over the required operational range, ready for when the Works as a whole can be put into operation).

The cost of process chemicals required for pre-commissioning tests and operating the Works (such as coagulants and chlorine), shall be paid-for under Prime Cost items in the BoQ.

PI 7 Commission the Works as a Whole and Finalise O&M Manual

Unit:Sum

The tendered sum shall cover all costs associated with:

- Putting the whole of the Works into fulltime operation where (barring external factors outside the Contractor's control), treated water complying with SANS 241 drinking water standard is reliably being supplied to O. R. Tambo District Municipality's consumers and the waste sludge is successfully being dehydrated and stockpiled.
- Carrying out and documenting commissioning testing performance data and submitting a Commissioning Report to the Engineer (which shall be amended / edited / revised until finally approved by the Engineer).
- Finalising the Operating and Maintenance Manual (which is to include the Commissioning Report).
- Liaising with the Employer, O. R. Tambo District Municipality Operations staff and the Engineer and any other stakeholder (eg KSD Local Municipality Electrical Dept.).
- Transport and accommodation of temporary specialist personnel and their testing gear to Site.

This sum shall become payable once the Engineer certifies that the Works has reached a state of readiness, fit for the intended purpose (reliably supply potable water to ORTDM's consumers and successfully dehydrating the sludge as noted above) and the O&M Manual has been finalized, submitted and approved. The Trial Operating Period shall not commence until this certification is achieved.

PI 8 Trial Operation Period

Unit:Months

The tendered rate shall cover all costs associated with staffing the trial operation period (3 shifts a day, 7 days a week), eg including all costs of transport to and from the Site, all staff salaries, site allowances, accommodation and their S&T costs.

The role of the Contractor-supplied Operator is take responsibility for all water treatment processes and pumping and, at the same time, instruct, train and guide O. R. Tambo District Municipality's Operations staff so that, over this period, they become fully conversant and familiar with the correct operating and maintenance procedures. The Duty Operator's role is to include:

- the identification of teething issues, malfunctions and breakdowns and arrange for the relevant Contractor's specialist to speedily resolve same;
- Monitor chemical and consumable usage and arrange for deliveries as necessary;

- Monitor run-time vs service requirements for all equipment and arrange for servicing as required.

The cost of call-outs of Contractor's specialist staff (eg Electrical Control Technician) to speedily attend to all malfunctions and breakdowns of everything supplied under this Contract is deemed to be included in the tendered rates.

The cost of supply and delivery to Site of process chemicals required for production of any product of the Works (such as coagulants and chlorine), shall be paid for separately under a Prime Cost item with % mark-up.

The cost of labour component of servicing as required is deemed to be included in the tendered rates. The cost of all servicing consumables will be paid-for under the above-mentioned Prime Cost item (with % tendered mark-up).

PI 9 Monitoring the Works Operation beyond Trial Operation Period up to end of Defects Liability Period

Unit: Months

The tendered rate shall cover all costs associated with monitoring operations and maintenance beyond the Trial Operation Period up to the end of the Defects Liability Period whereby O. R. Tambo District Municipality's Operations staff carry-out all day-to-day operations of the water treatment and pumping processes but monitored by a 5 days a week, 8 hours a day by an Operator / Senior Technician appointed by the Contractor. This is to avoid the situation where equipment is mis-operated / damaged / not maintained by ORTDM staff such that the Contractor can claim that he is not liable for any rectification needed in terms of the Defects Notification Period.

The role of the monitoring Operator is to verify that the Operating Staff understand and are following the correct operating and maintenance procedures and provide further mentoring of ORTDM staff where necessary.

PI 10 Consumables (chemicals and maintenance items)

Supply, deliver and offload consumableUnit: Prime Cost Sum
(describe).....

Contractor's Mark-up on aboveUnit: % of Prime Cost

Consumables listed in the BoQ or otherwise requested shall be supplied as ordered in writing by the Engineer. Before placing the Order, the Contractor shall first submit supplier details and costing to the Engineer for approval. Where multiple suppliers are available, the Contractor shall submit three quotes to the Engineer. Payment will be made based on supply and deliver paid Invoices submitted.

All Contractor's costs associated with arranging for supply, delivery, offloading and placing in storage shall be deemed to be included in the tendered % mark-up on the Invoice/s value. In the case of polyelectrolyte for coagulation and flocculation, the % mark-up shall also cover the cost of arranging optimisation tests for determining the most appropriate poly to use.

All maintenance and service consumables supplied (such as oil, air and fuel filters etc) can also be claimed under this item.

PI 11 Spares

Unit:Prime Cost Sum or No. or Sum

Contractor's Mark-up Where Prime Cost.....% of Prime Cost

The cost of special tools and keys shall be covered by the tendered rate or price for the supply of the relevant equipment (see PI4). Payment for standard spanners and cabinet(s) will be made out of the Prime Cost Sum allowed in the Bill of Quantities for such items. The Contractor's profit, administration and delivery charges will be paid at the tendered percentage of the actual purchase price of the goods.

Payment for spares will be made at the price tendered in the Spares Schedule which price shall cover the cost of supply, crating and labelling where applicable, and delivery to the Site of the relevant items.

PI 12 Miscellaneous Prime Cost items

Supply and deliver (describe)Unit: Prime Cost Sum

Contractor's Mark-up on aboveUnit: % of Prime Cost

Miscellaneous Prime Cost items (such as supply and deliver vehicle or laboratory equipment or proprietary item of equipment) listed in the BoQ shall be supplied as ordered in writing by the Engineer. Before placing the Order, the

Contractor shall first submit supplier details and costing to the Engineer for approval. Where multiple suppliers are available, the Contractor shall submit three quotes to the Engineer. Payment will be made based on paid Invoices from suppliers / vendors for actual supply and transport costs.

All Contractor's costs and profit associated with arranging for supply and delivery shall be deemed to be included in the tendered % mark-up on the Invoice/s value.

PI 13 Ad-hoc Service and Adjustment Visits

Ad-hoc service and adjustment visits after the 4 month Trial Operating Period (only when requested by the Employer's Agent) shall be measured for payment under Dayworks labour, plant and materials items plus a km travelling rate. The scope of such visits and Dayworks budget cost shall agreed with the Employer's Agent beforehand.

Callouts to rectify breakdowns and defects are deemed to be covered by other scheduled items.

PI 14 Scope of Work Ring-Fenced for Local SMMEs

A Prime Cost Sum for ring-fenced civil works to be undertaken by local SMMEs has been included in the BoQ. Details of the ring-fenced work is given in an unpriced BoQ plus drawings [labelled 'CIV'] issued with the Tender Documents. The Main Contractor shall package the SoW into separate Requests for Quotes, obtain quotes, manage and supervise multiple SMMEs and make monthly payments for work certified for payment by the Employer's Agent. Payment to SMMEs shall be made within 5 working days of receiving payment from the Employer. Retention as per Main Contractor's work shall also apply to the SMMEs on the monthly certificates. Contract Price Adjustment shall not apply to ring-fenced work unless the approved time for completion exceeds 12 months.

The Main Contractor shall make allowance for procuring, managing and supervising the ring-fenced civil work as soon as possible once the Contract has commenced; even though site establishment for the installation of mechanical and electrical equipment only happens much later.

All the Main Contractor's costs associated with the increased Performance Guarantee premium, procurement, management, supervision of execution of ring-fenced work and making monthly payments to the SMMEs are deemed to be included in tendered fixed cost and time-related P&G items. Fixed and time-related P&G items have been included in the Main BoQ for management, establishment and supervision costs of SMMEs over the initial period when not yet on Site for installation of the mechanical & electrical Works.

C2.2. Bill of Quantities

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CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 1 PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
1.1	SANS 1200A 8.3	SCHEDULED FIXED CHARGE AND VALUE RELATED ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1		
1.1.2	PI 14	Main Contractor's costs for management and establishment and on-site supervision of local SMMs carrying-out ring-fenced civil works at commencement of contract before needing to establish facilities for own installation works.	Sum	1		
	8.3.2 PSAB 8.2.1 to 8.2.9	<u>Establishment of Facilities on Site for installation and commissioning stages:</u>				
	8.3.2.1	<u>1) Facilities for Engineer (SANS 1200 AB) as amended in PSAB - from commencement of local subcontractor civil works to start of Trial Operating Period)</u>				
1.1.3		a) One furnished office	Sum	1		
1.1.4		b) Meeting room	Sum	1		
1.1.5		c) Nameboard (1 No.)	Sum	1		
1.1.6		d) Covered Parking Bays (2 No.)	Sum	1		
1.1.7		g) All other specified facilities (incl wifi internet connection, printer and 1 hired vehicle)	Sum	1		
	8.3.2.2	<u>2) Facilities for Contractors</u>				
1.1.8		a) Office and storage sheds	Sum	1		
1.1.9		b) Workshops	Sum	1		
1.1.10		c) Laboratories	Sum	1		
1.1.11		d) Living accommodation	Sum	1		
1.1.12		e) Ablution and latrine facilities	Sum	1		
1.1.13		f) Tools and equipment	Sum	1		
1.1.14		g) Water supply, electric power and communications.	Sum	1		
1.1.15		h) Dealing with water (Sub-clause 5.5)	Sum	1		
1.1.16		i) Access (Sub-clause 5.8)	Sum	1		
1.1.17		j) Plant	Sum	1		
1.1.18		k) Security and fencing and hoarding	Sum	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 1 PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
1.1.19	8.3.3 PSA 8.2.1	General Responsibilities and other fixed charge obligations (including making allowance for effects and payments taking up to 60 days from date of invoice)	Sum	1		
		<u>OH&S - Fixed Charges</u>				
1.1.20		1a) OH&S documentation	Sum	1		
1.1.21		1b) Entry medicals for all workers	Sum	1		
1.1.22		1c) Provision of PPE and all other protective clothing incl all COVID prevention measures	Sum	1		
1.1.23		1d) Signage (warning, hazard etc)	Sum	1		
1.1.24		1e) Staff Training	Sum	1		
1.1.25		1f) First Aid	Sum	1		
1.1.26		1g) All other items	Sum	1		
1.1.27		2) Completing and checking the Project H&S File and handing over the Client on completion of the works and exit medicals for all workers	Sum	1		
1.1.28		3) Provision of HIV/Aids Awareness plan and all necessary fixed charge items to achieve compliance with SANS 1921 Part 6 HIV/Aids Awareness	Sum	1		
		<u>Environmental- Fixed Charges</u>				
1.1.29	PSA 8.11	Fixed charges associated with complying with the Environmental Management Plan	Sum	1		
		<u>Disestablishment</u>				
1.1.30	8.3.4	Partial removal of Engineer's and Contractor's site establishment on completion of works at transition from commissioning to start of Trial Operating Period	Sum	1		
1.1.31		Removal of all remaining site establishment at end of Trial Operating Period	Sum	1		
1.2	8.4 PSA 8.2.1	TIME-RELATED ITEMS				
1.2.1	8.4.1	Contractual Requirements	Sum	1		
1.2.2	PI 14	Main Contractor's costs for management and establishment and on-site supervision of local SMMs carrying-out ring-fenced civil works at commencement of contract before needing to establish facilities for own installation works.	Months	8		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 1 PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
	8.4.2	<u>Operate and maintain Facilities on Site for the duration of on-Site activities up to commencement of Trial Operating Period</u>				
	8.4.2.1	<u>1) Facilities for Engineer as per PSAB clause - from commencement of local subcontractor civil works to start of Trial Operating Period)</u>				
1.2.3	PSAB 3.2 PSAB 5.2	a) Furnished office	Sum	1		
1.2.4	PSAB 3.2 PSAB 5.2	b) Meeting room	Sum	1		
1.2.5	PSAB 3.1	c) Nameboards (2 No.)	Sum	1		
1.2.6		d) Covered Parking Bays (2 No.)	Sum	1		
1.2.7		e) All other specified facilities (incl wifi internet connection, printer, monthly cell phone allowance (1 x R500pm)	Sum	1		
	8.4.2.2	<u>2) Facilities for Contractor</u>				
1.2.8		a) Office and storage sheds	Sum	1		
1.2.9		b) Workshops	Sum	1		
1.2.10		c) Laboratories	Sum	1		
1.2.11		d) Living accommodation	Sum	1		
1.2.12		e) Ablution and latrine facilities	Sum	1		
1.2.13		f) Tools and equipment	Sum	1		
1.2.14		g) Water supply, electric power and communications.	Sum	1		
1.2.15		h) Dealing with water (Sub-clause 5.5)	Sum	1		
1.2.16		i) Access (Sub-clause 5.8)	Sum	1		
1.2.17		j) Plant	Sum	1		
1.2.18		k) Security and maintaining fencing & hoarding	Sum	1		
1.2.19		Designated resident Installation Electrician on site in full time capacity for the duration of on-site activities; including all ancillary costs such as accommodation, S&T, transport, laptop etc	Sum	1		
1.2.20	8.4.3	Supervision for duration of on-Site activities	Sum	1		
	PSA 8.9 PS - OHS	<u>Time-related charges associated with complying with Health and Safety Requirements:</u>				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 1 PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
1.2.21		1) Cost of full-time registered Construction Safety Officer on Site (all costs associated with providing a CSO for the full duration of all on-site, civil works by local CPG subcontractors, installation and commissioning activities)	Sum	1		
1.2.22		2) Updating and amending the risk assessments, safe work procedures, the project H&S File, the H&S Plan, medicals for all workers, the provision of PPE and protective clothing and facilities and all other H&S matters that fulfill OHS Act 85 of 1993 and construction regulation 2014	Sum	1		
1.2.23		3) Full compliance with all H&S matters during the construction of the works under the Contract	Sum	1		
1.2.24		4) Compliance with SANS 1921 Part 6 HIV/Aids Awareness plan during the contract	Sum	1		
		<u>Miscellaneous Time-Related</u>				
1.2.25	PSA 8.11	Time-related charges associated with complying with the Environmental Management Plan	Sum	1		
1.2.26		Liaison and co-operation with Employer's staff and KSD Local Muni Elec Dept	Sum	1		
		<u>Time-related charges over Trial Operating Period</u>				
1.2.27	8.4.2	Operate and maintain Contractors and Engineers Facilities on Site for the duration of Trial Operating Period	Month	4		
1.2.28		All staffing costs associated with operating the Works 24/7 and training ORTDM Ops Staff over duration of Trial Operating Period (3 No. Operators @ 8h/day each, 7 days per week)	Month	4		
1.2.29	8.4.4	Company and head office overhead costs for duration of Trial Operating Period	Month	4		
		<u>Time-related charges over Monitoring Period</u>				
1.2.30		All staffing costs associated with monitoring and assisting ORTDM Ops Staff over duration of Defects Notification Period (1 No. Operator 8h/d, 5d/week)	Month	8		
1.2.31	8.4.4	Company and head office overhead costs for duration of Monitoring Period	Month	8		
TOTAL FOR SECTION 1 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 2 PROVISIONAL & PRIME COST ITEMS & DAYWORKS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
2.1	PSA 8.5	PROVISIONAL SUM ITEMS				
	PSA 8.5.1	<u>COMMUNITY LIASON OFFICER</u>				
2.1.1		Employment of CLO for the duration of Site installation (R5000 pm plus R300 pm cellphone allowance)	Prov.Sum	1	31 800.00	31 800.00
2.1.2		Overheads, Charges and Profit on item 2.1.1 above	%	31 800.00		
2.1.3		Employment of PSC for duration of on-site work (6 No. at R500 pm each)	Prov.Sum	1	18 000.00	18 000.00
2.1.4		Overheads, Charges and Profit on item 2.1.3 above	%	18 000.00		
		<u>COMPENSATION PAYMENTS</u>				
2.1.5		Payments to local residents as compensation as directed by the Engineer	Prov.Sum	1	100 000.00	100 000.00
2.1.6		Overheads, Charges and Profit on item 2.1.5 above	%	100 000.00		
		<u>SIGNAGE</u>				
2.1.7		Signage as directed by the Engineer	Prov.Sum	1	50 000.00	50 000.00
2.1.8		Charges on profit on item 2.1.8 above	Item	50 000.00		
2.2	PSA 8.6	PRIME COST ITEMS				
		<u>TRAINING</u>				
2.2.1		Allowance for training of OR Tambo Ops Staff at registered courses (incl travel etc)	PC Sum	1	300 000.00	300 000.00
2.2.2		Overheads, Charges and profit on item 2.2.1 above	%	300 000.00		
		<u>COMPLIANCE TESTING BY ENGINEER</u>				
2.2.3		Additional Acceptance control testing as may be required by the Engineer (Note that the Contractor's tendered rates are to include for all Quality Control testing required to achieve compliance with the specifications and that this scheduled item is to cover only the Engineer's additional testing that the Engineer may require)	PC Sum	1	100 000.00	100 000.00
2.2.4		Overheads, Charges and Profit on item 2.2.3 above	%	100 000.00		
		<u>INDEPENDANT INSPECTORATE</u>				
2.2.5		Independent inspectorate (Welds, corrosion protection)	PC Sum	1	150 000.00	150 000.00
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 2 PROVISIONAL & PRIME COST ITEMS & DAYWORKS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
2.2.6		BROUGHT FORWARD Overheads, Charges and Profit on item 2.2.5 above	%	150 000.00		
2.2.7		<u>HIRED VEHICLE</u> Hire of one vehicle for the Engineer as directed (incl fully-comprehensive insurance & fuel costs)	PC Sum	1	600 000.00	600 000.00
2.2.8		Overheads, Charges and Profit on item 2.2.7 above	%	600 000.00		
2.2.9		<u>CATHODIC PROTECTION</u> Site investigation and measurements and design of cathodic protection system (incl Pipe Current Mapping or DCVG survey) for raw and clear water conveyance pipelines by Specialist Professional Service Provider (Employer to arrange 3 quotes).	PC Sum	1	600 000.00	600 000.00
2.2.10		Overheads, Charges and Profit on item 2.2.9 above	%	600 000.00		
2.2.11		Implementation of cathodic protection system by Specialist Professional Service Provider (Employer to arrange 3 quotes).	PC Sum	1	3 500 000.00	3 500 000.00
2.2.12		Overheads, Charges and Profit on item 2.2.11 above	%	3 500 000.00		
2.2.13		<u>THORNHILL WTW URGENT WORK</u> Upgrade of 20ML/d Filter Unit PLC and associated actuators by specialist service provider nominated by Employer	PC Sum	1	1 600 000.00	1 600 000.00
2.2.14		Overheads, Charges and Profit on item 2.2.13 above	%	1 600 000.00		
2.3	PSA 8.7	DAYWORKS				
	8.7	<u>LABOUR</u>				
2.3.1		a) Team leader / charge hand	hr	40		
2.3.2		b) Artisan - Mechanical	hr	40		
2.3.3		c) Specialist Electrical for MV Testing & Commissioning	hr	40		
2.3.4		d) PLC Programmer	hr	80		
2.3.5		e) Artisan - Installation Electrician	hr	80		
2.3.6		f) Skilled	hr	80		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 2 PROVISIONAL & PRIME COST ITEMS & DAYWORKS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
2.3.7		g Semi-skilled	hr	250		
2.3.8		h) Unskilled	hr	500		
	8.7	<u>PLANT</u>				
2.3.9		For plant used in execution of Dayworks at rate agreed with Engineer	PC Sum	1	150 000.00	150 000.00
	8.7	<u>MATERIALS</u>				
2.3.10		For materials used in execution of Dayworks as agreed with the Engineer	PC Sum	1	250 000.00	250 000.00
2.3.11		Overheads, Charges and Profit on item 2.3.10 above	%	250 000.00		
2.4	PSA 8.6	EMPLOYER'S AGENT FACTORY ACCEPTANCE INSPECTIONS				
2.4.1		Book and pay for flights, car hire and accommodation for Employer's Agent where instructed (NOTE: Not for FAT attendance costs which are billed separately)	PC Sum	1	300 000.00	300 000.00
2.4.2		Overheads, Charges and Profit on item 2.4.1 above	%	300 000.00		
TOTAL FOR SECTION 2 CARRIED FORWARD TO SUMMARY						

SECTION: 3 INTERIM RAW WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.1	PI 3	END-SUCTION PUMPSETS & PIPEWORK				
		DESIGN				
		Refer to dwgs J31067/PID/101 and /MECH/650 and Proj Spec:Pumping Equipment section 2				
3.1.1		Design of Interim Raw Water Pumpstation System	Sum	1		
3.2	PI 4	SUPPLY & DELIVER				
3.2.1		<u>PUMPSETS</u>				
3.2.1.1		3 No. Pumpsets as per project specifications, complete with baseplate, anchor bolts, couplings etc.	Sum	1		
3.2.2		<u>SUCTION & DELIVERY PIPEWORK</u> <u>SPECIALS</u>				
3.2.2.1		DN400 uncoated MS suction pipework supplied and launched into dam, complete with DN600 intake bellmouths, DN400 double door wafer NRVs, bends, GMS intake support frames for 3 pumpsets including 3 No. 40m long DN400 fillet- welded sleeve site-jointed to pump inlet flanges complete	Sum	1		
3.2.2.2		GMS Pumpstation Delivery Pipework Specials (incl cross connection to prime suction pipes) from 3 No. Pump outlet flanges to the flange adapter connection to the GRP Risng Main (GRP pipe measured in civil works section) . All flanges SANS 1123:1000/3.	Sum	1		
3.2.3		<u>PN10 FITTINGS FOR SUCTION & DELIVERY</u> <u>MANIFOLDS</u>				
3.2.3.1		DN300 Flanged Butterfly Valve; SS solid disc in EPDM rubber liner, complete with gearbox and handwheel	No.	3		
3.2.3.2		DN250 Dismantling Joint	No	3		
3.2.3.3		DN300 Dismantling joint	No	6		
3.2.3.4		DN50 Flanged Double-Acting Air Valve with "Anti-shock" function; "Variant" 50LX__ Or Similar Approved	No.	1		
3.2.3.5		DN50 RSV valve with handwheel	No.	5		
3.2.3.6		DN300 PN10 flanged nozzle-type Non-Return Valve ("Vent-O-Mat NCV-BK" or similar approved)	No.	3		
3.2.3.7		DN100 Flanged RSV with handwheel	No.	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 3 INTERIM RAW WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
3.2.3.8		12mm NB Ball Valve mounted on DN50 blank flange (bolds onto DN50 flanged tee on delivery manifold)	No	3		
3.2.3.9		100mm dial size 1000kPa glycerine-filled pressure guage c/w stop-cock	No	3		
		<u>GMS welded and bolted Gantry over pumpsets and as Delivery Manifold support (see Drg MECH 650-04)</u>				
3.2.3.10		203x133x25 I-section crawl beam and top frame and 152x152x23kg/m H profile uprights	t	3.5		
3.3	PI 6	INSTALL & COMMISSION				
3.3.1		Install, test and commission pumpsets, all pipework, fittings and instrumentation complete	Sum	1		
TOTAL FOR SECTION 3 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 4 INFLOW METERING & CONTROL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
4.1	PI 3	MECHANICAL WORKS J31067/MECH/280-02. Refer to P&ID - J31067/PID/301 and Proj Spec: Waterworks Equipment section 4 DESIGN				
4.1.1		Design and submit details, QCPs and shop drawings for complete inflow metering and flow control system system for approval	Sum	1		
4.2	PI 4	SUPPLY & DELIVER Manufacture / procure, supply and deliver to Site Modulating Inlet Control Valve:				
4.2.1		Item A15: DN600 PN10 Flanged Butterfly Valve c/w electrical actuator	No	1		
4.2.2		Valves for instrumentation 13mm NB Ball Valve mounted on DN50 blank flange	No	4		
4.3	PI 6	Incoming raw water flowmeter: See under electrical section INSTALL & COMMISSION				
4.3.1		Item A15: Remove temporary spool piece and install DN600 Flanged Butterfly Valve c/w electrical actuator	Sum	1		
4.3.2		Item A2: Remove temporary spool piece and install DN600 flanged electromagnetic flowmeter, complete with wall-mounted readout next to inflow adjustment valve	Sum	1		
TOTAL FOR SECTION 4 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pump Stations:
MECHANICAL & ELECTRICAL

SECTION: 5 CHEMICAL DOSING EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
5.1	PI 3	MECHANICAL WORKS Refer to drawings /PID/302 & MECH 430 Refer to Proj Spec: Waterworks Equipment section 5. DESIGN				
5.1.1		Design and submit details, QCPs and shop drawings for complete chemical dosing and regulating system for approval	Sum	1		
5.2	PI 4	SUPPLY & DELIVER				
	PS C3.7.12.2	Manufacture / procure, supply and deliver to Site				
5.2.1		4No. 10000 l GRP/FRP polyelectrolyte bulk storage tanks and pipework to Day Tanks	Sum	1		
5.2.2		2 No. 200l GRP/FRP day tanks and pipework to Dosing Pumps	Sum	1		
5.2.3		Emergency eye-wash station including pipework, valves, fittings, bends and couplings complete	Sum	1		
5.2.4		2 No. Polydosing Pumps complete	Sum	1		
5.2.5		All dosing pipework from Polydosing pumps to Dosing Point in Flow Metering and Control Chamber	Sum	1		
5.2.6		Streaming Flow Ion Detector (in wall mounted cabinet on division box) including all associated sampling and drainage pipework and signal cabling and control and HDPE underground sleeve back from division box to Dosing Room for control of the polyelectrolyte dosing pumps	Sum	1		
5.2.7		DN600 flanged static mixer in Flow Metering and Flow Control Chamber (dosing point for polyelectrolyte into raw water)	Sum	1		
5.2.8		110mm OD uPVC pipeline from scd sampling point to sludge drainage chamber	Sum	1		
5.3	PI 6	INSTALL & COMMISSION				
5.3.1		Erect / install, test and commission all polydosing equipment	Sum	1		
5.4	PI 12	MISCELLANEOUS PRIME COST ITEMS				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 5 CHEMICAL DOSING EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.4.1		Call for Quotes from 3 Steel Fabricators for design, fabricate, deliver and erect a GMS portal frame with sheet metal roof (to match Dosing Building) over the polyelectrolyte bulk tanks to protect them from direct sunlight	PC Sum	1	500 000.00	500 000.00
5.4.2		Mark-up on item 5.4.1 above	%	500 000.00		
5.5	PI 11	SUPPLY OF SPARES				
5.5.1		Streaming Flow Ion Detector in appropriate container for storage	No.	1		
5.6	PI 10	SUPPLY OF CONSUMABLES				
5.6.1		Supply polyelectrolyte as directed by the Employer's Agent	PC Sum	1	2 500 000.00	2 500 000.00
5.6.2		Mark-up on above	%	2 500 000.00		
TOTAL FOR SECTION 5 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 6 CLARIFLOCCULATOR EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
6.1	PI 3	MECHANICAL WORKS J31067/MECH/210-01/04. Refer to PID/303 and Proj Spec: Waterworks Equipment Section 6 DESIGN				
6.1.1		Design and submit details, QCPs and shop drawings for complete clariflocculator sludge concentration and removal system for approval	Sum	1		
6.2	PI 4	SUPPLY & DELIVER Manufacture / procure, supply and deliver to Site				
6.2.1		Half bridge rotating clarifier sludge scraper bridge assembly including steel frame, walkway, scrapers, supports, handrailing, motors and instrumentaton complete	No.	4		
6.2.2		304L Peripheral V-notch Weir plate and ss anchoring bolts	No.	4		
6.3	PI 6	INSTALL & COMMISSION				
6.3.1		Erect / install, test and commission all clariflocculator equipment	Sum	1		
		Screeding of Clarifier floors using installed rotating bridge sludge scrapers as screed guide NOTE: Supply and placing of screed is 'ringfenced' for local subcontractor (measured elsewhere)				
6.3.2		Work with local subcontractor to achieve desired screed surface (including operate rotating bridge as screed guide)	No	4		
6.4	PI 12	DESLUDGE VALVES - PRIME COST ITEM				
6.4.1		Supply, deliver, install & commission (all by specialist supplier): 4 No. 3CR12 'Amanziiflow' hydraulic-actuated diaphragm valves bolted onto existing DN200 sludge outlet valve + all control pipework	PC Sum	1	1 300 000.00	1 300 000.00
6.4.2		Mark-up on item 6.4.1 above	%	1 300 000.00		
TOTAL FOR SECTION 6 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 7 FILTRATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
7.1	PI 3	MECHANICAL WORKS J31067/MECH/216-01/04. Refer to P&ID -/PID/304-306 Refer to Waterworks Project Specification Section 7 Electrical power and control and instrumentation measured in separate Section				
7.1.1		DESIGN				
		Design and submit details, QCPs and shop drawings for complete filtration system for approval	Sum	1		
7.2	PI 4	SUPPLY & DELIVER Manufacture / procure, supply and deliver to Site				
7.2.1		<u>Filter False Floor System</u>				
7.2.1.1		For each filter, all materials, for structural false- floor system with nozzle sleeves cast-in and screw-in filter nozzles,	No	8		
7.2.1.2		For each filter, approved silica filter sand to 900mm depth from false floor level	No	8		
7.2.2		<u>Electrically-Actuated valves linked to backwash control system</u> Note: All actuators shall include internal intelligence for motor switching and local buttons for manual open/close				
7.2.2.1		DN300 electrically-actuated (non-modulating) flanged Settled Water Inlet rubber-lined, ss disc Butterfly Valve PN10 [04-VK- 01/05/09/13/17/21/25/29]	No	8		
7.2.2.2		DN400 electrically-actuated (continuously- modulating) flanged Filtered Water Outlet rubber -lined ss disc Butterfly Valve PN10 [04-VK- 02/06/10/14/18/22/26/30] linked to ultrasonic water level sensor. Note: Actuator on extension spindle so is accessible above channel	No	8		
7.2.2.3		DN400 electrically-actuated (non-modulating) flanged Backwash Water Inlet rubber-lined ss disc Butterfly Valve PN10 [04-VK- 03/07/11/15/19/23/27/31]. Note: Actuator on extension spindle so is accessible above channel	No	8		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 7 FILTRATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
7.2.2.4		DN150 electrically-actuated (non-modulating) flanged Air Scour Inlet rubber-lined ss disc Butterfly Valve PN10 [04-VK-4/08/12/16/20/24/28/32] NOTE: Actuator motor sized for higher closing torque associated with dry disc on dry rubber)	No	8		
7.2.2.5		DN400 electrically-actuated (non-modulating) spent backwash water rubber-lined ss disc Butterfly Valves on 3CR12 support frame[04-VK-01/02/03/04]/05/06/07/08] wall-mounted over 620x620mm opening. Note: Actuator on extension spindle so is accessible above spent backwash channel	No	8		
		2 No. DN500 PN10 Flanged Magnetic Flow Meter (backwash water); complete with Wall-Mounted Transmitter -SEE UNDER ELEC SECTION				
7.2.2.6		304L ss manually operating surface-mounted downward opening (rising weir gate) with rising spindle, pedestal and handwheel by "GEREG" or similar approved [04-WG-01/02/03/04/05/06/07/08]	No	8		
7.2.3		<u>Filter backwash pumpsets, pipework and equipment as per P&ID - J31067/PID/306. Refer to dwg J31067/MECH/240-01/02 for indicative layout</u>				
7.2.3.1		Backwash Pumpsets as per project specifications, complete with base plate, anchor bolts, couplings etc.	No	3		
7.2.3.2		FBE lined and coated mild steel suction pipework (shown indicatively on Dwg J31067/DET/240-01/03): From the existing DN500 PN10 flanged ss puddle-pipes cast-in the pumpstation wall to the suction side of each pumpset (DN500 flange c/w insulating gasket set) incl all pressure tappings and guages and stopcocks	No.	3		
7.2.3.3		FBE lined and coated mild steel Delivery Pipework (shown indicatively on Dwg J31067/DET/240-01/03): From delivery side of each pumpset to the existing DN400 PN10 flanged ss puddle-pipes cast into the pumpstation wall (c/w insulating gasket set) and incl pressure tappings and guages and stopcocks	No.	3		
7.2.3.4		DN500 PN10 Flanged rubber-lined ss disc Butterfly Valve c/w gearbox & handwheel	No.	3		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 7 FILTRATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
7.2.3.5		DN400 PN10 Flanged rubber-lined Butterfly Valve c/w gearbox and handwheel	No.	3		
7.2.3.6		DN400 PN10 wafer double-door non-return valve	No.	3		
7.2.3.7		DN500 PN10 flanged Dismantling Joint	No	6		
7.2.3.8		DN400 PN10 flanged Dismantling Joint	No	3		
7.2.4		<u>Air scour blower sets, pipework, equipment and instrumentation as per P&ID - J31067/PID/306. Refer to dwg J31067/MECH/221 for indicative layout</u>				
7.2.4.1		Roots'-type air blower c/w acoustic hood, silencers, air filter, cooling fan etc	No	2		
7.2.4.2		Delivery Pipework and equipment including all valves, instrumentation, for both blower delivery lines to common delivery line outside the filter plant building	Sum	1		
7.2.4.3		Delivery Pipework (shown indicatively on Dwg J31067/MECH/221ME) from the filter plant room to each actuated valve in the filter buildings (SABS 1123:1000/3)	Sum	1		
7.2.5		<u>Manual Hoist</u>				
7.2.5.1		Manual trolley on existing Crawl Beams in Filter Plant Building, c/w manual chain block hoist, 8m chain, 2t rated capacity	No	2		
7.3	PI 6	INSTALL & COMMISSION				
		<u>Construct false floor system</u>				
7.3.1		For each filter, construct complete structural false-floor system with nozzle sleeves cast-in and screw-in filter nozzles, approved ready to place filter sand	No.	8		
	PI 15	<u>Thoroughly clean-out all existing chlorine contact tanks, pipelines, plenum spaces etc after installation of filter false floors and nozzles and before backwashing the filter beds for the 1st time (when filters are first backwashed, the backwash water must be completely free of dirt which can lodge in filter nozzle slots)</u>				
7.3.2		Thoroughly clean-out filtered water chlorine contact sump and all backwash pump suction and delivery pipework all the way to the eight plenum chambers under the 8 No. spent backwash launder channels	Sum	1		
CARRIED FORWARD						

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CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 7 FILTRATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
7.3.3		Thoroughly clean-out plenum chambers under the spent backwash launder channels and seal CI access lid c/w ss holding-down bars as per drawing	No	8		
7.3.4		Thoroughly clean-out plenum space under filter bed false floors using blanked-off access pipes provided (2 false floors per filter)	No	16		
	PI 6	<u>Remainder of filtration equipment</u>				
7.3.5		Erect / install, test and commission all filtration and backwash equipment and pipework complete	Sum	1		
7.4	PI 11	SUPPLY OF SPARES				
		Procure and deliver to Site Spares				
7.4.1		Supply spare filter sand in 40kg bags	No	500		
7.4.2		500 No. filter nozzles stored in wooden crate	Sum	1		
TOTAL FOR SECTION 7 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
MECHANICAL & ELECTRICAL

SECTION: 8 CHLORINATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
8.1	PI 3	MECHANICAL WORKS Refer to drawing J31067-MECH-400. Refer to P&ID - J31067/PID/310 and Proj Spec: Waterworks Equipment section 8				
8.1.1		DESIGN Design and submit details, QCPs and shop drawings of whole gas chlorination dosing system and leak detection and dry scrubber equipment for approval	Sum	1		
8.2	PI 4	SUPPLY & DELIVER <u>Manufacture / procure, supply and deliver to Site the following chlorination equipment:</u>				
		Gas Room				
8.2.1		Support trunnion cradles for storage of 1 tonne net content chlorine gas drums including load cells and readouts in adjoining room	No.	6		
8.2.2		Support trunnion cradles for storage of 1 tonne net content chlorine gas drums - storage only	No.	6		
8.2.3		Wall-mounted chlorine gas manifolds for two banks of 3 drums complete, including all connecting 'pig tail' pipework to drums, valves, auto-changeover, vacuum regulator, liquid traps and heaters and PVC vacuum pipework to gas chlorinators in adjoining room	Sum	1		
8.2.4		Wall-mounted panel heater with thermostat min 425W (incl all wiring)	No.	6		
8.2.5		Lifting beam for 1 ton chlorine drum	No	2		
8.2.6		Manual crawl beam trolleys and chain block hoist equipment for 2t gas drums (3 tSWL) on the two existing crawl beams	No	2		
8.2.7		400mm extraction pipework inside + through wall	Sum	1		
		Metering Room				
8.2.8		5 kg/h manual chlorinator gas flow regulators and pipework to injectors	No.	2		
8.2.9		5 kg/h venturi gas injectors	No.	2		
8.2.10		Water supply to injectors from dedicated 90mm PN20 HDPE high pressure main and chlorinated water pipelines to two separate dosing points (one in each Filter Building) including the following components:	Sum	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
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 MECHANICAL & ELECTRICAL
 SECTION: 8 CHLORINATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		- DN40 y-type Flanged PN25 5mm ss304 basket strainers;				
		- DN40 PN25 adjustable Pressure Reducing Valves & pressure guage each side;				
		- DN40 PN25 inline mechanical flow meters				
		- DN40 PN25 s-s quarter-turn ball valves				
		-13mm NB flanged Ball Valve PN25 (CI Body, S/S Ball, Reinforced teflon seat) SABS Approved				
		- DN40 uPVC PN12.5 pipework form venturi injectors to each Filter Building dosing points including above and below ground pipework and uPVC sparg pipes secured to Chlorine Contact Tank walls				
8.2.11		Gas leak detection system including alarms, strobe light & sirens and auto link to start scrubber system when preset gas concentration reached	Sum	1.00		
		On roof of Chlorine Building				
8.2.12		1 No. UV-resistant orange windsock (conical tube with wind vane tail of robust design capable of resisting strong winds) mounted on a 1.5m high aluminium pole on the roof of the Chlorine Building.	Sum	1		
		Dry Scrubber outside building				
8.2.13		GRP Dry scrubber system including pellets for neutralising 1 tonne chlorine gas complete with all outside suction and venting pipework and extraction fan ("PureAIR Filtration" or similar approved)	Sum	1		
8.2.14		Concrete plinth for scrubber	Sum	1		
		Outside gas Metering Room door				
8.2.15		Emergency eyewash and shower station including pipework, valves, connections and bends	Sum	1		
		In Chemical Dosing Building				
8.2.16		Full chlorine-envirnoment PPE kit in its own cabinet	No	3		
		Generally:				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

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CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 8 CHLORINATION EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
8.2.17		All internal & external hazardous material handling and safety signage for entire Chlorine Building installation	Sum	1		
8.2.18		Regulation 7' first aid box	No	2		
8.3	PI 6	INSTALL & COMMISSION				
8.3.1		Install, test and commission all chlorination dosing, leak detection, scrubber and safety equipment and pipework (trenching for external buried pipework measured elsewhere)	Sum	1		
8.4	PI 11	SUPPLY OF SPARES				
8.4.1		Chlorine gas filter cartridges for masks	No	3		
8.5	PI 10	SUPPLY OF CONSUMABLES				
8.5.1		Supply and deliver and offload 1 tonne chlorine drums as directed by the Employer's Agent	PC Sum	1	1 000 000.00	1 000 000.00
8.5.2		Mark-up on above	%	1 000 000.00		
TOTAL FOR SECTION 8 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 9 Spent Backwash Recycle Pumpstation

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		PUMPSETS, PIPEWORK AND VERTICAL SHAFT MIXERS / STIRRERS				
		Refer to dwg J31067/PID/308 & /MECH / 330 and Proj Spec: Waterworks Equipment section 9 and Proj Spec: Pumping Equipment section 3				
9.1	PI 3	DESIGN				
9.1.1		Design of Spent Backwash Water Pump System & tank mixers	Sum	1		
9.2	PI 4	SUPPLY & DELIVER				
9.2.1		<u>PUMPSETS</u>				
9.2.1.1		3 No. Pumpsets as per project specifications, complete with baseplate, anchor bolts, couplings etc.	Sum	1		
9.2.2		<u>SUCTION & DELIVERY PIPEWORK SPECIALS</u>				
9.2.2.1		FBE DN100 mild steel pipework specials from DN200 bellmouth to inlets of 3 pumpsets	Sum	1		
9.2.2.2		GMS DN100 & 150 pipework specials from 3 No. Pump outlet flanges to the socketed flange adapter connection to the existing 160mm uPVC Rising Main. All flanges SANS 1123:1000/3.	Sum	1		
9.2.3		<u>PN10 FITTINGS FOR SUCTION & DELIVERY MANIFOLDS</u>				
		Flow limiting device				
9.2.3.1		Wafer-type PVC in-line 'Maric' precision flow limiter fitted to DN100 delivery side of each pump (rated flow: 960l/min). Maric Order Code: 100WPP800	No.	3		
		Valves				
9.2.3.2		DN100 wafer double-door non-return valve	No	3		
9.2.3.3		DN50 Flanged Double-Acting Air Valve with "Anti-shock" function; "Variant" 50LX__ Or Similar Approved	No.	1		
9.2.3.4		DN50 RSV valve with handwheel	No.	1		
9.2.3.5		DN100 Flanged RSV with handwheel	No.	6		
		Pressure gauge				
9.2.3.6		100mm dial size 600kPa glycerine-filled pressure gauge c/w stop-cock	No	4		
		Couplings:				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 9 SPENT BACKWASH RECYCLE PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
9.2.3.7		DN100 Dismantling joint	No	3		
9.2.3.8		DN150 Dismantling joint	No	1		
9.2.3.9		DN150 socketed flange adaptor to join GMS pipe to 160uPVC pipe	No	1		
		Flow Meter: See under ELEC				
9.2.4		<u>CRANE, HOISTS, & WINCHES</u>				
9.2.4.1		• Crawl Beam: Bottom travelling, manual hoist block and tackle • Minimum lifting capacity 0.5 t • Long-travel Length 10.58 (m) • Estimated Minimum Hook to Deck Clearance 1.8(m) • Estimated Maximum Hoist Travel length 5.4 (m) • Chain block hoist mechanism - manual "chain operated type geared pulley hoist system" • Hand chain Material GMS • GMS Hoist Load chain	No	1		
9.2.5		<u>MIXERS</u>				
		Refer to Project Spec: Waterworks Equipment Section 9.				
9.2.5.1		Vertical stirrer and reduction gearbox bolted onto existing concrete platform	No.	2		
9.3	PI 6	INSTALL & COMMISSION				
9.3.1		Install, test and commission pumpsets, all pipework and fittings complete (including casting -in of 3 suction pipes in existing box-outs)	Sum	1		
9.3.2		Erect / install, test and commission Mixers	Sum	1		
		Additional Corrosion protection of buried GMS delivery specials				
9.3.3		Denso-tape GMS DN150 rising main where buried (~3m section)	Sum	1		
TOTAL FOR SECTION 9 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
MECHANICAL & ELECTRICAL

SECTION: 10 SLUDGE SUPERNATANT RECYCLE PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		SLUDGE SUPERNATANT RECYCLING PUMPSETS & PIPEWORK				
		Refer to drawing J321067-DET 340 /PID/308 and Proj Spec: Pumping Equipment section 4				
10.1	PI 3	DESIGN				
10.1.1		Design of Sludge Supernatant Pumping System	Sum	1		
10.2	PI 4	SUPPLY & DELIVER				
10.2.1		<u>PUMPSETS</u>				
10.2.1.1		2 No. Pumpsets as per project specifications, complete with baseplate, anchor bolts, couplings etc.	Sum	1		
10.2.2		<u>SUCTION & DELIVERY PIPEWORK SPECIALS</u>				
10.2.2.1		FBE DN100 mild steel pipeworkspecials from connection to existing 200mm uPVC inlet pipe to inlet flanges of 2 pumps	Sum	1		
10.2.2.2		GMS DN100 & 150 pipework specials from 2 No. Pump outlet flanges to the socketed flange adapter connection to the existing 160mm uPVC Risng Main. All flanges SANS 1123:1000/3.	Sum	1		
10.2.3		<u>PN10 FITTINGS FOR SUCTION & DELIVERY MANIFOLDS</u>				
		Flow limiting device				
10.2.3.1		Wafer-type PVC in-line 'Maric' precision flow limiter fitted to DN100 delivery side of each pump (rated flow: 960l/min). Maric Order Code: 100WPP960	No.	2		
		Valves				
10.2.3.2		DN50 Flanged Double-Acting Air Valve with "Anti-shock" function; "Variant" 50LX__ Or Similar Approved	No.	1		
10.2.3.3		DN50 RSV valve with handwheel	No.	1		
10.2.3.4		DN100 Flanged RSV with handwheel	No.	4		
		Pressure guage				
10.2.3.5		100mm dial size 600kPa glycerine-filled pressure guage c/w stop-cock	No	3		
10.2.3.6		100mm dial size 60kPa glycerine-filled pressure guage c/w stop-cock	No	2		
		Couplings:				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 10 SLUDGE SUPERNATANT RECYCLE PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
10.2.3.7		DN100 Dismantling joint	No	3		
10.2.3.8		DN150 socketed flange adaptor to join GMS pipe to 160mm uPVC pipe	No	2		
		NRV				
10.2.3.9		DN100 wafer double door Check Valve	No.	2		
		Flow Meter: See under ELEC				
10.2.4		<u>CRANE, HOISTS, & WINCHES</u>				
10.2.4.1		•Crawl Beam: manual trolley & hoist block and tackle •Min lifting capacity 0.5 t •Long-travel Length 6.55 (m) •Estimated Minimum Hook to Deck Clearance 1.8(m) •Estimated Maximum Hoist Travel length 3.5 (m) •Chain block hoist mechanism -manual chain operated type geared pulley hoist system" •GMS Hoist Load chain	No	1		
10.3	PI 6	INSTALL & COMMISSION				
10.3.1		Install, test and commission pumpsets, all pipework and fittings complete (including casting -in of pipes through walls and connecting to existing suction pipeline and rising main) Additional Corrosion protection of buried GMS delivery specials	Sum	1		
10.3.2		Denso-tape wrapping to GMS DN150 incoming pipe & outgoing pipe to rising main where buried (~3m section)	Sum	1		
TOTAL FOR SECTION 10 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 11 SLUDGE HOLDING TANK MIXERS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
11.1	PI 3	MECHANICAL WORKS Refer to drgs /MECH/260-01 &-02 and Proj Spec: Waterworks Equipment: Section 9. DESIGN				
11.1.1		Design and submit details, QCPs and shop drawings for 4No. tank mixers for approval	Sum	1		
11.2	PI 4	SUPPLY & DELIVER MIXERS Manufacture / procure, supply and deliver to Site mixing / stirrer equipment				
11.2.1.1		Vertical stirrer and reduction gearbox bolted to existing concrete platform	No.	4		
11.3	PI 6	INSTALL & COMMISSION Erect / install, test and commission				
11.3.1			Sum	1		
TOTAL FOR SECTION 11 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 12 SLUDGE DEWATERING EQUIPMENT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		MECHANICAL WORKS				
		Refer to Proj Spec: Waterworks Equipment: Section 10.				
		Refer to drawing /MECH/270-01 &-02 and to P&ID - /PID/309				
12.1	PI 3	DESIGN				
12.1.1		Design and submit details, QCPs and shop drawings for sludge dehydrator system	Sum	1		
12.1.2		**High Priority Item** Design and submit drawings for suitable enclosure for housing all sludge dehydrator equipment (including sludge feed pumps) as per typical details given on MECH/270-02 (to be constructed under this Contract by local subcontractors).	Sum	1		
12.2	PI 4	SUPPLY & DELIVER				
12.2.1		1 Duty progressive cavity sludge feed pump for each dehydrator unit	No.	2		
12.2.2		DN200 uPVC suction pipework from sludge holding tank to progressive cavity pumps and delivery pipework to dehydrator inlets	Sum	1		
12.2.3		Multiple screw sludge dehydration units complete with independant electrical control panels and all cablling ("BIOMEK TNW 403" or similar approved)	No.	2		
12.2.4		polyacrylamide flocculent pellet-to-liquid make- up unit to match screw press	No.	2		
12.2.5		1 Duty + 1 StandbyPoly dosing pumps to feed each dehydration unit	No.	4		
12.2.6		Swing-arm screw conveyors to stockpile dried sludge (including collection hoppers where sludge exits dehydrators)	No.	2		
12.3	PI 6	INSTALL & COMMISSION				
12.3.1		Erect / install, test and commission all dehydration equipment (including connections to potable water supply)	Sum	1		
12.4	PI 12	PRIME COST ITEM				
12.4.1		Supply and deliver 1 No. mini skid-steer wheel loader ('Bobcat' or similar)	PC Sum	1	600 000.00	600 000.00
12.4.2		Mark-up on item 12.4.1 above	%	600 000.00		
12.5	PI 10	SUPPLY CONSUMABLES				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
12.5.1		Supply polyelectrolyte as directed by the Employer's Agent	PC Sum	1	500 000.00	500 000.00
12.5.2		Mark-up on above	%	500 000.00		
TOTAL FOR SECTION 12 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 13 CLEAR WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
13.1	PI 3	MECHANICAL WORKS Refer to drawing J31067-MECH/320/01-07. ROSEDALE PUMPSETS & PIPEWORK DESIGN Refer to dwgs /PID/307 and /MECH/320 and Proj Spec:Pumping Equipment section 5	Sum	1		
		Design of Rosedale Clear Water Pumping System				
13.2	PI 4	SUPPLY & DELIVER	Sum	1		
13.2.1		<u>SUCTION MANIFOLD FABRICATED STEELWORK</u>				
13.2.1.1		Epoxy lined and coated DN800 mild steel suction manifold & branches and blanked-off end complete: From the existing DN800 incoming steel pipeline to suction side of each pumpset. DN800 to DN500 steel epoxy lined and coated pipework as shown in drawings (SANS 1123:1000/3). DN800 blank flange to include DN150 flanged offtake (for scour valve)				
13.2.2		<u>PN10 FITTINGS FOR SUCTION MANIFOLD</u> Valves				
13.2.2.1		DN500 Flanged Butterfly Valve; Complete With Gearbox	No.	3		
13.2.2.2		DN80 Flanged Double-Acting Air Valve with "Anti-shock" function; "Variant" 80LX__ Or Similar Approved	No.	3		
13.2.2.3		DN80 Flanged Resilient Seal Gate Valve with handwheel	No	3		
13.2.2.4		DN150 Flanged Resilient Seal Gate Valve with cap top (scour valve on DN800 blank flange at end of suction manifold)	No	1		
13.2.2.5		Valves for instrumentation 13mm NB flanged Ball Valve (CI Body, S/S Ball, Reinforced teflon seat) SABS Approved	No	4		
13.2.2.6		Couplings: DN500 Dismantling joint	No	3		
13.2.2.7		DN800 Dismantling joint Pressure guage	No	2		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 13 CLEAR WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
13.2.2.8		100mm dial size 60kPa glycerine-filled pressure gauge c/w stop-cock	No	3		
13.2.3		<u>PUMPSETS</u>				
13.2.3.1		Pumpsets as per project specification, complete with base plate, anchor bolts, couplings etc.	No	3		
13.2.4		<u>DELIVERY MANIFOLD FABRICATED STEELWORK</u>				
13.2.4.1		Complete mild steel epoxy lined and coated manifold from DN400 pump outlets to DN800 delivery manifold inside pumpstation to DN900 site-weld connection at Isolating Valve Chamber (including the blanked off future flanged delivery branches, DN800 'S' bend outside pumpstation and DN800 to DN900 reducer) as shown in drawings. (flanges to SANS 1123:1600).	Sum	1		
13.2.5		<u>PN16 FITTINGS FOR DELIVERY MANIFOLD</u>				
		Valves				
13.2.5.1		DN400 Flanged Butterfly Valve; complete with gearbox and handwheel	No.	3		
13.2.5.2		DN80 Flanged Double-Acting Air Valve with "Anti-shock" function; "Variant" 80LX or similar approved	No.	1		
13.2.5.3		DN80 Flanged Resilient Seal Gate Valve with handwheel	No.	1		
13.2.5.4		DN400 Flanged Nozzle Check Valve; F/F Dimensions To EN 558/ISO 5752 Series 14	No.	3		
		Valves for instrumentation				
13.2.5.5		13mm NB flanged Ball Valve (CI Body, S/S Ball, Reinforced teflon seat) SABS Approved	No	4		
		Couplings:				
13.2.5.6		DN400 Dismantling Joint	No	3		
13.2.5.7		DN800 Dismantling joint	No	2		
13.2.5.8		DN800 Flanged Electromagnetic Flow Meter (see under Elec Section)				
13.2.5.9		DN300 Wafer Constant Flow Control Valve "MARIC" ; Gun Metal; High Precision High Pressure (15Bar); 8854 l/min [Order Code: 300WGN6 8854]	No	1		
13.3	PI 6	INSTALL & COMMISSION				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 13 CLEAR WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
13.3.1		BROUGHT FORWARD Install, test and commission pumpsets, all pipework and fittings complete (including casting -in of pipes through walls and connecting to existing suction pipeline and rising main) and Denso tape wrap all buried sections of suction and delivery pipes Extra-over pipework and fittings for supply of insulating flange kit where required including: insulating gaskets, sleeves, washers, explosion proof spark gaps, tape wrapping, bolts etc	Sum	1		
13.3.2		DN500 Flanged connections PN10 (at each suction branch)	No.	3		
13.3.3		DN800 Flanged connections PN16 (each side of flowmeter)	No.	2		
		NQADU PUMPSETS & PIPEWORK Refer to Proj Spec Pumping Equipment Section 6 Refer to dwg J31067/PID/307 & MECH/320				
13.4	PI 3	DESIGN				
13.4.1		Design of Nqadu Clear Water Pumpstation System	Sum	1		
13.5	PI 4	SUPPLY & DELIVER				
13.5.1		<u>SUCTION MANIFOLD FABRICATED STEELWORK</u>				
13.5.1.1		Epoxy lined and coated DN250 mild steel suction manifold branches (off DN800 suction manifold) to suction side of each pumpset. Epoxy lined and coated pipework as shown in drawings (SABS 1123:1000/3)	Sum	1		
13.5.2		<u>PN10 FITTINGS FOR SUCTION MANIFOLD</u> Valves				
13.5.2.1		DN250 Flanged Butterfly Valve; Complete With Gearbox (If Necessary) F/F Dimensions To En 558/Iso 5752 Series 13 with rising spindle and handwheel	No.	2		
13.5.2.2		DN80 Flanged Double-Acting Air Valve with "Anti-shock" function; "Variant" 80LX__ Or Similar Approved	No.	1		
13.5.2.3		DN80 Flanged Resilient Seal Valve To SABS 665, With Handwheel And Rising Spindle; Valves for instrumentation	No	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 13 CLEAR WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
13.5.2.4		13mm NB flanged Ball Valve (CI Body, S/S Ball, Reinforced teflon seat) SABS Approved	No	4		
		Couplings:				
13.5.2.5		DN250 Dismantling joint	No	1		
		Pressure guage				
13.5.2.6		100mm dial size 60kPa glycerine-filled pressure guage c/w stop-cock	No	2		
13.5.3		<u>PUMPSETS</u>				
13.5.3.1		Pumpsets as per project specification, complete with base plate, anchor bolts, couplings etc.	No	2		
13.5.4		<u>DELIVERY MANIFOLD FABRICATED STEELWORK</u>				
13.5.4.1		Complete manifold from pump outlets to connection at Isolating Valve Chamber DN200 steel Fusion-bonded Epoxy lined and coated pipework as shown in drawings. (SANS 1123:4000/3). NOTE: All gaskets high pressure design with spiral-wound or metal ring reinforcing	Sum	1		
13.5.5		<u>PN40 FITTINGS FOR DELIVERY MANIFOLD</u>				
		Valves				
13.5.5.1		DN200 Flanged Butterfly Valve; Complete With Gearbox	No.	2		
13.5.5.2		DN200 Flanged Nozzle Check Valve; F/F Dimensions To EN 558/ISO 5752 Series 14	No.	2		
		Valves for instrumentation				
13.5.5.3		13mm NB flanged Ball Valve (CI Body, S/S Ball, Reinforced teflon seat) SABS Approved	No	4		
		Couplings:				
13.5.5.4		DN200 Dismantling Joint	No	2		
13.5.5.5		DN200 Flanged Electromagnetic Flow Meter (see under Elec Section)				
13.6		NQADU ISOLATING VALVE CHAMBER				
		MARIC flow controller (for controlled filling of empty Rising Main)				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 13 CLEAR WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
13.6.1	PI 6	BROUGHT FORWARD DN100 Wafer Type Constant Flow Control Valve "MARIC" ; Gun Metal; High Precision High Pressure; 1279 l/min [Order Code: 100WGN7 1279]	No	1		
13.7		INSTALL & COMMISSION				
13.7.1		Install, test and commission pumpsets, all pipework and fittings complete (including casting -in of pipes through walls and connecting to existing suction pipeline and rising main) and Denso tape wrap all buried sections of suction and delivery pipes	Sum	1		
13.7.2		Extra-over pipework and fittings for supply of insulating flange kit where required including: insulating gaskets, sleeves, washers, explosion proof spark gaps, tape wrapping, bolts etc				
13.7.3		DN250 Flanged connections PN10 (at each suction branch)	No.	2		
13.8	PI 3	DN200 Flanged connections PN40 (each side of flowmeter)	No.	2		
13.8.1		CRANE, HOISTS, & WINCHES DESIGN NOTE: Design assumes compound girders for crane consisting of 254 x 146 x 31mm I-section and PC200 x 75mm channel with 50 x 50mm crane rail. NOTE: 150 x 150 x 12mm base plate with 4No.M20 grade 8.8 U-bolts [80mm c/c along axis of crane span, 70mm c/c along axis of crane rail] already supplied & installed by Civil Contractor & verified to BS466 Appendix F by independant Surveyor	Sum	1		
13.9	PI 4	SUPPLY & DELIVER				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL
SECTION: 13 CLEAR WATER PUMPSTATION

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
13.9.1		BROUGHT FORWARD •Overhead Electric Travelling single-girder crane, overslung, top travelling with electric hoist •Rated lifting capacity 5 t •Long-travel Length approx. 36.15 (m) •Wheel-to-wheel span: 8 84mm •Estimated Minimum Hook to Deck Clearance approx.1.8 (m) •Maximum Hoist Travel length approx. 3.95 (m) •Clearance height from top of crane rail to soffit roof beams: 554mm •Control via a Primary Control Panel as well as a secondary wireless pendant control (provision must be made to lock the pendant control into the control panel when not in use)	Sum	1		
13.10	PI 6	INSTALL & COMMISSION Note: Building already erected; allow for access through roller-shutter door and lifting into place from inside				
13.10.1		Installation / erection, load testing and certification, signage, O&M manual	Sum	1		
13.11	PI 12	PRIME COST ITEM Fire Signage and Fire extinguishers				
13.11.1		Supply and deliver and wall-mount 9kg CO2 fire extinguishers and associated signage in each room	PC Sum	1	80 000.00	80 000.00
13.11.2		Mark-up on item 13.11.1 above HVAC for TRANSFORMER ROOM	%	80 000.00		
13.11.3		Design, supply, deliver and install extractor fans (get quotes from HVAC subcontractors)	PC Sum	1	250 000.00	250 000.00
13.11.4		Mark-up on item 13.11.3 above	%	250 000.00		
TOTAL FOR SECTION 13 CARRIED FORWARD TO SUMMARY						

SECTION: 14 MOTOR CONTROL CENTRE AND PLC

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
14.1		DISTRIBUTION AND MOTOR CONTROL PANELS				
		Supply, installation, testing and commissioning of distribution and motor control panels as specified. The panels shall be inclusive of all equipment, controls, instrumentation and all sundry materials necessary to hand over the works in good working order. Panels are listed below:				
		MCC 1- DOSING BUILDING as specified in PSE 9.6				
14.1.1	PI 4	Supply	No	1		
14.1.2		Install	No	1		
		MCC 2 - FILTER PLANT ROOM as specified in PSE 9.4				
14.1.3		Supply	No	1		
14.1.4		Install	No	1		
		MCC 2A- FILTER BUILDING 1 as specified in PSE 9.4				
14.1.5		Supply	No	1		
14.1.6		Install	No	1		
		MCC 2B- FILTER BUILDING 2 as specified in PSE 9.4				
14.1.7		Supply	No	1		
14.1.8		Install	No	1		
		MCC 3 - CHLORINE BUILDING as specified in PSE 9.5				
14.1.9		Supply	No	1		
14.1.10		Install	No	1		
		MCC 4 - BACKWASH RECYCLING BUILDING as specified in PSE 9.7				
14.1.11		Supply	No	1		
14.1.12		Install	No	1		
		MCC 5A - CLEAR WATER PUMP STATION as specified in PSE 9.2 with 350 Kvar Power Factor Correction panel				
14.1.13		Supply	No	1		
14.1.14		Install	No	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 14 MOTOR CONTROL CENTRE AND PLC

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		MCC 5B - CLEAR WATER PUMP STATION as specified in PSE 9.2 with 350 Kvar Power Factor Correction panel				
14.1.15		Supply	No	1		
14.1.16		Install	No	1		
		MCC 6- SLUDGE DEWATERING as specified in PSE 9.8				
14.1.17		Supply	No	1		
14.1.18		Install	No	1		
		MCC 7 - SUPERNATANT PUMP STATION as specified in PSE 9.3				
14.1.19		Supply	No	1		
14.1.20		Install	No	1		
		MCC 8 - TEMPORARY RAW WATER PUMP STATION as specified in PSE 9.1				
14.1.21		Supply	No	1		
14.1.22		Install	No	1		
14.2		EARTHING OF MCC				
		Earthing of the MCC 5A and MCC 5B to earth grid as specified PSE 19.4.6				
14.2.1		Supply	No	2		
14.2.2		Install	No	2		
14.3		FACTORY ACCEPTANCE AND FUNCTIONAL TESTS				
14.3.1		Allow for 10x visits to MCC, PLC and SCADA Manufacturer for two (2) of the Engineer's and four (4) of the Employer's representatives and one (1) contractor representatives inclusive of travel, accomodation and meals.	Sum	1		
14.3.2		FAT: Simulation of the plant in the factory, prior to delivery to site, to ensure correctness of operating procedures of the MCC panels. The simulation to be witnessed by two (2) of the Engineer's and four (4) of the Employer's representatives and one (1) contractor representatives inclusive of travel, accomodation and meals.	Sum	1		
14.4		PLC / SCADA HARDWARE INSTALLATION				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 14 MOTOR CONTROL CENTRE AND PLC

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Supply and delivery to site, installation and commissioning of the equipment hardware, including all I/O modules, Controllers, power supply modules, Fibre Optic modules, Ethernet cabling, network hardware, racks and all wiring required as specified in I/O lists, P & ID diagrams and including quality assurance :				
14.4.1		MCC 1- DOSING BUILDING as specified in PSE 9.6.1	Sum	1		
14.4.2		MCC 2 - FILTER PLANT ROOM as specified in PSE 9.4.1	Sum	1		
14.4.3		MCC 2A- FILTER BUILDING 1 as specified IN 9.4.7	Sum	1		
14.4.4		MCC 2B- FILTER BUILDING 2 as specified in PSE 9.4.10	Sum	1		
14.4.5		MCC 3 - CHLORINE BUILDING as specified in PSE 9.5.1	Sum	1		
14.4.6		MCC 4 - BACKWASH RECYCLING BUILDING as specified in PSE 9.7.1	Sum	1		
14.4.7		MCC 5A & B- CLEAR WATER PUMP STATION as specified in PSE 9.2	Sum	1		
14.4.8		MV Substation as specified in PSE 4	Sum	1		
14.4.9		MCC 6- SLUDGE DEWATERING as specified in PSE 9.8.1	Sum	1		
14.4.10		MCC 7 - SUPERNATANT PUMP STATION as specified in PSE 9.3.1	Sum	1		
14.4.11		MCC 8 - TEMPORARY RAW WATER PUMP STATION as specified in PSE 9.1.1	Sum	1		
14.5		PLC / SCADA PROGRAMMING				
		Writing of software programs for the PLC to control the plant and to allow a flow of data and instructions between all control and plant equipment and electrical switchgear. Refer to Appendix C, I/O lists and P & ID diagrams to integrate the PLC / SCADA programs into the control system for:				
14.5.1		MCC 1- DOSING BUILDING as specified in PSE 9.6.1	Sum	1		
14.5.2		MCC 2 - FILTER PLANT ROOM as specified in PSE 9.4.1	Sum	1		
CARRIED FORWARD						

SECTION: 14 MOTOR CONTROL CENTRE AND PLC

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
14.5.3		MCC 2A- FILTER BUILDING 1 as specified in PSE 9.4.7	Sum	1		
14.5.4		MCC 2B- FILTER BUILDING 2 as specified in PSE 9.4.10	Sum	1		
14.5.5		MCC 3 - CHLORINE BUILDING as specified in PSE 9.5.1	Sum	1		
14.5.6		MCC 4 - BACKWASH RECYCLING BUILDING as specified in PSE 9.7.1	Sum	1		
14.5.7		MCC 5A & B- CLEAR WATER PUMP STATION as specified in PSE 9.2	Sum	1		
14.5.8		MV SWITCHING STATION as specified in PSE 3	Sum	1		
14.5.9		MCC 6- SLUDGE DEWATERING as specified in PSE 9.8.1	Sum	1		
14.5.10		MCC 7 - SUPERNATANT PUMP STATION as specified in PSE 9.3.1	Sum	1		
14.5.11		MCC 8 - TEMPORARY RAW WATER PUMP STATION as specified in PSE 9.1.1	Sum	1		
14.6		OPERATOR PANELS (HMI's) Supply and delivery to site, installation, programming and commissioning of the Operating Panels (Minimum screen requirements is 20-22", 16x10 ratio using 1680x 1050 or 16x9 ratio using 1920x 1080) equipment hardware, including all power supply modules, racks and wiring all including quality assurance and insurance for:				
		MCC 1- DOSING BUILDING				
14.6.1		Supply	No.	1		
14.6.2		Install	No.	1		
		MCC 2 - FILTER PLANT ROOM				
14.6.3		Supply	No.	2		
14.6.4		Install	No.	2		
		MCC 2A- FILTER BUILDING 1				
14.6.5		Supply	No.	2		
14.6.6		Install	No.	2		
		MCC 2B- FILTER BUILDING 2				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 14 MOTOR CONTROL CENTRE AND PLC

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
14.6.7		Supply	No.	2		
14.6.8		Install	No.	2		
		MCC 3 - CHLORINE BUILDING				
14.6.9		Supply	No.	1		
14.6.10		Install	No.	1		
		MCC 4 - BACKWASH RECYCLING BUILDING				
14.6.11		Supply	No.	1		
14.6.12		Install	No.	1		
		MCC 5A & B- CLEAR WATER PUMP STATION				
14.6.13		Supply	No.	1		
14.6.14		Install	No.	1		
		MV SWITCHING STATION				
14.6.15		Supply	No.	1		
14.6.16		Install	No.	1		
		MCC 6- SLUDGE DEWATERING				
14.6.17		Supply	No.	1		
14.6.18		Install	No.	1		
		MCC 7 - SUPERNATANT PUMP STATION				
14.6.19		Supply	No.	1		
14.6.20		Install	No.	1		
		MCC 8 - TEMPORARY RAW WATER PUMP STATION				
14.6.21		Supply	No.	1		
14.6.22		Install	No.	1		
TOTAL FOR SECTION 14 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
15.1		CABLES Supply and installation of 600 / 1 000 V copper cable in trenches or on cable ladder rack as specified in PSE 14. Sizes as follows: 120 mm2 Single core XLPE (unarmoured)				
15.1.1	PI 4	Supply	m	600		
15.1.2		Install	m	600		
		240 mm2 Single core XLPE (unarmoured)				
15.1.3		Supply	m	1200		
15.1.4		Install	m	1200		
		240mm2 x 4 core XLPE (unarmoured)				
15.1.5		Supply	m	300		
15.1.6		Install	m	300		
		185mm2 x 4 core PVC/SWA/PVC				
15.1.7		Supply	m	600		
15.1.8		Install	m	600		
		150mm2 x 4 core PVC/SWA/PVC				
15.1.9		Supply	m	300		
15.1.10		Install	m	300		
		120mm2 x 4 core PVC/SWA/PVC				
15.1.11		Supply	m	670		
15.1.12		Install	m	670		
		95mm2 x 4 core PVC/SWA/PVC				
15.1.13		Supply	m	300		
15.1.14		Install	m	300		
		70mm2 x 4 core PVC/SWA/PVC				
15.1.15		Supply	m	320		
15.1.16		Install	m	320		
		50mm2 x 4 core PVC/SWA/PVC				
15.1.17		Supply	m	300		
15.1.18		Install	m	300		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		35mm2 x 4 core PVC/SWA/PVC				
15.1.19		Supply	m	300		
15.1.20		Install	m	300		
		25mm2 x 4 core PVC/SWA/PVC				
15.1.21		Supply	m	300		
15.1.22		Install	m	300		
		16mm2 x 4 core PVC/SWA/PVC				
15.1.23		Supply	m	2800		
15.1.24		Install	m	2800		
		10mm2 x 4 core PVC/SWA/PVC				
15.1.25		Supply	m	60		
15.1.26		Install	m	60		
		6mm2 x 4 core PVC/SWA/PVC				
15.1.27		Supply	m	70		
15.1.28		Install	m	70		
		4mm2 x 4 core PVC/SWA/PVC				
15.1.29		Supply	m	60		
15.1.30		Install	m	60		
		2.5mm2 x 4 core PVC/SWA/PVC				
15.1.31		Supply	m	5200		
15.1.32		Install	m	5200		
		1.5mm2 x 4 core PVC/SWA/PVC				
15.1.33		Supply	m	100		
15.1.34		Install	m	100		
		16mm2 x 3 core PVC/SWA/PVC				
15.1.35		Supply	m	520		
15.1.36		Install	m	520		
		4mm2 x 3 core PVC/SWA/PVC				
15.1.37		Supply	m	100		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV Cables

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.1.38		Install 2.5mm ² x 19 core PVC/SWA/PVC	m	100		
15.1.39		Supply	m	100		
15.1.40		Install 2.5mm ² x 12 core PVC/SWA/PVC	m	100		
15.1.41		Supply	m	100		
15.1.42		Install 1.5mm ² x19 core PVC/SWA/PVC	m	100		
15.1.43		Supply	m	360		
15.1.44		Install 1.5mm ² x 12 core PVC/SWA/PVC	m	360		
15.1.45		Supply	m	4530		
15.1.46		Install 1.5mm ² x 5 core PVC/SWA/PVC	m	4530		
15.1.47		Supply	m	1800		
15.1.48		Install 300 mm ² BCEW	m	1800		
15.1.49		Supply	m	100		
15.1.50		Install 240 mm ² BCEW	m	100		
15.1.51		Supply	m	210		
15.1.52		Install 185 mm ² BCEW	m	210		
15.1.53		Supply	m	100		
15.1.54		Install 150 mm ² BCEW'	m	100		
15.1.55		Supply	m	100		
15.1.56		Install 120 mm ² BCEW	m	100		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.1.57		Supply	m	100		
15.1.58		Install	m	100		
		95 mm2 BCEW				
15.1.59		Supply	m	480		
15.1.60		Install	m	480		
		70 mm2 BCEW				
15.1.61		Supply	m	670		
15.1.62		Install	m	670		
		50 mm2 BCEW				
15.1.63		Supply	m	180		
15.1.64		Install	m	180		
		35 mm2 BCEW				
15.1.65		Supply	m	320		
15.1.66		Install	m	320		
		25 mm2 BCEW				
15.1.67		Supply	m	250		
15.1.68		Install	m	250		
		16 mm2 BCEW				
15.1.69		Supply	m	70		
15.1.70		Install	m	70		
		10 mm2 BCEW				
15.1.71		Supply	m	100		
15.1.72		Install	m	100		
		6 mm2 BCEW				
15.1.73		Supply	m	600		
15.1.74		Install	m	600		
		2 pair x 1,5 mm2 Dekoron cable as specified in PS 6				
15.1.75		Supply	m	3200		
15.1.76		Install	m	3200		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV Cables

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		4 pair x 1,5 mm2 Dekoron cable as specified in PS 6				
15.1.77		Supply	m	300		
15.1.78		Install	m	300		
		12 pair x 1,5 mm2 Dekoron cable as specified in PS 6				
15.1.79		Supply	m	300		
15.1.80		Install	m	300		
		Ethernet Screened CAT 6a Cable				
15.1.81		Supply	m	2000		
15.1.82		Install	m	2000		
		Armoured Fibre Optic cable as specified in PS 21				
15.1.83		Supply	m	2000		
15.1.84		Install	m	2000		
15.2		CABLES JOINTS				
		Supply, making off and commissioning of cable joints (subject to engineers approval) as specified PSE 15.4. Sizes as follows:				
		120 mm2 Single core XLPE (unarmoured) (subject to engineers approval)				
15.2.1	PI 4	Supply	No	2		
15.2.2		Install	No	2		
		240 mm2 Single core XLPE (unarmoured) (subject to engineers approval)				
15.2.3		Supply	No	2		
15.2.4		Install	No	2		
		240mm2 x 4 core XLPE (unarmoured) (subject to engineers approval)				
15.2.5		Supply	No	2		
15.2.6		Install	No	2		
		185mm2 x 4 core PVC/SWA/PVC (subject to engineers approval)				
15.2.7		Supply	No	2		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.2.8		Install 150mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.9		Supply	No	2		
15.2.10		Install 120mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.11		Supply	No	4		
15.2.12		Install 95mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	4		
15.2.13		Supply	No	2		
15.2.14		Install 70mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.15		Supply	No	2		
15.2.16		Install 50mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.17		Supply	No	2		
15.2.18		Install 35mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.19		Supply	No	2		
15.2.20		Install 25mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.21		Supply	No	2		
15.2.22		Install 16mm ² x 4 core PVC/SWA/PVC (subject to engineers approval)	No	2		
15.2.23		Supply	No	10		
15.2.24		Install	No	10		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV Cables

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		16mm ² x 3 core PVC/SWA/PVC (subject to engineers approval)				
15.2.25		Supply	No	2		
15.2.26		Install	No	2		
15.3		CABLE ENDS				
		Supply, making off and connection of gland type cable ends, complete with lugs, labels etc for the following sizes of cable:				
		120 mm ² Single core XLPE (unarmoured)				
15.3.1	PI 4	Supply	No	32		
15.3.2		Install	No	32		
		240 mm ² Single core XLPE (unarmoured)				
15.3.3		Supply	No	48		
15.3.4		Install	No	48		
		240mm ² x 4 core XLPE (unarmoured)				
15.3.5		Supply	No	4		
15.3.6		Install	No	4		
		185mm ² x 4 core PVC/SWA/PVC				
15.3.7		Supply	No	4		
15.3.8		Install	No	4		
		150mm ² x 4 core PVC/SWA/PVC				
15.3.9		Supply	No	4		
15.3.10		Install	No	4		
		120mm ² x 4 core PVC/SWA/PVC				
15.3.11		Supply	No	8		
15.3.12		Install	No	8		
		95mm ² x 4 core PVC/SWA/PVC				
15.3.13		Supply	No	2		
15.3.14		Install	No	2		
		70mm ² x 4 core PVC/SWA/PVC				
15.3.15		Supply	No	2		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.3.16		Install 50mm2 x 4 core PVC/SWA/PVC	No	2		
15.3.17		Supply	No	2		
15.3.18		Install 35mm2 x 4 core PVC/SWA/PVC	No	2		
15.3.19		Supply	No	4		
15.3.20		Install 25mm2 x 4 core PVC/SWA/PVC	No	4		
15.3.21		Supply	No	6		
15.3.22		Install 16mm2 x 4 core PVC/SWA/PVC	No	6		
15.3.23		Supply	No	50		
15.3.24		Install 10mm2 x 4 core PVC/SWA/PVC	No	50		
15.3.25		Supply	No	2		
15.3.26		Install 6mm2 x 4 core PVC/SWA/PVC	No	2		
15.3.27		Supply	No	4		
15.3.28		Install 4mm2 x 4 core PVC/SWA/PVC	No	4		
15.3.29		Supply	No	6		
15.3.30		Install 2.5mm2 x 4 core PVC/SWA/PVC	No	6		
15.3.31		Supply	No	266		
15.3.32		Install 1.5mm2 x 4 core PVC/SWA/PVC	No	266		
15.3.33		Supply	No	4		
15.3.34		Install 16mm2 x 4 core PVC/SWA/PVC	No	4		
CARRIED FORWARD						

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ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.3.35		Supply	No	30		
15.3.36		Install	No	30		
		4mm2 x 4 core PVC/SWA/PVC				
15.3.37		Supply	No	6		
15.3.38		Install	No	6		
		2.5mm2 x 19 core PVC/SWA/PVC				
15.3.39		Supply	No	4		
15.3.40		Install	No	4		
		2.5mm2 x 12 core PVC/SWA/PVC				
15.3.41		Supply	No	4		
15.3.42		Install	No	4		
		1.5mm2 x 19 core PVC/SWA/PVC				
15.3.43		Supply	No	28		
15.3.44		Install	No	28		
		1.5mm2 x 12 core PVC/SWA/PVC				
15.3.45		Supply	No	166		
15.3.46		Install	No	166		
		1.5mm2 x 12 core PVC/SWA/PVC				
15.3.47		Supply	No	118		
15.3.48		Install	No	118		
		300 mm2 BCEW				
15.3.49		Supply	No	2		
15.3.50		Install	No	2		
		240 mm2 BCEW				
15.3.51		Supply	No	2		
15.3.52		Install	No	2		
		185 mm2 BCEW				
15.3.53		Supply	No	2		
15.3.54		Install	No	2		
CARRIED FORWARD						

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 MECHANICAL & ELECTRICAL
SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		150 mm2 BCEW'				
15.3.55		Supply	No	2		
15.3.56		Install	No	2		
		120 mm2 BCEW				
15.3.57		Supply	No	2		
15.3.58		Install	No	2		
		95 mm2 BCEW				
15.3.59		Supply	No	4		
15.3.60		Install	No	4		
		70 mm2 BCEW				
15.3.61		Supply	No	8		
15.3.62		Install	No	8		
		50 mm2 BCEW				
15.3.63		Supply	No	2		
15.3.64		Install	No	2		
		35 mm2 BCEW				
15.3.65		Supply	No	2		
15.3.66		Install	No	2		
		25 mm2 BCEW				
15.3.67		Supply	No	2		
15.3.68		Install	No	2		
		16 mm2 BCEW				
15.3.69		Supply	No	2		
15.3.70		Install	No	2		
		10 mm2 BCEW				
15.3.71		Supply	No	2		
15.3.72		Install	No	2		
		6 mm2 BCEW				
15.3.73		Supply	No	14		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.3.74		Install 2 pair x 1,5 mm2 Dekoron cable	No	14		
15.3.75		Supply	No	154		
15.3.76		Install 4 pair x 1,5 mm2 Dekoron cable	No	154		
15.3.77		Supply	No	2		
15.3.78		Install 12 pair x 1,5 mm2 Dekoron cable	No	2		
15.3.79		Supply	No	10		
15.3.80		Install Ethernet Screened CAT 6a Cable	No	10		
15.3.81		Supply	No	300		
15.3.82		Install Armoured Fibre Optic cable	No	300		
15.3.83		Supply	No	30		
15.3.84		Install	No	30		
15.4		HOT DIPPED GALVANIZED CONDUIT Supply and installation of hot dipped galvanized conduit, conduit accessories, cable boxes, spacers, saddles and conduit ends (not for building installations) Sizes as follows:				
		20 mm dia conduit				
15.4.1	PI 4	Supply	m	500		
15.4.2		Install 25 mm dia conduit	m	500		
15.4.3		Supply	m	500		
15.4.4		Install 32 mm dia conduit	m	500		
15.4.5		Supply	m	500		
15.4.6		Install 20 mm dia round boxes	m	500		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 15 LV Cables

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.4.7		Supply	No	50		
15.4.8		Install	No	50		
		25 mm round boxes				
15.4.9		Supply	No	50		
15.4.10		Install	No	50		
		32 mm round boxes				
15.4.11		Supply	No	50		
15.4.12		Install	No	50		
15.5		POWERWAY CABLE LADDER				
		Supply, delivery, installation of 3CR12 Powerway Cable Ladder for fixing onto concrete walls and floors complete with all accessories (bolts, nuts, splice plates, cantilever, supports, arms etc) (3CR12 Steel). Sizes as follows:				
		1000 x 75 mm - Ladder				
15.5.1	PI 4	Supply	m	300		
15.5.2		Install	m	300		
		1000 x 75 mm - T piece				
15.5.3		Supply	No	24		
15.5.4		Install	No	24		
		1000 x 75 mm - Elbow				
15.5.5		Supply	No	32		
15.5.6		Install	No	32		
		1000 x 75 mm - Dropper				
15.5.7		Supply	No	32		
15.5.8		Install	No	32		
		800 x 75 mm - Ladder				
15.5.9		Supply	m	180		
15.5.10		Install	m	180		
		800 x 75 mm - T piece				
15.5.11		Supply	No	18		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 15 LV Cables

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.5.12		Install 800 x 75 mm - Elbow	No	18		
15.5.13		Supply	No	24		
15.5.14		Install 800 x 75 mm - Dropper	No	24		
15.5.15		Supply	No	20		
15.5.16		Install 600 x 75 mm - Ladder	No	20		
15.5.17		Supply	m	180		
15.5.18		Install 600 x 75 mm - T piece	m	180		
15.5.19		Supply	No	12		
15.5.20		Install 600 x 75 mm - Elbow	No	12		
15.5.21		Supply	No	16		
15.5.22		Install 600 x 75 mm - Dropper	No	16		
15.5.23		Supply	No	14		
15.5.24		Install 300 x 75 mm - Ladder	No	14		
15.5.25		Supply	m	280		
15.5.26		Install 300 x 75 mm - T piece	m	280		
15.5.27		Supply	No	20		
15.5.28		Install 300 x 75 mm - Elbow	No	20		
15.5.29		Supply	No	26		
15.5.30		Install 300 x 75 mm - Dropper	No	26		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.5.31		Supply	No	20		
15.5.32		Install	No	20		
		200 x 75 mm - Ladder				
15.5.33		Supply	m	460		
15.5.34		Install	m	460		
		200 x 75 mm - T piece				
15.5.35		Supply	No	32		
15.5.36		Install	No	32		
		200 x 75 mm - Elbow				
15.5.37		Supply	No	40		
15.5.38		Install	No	40		
		200 x 75 mm - Dropper				
15.5.39		Supply	No	36		
15.5.40		Install	No	36		
		150 x 75 mm - Ladder				
15.5.41		Supply	m	650		
15.5.42		Install	m	650		
		150 x 75 mm - T piece				
15.5.43		Supply	No	90		
15.5.44		Install	No	90		
		150 x 75 mm - Elbow				
15.5.45		Supply	No	112		
15.5.46		Install	No	112		
		150 x 75 mm - Dropper				
15.5.47		Supply	No	100		
15.5.48		Install	No	100		
15.6		POWERWAY CABLE LADDER COVERS FOR THEFT PREVENTION				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 15 LV Cables

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Supply, delivery, installation of 3CR12 Powerway Cable Ladder covers welded onto ladders complete with all accessories (bolts, nuts, splice plates, cantilever, supports, arms etc) (3CR12 Steel). Sizes as follows:				
		1000 Cable Ladder Cover				
15.6.1	PI 4	Supply	m	50		
15.6.2		Install	m	50		
		800 Cable Ladder Cover				
15.6.3		Supply	m	50		
15.6.4		Install	m	50		
		600 Cable Ladder Cover				
15.6.5		Supply	m	50		
15.6.6		Install	m	50		
		300 Cable Ladder Cover				
15.6.7		Supply	m	50		
15.6.8		Install	m	50		
		200 Cable Ladder Cover				
15.6.9		Supply	m	50		
15.6.10		Install	m	50		
		150 Cable Ladder Cover				
15.6.11		Supply	m	300		
15.6.12		Install	m	300		
15.7		POWERWAY CABLE LADDER SUPPORT				
		Supply and installation of additional heavy duty supports for Powerway Cable Ladder				
15.7.1	PI 4	Supply	Sum	1		
15.7.2		Install	Sum	1		
15.8		CABLE MARKERS				
		Supply and installation of concrete cable markers				
15.8.1	PI 4	Supply	No	20		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 15 LV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
15.8.2		Install	No	20		
15.9		CABLE TAGS AND NUMBERING				
		Supply and installation of stainless steel cable tags as per				
15.9.1	PI 4	Supply	Sum	1		
15.9.2		Install	Sum	1		
15.10		CABLE STRAPPING				
		Supply and installation of stainless steel cable straps for fixing of cables to cable ladders as per PS				
15.10.1	PI 4	Supply	Sum	1		
15.10.2	PI 6	Install	Sum	1		
TOTAL FOR SECTION 15 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 16 BUILDING ELECTRICAL INSTALLATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
16.1		LIGHTNING PROTECTION				
16.1.1		Installation of lightning protection by specialist on all buildings				
		Dosing Building				
16.1.2	PI 4	Supply	Sum	1		
16.1.3		Install	Sum	1		
		Filter Plant Room Building				
16.1.4		Supply	Sum	1		
16.1.5		Install	Sum	1		
		Filter Building 1				
16.1.6		Supply	Sum	1		
16.1.7		Install	Sum	1		
		Filter Building 2				
16.1.8		Supply	Sum	1		
16.1.9		Install	Sum	1		
		Chlorine Building				
16.1.10		Supply	Sum	1		
16.1.11		Install	Sum	1		
		Backwash Recycling Building				
16.1.12		Supply	Sum	1		
16.1.13		Install	Sum	1		
		Clear Water Pump Station Building				
16.1.14		Supply	Sum	1		
16.1.15		Install	Sum	1		
		Sludge Dewatering Building				
16.1.16		Supply	Sum	1		
16.1.17		Install	Sum	1		
		Supernatant Pump Station Building				
16.1.18		Supply	Sum	1		
16.1.19		Install	Sum	1		
		Temporary Raw Water Pump Station				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 16 BUILDING ELECTRICAL INSTALLATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
16.1.20		Supply	Sum	1		
16.1.21		Install	Sum	1		
		Workshop Shop				
16.1.22		Supply	Sum	1		
16.1.23		Install	Sum	1		
		Admin Building				
16.1.24		Supply	Sum	1		
16.1.25		Install	Sum	1		
		Municipal MV metering Room				
16.1.26		Supply	Sum	1		
16.1.27		Install	Sum	1		
16.2		AIR CONDITIONERS				
		Supply, delivery, installation, testing and commissioning of the following Air Conditioners inclusive of all piping, drain pumps etc.				
		60 000 BTU underceiling Air Conditioners in Clear water PS MCC 5 building				
16.2.1		Supply	No	4		
16.2.2		Install	No	4		
		12 000 BTU underceiling Air Conditioners in Server room in Admin building				
16.2.3		Supply	No	2		
16.2.4		Install	No	2		
16.3		FIRE DETECTION AND PROTECTION				
		Supply, delivery, installation, testing and commissioning of Fire Detection system by specialist in the MV Switchgear room, Generator room, Transformer room and Clearwater PS MCC room.				
16.3.1		Supply	Sum	1		
16.3.2		Install	Sum	1		
		Supply, delivery and installation of Carbon Dioxide (CO2) Fire extinguishers				
16.3.3		Supply	No	30		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 16 BUILDING ELECTRICAL INSTALLATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
16.3.4		BROUGHT FORWARD Install	No	30		
16.4		APPLIANCES AND EQUIPMENT FOR BUILDINGS				
		<u>PRIME COST PROVISION</u>				
16.4.1		As instructed by Employer's Agent, arrange quotes for purchasing, delivering and installing: •Kitchen appliances for residential units and Admin Building •Laboratory equipment for Dosing Building •Tools for Workshop Building •Office furniture for Admin & Dosing & Workshop buildings	PC Sum	1	3 000 000.00	3 000 000.00
16.4.2		Overheads, Charges and profit on item 16.4.1 above	%	3 000 000.00		
TOTAL FOR SECTION 16 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 17 TRANSFORMER AND GENERATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
17.1		TRANSFORMER Supply, delivery, installation and commissioning of a 2500 kVA, 11 kV / 420 / 240 V, Dyn 11, Dry Type transformer as specified in PSE 5				
17.1.1		Supply	No	2		
17.1.2		Install	No	2		
17.2		EARTHING OF TRANSFORMER Earthing of the Transformer to earth grid as specified in PSE 3				
17.2.1		Supply	No	2		
17.2.2		Install	No	2		
17.3		EARTH GRID Supply, delivery and installation of earth grid 7m x 14m with cross conductors every 500mm and Cadweld at joints approximately 300m conductor 10mm dia. round copper, 1m below final level-including excavations				
17.3.1		Supply	No	1		
17.3.2		Install	No	1		
		Earth readings after earthing installation				
17.3.3		Supply	No	1		
17.3.4		Install	No	1		
17.4		MINISUB Supply, delivery, installation and commissioning of a 315kVA, 11 kV / 420 / 240 V minisub as specified PSE 7				
17.4.1		Supply	No	1		
17.4.2		Install	No	1		
		Supply, delivery, installation and commissioning of a 800kVA, 11 kV / 420 / 240 V minisub as specified PSE 7				
17.4.3		Supply	No	1		
17.4.4		Install	No	1		
		Supply and install concrete plinth for 315kVA minisub				
17.4.5		Supply	No	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 17 TRANSFORMER AND GENERATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
17.4.6		Install	No	1		
		Supply and install concrete plinth for 800kVA minisub				
17.4.7		Supply	No	1		
17.4.8		Install	No	1		
17.5		EARTHING OF MINISUB				
		Earthing of the minisubs as specified PSE 7				
17.5.1		Supply	No	2		
17.5.2		Install	No	2		
		Earth readings after earthing installation				
17.5.3		Supply	No	2		
17.5.4		Install	No	2		
17.6		2500 kVA EMERGENCY GENERATOR				
		Supply deliver, installation and commissioning of a generator set as specified complete with instrumentation, fuel tank, change over control panel etc.				
		2500 kVA 400V Genset PLUS 400V/11kV step-up transformer as per PSE 11				
17.6.1		Supply	No	1		
17.6.2		Install	No	1		
		Generator Synchronizing panel to synchronize with grid as detailed in PSE 11				
17.6.3		Supply	No	1		
17.6.4		Install	No	1		
		NER with automated neutral contactor as detailed in				
17.6.5		Supply	No	1		
17.6.6		Install	No	1		
		14,000 litre diesel tank with pumps and pipework for genset in 1 above, including automatic circulating and filling of Day Tank below. Tank to suit concrete bund and canopy constructed by Civil Contractor - see drg MECH 321.				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pump Stations:
 MECHANICAL & ELECTRICAL
 SECTION: 17 TRANSFORMER AND GENERATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
17.6.7		Supply	No	1		
17.6.8		Install	No	1		
		1,000 litre diesel day tank with pump and pipework for genset above				
17.6.9		Supply	No	1		
17.6.10		Install	No	1		
		Supply Diesel				
17.6.11	PI 10	Supply and fill 14,000 lt diesel tank for commissioning purposes.	PC Sum	1	350 000.00	350 000.00
17.6.12		Charges on profit on item 17.6.11 above	%	350 000.00		
17.6.13		Supply and fill up tank to replace diesel used during commissioning as instructed by the Engineer	PC Sum	1	700 000.00	700 000.00
17.6.14		Charges on profit on item 17.6.13 above	%	700 000.00		
17.7		EARTHING OF GENERATOR				
		Earthing of the Generator to earth grid as specified in PSE 11				
17.7.1		Supply	No	1		
17.7.2		Install	No	1		
17.8		BUSBAR TRUNKING SYSTEMS				
		Design, supply, delivery and installation of copper Resin Encapsulated busbars from transformers to MCC's equal or similar to that supplied by Busbar Services and as specified Inclusive of all supports for installation etc.				
		From 2500 kVA transformer 1 to MCC 5A at Clear Water Pump Station (4000 amp, 65 kA, 3 phase + Neutral + Earth)				
17.8.1		Supply	No	1		
17.8.2		Install	No	1		
		From 2500 kVA transformers 2 to MCC 5B at Clear Water Pump Station (4000 amp, 65 kA, 3 phase + Neutral + Earth)				
17.8.3		Supply	No	1		
17.8.4		Install	No	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pump Stations:
MECHANICAL & ELECTRICAL

SECTION: 17 TRANSFORMER AND GENERATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		From MCC 5A to MCC 5B at Clear Water Pump Station (4000 amp, 65 kA, 3 phase + Neutral + Earth)				
17.8.5		Supply	No	1		
17.8.6		Install	No	1		
17.9		FACTORY ACCEPTANCE TESTS				
17.9.1		Allow for 2x visits to Transformer Manufacturer for two (2) Engineer and four (4) Employer Representatives and one (1) contractor representatives to do quality inspections inclusive of travel, accommodation and meals.	Sum	1		
17.9.2		Provision for two (2) Engineer and four (4) Employer Representatives and one (1) contractor representatives to witness FAT at the Transformer manufacturer, inclusive of travel, accommodation and meals.	Sum	1		
17.9.3		Allow for 2x visits to Transformer Manufacturer for two (2) Engineer and four (4) Employer Representatives and one (1) contractor representatives to do quality inspections inclusive of travel, accommodation and meals.	Sum	1		
17.9.4		Provision for two (2) Engineer and four (4) Employer Representatives and one (1) contractor representatives to witness FAT at the Transformer manufacturer, inclusive of travel, accommodation and meals.	Sum	1		
TOTAL FOR SECTION 17 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 18 INSTRUMENTATION AND OUTSTATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
18.1		OUTSTATIONS Supply, install and commissioning of outstations as specified in PSE 16.2 Outstation (304L Stainless) as detailed in Drawing				
18.1.1		Supply	No	40		
18.1.2		Install	No	40		
		Lock stop station (304L Stainless) mounted in cabinet as per Drawing				
18.1.3		Supply	No	4		
18.1.4		Install	No	4		
		Concrete foundations for Outstations				
18.1.5		Supply	No	15		
18.1.6		Install	No	15		
18.2		JUNCTION BOXES Supply, delivery and installation of Pratley boxes complete with terminals, fixing bolts etc. 3 way - 1.5 mm2 x 5 core PRATLEY				
18.2.1		Supply	No	15		
18.2.2		Install	No	15		
		3 way - 1.5 mm2 x 12 core PRATLEY				
18.2.3		Supply	No	15		
18.2.4		Install	No	15		
		3 way - 1.5 mm2 x 19 core PRATLEY				
18.2.5		Supply	No	15		
18.2.6		Install	No	15		
		Stainless Steel 550mm x 450mm x 220mm Enclosure for terminals of 6 x 240mm2 single core cables, inclusive of bus bars (To be used for 500kW and 200kW Clearwater Pumps)				
18.2.7		Supply	No	5		
18.2.8		Install	No	5		
18.3		INSTRUMENTATION				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 18 INSTRUMENTATION AND OUTSTATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		The supply, delivery and installation of the following instrumentation. As specified in PSE 10				
		Level switches (Float switch) with adjustable heights for filter beds				
18.3.1		Supply	No	8		
18.3.2		Install	No	8		
		Level switches suitable for liquid polyelectrolyte				
18.3.3		Supply	No	4		
18.3.4		Install	No	4		
		Ultrasonic level transmitter with 4-20mA Hart compliant communication.				
18.3.5		Supply	No	25		
18.3.6		Install	No	25		
		Flow switches with 4-20mA Hart compliant communication on delivery side for motor protection.				
18.3.7		Supply	No	19		
18.3.8		Install	No	19		
		Streaming Current Detector & Transmitter at Flow Division Box with 4-20mA Hart compliant communication.				
18.3.9		Supply	No	1		
18.3.10		Install	No	1		
		Pressure Transmitter with 4-20mA Hart compliant communication.				
18.3.11		Supply	No	12		
18.3.12		Install	No	12		
		Magnetic Flow Meter NB800 with 4-20mA Hart compliant communication.				
18.3.13		Supply	No	1		
18.3.14		Install	No	1		
		Magnetic Flow Meter NB100 with 4-20mA Hart compliant communication.				
18.3.15		Supply	No	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL

SECTION: 18 INSTRUMENTATION AND OUTSTATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
18.3.16		Install Magnetic Flow Meter NB150 with 4-20mA Hart compliant communication.	No	1		
18.3.17		Supply	No	1		
18.3.18		Install Magnetic Flow Meter NB200 with 4-20mA Hart compliant communication.	No	1		
18.3.19		Supply	No	1		
18.3.20		Install Magnetic Flow Meter NB400 with 4-20mA Hart compliant communication.	No	1		
18.3.21		Supply	No.	1		
18.3.22		Install Magnetic Flow Meter NB500 with 4-20mA Hart compliant communication.	No.	1		
18.3.23		Supply	No.	2		
18.3.24		Install Magnetic Flow Meter NB600 with 4-20mA Hart compliant communication.	No.	2		
18.3.25		Supply	No.	1		
18.3.26		Install Weight Transmitter (Load Cell) with 4-20mA Hart compliant communication.	No.	1		
18.3.27		Supply	No.	6		
18.3.28		Install	No.	6		
18.4		FIELD INSTRUMENTATION HOUSINGS				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 18 INSTRUMENTATION AND OUTSTATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Supply, delivery, installation, programming, testing and commissioning PLC / SCADA equipment hardware, including all I/O modules, Controllers, power supply modules, Fibre Optic modules, Ethernet cabling, network hardware and wiring required. And field instrumentation to control the plant including mounting of the instrument converters/transmitters in the specified housings together with any mains to low voltage power supplies required, mounting of transducer heads/sensors including galvanised conduit, transducer brackets and supports, fixing onto concrete structures of brackets and connection of transducer cable to instrument as specified				
		650 mm high x 450 mm wide x 270 mm deep with glass door enclosure for instrumentation				
18.4.1		Supply	No	40		
18.4.2		Install	No	40		
		1150 mm high x 850 mm wide x 270 mm deep with glass door enclosure for HMI				
18.4.3		Supply	No	4		
18.4.4		Install	No	4		
		1150 mm high x 850 mm wide x 270 mm deep with glass door enclosure for R I/O				
18.4.5		Supply	No	2		
18.4.6		Install	No	2		
		Stands and concrete foundations for field instrument mounting				
18.4.7		Supply	No	20		
18.4.8		Install	No	20		
		Making off signal cable ends at field instrument housings and in marshalling terminal cabinet inclusive of end materials, marking and labelling.				
18.4.9		Supply	No	134		
18.4.10		Install	No	134		
		Making off of power connections at field instruments.				
18.4.11		Supply	No	134		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
MECHANICAL & ELECTRICAL

SECTION: 18 INSTRUMENTATION AND OUTSTATIONS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
18.4.12		Install Surge arrestors mounted in field instrumentation housing on line and neutral wires of mains supply cable inclusive of earthing in box.	No	134		
18.4.13		Supply	No	134		
18.4.14		Install Surge arrestors mounted in field instrumentation housing on signal cable cores inclusive of earthing connections in housing.	No	134		
18.4.15		Supply	No	134		
18.4.16		Install Filter Control Desks Supply and install stainless steel control desks at each Filter with painted mimic and controls as detailed in PSE 9.4.2	No	134		
18.4.17		Supply	No	8		
18.4.18		Install	No	8		
TOTAL FOR SECTION 18 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 19 MV CABLES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
19.1		MV CABLE Supply, installation and commissioning of 3 core, 11kV, Copper conductor cable as specified in PSE 15.5. Sizes are as follows: 185 mm2, 3 core, XPLE Cu cable Type A				
19.1.1		Supply	m	50		
19.1.2		Install 150 mm2, 3 core, XPLE Cu cable Type A	m	50		
19.1.3		Supply	m	100		
19.1.4		Install 120 mm2, 3 core, XPLE Cu cable Type A	m	100		
19.1.5		Supply	m	50		
19.1.6		Install 70 mm2, 3 core, XPLE Cu cable Type A	m	50		
19.1.7		Supply	m	50		
19.1.8		Install 50 mm2, 3 core, XPLE Cu cable Type A	m	50		
19.1.9		Supply	m	570		
19.1.10		Install	m	570		
19.2		MV CABLE ENDS AND JOINTS Supply, making off and commissioning of 3 core cable ends and joints equal or similar to Raytech complete with lugs etc for the following purposes as specified in PSE 15.5. Indoor end - 150 mm2 Heatshrink				
19.2.1		Supply	No	3		
19.2.2		Install Outdoor end - 150 mm2 Heatshrink	No	3		
19.2.3		Supply	No	1		
19.2.4		Install Cable joint - 150 mm2 Heatshrink	No	1		
19.2.5		Supply	No	1		
19.2.6		Install	No	1		
CARRIED FORWARD						

CONTRACT:
CONTRACT TITLE:
SECTION:

ORTDM SCMU 17-25/26
50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL
19 MV CABLES

BILL OF QUANTITIES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Indoor end - 50 mm2 Heatshrink				
19.2.7		Supply	No	8		
19.2.8		Install	No	8		
		Cable joint - 50 mm2 Heatshrink				
19.2.9		Supply	No	2		
19.2.10		Install	No	2		
19.3		TESTING AND COMMISSIONING				
19.3.1		Pressure testing and commissioning of MV network.	Sum	1		
TOTAL FOR SECTION 19 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 20 MV SWITCHGEAR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
20.1		HIGHBURY SWITCHGEAR (11 kV)				
		INCOMER PANELS				
		Supply, installation and commissioning of 800 A, metal clad switchgear as specified in PSE 3				
20.1.1		Supply	No	2		
20.1.2		Install	No	2		
		TRANSFORMER FEEDER PANELS				
		Supply, installation and commissioning of 800 A, metal clad switchgear with transformer differential protection as specified in PSE 3				
20.1.3		Supply	No	3		
20.1.4		Install	No	3		
		FEEDER PANELS				
		Supply, installation and commissioning of 800 A, metal clad switchgear as specified in PSE 3				
20.1.5		Supply	No	1		
20.1.6		Install	No	1		
		GENERATOR INCOMER PANELS				
		Supply, installation and commissioning of 800 A, metal clad switchgear as specified in PSE 3				
20.1.7		Supply	No	2		
20.1.8		Install	No	2		
		BUS SECTION PANELS				
		Supply, installation and commissioning of 800 A, metal clad switchgear as specified in PSE 3				
20.1.9		Supply	No	1		
20.1.10		Install	No	1		
20.2		MIMIC AND CONTROL PANELS				
		Supply and install Floor Standing Mimic Panel (2m x 2m) as detailed in and shown on drawing (Control for 8 MV Panels and Indication for 5 LV Panels)				
20.2.1		Supply	No	1		
20.2.2		Install	No	1		
20.3		HIGHBURY BATTERY CHARGER				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 20 MV SWITCHGEAR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Supply, installation and commissioning of a dual 110 V, trickle charger with low maintenance type Ni cad batteries (50Ah per battery charger). The battery charger must be equipped with boost charge facility, ammeter, voltmeter, spare fuses and circuit diagram.				
20.3.1		Supply	No	1		
20.3.2		Install	No	1		
20.4		MUNICIPAL SWITCHGEAR (11kV)				
		INCOMER PANELS				
		Supply, installation and commissioning of 800 A, metal clad switchgear as specified in PSE 4				
20.4.1		Supply	No	1		
20.4.2		Install	No	1		
		FEEDER PANELS				
		Supply, installation and commissioning of 800A, metal clad switchgear as specified in PSE 4				
20.4.3		Supply	No	2		
20.4.4		Install	No	2		
20.5		MUNICIPAL BATTERY CHARGER				
		Supply, installation and commissioning of a 110 V, trickle charger with low maintenance type Ni cad batteries (50Ah). The battery charger must be equipped with boost charge facility, ammeter, voltmeter, spare fuses and circuit diagram.				
20.5.1		Supply	No	1		
20.5.2		Install	No	1		
20.6		SUBSTATION OPERATING TOOLS				
20.6.1		Supply	Sum	2		
20.6.2		Install	Sum	2		
20.7		MISCELLANEOUS ITEMS				
		Safety signs and notices:				
		Supply and attach sign to switchgear, transformer, generator and MCC room doors. Unauthorised entry.				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 20 MV SWITCHGEAR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
20.7.1		Supply	No	7		
20.7.2		Install	No	7		
		Supply and attach sign to battery cabinet.				
20.7.3		Supply	No	3		
20.7.4		Install	No	3		
		Procedure in case of FIRE / FIRST AID.				
20.7.5		Supply	No	7		
20.7.6		Install	No	7		
		Procedure in case of ELECTRIC SHOCK.				
20.7.7		Supply	No	7		
20.7.8		Install	No	7		
		Name plate 2600mm X 600mm on building wall.				
20.7.9		Supply	No	7		
20.7.10		Install	No	7		
		First Aid Kit				
20.7.11		Supply	No	2		
20.7.12		Install	No	2		
		Furniture				
		1500 x 800 mm Desk equal similar to Waltons 540199SW				
20.7.13		Supply	No	1		
20.7.14		Install	No	1		
		Banquet chair equal or similar to Waltons 541999CB				
20.7.15		Supply	No	1		
20.7.16		Install	No	1		
		2 tier trolley 950 x 910 x 910 equal or similar to Waltons 540716IV: Steel Accessories (NB: Steel trolley to have a minimum height of 950mm)				
20.7.17		Supply	No	2		
20.7.18		Install	No	2		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 20 MV SWITCHGEAR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Lockable Stationary Cupboard 1800 x 900 x 450 mm with 4 shelves equal or similar to Waltons 540707HG				
20.7.19		Supply	No	1		
20.7.20		Install	No	1		
		800 x 2400mm Drawing frame fitted with softboard.				
20.7.21		Supply	No	2		
20.7.22		Install	No	2		
20.8		EARTHING OF MV SWITCHGEAR				
		Supply and install of 250mm ² copper earthbar fixed to upper side of trench on switchgear side. To be connected to the earth grid with 2 x 95mm ² BCEW as per Drawing (Highbury Switchgear room)				
20.8.1		Supply	No	1		
20.8.2		Install	No	1		
		Supply and install of 250mm ² copper earthbar fixed to upper side of trench on switchgear side. To be connected to the earth grid with 2 x 95mm ² BCEW as per Drawing (Municipal Switchgear Room)				
20.8.3		Supply	No	1		
20.8.4		Install	No	1		
TOTAL FOR SECTION 20 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 21 MAIN PLC/SCADA CONTROL & IT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
21.1		PLC AND SCADA CONTROL SYSTEM Preperation of design diagrams, numbering sheets, layout drawings, connection schedules, I/O schedules and all other data to allow the PLC cabinet drawings and terminal arrangements and MCC wiring to be completed. This amount shall cover all travelling costs and meeting time with the Engineer to discuss the details.				
21.1.1		Supply	Sum	1		
21.1.2		Install	Sum	1		
21.2		DATA Historian Computer & Software Supply and delivery to site of the computer equipment as specified in storage, quality assurance and insurance for:				
21.2.1		Computer complete As specified in PSE 12	No.	1		
21.2.2		Windows Software as specified in as specified in PSE 12	No.	1		
21.2.3		Printer as specified in as specified in PSE 12	No.	1		
21.2.4		Historian Operational software as specified in PSE 12	No.	1		
21.2.5		Configuration of Historian software as specified in PSE 12	No.	1		
21.3		DATA REPORTING & ANALYSIS SOFTWARE (2 User Licences) Supply and delivery to site of the computer equipment as specified, including storage, quality assurance and insurance for:				
21.3.1		Computer complete as specified in PSE 12	No.	2		
21.3.2		Windows Software as specified in PSE 12	No.	2		
21.3.3		Printer as specified in as specified in PSE 12	No.	2		
21.3.4		Operational software as specified in PSE 12	No.	2		
21.3.5		Configuration of software as specified in PSE 12	No.	2		
21.3.6		Configuration of reports as required by the client (20 reports)	Sum	1		
21.3.7		Web based interface setup at remote location inclusive of software (Full Functionality)	No.	2		
21.4		ASSET MANAGEMENT SOFTWARE				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 21 MAIN PLC/SCADA CONTROL & IT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Supply and delivery to site of the computer equipment as specified, including storage, quality assurance and insurance for:				
21.4.1		Computer complete as specified in PSE 12	No.	1		
21.4.2		Windows Software as specified in PSE 12	No.	1		
21.4.3		Printer as specified in as specified in PSE 12	No.	1		
21.4.4		Operational software as specified in PSE 12	No.	1		
21.4.5		Configuration of software as specified in PSE 12	No.	1		
21.4.6		Web based interface setup at remote location inclusive of software (Full Functionality)	No.	1		
21.5		SCADA OPERATIONAL WORKSTATION				
		Supply and delivery to site of the computer equipment as specified, including storage, quality assurance and insurance for:				
21.5.1		Computer complete as specified in as specified in in PSE 12	No.	1		
21.5.2		Operational Windows software as specified in in PSE 12	No.	1		
21.5.3		Operational software as specified as specified in in PSE 12	No.	1		
21.5.4		Configuration of software as specified in in PSE 12	No.	1		
21.5.5		System integration to all remote IO.	Sum	1		
21.5.6		Web based interface setup at remote location inclusive of software (View Only)	No.	2		
21.5.7		SCADA Operational view node software (View Only)	No.	5		
21.5.8		19" 48U Heavy Duty Server Enclosure with Wire Way and Mesh doors (Admin)	No.	1		
21.5.9		19" 15U Heavy Duty Server Enclosure with Wire Way and Mesh doors (Workshop)	No.	1		
21.6		PLC / SCADA ENGINEERING WORKSTATION				
		Supply and delivery to site of the computer equipment as specified, including storage, quality assurance and insurance for:				
21.6.1		Computer complete as specified in PSE 12	No.	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
SECTION: 21 MAIN PLC/SCADA CONTROL & IT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
21.6.2		Operational Windows software as specified in PSE 12	No.	1		
21.6.3		Engineering software as specified as specified in PSE 12	No.	1		
21.6.4		Configuration of software as specified in PSE 12	No.	1		
21.7		MOBILE ENGINEERING WORKSTATION (LAPTOP)				
		Supply and delivery to site of the computer equipment as specified, including storage, quality assurance and insurance for:				
21.7.1		Computer complete - Intel i7 processor, 17" Monitor, 32GB RAM, 3x USB Ports, 1TB SSD 2.M, 2TB HDD ect.	No.	1		
21.7.2		Operational Windows software as specified in PSE 12	No.	1		
21.7.3		Engineering software as specified in PSE 12	No.	1		
21.7.4		Configuration of software as specified in PSE 12	No.	1		
21.8		AUTOMATIC BACKUP SYSTEM				
21.8.1		Backup hardware and software required to automatically backup all plant data, user configured software, historian ect.	Sum	1		
21.9		UNITERRUPTIBLE POWER SUPPLY (UPS)				
		Supply, delivery, installation, testing and commissioning of UPS'S at each PLC Controller/ IO panel and the Computer workstations				
		Rack Mounted Pure sine wave inline 3 Phase UPS with an minimum efficiency of 97% in normal mode. The UPS must be generator compatible and have a auto restart after shutdown. Must be network manageable.				
21.9.1		Supply	No	1		
21.9.2		Install	No	1		
		Rack Mountable 48 Vdc 5kWh LiFe PO4 battery installed in a cabinet.				
21.9.3		Supply	No	4		
21.9.4		Install	No	4		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 21 MAIN PLC/SCADA CONTROL & IT

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Rack Mountable 48 Vdc 9.6kWh Sodium Metal Chloride (SMC) battery installed in a cabinet.				
21.9.5		Supply	No	2		
21.9.6		Install	No	2		
		19" Rack Mount cabinet to house UPS and 8 batteries.				
21.9.7		Supply	No	1		
21.9.8		Install	No	1		
21.10		Admin & IT Requirements				
		Supply Deliver and install the following (this excludes PLC and MCC Requirements)				
		48 Port Switch (Admin)				
21.10.1		Supply	No	1		
21.10.2		Install	No	1		
		24 Port Switch (Workshop)				
21.10.3		Supply	No	1		
21.10.4		Install	No	1		
		CAT 6a Cable				
21.10.5		Supply	m	2000		
21.10.6		Install	m	2000		
		CAT 6a Cable Terminations				
21.10.7		Supply	No	72		
21.10.8		Install	No	72		
		Powerskirting Connections for Ethernet.				
21.10.9		Supply	No	72		
21.10.10		Install	No	72		
TOTAL FOR SECTION 21 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
 SECTION: 22 TELEMETRY

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
22.1		TELEMETRY Supply, deliver, install, configure and commission the following as specified in PSE 13 and GSE 17a. Each remote station to include: • 8 analogue inputs (4-20mA, 0-10V) • 16 Digital inputs (24Vdc) • 8 digital outputs (relay). Preferred telemetry radio equipment is: • Digital UHF data radios: Trio MR450 • Analogue UHF data radios: Motorola.				
22.1.1		Conduct site survey for telemetry	Sum	1		
22.1.2		Highbury WTW Telemetry master station including all required equipment such as antenna, power supply, cables, lighting protection, IP65 enclosure, ect.				
22.1.2.1	PI 4	Supply	Sum	1		
22.1.2.2		Install	Sum	1		
		Telemetry master station 15m mast, mast foundation and earthing				
22.1.2.3		Supply	Sum	1		
22.1.2.4		Install	Sum	1		
		Radio configuration for COMMs, I/O and basic level control				
22.1.2.5		Supply	Sum	1		
22.1.2.6		Install	Sum	1		
		Telemetry equipment integration link to Highbury SCADA/PLC				
22.1.2.7		Supply	Sum	1		
22.1.2.8		Install	Sum	1		
22.1.3		ROSEDALE CLEARWATER COMMAND RESERVOIRS Telemetry remote station including all required equipment such as antenna, power supply, cables, lighting protection, IP65 enclosure, ect.				
22.1.3.1		Supply	Sum	1		
22.1.3.2		Install	Sum	1		
		Telemetry remote station 15m mast, mast foundation and earthing				
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 22 TELEMETRY

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
22.1.3.3		Supply	Sum	1		
22.1.3.4		Install	Sum	1		
		Radio configuration for COMMs, I/O and basic level control				
22.1.3.5		Supply	Sum	1		
22.1.3.6		Install	Sum	1		
22.1.4		NQADU CLEARWATER COMMAND RESERVOIRS				
		Telemetry remote station including all required equipment such as antenna, power supply, cables, lighting protection, IP65 enclosure, ect.				
22.1.4.1		Supply	Sum	1		
22.1.4.2		Install	Sum	1		
		Telemetry remote station 15m mast, mast foundation and earthing				
22.1.4.3		Supply	Sum	1		
22.1.4.4		Install	Sum	1		
		Radio configuration for COMMs, I/O and basic level control				
22.1.4.5		Supply	Sum	1		
22.1.4.6		Install	Sum	1		
22.1.5		INTERIM RAW WATER PUMPSTATION				
		Telemetry remote station incl all required equipment such as antenna, power supply, cables, lighting protection, IP65 enclosure, ect.				
22.1.5.1		Supply	Sum	1		
22.1.5.2		Install	Sum	1		
		Telemetry remote station 15m mast, mast foundation and earthing				
22.1.5.3		Supply	Sum	1		
22.1.5.4		Install	Sum	1		
		Radio configuration for COMMs, I/O and basic level control				
22.1.5.5		Supply	Sum	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 **BILL OF QUANTITIES**
CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
 MECHANICAL & ELECTRICAL
SECTION: 22 TELEMETRY

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
22.1.5.6		Install	Sum	1		
22.1.6		REPEATER STATIONS				
		Telemetry remote station including all required equipment such as antenna, power supply, cables, lighting protection, IP65 enclosure, ect.				
22.1.6.1		Supply	Sum	1		
22.1.6.2		Install	Sum	1		
		Telemetry remote station 15m mast, mast foundation and earthing				
22.1.6.3		Supply	Sum	1		
22.1.6.4		Install	Sum	1		
		Radio configuration for COMMs, I/O and basic level control				
22.1.6.5		Supply	Sum	1		
22.1.6.6		Install	Sum	1		
		Photovoltaic installation including batteries as follows: 20% Cycle Lifetime, 48h lithium type (maintenance free)				
22.1.6.7		Supply	Sum	1		
22.1.6.8		Install	Sum	1		
		LV connection from existing network using 9m wooden poles and 10mm2 airdac cable.				
		Supply, delivery and installation of 9 m wooden pole 140 - 159 mm dia top including dressing material				
22.1.6.9		Supply	No	15		
22.1.6.10		Install	No	15		
22.1.6.11		Excavation and backfilling of pole holes	No	15		
		Supply, delivery, installation and connecting of 10 mm ² split concentric SNE Airdac cable				
22.1.6.12		Supply	m	500		
22.1.6.13		Install	m	500		
22.1.6.14		Application and License fee payment for frequency band with ICASA	Sum	1		
22.1.6.15		Commisioning of Telemetry System	Sum	1		
TOTAL FOR SECTION 22 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 23 HIGHMAST LIGHTING

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
23.1		POWER KIOSKS Supply, install and commissioning of power kiosks as specified in PSE 16.2 Power Kiosk Type A (304L Stainless) as detailed in Drawing				
23.1.1	PI 4	Supply	No	11		
23.1.2	PI 6	Install	No	11		
		Power Kiosk Type B (304L Stainless) for staff accomodation units as detailed in Drawing				
23.1.3		Supply	No	1		
23.1.4		Install	No	1		
23.2		HIGH MAST LIGHTS Supply, delivery and commissioning of 15 m mid hinge mast complete with concrete foundations, 6 x 144 W LED luminaires SANS approved Fittings as specified in PSE 20				
23.2.1		Supply	No	9		
23.2.2		Install	No	9		
TOTAL FOR SECTION 23 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
MECHANICAL & ELECTRICAL

SECTION: 24 ELECTRICAL SPARES, TRAINING AND TOOLS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
24.1		SPARES Supply and delivery of the following spares as specified in PS9: Contractor to supply a detailed priced list for all the spares with his tender.				
24.1.1		1 x spare relay for each type and size used (MCC'S)	Sum	1		
24.1.2		40 x spare LED Indicating Lamps (MCC'S)	Sum	1		
24.1.3		1 x spare coil for each contactor size	Sum	1		
24.1.4		50 x Spare control fuses for each size	Sum	1		
24.1.5		Any special tools or equipment needed for adjustments, maintenance etc.	Sum	1		
24.1.6		1 x set of suitable electrical isolation safety gloves and face protector.	Sum	1		
24.1.7		3 x spare PLC I/O cards for each type	Sum	1		
24.1.8		2 x spare PLC Modules (CPU's, power supplies, Network switches, Communication cards etc.) for each type	Sum	1		
24.1.9		2x Fiber Optic Modules	Sum	1		
24.1.10		1x HMI	Sum	1		
24.1.11		10 x spare Optocouplers.	Sum	1		
24.1.12		10 x Fused terminals	Sum	1		
24.1.13		3 x spare electronic overload units and expansion cards	Sum	1		
24.1.14		3 x spare Energy management meters	Sum	1		
24.1.15		Telemetry spares, radio , RTU, power supply etc.	Sum	1		
24.2		TRAINING Allow for training of 8 people for basic PLC training at the OEM training facility				
24.2.1		Supply	Sum	1		
24.2.2		Install	Sum	1		
		Allow for training of 8 people for basic Instrumentation (installed equipment)				
24.2.3		Supply	Sum	1		
24.2.4		Install	Sum	1		
CARRIED FORWARD						

CONTRACT: ORTDM SCMU 17-25/26 BILL OF QUANTITIES
 CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
 MECHANICAL & ELECTRICAL
 SECTION: 24 ELECTRICAL SPARES, TRAINING AND TOOLS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Allow for training of 8 people for basic on site training of personel to operate PLC system, instrumentation and MCC's for a period of 3 weeks				
24.2.5		Supply	Sum	1		
24.2.6		Install	Sum	1		
		Advanced training for 4 people on PLC, Historian and Reporting software.				
24.2.7		Supply	Sum	1		
24.2.8		Install	Sum	1		
24.3		MANUALS AND SOFTWARE				
		Supply of As Built Drawings and documentation in printed and electronic format as described below.				
		Seven sets of As Built drawings and Functional opetation manuals for all equipment and systems. (PLC, SCADA, Drives, Generator, Transformers, MV Switchgear, Telemetry, etc.) (Hard and Soft copies)				
24.3.1		Supply	Sum	1		
24.3.2		Install	Sum	1		
		Original of all software programs used in the plant configuration inclusive of Windows, SQL Server etc.				
24.3.3		Supply	Sum	1		
24.3.4		Install	Sum	1		
		All loose manuals, brochures, etc. not included as standard with commercial computer software.				
24.3.5		Supply	Sum	1		
24.3.6		Install	Sum	1		
24.4		TOOLS AND CONSUMABLES				
		Supply of recommeded tools and consumables. (Attach lists to tender with descriptions and nett cost prices).				
		Programming Devices complete with all Hardware and OEM software required for programming of PLC, HMI,Instrumentation, Variable Speed Drives, Softstarters etc.				
CARRIED FORWARD						

CONTRACT:ORTDM SCMU 17-25/26

CONTRACT TITLE:50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION:24 ELECTRICAL SPARES, TRAINING AND TOOLS

BILL OF QUANTITIES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
24.4.1		Supply	Sum	1		
24.4.2		Install	Sum	1		
TOTAL FOR SECTION 24 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D Highbury Water Treatment Works and Raw & Clear Water Pumpstations:
MECHANICAL & ELECTRICAL

SECTION: 25 WORKS COMMISSIONING & TRIAL OPERATING PERIOD

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
25.1	PI 7	<u>COMMISSION THE WORKS AS A WHOLE</u>				
25.1.1		Bring the Works into full operation and complete all documentation and reports as specified	Sum	1		
25.2		<u>24/7 TRIAL OPERATING PERIOD</u>				
25.2.1	PI 8	1 No. Senior Technician on Site to provide technical support and maintain all the equipment installed, attend to all teething problems, arrange for specialist colleagues where necessary to resolve problems and conduct on-the-job training of ORTDM Operations and Maintenance staff for a period of 4 months on site in a full time capacity (8h/d, 5 days/week) after successful commissioning (incl all S&T, travel, allowances)	Months	4		
25.2.2	PI 8	3 No. Junior Technicians to share remainder of 24/7 presence on Site (8h/day, 5 days/week shifts) after successful commissioning (incl all S&T, travel, allowances). Rate per Junior Technician	Months	12		
25.3		<u>MONITORING PERIOD</u>				
25.3.1	PI 9	1 No. Senior Technician to monitor all operations and maintenance and provide technical support for further 8 months after Trial Operations Period (1 x 8h shift per day, 5 days a week)	Months	8		
25.4	PI 13	<u>AD HOC SERVICE & ADJUSTMENT VISITS</u>				
		Labour & plant costs to be claimed under Dayworks items and consumables under other scheduled items				
25.4.1		Travel costs as agreed with the Employer's Agent	km	500		
25.5		<u>CERTIFICATES OF COMPLIANCE</u>				
25.5.1		Supply all Certificates of Compliance for all electrical installations	Sum	1		
25.6		<u>O&M MANUAL AND CLOSE-OUT DOCUMENTATION</u>				
25.6.1		Surveying of all as-built services and cable routes, High Masts and Kiosks with co-ordinates at direction change points supplied in DXF format.	Sum	1		
25.6.2		Supply hard and soft copies of final approved version of O&M Manual as specified in PSE 1.7	Sum	1		
25.6.3		Supply Record Drawings as specified in Autocad Ver 2016 and pdf on Flashdrive	Sum	1		
TOTAL FOR SECTION 25 CARRIED FORWARD TO SUMMARY						

CONTRACT: ORTDM SCMU 17-25/26

BILL OF QUANTITIES

CONTRACT TITLE: 50ML/D HIGHBURY WATER TREATMENT WORKS AND RAW & CLEAR WATER PUMPSTATIONS:
MECHANICAL & ELECTRICAL

SECTION: 26 RING-FENCED SoW FOR LOCAL SMMEs

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		<u>Prime Cost Allowance for Civil and Electrical Works to be undertaken by local (Highbury) SMMEs.</u> See BoQ and 'CIV' drawings for Ring-Fenced Scope of Work Quotes to be invited by Main Contractor with assistance from Employer's ISD staff and CLO NOTE: Main Contractor's costs for packaging SoW into separate Requests for Quotes, obtaining quotes, managing and supervising multiple SMMEs and monthly payments for execution of ring-fenced work to be included in P&G items				
26.1	PI 14	Allowance for value of Ring-fenced civil works (Note: Contingencies and allowance for escalation and VAT for this work included in Main BoQ Summary)	PC Sum	1	15 000 000.00	15 000 000.00
TOTAL FOR SECTION 26 CARRIED FORWARD TO SUMMARY						

BILL:

SECTION	DESCRIPTION	AMOUNT R
1	PRELIMINARY AND GENERAL	
2	PROVISIONAL & PRIME COST ITEMS & DAYWORKS	
3	INTERIM RAW WATER PUMPSTATION	
4	INFLOW METERING & CONTROL	
5	CHEMICAL DOSING EQUIPMENT	
6	CLARIFLOCCULATOR EQUIPMENT	
7	FILTRATION EQUIPMENT	
8	CHLORINATION EQUIPMENT	
9	SPENT BACKWASH RECYCLE PUMPSTATION	
10	SLUDGE SUPERNATANT RECYCLE PUMPSTATION	
11	SLUDGE HOLDING TANK MIXERS	
12	SLUDGE DEWATERING EQUIPMENT	
13	CLEAR WATER PUMPSTATION	
14	MOTOR CONTROL CENTRE AND PLC	
15	LV CABLES	
16	BUILDING ELECTRICAL INSTALLATIONS	
17	TRANSFORMER AND GENERATOR	
18	INSTRUMENTATION AND OUTSTATIONS	
19	MV CABLES	
20	MV SWITCHGEAR	
21	MAIN PLC/SCADA CONTROL & IT	
22	TELEMETRY	
23	HIGHMAST LIGHTING	
24	ELECTRICAL SPARES, TRAINING AND TOOLS	
25	WORKS COMMISSIONING & TRIAL OPERATING PERIOD	
26	RING-FENCED SoW FOR LOCAL SMMEs	
	NET TOTAL OF TENDER	
	ADD CONTINGENCIES 10.00% OF NET TOTAL	
	TENDER AMOUNT	
	CONTRACT PRICE ADJUSTMENT PROVISION	
	ALLOWANCE FOR VAT AT 15.00%	
	TOTAL TENDER SUM	

Summary of Bill of Quantities

BILL OF QUANTITIES	AMOUNT
SECTION 1 : PRELIMINARY AND GENERAL	R.....
SECTION 2 : PROVISIONAL & PRIME COST ITEMS & DAYWORKS	R.....
SECTION 3 : TEMPORARY RAW WATER PUMPSTATION	R.....
SECTION 4 : INFLOW METERING & CONTROL	R.....
SECTION 5 : CHEMICAL DOSING EQUIPMENT	R.....
SECTION 6 : CLARIFLOCCULATOR EQUIPMENT	R.....
SECTION 7 : FILTRATION EQUIPMENT	R.....
SECTION 8 : CHLORINATION EQUIPMENT	R.....
SECTION 9 : SPENT BACKWASH RECYCLING PUMPSTATION	R.....
SECTION 10 : SLUDGE SUPERNATANT RECYCLING PUMPSTATION	R.....
SECTION 11 : SLUDGE HOLDING TANK MIXERS	R.....
SECTION 12 : SLUDGE DEWATERING EQUIPMENT	R.....
SECTION 13 : CLEAR WATER PUMPSTATION	R.....
SECTION 14 : MOTOR CONTROL CENTRE AND PLC	R.....
SECTION 15 : LV CABLES	R.....
SECTION 16 : BUILDING ELECTRICAL INSTALLATIONS	R.....
SECTION 17 : TRANSFORMER AND GENERATOR	R.....
SECTION 18 : INSTRUMENTATION AND OUTSTATIONS	R.....
SECTION 19 : MV CABLES	R.....
SECTION 20 : MV SWITCHGEAR	R.....
SECTION 21 : MAIN PLC/SCADA CONTROL & IT	R.....
SECTION 22 : TELEMETRY	R.....
SECTION 23 : HIGHMAST LIGHTING	R.....
SECTION 24 : ELECTRICAL SPARES, TRAINING AND TOOLS	R.....
SECTION 25 : WORKS COMMISSIONING & TRIAL OPERATING PERIOD	R.....
SECTION 26 : RING-FENCED SoW FOR LOCAL SMMES	R15 000 000.00
A: NETT TOTAL OF TENDER	R.....
B: ALLOWANCE FOR CONTINGENCIES (ADD 10% of Sub – Total A):	R
C: TOTAL INCLUDING CONTINGENCIES (A + B)	R.....
D: ALLOWANCE FOR ESCALATION (ADD 15% of Sub – Total C)	R
E: TOTAL INCLUDING ESCALATION (C + D)	R.....
F: ALLOWANCE FOR VAT (15%)	R.....
G: GROSS TOTAL OF TENDER (E + F)	R.....
CARRIED TO "SECTION A: OFFER" OF C1.1 FORM OF OFFER AND ACCEPTANCE	

SIGNED BY/ON BEHALF OF TENDERER(name of Tendering Entity)

NAME

SIGNATURE

DATE

Declaration

In respect of completeness of Tender

The Municipal Manager
O. R. TAMBO District Municipality
Private Bag X6043
MTHATHA
5099

I/we, the undersigned, do hereby declare that these are the properly priced Bills of Quantities forming part C2.2 of this Contract Document upon which my/our tender for the **KING SABATA DALINDYEBO PRESIDENTIAL INTERVENTION BULK WATER SUPPLY: CONSTRUCTION OF 50ML/D Highbury Water Treatment Works & Raw and Clear Water Pumpstations: Mechanical & Electrical** has been based.

SIGNED BY/ON BEHALF OF TENDERER



NAME



SIGNATURE



DATE



COMPANY STAMP