



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

MEMORANDUM OF AGREEMENT

FOR THE

**CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE
AND EXPANSION OF POTSDAM WASTEWATER TREATMENT
PLANT**

MADE AND ENTERED INTO BETWEEN

CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

AND

H&I JV

CONTRACT NO. 295Q/2021/22

FILE 3 OF 3

SECTIONS OF M.O.A. INCLUDED IN THIS FILE:

- **PARTS:**
 - **5: Returnable Schedules Submitted**
 - **6: Scope of Works**
 - **7: Site Information**
- **PAGES (936 – 1230)**



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MEMORANDUM OF AGREEMENT

Contract No. 295Q/2021/22

FILE 3 OF 3

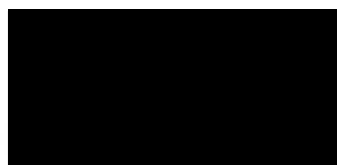
INDEX PAGE (OVERALL M.O.A. DOCUMENT)

Section No.	File no.	Description	Page Range
Preamble	1	Scope of Contract Agreement	(1 - 12)
Part 1	1	Form of Offer and Acceptance (Agreement)	(13 – 50.8)
Part 2	1	General Conditions of Contract	(51 - 52)
Part 3	1	Contract Specific Data	(53 - 78)
Part 4	1	Pricing Data	(79 - 480)
Part 4	2	Pricing Data	(481 - 935)
Part 5	3	Returnable Schedules Submitted	(936 - 1180)
Part 6	3	Scope of Works	(1181 - 1225)
Part 7	3	Site Information	(1226 - 1230)

PART 5: RETURNABLE SCHEDULES SUBMITTED

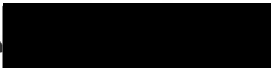
	PAGE
5.1: Certificate of Authority for JVs	937
Original reference: (Schedule 3, Part T2.2 Returnable Schedules, Document B, Volume 2)	
5.2: Details of Qualifications and Experience of Staff	955
Original reference: (Schedule 12, Part T2.2 Returnable Schedules, Document B, Volume 2)	
5.3: Schedule of Sub-contractors	960
Original reference: (Schedule 18, Part T2.2 Returnable Schedules, Document B, Volume 2)	
5.4: Declaration Certificate for Local Production and Content for Designated Sectors	962
Original reference: (Schedule 22, Part T2.2 Returnable Schedules, Document B, Volume 2)	
5.5: Price Basis for Imported Resources	1055
Original reference: (Schedule 23, Part T2.2 Returnable Schedules, Document B, Volume 2)	
5.6: Preference Schedule (where preferences are granted in respect of B-BBEE contribution)	1057
Original reference: (Schedule 25, Part T2.2 Returnable Schedules, Document B, Volume 2)	
5.7: Technical Data Sheets	1064
Original reference: (Schedule 28, Part T2.2 Returnable Schedules, Document B, Volume 2)	

5.1 Certificate of Authority for JVs



CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

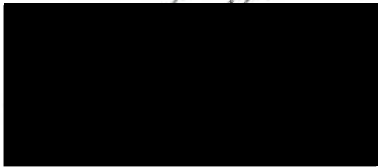
By resolution of the partners of the H&I JV passed at a meeting held at Hillcrest Estate, Durbanville on
13 January 2023

M 

whose signature appears below, has been duly authorised to sign all documents on behalf of the JV in connection
with the tender for

CONTRACT NO. 295Q/2021/22: CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

For and on behalf of
Haw & Inglis Civil Engineering (Pty) Ltd



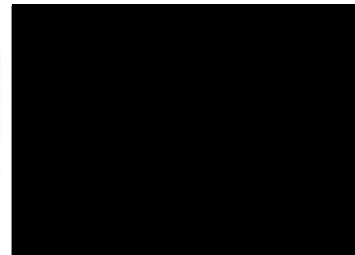
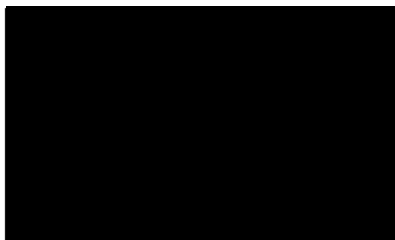
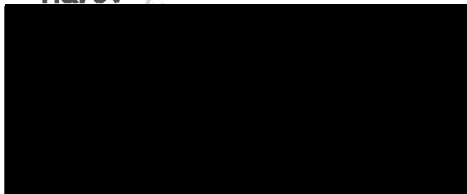
For and on behalf of
H&I Civil & Building (Pty) Ltd



For and on behalf of
H&I Construction (Pty) Ltd



For and on behalf of
H&I JV



CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

By resolution of the partners of the H&I JV passed at a meeting held at Hillcrest Estate, Durbanville on
17 May 2022

[Redacted signature]

whose signature appears below, has been duly authorised to sign all documents on behalf of the JV in connection
with the tender for

CONTRACT NO. 295Q/2021/22: CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

For and on behalf of
Haw & Inglis Civil Engineering (Pty) Ltd

[Redacted signature]

For and on behalf of
H&I Civil & Building (Pty) Ltd

[Redacted signature]

For and on behalf of
H&I Construction (Pty) Ltd

[Redacted signature]

For and on behalf of
H&I JV

[Redacted signature]

CONTACT DETAILS

[Redacted contact details]

POSTAL ADDRESS

[Redacted postal address]

[Redacted postal address]



Construction Industry Development Board

Joint Venture Agreement

(I

1. PREAMBLE

This agreement is made and entered into by and between

HAW & INGLIS CIVIL ENGINEERING (PTY) LTD (Company Registration Number: [REDACTED])

of the first part and

H&I CONSTRUCTION (PTY) LTD (Company Registration Number: [REDACTED])

of the second part and

H&I CIVIL AND BUILDING (PTY) LTD (Company Registration Number: [REDACTED])

of the third part and

Whereas the foregoing parties have resolved to form a Joint Venture under the title of

H&I JV

for the exclusive purposes of securing and/or executing the Contract to be awarded by

THE CITY OF CAPE TOWN

for

**TENDER NO. 295Q/2021/22: THE DESIGN – CIVIL, BUILDING AND DEMOLITION
WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER
TREATMENT PLANT**

Now it is hereby agreed as follows:

2. DEFINITIONS AND INTERPRETATION

2.1 Definitions

The following words and expressions shall have the meanings indicated, except where the context otherwise requires. Defined terms and words are, in general, signified in the text of the Agreement by the use of capital initial letters, but the absence of such letters does not necessarily signify that a term, or word, is not defined.

'Agreement'	means the agreement between the Members of the Joint Venture and includes this model form of agreement together with the Preamble, Specific Provisions, if any, Schedules 'A', 'B' and 'C' and any relevant Documents prepared prior to the signing of the Agreement and appended thereto.
'Contract'	means the contract with the Employer for the supply of the Deliverables, for the purposes of securing and executing which, the Joint Venture has been formed.
'Deliverables'	means the works and/or services, equipment, materials, goods, etc. to be furnished by the Joint Venture to the Employer in terms of the Contract.
'Document'	means any written, drawn, typed, printed, or photographic material, which relates to the Agreement.
'Employer'	means the person, or body, which is to award the Contract and will employ the Joint Venture if it is awarded the Contract.
'Joint Venture'	means the joint venture formed by the Members in accordance with the Agreement.
'Management Committee'	means the body established in terms of the Agreement to manage all aspects of the work of the Joint Venture in securing and executing the Contract and in meeting the provisions for the Agreement.
'Member'	Means a person, or body which, being a party to the Agreement, is a member of the Joint Venture.
'Member's Interest'	means the proportion expressed as a percentage, which the total monetary value of all resources provided and contributions made by a Member towards the execution by the Joint Venture of the Contract bears to the total of such values by all Members and, unless otherwise indicated in the Agreement, represents the extent to which the Member participates in the fortunes of the Joint Venture.
'Representative'	means the person representing a Member on the Management Committee.
'Schedules'	Means Schedules 'A', 'B' and 'C' which set out general, financial and other information relating to the Members and the obligations, duties, rights, risks and benefits arising from their participation in the Joint Venture.

'Specific Provisions'

means the variations, if any, required to this standard form of agreement for the specific purposes of the Agreement.

2.2 Interpretation

Unless inconsistent with the context, an expression in the Agreement which denotes:

- any gender shall include the other genders
- a natural person shall include a juristic person and vice versa
- the singular shall include the plural and vice versa

2.3 Headings

The headings to clauses of the Agreement shall not be considered part thereof, nor shall the words they contain be taken into account in the interpretation of any clause.

2.4 Law

The Agreement shall be construed in accordance with and governed by the laws of the Republic of South Africa and the English language versions shall prevail.

2.5 Language

English shall be exclusively used by the Members in the preparation of Documents unless otherwise indicated.

2.6 Conflict between Agreement and Contract

Should any provision of the Agreement be in conflict with the terms of the Contract, the Agreement shall be amended to the approval of the Management Committee so as to eliminate the conflict.

3. JOINT VENTURE GENERAL**3.1 Establishment and Purpose**

The Joint Venture established by the Members in terms of the Agreement is an unincorporated association with the exclusive purposes of securing and executing the Contract for the benefit of the Members.

3.2 Termination

The operation of the Joint Venture and the validity of the Agreement shall terminate if and when it becomes evident that the Joint Venture will not be awarded the Contract, or, if the Joint Venture secures the Contract, when all obligations and rights of the Joint Venture and the Members in connection with the Contract and the Agreement have ceased and/or been satisfactorily discharged.

Unless otherwise decided by the Management Committee, the Agreement shall not terminate if a Member changes its name, or is taken over by, or merged with, another body.

3.3 Exclusivity

Unless otherwise agreed by the Management Committee, or provided for in the Contract no Member shall engage in any activity related to the Contract other than as a Member of the Joint Venture and Members shall ensure that their subsidiaries and other bodies over which they have control comply with this requirement.

3.4 Participation of Members

Except as may otherwise be stipulated in the Agreement, each Member shall be responsible for all costs incurred by it prior to the date of inception of the Agreement.

Subsequent to the date of inception of the Agreement, each Member shall, participate in the operations, risks, responsibilities and fortunes of the Joint Venture including, inter alia, the provision of funding, sureties, guarantees, insurances, human and other resources and participation in profits and losses to the extents indicated in the Schedules. Participation in any aspect not covered in the Schedules shall, if agreement cannot be reached between the Members, be to the same extents as indicated by the Members Interests.

3.5 Management

The affairs of the Joint Venture shall be directed and controlled by the Management Committee, as set out in Section 4 hereof.

3.6 Confidentiality

All matters relating to the Agreement and the Contract shall be treated by the Members as confidential and no such matter shall be disclosed to any third party without the prior written approval of the Management Committee.

No Member shall be party to the dissemination of publicity relating to the Contract, or the Agreement, without the prior written approval of the Management Committee and the Employer.

3.7 Assignment

No Member shall cede, assign, or in any other way make over any of its rights, or obligations, under the Agreement without the prior written consent of the Management Committee.

3.8 Subcontracting

No Member shall subcontract any obligation, work or duty for which it is, itself, responsible in terms of the Agreement without the prior written consent of the Management Committee.

3.9 Variations to Agreement

No variation, modification, or waiver of any part of the Agreement shall be of any force, or effect, unless unanimously agreed by the Members and reduced to writing.

3.10 Liability

Each Member warrants that it will indemnify the other Members against all legal liabilities arising out of, or in connection with the performance of its obligations under the Agreement.

It is acknowledged by the Members that they may be held jointly and severally liable in respect of claims against the Joint Venture by the Employer or third parties.

4. MANAGEMENT OF JOINT VENTURE

4.1 General

The affairs of the Joint Venture shall be directed, controlled and managed by the Management Committee, which, within the terms of the Agreement and the Contract, shall have full authority to bind the Members in all matters relating to the affairs of the Joint Venture.

Communication between the Joint Venture and the Employer, or third parties, relating to the Contract shall be conducted exclusively by the Management Committee, or by such person as it may delegate to perform this function.

The Management Committee shall have the power to appoint a project manager and/or such other persons as it may see fit to appoint for the purpose of executing the Contract and may delegate such of its powers, responsibilities and duties as it may consider necessary, or desirable, to persons or bodies appointed or seconded for this purpose.

Such administrative functions as are necessary to ensure the effective operation of the Management Committee shall be performed by its chairman.

4.2 Management Committee

4.2.1 Composition

The Management Committee shall, unless otherwise agreed by all the Members, consist of one Representative of each Member and each Member shall be obliged, at all times, to maintain a Representative on the Management Committee.

Each member shall, not later than three working days after the signing of the Agreement, appoint its Representative and notify the other Members of the name and contact details of the Representative. Such Representative shall have the power to bind the Member that he represents in all matters relating to the execution of the Contract and the performance of the Agreement.

A Member shall be entitled, after giving the other Members not less than three working days written notice of his intention to do so, appoint, remove and/or replace, an alternate who shall, at any meeting of the Management Committee from which the Representative whom he represents is absent, be vested with all rights and powers and subjected to all the obligations of the absent Representative.

The chairman of the Management Committee shall be the Representative of the Member which has the largest Member's Interest. If two, or more, Members have the same, largest Member's Interest, the chairmanship shall rotate between the Representatives of such Members at three monthly intervals, the order of rotation to be determined by ballot.

Notwithstanding the foregoing, the chairmanship of the Management Committee may be determined, or changed, at any time by unanimous decision of the Management Committee.

No remuneration shall be paid by the Joint Venture to Representatives or their alternates for serving on the Management Committee, unless otherwise decided by the Management Committee.

4.2.2 Meetings

Meetings of the Management Committee shall take place at such times and places as the Management Committee may determine, provided that the chairman shall convene a meeting of the Management Committee to be held not later than ten working days after he has been requested, in writing, by a Member to do so. Not less than five working days written notice of any meeting of the Management Committee shall be given to all Representatives and their alternates.

The Management Committee may permit, or invite, persons other than Representatives or alternates to attend any of its meetings, but such persons shall not have voting rights.

4.2.3 Decisions

Each Representative shall have one vote on the Management Committee and where, in terms of this clause, a casting vote is required, this shall be exercised by the chairman.

All decisions of the Management Committee shall, desirably, be unanimous. Accordingly, if unanimity cannot, initially, be achieved in regard to a decision, the meeting at which that decision is sought shall be adjourned for a period of 48 hours to enable Representatives to consult with their principals. If, on resumption of the adjourned meeting, unanimity can still not be achieved, the decision, provided it is not one requiring unanimity of the Members, shall be taken by majority vote and, in the event of a tie, the chairman shall exercise a casting vote.

A Member not satisfied with a majority decision of the Management Committee may declare a dispute, to be dealt with in terms of Clause 8 hereof, but the majority decision shall, nevertheless, be implemented with immediate effect.

Decisions of the Management Committee, whether taken at a meeting, or otherwise, shall be recorded in written minutes, which shall be distributed by the chairman to reach the Representatives not later than five working days after those decisions were taken. Such minutes shall be deemed to have been affirmed by the Representatives unless written notice of dissent is received by the chairman not later than three working days after receipt of the minutes by the Representative.

4.2.4 Powers and duties

The functions, responsibilities and powers of the Management Committee shall include, inter alia, those listed below:

- 4.2.4.1 Formulating overall policy in regard to the achievement of the objectives of the Joint Venture.
- 4.2.4.2 Managing the day-to-day affairs of the Joint Venture.
- 4.2.4.3 Monitoring, directing and coordinating the activities of the Members to ensure that the objectives of the Joint Venture are achieved and that the obligations and responsibilities of the individual Members are met.
- 4.2.4.4 Monitoring and controlling the financial affairs of the Joint Venture and ensuring that proper books of account and financial records relating to affairs of the Joint Venture are maintained in an approved form and submitted to the Management Committee for approval at regular intervals, which shall not be longer than one month.
- 4.2.4.5 Determining the necessity for and the details of any changes in the duties and responsibilities of Members provided that any resulting changes in Members' Interests shall be unanimously approved by the Members.
- 4.2.4.6 Determining the terms and conditions of employment of personnel and the emoluments applicable to staff seconded to the Joint Venture by the Members.
- 4.2.4.7 Controlling and approving the appointment of all subcontractors.
- 4.2.4.8 Procuring, after the completion of the Contract and the release of all bonds, guarantees and sureties given in respect of the performances of the Joint Venture and the Members, the preparation and auditing of a final set of accounts, on the basis of which the final profits, or losses, attributable to the individual Members shall be determined and any necessary adjustments effected.



5. RESOURCES OF JOINT VENTURE

The resources to be utilised by the Joint Venture in securing and executing the Contract shall, insofar as these are to be provided directly by the Members, be as set out in the Schedules, and may, from time to time, be amended by decision of the Management Committee, provided that the Member's Interests are not, except with the unanimous approval of the Members, affected thereby.

Similarly, specific areas of responsibility of the Members for the performance of work and the provision of facilities shall be as set out in the Schedules and may, from time to time, be amended by decision of the Management Committee, provided that the Members' Interest are not, except with the unanimous approval of the Members, affected thereby.

5.1 Schedule 'A' (General)

Schedule 'A' shall contain general information relating to the Joint Venture including, inter alia, the following:

1. The Employer's name and address.
2. A brief description of the Contract and the Deliverables.
3. The name, physical address, communications addresses and domicilium citandi et executandi of each Member and of the Joint Venture.
4. The Members' Interests.
5. A statement indicating whether, or not, Specific Provisions apply to the Agreement.
6. A schedule of insurance policies which must be taken out by the Joint Venture and by the individual Members.
7. A Schedule of sureties, indemnities and guarantees that must be furnished by the Joint Venture and by the individual Members.
8. Details of the persons, who, in the event of failure by the Members to reach agreement on the appointments of mediator and arbitrator, will nominate appointees to these positions in terms of Clauses 8.2 and 8.3.

5.2 Schedule 'B' (Financial)

Schedule 'B' shall contain information regarding the financial affairs of the Joint Venture including, inter alia, the following:

1. The working capital required by the Joint Venture and the extent to which and manner whereby this will be provided and/or guaranteed by the individual Members from time to time.
2. The banking accounts that are to be opened in the name of the Joint Venture and the manner in which these are to be operated.
3. The rates of interest that will be applicable to amounts by which Members are in debit, or credit, to the Joint Venture.
4. The names of the auditors and others, if any, who will provide auditing and accounting services to the Joint Venture.
5. The intervals at which interim financial accounts and forecasts will be prepared for approval by the Management Committee.
6. Insofar as not covered in Schedule 'C', the basis on which contributions of various types by the Members towards the work of the Joint Venture in securing, executing, managing and satisfactorily completing the Contract, will be valued.
7. The basis on which profits and/or surplus cash will, if available from time to time, be distributed to Members.
8. The basis upon which losses, if any, are to be apportioned to Members.

5.3 Schedule 'C' (Contributions by Members)

Schedule 'C' shall set out the contributions of various types, other than cash, that will be made by the individual Members towards the work and obligations of the Joint Venture and shall, as far as possible, indicate the monetary values to be placed on such contributions, which may include, inter alia, the following:

1. Staff seconded to the Joint Venture.
2. Work carried out and services provided to, or on behalf of, the Joint Venture.
3. Plant, equipment, facilities etc. made available for use by the Joint Venture.
4. Materials and goods supplied to, or on behalf of, the Joint Venture.
5. Licences, sureties, guarantees and indemnities furnished to, or on behalf of, the Joint Venture.
6. Joint Venture Disclosure form required for the Contract.

6. BREACH OF AGREEMENT

If a Member breaches any material provision of the Agreement, or delays or fails to fulfil its obligations in whole, or in part, and does not remedy the situation within fourteen calendar days of receipt of notice from the Management Committee, or another Member, to do so, the other Members shall have the right, without prejudice to any other rights arising from the default, to summarily terminate the Agreement and re-assign the defaulting Member's rights and obligations in the Joint Venture as they see fit and withhold any moneys due to the defaulting member by the Joint Venture.

Each Member shall indemnify the other Members against all losses, costs and claims which may arise against them in the event of the Agreement being terminated as a result of breach of the Agreement by the said Member.

7. INSOLVENCY OF MEMBER

Should a Member be placed in liquidation, or under judicial management, whether provisionally or finally, or propose any compromise with its creditors, the other Members shall be entitled to proceed in terms of Clause 6, as if the Member had breached the Agreement.

8. DISPUTES

8.1 Settlement

The Members shall negotiate in good faith and make every effort to settle any dispute, or claim, that may arise out of, or relate to, the Agreement.

If agreement cannot be reached, an aggrieved Member shall, if he intends to proceed further in terms of Clause 8.2 hereof, advise all other Members in writing that negotiations have failed and that he intends to refer the matter to mediation in terms of Clause 8.2.

8.2 Mediation

Not earlier than ten working days after having advised the other Members, in terms of Clause 8.1, that negotiations in regard to a dispute have failed, an aggrieved Member may require that the dispute be referred, without legal representation, to mediation by a single mediator. The mediator shall be selected by agreement between the Members, or, failing such agreement, by the person named for this purpose in Schedule 'A'. The costs of the mediation shall be borne equally by all Members.

The mediator shall convene a hearing of the Members and may hold separate discussions with any Member and shall assist the Members in reaching a mutually acceptable settlement of their differences through means of reconciliation, interpretation, clarification, suggestion and advice. The Members shall record such agreement in writing and thereafter they shall be bound by such agreement.

The mediator is authorised to end the mediation process whenever in his opinion further efforts at mediation would not contribute to a resolution of the dispute between the Members.

8.3 Arbitration

Where a dispute or claim is not resolved by mediation, it shall be referred to arbitration by a single arbitrator to be selected by agreement between the Members or, failing agreement, to be nominated by the person named for this purpose in Schedule 'A'.

The Member requiring referral to arbitration shall notify the other Members, in writing, thereof, not later than thirty calendar days after the mediator has expressed his opinion, failing which the mediator's opinion shall be deemed to have been accepted by all Members and shall be put into effect.

Arbitration shall be conducted in accordance with the provisions of the Arbitration Act No. 42 of 1965, as amended, and in accordance with such procedure as may be agreed by the Members or, failing such agreement, in accordance with the rules for the Conduct of Arbitrations published by the Association of Arbitrators and current at the date that the arbitrator is appointed.

The decisions of the arbitrator shall be final and binding on the Members, shall be carried into immediate effect and, if necessary, be made an order of any court of competent jurisdiction.

9. DOMICILIUM

The Members choose domicilium citandi et executandi for all purposes of and in connection with the Agreement as stated in Schedule 'A'. A Member shall be entitled to change his domicilium from time to time, but such change shall be effective only on receipt of written notice of the change by all other Members

Thus, done and signed at [REDACTED] this 19th day of MAY 2022

For and on behalf of HAW & INGLIS CIVIL ENGINEERING (PTY) LTD by GERARDO CIRILLO who warrants his authority to do so.

As witnesses

Thus, done and signed at [REDACTED] this 19 day of May 2022

For and on behalf of **H&I CONSTRUCTION (PTY) LTD** by **ANDREW GIBBARD** who warrants his authority to do so.

As witnesses 1. [REDACTED]

2. [REDACTED]

Thus, done and signed at [REDACTED] this 19TH day of May 2022

For and on behalf of **H&I CIVIL AND BUILDING (PTY) LTD** by **JONATHAN STEVENS** who warrants his authority to do so.

As witnesses 1. [REDACTED]

2. [REDACTED]

SCHEDULE A:

1. BULK SERVICES OF THE WATER AND SANITATION DEPARTMENT - CITY OF CAPE TOWN

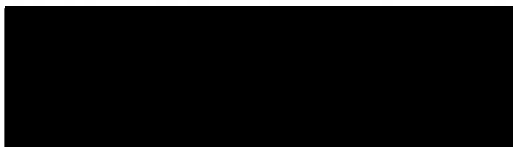
OF

Tower Block, Civic Centre
12 Hertzog Boulevard
CAPE TOWN
8001

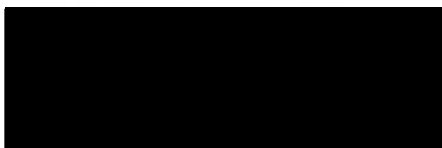
2. It is the objective of the Employer to appoint a suitably qualified and experienced engineering Contractor for the site preparation and construction of the civil and building works associated with the upgrading and expansion of the Potsdam Wastewater Treatment Plant (WWTP), in terms of the SAICE GCC (2015).

The Works shall be done in portions as referenced in the GCC Clause 1.1.1.30 with portions; Portion A: UF Works including UF Reuse system and Reuse site manifold, Portion B: Management building and associated site services and parking, and Portion C: whole of the Works excluding Sections A, B and D and including Portion C with Sub-section A: sludge storage and dewatering, Portion D: Refurbishment of '08 Works and Demolition of the '97 Works.

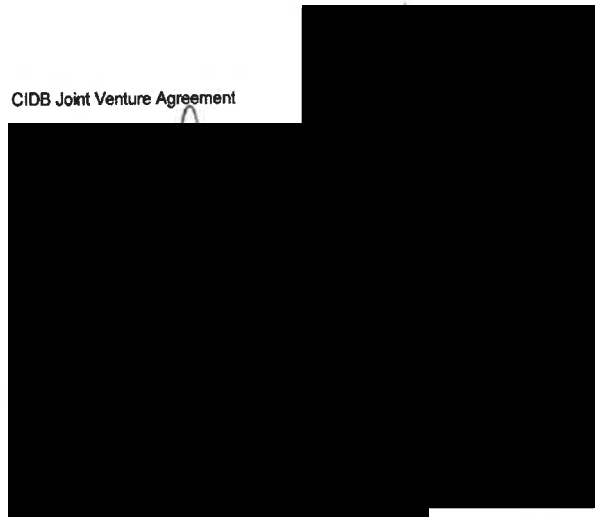
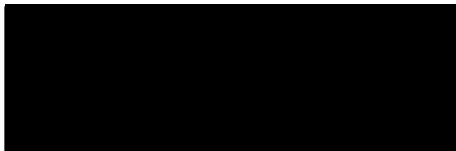
3. HAW & INGLIS CIVIL ENGINEERING (PTY) LTD:



H&I CONSTRUCTION (PTY) LTD:



H&I CIVIL AND BUILDING (PTY) LTD:



4. HAW & INGLIS CIVIL ENGINEERING (PTY) LTD:	40%
H&I CONSTRUCTION (PTY) LTD:	40%
H&I CIVIL AND BUILDING (PTY) LTD:	20%

5. No specific provisions.

6. Insurances:

- as detailed in Clause 8.6.1.5 of the Contract Specific Data;
- as detailed in the Contract over and above that required in terms of Clause 8.6.1.5 of the Contract Specific Data;
- Any other insurance cover as deemed necessary by the Management Committee from time to time;

7. Sureties:

- A Performance Guarantee in accordance with Clause 6.2.1 of the Contract Specific Data;
- as detailed in the Contract over and above that required in terms of Clause 6.2.1 of the Contract Specific Data;
- Any other surety as deemed necessary by the Management Committee from time to time;

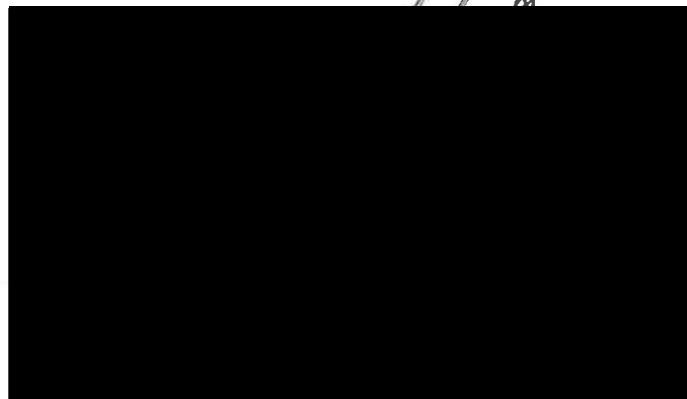
8. President of the Association of Arbitrators (Southern Africa).

SCHEDULE B:

March, 2004: Edition 1 of CIDB document 1017

Page

CIDB Joint Venture Agreement



1. Working Capital to be provided to the Joint Venture by each Member in proportion to the Members Interest. Where any member is unable to furnish their portion of the working capital, the remaining Members will provide the Joint Venture with the shortfall in working capital at a cost to the Joint Venture calculated at the prime interest rate compounded monthly;

The Parties will calculate the cost of providing such working capital during the tender process and such cost will be allowed for in the tender price.

The Joint Venture will be responsible for the cost of the Working Capital.

2. The Joint Venture will open an FNB Bank Account in the name of the Joint Venture, which will be administered by **HAW & INGLIS CIVIL ENGINEERING (PTY) LTD** as the Joint Venture sponsor;
3. The prime interest rate in South Africa at the time;
4. **NOLANDS CAPE TOWN** of [REDACTED] Cape Town;
5. Monthly Management Accounts & Cost Report;
6. **HAW & INGLIS CIVIL ENGINEERING (PTY) LTD** will assume the role as the Leader of the Joint Venture and will act as the sponsor by administrating the contract from a financial, HR, Health & Safety, Environmental and Quality Assurance point of view.
7. Profits and surplus cash will only be distributed to the Members on the completion of the contract or on the completion of their section of the Works (if applicable) or as otherwise instructed by the Management Committee. Profits and surplus cash, when distributed, will be distributed to the Members in proportion to the Members Interest;

The Parties will agree to an overhead cost to be allowed for in the tender price and the overhead allowance will be distributed to each Party on a monthly basis.

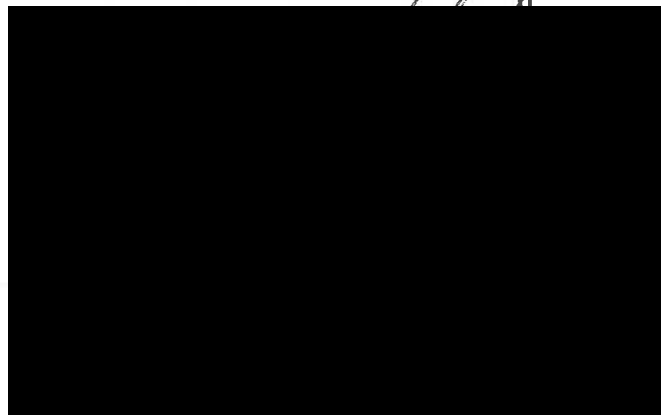
8. Losses shall be apportioned to Members in proportion to the Members Interest;

SCHEDULE C:

March, 2004: Edition 1 of CIDB document 1017

Page

CIDB Joint Venture Agreement



1. Internal Staff will be seconded to the Joint Venture in accordance with that agreed during the tender process and at the conditions allowed for in the tender.

The cost of staff will be covered by the Joint Venture.

2. The Parties to the Joint Venture have been uniquely selected as a result of their respective skill sets to ensure that the Joint Venture comfortably complies with the Employers Requirements.

Haw & Inglis Civil Engineering (Pty) Ltd:

- Joint Venture Lead Partner;
- Administrative, Commercial, Procurement and Project Management Coordination;
- Sponsor – Financial, Procurement, HR, Health & Safety, Environmental and Quality Assurance Administration;
- Earthworks, Civil, Geotechnical and Building Procurement and Subcontractor / Supplier Management;
- Coordination of the Integration between the Civil & Building and Mechanical & Electrical Projects;

H&I Construction (Pty) Ltd:

- Earthworks, Civil and Geotechnical Management, Procurement and Construction;
- Earthworks, Civil and Geotechnical Subcontractor / Supplier Management;

H&I Civil and Building (Pty) Ltd:

- Building Management, Procurement and Construction;
- Building Subcontractor / Supplier Management;

Notwithstanding the above, all Parties are joint and severally liable for the performance of the Joint Venture in terms of the Employers Requirements.

3. Internal Plant, Equipment and Facilities will be made available to the Joint Venture by the respective Parties as agreed during the tender process and at the conditions allowed for in the tender.

The cost of Internal Plant, Equipment and Facilities will be covered by the Joint Venture.

4. Materials and goods will be procured by the Joint Venture as required.
5. The Joint Venture will be responsible to furnish the Employer with all Licenses, sureties, guarantees and indemnities as described in the Contract.

The Joint Venture will make use of Lombards Insurance Company for the issuance

of all sureties and/or guarantees of whatsoever nature required in terms of the Contract. The cost of such sureties and/or guarantees of whatsoever nature will be allowed for in the tender price and the Joint Venture will be responsible for the cost thereof.

Each Party to the Joint Venture will provide access to their Lombards Insurance Company guarantee facility for the issuance of the required sureties and/or guarantees in proportion to their Members Interest.

6. As detailed in Schedule 3; Certificate of Authority for Joint Ventures submitted with the Tender;



5.2 Details of Qualifications and Experience of Staff

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 12: DETAILS OF QUALIFICATIONS AND EXPERIENCE OF STAFF

Tenderers shall set out in the Schedule hereunder details of the listed staff's experience in work of a similar nature to that for which their Tender is submitted.

Careful consideration must be given to Clause C2.1.4.3.3 of T1.2: Tender Data: Functionality Criteria to ensure data provided here corresponds to the data required in terms of Table 3: Functionality Scoring for Key Personnel.

It is the Employer's preference that key personnel are assigned to one role/responsibility. Accordingly, if the tenderer should assign key personnel to more than one role/responsibility the lowest point allocation available shall be awarded as per the relevant scoring criteria and the remaining scores will be forfeited.

Tenderers shall insert in the table below, the names, qualifications, professional accreditation and relevant experience of the key personnel that the Tenderer proposes to assign to the Contract. Curriculum Vitae (CV) must be submitted for each of the key personnel proposed and shall be in the form given in Schedule 12a (refer to overleaf). The tenderer shall use its discretion regarding the number of supervisors that will be required for this project. However, only five construction supervisors will be scored in terms of functionality criteria. The Contractor shall clearly cross reference the personnel to be scored to the project organogram which shall form part of Schedule 21.

Failure to provide proof of qualification and accreditation at time of closing of the tender may result in the tender being considered non-responsive.

The Tenderer shall complete Table RS 12 in its tender submission for ease of reference:

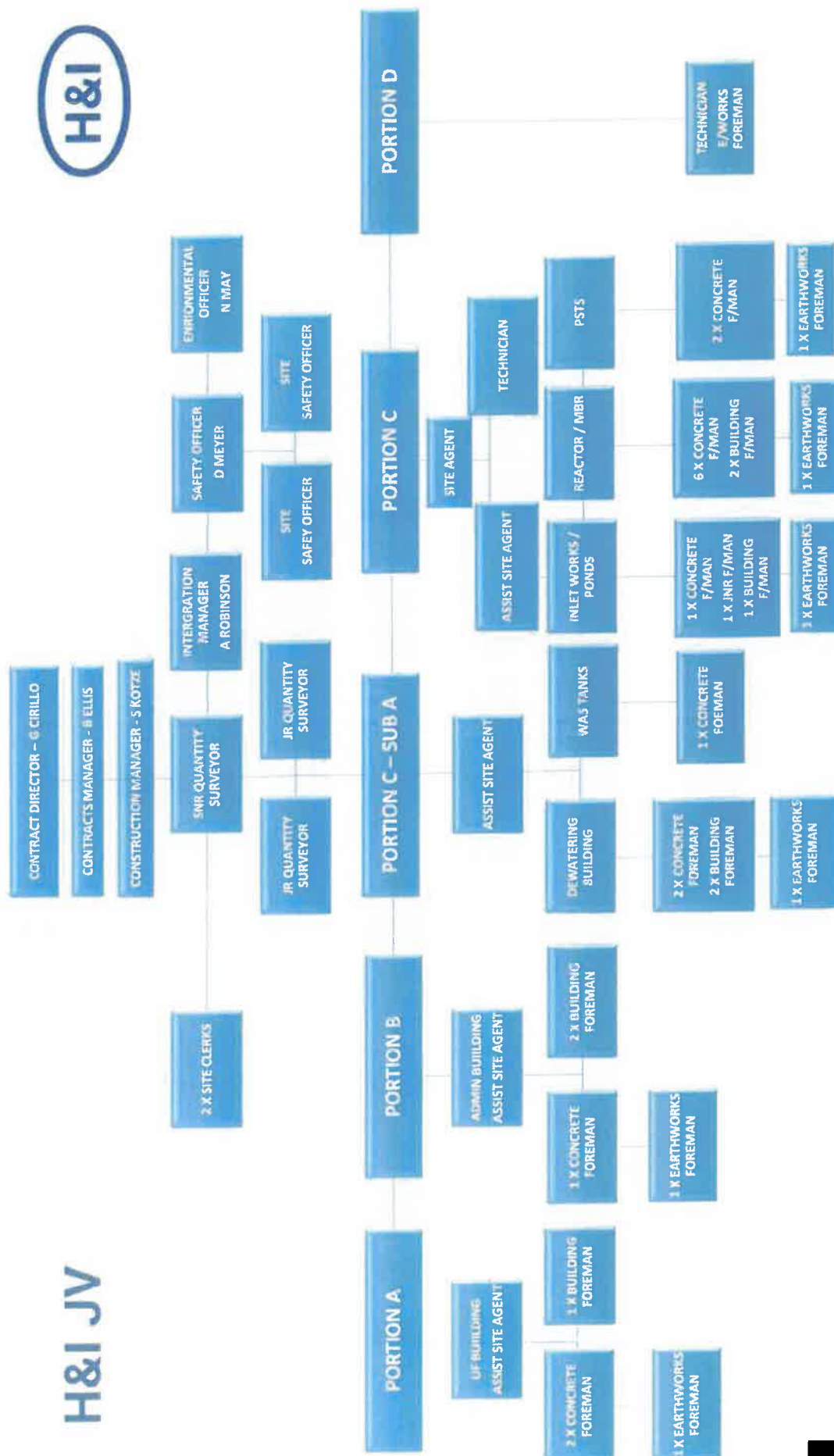
Table RS 12: Details of qualifications and experience of key staff

Key position	Name and Surname	Qualifications	Professional Accreditation	Relevant Experience (years)
Contract Director/Manager ¹		BSC ENG MSc ENG	PR ENG	
Construction Manager ²		BSc ENG	PR ENG SACPCMP.	
Environmental Site Officer ³		BSc ENV.	SACPCMP.	
Health and Safety Officer ⁴		B.IUR.	SACPCMP.	
Integration Manager ⁵		B. ENG B. Com.	PR. ENG	
Senior Foreman / Construction Supervisor No.1		ND BUILDING	N/A.	
Senior Foreman / Construction Supervisor No.2		ND CIVIL	SACPCMP	
Senior Foreman / Construction Supervisor No.3		CIVIL ENG TECH	N/A	

Key position	Name and Surname	Qualifications	Professional Accreditation	Relevant Experience (years)
Senior Foreman / Construction Supervisor No.4		NQF5	N/A	
Senior Foreman / Construction Supervisor No.5		DSc NQF5	N/A	
Note: 1. In terms of the OHS ACT 16 (1). 2. In terms of Clause 4.12 of the GCC (Salce 2015) 3. Environmental site officer is defined in the Environmental Management Plan. 4. Health and safety office as defined in the Project Specification (Health and Safety Specification) 5. Design and program co-ordinator in terms of Clause 4.1.4 & 4.1.5 of the Particular Conditions of Contract				

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

SIGNED ON BEHALF OF THE TENDERER:



Refer TO ATTACHED

ANNEX 12a: FORM OF CURRICULUM VITAE FOR KEY PERSONNEL

Curriculum vitae of the key personnel listed in Schedule 12 shall be structured to follow the format below and in the order shown.

Name :
 Profession :
 Date of birth :
 Current Employer :
 Position in company (Indicate if Director, Contractor's Representative, Engineer, Senior Contract or Contract Manager, etc.) :
 Years with current employer :
 Nationality :
 Tertiary Education (and year obtained) :
 Professional Accreditation (and year obtained) :
 Years of Relevant Experience :

Languages: Please indicate first language. If the first language is not English, please indicate proficiency in English. In other languages, including South African indigenous languages, please show speaking, reading and writing ability.

Language	Speaking	Reading	Writing
First Language:			
English			
Other:			

COUNTRIES OF WORK EXPERIENCE:

PROPOSED POSITION ON TEAM

KEY QUALIFICATIONS

Under this heading, give outline of staff member's 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 last ten years, also give types of activities performed and client references where appropriate.

SUMMARY OF OTHER EXPERIENCE

Under this heading, list all positions held by staff member since graduation, giving dates, names of employing organization, title of position held and location, type and value of construction projects.

REFERENCES

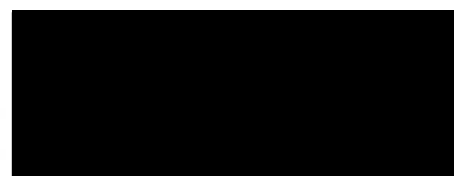
Declaration:

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 willing to serve in the position indicated for me in Schedule 12 for Contract No. 295Q/2021/22: CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT.

SIGNATURE OF STAFF MEMBER

DATE

5.3 Schedule of Sub-contractors



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 18: SCHEDULE OF SUBCONTRACTORS

Tenderers shall stipulate their intention to employ subcontractors for work (excluding work covered by provisional sums and contingencies) in this contract by completing the table attached hereto.

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 the contract, and the tendered unit rates for the various items making up the work activities shall remain final and binding.

The Contract shall submit a letter of intent or Memorandum of Understanding (MoU), as part of Returnable Schedule 21: **FUNCTIONALITY CRITERIA-EXPERTISE AND EXPERIENCE** for each subcontractor listed below, clearly indicating that the subcontractor is fully aware of the activities to be undertaken by him/her. Special consideration shall be given to Table 2 of Clause C.2.1.4.3.3 - Functionality Criteria of the Tender Data for which no points shall be scored unless this letter of intent or MoU is included for the relevant subcontractor.

No party stipulated in this schedule may be changed without the prior written consent from the Engineer.

SUBCONTRACTORS		
Subcontractor's name	Work activities to be undertaken by the Subcontractor	Estimated value of work (Rand)

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

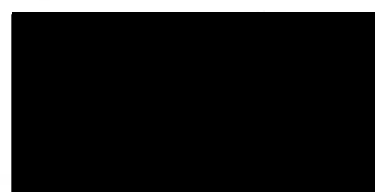
SIGNED ON BEHALF OF TENDERER:

30

**Tender
Part T2: Returnable Documents
Contract No. 295Q/2021/22**

T2.2 Returnable Schedules

5.4 Declaration Certificate for Local Production and Content for Designated Sectors



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtc.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED] (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C; Refer to Attachment

Bid price, excluding VAT (y)	R 1030956521.74
Imported content (x), as calculated in terms of SATS 1286:2011	R 0
Stipulated minimum threshold for local content (paragraph 2 above)	100%
Local content %, as calculated in terms of SATS 1286:2011	100%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Procurement Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 10 06 22

WITNESS No. 1

DATE: 10 06 22

WITNESS No. 2

DATE: 10 06 22

Annex C

Local Content Declaration - Summary Schedule

(C1) Tender No. 295Q/2021/22
 (C2) Tender description: Build - Upgrade and expansion Potsdam WWTP
 (C3) Designated product(s): Steel Products and Component for Construction
 (C4) Tender Authority: City of Cape Town
 (C5) Tendering Entity name: H&J JV
 (C6) Tender Exchange Rate: Pula EU GBP
 (C7) Specified local content % 100%

Note: VAT to be excluded from all calculations

Tender item no's	List of Items	Calculation of local content									
		Tender price per Unit (excl VAT) (C10)	Exempted Imported value (C11)	net of exempted imported content (C12)	Imported value (C13)	Local value (C14)	Local content % (per item) (C15)				
(C2)	(C3)										
A6.35	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A6.36	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A6.37	High tensile welded mesh	107.37	0	107.37	0	107.37	100%				
A6.38	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A6.39	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A6.40	High tensile welded mesh	107.37	0	107.37	0	107.37	100%				
A7.38	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A7.39	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A7.40	High tensile welded mesh	107.37	0	107.37	0	107.37	100%				
A8.32	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A8.33	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A8.34	High tensile welded mesh	107.37	0	107.37	0	107.37	100%				
A9.33	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A9.34	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A9.35	High tensile welded mesh	107.37	0	107.37	0	107.37	100%				
A10.26	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A10.27	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A10.28	High tensile welded mesh	107.37	0	107.37	0	107.37	100%				
A11.18	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A11.19	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A11.47	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A11.48	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A11.76	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A11.77	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A11.107	Mild steel	18976.98	0	18976.98	0	18976.98	100%				
A11.108	High tensile steel	18976.98	0	18976.98	0	18976.98	100%				
A15.1	Hot dip galvanised PC slabs, with stair treads, square hollow section support bolted to concrete floor and slabs with handrail. Complete as shown on drawing. 5088.00.00.WOB.18.D001	92608.07	0	92608.07	0	92608.07	100%				
A15.3	Screen Installation	1822.41	0	1822.41	0	1822.41	100%				
A15.4	Feed Pump Station	1822.41	0	1822.41	0	1822.41	100%				
A15.6	UF Building and Compressor Room	1822.41	0	1822.41	0	1822.41	100%				
A15.8	Effluent return Pump Station	1822.41	0	1822.41	0	1822.41	100%				
A15.7	Chambers	1822.41	0	1822.41	0	1822.41	100%				
A15.9	UV and QIP Pump Installation	1822.41	0	1822.41	0	1822.41	100%				
A15.10	Micro Screen Installation	1822.41	0	1822.41	0	1822.41	100%				
A15.11	Feed Pump Station	1822.41	0	1822.41	0	1822.41	100%				
A15.12	Feed Pump Station	1880.30	0	1880.3	0	1880.3	100%				
A15.13	Feed Pump Station	1996.09	0	1996.09	0	1996.09	100%				
A15.14	Micro Screen Installation	10363.01	0	10363.01	0	10363.01	100%				
A15.15	UV and QIP pump installation	19699.39	0	19699.39	0	19699.39	100%				
A15.16	Chambers and manholes length ± 1 800 mm	18597.51	0	18597.51	0	18597.51	100%				
A15.17	Feed Pump Station	3897.04	0	3897.04	0	3897.04	100%				
A15.18	UF Building and Compressor Room	51828.82	0	51828.82	0	51828.82	100%				
A15.19	UV and QIP pump installation	2586.74	0	2586.74	0	2586.74	100%				
A15.20	UF Reuse Pump station and substation	3355.24	0	3355.24	0	3355.24	100%				

Item No.	Description	Unit	3087.80	0	3087.8	0	3087.8	100%
A13.25	Chambers							
A13.26	Hot dip galvanized lifting hooks cast into prefabricated concrete roof slab.	1347mm x 50	0	0	1347.8	0	1347.8	100%
A14.207	Mild steel	18	0	0	1876.98	0	1876.98	100%
A14.208	High tensile steel	1876.98	0	0	1876.98	0	1876.98	100%
A14.233	Supply, handle and cast frame (or equivalent to be approved by the Employer's Agent) lifting hoist into removable roof slab	268.75	0	0	268.75	0	268.75	100%
A14.234	Supply, handle, and install 600 mm circular manhole cover and frame for man-entry; Interlock System Type AMHC 12-002 (or equivalent to be approved by the Employer's Agent)	5912.50	0	0	5912.5	0	5912.5	100%
A14.235	Supply, handle, and install 1000 mm circular manhole cover and frame; Interlock System Type AMHC15-001 (or equivalent to be approved by the Employer's Agent)	8062.50	0	0	8062.5	0	8062.5	100%
A14.236	Supply, handle and install 3.5m high hot dip galvanized steel access ladders inside the concrete valve chambers.	5294.68	0	0	5294.68	0	5294.68	100%
A14.237	900 x 600 mm opening	920.76	0	0	920.76	0	920.76	100%
A14.238	900 x 600 mm opening	920.76	0	0	920.76	0	920.76	100%
A14.239	Hot dip galvanized chequer plate cover on frame, frame bolted to concrete roof. Refer to drawing 3088.00.00.80J.14.U001	1264.50	0	0	1264.5	0	1264.5	100%
A14.240	Hot dip galvanized cast ladder complete as shown on drawing 3088.00.00.DET.13.D001	1264.50	0	0	1264.5	0	1264.5	100%
A14.241	Hot dip galvanized ladder without safety hoops complete as shown on drawing 3088.00.00.DET.13.D001	1264.50	0	0	1264.5	0	1264.5	100%
A14.242	Hot dip galvanized ladder without safety hoops complete as shown on drawing 3088.00.00.DET.13.D001	1264.50	0	0	1264.5	0	1264.5	100%
A14.243	Hot dip galvanized ladder without safety hoops complete as shown on drawing 3088.00.00.DET.13.D001	1264.50	0	0	1264.5	0	1264.5	100%
A15.2	150mm Wide brickwork	2.19	0	0	2.19	0	2.19	100%
A15.3	Roof reinforcing (all sizes)	23.75	0	0	23.75	0	23.75	100%
A15.4	Hoop iron ties between concrete and brickwork	27.62	0	0	27.62	0	27.62	100%
A16.2	150mm Wide brickwork	2.19	0	0	2.19	0	2.19	100%
A16.3	Roof reinforcing (all sizes)	23.75	0	0	23.75	0	23.75	100%
A16.4	Hoop iron ties between concrete and brickwork	27.62	0	0	27.62	0	27.62	100%
A16.12	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete	45077.68	0	0	45077.68	0	45077.68	100%
A17.11	150mm Wide brickwork	2.19	0	0	2.19	0	2.19	100%
A17.12	Roof reinforcing (all sizes)	23.75	0	0	23.75	0	23.75	100%
A17.14	Hoop iron ties between concrete and brickwork	27.62	0	0	27.62	0	27.62	100%
A17.23	Iron Galvanized mild steel flashing 500mm with 3 lines bent along length and fixed to concrete and brickwork over expansion joint complete	224.09	0	0	224.09	0	224.09	100%
A17.25	165mm Kilo-Lok 700 Chromalok Z200 galvanized and colour coated both sides roof sheeting fixed to	335.60	0	0	335.6	0	335.6	100%
A17.26	Roofing	310.52	0	0	310.52	0	310.52	100%
A17.27	Flashing	220.96	0	0	220.96	0	220.96	100%
A17.45	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete	45077.68	0	0	45077.68	0	45077.68	100%
A17.46	Double door and frame with door size 1600 x 2400mm high including all locking devices hinges, etc complete	61768.49	0	0	61768.49	0	61768.49	100%
A17.52	75 x 75 x 3.5mm Wall thickness pipe window support 1200mm high with base plates, bolts, etc complete	1091.12	0	0	1091.12	0	1091.12	100%
A17.57	80 x 80 x 6mm Angle section brackets	34.40	0	0	34.4	0	34.4	100%
A17.59	75 x 75 x 4mm Square section plate	40.85	0	0	40.85	0	40.85	100%
A17.59	75 x 75 x 4mm floor grating	3225.00	0	0	3225	0	3225	100%
A17.60	100mm x 70 steel stringer	34.40	0	0	34.4	0	34.4	100%
A17.61	4mm Vastrop plate stair tread size 900x250mm	34.40	0	0	34.4	0	34.4	100%
A17.62	Class 4.8 bolts with nuts and washers	107.50	0	0	107.5	0	107.5	100%
A17.63	Class 8.8 bolts with nuts and washers	107.50	0	0	107.5	0	107.5	100%
A17.64	12mm Diameter expansion bolt 150mm long fixed complete	215.00	0	0	215	0	215	100%
A17.65	16mm Diameter expansion bolt 150mm long fixed complete	266.75	0	0	266.75	0	266.75	100%
A18.4	150mm Wide brickwork	2.19	0	0	2.19	0	2.19	100%

Item No.	Description	Unit	3087.80	0	3087.8	0	3087.8	100%
18								
92								
9								
53								
120								
15								
7								
17								
9								
14								
1								
9								
2								
10								
6								
315								
21								
504								
315								
21								
588								
1								
1601								
21								
1688								
12								
54								
10								
10								
2								
1								
1								
105								
105								
4								
630								
420								
11								
11								
22								
22								
210								

B7.399	Roof sheeting	361.88	0	361.88	0	361.88	100%
B7.400	Vertical cladding	331.59	0	331.59	0	331.59	100%
B7.401	0.6mm Ridge capping 400mm girth 3 times bent along length	5	0	336.59	0	336.59	100%
B7.402	0.6mm Shipped sidewall flashing 350mm girth 2 times bent along length	220.96	0	310.52	0	310.52	100%
B7.403	0.6mm Headwall flashing 300mm girth 2 times bent along length	244.84	0	220.96	0	220.96	100%
C4.46	Mild steel	18976.98	0	244.84	0	244.84	100%
C4.47	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C4.48	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C5.36	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C5.37	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C5.38	High tensile welded mesh	71.15	0	71.15	0	71.15	100%
C5.39	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C5.34	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C7.24	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C7.25	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C8.11	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C8.12	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C8.13	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C8.22	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C8.23	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C9.24	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C10.17	100mm Wide brickwork	2.19	0	2.19	0	2.19	100%
C10.18	Reinforcing (all above)	23.75	0	23.75	0	23.75	100%
C10.20	2 x 30mm Galvanneal hoop iron ties, 400mm long with one end plugged to concrete and other end built into brickwork	27.62	0	27.62	0	27.62	100%
C10.32	Timber purlins	335.6	0	335.6	0	335.6	100%
C10.33	Steel purlins	335.6	0	335.6	0	335.6	100%
C10.34	0.6mm Ridge capping 450mm girth 3 times bent along length	310.52	0	310.52	0	310.52	100%
C10.35	0.6mm Shipped sidewall flashing 350mm girth 2 times bent along length	220.96	0	220.96	0	220.96	100%
C10.36	100mm Dia salivator pipe fixed to columns and walls with approved holders complete	467.62	0	467.62	0	467.62	100%
C10.39	Reinforced concrete columns	413.88	0	413.88	0	413.88	100%
C10.40	100mm Dia 45 degree bond	306.38	0	306.38	0	306.38	100%
C10.41	100mm Dia 90 degree bond	344.00	0	344	0	344	100%
C10.43	100mm Dia 100 degree bond, one end fixed out and cast through concrete wall for beam	537.50	0	537.5	0	537.5	100%
C10.59	90 x 60 x 6mm Angle iron truss element	36550.00	0	36550	0	36550	100%
C10.60	100 x 100 x 6mm Angle iron truss element	36550.00	0	36550	0	36550	100%
C10.81	200 x 200 x 40 H-section truss element	36550.00	0	36550	0	36550	100%
C10.82	100 x 60 PFC channel truss element	36550.00	0	36550	0	36550	100%
C10.83	100 x 60 PFC channel truss element	36550.00	0	36550	0	36550	100%
C10.84	50 x 50 x 6mm Angle section roof bracing, sag bars, etc	34400.00	0	34400	0	34400	100%
C10.85	125 x 75 x 5mm Lapped channel section purlins	34400.00	0	34400	0	34400	100%
C10.87	50 x 50 x 2.5mm CFA rim	34400.00	0	34400	0	34400	100%
C10.88	Class 4.8 bolts with nuts and washers	107500.00	0	107500	0	107500	100%
C10.89	Class 8.8 bolts with nuts and washers	107500.00	0	107500	0	107500	100%
C10.74	10mm Diameter chemical anchor installed complete	268.75	0	268.75	0	268.75	100%
C10.77	Single door and frame with door size 813 x 2032mm high including all locking devices hinges, etc complete (Door: D04, D06, D21, D22, D23)	12204.18	0	12204.18	0	12204.18	100%
C10.78	Double door and frame with door size 1600 x 2032mm high including all locking devices hinges, etc complete (Door: D08, D13, D16)	15062.71	0	15062.71	0	15062.71	100%
C10.79	Double door and frame with door size 1600 x 2032mm high including all locking devices hinges, etc complete (Door: D01)	16506.02	0	16506.02	0	16506.02	100%
C10.81	Double door size 1600 x 2032mm and 2300mm thick wall (Door: D06, D07)	2418.81	0	2418.81	0	2418.81	100%
C10.145	Mild steel	19424.18	0	19424.18	0	19424.18	100%
C10.146	High tensile steel	19424.18	0	19424.18	0	19424.18	100%
C11.21	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C11.22	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C11.24	High tensile welded mesh	107.37	0	107.37	0	107.37	100%

1700	615196.00	0	0	0	0	0	0
425	143900.75	0	0	0	0	0	0
400	124208.00	0	0	0	0	0	0
400	88884.00	0	0	0	0	0	0
400	97936.00	0	0	0	0	0	0
11	208745.78	0	0	0	0	0	0
210	9988165.80	0	0	0	0	0	0
2300	246951.00	0	0	0	0	0	0
2	37953.96	0	0	0	0	0	0
84	1594066.32	0	0	0	0	0	0
80	5692.00	0	0	0	0	0	0
2	37953.96	0	0	0	0	0	0
74	1404295.52	0	0	0	0	0	0
2	37953.96	0	0	0	0	0	0
84	1594066.32	0	0	0	0	0	0
1	18976.98	0	0	0	0	0	0
3	56930.94	0	0	0	0	0	0
44	4724.28	0	0	0	0	0	0
1	18976.98	0	0	0	0	0	0
0	170792.82	0	0	0	0	0	0
34	3650.58	0	0	0	0	0	0
840	1839.60	0	0	0	0	0	0
105	2493.75	0	0	0	0	0	0
525	14500.50	0	0	0	0	0	0
90	30204.00	0	0	0	0	0	0
2400	805440.00	0	0	0	0	0	0
120	37262.40	0	0	0	0	0	0
50	11049.00	0	0	0	0	0	0
50	23381.00	0	0	0	0	0	0
50	20694.00	0	0	0	0	0	0
10	3063.80	0	0	0	0	0	0
10	3440.00	0	0	0	0	0	0
4	2150.00	0	0	0	0	0	0
17	621350.00	0	0	0	0	0	0
19	694450.00	0	0	0	0	0	0
3	109650.00	0	0	0	0	0	0
1	36550.00	0	0	0	0	0	0
2	73100.00	0	0	0	0	0	0
5	182750.00	0	0	0	0	0	0
7	240800.00	0	0	0	0	0	0
10	344000.00	0	0	0	0	0	0
1	107500.00	0	0	0	0	0	0
1	107500.00	0	0	0	0	0	0
200	53750.00	0	0	0	0	0	0
8	73225.08	0	0	0	0	0	0
3	45188.13	0	0	0	0	0	0
1	16506.02	0	0	0	0	0	0
2	4837.62	0	0	0	0	0	0
0.1	1942.42	0	0	0	0	0	0
1	19424.18	0	0	0	0	0	0
1	18976.98	0	0	0	0	0	0
20	37953.96	0	0	0	0	0	0
260	27916.20	0	0	0	0	0	0

C11.40	Hot dip galvanised mild steel 46 x 46 x 3mm angle iron section frame with approved lugs at back cast into concrete or built into brick walls, complete	291.65	0	291.65	0	291.65	100%
C11.41	Hot dip galvanised mild steel top hat section to suit 30mm thick timber trench covers placed between panels as support	9. J	0	913	0	913	100%
C11.48	150mm Wide bridge	219	0	219	0	219	100%
C11.50	Rod reinforcing (all sizes)	23.75	0	23.75	0	23.75	100%
C11.58	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete.	45077.68	0	45077.68	0	45077.68	100%
C11.59	Double door and frame with door size 1600 x 2400mm high including all locking devices hinges, etc complete	61768.49	0	61768.49	0	61768.49	100%
C11.60	High security fencing (high grade)	1983.38	0	1983.38	0	1983.38	100%
C11.61	Double leaf gate size 2400mm wide and 2400mm high complete	15898.18	0	15898.18	0	15898.18	100%
C14.31	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C14.32	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C15.42	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C16.43	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C16.43	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C16.44	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C16.45	High tensile steel	107.37	0	107.37	0	107.37	100%
C17.35	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C17.36	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C17.37	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C18.26	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C18.27	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C19.36	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C19.37	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C20.36	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C20.40	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C20.41	High tensile steel	58.60	0	58.6	0	58.6	100%
C20.42	High tensile steel	107.37	0	107.37	0	107.37	100%
C20.68	High tensile steel	236.50	0	236.5	0	236.5	100%
C21.28	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C21.29	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C22.34	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C22.35	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C23.45	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C23.46	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C23.96	PO 200 x 75mm channel section	30234.38	0	30234.38	0	30234.38	100%
C23.99	PO 200 x 75mm channel beam	30234.38	0	30234.38	0	30234.38	100%
C24.100	76 x 76 x 6mm Angle section bracing	31578.12	0	31578.12	0	31578.12	100%
C25.101	Redipagid RS40 (80 x 45mm) flooring installed complete with all fixings	2718.41	0	2718.41	0	2718.41	100%
C25.103	Class 4.8 bolts with nuts and washers	127656.25	0	127656.25	0	127656.25	100%
C25.104	Class 8.8 bolts with nuts and washers	127656.25	0	127656.25	0	127656.25	100%
C25.37	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C24.39	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C24.39	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C25.30	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C25.31	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C25.32	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C25.63	Straight sections	730.33	0	730.33	0	730.33	100%
C26.64	End rings	459.79	0	459.79	0	459.79	100%
C26.23	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C26.24	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C26.25	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C27.10	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C27.11	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C27.12	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C28.18	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C28.19	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C28.40	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C28.47	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C28.74	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C28.75	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C28.107	Mild steel	18976.98	0	18976.98	0	18976.98	100%

90	26248.50	0	0	0	0
80	54780.00	0	0	0	0
1200	2628.00	0	0	0	0
20	475.00	0	0	0	0
1	45077.68	0	0	0	0
3	185905.47	0	0	0	0
12	23800.56	0	0	0	0
2	31796.36	0	0	0	0
2	37953.96	0	0	0	0
42	797033.16	0	0	0	0
6	94884.90	0	0	0	0
64	1214526.72	0	0	0	0
18	303631.68	0	0	0	0
120	2391099.48	0	0	0	0
420	45095.40	0	0	0	0
74	1404296.52	0	0	0	0
11	1181.07	0	0	0	0
2	37955.96	0	0	0	0
21	398516.58	0	0	0	0
3	56930.94	0	0	0	0
252	4782198.96	0	0	0	0
4	75907.92	0	0	0	0
62	1176572.76	0	0	0	0
84	4922.40	0	0	0	0
20	2147.40	0	0	0	0
25	5912.50	0	0	0	0
2	37955.96	0	0	0	0
61	1157595.78	0	0	0	0
63	1195549.74	0	0	0	0
1386	25903577.70	0	0	0	0
32	607263.36	0	0	0	0
808	15333399.84	0	0	0	0
8	241875.04	0	0	0	0
14	423281.32	0	0	0	0
2	63156.24	0	0	0	0
700	1902887.00	0	0	0	0
0.3	38296.88	0	0	0	0
0.2	25531.25	0	0	0	0
18	308631.68	0	0	0	0
163	3093247.74	0	0	0	0
105	11273.85	0	0	0	0
5	94884.90	0	0	0	0
21	398516.58	0	0	0	0
13860	1485600.50	0	0	0	0
80	36516.50	0	0	0	0
8	3678.32	0	0	0	0
2	37953.96	0	0	0	0
9	170792.82	0	0	0	0
4100	440861.22	0	0	0	0
2	37953.96	0	0	0	0
14	265677.72	0	0	0	0
32	3435.84	0	0	0	0
0.1	1897.70	0	0	0	0
3	56930.94	0	0	0	0
0.1	1897.70	0	0	0	0
3	56930.94	0	0	0	0
0.1	1897.70	0	0	0	0
3	56930.94	0	0	0	0
0.1	1897.70	0	0	0	0

C38.108	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C38.133	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C38.134	High tensile steel	11	8	18976.98	0	18976.98	100%
C38.169	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C38.170	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C38.11	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C38.12	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C38.13	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C38.14	Bar no 103	58.60	0	58.6	0	58.6	100%
C38.9	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C38.10	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C38.11	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C38.17	Mild steel	18976.98	0	18976.98	0	18976.98	100%
C38.18	High tensile steel	18976.98	0	18976.98	0	18976.98	100%
C38.19	High tensile welded mesh	107.37	0	107.37	0	107.37	100%
C38.1	Walkway between tanks on level 13.10 m, length ± 600 mm	23763.79	0	23763.79	0	23763.79	100%
C38.2	Walkway between tank on level 13.10 and Division structure landing level 13.05, length ± 1050 mm	32199.10	0	32199.1	0	32199.1	100%
C38.3	Total height 2.150 mm, available length between tank and division structure 2.760 mm	43722.44	0	43722.44	0	43722.44	100%
C38.4	Complete as shown on drawing 3086.00.00.WFA.14.D001	101486.49	0	101486.49	0	101486.49	100%
C38.5	Complete as shown on drawing 3089.00.00.DET.13.D003	8263.01	0	8263.01	0	8263.01	100%
C38.6	Complete as shown on drawing 3089.00.00.DET.13.D003	8263.01	0	8263.01	0	8263.01	100%
C38.7	Complete as shown on drawing 3089.00.00.WFA.14.D001	3007.74	0	3007.74	0	3007.74	100%
C38.9	Complete as shown on drawing 3089.00.00.DET.13.D003	9312.88	0	9312.88	0	9312.88	100%
C38.10	2.000 x 1.500 mm	24026.00	0	24026	0	24026	100%
C38.11	2.250 x 1.500 mm	27889.98	0	27889.98	0	27889.98	100%
C38.12	Refer to detail drawing 3089.00.00.WFA.14.D007	137425.71	0	137425.71	0	137425.71	100%
C38.13	Complete as shown on drawing 3086.00.00.WFA.14.D001	99339.87	0	99339.87	0	99339.87	100%
C38.14	Complete as shown on drawing 3086.00.00.WFA.14.D001	8821.75	0	8821.75	0	8821.75	100%
C38.15	Complete as shown on drawing 3086.00.00.WFA.14.D001	59175.57	0	59175.57	0	59175.57	100%
C38.16	Complete as shown on drawing 3089.00.00.DET.13.D003	4461.16	0	4461.16	0	4461.16	100%
C38.17	Stone trap and inlet canal	1822.41	0	1822.41	0	1822.41	100%
C38.18	Iron works	1822.41	0	1822.41	0	1822.41	100%
C38.19	Diggriller	1822.41	0	1822.41	0	1822.41	100%
C38.20	Raw sewage pump station	1822.41	0	1822.41	0	1822.41	100%
C38.21	Division structure	1822.41	0	1822.41	0	1822.41	100%
C38.22	Primary sludge pump station/strain press	1822.41	0	1822.41	0	1822.41	100%
C38.23	Fire screens	1822.41	0	1822.41	0	1822.41	100%
C38.24	Bo reactor	1822.41	0	1822.41	0	1822.41	100%
C38.25	MBR plant	1822.41	0	1822.41	0	1822.41	100%
C38.26	MBR reuse pump station and MOC	1822.41	0	1822.41	0	1822.41	100%
C38.27	Overflow dams	1822.41	0	1822.41	0	1822.41	100%
C38.28	Emergency storage dam	1822.41	0	1822.41	0	1822.41	100%
C38.29	Downstream building	1822.41	0	1822.41	0	1822.41	100%
C38.30	WAS sludge holding tanks	1822.41	0	1822.41	0	1822.41	100%
C38.31	Sludge cake silos	1822.41	0	1822.41	0	1822.41	100%
C38.32	Sludge feed pump station and valve chamber	1822.41	0	1822.41	0	1822.41	100%
C38.33	Primary/WAS filtrate pump station	1822.41	0	1822.41	0	1822.41	100%
C38.34	old Prim/WAS pump station	1822.41	0	1822.41	0	1822.41	100%
C38.35	old plant, existing raw sewage pump station	1822.41	0	1822.41	0	1822.41	100%
C38.36	Primary settling tanks with radius = 60.00 m	1822.41	0	1822.41	0	1822.41	100%
C38.37	Primary sludge holding tanks with radius	1822.41	0	1822.41	0	1822.41	100%
C38.38	Division structure	1822.41	0	1822.41	0	1822.41	100%
C38.39	WAS sludge holding tanks	1822.41	0	1822.41	0	1822.41	100%
C38.40	MBR plant	1822.41	0	1822.41	0	1822.41	100%
C38.41	Inlet works	1822.41	0	1822.41	0	1822.41	100%
C38.42	Cogitator	1822.41	0	1822.41	0	1822.41	100%
C38.43	Raw sewage pump station	1822.41	0	1822.41	0	1822.41	100%
C38.44	Primary sludge pump station	1822.41	0	1822.41	0	1822.41	100%
C38.45	Fine screens	1822.41	0	1822.41	0	1822.41	100%
C38.46	Bo reactor	1822.41	0	1822.41	0	1822.41	100%
C38.47	MBR plant	1822.41	0	1822.41	0	1822.41	100%

3	0.1	56930.94	0	0	0	0
3	3	56930.94	0	0	0	0
0.5	0.5	9485.49	0	0	0	0
18	18	341585.64	0	0	0	0
2	2	37953.96	0	0	0	0
9	9	170792.82	0	0	0	0
25	25	2684.25	0	0	0	0
25	25	1465.00	0	0	0	0
1	1	18976.98	0	0	0	0
6	6	113861.88	0	0	0	0
16	16	1717.92	0	0	0	0
0.1	0.1	1897.70	0	0	0	0
6	6	113861.88	0	0	0	0
300	300	32211.00	0	0	0	0
2	2	51527.58	0	0	0	0
1	1	32199.10	0	0	0	0
1	1	43722.44	0	0	0	0
1	1	101486.49	0	0	0	0
2	2	16526.02	0	0	0	0
4	4	33052.04	0	0	0	0
2	2	6015.48	0	0	0	0
1	1	3312.88	0	0	0	0
2	2	48052.00	0	0	0	0
2	2	55777.96	0	0	0	0
3	3	412277.13	0	0	0	0
1	1	99539.87	0	0	0	0
4	4	35287.00	0	0	0	0
1	1	59175.57	0	0	0	0
4	4	17844.64	0	0	0	0
25	25	47982.66	0	0	0	0
50	50	91120.50	0	0	0	0
68	68	120279.06	0	0	0	0
48	48	87475.58	0	0	0	0
24	24	43737.84	0	0	0	0
72	72	131213.52	0	0	0	0
60	60	109344.60	0	0	0	0
2560	2560	375940.50	0	0	0	0
52	52	94765.32	0	0	0	0
48	48	87475.68	0	0	0	0
14	14	25513.74	0	0	0	0
10	10	18224.10	0	0	0	0
74	74	134858.34	0	0	0	0
10	10	18224.10	0	0	0	0
11	11	20046.51	0	0	0	0
25	25	45560.25	0	0	0	0
3	3	5467.23	0	0	0	0
48	48	87475.68	0	0	0	0
410	410	747188.10	0	0	0	0
118	118	215044.38	0	0	0	0
7	7	3644.82	0	0	0	0
28	28	142147.98	0	0	0	0
26	26	47582.66	0	0	0	0
8	8	14579.28	0	0	0	0
12	12	21868.92	0	0	0	0
22	22	40093.02	0	0	0	0
10	10	16401.69	0	0	0	0
10	10	18224.10	0	0	0	0
12	12	21868.92	0	0	0	0
4	4	7289.64	0	0	0	0

C34.48	MER reuse pump station and MCC	1822.41	0	1822.41	0	1822.41	0	10	1822.41	0	0
C34.49	Skid structure	1822.41	0	1822.41	0	1822.41	0	10	1822.41	0	0
C34.50	WAS sludge holding tanks	1822.41	0	1822.41	0	1822.41	0	6	1822.41	0	0
C34.51	Raw sewage pump station	1996.09	0	1996.09	0	1996.09	0	3	1996.09	0	0
C34.52	Removable and lockable access gate	1996.09	0	1996.09	0	1996.09	0	2	1996.09	0	0
C34.53	MER reuse pump station and MCC	1996.09	0	1996.09	0	1996.09	0	5	1996.09	0	0
C34.54	Emergency storage dam	1880.30	0	1880.30	0	1880.30	0	2	1880.30	0	0
C34.55	Horizontal	1822.41	0	1822.41	0	1822.41	0	21	1822.41	0	0
C34.56	Inclined	1822.41	0	1822.41	0	1822.41	0	1	1822.41	0	0
C34.57	$\gamma = 18.50$	12665.39	0	12665.39	0	12665.39	0	1	12665.39	0	0
C34.58	$\gamma = 4.30$ m	16535.39	0	16535.39	0	16535.39	0	1	16535.39	0	0
C34.59	$\gamma = 6.30$ m	4334.94	0	4334.94	0	4334.94	0	1	4334.94	0	0
C34.60	$\gamma = 9.90$	8437.14	0	8437.14	0	8437.14	0	1	8437.14	0	0
C34.61	$\gamma = 8.70$ m	30570.84	0	30570.84	0	30570.84	0	1	30570.84	0	0
C34.62	$\gamma = 7.50$	33573.34	0	33573.34	0	33573.34	0	1	33573.34	0	0
C34.63	$\gamma = 8.10$ m	25726.64	0	25726.64	0	25726.64	0	1	25726.64	0	0
C34.64	Primary sludge pump station (length 12500 mm)	15854.64	0	15854.64	0	15854.64	0	2	15854.64	0	0
C34.65	Fine screens, length 3 x 300 mm	23447.69	0	23447.69	0	23447.69	0	2	23447.69	0	0
C34.66	UBR plant, length 3 x 500 mm	34666.34	0	34666.34	0	34666.34	0	1	34666.34	0	0
C34.67	UBR plant, ferric chloride dosing system, complete as shown on drawing	8586.84	0	8586.84	0	8586.84	0	1	8586.84	0	0
C34.68	UBR plant, ferric chloride dosing system, complete as shown on drawing	8586.84	0	8586.84	0	8586.84	0	1	8586.84	0	0
C34.69	3008.00.00.00 VMA.01 A01	5474.59	0	5474.59	0	5474.59	0	1	5474.59	0	0
C34.70	1500 x 1250 (span 1200 mm)	3121.91	0	3121.91	0	3121.91	0	1	3121.91	0	0
C34.71	1 000 x 1 000 mm (span 1 000 mm)	902.10	0	902.10	0	902.10	0	1	902.10	0	0
C34.72	500 x 500 mm (span 500 mm)	3471.78	0	3471.78	0	3471.78	0	1	3471.78	0	0
C34.73	300 x 300 mm (span 300 mm)	34025.98	0	34025.98	0	34025.98	0	1	34025.98	0	0
C34.74	300 x 22 800 mm one side on hot dip galvanized angle iron frame bolted to concrete wall	920.13	0	920.13	0	920.13	0	16	920.13	0	0
C34.75	900 x 400 mm (span 400 mm)	1180.06	0	1180.06	0	1180.06	0	7	1180.06	0	0
C34.76	600 x 400 mm (span 400 mm)	1561.94	0	1561.94	0	1561.94	0	43	1561.94	0	0
C34.77	1 100 x 400 mm (span 400 mm)	1731.93	0	1731.93	0	1731.93	0	8	1731.93	0	0
C34.78	1 200 x 400 mm (span 400 mm)	2225.06	0	2225.06	0	2225.06	0	16	2225.06	0	0
C34.79	1 600 x 800 mm (span 800 mm)	2416.05	0	2416.05	0	2416.05	0	8	2416.05	0	0
C34.80	1 200 x 600 mm (span 600 mm)	2591.03	0	2591.03	0	2591.03	0	4	2591.03	0	0
C34.81	1 300 x 600 mm (span 600 mm)	4039.12	0	4039.12	0	4039.12	0	4	4039.12	0	0
C34.82	1 800 x 700 mm (span 700 mm)	2487.63	0	2487.63	0	2487.63	0	12	2487.63	0	0
C34.83	1 000 x 810 mm (span 750 mm)	2140.12	0	2140.12	0	2140.12	0	4	2140.12	0	0
C34.84	900 x 900 mm (span 900 mm)	2872.16	0	2872.16	0	2872.16	0	8	2872.16	0	0
C34.85	1 100 x 800 mm (span 800 mm)	33632.53	0	33632.53	0	33632.53	0	2	33632.53	0	0
C34.86	1 200 x 1 000 mm (span 1 000 mm)	4723.45	0	4723.45	0	4723.45	0	20	4723.45	0	0
C34.87	1 800 x 1 000 mm (span 1 000 mm)	2124.21	0	2124.21	0	2124.21	0	1	2124.21	0	0
C34.88	1 310 x 800 mm (span 800 mm)	3137.92	0	3137.92	0	3137.92	0	1	3137.92	0	0
C34.89	1 000 x 1 030 mm (span 1 000 mm)	946.65	0	946.65	0	946.65	0	10	946.65	0	0
C34.90	1 100 x 900 mm (span 900 mm)	3222.23	0	3222.23	0	3222.23	0	2	3222.23	0	0
C34.91	1 000 x 1 000 mm (span 1 000 mm)	2134.63	0	2134.63	0	2134.63	0	3	2134.63	0	0
C34.92	900 x 840 mm (span 800 mm)	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.93	1 000 x 1 000 mm (span 1 000 mm)	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.94	Raw sewage pump station	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.95	Primary sludge pump station and skid area	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.96	Fine screens	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.97	Bio reactor	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.98	MER reuse pump station and MCC	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.99	Denitrifying building	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.100	Primary sludge holding tanks	291.79	0	291.79	0	291.79	0	3	291.79	0	0
C34.101	1 570 x 1 120 mm (span 1 000 mm)	6168.02	0	6168.02	0	6168.02	0	13	6168.02	0	0
C34.102	1 800 x 1 270 mm (span 1 200 mm)	7330.38	0	7330.38	0	7330.38	0	2	7330.38	0	0
C34.103	1 720 x 1 270 mm (span 1 200 mm)	7640.26	0	7640.26	0	7640.26	0	4	7640.26	0	0
C34.104	2 070 x 1 270 mm (span 1 200 mm)	9173.66	0	9173.66	0	9173.66	0	4	9173.66	0	0
C34.105	1 570 x 1 870 mm (span 1 500 mm)	8615.53	0	8615.53	0	8615.53	0	8	8615.53	0	0
C34.106	1 820 x 1 570 mm (span 1 500 mm)	9977.04	0	9977.04	0	9977.04	0	4	9977.04	0	0
C34.107	1 800 x 800 mm (span 800 mm)	2640.12	0	2640.12	0	2640.12	0	4	2640.12	0	0
C34.108	1 800 x 800 mm (span 800 mm)	313.14	0	313.14	0	313.14	0	165	313.14	0	0
C34.109	1 800 x 800 mm (span 800 mm)	313.14	0	313.14	0	313.14	0	13	313.14	0	0
C34.110	1 800 x 800 mm (span 800 mm)	15880.91	0	15880.91	0	15880.91	0	13	15880.91	0	0
C34.111	1 800 x 800 mm (span 800 mm)	48931.45	0	48931.45	0	48931.45	0	8	48931.45	0	0
C34.112	1 800 x 800 mm (span 800 mm)	80583.99	0	80583.99	0	80583.99	0	1	80583.99	0	0
C34.113	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.114	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.115	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.116	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.117	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.118	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.119	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.120	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.121	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.122	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.123	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.124	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.125	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.126	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.127	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.128	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.129	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.130	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.131	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.132	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.133	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.134	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.135	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.136	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.137	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.138	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.139	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.140	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.141	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.142	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.143	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.144	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.145	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.146	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.147	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.148	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.149	1 800 x 800 mm (span 800 mm)	345.16	0	345.16	0	345.16	0	65	345.16	0	0
C34.150	1 800 x 800 mm (span 800 mm)	345.16	0	3							

C34.117	270 x 170 x 2 800 mm long	2200,62	0	2200,62	0	2200,62	0	0
C34.118	270 x 170 x 1 800 mm long	1436,4	0	1436,4	0	2872,80	0	0
C34.119	270 x 170 x 1 600 mm long	1205,53	0	1205,53	0	2411,06	0	0
C34.122	Slope trap and canal (Downon chamber)	6002,16	0	6002,16	0	12004,32	0	0
C34.123	on chambers and NH	6002,16	0	6002,16	0	12004,32	0	0
C34.124	on plan/WAS ramp/section	588,99	0	588,99	0	1177,98	0	0
C34.127	UF plant	3087,8	0	3087,8	0	6175,6	0	0
C34.128	Remaining works	3087,8	0	3087,8	0	6175,6	0	0
C38.141	High tensile steel mesh reinforcement	45,56	0	45,56	0	911,20	0	0
C38.145	Straight sections	730,33	0	730,33	0	1460,66	0	0
C38.146	Curved sections	88,61	0	88,61	0	177,22	0	0
C38.147	End wings	455,79	0	455,79	0	911,58	0	0
C38.176	Mild steel bars	59,55	0	59,55	0	119,10	0	0
C38.178	High tensile steel bars	59,55	0	59,55	0	119,10	0	0
C38.177	Mesh ref 6/7	28,12	0	28,12	0	56,24	0	0
C38.258	Mild steel	18224,48	0	18224,48	0	36448,96	0	0
C38.259	High tensile steel	18224,48	0	18224,48	0	36448,96	0	0
C38.260	Self no.248	49,96	0	49,96	0	99,92	0	0
C38.59	160mm Wide brickface	2,19	0	2,19	0	4,38	0	0
C38.60	Reinforcing (all sizes)	23,75	0	23,75	0	47,50	0	0
C38.65	0.0m wide and 2.4m high single leaf sliding gate complete	69875,00	0	69875,00	0	139750,00	0	0
C38.36	High security fencing (High grade)	2004,88	0	2004,88	0	4009,76	0	0
C38.37	High security fencing (Lower grade)	1666,25	0	1666,25	0	3332,50	0	0
C38.38	Single gate size 1125mm wide and 2100mm high complete with wire coil top	12900,00	0	12900,00	0	25800,00	0	0
C38.39	Double gate size 4038mm wide and 2400mm high complete with wire coil top	23650,00	0	23650,00	0	47300,00	0	0
C39.40	Mesh fencing 1.8m high	430,00	0	430,00	0	860,00	0	0
C40.6	100 x 100mm square MS column	39990,00	0	39990,00	0	79980,00	0	0
C40.7	160 x 75 x 20 x 2mm Lipped channel section	47300,00	0	47300,00	0	94600,00	0	0
C40.8	200 x 100 x 6mm	38915,00	0	38915,00	0	77830,00	0	0
C40.9	100 x 75 x 4mm	39775,00	0	39775,00	0	79550,00	0	0
C40.10	M6 bolts	182750,00	0	182750,00	0	365500,00	0	0
C40.11	M12 Bolts	167700,00	0	167700,00	0	335400,00	0	0
C40.17	Steel Purlins	338,59	0	338,59	0	677,18	0	0
C41.5	160mm Wide brickface	2,19	0	2,19	0	4,38	0	0
C41.6	Reinforcing (all sizes)	23,75	0	23,75	0	47,50	0	0
C41.7	Hoop iron tie between concrete and brickwork	27,62	0	27,62	0	55,24	0	0
C42.8	160mm Wide brickface	2,19	0	2,19	0	4,38	0	0
C42.7	Reinforcing (all sizes)	23,75	0	23,75	0	47,50	0	0
C42.8	Hoop iron tie between concrete and brickwork	27,62	0	27,62	0	55,24	0	0
C42.17	PE 254 x 148 x 315mm L-section beam	34400,00	0	34400,00	0	68800,00	0	0
C42.18	75 x 75 x 6mm Angle section roof bracing	34400,00	0	34400,00	0	68800,00	0	0
C42.19	200 x 100 x 20 x 3mm Lipped channel section purlin	94000,00	0	94000,00	0	188000,00	0	0
C42.20	Class 4.8 bolts with nuts and washers	107500,00	0	107500,00	0	215000,00	0	0
C42.21	Class 4.8 bolts with nuts and washers	335,6	0	335,6	0	671,2	0	0
C42.28	Timber purlins	310,52	0	310,52	0	621,04	0	0
C42.29	160mm Ridge capping 450mm girth 3 times bent along length	89,85	0	89,85	0	179,70	0	0
C42.30	10 x 200mm High fascia board fixed complete	2,19	0	2,19	0	4,38	0	0
C43.9	160mm Wide brickface	2,19	0	2,19	0	4,38	0	0
C43.10	Reinforcing (all sizes)	23,75	0	23,75	0	47,50	0	0
C43.11	Hoop iron tie between concrete and brickwork	27,62	0	27,62	0	55,24	0	0
C43.29	16 No. of triangular shaped flat roof trusses 6.3m long x 2.1m high at one end and 1m high at other end, made up of 70x70x6mm angle section top chord, 70x70x6mm angle section bottom chord and fixed with 60x60x6mm angle section	36550,00	0	36550,00	0	73100,00	0	0
C43.30	50 x 50 x 6mm Angle section roof bracing	34400,00	0	34400,00	0	68800,00	0	0
C43.31	150 x 75 x 2.8mm Lipped channel section purlin	34400,00	0	34400,00	0	68800,00	0	0
C43.32	Class 4.8 bolts with nuts and washers	107500,00	0	107500,00	0	215000,00	0	0
C43.33	Class 4.8 bolts with nuts and washers	335,6	0	335,6	0	671,2	0	0
C43.34	16mm Dia chemical anchor	268,75	0	268,75	0	537,50	0	0
C43.39	108mm K1p-Lok 700 Chromadek 2200 galvalnead and colour coated both sides roof sheeting fixed to	335,60	0	335,60	0	671,20	0	0
C43.40	10mm Staggered skewwell flashing 350mm girth 2 times bent along length	220,96	0	220,96	0	441,92	0	0
C44.6	160mm Wide brickface	2,19	0	2,19	0	4,38	0	0

C48.05	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	1258.75	0	0	0
C48.06	Reinforcing (all sizes)	185.25	0	27.62	0	185.25	0	1381.00	0	0	0
C48.13	Mild steel	185.25	0	18976.98	0	18976.98	0	37953.96	0	0	0
C48.14	High tensile steel	18976.98	0	18976.98	0	18976.98	0	493401.48	0	0	0
C48.15	Mild steel	18976.98	0	18976.98	0	18976.98	0	94884.90	0	0	0
C48.16	High tensile steel	18976.98	0	18976.98	0	18976.98	0	94884.90	0	0	0
C48.17	High tensile welded mesh	91.71	0	91.71	0	91.71	0	9629.55	0	0	0
C48.43	110mm Wide brickwork	2.19	0	2.19	0	2.19	0	120.45	0	0	0
C48.44	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	1149.75	0	0	0
C48.45	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	1425.00	0	0	0
C50.10	Mild steel	18976.98	0	18976.98	0	18976.98	0	5693.09	0	0	0
C50.11	High tensile steel	18976.98	0	18976.98	0	18976.98	0	18976.98	0	0	0
C50.12	High tensile welded mesh	80.25	0	80.25	0	80.25	0	882.75	0	0	0
C50.33	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	229.95	0	0	0
C50.34	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	261.25	0	0	0
C51.11	Mild steel	18976.98	0	18976.98	0	18976.98	0	9488.49	0	0	0
C51.12	High tensile steel	18976.98	0	18976.98	0	18976.98	0	75007.92	0	0	0
C51.13	Ref no. 193 apron slab	39.21	0	39.21	0	39.21	0	941.04	0	0	0
C51.14	Ref no. 392 floor slabs	91.71	0	91.71	0	91.71	0	9209.85	0	0	0
C51.34	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	657.00	0	0	0
C51.35	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	475.00	0	0	0
C51.42	Double door and frame with door size 1500 x 2400mm high including all locking devices hinges, etc complete	61768.49	0	61768.49	0	61768.49	0	61768.49	0	0	0
C52.22	Mild steel	18976.98	0	18976.98	0	18976.98	0	37953.96	0	0	0
C52.23	High tensile steel	18976.98	0	18976.98	0	18976.98	0	113861.88	0	0	0
C52.24	Ref no. 193 apron slab	44.82	0	44.82	0	44.82	0	3361.50	0	0	0
C52.25	Ref no. 392 floor slabs	91.71	0	91.71	0	91.71	0	9629.85	0	0	0
C52.67	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	2628.00	0	0	0
C52.88	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	237.50	0	0	0
C52.89	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete	45077.68	0	45077.68	0	45077.68	0	45077.68	0	0	0
C52.89	Double door and frame with door size 1500 x 2400mm high including all locking devices hinges, etc complete	61768.49	0	61768.49	0	61768.49	0	123536.98	0	0	0
C52.89	High security fencing (high grade)	1983.38	0	1983.38	0	1983.38	0	27767.32	0	0	0
C52.89	Double leaf gate size 2400mm wide and 2400mm high complete	15898.18	0	15898.18	0	15898.18	0	31795.36	0	0	0
C53.21	Mild steel	18976.98	0	18976.98	0	18976.98	0	37953.96	0	0	0
C53.22	High tensile steel	18976.98	0	18976.98	0	18976.98	0	379539.60	0	0	0
C53.23	Ref no. 193 apron slab	39.21	0	39.21	0	39.21	0	3450.48	0	0	0
C53.24	Ref no. 392 floor slabs	91.71	0	91.71	0	91.71	0	18158.58	0	0	0
C53.36	Frame	247.25	0	247.25	0	247.25	0	37087.50	0	0	0
C53.40	Frame	247.25	0	247.25	0	247.25	0	14835.00	0	0	0
C53.52	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	1642.50	0	0	0
C53.53	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	237.50	0	0	0
C53.60	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete	45077.68	0	45077.68	0	45077.68	0	45077.68	0	0	0
C53.61	Double door and frame with door size 1500 x 2400mm high including all locking devices hinges, etc complete	61768.49	0	61768.49	0	61768.49	0	123536.98	0	0	0
C53.63	High security fencing (high grade)	1983.38	0	1983.38	0	1983.38	0	27767.32	0	0	0
C53.64	Double leaf gate size 2400mm wide and 2400mm high complete	15898.18	0	15898.18	0	15898.18	0	31795.36	0	0	0
C54.8	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	438.00	0	0	0
C54.7	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	237.50	0	0	0
C54.14	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete	45077.68	0	45077.68	0	45077.68	0	45077.68	0	0	0
C55.8	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	328.50	0	0	0
C55.7	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	237.50	0	0	0
C55.14	Single door and frame with door size 815 x 2400mm high including all locking devices hinges, etc complete	45077.68	0	45077.68	0	45077.68	0	45077.68	0	0	0
D4.59	Mild steel	18976.98	0	18976.98	0	18976.98	0	1897.70	0	0	0
D4.59	High tensile steel	18976.98	0	18976.98	0	18976.98	0	28465.47	0	0	0
D4.60	High tensile welded mesh	62.58	0	62.58	0	62.58	0	52567.20	0	0	0
D4.161	Mild steel	18976.98	0	18976.98	0	18976.98	0	18976.98	0	0	0
D4.162	High tensile steel	18976.98	0	18976.98	0	18976.98	0	75907.92	0	0	0
D4.163	Mesh reinforcement	62.58	0	62.58	0	62.58	0	3129.00	0	0	0
D4.178	75mm Wide brickwork	2.19	0	2.19	0	2.19	0	1314.00	0	0	0
D4.190	150mm Wide brickwork	2.19	0	2.19	0	2.19	0	1971.00	0	0	0
D4.181	Reinforcing (all sizes)	23.75	0	23.75	0	23.75	0	475.00	0	0	0

D4.1B3	Reinforcement between concrete and brickwork	27,62	0	27,62	0	27,62	100%
D5.8	Mild steel	187,78	0	187,78	0	187,78	100%
D5.9	High tensile steel	11,8	0	187,78	0	187,78	100%
D5.31	Mild steel	187,78	0	187,78	0	187,78	100%
D5.32	High tensile steel	187,78	0	187,78	0	187,78	100%
D5.42	Top mounted	1913,50	0	1913,5	0	1913,5	100%
D5.43	Hot dip galvanized bundled RS40 grating with 30 x 4.6 mm beam bar, minimum of 25 beamers bars per metre	5542,97	0	5542,97	0	5542,97	100%
D5.44	Hot dip galvanized 40 x 40 x 5 mm angle iron frame cast into concrete wall with 150 tie anchors complete as shown on detail drawing	185,04	0	185,04	0	185,04	100%
D5.45	New flooring with PO frame refer detail	7760,16	0	7760,16	0	7760,16	100%

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
- y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.



SCHEDULE 22.2.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Conveyance Pipes:

Bare

100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

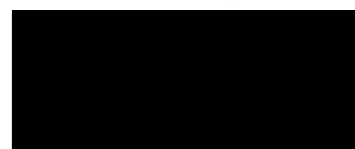
- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (name),
do hereby declare, in my capacity as [REDACTED] (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R 22 504 520.89
Imported content (x), as calculated in terms of SATS 1286:2011	R 0
Stipulated minimum threshold for local content (paragraph 2 above)	100%
Local content %, as calculated in terms of SATS 1286:2011	100%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Policy Framework Act (PPFA), 2000 (Act No. 15 of 2000).

SIGNATURE:

DATE:

WITNESS No. 1

DATE:

WITNESS No. 2

DATE:

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	295Q/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	Conveyance Pipes - Bare
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	

EU GBP

Tender item no's	List of items	Calculation of local content						Tender summary			
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value-- net of exempted imported content	Imported value	Local value	Local content % (per item)	Anticipated Annual Tender Qty (m)	Total tender value	Total exempted imported content	Total Imported content
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	(C16)	(C17)	(C18)	(C19)
A4.41	400 mm dia x 40°	40846.51	0	40846.51	0	40846.51	100%	1	40846.51	0	0
A4.42	400 mm dia x 53°	40846.51	0	40846.51	0	40846.51	100%	1	40846.51	0	0
A4.43	400 mm dia x 90°	43973.69	0	43973.69	0	43973.69	100%	2	87947.38	0	0
A4.44	450 mm dia for a HDPE PE 100, SDR17 PN10 pipe	10085.44	0	10085.44	0	10085.44	100%	13	131110.72	0	0
A4.45	800 mm dia for a HDPE PE 100, SDR 17 PN10 pipe	26471.94	0	26471.94	0	26471.94	100%	2	52943.88	0	0
A4.46	200 mm dia straight pipe one end flanged with puddle flange to suit 350 mm thick concrete wall. Length 700 mm	15636.69	0	15636.69	0	15636.69	100%	1	15636.69	0	0
A4.47	400 mm dia straight pipe one end flanged to suit 450 mm dia HDPE pipe flange, with puddle flange to suit 350 mm thick well. Length 700 mm	35373.69	0	35373.69	0	35373.69	100%	1	35373.69	0	0
A14.146	150mm diameter 18bar long barrel VJ flange adaptor to suit 160mm dia PVC pipe	3052.57	0	3052.57	0	3052.57	100%	2	6105.14	0	0
A14.147	200mm diameter 18bar long barrel VJ flange adaptor to suit 200mm dia PVC pipe	4644.64	0	4644.64	0	4644.64	100%	2	9289.28	0	0
A14.148	250mm diameter 18bar long barrel VJ flange adaptor to suit 250mm dia PVC pipe	6588.68	0	6588.68	0	6588.68	100%	2	13177.36	0	0
A14.149	300mm diameter 18bar long barrel VJ flange adaptor to suit 315mm dia PVC pipe	7207.88	0	7207.88	0	7207.88	100%	2	14415.76	0	0
A14.150	350mm diameter 18bar long barrel VJ flange adaptor to suit 355mm dia PVC pipe	11698.15	0	11698.15	0	11698.15	100%	2	23396.3	0	0
A14.151	500mm diameter 18bar extra long barrel VJ flange adaptor to suit 500mm dia PVC-O pipe	23734.92	0	23734.92	0	23734.92	100%	2	47469.84	0	0
A14.152	800mm diameter 18bar long barrel VJ flange adaptor to suit 600mm dia GRP pipe	32730.52	0	32730.52	0	32730.52	100%	2	65461.04	0	0
A14.153	1000mm diameter 18bar extra long barrel VJ flange adaptor to suit 1000mm dia PVC-O pipe	66125.14	0	66125.14	0	66125.14	100%	54	3570757.56	0	0
A14.154	350mm dia x 11.25° flanged band	34772.96	0	34772.96	0	34772.96	100%	1	34772.96	0	0

A14.155	350mm dia x 22.5° flanged bend	35216.2	0	35216.2	0	0	0
A14.156	350mm dia x 45° flanged segmented bend	37565.07	0	37565.07	0	0	0
A14.157	350mm dia x 90° flanged segmented bend	38570.2	0	38570.2	0	0	0
A14.158	450mm dia x 90° segmented bend, one end flanged with a 450mm diameter flange, other end flanged with a 550mm diameter flange for connection to a 550mm diameter HDPE pipeline	65612.74	0	65612.74	0	0	0
A14.159	800mm dia x 11.25° flanged bend, both flanges to be 1000mm diameter flanges for connection to a 1000mm diameter HDPE pipeline	278149.27	0	278149.3	0	0	0
A14.160	800mm dia x 22.5° flanged bend, both flanges to be 1000mm diameter flanges for connection to a 1000mm diameter HDPE pipeline	278149.27	0	278149.3	0	0	0
A14.161	800mm dia x 45° flanged segmented bend, both flanges to be 1000mm diameter flanges for connection to a 1000mm diameter HDPE pipeline	309276.97	0	309277	0	0	0
A14.162	800mm dia x 90° flanged segmented bend, both flanges to be 1000mm diameter flanges for connection to a 1000mm diameter HDPE pipeline	332568.99	0	332569	0	0	0
A14.163	300mm x 300mm dia flanged equal tee, reinforced with a 3.5mm thick wrapper 110mm wide either side of the branch	38167.07	0	38167.07	0	0	0
A14.164	350mm x 350mm dia flanged equal tee, reinforced with a 3.5mm thick wrapper 120mm wide either side of the branch	44790.15	0	44790.15	0	0	0
A14.165	600mm x 150mm dia flanged reducing tee, with the branch reinforced with a 3.5mm thick x 85mm wide collar, in-line ends C/F 475mm, branch C/F 350mm	127262.27	0	127262.3	0	0	0
A14.166	600mm x 300mm dia flanged reducing tee, with the branch reinforced with a 4mm thick x 145mm wide collar, in-line ends C/F 700mm, branch C/F 650mm	147434.64	0	147434.6	0	0	0
A14.167	600mm x 350mm dia flanged reducing tee, with the branch reinforced with a 4mm thick x 160mm wide collar, in-line ends C/F 725mm, branch C/F 700mm	158781.27	0	158781.3	0	0	0
A14.168	600mm x 800mm dia flanged equal tee, reinforced with a 25.4mm thick 2-plate croch plate with a height of 140mm and a width of 265mm, in-line and branch C/F 800mm	219069.64	0	219069.6	0	0	0
A14.169	800mm x 350mm dia flanged reducing tee, with the branch reinforced with a 3.5mm thick x 120mm wide collar, both in-line and fitted a 1000mm diameter flange for connection to a 1000mm diameter HDPE pipeline, the branch end to fitted with a standard 350mm diameter flange, in-line C/F 750mm, branch C/F 800mm	281841.09	0	281841.1	0	0	0
A14.170	350mm diameter blank flange	6898.21	0	6898.21	0	0	0
A14.171	600mm diameter blank flange	20181.92	0	20181.92	0	0	0
C12.72	300 mm dia SS x 35°	16574.03	0	16574.03	0	0	0
C12.73	300 mm dia SS x 40°	16574.03	0	16574.03	0	0	0
C12.74	300 mm dia SS x 45°	16574.03	0	16574.03	0	0	0
C12.75	300 mm dia SS x 50°	18934.52	0	18934.52	0	0	0
C12.76	300 mm dia SS x 90°	22386.39	0	22386.39	0	0	0
C12.77	600 mm dia x 70°	115244.17	0	115244.2	0	0	0
C12.78	850 mm dia x 33°	199051.04	0	199051.04	0	0	0
C12.79	850 mm dia x 45°	195826.04	0	195826.04	0	0	0
C12.80	1 000 mm dia x 33°	282162.52	0	282162.52	0	0	0

C12.81	1 000 mm dia x 60°	282162.52	0	282162.52	0	282162.5	100%
C12.82	1 000 mm dia x 63°	282162.52	0	282162.52	0	282162.5	100%
C12.83	1 000 mm dia x 90°	282162.52	0	282162.52	0	282162.5	100%
C12.84	800 mm dia for a HDPE PE 100, SDR 17 PN 10 pipe	156912.38	0	156912.38	0	156912.4	100%
C12.85	1 000 mm dia for a HDPE PE 100, SDR 17 FN 10 pipe	168112.8	0	168112.8	0	168112.8	100%
C12.86	1 200 mm dia for a HDPE PE 100, SDR 17 PN10 pipe	288800.9	0	288800.9	0	288800.9	100%
C12.87	Downstream flange 1 000 mm dia to suit 1 000 mm dia HDPE pipe	216625.14	0	216625.14	0	216625.1	100%
C35.3	150 mm dia SS pipe 5 600 mm long	22971.95	0	22971.95	0	22971.95	100%
C35.4	150 mm dia SS pipe 3 100 mm long	19279.32	0	19279.32	0	19279.32	100%
C35.5	150 mm dia SS pipe 600 mm long	10722.64	0	10722.64	0	10722.64	100%
C35.7	150 mm dia SS pipes with 90° bend welded to straight pipes, total length ± 10 300 mm	32759.42	0	32759.42	0	32759.42	100%
C35.8	150 mm dia SS pipes with 90° bend welded to straight pipes, total length ± 7 600 mm	29534.42	0	29534.42	0	29534.42	100%
C35.9	150 mm dia SS pipes with 90° bend welded to straight pipes, total length ± 4300 mm	25941.77	0	25941.77	0	25941.77	100%
C35.10	150 mm dia straight SS pipe, length 1 200mm	13597.95	0	13597.95	0	13597.95	100%
C35.12	100 mm dia SS pipe, ± 3 150 mm long	8685.2	0	8685.2	0	8685.2	100%
C35.13	100 mm dia SS pipe, total length ± 5 900 mm	11910.2	0	11910.2	0	11910.2	100%
C35.14	100 mm dia SS pipe, total length 500 mm	6535.2	0	6535.2	0	6535.2	100%

(C20) Total tender value		22504580.89
(C21) Total Exempt imported content		0
(C22) Total Tender value net of exempt imported content		22504580.89

Signature of tenderer from Annex B

Date: 29/09/22

0

22504580.89

100%

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.2.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Conveyance Pipes:

Galvanized

100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
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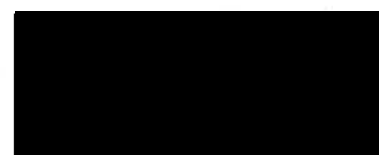
- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295 Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H&I SV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 29-09-22

WITNESS No.

DATE: 29-09-22

WITNESS No.

DATE: 29-09-22

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

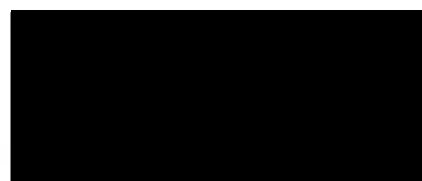
Where

- x is the imported content in Rand
- y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.



SCHEDULE 22.2.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Conveyance Pipes:
Galvanized and Coated

80%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
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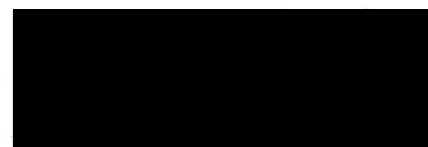
- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):
NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H3F JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: [REDACTED]DATE: 29.09.22WITNESS No. [REDACTED]DATE: 29.09.22WITNESS No. [REDACTED]DATE: 29.09.22

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.



SCHEDULE 22.2.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold
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Conveyance Pipes:

Galvanized, lined and coated

80%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
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- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H&F JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Public Procurement Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 29-09-22

WITNESS No.

DATE: 29-09-22

WITNESS No.

DATE: 29-09-22

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

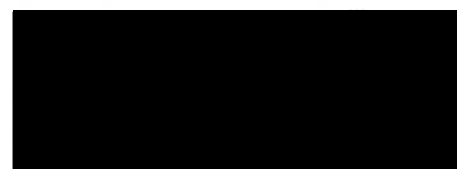
Where

- x is the imported content in Rand
- y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.



SCHEDULE 22.2.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Conveyance Pipes:

Forged fittings (Flanges)

100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

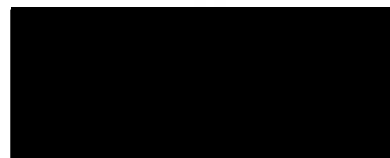
- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.2.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of HSTIN (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Public Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: [REDACTED]

DATE: 29/09/22

WITNESS No. 1 [REDACTED]

DATE: 29-09-22

WITNESS No. 2 [REDACTED]

DATE: 29-09-22

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
- y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.3.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Plastic Pipes:
Polyvinyl chloride (PVC) pipes 100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

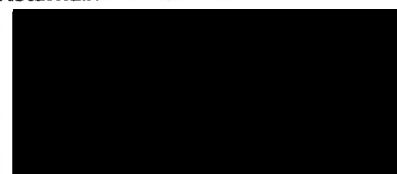
- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on: <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H3I JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>1030956521.74</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R <u>0</u>
Stipulated minimum threshold for local content (paragraph 2 above)	<u>100%</u>
Local content %, as calculated in terms of SATS 1286:2011	<u>100%</u>

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Public Finance Management Act (PFMA), 2000 (Act No. 5 of 2000).

SIGNATURE: [REDACTED]

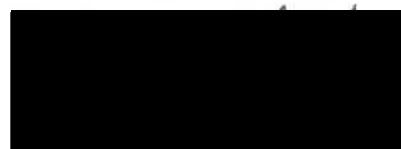
DATE: 29/09/22

WITNESS N [REDACTED]

DATE: 29.09.22

WITNESS N [REDACTED]

DATE: 29.09.22



Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	2950/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	Polyvinylchloride (PVC) pipes
(C4)	Tendering Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	

EU GBP

Tender item no's	List of items	Calculation of local content				
		Tender price per UoM (excl VAT) (C10)	Exempted Imported value (C11)	Tender value- net of exempted Imported content (C12)	Imported value (C13)	Local content % (per item) (C15)
(C8)	(C9)					
A4.34	200 mm dia	457.52	0	457.52	0	100%
A4.35	250 mm dia	690.8	0	690.8	0	100%
A5.62	110mm Diameter cast into walkway slabs	134.05	0	134.05	0	100%
A6.61	110mm Diameter cast into walkway slabs	134.05	0	134.05	0	100%
A8.66	110mm Diameter cast into walkway slabs	134.05	0	134.05	0	100%
A10.43	110mm Diameter cast into walkway slabs	134.05	0	134.05	0	100%
A12.12	75 mm dia	100.05	0	100.05	0	100%
A14.77	160 mm dia	476.31	0	476.31	0	100%
A14.78	200mm dia	668.73	0	668.73	0	100%
A14.79	250mm dia	970.81	0	970.81	0	100%
A14.80	315mm dia	1464.23	0	1464.23	0	100%
A14.81	355mm dia	1832.96	0	1832.96	0	100%
A14.82	400 mm dia	302.72	0	302.72	0	100%
A14.83	200mm dia	474.72	0	474.72	0	100%
A14.84	250mm dia	720.9	0	720.9	0	100%
A14.85	315mm dia	1119.72	0	1119.72	0	100%
A14.86	355mm dia	1508.31	0	1508.31	0	100%
A14.87	500mm dia	2878.93	0	2878.93	0	100%
A14.88	1000mm dia	12968.65	0	12968.65	0	100%
A14.89	500 mm dia	3433.4	0	3433.4	0	100%
A14.90	1000mm dia	14457.52	0	14457.52	0	100%
A17.101	110mm Dia uPVC sewer pipe in ground	133.94	0	133.94	0	100%

Anticipated Annual Tender Qty (m)	Tender summary		
	Total tender value (C17)	Total exempted imported content (C18)	Total Imported content (C19)
15	6862.8	0	0
50	34540	0	0
103	13807.15	0	0
103	13807.15	0	0
53	7104.65	0	0
12	1608.6	0	0
10	1000.5	0	0
30	14289.3	0	0
30	20061.9	0	0
30	29124.3	0	0
30	43926.9	0	0
30	54988.8	0	0
30	9081.6	0	0
30	14241.6	0	0
30	21627	0	0
30	33591.6	0	0
30	45249.3	0	0
60	172735.8	0	0
1830	23732629.5	0	0
60	206004	0	0
1830	26457261.6	0	0
20	2678.8	0	0

A17.102	160mm Dia uPVC sewer pipe in ground	326.58	0	326.58	0	326.58	100%
A20.61	160mm Diameter placed in filling below floors	177.38	0	177.38	0	177.38	100%
A21.23	Supply	7.78	0	7.78	0	7.78	100%
A21.26	Supply	11.26	0	11.26	0	11.26	100%
A21.27	Supply	19.64	0	19.64	0	19.64	100%
A21.29	Supply	33.52	0	33.52	0	33.52	100%
A21.31	Supply	43.69	0	43.69	0	43.69	100%
A21.61	Supply	30.49	0	30.49	0	30.49	100%
A21.63	Supply	54.04	0	54.04	0	54.04	100%
A21.65	Supply	87.1	0	87.1	0	87.1	100%
A21.67	Supply	142.94	0	142.94	0	142.94	100%
A21.69	Supply	142.94	0	142.94	0	142.94	100%
A21.71	Supply	10.72	0	10.72	0	10.72	100%
A21.73	Supply	12.73	0	12.73	0	12.73	100%
A21.75	Supply	14.74	0	14.74	0	14.74	100%
A21.77	Supply	22.11	0	22.11	0	22.11	100%
A21.79	Supply	22.11	0	22.11	0	22.11	100%
B4.15	75 mm dia	96.92	0	96.92	0	96.92	100%
B4.23	160 mm dia	216.72	0	216.72	0	216.72	100%
B4.24	110 mm dia	127.5	0	127.5	0	127.5	100%
B5.41	110mm Diameter	80.68	0	80.68	0	80.68	100%
B5.42	160mm Duct	210.76	0	210.76	0	210.76	100%
B6.33	160 mm diameter	288.44	0	288.44	0	288.44	100%
B6.34	200 mm diameter	412.07	0	412.07	0	412.07	100%
B6.35	250 mm diameter	615.24	0	615.24	0	615.24	100%
B7.342	110mm Dia uPVC sewer pipe in ground	143.51	0	143.51	0	143.51	100%
B7.343	160mm Dia uPVC sewer pipe in ground	349.91	0	349.91	0	349.91	100%
B9.51	Supply	20.98	0	20.98	0	20.98	100%
B9.53	Supply	20.1	0	20.1	0	20.1	100%
B9.147	Supply	118.25	0	118.25	0	118.25	100%
B9.148	Supply	209.62	0	209.62	0	209.62	100%
B9.161	Supply	69.88	0	69.88	0	69.88	100%
B9.153	Supply	134.38	0	134.38	0	134.38	100%
B9.426	Supply	134.38	0	134.38	0	134.38	100%
B9.428	Supply	241.88	0	241.88	0	241.88	100%
B9.430	Supply	69.88	0	69.88	0	69.88	100%
B9.432	Supply	177.38	0	177.38	0	177.38	100%
B9.464	Supply	51.55	0	51.55	0	51.55	100%
C4.83	160mm Diameter	346.93	0	346.93	0	346.93	100%
C4.84	315mm Diameter	1128.17	0	1128.17	0	1128.17	100%
C9.37	110mm Diameter placed in filling below floors	111.8	0	111.8	0	111.8	100%
C10.118	110mm Dia uPVC sewer pipe in ground	23.27	0	23.27	0	23.27	100%
C10.119	160mm Dia uPVC sewer pipe in ground	143.51	0	143.51	0	143.51	100%
C12.49	90 mm dia	138.25	0	138.25	0	138.25	100%

20	6531.6	0	0	0
50	8869	0	0	0
2400	18672	0	0	0
760	8557.6	0	0	0
160	3142.4	0	0	0
100	3352	0	0	0
80	3495.2	0	0	0
100	3049	0	0	0
160	8646.4	0	0	0
50	4355	0	0	0
36	5145.84	0	0	0
20	2858.8	0	0	0
20	214.4	0	0	0
20	254.6	0	0	0
20	294.8	0	0	0
20	442.2	0	0	0
60	1326.6	0	0	0
10	969.2	0	0	0
25	5418	0	0	0
125	15937.5	0	0	0
25	2017	0	0	0
25	5269	0	0	0
70	20190.8	0	0	0
215	88595.05	0	0	0
30	18457.2	0	0	0
200	28702	0	0	0
200	69982	0	0	0
11	230.78	0	0	0
2	40.2	0	0	0
189	22349.25	0	0	0
11	2305.82	0	0	0
55	3843.4	0	0	0
4	537.52	0	0	0
47	6315.86	0	0	0
4	967.52	0	0	0
14	978.32	0	0	0
4	709.52	0	0	0
27	1391.85	0	0	0
100	34693	0	0	0
100	112817	0	0	0
32	3577.6	0	0	0
200	4654	0	0	0
50	7175.5	0	0	0
10	1382.5	0	0	0

C12.50	110 mm dia	156.52	0	156.52	0	156.52	100%
C12.51	160 mm dia	279.07	0	279.07	0	279.07	100%
C12.52	200 mm dia	402.7	0	402.7	0	402.7	100%
C12.53	250 mm dia	605.87	0	605.87	0	605.87	100%
C12.54	315 mm dia	945.57	0	945.57	0	945.57	100%
C12.55	355 mm dia	1355.15	0	1355.15	0	1355.15	100%
C12.56	250 mm dia	690.8	0	690.8	0	690.8	100%
C12.57	315 mm dia	1073.5	0	1073.5	0	1073.5	100%
C12.58	355 mm dia	1355.15	0	1355.15	0	1355.15	100%
C16.70	110mm Diameter cast into walkway slabs	82.83	0	82.83	0	82.83	100%
C22.71	110mm Diameter cast into walkway slabs	134.05	0	134.05	0	134.05	100%
C23.88	110mm Diameter cast into walkway slabs	71.96	0	71.96	0	71.96	100%
C23.89	160mm Diameter cast into walkway slabs	202.04	0	202.04	0	202.04	100%
C23.90	200mm Diameter cast into walkway slabs	396.61	0	396.61	0	396.61	100%
C24.67	110mm Diameter cast into walkway slabs	127.55	0	127.55	0	127.55	100%
C25.78	200mm Diameter	202.18	0	202.18	0	202.18	100%
C26.54	160mm Diameter	1432.7	0	1432.7	0	1432.7	100%
C32.17	75 mm dia	115.67	0	115.67	0	115.67	100%
C32.18	90 mm dia	144.7	0	144.7	0	144.7	100%

20	3130.4	0	0
280	78139.6	0	0
350	140945	0	0
75	45440.25	0	0
160	151291.2	0	0
10	13551.5	0	0
400	276320	0	0
400	429400	0	0
10	13551.5	0	0
210	17394.3	0	0
4935	661536.75	0	0
200	14392	0	0
200	40408	0	0
200	79322	0	0
105	13392.75	0	0
200	40436	0	0
40	57308	0	0
10	1156.7	0	0
25	3617.5	0	0

C32.37	160 mm dia	216.72	0	216.72	0	216.72	0	216.72	100%
C32.38	110 mm dia	127.5	0	127.5	0	127.5	0	127.5	100%
C33.24	75 mm diameter	115.67	0	115.67	0	115.67	0	115.67	100%
C33.25	90 mm diameter	144.7	0	144.7	0	144.7	0	144.7	100%
C33.26	110 mm diameter	110.64	0	110.64	0	110.64	0	110.64	100%
C33.27	160mm diameter	181.57	0	181.57	0	181.57	0	181.57	100%
C33.28	200 mm diameter	457.52	0	457.52	0	457.52	0	457.52	100%
C33.29	250 mm diameter	690.8	0	690.8	0	690.8	0	690.8	100%
C36.59	110mm Diameter	110.95	0	110.95	0	110.95	0	110.95	100%
C36.60	160mm Diameter	200.25	0	200.25	0	200.25	0	200.25	100%
C48.135	110mm Dia uPVC sewer pipe in ground	143.51	0	143.51	0	143.51	0	143.51	100%
C48.136	160mm Dia uPVC sewer pipe in ground	349.91	0	349.91	0	349.91	0	349.91	100%
C49.87	110mm Dia uPVC sewer pipe in ground	143.51	0	143.51	0	143.51	0	143.51	100%
C49.88	160mm Dia uPVC sewer pipe in ground	349.91	0	349.91	0	349.91	0	349.91	100%
C51.27	110mm Diameter cast into concrete	77.4	0	77.4	0	77.4	0	77.4	100%
C52.47	110mm Diameter cast into concrete	77.4	0	77.4	0	77.4	0	77.4	100%
C52.48	160mm Diameter cast into concrete	31.18	0	31.18	0	31.18	0	31.18	100%
C56.23	Supply	134.38	0	134.38	0	134.38	0	134.38	100%
C56.27	Supply	80.62	0	80.62	0	80.62	0	80.62	100%
C56.29	Supply	161.25	0	161.25	0	161.25	0	161.25	100%
C56.31	Supply	41.92	0	41.92	0	41.92	0	41.92	100%
C56.126	Supply	123.62	0	123.62	0	123.62	0	123.62	100%
C56.128	Supply	247.25	0	247.25	0	247.25	0	247.25	100%
C56.130	Supply	80.62	0	80.62	0	80.62	0	80.62	100%
C56.132	Supply	161.25	0	161.25	0	161.25	0	161.25	100%
C59.40	Cable sleeves as per Specification, 110mm dia PVC complete with couplings and 1mm galv. draw wire	123.62	0	123.62	0	123.62	0	123.62	100%
C59.40	Cable sleeves as per Specification, 110mm dia PVC complete with couplings and 1mm galv. draw wire	123.62	0	123.62	0	123.62	0	123.62	100%
C60.36	Supply	7.78	0	7.78	0	7.78	0	7.78	100%
C60.38	Supply	11.26	0	11.26	0	11.26	0	11.26	100%
C60.40	Supply	19.64	0	19.64	0	19.64	0	19.64	100%
C60.42	Supply	33.52	0	33.52	0	33.52	0	33.52	100%
C60.44	Supply	43.69	0	43.69	0	43.69	0	43.69	100%
C60.74	Supply	30.49	0	30.49	0	30.49	0	30.49	100%
C60.76	Supply	54.04	0	54.04	0	54.04	0	54.04	100%
C60.78	Supply	87.1	0	87.1	0	87.1	0	87.1	100%
C60.80	Supply	142.94	0	142.94	0	142.94	0	142.94	100%
C60.82	Supply	142.94	0	142.94	0	142.94	0	142.94	100%
C60.84	Supply	10.72	0	10.72	0	10.72	0	10.72	100%
C60.86	Supply	12.73	0	12.73	0	12.73	0	12.73	100%
C60.88	Supply	14.74	0	14.74	0	14.74	0	14.74	100%
C60.90	Supply	22.11	0	22.11	0	22.11	0	22.11	100%
C60.92	Supply	22.11	0	22.11	0	22.11	0	22.11	100%
D4.235	110mm Dia uPVC sewer pipe in ground	23.27	0	23.27	0	23.27	0	23.27	100%

125	27090	0	0	0
190	24225	0	0	0
290	33544.3	0	0	0
365	52815.5	0	0	0
180	19915.2	0	0	0
325	59010.25	0	0	0
360	164707.2	0	0	0
10	6908	0	0	0
100	11095	0	0	0
100	20025	0	0	0
10	1435.1	0	0	0
10	3499.1	0	0	0
50	7175.5	0	0	0
50	17495.5	0	0	0
10	774	0	0	0
50	3870	0	0	0
80	2494.4	0	0	0
189	25397.82	0	0	0
54	4353.48	0	0	0
4	645	0	0	0
37	1551.04	0	0	0
47	5810.14	0	0	0
4	989	0	0	0
14	1128.68	0	0	0
4	645	0	0	0
18	2225.16	0	0	0
18	2225.16	0	0	0
9600	74688	0	0	0
3040	34230.4	0	0	0
640	12569.6	0	0	0
400	13408	0	0	0
320	13980.8	0	0	0
400	12196	0	0	0
640	34585.6	0	0	0
200	17420	0	0	0
144	20583.36	0	0	0
80	11435.2	0	0	0
80	857.6	0	0	0
80	1018.4	0	0	0
80	1179.2	0	0	0
80	1768.8	0	0	0
240	5306.4	0	0	0
50	1163.5	0	0	0

D4.236	160mm Dia uPVC sewer pipe in ground	143.51	0	143.51	0	143.51	100%
D5.19	90 mm dia uPVC, Class 9 sleeve pipes, 200 mm long, cast into slab	142.52	0	142.52	0	142.52	100%
D5.41	90 mm dia uPVC, Class 9 sleeve pipes, 200 mm long, cast into concrete slab	13.92	0	13.92	0	13.92	100%
D7.108	110MM CLASS 9 UPVC PIPE SABS	129.39	0	129.39	0	129.39	100%
D9.54	110MM CLASS 9 UPVC PIPE SABS	129.39	0	129.39	0	129.39	100%
D10.33	110MM CLASS 9 UPVC PIPE SABS	129.39	0	129.39	0	129.39	100%

(C20) Total tender value: 54670721.18

Signature of tenderer from Annex B

(C21) Total Exempt imported content 0

(C22) Total Tender value net of exempt imported content 54670721.18

(C23) Total Imported

(C24) Total local content

(C25) Average local content % of tender

Date:

2260

100

0	54670721.18	100%
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CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.



SCHEDULE 22.3.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold
---	------------------------------

Plastic Pipes:

High density polyethylene (HDPE) pipes

100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
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- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):
NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H3I JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R 1030 956 521-74
Imported content (x), as calculated in terms of SATS 1286:2011	R 0
Stipulated minimum threshold for local content (paragraph 2 above)	100%
Local content %, as calculated in terms of SATS 1286:2011	100%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 29/09/22

WITNESS No. 1

DATE: 29.09.22

WITNESS No. 2

DATE: 29.09.22

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	295Q/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	High density polyethylene (HDPE) pipes
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	

EU GBP

Calculation of local content							
Tender item no's	List of items	Tender price per UoM (excl VAT)	Exempted Imported value	Tender value- net of exempted Imported content	Imported value	Local value	Local content % (per item)
		(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
(C8)	(C9)						
A4.38	400 mm dia	2573.71	0	2573.71	0	2573.71	100%
A4.37	450 mm dia	3467.63	0	3467.63	0	3467.63	100%
A4.38	900 mm dia	9318.26	0	9318.26	0	9318.26	100%
A12.13	50 mm dia	72.89	0	72.89	0	72.89	100%
A12.14	40 mm dia	70.2	0	70.2	0	70.2	100%
A12.15	25 mm dia	56.51	0	56.51	0	56.51	100%
A14.91	560 mm dia	4046.15	0	4046.15	0	4046.15	100%
A14.92	1000mm dia	14460.89	0	14460.89	0	14460.89	100%
A14.93	1400mm dia	24890.4	0	24890.4	0	24890.4	100%
A14.94	560 mm dia	9035.22	0	9035.22	0	9035.22	100%
A14.95	1000mm dia	15794.49	0	15794.49	0	15794.49	100%
A17.99	20mm Dia HDPE water supply in ground	8.01	0	8.01	0	8.01	100%
A17.100	32mm Dia HDPE water supply in ground	21.72	0	21.72	0	21.72	100%
B4.16	63 mm dia	86.76	0	86.76	0	86.76	100%
B4.17	40 mm dia	51.45	0	51.45	0	51.45	100%
B4.18	25 mm dia	37.76	0	37.76	0	37.76	100%
B7.340	20mm Dia HDPE water supply in ground	8.58	0	8.58	0	8.58	100%
B7.341	32mm Dia HDPE water supply in ground	23.27	0	23.27	0	23.27	100%
C10.117	32mm Dia HDPE water supply in ground	8.58	0	8.58	0	8.58	100%
C12.59	110 mm dia	172.65	0	172.65	0	172.65	100%
C12.60	63 mm dia	105.51	0	105.51	0	105.51	100%
C12.61	800 mm dia	7878.95	0	7878.95	0	7878.95	100%
C12.62	1 000 mm dia	13389.83	0	13389.83	0	13389.83	100%

[illegible]

Signature of tenderer from Annex B

Date:

10/09/22

(C20) Total tender value	112602209.2
(C21) Total Exempt Imported content	0
(C22) Total Tender value net of exempt Imported content	112602209.2
(C23) Total Imported content	0
(C24) Total local content	112602209.2
(C25) Average local content % of tender	100%

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
- y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.3.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Plastic Pipes:
Polypropylene (PP) pipes 100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H&I JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE:

29/09/22

WITNESS No.

DATE:

29.09.22

WITNESS No.

DATE:

29.09.22

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.3.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Plastic Pipes:

Glass reinforced plastic (GRP) pipes

100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.3.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H&F JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 29/09/22

WITNESS No. 1

DATE: 29.09.22

WITNESS No. 2

DATE: 29.09.22

CITY OF CAPE TOWN**WATER AND SANITATION****CONTRACT NO. 295Q/2021/22****CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT****SCHEDULE 22.4 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).
The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

4. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Valves products and actuators	70%

3. Does any portion of the services, works or goods offered for items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES	☐	NO	☒
-----	--------------------------	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

<u>Currency</u>	<u>Rates of exchange</u>
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtc must be informed accordingly in order for the dtc to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Conf'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedec.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update the declaration of the contract.

I, the undersigned, , do hereby declare, in my capacity as Chief Financial Officer (name of bidder entity), the following.

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Refer to Attached

Bid price, excluding VAT (y)	R 1030956521.74
Imported content (x), as calculated in terms of SATS 1286:2011	R 0
Stipulated minimum threshold for local content (paragraph 2 above)	70%
Local content %, as calculated in terms of SATS 1286:2011	100%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Procurement Regulations Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 10.06.22

WITNESS No. 1,

DATE: 10.06.22

WITNESS No. 2,

DATE: 10.06.22

Specified local content %	70%
Direct Expenditure (USD)	1000000

EU

1

Exch

(9)

Tender item no's	List of items	Calculation of tender content					
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value- net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
A12.19	for 40mm dia. Bronze globe valve	2758.66	0	2758.66	0	2758.66	100%
A12.20	Approved the hose reel from Centurion or similar and approved. Complete with union, bearing valve with hand wheel, 25 mm dia pipe from Dunlop, length 20 m mounted on panel against steel column, ref drawing 3080.00.00.DET.14.0005	0	0	0	0	0	100%
A14.172	150mm diameter 18bar flanged RSV gate valve, cap top fitted	9243.92	0	9243.92	0	9243.92	100%
A14.173	200mm diameter 18bar flanged RSV gate valve, cap top fitted	16039	0	16039	0	16039	100%
A14.174	250mm diameter 18bar flanged RSV gate valve, cap top fitted	22312.7	0	22312.7	0	22312.7	100%
A14.175	300mm diameter 18bar flanged RSV gate valve, cap top fitted	30151.6	0	30151.6	0	30151.6	100%
A14.176	350mm diameter 18bar flanged RSV gate valve, cap top fitted	44586.7	0	44586.7	0	44586.7	100%
B4.21	for 65mm dia. Bronze globe valve	2694.49	0	2694.49	0	2694.49	100%
C32.33	for 65mm dia. Bronze globe valve	5341.68	0	5341.68	0	5341.68	100%
C32.34	for 32mm dia. Bronze globe valve	2262.34	0	2262.34	0	2262.34	100%
C32.35	for 25mm dia. Bronze globe valve	2165.86	0	2165.86	0	2165.86	100%
C33.75	80 mm dia (75 mm pipeline)	3513.32	0	3513.32	0	3513.32	100%
C33.76	100 mm dia (110 mm pipeline)	4013.19	0	4013.19	0	4013.19	100%
C33.77	150 mm dia (160 mm pipeline)	6485.69	0	6485.69	0	6485.69	100%
C33.78	200 mm dia (200 mm pipeline)	11350.06	0	11350.06	0	11350.06	100%
C36.6	Resilient seal gate valve	10384.77	0	10384.77	0	10384.77	100%
C36.11	Resilient seal gate valve	10372.95	0	10372.95	0	10372.95	100%
C36.15	Resilient seal gate valve	7255.45	0	7255.45	0	7255.45	100%

[illegible]

Signature of tenderer from Annex B

Total tender value

(C21) Total Exempt Imported content

(C22) Total Tender value net of exempt imported content

438 139,63

0,00

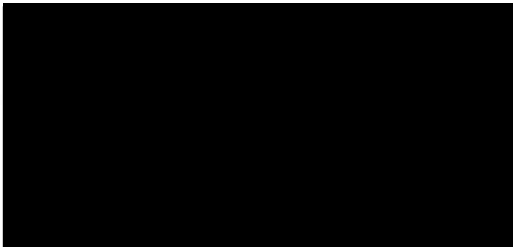


Date:

10/06/2022

(C23) Total Imported
(C24) Total local content
(C25) Average local content % of tender

0.00
438 139.63
100%



CITY OF CAPE TOWN**WATER AND SANITATION****CONTRACT NO. 295Q/2021/22****CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT****SCHEDULE 22.5 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).
The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

5. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Furniture Products Office Furniture	85%

3. Does any portion of the services, works or goods offered for items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES	☒	NO	☐
-----	-------------------------------------	----	--------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

<u>Currency</u>	<u>Rate of exchange</u>
US Dollar	14.5881
Pound Sterling	12.1731
Euro	15.9230
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedlc.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [Redacted] (full name), do hereby declare, in my capacity as [Redacted] (name of bidder entity), the following:

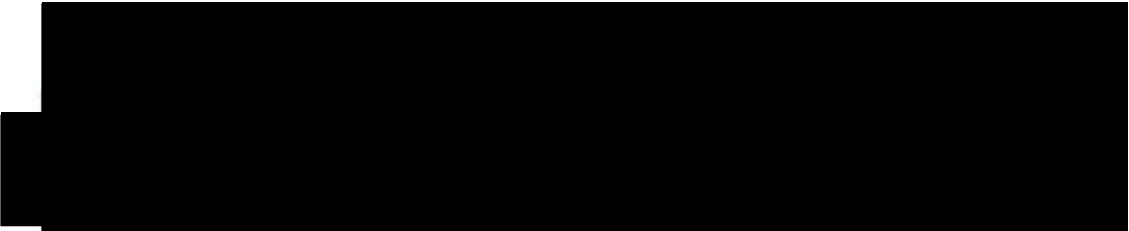
- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C: Refer to ATTACHED

Bid price, excluding VAT (y)	R103090021.74
Imported content (x), as calculated in terms of SATS 1286:2011	R77415.43
Stipulated minimum threshold for local content (paragraph 2 above)	85%
Local content %, as calculated in terms of SATS 1286:2011	97%

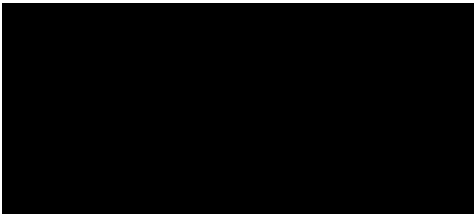
If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: [Redacted]DATE: 10.06.22WITNESS No. [Redacted]DATE: 10.06.22WITNESS No. [Redacted]DATE: 10.06.22



	USD-ZAR	EUR-ZAR	GBP-ZAR	ZAR-CHF	ZAR-JPY	ZAR-AUD	ZAR-BWP	ZAR/INR	ZAR/SGD
16-Mar-22	15.0689	16.5432	19.6800	0.0624	7.8503	0.0918	0.7726	5.0649	0.09046
17-Mar-22	14.9476	16.5055	19.6815	0.0630	7.9581	0.0917	0.7764	5.0743	0.09079
18-Mar-22	14.9264	16.5366	19.6416	0.0628	7.9688	0.0906	0.7763	5.1003	0.09082
21-Mar-22	14.9264	16.5366	19.6416	0.0628	7.9688	0.0906	0.7763	5.1003	0.09082
22-Mar-22	14.9603	16.4203	19.6578	0.0627	8.0567	0.0905	0.7771	5.0982	0.09083
23-Mar-22	14.8203	16.3453	19.6831	0.0631	8.1796	0.0905	0.7806	5.1384	0.09164
24-Mar-22	14.7549	16.2110	19.4735	0.0632	8.2441	0.0907	0.7850	5.1739	0.09204
25-Mar-22	14.5402	16.0397	19.2158	0.0638	8.3808	0.0914	0.7891	5.2401	0.09329
28-Mar-22	14.6302	16.0254	19.2446	0.0639	8.4364	0.0910	0.7872	5.2125	0.09299
29-Mar-22	14.6657	16.1388	19.2253	0.0637	8.4300	0.0908	0.7860	5.1822	0.09275
30-Mar-22	14.4898	16.1099	19.0193	0.0641	8.4211	0.0917	0.7903	5.2324	0.09349
31-Mar-22	14.4851	16.1886	19.0305	0.0638	8.3972	0.0924	0.7894	5.2311	0.09341
01-Apr-22	14.5937	16.1474	19.1437	0.0633	8.4041	0.0918	0.7874	5.2064	0.09293
04-Apr-22	14.6326	16.1582	19.2097	0.0633	8.3864	0.0910	0.7866	5.1629	0.09274
05-Apr-22	14.5566	15.9839	19.1332	0.0636	8.4295	0.0902	0.7912	5.1839	0.09313
06-Apr-22	14.7122	16.0209	19.2202	0.0635	8.4261	0.0897	0.7870	5.1386	0.09246
07-Apr-22	14.6816	16.0194	19.2153	0.0636	8.4388	0.0911	0.7872	5.1656	0.09265
08-Apr-22	14.7532	16.0188	19.2325	0.0634	8.4196	0.0907	0.7864	5.1389	0.09238
11-Apr-22	14.6697	15.9645	19.0735	0.0639	8.5484	0.0919	0.7894	5.1796	0.09320
12-Apr-22	14.5823	15.8286	18.9774	0.0640	8.6310	0.0924	0.7916	5.2228	0.09365
13-Apr-22	14.4846	15.6790	18.8059	0.0645	8.7127	0.0930	0.7950	5.2635	0.09426
14-Apr-22	14.5881	15.9250	19.1731	0.0640	8.5897	0.0920	0.7940	5.2163	0.09279
15-Apr-22	14.5881	15.9250	19.1731	0.0640	8.5897	0.0920	0.7940	5.2163	0.09279
18-Apr-22	14.5881	15.9250	19.1731	0.0640	8.5897	0.0920	0.7940	5.2163	0.09279
19-Apr-22	14.7022	15.8570	19.1232	0.0644	8.7286	0.0923	0.7899	5.1897	0.09282
20-Apr-22	14.9589	16.1695	19.4763	0.0637	8.6112	0.0902	0.7831	5.1100	0.09139
21-Apr-22	15.0691	16.4409	19.7089	0.0629	8.5042	0.0892	0.7794	5.0541	0.09036
22-Apr-22	15.5418	16.8278	20.1499	0.0615	8.2361	0.0880	0.7649	4.9177	0.08778
25-Apr-22	15.6438	16.7817	19.9287	0.0613	8.1943	0.0894	0.7665	4.9047	0.08803



Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	2950/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	Furniture Products
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula EU GBP
(C7)	Specified local content %	

Tender item no's	List of items	Calculation of local content					
		Tender price per UoM (excl VAT)	Exempted Imported value	Tender value- net of exempted Imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
A17.112	Global Top Counter, Urban Lite leg and Pedestal	5601.06	0	5601.06	0	5601.06	100%
A17.113	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
A17.114	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
A17.115	Global Top Counter, Urban Lite leg and Pedestal	5601.05	0	5601.05	0	5601.05	100%
A17.116	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
A17.117	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
B8.20	Classical Chair	4647.73	0	4647.73	464.773	4182.957	90%
B8.29	Eccentric Boardroom table for 20 people	16790.68	0	16790.68	0	16790.68	100%
B8.30	Classical Chair	4647.73	0	4647.73	464.773	4182.957	90%
B8.37	Desk	13054.25	0	13054.25	0	13054.25	100%
B8.38	Visitors Chair: Metal	4858.25	0	4858.25	485.825	4372.425	90%
B8.39	DHL Chair	4250.9	0	4250.9	425.09	3825.81	90%
B8.44	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
B8.45	Drawer for drawings	14408.2	0	14408.2	0	14408.2	100%
B8.77	6 Seater KPA Table	15424.1	0	15424.1	0	15424.1	100%
B8.80	Bulk Filers & Height Adjustable Shelving	329306.9	0	329306.9	0	329306.9	100%
B8.85	Visitors Chair: Metal	4858.25	0	4858.25	485.825	4372.425	90%
B8.86	DHL Chair	4250.9	0	4250.9	425.09	3825.81	90%
B8.101	Drawer for drawings	14408.2	0	14408.2	0	14408.2	100%
B8.107	Desk	13054.25	0	13054.25	0	13054.25	100%
B8.108	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
B8.109	Allure Executive Desk and pedestal	21980.25	0	21980.25	0	21980.25	100%

B8.110	Allure Hinge door cabinet	5776.86	0	5776.86	0	5776.86	100%
B8.111	Eccentric Boardroom table for 12 people	16790.68	0	16790.68	0	16790.68	100%
B8.112	Classical Chair	4647.73	0	4647.73	464.773	4182.957	90%
B8.120	Global Top Counter, Urban Lite leg and Pedestal	5601.05	0	5601.05	0	5601.05	100%
B8.121	Win Chair	3691.5	0	3691.5	369.15	3322.35	90%
B8.126	6 Seater KPA Table	15424.1	0	15424.1	0	15424.1	100%
C10.122	Global Top Counter, Urban Lite leg and Pedestal	5601.06	0	5601.06	0	5601.06	100%
C10.133	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
C10.134	Global Top Counter, Urban Lite leg and Pedestal	5601.05	0	5601.05	0	5601.05	100%
C10.135	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
C10.136	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
C61.4	Global Top Counter, Urban Lite leg and Pedestal	11913.68	0	11913.68	0	11913.68	100%
C61.5	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
C61.10	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
C61.11	Easy slacker chair	567.6	0	567.6	0	567.6	100%
C61.13	Ascot Office Chair	1524.18	0	1524.18	0	1524.18	100%
C61.14	Easy Slacker Chair	567.6	0	567.6	0	567.6	100%
C61.32	Desk	14881.85	0	14881.85	0	14881.85	100%
C61.33	Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
C61.36	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
C61.39	Desk	14881.85	0	14881.85	0	14881.85	100%
C61.40	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
C61.41	Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
C61.48	Urban Lite Leg Desk System	89203.62	0	89203.62	0	89203.62	100%
C61.49	Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
C61.54	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
C61.55	Eccentric Boardroom table for 10 people	16790.68	0	16790.68	0	16790.68	100%
C61.56	Classical Chair	4647.73	0	4647.73	464.773	4182.957	90%
C61.63	Global Top Counter, Urban Lite leg and Pedestal	14969.85	0	14969.85	0	14969.85	100%
C61.64	Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
C61.65	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
C61.67	Global Top Counter, Urban Lite leg and Pedestal	5601.05	0	5601.05	0	5601.05	100%
C61.68	Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
C61.69	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%
D4.258	Global Top Counter, Urban Lite leg and Pedestal	17870.53	0	17870.53	0	17870.53	100%
D4.259	Visitors Chair, Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
D4.260	Giro knee tilt	3378.55	0	3378.55	337.855	3040.695	90%
D4.263	Eccentric Filing Cabinets	5757.82	0	5757.82	0	5757.82	100%

(C20) Total tender value 2334140.99

Signature of tenderer from Annex B

(C21) Total Exempt imported content 0

(C22) Total Tender value net of exempt imported content 2334140.99

77415.431
2256725.559
97%

(C23) Total imported content
 (C24) Total local content
 (C25) Average local content % of
 tender

Date:  29/09/22



CITY OF CAPE TOWN**WATER AND SANITATION****CONTRACT NO. 295Q/2021/22****CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT****SCHEDULE 22.6 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.6: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Electrical and telecom cables	90%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.6: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB CITY OF CAPE TOWN.

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtc.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names)
do hereby declare, in my capacity as [REDACTED]
of H.F.S. (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Refer to Annex C

Bid price, excluding VAT (y)	<u>R 1030 956 521.74</u>
Imported content (x), as calculated in terms of SATS 1286:2011	<u>R 0</u>
Stipulated minimum threshold for local content (paragraph 2 above)	<u>90%</u>
Local content %, as calculated in terms of SATS 1286:2011	<u>100%</u>

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Procurement Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: [REDACTED]DATE: 10.06.22

WITNESS No. 1

DATE: 10.06.22

WITNESS No. 2

DATE: 10.06.22

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	2950/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potlamo WWT
(C3)	Designated product(s)	Electrical and telecom cables
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	H&I JV
(C6)	Tender Exchange Rate:	Pula EU GBP
(C7)	Specified local content %	90%

Notes: VAT to be excluded from all

Tender Item no's	List of Items	Calculation of local content						Tender summary		
		Tender price per UoM (C10)	Exempted Imported value (C11)	Tender value- net of exempted Imported content (C12)	Imported value (C13)	Local value (C14)	Local content % (per item) (C15)	Total tender value (C17)	Total exempted Imported content (C18)	Total Imported content (C19)
(C3)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	(C16)	(C18)	(C19)
A21.325	Fire resistant 2-Wire screened cable accessories	16.3	0	16.3	0	16.3	100%	800	13040	0
A21.342	120mm² 4C PVC SWA PVC Cu Cable	1656.45	0	1656.45	0	1656.45	100%	160	265032	0
A21.343	35mm² 4C PVC SWA PVC Cu Cable	524.11	0	524.11	0	524.11	100%	252	132075.72	0
A21.344	25mm² 4C PVC SWA PVC Cu Cable	365.22	0	365.22	0	365.22	100%	240	87652.8	0
A21.345	10mm² 3C PVC SWA PVC Cu Cable	135.46	0	135.46	0	135.46	100%	160	21673.6	0
A21.346	6mm² 3C PVC SWA PVC Cu Cable	94	0	94	0	94	100%	360	33840	0
A21.347	4mm² 3C PVC SWA PVC Cu Cable	67.19	0	67.19	0	67.19	100%	800	53752	0
A21.348	2.5mm² 3C PVC SWA PVC Cu Cable	52.56	0	52.56	0	52.56	100%	366	18711.36	0
A21.349	6mm² 1C PVC Red	20.33	0	20.33	0	20.33	100%	960	19516.8	0
A21.350	4mm² 1C PVC Black	20.33	0	20.33	0	20.33	100%	960	19516.8	0
A21.351	4mm² 1C PVC Red	13.43	0	13.43	0	13.43	100%	2310	31023.3	0
A21.352	4mm² 1C PVC Black	13.43	0	13.43	0	13.43	100%	2310	31023.3	0
A21.353	2.5mm² 1C PVC Red	8.26	0	8.26	0	8.26	100%	2800	20650	0
A21.354	2.5mm² 1C PVC Black	8.26	0	8.26	0	8.26	100%	2800	20650	0
A21.355	1.5mm² 1C PVC Red	5.16	0	5.16	0	5.16	100%	800	4128	0
A21.356	1.5mm² 1C PVC Black	5.16	0	5.16	0	5.16	100%	800	4128	0
A21.357	1.5mm² 3C PVC ALU PVC [Round Surfing] Cu Cable	22.36	0	22.36	0	22.36	100%	360	8049.6	0
A21.358	2.5mm² 3C PVC ALU PVC [Round Surfing] Cu Cable	33.44	0	33.44	0	33.44	100%	360	12038.4	0
A21.359	4mm² 3C PVC ALU PVC [Round Surfing] Cu Cable	53.7	0	53.7	0	53.7	100%	360	19332	0
A21.360	6mm² 3C PVC ALU PVC [Round Surfing] Cu Cable	79.81	0	79.81	0	79.81	100%	360	28731.6	0
A21.361	1.5mm² 4C PVC ALU PVC [Round Surfing] Cu Cable	27.46	0	27.46	0	27.46	100%	100	2746	0
A21.362	2.5mm² 4C PVC ALU PVC [Round Surfing] Cu Cable	42.22	0	42.22	0	42.22	100%	100	4222	0
A21.363	4mm² 4C PVC ALU PVC [Round Surfing] Cu Cable	63.98	0	63.98	0	63.98	100%	100	6398	0
A21.364	6mm² 4C PVC ALU PVC [Round Surfing] Cu Cable	102.12	0	102.12	0	102.12	100%	100	10212	0
A21.365	75mm² PVC Green / Yellow Cu Cable	229.61	0	229.61	0	229.61	100%	160	36737.6	0
A21.366	25mm² PVC Green / Yellow Cu Cable	88.8	0	88.8	0	88.8	100%	252	22377.6	0
A21.367	16mm² PVC Green / Yellow Cu Cable	51.3	0	51.3	0	51.3	100%	240	12312	0
A21.368	10mm² PVC Green / Yellow Cu Cable	32.96	0	32.96	0	32.96	100%	160	5273.6	0
A21.369	6mm² 1C PVC Green / Yellow Cu Cable	20.33	0	20.33	0	20.33	100%	960	19516.8	0
A21.370	4mm² 1C PVC Green / Yellow Cu Cable	13.43	0	13.43	0	13.43	100%	2310	31023.3	0
A21.371	2.5mm² 1C PVC Green / Yellow Cu Cable	8.26	0	8.26	0	8.26	100%	3300	27258	0
B6.27	16mm² x 4-core Cu, SWA, PVC (1000V)	240.86	0	240.86	0	240.86	100%	28	6262.36	0

B0.30	10mm ² x 4-core Cu, SWA, PVC (1000V)	113.11	0	0	0	113.11	0	113.11	0	113.11	0	1244.21	0	0	0
B0.33	10mm ² x 1-core Cu, PVC, Black ECG	32.96	0	0	0	32.96	0	32.96	0	32.96	0	889.92	0	0	0
B0.36	4mm ² x 1-core Cu, PVC, Black ECG	13.43	0	0	0	13.43	0	13.43	0	13.43	0	161.16	0	0	0
B0.39	1mm ² x 1-core 1500V DC cable, Black, Abolante	15.26	0	0	0	15.26	0	15.26	0	15.26	0	961.38	0	0	0
B0.42	6mm ² x 1-core 1500V DC cable, Black	24.66	0	0	0	24.66	0	24.66	0	24.66	0	4660.74	0	0	0
B0.46	R4048 Screened Cable 2 Pair 0.5mm ² (Must be Outdoor Type)	31.52	0	0	0	31.52	0	31.52	0	31.52	0	1323.84	0	0	0
B0.48	CAT6 cable, UV Protected SFAJTP	14.18	0	0	0	14.18	0	14.18	0	14.18	0	368.68	0	0	0
B0.61	16mm ² (ALU) Black XLPE Insulated Cable	60.3	0	0	0	60.3	0	60.3	0	60.3	0	25989.3	0	0	0
B0.66	Cu 1.5mm ² x 1-core ECG for bonding of PV modules & all metal structures & earth bar (includes all accessories, bolts, washers to complete the installation, all accessories must be included in the bill of materials)	53.01	0	0	0	53.01	0	53.01	0	53.01	0	18994.47	0	0	0
B0.80	12mm ² x 4-core Cu, SWA, PVC from DB - G to DB - M	1656.45	0	0	0	1656.45	0	1656.45	0	1656.45	0	38754.8	0	0	0
B0.83	16mm ² x 4-core Cu, SWA, PVC from Mainlab to DB - G	1281.52	0	0	0	1281.52	0	1281.52	0	1281.52	0	175568.24	0	0	0
B0.86	35mm ² x 4-core Cu, SWA, PVC from DB - M to DB - H1	524.11	0	0	0	524.11	0	524.11	0	524.11	0	8909.87	0	0	0
B0.89	21mm ² x 4-core Cu, SWA, PVC from DB - G to DB - H2	365.22	0	0	0	365.22	0	365.22	0	365.22	0	9495.72	0	0	0
B0.92	20mm ² x 4-core Cu, SWA, PVC from DB - M to DB - F	365.22	0	0	0	365.22	0	365.22	0	365.22	0	2556.54	0	0	0
B0.95	16mm ² x 4-core Cu, SWA, PVC from DB - G to DB - PV (Roof)	277.38	0	0	0	277.38	0	277.38	0	277.38	0	11649.96	0	0	0
B0.98	10mm ² x 4-core Cu, SWA, PVC from DB - G to DB - PV (Roof)	277.38	0	0	0	277.38	0	277.38	0	277.38	0	14701.14	0	0	0
B0.101	16mm ² x 4-core Cu, SWA, PVC from DB - G to UPS connection point	277.38	0	0	0	277.38	0	277.38	0	277.38	0	14701.14	0	0	0
B0.104	16mm ² x 4-core Cu, Trailing Cable from SHIP Sockets to UPS (x2)	277.38	0	0	0	277.38	0	277.38	0	277.38	0	1386.9	0	0	0
B0.107	10mm ² x 4-core Cu, SWA, PVC from DB - GU to DB - MU	277.38	0	0	0	277.38	0	277.38	0	277.38	0	6657.12	0	0	0
B0.110	10mm ² x 4-core Cu, SWA, PVC from DB - M to DB - S	172.59	0	0	0	172.59	0	172.59	0	172.59	0	2761.44	0	0	0
B0.113	10mm ² x 4-core Cu, SWA, PVC from DB - MU to DB - FU	172.59	0	0	0	172.59	0	172.59	0	172.59	0	1208.13	0	0	0
B0.116	10mm ² x 4-core Cu, SWA, PVC from DB - M to Street/Area lights	172.59	0	0	0	172.59	0	172.59	0	172.59	0	96132.63	0	0	0
B0.119	70mm ² BCEW from Mainlab to Building earth, DB-G & DB-M	189.54	0	0	0	189.54	0	189.54	0	189.54	0	31084.56	0	0	0
B0.122	5mm ² BCEW	69.35	0	0	0	69.35	0	69.35	0	69.35	0	1178.95	0	0	0
B0.125	10mm ² BCEW	43.15	0	0	0	43.15	0	43.15	0	43.15	0	5523.2	0	0	0
B0.128	10mm ² BCEW	27.65	0	0	0	27.65	0	27.65	0	27.65	0	2765	0	0	0
B0.131	6mm ² BCEW	18.17	0	0	0	18.17	0	18.17	0	18.17	0	10393.24	0	0	0
B0.134	10mm ² Cu - General purpose Insulated (GP) wire	32.96	0	0	0	32.96	0	32.96	0	32.96	0	2735.68	0	0	0
B0.137	6mm ² Cu - General purpose Insulated (GP) wire	20.33	0	0	0	20.33	0	20.33	0	20.33	0	650.56	0	0	0
B0.144	35mm ² BCEW connected to the Building earth and earth spikes	137.84	0	0	0	137.84	0	137.84	0	137.84	0	1929.76	0	0	0
B0.202	10mm ² x 6C, Cu, PVC Trailing cable	246.56	0	0	0	246.56	0	246.56	0	246.56	0	1479.36	0	0	0
B0.205	Power Points for ISO complete with 4x4mm ² GP-wire with 4mm ² BCEW surface mounted in galvanised conduit mounted on galv/hospital saddles.	2593.07	0	0	0	2593.07	0	2593.07	0	2593.07	0	2593.07	0	0	0
B0.207	Power Points for ISO complete with 4x4mm ² GP-wire with 2.5mm ² BCEW	1735.33	0	0	0	1735.33	0	1735.33	0	1735.33	0	1735.33	0	0	0
B0.209	Power Points for S-HSO complete with 2x4mm ² GP-wire with 2.5mm ² BCEW surface/flush mounted in PVC conduit for sockets.	1035.03	0	0	0	1035.03	0	1035.03	0	1035.03	0	5175.15	0	0	0
B0.271	Power Points for ISO (H/DAC) complete with 2x4mm ² GP-wire with 1.5mm ² BCEW surface/flush mounted in PVC conduit.	737.15	0	0	0	737.15	0	737.15	0	737.15	0	3685.75	0	0	0
B0.273	Power Points for SSO complete with 2x2.5mm ² GP-wire with 1.5mm ² BCEW surface/flush mounted in PVC conduit.	802.15	0	0	0	802.15	0	802.15	0	802.15	0	90723.45	0	0	0
B0.275	Power Points for DISO complete with 2.5mm ² GP-wire with 1.5mm ² GPV PVC in conduits under power adding	802.15	0	0	0	802.15	0	802.15	0	802.15	0	104279.5	0	0	0
B0.387	Light/Switch Points for fittings complete with 2x1.5mm ² GP-wire with 1mm ² BCEW surface mounted in PVC conduit.	130.69	0	0	0	130.69	0	130.69	0	130.69	0	71356.74	0	0	0
B0.390	Emergency Light Points for fittings complete with 3x1.5mm ² GP-wire circuit to lights, mounted in PVC conduit.	130.69	0	0	0	130.69	0	130.69	0	130.69	0	13461.07	0	0	0
B0.371	Motion Sensor Points complete with 3x1.5mm ² GP-wire from circuit to lights, mounted in PVC conduit.	130.69	0	0	0	130.69	0	130.69	0	130.69	0	6142.43	0	0	0

C80.425	2.5mm² 4C PVC ALU PVC [Round Surfd] Cu Cable	42.22	0	42.22	0	42.22	100%
C80.426	4mm² 4C PVC ALU PVC [Round Surfd] Cu Cable	63.98	0	63.98	0	63.98	100%
C80.427	6mm² 4C PVC ALU PVC [Round Surfd] Cu Cable	102.12	0	102.12	0	102.12	100%
C80.428	7.5mm² PVC Green / Yellow Cu Cable	229.61	0	229.61	0	229.61	100%
C80.429	2.5mm² PVC Green / Yellow Cu Cable	88.8	0	88.8	0	88.8	100%
C80.430	4mm² PVC Green / Yellow Cu Cable	51.3	0	51.3	0	51.3	100%
C80.431	6mm² PVC Green / Yellow Cu Cable	32.96	0	32.96	0	32.96	100%
C80.432	7.5mm² 1C PVC Green / Yellow Cu Cable	20.33	0	20.33	0	20.33	100%
C80.433	4mm² 1C PVC Green / Yellow Cu Cable	13.43	0	13.43	0	13.43	100%
C80.434	2.5mm² 1C PVC Green / Yellow Cu Cable	8.26	0	8.26	0	8.26	100%

Signature of tenderer from Annex B

16/06/2022

400	16888	0	0
400	25592	0	0
400	40848	0	0
520	119397.2	0	0
800	71040	0	0
768	39398.4	0	0
416	13711.36	0	0
3072	62453.76	0	0
7382	99274.56	0	0
24005	198281.3	0	0

(C20) Total tender value

6 645 549.96

(C21) Total Exempt Imported content

0.00

(C22) Total Tender value net of exempt Imported content

6 645 549.96

(C23) Total Imported content	0.00
(C24) Total local content	6 645 549.96
(C25) Average local content % of tender	100%

CITY OF CAPE TOWN**WATER AND SANITATION****CONTRACT NO. 295Q/2021/22****CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT****SCHEDULE 22.7.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).
The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.7.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold
---	------------------------------

Solar PV Components:

Laminated PV Modules	15%
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3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?

(Tick applicable box)

YES	☐	NO	☒
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- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.1: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),

do hereby declare, in my capacity as [REDACTED]

of H3TSV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	<u>R1030956</u>
Imported content (x), as calculated in terms of SATS 1286:2011	<u>R 0</u>
Stipulated minimum threshold for local content (paragraph 2 above)	<u>15%</u>
Local content %, as calculated in terms of SATS 1286:2011	<u>100%</u>

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: [REDACTED]

DATE: 29/09/22

WITNESS No. 1

DATE: 29-09-22

WITNESS No. 2

DATE: 29-09-22

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	295Q/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	Laminated PV Modules
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	

EU GBP

Tender item no's	List of items	Calculation of local content			
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value- net of exempted imported content	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)
B9.1	330W Solar PV panel with all connections, equal or approved similar to MONO PERC (Jinko 80Mn-V)	2680.04	0	2680.04	100%

Signature of tenderer from Annex B

Date:

2/09/22

Tender summary			
Anticipated Annual Tender Qty (m)	Total tender value	Total exempted imported content	Total imported content
(C16)	(C17)	(C18)	(C19)
84	225123.36	0	0
(C20) Total tender value 225123.36			
(C21) Total Exempt imported content 0			
(C22) Total Tender value net of exempt imported content 225123.36			
(C23) Total imported content 0			
(C24) Total local content 225123.36			
(C25) Average local content % of tender 100%			

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.7.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Solar PV Components:

Module Frame 65%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?

(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of H&I JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R <u>N/A</u>
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	<u>65%</u>
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 29/09/22

WITNESS No.

DATE: 29-09-22

WITNESS No.

DATE: 29-09-22

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.7.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Solar PV Components:

DC Combiner 65%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?

(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.3: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continue to update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),

do hereby declare, in my capacity as Authorised Signatory (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R 1030 956 521-70
Imported content (x), as calculated in terms of SATS 1286:2011	R 0
Stipulated minimum threshold for local content (paragraph 2 above)	65%
Local content %, as calculated in terms of SATS 1286:2011	100%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE:

WITNESS No. 1

DATE:

WITNESS No. 2

DATE:

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	2950/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	DC Combiner
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	
(C7)	Specified local content %	

EU GBP

Pula

Tender Item no's	List of items	Calculation of local content			
		Tender price per UoM (excl VAT) (C10)	Exempted Imported value (C11)	Tender value- net of exempted imported content (C12)	Imported value (C13)
(C8)	(C9)				
BB.7	Cluster Controller with all accessories to complete installation equal or approved similar to SMA	18854.07	0	18854.07	0

Tender summary			
Anticipated Annual Tender Qty (m) (C16)	Total tender value (C17)	Total exempted imported content (C18)	Total Imported content (C19)
1	18854.07	0	0

Signature of tenderer from Annex B



Date: 21/09/22

(C20) Total tender value	18854.07
(C21) Total Exempt imported content	0
(C22) Total Tender value net of exempt imported content	18854.07
(C23) Total Imported content	0
(C24) Total local content	18854.07
(C25) Average local content % of tender	100%

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2). The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.7.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Solar PV Components:

Mounting Structure 90%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?

(Tick applicable box)

YES		NO	☒
-----	--	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.4: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED] (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R 1 030 956 521-74
Imported content (x), as calculated in terms of SATS 1286:2011	R 0
Stipulated minimum threshold for local content (paragraph 2 above)	90%
Local content %, as calculated in terms of SATS 1286:2011	100%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 29/09/22

WITNESS No. 1

DATE: 29.09.22

WITNESS No. 2

DATE: 29.09.22

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	29SQ/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	Mounting Structure
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	

EU GBP

Tender item no's	List of items	Calculation of local content				Local content % (per item)
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value - net of exempted imported content	Imported value	
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C15)
B8.3	Corrosion resistant PV array fixed inclination (1 panel single landscape) complete with drilled footings and all minor materials for the amount of 80 x PV panel installations	2238.63	0	2238.63	0	100%

Signature of tenderer from Annex B

Date:

29/01/22

Anticipated Annual Tender Qty (m)	Total tender value	Tender summary	
		Total exempted imported content	Total imported content
(C16)	(C17)	(C18)	(C19)
23	51488.49	0	0

(C20) Total tender value 51488.49

(C21) Total Exempt imported content 0

(C22) Total Tender value net of exempt imported content 51488.49

(C23) Total imported content

(C24) Total local content

(C25) Average local content % of tender

0
51488.49
100%

CITY OF CAPE TOWN**WATER AND SANITATION****CONTRACT NO. 295Q/2021/22****CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT****SCHEDULE 22.7.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.7.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Solar PV Components:

Inverter 40%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES	☒	NO	☐
-----	-------------------------------------	----	--------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	14.5881
Pound Sterling	19.1731
Euro	15.9250
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.7.5: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, _____ (full names),
do hereby declare, in my capacity as _____
of _____ (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R 1030 956 521-74
Imported content (x), as calculated in terms of SATS 1286:2011	R 354 83.08
Stipulated minimum threshold for local content (paragraph 2 above)	40%
Local content %, as calculated in terms of SATS 1286:2011	40%

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:

WITNESS No. 1

WITNESS No. 2

DATE: 29/09/22DATE: 29-09-22DATE: 29-09-22

SATS 1286.2011

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	295Q/2021/22
(C2)	Tender description:	Build - Upgrade and expansion Potsdam WWTP
(C3)	Designated product(s)	Inverter
(C4)	Tender Authority:	City of Cape Town
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula
(C7)	Specified local content %	

EU GBP

Tender item no's	List of items	Calculation of local content				Local content % (per item)
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C15)
B9.5	25kW Inverter (string type IP67) complete with DC Isolators, Latest Inverter Firmware, South African Grid Code Settings equal or approved similar to SMA (SUNNY TRIPOWER 25000TL-30)	59138.46	0	59138.46	18483.1	69%

Signature of tenderer from Annex B



06 October 2022

Date:

Anticipated Annual Tender Qty (m)	Total tender value	Tender summary	
		Total exempted imported content	Total Imported content
(C16)	(C17)	(C18)	(C19)
1	59138.46	0	18483.1

(C20) Total tender value 59138.46

(C21) Total Exempt imported content 0

(C22) Total Tender value net of exempt imported content 59138.46

(C23) Total Imported content

(C24) Total local content

(C25) Average local content % of tender

18483.1
40655.36
69%

CITY OF CAPE TOWN**WATER AND SANITATION****CONTRACT NO. 295Q/2021/22****CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT****SCHEDULE 22.8 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).
The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dtic's official website, <http://www.thedtic.gov.za>.

This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedtic.gov.za> at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

SCHEDULE 22.8: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold
Cement:	
Cem I	100%
Cem II	100%
Cem III	100%
Cem IV	100%
Cem V	100%
Masonry cement	100%

3. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES	NO	☒
-----	----	-------------------------------------

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the above General Conditions must be the rate(s) published by Nedbank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Suppliers must submit proof of the Nedbank rate(s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dtic must be informed accordingly in order for the dtic to verify and in consultation with the CCT provide directives in this regard.

SEE ATTACHED LETTER

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 22.8: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd) LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 295Q/2021/22

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):

NB

CITY OF CAPE TOWN

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedtic.gov.za>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update the actual values for the duration of the contract.

I, the undersigned, [REDACTED] (full names),
do hereby declare, in my capacity as [REDACTED]
of W3I JV (name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
 - (ii) the local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C.

Refer To Attachment

Bid price, excluding VAT (y)	<u>R1030956521.74</u>
Imported content (x), as calculated in terms of SATS 1286:2011	<u>R 0</u>
Stipulated minimum threshold for local content (paragraph 2 above)	<u>100%</u>
Local content %, as calculated in terms of SATS 1286:2011	<u>100%</u>

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality / Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Procurement Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: [REDACTED]

WITNESS No. 1

WITNESS No. 2

DATE: 10.06.22DATE: 10.06.22DATE: 10.06.22

H&I JV



07 June 2022

CONTRACT NO. 295Q/2021/22

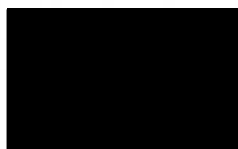
**CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND
EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT**

TENDERER: H&I JV

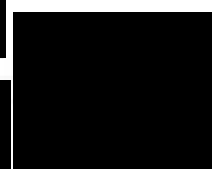
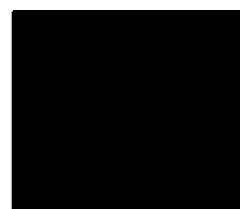
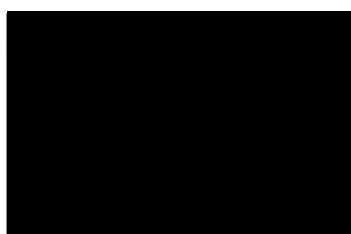
SCHEDULE 27: INFORMATION TO BE PROVIDED WITH THE TENDER (f)

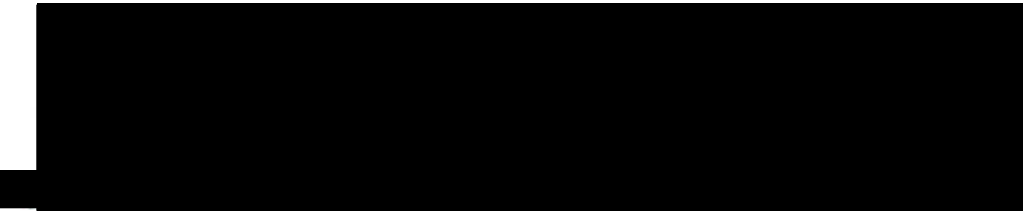
We hereby certify that only local cement will be used in this project.

This letter is submitted in lieu of Annex C in Returnable Schedule 22.8

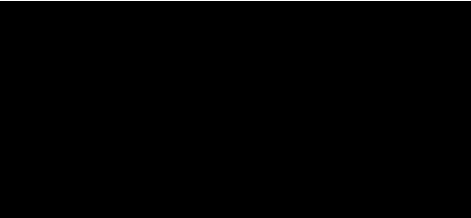


Authorised Signatory

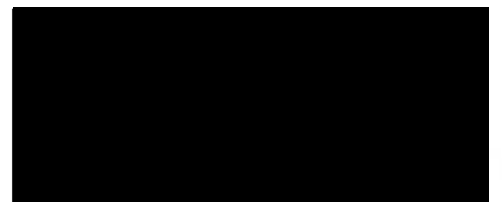




	USD-ZAR	EUR-ZAR	GBP-ZAR	ZAR-CHF	ZAR-JPY	ZAR-AUD	ZAR-BWP	ZAR/INR	ZAR/SGD
16-Mar-22	15.0689	16.5432	19.6800	0.0624	7.8503	0.0918	0.7726	5.0649	0.09046
17-Mar-22	14.9476	16.5055	19.6815	0.0630	7.9581	0.0917	0.7764	5.0743	0.09079
18-Mar-22	14.9264	16.5366	19.6416	0.0628	7.9688	0.0906	0.7763	5.1003	0.09082
21-Mar-22	14.9264	16.5366	19.6416	0.0628	7.9688	0.0906	0.7763	5.1003	0.09082
22-Mar-22	14.9603	16.4203	19.6578	0.0627	8.0567	0.0905	0.7771	5.0982	0.09083
23-Mar-22	14.8203	16.3453	19.6831	0.0631	8.1796	0.0905	0.7806	5.1384	0.09164
24-Mar-22	14.7549	16.2110	19.4735	0.0632	8.2441	0.0907	0.7850	5.1739	0.09204
25-Mar-22	14.5402	16.0397	19.2158	0.0638	8.3808	0.0914	0.7891	5.2401	0.09329
28-Mar-22	14.6302	16.0254	19.2446	0.0639	8.4364	0.0910	0.7872	5.2125	0.09299
29-Mar-22	14.6657	16.1388	19.2253	0.0637	8.4300	0.0908	0.7860	5.1822	0.09275
30-Mar-22	14.4898	16.1099	19.0193	0.0641	8.4211	0.0917	0.7903	5.2324	0.09349
31-Mar-22	14.4851	16.1886	19.0305	0.0638	8.3972	0.0924	0.7894	5.2311	0.09341
01-Apr-22	14.5937	16.1474	19.1437	0.0633	8.4041	0.0918	0.7874	5.2064	0.09293
04-Apr-22	14.6326	16.1582	19.2097	0.0633	8.3864	0.0910	0.7866	5.1629	0.09274
05-Apr-22	14.5566	15.9839	19.1332	0.0636	8.4295	0.0902	0.7912	5.1839	0.09313
06-Apr-22	14.7122	16.0209	19.2202	0.0635	8.4261	0.0897	0.7870	5.1386	0.09246
07-Apr-22	14.6816	16.0194	19.2153	0.0636	8.4388	0.0911	0.7872	5.1656	0.09265
08-Apr-22	14.7532	16.0188	19.2325	0.0634	8.4196	0.0907	0.7864	5.1389	0.09238
11-Apr-22	14.6697	15.9645	19.0735	0.0639	8.5484	0.0919	0.7894	5.1796	0.09320
12-Apr-22	14.5823	15.8286	18.9774	0.0640	8.6310	0.0924	0.7916	5.2228	0.09365
13-Apr-22	14.4846	15.6790	18.8059	0.0645	8.7127	0.0930	0.7950	5.2635	0.09426
14-Apr-22	14.5881	15.9250	19.1731	0.0640	8.5897	0.0920	0.7940	5.2163	0.09279
15-Apr-22	14.5881	15.9250	19.1731	0.0640	8.5897	0.0920	0.7940	5.2163	0.09279
18-Apr-22	14.5881	15.9250	19.1731	0.0640	8.5897	0.0920	0.7940	5.2163	0.09279
19-Apr-22	14.7022	15.8570	19.1232	0.0644	8.7286	0.0923	0.7899	5.1897	0.09282
20-Apr-22	14.9589	16.1695	19.4763	0.0637	8.6112	0.0902	0.7831	5.1100	0.09139
21-Apr-22	15.0691	16.4409	19.7089	0.0629	8.5042	0.0892	0.7794	5.0541	0.09036
22-Apr-22	15.5418	16.8278	20.1499	0.0615	8.2361	0.0880	0.7649	4.9177	0.08778
25-Apr-22	15.6438	16.7817	19.9287	0.0613	8.1943	0.0894	0.7665	4.9047	0.08803



5.5 Price Basis for Resources



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 23: PRICE BASIS FOR IMPORTED RESOURCES

[illegible]

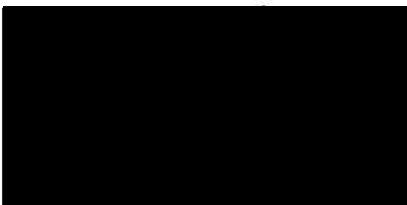
* State Customs Duty Tariff Reference for each item

NOTA:

Note that any Resources not inserted in this schedule / supplied in South Africa for the purposes of Contract Price Adjustment. The BASE DATE referred to in column (B) will be 7 calendar days before tender closing.

SIGNED ON BEHALF OF TENDERER: ...

5.6 Preference Schedule



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

CIVIL, BUILDING AND DEMOLITION WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

SCHEDULE 25: PREFERENCE SCHEDULE TO BE USED IN TERMS OF THE AMENDED CODES FOR MEASURING BROAD-BASED BLACK ECONOMIC EMPOWERMENT IN THE CONSTRUCTION SECTOR (2017)**Preference Schedule where preferences are granted in respect of B-BBEE contribution****1 Definitions**

The following definitions shall apply to this schedule:

All applicable taxes: Includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

Applicable Code: Shall be either the Amended Codes of Good Practice (published on 11 October 2013) or Sector Specific Codes as indicated in the tender conditions

B-BBEE: Broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act.

B-BBEE status level of contributor: The B-BBEE status of an entity in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.

Bid (Tender): A written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals.

Black Designated Groups: The meaning assigned to it in the codes of good practice issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003, (Act 53 of 2003).

Black People: The meaning assigned to it in section 1 of the Broad-Based Black Economic Empowerment Act.

Broad-Based Black Economic Empowerment Act: The Broad-Based Black Economic Empowerment Act, Act 53 of 2003.

Consortium or Joint Venture: An association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

Contract: The agreement that results from the acceptance of a bid by an organ of state.

Co-operative: A co-operative registered in terms of section 7 of the Co-operatives Act, 2005 (Act no. 14 of 2005).

Designated Group: Black designated groups, black people, women, people with disabilities or small enterprises as defined in section 1 of the National Small Enterprises Act, 1996 (act no. 102 of 1996)

Designated Sector: A sector, sub-sector or industry or product that has been designated in terms of any relevant regulation of the Preferential Procurement Regulations, 2017.

Exempted Micro Enterprise (EME): An exempted micro enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.

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

Functionality: The ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.

Military Veteran: The meaning assigned to it in section 1 of the Military Veterans Act, 2011 (Act No. 18 of 2011).

National Treasury: The meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 18 of 1999).

Non-firm prices: All prices other than "firm" prices.

Person: Includes a juristic person.

People with disabilities: The meaning assigned to it in section 1 of the Employment equity Act, 1998 (Act No. 55 of 1998).

Price: Includes all applicable taxes less unconditional discounts.

Proof of B-BBEE status level of contributor: The B-BBEE status level certificate issued by an authorised body or person, a sworn affidavit as prescribed by the B-BBEE Codes of good Practice or any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act.

Qualifying Small Enterprise (QSE): A qualifying small enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.

Rand Value: means the total estimated value of a contract in Rand, calculated at the time of bid invitations.

Rural Area: A sparsely populated area in which people farm or depend on natural resources, including villages and small towns that are dispersed through the area or an area including a large settlement which depends on migratory labour and remittances and government social grants for survival, and may have a traditional land tenure system.

Stipulated Minimum Threshold: The minimum threshold stipulated in terms of any relevant regulation of the Preferential Procurement Regulations, 2017.

Sub-contract: The primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract.

The Act: The Preferential Procurement Policy Framework Act, 2000 (Act No 5 of 2000).

Total Revenue: Bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007.

Township: An urban living area that at any time from the late 19th century until 27 April 1994, was reserved for black people, including areas developed for historically disadvantaged individuals post 27 April 1994.

Treasury: The meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 18 of 1999).

Trust: The arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person.

Trustee: Any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

Youth: The meaning assigned to it in section 1 of the National Youth Development Agency Act, 2008 (Act No. 54 of 2008).

2 Conditions associated with the granting of preferences

A supplier that is granted a preference undertakes to:

- 1) accept that the number of preference points allocated will be based on the B-BBEE status level of contributor of the supplier as at the closing date for submission of quotation offers;
- 2) not sub-contract more than 25% of the value of the contract to sub-contractors that do not have an equal or higher B-BBEE status level of contributor than the supplier, unless the intended sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works or unless otherwise declared in terms of Section 5 below;
- 3) accept that a contract may not be awarded if the price offered is not market related;
- 4) accept the sanctions set out in Section 3 below should Condition 2(2) be breached, or should the tenderer have submitted any false information regarding its B-BBEE status level of contributor, local production and content, or any other matter required in terms of this bid that will affect, or has affected the bid evaluation;
- 5) accept that, in order to qualify for preference points, it is the responsibility of the supplier to submit documentary proof of its BBEE level of contribution in accordance with the Codes of Good Practice, 2013, to the CCT at the Supplier Management Unit located within the Tender Distribution Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5);
- 6) accept that, further to 5) above, Consortia/Joint Ventures will qualify for preference points, provided that the entity submits the relevant certificate/scorecard in terms of the Preferential Procurement Regulations, 2017. Note that, in the case of unincorporated entities, a verified scorecard in the name of the consortium/Joint Venture must be submitted with the quotation (attached to this schedule);
- 7) accept that if it is found that, in the performance of the contract, the participation of the various partners in a Consortium/ Joint Venture differs substantially from that upon which the consolidated scorecard submitted in terms of 5) above was based, and the impact of which is that the Joint Venture would not have been awarded the contract in terms of the actual B-BBEE level of contribution achieved by the Joint Venture, then a financial penalty shall be applied (in addition to any other remedies that the CCT may have) in accordance with Section 3 below;

- 8) accept that the CCT will verify the B-BBEE level of contributor of the supplier as at the closing date for submission of tender offers, to determine the number of preference points to be awarded to the supplier. In the case of Consortiums/Joint Ventures which tender as unincorporated entities, a verified scorecard submitted with the tender and valid as at the closing date will be used to determine the number of preference points to be awarded to the supplier;
- 9) accept that, notwithstanding 8) above, a supplier will not be awarded points for B-BBEE status level of contributor if he indicates in his tender that he intends sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the points that the supplier qualifies for unless the intended sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works;
- 10) accept that any subcontracting arrangements after the award of the tender may only be entered into upon the prior approval of the City of Cape Town; and
- 11) immediately inform the City of Cape Town of any change that may affect the tenderer's B-BBEE level of contribution upon which preference points will be or have been allocated.

3 Sanctions relating to breaches of preference conditions

The sanctions for breaching the conditions associated with the granting of preferences are:

- 1) disqualify the supplier from the quotation process;
- 2) recover costs, losses or damages the CCT has incurred or suffered as a result of the supplier's or contractor's conduct;
- 3) cancel the contract in whole or in part and claim any damages which the CCT has suffered as a result of having to make less favourable arrangements due to such cancellation;
- 4) restrict the supplier, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from the CCT for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied and inform the National Treasury accordingly;
- 5) forward the matter for criminal prosecution; and/or
- 6) financial penalties payable to the CCT, as set out below.

Financial penalty for breach of Condition 2 in Section 2 above:

The penalty to be applied for sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the preference points that the supplier qualified for (unless so declared or proven to be beyond the control of the supplier, or the sub-contractors are EMEs that have the capability and ability to execute the sub-contract works) shall be as provided for in the following formula:

$$\text{Penalty} = 0.5 \times E(\%) \times P^*$$

where:

E = The value of work (excluding VAT) executed by sub-contractors that do not qualify for at least the preference points that the supplier qualified for, expressed as a percentage of P*, less 25%

P* = Value of the contract

Financial penalty for breach in terms of condition 6 in Section 2 above:

The penalty to be applied where, in the performance of the contract, the participation of the various partners in a Consortium/ Joint Venture differs substantially from that upon which the consolidated scorecard submitted in terms of 5) in Section 2 above was based, and the impact of which is that the Joint Venture would not have been awarded that contract in terms of the actual B-BBEE level of contribution achieved by the Joint Venture, shall be as provided for in the following formula:

$$\text{Penalty} = 5/100 \times (B-BBEE^* - B-BBEE^1) \times P^*$$

where:

B-BBEE* = The B-BBEE level of contribution that is achieved, determined in accordance with the actual participation of the Joint Venture partners in the performance of the contract

B-BBEE¹ = The B-BBEE level of contribution that was used to determine the number of preference points granted to the Joint Venture at the time of quotation evaluation

P* = Value of the contract

Financial penalty for breach in terms of condition 10 in Section 2 above:

The penalty to be applied where the supplier fails to disclose subcontracting arrangement after the award of the tender is up to a maximum of 10% of the value of the contract.

4 Level of Contribution in respect of enterprise status or structure of the tendering entity (the supplier)
In the interest of transparency, suppliers are required to complete Table 1: Level of Contribution below applicable to the Code they wish to be evaluated against.

Table 1: Level of Contribution: Amended Codes for Measuring Broad-Based Black Economic Empowerment in the Construction Sector.

Type of B-BBEE Contributor	Status (tick box(es) below as applicable)
Exempted Micro Enterprise (EME), 100% black-owned	☐
Exempted Micro Enterprise (EME), at least 51% but less than 100% black-owned	☐
Exempted Micro Enterprise (EME), at least 30% but less than 51% black-owned	☐
Exempted Micro Enterprise (EME), less than 30% black-owned	☐
Exempted Micro Enterprise B-BBEE Status Level of Contributor ¹ ☐	☐
Qualifying Small Enterprise B-BBEE Status Level of Contributor ¹ ☐	☐
Qualifying Small Enterprise (QSE), 100% black-owned	☐
Qualifying Small Enterprise (QSE), at least 51% but less than 100% black-owned	☐
Qualifying Small Enterprise (QSE), less than 51% black-owned	☐
Verified B-BBEE contributor B-BBEE Status Level of Contributor ¹ 1	☒
Non-compliant contributor	☐

¹If it is indicated that the company/firm/entity is a verified B-BBEE contributor, then the verified status level of contributor must be inserted in the box provided (insert a number from 1 to 8 as applicable)

5 Declarations

1) With reference to Condition 8 in Section 2 above, the supplier declares that:

I/we hereby forfeit my preference points because I/we DO intend sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the points that I/we as supplier qualify for or are not exempted micro enterprises that have the capability and ability to execute the sub-contract works

☐
Note:

Tenderers who do not tick this box will be allocated preference points but the sanctions relating to breaches of preference conditions in Section 3 will be applicable if the tenderer contravenes the conditions in Section 2.

2) The undersigned, who warrants that he/she is duly authorized to do so on behalf of the supplier, hereby certifies that the preference claimed based on the B-BBEE status level of contribution indicated in Table 1, qualifies the supplier, subject to condition 8 in Section 2 above, for such preference claimed, and acknowledges that:

- (i) the information furnished is true and correct;
- (ii) the preference claimed is in accordance with the conditions of this schedule;
- (iii) the supplier may be required to furnish documentary proof to the satisfaction of the CCT that the BBBEE level of contributor as at the closing date is correct; and
- iv) he/she understands the conditions under which preferences are granted, and confirms that the supplier will satisfy the conditions pertaining to the granting of preferences.

Signature

Date

18.05.22

Name (PRINT)

(For and on behalf of the Supplier (duly authorised))

For official use.

SIGNATURE OF CITY OFFICIALS AT
TENDER OPENING

1.

2.

3.



B-BBEE Verification Certificate

H&I JV

Entity Name	Address	Reg. Number	Vat Number
HAW & INGLIS CIVIL ENGINEERING (PTY) LTD	[REDACTED]	[REDACTED]	[REDACTED]
H&I CONSTRUCTION (PTY) LTD			
H AND I CIVIL AND BUILDING (PTY) LTD			

Consolidated compliance data has been evaluated and weighted in accordance with the Joint Venture Agreement between the above-mentioned entities for the construction of a project known as –
Tender No. 295Q/2021/22: The design – civil, building and demolition works for the upgrade and expansion of Potsdam Wastewater Treatment Plant.

This certificate has been issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act 53 of 2003, amended in 2013.

B-BBEE Status:
Level One Contributor

Black ownership
Black women ownership

Sector:

Effective Date:
Revision Date: (if applicable)
Expiry Date:
Verification Number:
Technical Signatory:

B-BBEE Procurement Level:
135% Recognition

32.70%
6.30%

Construction Gazette 41287

02 June 2022
N/A
01 June 2023

I certify that this document is a true copy of the original which was examined by me and that, from my observations, the original has not been altered in any manner.

SIGNATURE: [REDACTED] Quintin Conrad Oosthuizen

CPA MEMBER OF OATHS

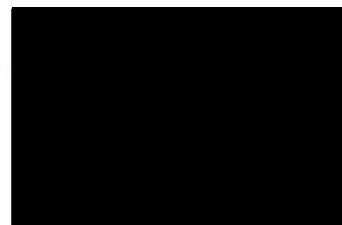
Designation: Chartered Accountant CA(SA)

Date: 10-06-22
Place: Hillcrest Estate Racecourse Road Durbanville 7551

This certificate is valid for 12 months from the original date of issue



5.7 Technical Data Sheets



C1: Biological Oxygen Demand Measuring Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C1: Biological Oxygen Demand Measuring Apparatus			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		HACH	✓
Type			
Model		BODTrack TM II	✓
Country of origin			
Key operational data			
Range		Selectable: 0 to 35, 0 to 70, 0 to 350, or 0 to 700 mg/L BOD (Biochemical Oxygen Demand)	✓
Capacity		Six 492-mL bottles	✓
Precision		For a standard containing 150 mg/L each of glucose and glutamic acid, testing 44 samples obtained a mean of 235 mg/L BOD with a 95% confidence limit of distribution of 11 mg/L (or	✓
Drift		< 3 mg/L BOD in 5 days	✓
Resolution		1 mg/L BOD	✓
External Power Supply		Input: 110 to 240 V, 50/60 Hz Output: 24 V, UL CSA, and TUV approved	✓
Operating Temperature		20°C (68°F)	✓
Storage Temperature		0 to 40°C (104°F)	✓
Dimensions		28.9 x 26 x 9.8 cm (11.4 x 10.3 x 3.9 in.)	✓
Weight		4 kg (8.8 lbs.)	✓

TDS C1-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

BODTrak™ II Apparatus

Biochemical Oxygen Demand-BOD

Features and Benefits

Decrease Total Test Time

The Hach BODTrak II Apparatus is easy to set up and allows for quick sample preparation for BOD (Biochemical Oxygen Demand) analysis. Simply pour a measured sample of wastewater and nutrient buffer into each of six BODTrak II bottles. Connect the bottles to the instrument's pressure sensors, select a measurement range, and incubate. User calibration of the instrument is not necessary.

Faster than Dilution Method

Constant stirring in the bottles supplies additional oxygen to the sample and provides bacteria with greater exposure to food. This results in more rapid respiration and consumption of oxygen. Results comparable to the dilution method (BOD5) can be achieved in only two to three days. Use these results for process control.[†]

[†]The BODTrak II method is not approved by the USEPA for NPDES reporting purposes.

BOD Results that are Easy to Monitor

The BODTrak II Apparatus has a large graphic display that continuously updates results. View the results at any time during the test. The instrument plots a curve of BOD over time. To review the data in detail, simply move a cursor along the curve to display results for any stored data point.

Standalone Operation

The apparatus automatically ends the test and stores the results after the chosen test length of five, seven, or ten days. This eliminates the need to be present when the test is complete.

DO Probes and Titrations are Eliminated

The BODTrak II Apparatus measures BOD using the respirometric method. Each sample bottle is connected to a pressure sensor in a closed system. As bacteria consume oxygen in the sample, the pressure in the bottle headspace drops. This pressure change correlates directly to BOD. By measuring pressure changes instead of dissolved oxygen levels, the need for probes and titrations is eliminated.



Use the Hach BODTrak II Apparatus for unattended, fast BOD (Biochemical Oxygen Demand) analysis. Features include delayed start for temperature stabilization, continuous data readout, and automatic shut-off.

Improvements of the BODTrak II Apparatus

The BODTrak II Apparatus is a re-engineered version of Hach's BODTrak Apparatus. Improvements to the old system include:

- Greaseless bottle seals
- Larger graphic display screen
- Improved stirring
- Smaller footprint
- Improved procedures with expanded options
- Bottle fences to prevent tipping of bottles and provide tubing management during storage
- Auto-switching power supply
- Improved temperature control

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications*

Range

Selectable: 0 to 35, 0 to 70, 0 to 350, or 0 to 700 mg/L BOD (Biochemical Oxygen Demand)

Capacity

Six 492-mL bottles

Precision

For a standard containing 150 mg/L each of glucose and glutamic acid, testing 44 samples obtained a mean of 235 mg/L BOD with a 95% confidence limit of distribution of 11 mg/L (or a range of 224 to 246 mg/L BOD)

Drift

< 3 mg/L BOD in 5 days

Resolution

1 mg/L BOD

External Power Supply

Input: 110 to 240 V, 50/60 Hz
Output: 24 V, UL CSA, and TUV approved

Operating Temperature

20°C (68°F)

Storage Temperature

0 to 40°C (104°F)

Dimensions

28.9 x 26 x 9.8 cm (11.4 x 10.3 x 3.9 in.)

Weight

4 kg (8.8 lbs.)

*Specifications subject to change without notice

Ordering Information

2952400 BODTrak II Apparatus, 115/230 Vac; includes North American and continental European power cords, auto-switching power supply, six bottles, six magnetic stir bars, six seal cups, spatula scoop, 50 BOD Nutrient Buffer Pillows, and potassium hydroxide pellets

Reagents

2962266 BOD Nutrient Buffer Pillows; 300 mL, 50/pk

31425 Potassium Hydroxide Pellets

1486610 BOD Standard Solution; for manometric method, glucose and glutamic acid, 3000 mg/L, 10 mL Voluette® Ampoules, 16/pk

Replacement Parts

714421 Bottle, BODTrak II; glass, amber, 6/pk

2952500 Power Supply; auto-switching

1801000 Power Cord, North American

4683600 Power Cord, continental European

2959500 Seal Cup

2959400 Stir bar, BODTrak II

1225700 Spatula Scoop

2959300 RS232 Cable; for data transfer to PC

Optional Accessories

2960100 Printer; Citizen PD-24 with cable, 100-240 Vac

2616200 Incubator, BOD, 110 Vac; compact, model 205

2616202 Incubator, BOD, 220/240 Vac; compact, model 205

2270800 Standard Methods for the Examination of Water and Wastewater

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

For current price information, technical support, and ordering assistance, contact the Hach office or distributor serving your area.



Be Right™

C2: Moisture Analyser

Item description	Units	Technical Particulars	
		Specified	Offered
C2: Moisture Analyzer			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		A&D	✓
Type			
Model		MX-50	✓
Country of origin			
Key operational data			
Measurement Method		400W straight halogen lamp heating system with SRA filter and SHS weighing technology	✓
Max. Sample Weight Capacity		51g	✓
Weight Resolution		0.001g	✓
Moisture Content Display		0.01%/0.1%	✓
Moisture Content Accuracy over 1g (Standard deviation)		0.10%	✓
Moisture Content Accuracy over 5g (Standard deviation)		0.02%	✓
Heating Technology		Halogen lamp (Straight type, 400 Watt max, 5000 hours)	✓
Drying Temperature (1°C increments)		50 - 200°C	✓
Memory of Measurement Programs		20 sets	✓
Measurement Programs		Standard Mode/Automatic Mode/Quick Mode/Timer Mode/Manual Mode	✓
Measurement Mode		Moisture content (Wet or Dry base) /Dry content/Ratio/Weight	✓
Heating Mode		Standard / Quick / Step /Ramp	✓
Display Type		Large VFD	✓
Interface		RS-232C standard	✓
Data Memory Function		100	✓
Operating Temperature		5-40°C (41-104°F) less than 85%RH	✓
GLP/ GMP/ ISO		Available	✓

TDS C2-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T22
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Self Check Function		Standard	✓
Communication Software		WinCT-Moisture standard	✓
Sample Pan Size		Ø85mm	✓
Power		AC 100V to 120V (3A) or AC 200V to 240V (1.5A), 50/60 Hz, Approx. 400W	✓
Physical Dimension/ Weight		215(W) x 320(D) x 173(H) / Approx. 6kg	✓
Standard Accessories		Sample Pans (20 for MS/MX/MF 10 for ML), Pan Handles (2 for MS/MX/MF, 1 for ML), Tweezers (for MS/MX/MF), Spoon (for MS/MX/MF), Test Sample (30g of Sodium Tartrate Dihydrate for MS/MX/MF), CD-ROM (WinCT- Moisture for MS/MX, WinCT for MF), Glass Fiber Sheet (for MS/MX/MF), RS-232C Cable (for MS/MX), Display Cover, Dust Cover (for MS/MX/MF), Instruction Manual, Quick Reference Card, Power Cable, Fuse	✓

Moisture Analyzers

MS-70/MX-50
MF-50/ML-50



AND ...Clearly a Better Value
A&D Company, Limited
<http://www.aandd.jp>



Select the best for your application

A&D's Moisture Analyzers MS-70/MX-5

Fast and uniform heating with halogen lamp and innovative SRA technology

Straight halogen lamp and uniquely designed SRA (Secondary Radiation Assist) filter gives shorter measurement time, thanks to fast and uniform heating

High repeatability

With SHS (Super Hybrid Sensor) featured as the weight sensor, ultra accurate moisture content determination is possible based on high precision weighing of even a small sample

High moisture content measurement

MS-70 measures the moisture content at 0.001% resolution suitable for low moisture content samples as well as Karl Fischer method, yet requires no special knowledge or training and produces no harmful waste

Standard WinCT-Moisture (for MS & MX) for real-time graph displaying

WinCT-Moisture is an original software application designed to display a graph of moisture content rate change while measuring with a connected PC

Sodium Tartrate Dihydrate comes as standard for accuracy checking

Sodium Tartrate Dihydrate is a chemical material that has stable moisture content of $15.66\% \pm 0.1$, and thus is best to use for accuracy check to maintain the reference value of the analyzer

Calibration of the heater temperature (for MS & MX)

With the temperature calibrator (optional), calibration result can be output in the format that conforms to GLP, GMP, ISO

Memory function

According to sample up to 20 suitable measurement conditions can be stored and recalled, which saves time and prevents the user from making a mistake when setting (10 for MF & 5 for ML)
For measurement result, up to 100 data can be stored and output at once (50 for MF & 30 for ML)

Five measurement programs

Five choices of measurement programs, Standard, Automatic, Quick, Timer, and Manual Mode are provided
Standard Mode : Just measurement accuracy, HI, MID or LO needs to be set
Automatic Mode : Ends measurement when moisture content changes at a rate less than the set rate
Quick Mode : Begins heating samples at 200°C for 3 minutes, then is the same as Automatic Mode
Timer Mode : Continues measurement for a set duration of time (1~60mins.: by 1min, 60~480mins.: by 5mins.)
Manual Mode : STOP button should be pressed to end measurement (Max. heating time: 480mins.)

Selectable Heating Mode

Choose the heating mode from standard, quick, step and ramp heating modes for the most suitable measurement (ML has Standard and Quick heating modes only)

Clear and easy-to-see, large VFD display

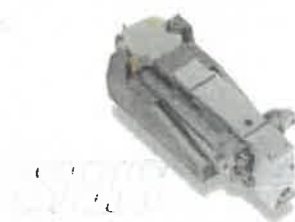
Measurement, setting value, change in moisture content, action status, data number and other important information are clearly displayed

Easy handling of the unit

Ergonomically designed pan handle eliminates mishaps such as burns when moving a hot sample pan into or out of the unit from either side. Wing handle for easy opening and closing of the heater cover

Low maintenance cost assured

The halogen lamp is user replaceable without unit downtime with protective chamber for easy cleaning (Lamp life 5000 hours)



Best moisture analyzer Verification-Test with The Best

50/1M/F-50/1M/L-50



Progress window for heating check

Heating process can be checked through translucent window

Self Check function

Defect check function is available along with temperature control

Quick Reference Card

A convenient operating guide is installed at the bottom of the analyzer

Standard RS-232C

Bi-directional communication with a PC or connects directly to a printer

Conformity to GLP, GMP, GCP and ISO with date/time, ID, calibration data and check record outputs

Data output for daily record management



SRA
Secondary Radiation Analysis

Quick Reference Card

S-HS
Super High Speed

WinCT
MOISTURE

888
VFD display

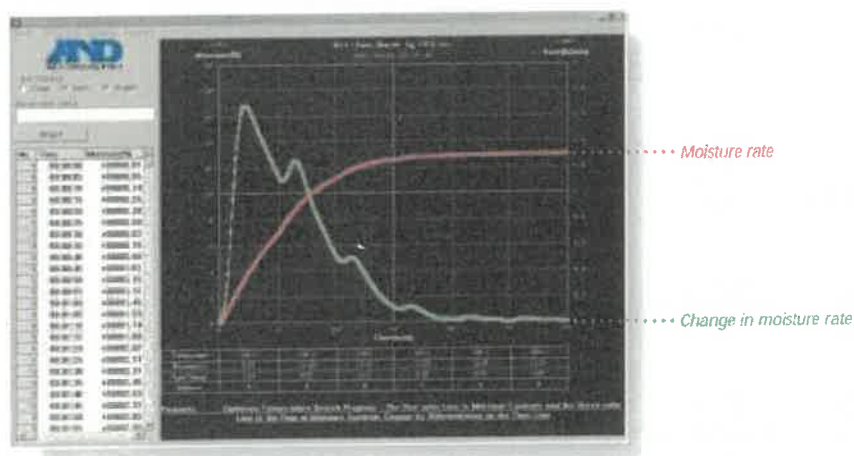
IRS-232C

GLP

WinCT-Moisture

With our WinCT-Moisture software, data measured by the Moisture Analyzers can be easily displayed on your computer.

Effective for determining measurement conditions such as heating temperature, and useful in reducing the time needed for measurement and improving accuracy.



Displays moisture rate changes over time in a graph (RsFig)

Displays changes in moisture rate in real time

Measures moisture rate in a minimum time with excellent accuracy

Heats at the highest temperature without changing the physical properties of the sample and provides measurements with good repeatability

Automatically determines the most suitable heating conditions in a short time (RsTemp)

Automatically changes the heat applied by the set increments and interval time within a range of 30°C-200°C. From the moisture rate change over that time can determine the most suitable heating temperature in one time measurement (*Patent pending)

Shows sample data summary

Provides a data summary for the sample with the results of moisture rate change for the representative material's measurement

Calculates measurement data statistics

Saves the recorded data as a CSV file

Determines other changes to the sample material in addition to moisture rate

Continuously measures changes to the mass in response to heating temperature and detects other material changes besides the moisture rate

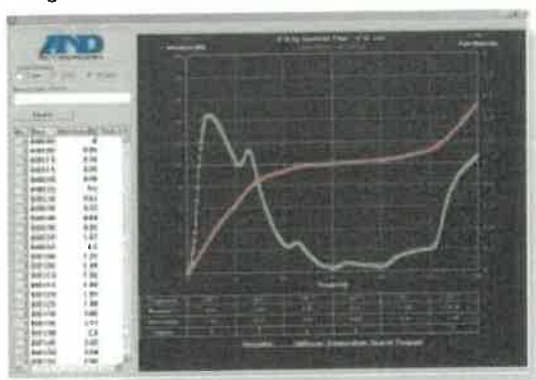
WinCT-Moisture

Measurement example

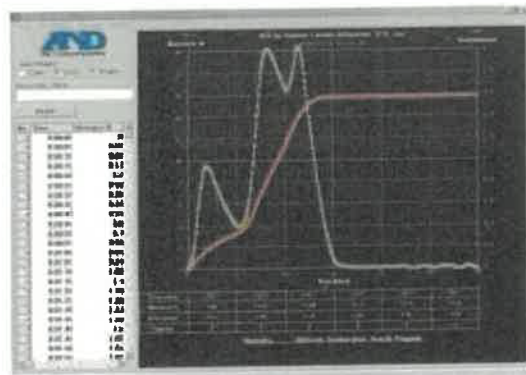
WinCT-Moisture consists of RsTemp software to determine the heating temperature and RsFig software for graphics.

1. Example of measurement using RsTemp software to determine the heating temperature

Automatically changes the heating temperature (by your setting increments and interval time) within a range of 30°C - 200°C. From the rate of change in moisture over time, in one time measurement it can determine the optimum heating temperature for the sample.



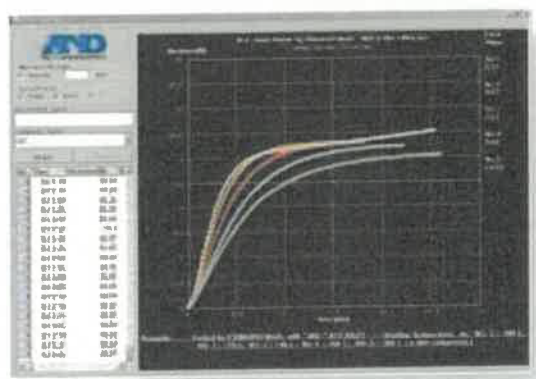
Soybean flour



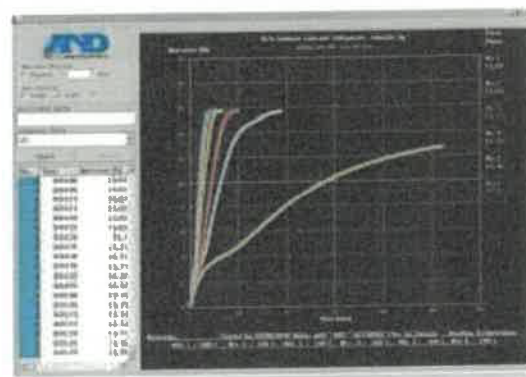
Sodium tartrate dihydrate

2. Example of measurement using RsFig graphic software

Can show moisture rate against time when the heating temperature is changed as well as showing the results of repeated measurements at a certain temperature. From the graph, the highest possible heating range for the sample and the quickest measuring time can be determined.



Corn starch



Sodium tartrate dihydrate

Comparison between MS-70 and the KF (Karl Fischer) method

Example of PET plastic pellet measurement

	Moisture rate		Average measurement time	Measurement conditions
	Average value	Repeatability (standard deviation)		
MS-70	0.298%	0.0045%	6.8 mins	Heating temperature 180°C Test sample 10g Measurements 5 times
KF method	0.307%	0.0065%	19.1 mins	Heating temperature 180°C Test sample 0.3g Measurements 5 times

KF method: a way of measuring moisture content through chemical determination.

With PET plastic and other materials, the MS-70 can measure a drop of moisture content of less than 1%. Specialist knowledge is not necessary to operate the MS-70, and since measurement occurs quickly no harmful waste is produced.

Specifications	MS-70	MX-50	MF-50	ML-50
Measurement Method	400W straight halogen lamp heating system with SRA filter and SHS weighing technology			
Max Sample Weight Capacity	71g	51g		
Weight Resolution	0.0001g	0.001g	0.002g	0.005g
Moisture Content Display	0.001% / 0.01% / 0.1%	0.01% / 0.1%	0.05% / 0.1% / 1%	0.1% / 1%
Moisture Content Accuracy over 1g (Standard Deviation)	0.05%	0.10%	0.20%	0.5%
over 5g	0.01%	0.02%	0.05%	0.1%
Heating Technology	Halogen lamp (Straight type, 400 Watt max, 5000 hours)			
Drying Temperature (1°C increment)	30-200°C	50-200°C		
Memory of Measurement Programs	20 sets		10 sets	5 sets
Measurement Programs	Standard Mode/Automatic Mode/Quick Mode/Timer Mode/Manual Mode			
Measurement Mode	Moisture content (Wet or Dry base) / Dry content / Ratio / Weight			
Heating Mode	Standard / Quick / Step / Ramp			Standard / Quick
Display Type	Large VFD			
Interface	RS-232C standard			
Data Memory Function	100		50	30
Operating Temperature	5-40°C (41-104°F) less than 85%RH			
GLP/GMP/ISO	Available			
Self Check Function	Standard			
Communication Software	WinCT-Moisture standard		WinCT standard	—
Sample Pan Size	Ø 85mm			
Power	AC 100V to 120V (3A) or AC 200V to 240V (1.5A), 50/60 Hz, Approx. 400W			
Physical Dimension/Weight	215(W) x 320(D) x 173(H) / Approx. 6kg			
Standard Accessories	Sample Pans (20 for MS/MX/MF 10 for ML), Pan Handles (2 for MS/MX/MF, 1 for ML), Tweezers (for MS/MX/MF), Spoon (for MS/MX/MF), Test Sample (30g of Sodium Tartrate Dihydrate for MS/MX/MF), CD-ROM (WinCT-Moisture for MS/MX, WinCT for MF), Glass Fiber Sheet (for MS/MX/MF), RS-232C Cable (for MS/MX), Display Cover, Dust Cover (for MS/MX/MF), Instruction Manual, Quick Reference Card, Power Cable, Fuse			

Specifications are subject to change for improvement without notice.

Accessories

AD-8121B	Dot Matrix Compact Printer
AX-MX-31	Sample Pan (ø85mm x 100pcs)
AX-MX-32-1	Glass Fiber sheet (ø70mm x 100 sheets)
AX-MX-32-2	Glass Fiber sheet (ø78mm x 100 sheets)
AX-MX-33	Test Sample (Sodium Tartrate Dihydrate, 30g x 12pcs)
AX-MX-34-120V	Halogen Lamp for AC100V to 120V
AX-MX-34-240V	Halogen Lamp for AC200V to 240V
AX-MX-35	Pan Handle (2pcs)
AX-MX-36	Tweezers (2pcs)
AX-MX-37	Spoon (2pcs)
AX-MX-38	Display Cover (5pcs)
AX-MX-39	Dust Cover
AX-MX-40	RS-232C Cable (2m, 25-9pins)
AX-MX-41	Calibration Mass (20g, equivalent to OIML class F1)
AX-MX-42	WinCT-Moisture (CD-ROM, Application Software for Windows)
AX-MX-43	Certified Temperature Calibrator (only for MS/MX)



AD-8121B
Dot Matrix Compact Printer

AND

...Clearly a Better Value

A&D Company, Limited

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A&D MERCURY PTY. LTD.

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A&D KOREA Limited

Manhattan Bldg. 8F, 36-2 Yoido-dong, Youngdeungpo-gu, Seoul, KOREA
Telephone:[82](2) 780-4101 Fax:[82](2) 782-4280

C3: Spectrophotometer

Item description	Units	Technical Particulars	
		Specified	Offered
C3: Spectrophotometer			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		HACH	✓
Type			✓
Model		DR 3900	
Country of origin			
Key operational data			
Operating Mode		Transmittance (%), Absorbance and Concentration, Scanning	✓
Light Source		Gas-filled Tungsten (visible)	✓
Optical System		Reference beam, spectral	✓
Wavelength Range		320 to 1100nm	✓
Wavelength Accuracy		± 1.5 nm (wavelength range 340 to 900 nm)	✓
Wavelength Reproducibility		± 0.1 nm	✓
Wavelength Resolution		1nm	✓
Wavelength Calibration		Automatic	✓
Wavelength Selection		Automatic, based on method selection	✓
Spectral Bandwidth		5nm	✓
Photometric Measuring Range		± 3.0 Abs (wavelength range 340 to 900 nm)	✓
Photometric Accuracy		5 mAbs at 0.0 to 0.5 Abs 1 % at 0.50 to 2.0 Abs	✓
Photometric Linearity		< 0.5 % to 2 Abs ≤ 0.01 % at >2 Abs with neutral glass at 546 nm	✓
Stray Light		< 0.1 % T at 340 nm with NaNO2	✓
Display		7 TFT WVGA (800 pix x 480 pix)	✓
Data Logger		2000 measured values (Result, Date, Time, Sample ID, User ID)	✓

TDS C3-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Preprogramed Methods		>240	✓
User Programs		100	✓
Sample Cell Compatibility		13 mm round, 16 mm round, 1 cm & 5 cm rectangular, 1 round, 1 square	✓
Dimensions (H x W x D)		5.9 in x 13.8 in x 10 in (151 mm x 350 mm x 255 mm)	✓
Weight		9.26 lbs. (4.2 kg)	✓
Operating Conditions		10 to 40°C	✓
Storage Conditions		-30 to 60 °C	✓
Enclosure Rating		IP30	✓
Power Supply		Benchtop Power Supply	✓
Power Requirements (Voltage)		110 - 240V AC	✓
Power Requirements (Hz)		50/60Hz	✓
Interfaces		USB type A (2), USB type B, Ethernet, RFID module	✓
Warranty		12 months	✓

DR 3900™ SPECTROPHOTOMETER

Applications

- Beverage
- Drinking Water
- Wastewater
- Food QC Lab
- Power



Prevent measurement errors...simply.

The proven technology you have come to expect from Hach just got better. Built with the future of water analysis in mind, the DR 3900 will give consistently accurate results in a simpler testing format.

Guided Procedure

The DR 3900 guides you step-by-step through the testing procedure like a GPS, so you can get the accurate results you need every time.

Elimination of False Readings

Scratched, flawed, or dirty glassware becomes a non-issue when your machine takes 10 readings and eliminates outliers.

Hands Free Updates*

RFID technology automatically updates the program calibration factors when you place a TNTplus box near the machine.

Flexible Connectivity

Built with 1 ethernet and 3 USB ports, the DR 3900 easily connects to your computer and is programmed to easily interface with Hach WIMS™ or any LIMS system.

Sample Tracking*

Sample bottles with smart tags can easily be tracked with the optional Hach RFID sample-ID system, eliminating sample mix-ups and providing better sample traceability.

*RFID technology currently available only in US, Anguilla, American Samoa, Australia, Bolivia, Canada, Cayman Islands, Columbia, Dominican Republic, El Salvador, Federated States of Micronesia, Guam, Guatemala, Marshall Islands, New Zealand, Northern Mariana Islands, Palau, Panama, Puerto Rico, and US Virgin Islands.



Be Right™

Specifications*

Operating Mode	Transmittance (%), Absorbance and Concentration, Scanning
Light Source	Gas-filled Tungsten (visible)
Optical System	Reference beam, spectral
Wavelength Range	320 to 1100 nm
Wavelength Accuracy	± 1.5 nm (wavelength range 340 to 900 nm)
Wavelength Reproducibility	± 0.1 nm
Wavelength Resolution	1 nm
Wavelength Calibration	Automatic
Wavelength Selection	Automatic, based on method selection
Spectral Bandwidth	5 nm
Photometric Measuring Range	± 3.0 Abs (wavelength range 340 to 900 nm)
Photometric Accuracy	5 mAbs at 0.0 to 0.5 Abs 1 % at 0.50 to 2.0 Abs
Photometric Linearity	< 0.5 % to 2 Abs ≤ 0.01 % at >2 Abs with neutral glass at 546 nm
Stray Light	< 0.1 % T at 340 nm with NaNO ₂
Display	7 TFT WVGA (800 px x 480 pix)

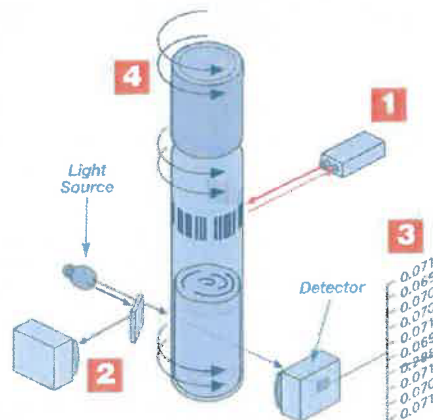
Data Logger	2000 measured values (Result, Date, Time, Sample ID, User ID)
Preprogrammed Methods	> 240
User Programs	100
Sample Cell Compatibility	13 mm round, 16 mm round, 1 cm & 5 cm rectangular, 1 round, 1 square
Dimensions (H x W x D)	5.9 in x 13.8 in x 10 in (151 mm x 350 mm x 255 mm)
Weight	9.26 lbs. (4.2 kg)
Operating Conditions	10 to 40 °C
Storage Conditions	-30 to 60 °C
Enclosure Rating	IP30
Power Supply	Benchtop Power Supply
Power Requirements (Voltage)	110 - 240 V AC
Power Requirements (Hz)	50/60 Hz
Interfaces	USB type A (2), USB type B, Ethernet, RFID module
Warranty	12 months

**Subject to change without notice.*

Principle of Operation

Hach's TNTplus chemistries and spectrophotometers are made to work seamlessly with each other.

- Many of the tests are EPA compliant.
- Over 35 tests available including these popular EPA Approved Parameters:
 - Ammonia
 - COD
 - Chlorine
 - Chromium
 - Iron
 - Nitrate
 - Nitrite
 - Nitrogen
 - Phosphorus
 - Sulfate



How TNTplus Works

- 1 Barcode Recognition**
Simply drop in the vial and get results immediately with automatic method detection.
- 2 Reference Detector**
Monitors and compensates for optical fluctuations.
- 3 10X Measurement and Outlier Elimination**
Dirty, scratched, or flawed glassware, including fingerprints, is no longer an issue—instrument averages 10 readings and rejects outliers.
- 4 Self-Contained Packaging—Reagents Inside Sealed Cap**
Reduces exposure to chemicals—no need to open pillows or clean glassware.

See our TNTplus video at: www.hach.com/tntplus

Available Tests

The following table lists available tests and overall ranges for the Hach DR 3900 Benchtop Spectrophotometer. The ranges may represent more than one available test for the instrument. Consult your Hach representative, Customer Service, the Hach Master Catalog, or the Hach web site at www.hach.com for complete details of all available tests for this instrument.

Parameter	Range	TNTplus Test	Parameter	Range	TNTplus Test
Alachlor	0.1 to 0.5 ppb, threshold		Lead	3 µg/L to 2.0 mg/L	•
Alkalinity, Total	25 to 400 mg/L	•	Manganese	0.006 to 20.0 mg/L	
Aluminum	0.002 to 0.800 mg/L	•	Mercury	0.1 to 2.5 µg/L	
Ammonia, Nitrogen	0.015 to 50.0 mg/L	•	Methylethylketoxime (MEKO)	15 to 1000 µg/L	
Arsenic	0.020 to 0.200 mg/L		Molybdenum, Molybdate	0.02 to 40.0 mg/L	
Atrazine	0.5 to 3.0 ppb, threshold		Nickel	0.006 to 6.0 mg/L	•
Barium	2 to 100 mg/L		Nitrate, Nitrogen	0.01 to 35 mg/L	•
Benzotriazole	1.0 to 16.0 mg/L		Nitrite, Nitrogen	0.002 to 250 mg/L	•
Boron	0.2 to 14.0 mg/L		Nitrogen, Simplified Total Kjeldahl	0 to 16 mg/L	•
Bromine	0.05 to 4.50 mg/L		Nitrogen, Total	0.5 to 150 mg/L	•
Cadmium	.7 µg/L to 0.30 mg/L	•	Nitrogen, Total Inorganic	0.2 to 25.0 mg/L	
Carbohydrazide	5 to 600 µg/L		Nitrogen, Total Kjeldahl	1 to 150 mg/L	
Chloramine, Mono	0.04 to 10.0 mg/L		Ozone	0.01 to 1.50 mg/L	
Chloride	0.1 to 25.0 mg/L		PCB (Polychlorinated Biphenyls)	1 to 50 ppm, threshold	
Chlorine Dioxide	0.01 to 1000 mg/L		Phenols	0.002 to 0.200 mg/L	
Chlorine, Free	0.02 to 10.0 mg/L	•	Phosphonates	0.02 to 125.0 mg/L	
Chlorine, Total	2 µg/L to 10.0 mg/L	•	Phosphorus, Acid Hydrolyzable	0.06 to 100.0 mg/L	
Chromium, Hexavalent	0.010 to 1.00 mg/L	•	Phosphorus, Reactive (Orthophosphate)	19 µg/L to 100.0 mg/L	•
Chromium, Total	0.01 to 0.70 mg/L	•	Phosphorus, Total	0.06 to 100.0 mg/L	•
Cobalt	0.01 to 2.00 mg/L		Potassium	0.1 to 7.0 mg/L	
Color	3 to 500 units		Quaternary Ammonium Compounds	0.2 to 5.0 mg/L	
COD (Chemical Oxygen Demand)	0.7 to 15,000 mg/L	•	Selenium	0.01 to 1.00 mg/L	
Copper	1 µg/L to 8.0 mg/L	•	Silica	3 µg/L to 100 mg/L	
Cyanide	0.002 to 0.240 mg/L		Silver	0.005 to 0.700 mg/L	
Cyanuric Acid	5 to 50 mg/L		Sulfate	2 to 900 mg/L	•
DEHA (Diethylhydroxylamine)	3 to 450 µg/L		Sulfide	5 to 800 µg/L	
Dissolved Oxygen	6 µg/L to 40 mg/L		Surfactants, Anionic	0.002 to 0.275 mg/L	
Erythorbic Acid (isoascorbic acid)	13 to 1500 µg/L		Suspended Solids	5 to 750 mg/L	
Fluoride	0.02 to 2.00 mg/L		Tannin and Lignin	0.1 to 9.0 mg/L	
Formaldehyde	3 to 500 µg/L		TOC (Total Organic Carbon)	0.3 to 700 mg/L	
Hardness, Total (Calcium and Magnesium as CaCO ₃)	4 µg/L to 4.00 mg/L		Tolytriazole	1.0 to 20.0 mg/L	
Hydrazine	4 to 600 µg/L		Toxicity	0 to 100% Inhibition	
Hydroquinone	9 to 1000 µg/L		TTHM (Trihalomethanes, Total)	10 to 600 µg/L	
Iodine	0.07 to 7.00 mg/L		TPH (Total Petroleum Hydrocarbons)	2 to 200 ppm, threshold	
Iron, Ferrous	0.02 to 3.00 mg/L		Volatile Acids	27 to 2800 mg/L	•
Iron, Total	0.009 to 6.0 mg/L	•	Zinc	0.01 to 3.00 mg/L	

Ordering Information

DR 3900 Benchtop Spectrophotometer; includes adapter A for 1 round + AccuVac/1 cm rectangular cuvettes, manual, CD with manual and procedure manual in .pdf format. Power Supply. RFID version available only in a limited number of countries, including US, Australia, Bolivia, Canada, Guatemala, and New Zealand. For complete information, visit hach.com or contact your sales representative.

- LPV440.99.00012** DR 3900 Spectrophotometer with RFID Technology, 110 - 240V
LPV440.99.00002 DR 3900 Spectrophotometer without RFID Technology, 110 - 240V

Accessories

- LZV537** Test Filter Set
LZV873 Ethernet cable
LZV566 USB Barcode Scanner
LZV582 USB Keyboard
2960100 Thermo Printer

Service Options

Comprehensive warranty upgrade includes: All parts, labor, and shipping costs from the factory for depot repairs. One calibration per year on-site, factory recommended maintenance (including required parts), unlimited technical support calls. Also includes a loaner* while waiting for your factory repair. Please see service terms and conditions for additional details.

**Based on availability*

- WRTUPGDR3900** DR 3900 Spectrophotometer WarrantyPlus™ Instrument Protection and Service



HACH COMPANY World Headquarters: Loveland, Colorado USA

United States: 800-227-4224 tel 970-669-2932 fax orders@hach.com
Outside United States: 970-669-3050 tel 970-461-3939 fax int@hach.com
hach.com

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In the interest of improving and updating its equipment,
Hach Company reserves the right to alter specifications to equipment at any time.



Be Right™

C4: Turbidity Meter

Item description	Units	Technical Particulars	
		Specified	Offered
C4: Turbidity Meter			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant Information shall be submitted with the tender.			
General information			
Manufacturer		HACH	✓
Type			✓
Model		2100Q	
Country of origin			
Key operational data			
Measurement Method		Ratio turbidimetric determination using a primary nephelometric light scatter signal (90°) to	✓
Regulatory		2100Q: Meets EPA Method 180.1 2100Qis: Meets ISO 7027	✓
Light Source		2100Q: Tungsten filament lamp 2100Qis: Light-emitting diode (LED) @ 860 nm	✓
Range		0 to 1000NTU (FNU)	✓
Accuracy		±2% of reading plus stray light from 0 to 1000 NTU	✓
Repeatability		±1% of reading, or 0.01 NTU (FNU), whichever is greater	✓
Resolution		0.01 NTU on lowest range	✓
Stray Light		<0.02 NTU (FNU)	✓
Signal Averaging		Selectable on/off	✓
Detector		Silicon photovoltaic	✓
Reading Modes (user selectable)		Normal (Push to Read) Signal Averaging Rapidly Settling Turbidity	✓
Data Logger		500 records	✓

TDS C4-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Power Requirement		110-230 Vac, 50/60 Hz (with Power or USB+Power Module) 4 AA alkaline batteries Rechargeable NiMH (for use with USB+Power Module)	✓
Operating Conditions		Temperature: 0 to 50°C (32 to 122°F) Relative Humidity: 0 to 90% @ 30°C, 0 to 80% @ 40°C, 0 to 70% @ 50°C, noncondensing	✓
Storage Conditions		-40 to 60°C (-40 to 140°F), instrument only	✓
Languages		English, French, German, Italian, Spanish, Portuguese (BR), Portuguese (PT), Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, Greek, Hungarian, Japanese, Korean, Polish, Romanian, Russian, Slovenian, Swedish, Turkish	✓
Interface		Optional USB	✓
Instrument Enclosure Rating		IP67 (closed lid, battery compartment excluded)	✓
Protection Class		Power Supply: Class II	✓
Certification		CE certified	✓
Sample Required		15mL (0.3 oz.)	✓
Sample Cells		60 x 25 mm (2.36 x 1 in.) borosilicate glass with screw cap	✓
Dimensions		22.9 x 10.7 x 7.7 cm (9.0 x 4.2 x 3.0 in.)	✓
Weight		527 g (1.16 lb) without batteries 618 g (1.36 lb) with four AA alkaline batteries	✓
Warranty		1	✓

TDS C4-2

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

2100Q & 2100Qis PORTABLE TURBIDIMETER



Applications

- Drinking Water
- Wastewater
- Beverage
- Field Use
- Food QC Lab
- Industrial Water
- Power

Easiest calibration and verification with accurate results every time.

The Hach 2100Q and 2100Qis Portable Turbidimeters offer unsurpassed ease of use and accuracy in turbidity measurement. Only Hach offers this combination of advanced features including assisted calibration, simplified data transfer, and innovative measurement techniques that give you accurate results every time.

Easy On-Screen Assisted Calibration and Verification

The 2100Q Portable Turbidimeter provides confidence your measurements are right every time. On-screen assisted calibration and verification save you time and ensure accuracy. With an easy-to-follow interface, complicated manuals are not needed to perform routine calibrations. Single-standard RapidCal™ calibration offers a simplified solution for low level measurements.

Simple Data Transfer

Customizable power and connectivity modules provide smooth data transfer and flexibility. Optional USB+Power Module allows data download to any computer via USB port, providing superior data integrity and availability.

Accuracy for Rapidly Settling Samples

The innovative Rapidly Settling Turbidity™ mode provides accurate, repeatable measurements for difficult to measure, rapidly settling samples. An exclusive algorithm that calculates turbidity based on a series of automatic readings eliminates redundant measurements and estimating.

Convenient Data Logging

Up to 500 measurements are automatically stored in the instrument for easy access and backup. Stored information includes: date and time, operator ID, reading mode, sample ID, sample number, units, calibration time, calibration status, error messages and the result.

Optical System for Precision in the Field

The two-detector optical system compensates for color in the sample, light fluctuation, and stray light allowing you to achieve laboratory-grade performance on a wide range of samples, even under difficult site conditions.

Two Models for Specific USEPA Requirements

The 2100Q Turbidimeter is compliant with USEPA Method 180.1 design criteria. The 2100Qis Turbidimeter is compliant with ISO 7027 design criteria.



Be Right™

Key Features

On-Screen Assisted Calibration and Verification

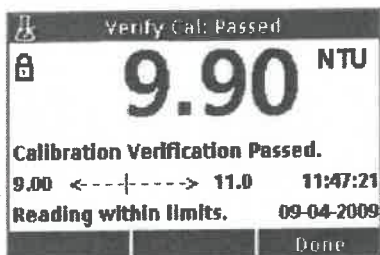
The 2100Q gives you confidence that your results are accurate, without having to read long manuals for calibration and verification instructions. All the core measurement information is on a single screen.

On-Screen Assisted Calibration



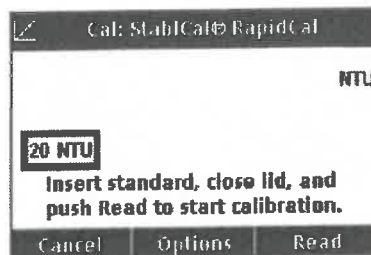
In the full calibration mode (0 to 1000 NTU), the text-based, assisted calibration feature walks you through clear and easy steps, and verifies the accuracy of your calibration automatically. This on-screen assistance eliminates the need for a manual and provides assurance that your calibration is complete and valid.

Verification with the Push of a Button



Be confident in your measurement by running the quick and easy Verify Cal function using the included 10 NTU StabCal primary standard.

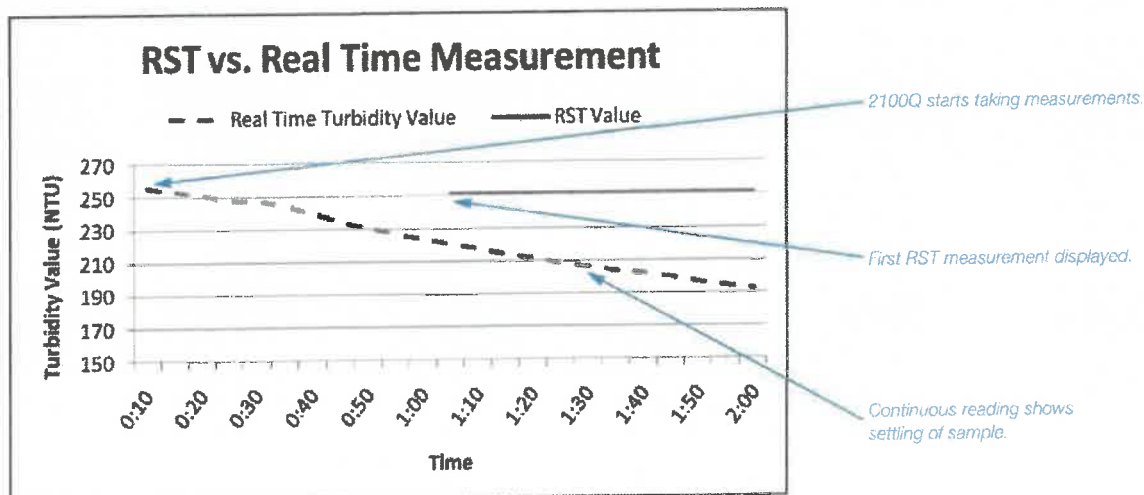
RapidCal Single Standard Calibration



In the range up to 40 NTU, the single standard RapidCal calibration mode reduces calibration complexity by eliminating multiple standard full calibrations. You save time and ensure you meet reporting requirements.

Rapidly Settling Turbidity™ (RST) Mode

At the request of our customers, Hach has developed an innovative solution to alleviate the uncertainty caused by changing turbidity readings in samples that quickly settle. The 2100Q's RST reading mode uses an exclusive algorithm that reverse calculates and continuously updates a calculated value of turbidity to a point in time when the sample begins to settle out of solution based upon the accumulated trend of the measured values. This results in values that are more accurate and repeatable than those obtained using traditional smoothing techniques, such as averaging.



Although the sample continuously settles out of solution, the RST calculated value does not change. No more guessing and no more replicate runs — you get the right answer every time.

Customize Power and Connectivity with Flexible Modules

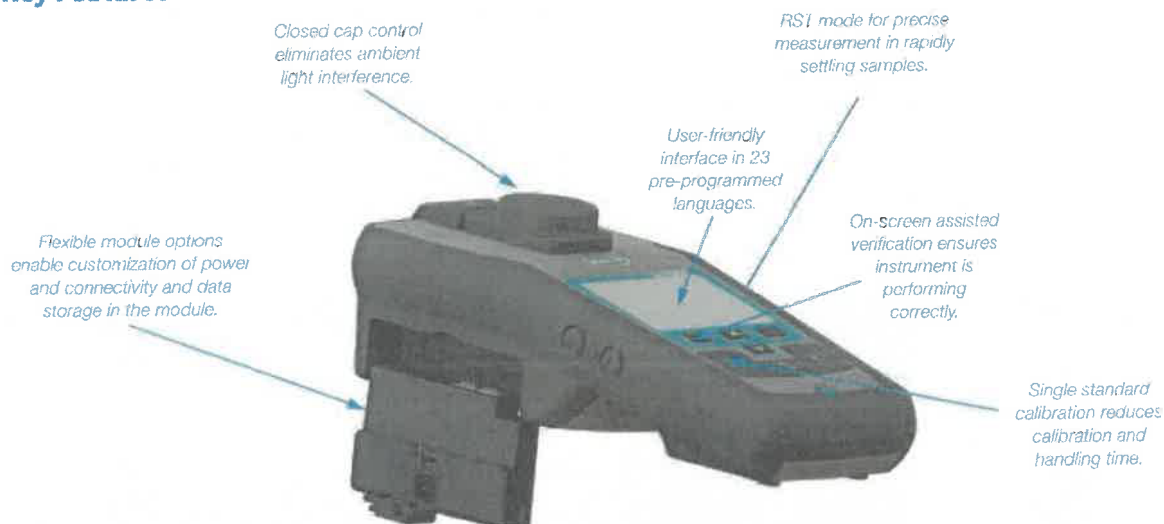
USB+Power Module (Prod. No. LZV813)

- Line power: 110 - 230Vac, 50/60 Hz
- Charges NiMH batteries
- Transfers data to computer or printer
- Enables firmware updates

Power Only Module (Prod. No. LZV804)

- Line power: 110 - 230Vac, 50/60 Hz

Key Features



Specifications*

Measurement Method	Ratio turbidimetric determination using a primary nephelometric light scatter signal (90°) to the transmitted light scatter signal.	Operating Conditions	Temperature: 0 to 50°C (32 to 122°F) Relative Humidity: 0 to 90% @ 30°C, 0 to 80% @ 40°C, 0 to 70% @ 50°C, noncondensing
Regulatory	2100Q: Meets EPA Method 180.1 2100Qis: Meets ISO 7027	Storage Conditions	-40 to 60°C (-40 to 140°F), instrument only
Light Source	2100Q: Tungsten filament lamp 2100Qis: Light-emitting diode (LED) @ 860 nm	Languages	English, French, German, Italian, Spanish, Portuguese (BR), Portuguese (PT), Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, Greek, Hungarian, Japanese, Korean, Polish, Romanian, Russian, Slovenian, Swedish, Turkish
Range	0 to 1000 NTU (FNU)	Interface	Optional USB
Accuracy	±2% of reading plus stray light from 0 to 1000 NTU	Instrument Enclosure Rating	IP67 (closed lid, battery compartment excluded)
Repeatability	±1% of reading, or 0.01 NTU (FNU), whichever is greater	Protection Class	Power Supply: Class II
Resolution	0.01 NTU on lowest range	Certification	CE certified
Stray Light	<0.02 NTU (FNU)	Sample Required	15 mL (0.3 oz.)
Signal Averaging	Selectable on/off	Sample Cells	60 x 25 mm (2.36 x 1 in.) borosilicate glass with screw cap
Detector	Silicon photovoltaic	Dimensions	22.9 x 10.7 x 7.7 cm (9.0 x 4.2 x 3.0 in.)
Reading Modes (user selectable)	Normal (Push to Read) Signal Averaging Rapidly Settling Turbidity	Weight	527 g (1.16 lb) without batteries 618 g (1.36 lb) with four AA alkaline batteries
Data Logger	500 records	Warranty	1
Power Requirement	110-230 Vac, 50/60 Hz (with Power or USB+Power Module) 4 AA alkaline batteries Rechargeable NiMH (for use with USB+Power Module)		

*Subject to change without notice.

Ordering Information

Hach portable turbidimeters are supplied with four AA alkaline batteries, a carrying case with insert, StablCal primary calibration standards in 1" sealed vials (20, 100, 800 NTU), 10 NTU primary verification standard, 6 sample cells with screw-tops, instrument manual (printed and on CD-ROM), quick start guide, silicone oil and oiling cloth.

2100Q-01 2100Q Portable Turbidimeter (meets EPA method 180.1)

2100QIS-01 2100Qis Portable Turbidimeter (meets ISO 7027)

Optional Accessories

LZV813 USB+Power Module
(includes: universal power supply, USB cables, instruction sheet)

LZV804 Power Module
(includes: universal power supply, instruction sheet)

2960100 Citizen PD-24 Printer Package

2971304 Battery, NiMH AA, pk/4

4397500 Degassing Kit

4397510 Sample Filtration and Degassing Kit

2971210 StablCal 100 mL calibration kit, 2100Q

2971200 StablCal 500 mL calibration kit, 2100Q

2464105 Gelex Secondary Standard Set

Replacement Parts

2971205 StablCal ampule calibration kit, 2100Q

2961701 10 NTU Verification Standard

126936 Silicone Oil, 15 mL

2971507 Insert, molded bottom, 2100Q carrying case

4707600 Sample Cell Oiling Cloth

2434706 1" glass sample cell (10mL) w/cap (Turb) pkg/6

2971500 Carrying case for 2100Q (includes insert)

4653900 Lamp assembly

1938004 Battery set, 4x AA alkaline batteries



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Be Right™

C5: Portable Water Quality Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C5: Water Quality Portable Apparatus			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		HACH	✓
Type			
Model		HQ40d	HQ 200
Country of origin			
Key operational data			
Power		4 AA batteries (battery life: >200 hours) USB/DC and AC/DC power connection included	✓
Languages		Selectable: English, French, German, Italian, Spanish, Danish, Dutch, Polish, Portuguese, Turkish, Swedish, Czech, Russian	✓
Display		Display readings from one or two probes. pH Display: pH, mV, temperature Conductivity Display: Conductivity, TDS, salinity, resistivity, temperature LDO/LBOD Display: dissolved oxygen, pressure, temperature ORP/Redox Display: mV, temperature ISE Display: Concentration, mV, temperature Simultaneous readings from two probes	✓
Data Memory		500 results	✓
Data Storage		GLP/ISO compliant data stored with calibration details. Calibration and check standard data stored in data log. Automatically store in "press to read" mode and interval measurement mode. Manually store in "continuous read" mode.	✓

TDS C5-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Data Export		Download via USB connection to PC or flash memory device. Automatically transfer entire data log or as readings are taken.	✓
Connections		Optional w/ use of USB/Power adapter: USB type A (USB flash memory device, printer, keyboard) Integrated USB type B (PC)	✓
Communication		Direct to PC (Bi-directional) via USB Virtual Serial Port and USB/Power Adapter	✓
Temperature Correction/ Compensation		Off, automatic, and manual (auto correction is parameter dependent)	✓
Display Lock Function		Continuous measurement or "press to read" mode available with averaging function for LDO measurement	✓
Automatic pH Buffer Recognition		Color-coded: 4.01, 7.00, 10.01 pH; IUPAC: 1.679, 4.005, 7.000, 10.012, 12.45 DIN: 1.09, 4.65, 9.23 User-defined custom buffer sets	✓
Keyboard		External PC keyboard via USB connection	✓
Water Resistance		Meter Casing: 1 meter submersion for 30 minutes (IP67)	✓
Dimensions		23.5 x 17.5 x 8.6 cm (9.3 x 6.9 x 3.4 in.)	✓
Weight		335 g (0.75 lb.)	✓

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

TDS C5-2

T2.2
Returnable Schedules



HQ2200 Portable Multi-Meter with Rugged Field Gel pH and Conductivity Electrodes, 5 m Cables

Product #: LEV015.53.22002
 USD Price: Contact Hach
 No ship date shown

A robust and intuitive range of portable meters, instilling confidence in reporting and managing your results.

The HQ Series is for water quality professionals who want to perform electrochemical analysis for field and lab environments. Our new portable platform will allow you to collect intuitive, accurate measurements, manage data, and easily review results, while supplying an IP67 robustness rating.

They provide a true rugged, field-ready solution with on-screen, visual step-by-step operating guidance that provides users with confidence in reporting and managing their results. Unlike other field meters with basic user interfaces and without easily accessible data, the HQ Series secures, simplifies, and accelerates the complete measurement process for field users.

Choose from 4 models, including the three-input HQ4000 series, dual-input HQ2000 series, and single-input HQ1000 series. These meters offer a range in measurement versatility - eliminating the need for multiple pieces of equipment.

Performing a successful calibration has never been so simple

Most measuring issues are due to incorrect calibration procedures. With our illustrated, step-by-step on-screen calibration and troubleshooting procedures, water quality professionals can succeed every time.

Deliver your daily activity in just a few clicks

Whether you are at your facility or working in the field, the Hach® HQ Series portable meter ensures your data will be safely transferred via USB.

Sensors designed for every application

We offer standard laboratory and rugged field IntelliCAL® smart sensors available with the HQ Series to measure a wide variety of parameters including Total Dissolved Solids (TDS), Optical Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Temperature, Conductivity, and pH. IntelliCAL smart probes are automatically recognized by HQ meters, retain calibration history and method settings to minimize errors and setup time. They incorporate proven technology to deliver superior accuracy and response times – even when measuring challenging samples or challenging operating environments.

Peace of mind: Hach service and support will be there for you

Our Technical Support, Field Service, and Central Service Teams work together with over 80 years of electrochemistry expertise to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk. Never feel alone when you need support.

Specifications

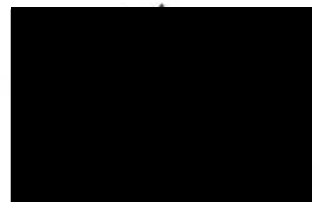
Accessories Included:	USB charger, power cable, and clips
Automatic Buffer Recognition:	Yes
Backlight:	Yes

Cable Length:	5 m	1091
Calibration:	Demal (1D/ 0.1D/ 0.01D);	
	Molar (0.1M/ 0.01M/0.001M);	
	NaCl (0.05%; 25µS/cm; 1000µS/cm; 18mS/cm);	
	Standard sea water;	
	User defined	
Calibration Intervals/Alerts/Reminder:	Off, selectable from 2 hours to 7 days	
Certifications:	CE, FCC, ISED, RCM, KC, ETL Verified: US DOE/ NRCan Energy Efficiency, RoHS	
Conductivity Measurement Range:	Yes	
Conductivity measurement: Temperature correction:	None; Linear; NaCl Non-Linear Natural Water.	
Custom Calibration Standards:	Yes	
Data Export:	USB connection to PC or USB storage device (limited to the storage device capacity).	
Data Memory:	10,000 data points	
Data Storage:	Automatic in Press to Read Mode and Interval Mode. Manual in Continuous Read Mode.	
Dimensions (H x W x D):	63 mm x 97 mm x 220 mm	
splay:	Up to 3 parameters at a time, dependent on HQ model	
Display Type:	536x336 Mono-TFT	
DO Measurement Range:	0.1 - 20.0 mg/L (ppm), 1 - 200% saturation	
DO Resolution:	0.1	
Enclosure Rating:	IP67 (with battery compartment installed)	
GLP Features:	Date; Time; Sample ID; Operator ID, Calibration	
Inputs:	2	
Instrument:	Portable	
ISE Direct Measurement Range:	No	
ISE Electrode Calibration:	No	
Kit?:	Yes	
Languages:	English, Chinese - Simplified, Spanish, French, German, Italian, Japanese, Turkish, Dutch, Portuguese (PT & BR), Korean, Danish, Swedish, Polish, Norwegian, Hungarian, Greek, Finnish, Czech, Romanian, Croatian, Bulgarian, Slovak, Lithuanian, Estonian, Slovenian, Russian	
ck Function:	Continuous / Auto-stabilization ("press to read") / At Interval	
Measurement Method:	Probe specific programmed method settings	
Model:	HQ2200 Multi/2 Channels	
mV Measurement at Stable Reading:	Yes	
mV Measurement Range:	Yes	
mV Resolution:	0.1 mV	
Operating Error Messages:	Clear text error messages displayed	
Operating Humidity:	90% (non-condensing)	
Operating Interface:	Soft Touch Keypad	
Operating Temperature:	0 - 60 °C	
ORP Electrode Calibration:	Predefined ORP standards (including Zobell's solution)	
Parameter:	pH, Conductivity	
pH Buffer Sets:	Colour-coded: 4.01, 7.00, 10.01 pH;	
	IUPAC: 1.679, 4.005, 7.000, 10.012, 12.45	

	DIN: 1.09, 4.65, 9.23
	User-defined custom buffer sets
pH Electrode calibration:	1 - 3 Calibration points
	Calibration summary data logged and displayed
pH Measurement Range:	0 - 14 pH
pH Resolution:	Selectable:
	0.001/0.01/0.1 pH
Power Supply:	Rechargeable lithium-ion battery 18650 (internal)
	Class II, USB power adapter: 100 - 240 VAC, 50/60 Hz input; 5 VDC at 2 A USB power adapter output (external)
Probe Type:	Intellical Standard Laboratory or Rugged Field
Probes included:	PHC10105, CDC40105
Protection Class:	IEC Class III (SELV (Separated/Safety Extra-Low Voltage) powered); external
Region:	US
Salinity Measurement Range:	0 - 42 (ppt) (‰)
Salinity Resolution:	0.01 (ppt) (‰)
Sensor A:	PHC10105
Sensor B:	CDC40105
Sensor C:	None
Storage Conditions:	-20 - 60 °C, max. 90% relative humidity (non-condensing)
TDS Measurement Range:	0.00 mg/L - 50.0 g/L NaCl
TDS Resolution:	0.01 mg/L - 0.1 g/L upon measuring range
Temperature Compensation:	Automatic Temperature compensation for pH
Temperature Measurement:	°C or °F
Temperature Resolution:	0.1 °C
Type of measurement:	Field Measurements
Warranty:	12 months
Weight:	541 g (Meter only)
What's included?:	LEV015.53.2200A HQ2200 Portable pH/ORP/EC/TDS/DO Multi-Meter, 2 channels
	PHC10105 IntelliCAL rugged field pH electrode, 5 m cable
	CDC40105 IntelliCAL rugged field conductivity cell, 5 m cable
	LEZ015.99.A002A HQ rugged electrode field case
	LEZ015.99.A003A HQ hand strap & kickstand
	LEZ015.99.A004A HQ protective glove
	2097000 Disposable wipes, 11x22 cm, pk/280
	2770020 Singlet single-use pH Buffer, pH 4.01, pk/20
	2770120 Singlet single-use pH Buffer, pH 7.00, pk/20
	2770220 Singlet single-use pH Buffer, pH 10.01, pk/20
	2771420 Singlet single-use conductivity standard solution, 1413 µS/cm, KCl, 20 mL

What's included?

LEV015.53.2200A HQ2200 Portable pH/ORP/EC/TDS/DO Multi-Meter, 2 channelsPHC10105 IntelliCAL rugged field pH electrode, 5 m cableCDC40105 IntelliCAL rugged field conductivity cell, 5 m cableLEZ015.99.A002A HQ rugged electrode field caseLEZ015.99A003A HQ hand strap & kickstandLEZ015.99.A004A HQ protective glove2097000 Disposable wipes, 11x22 cm, pk/2802770020 Singlet single-use pH Buffer, pH 4.01, pk/202770120 Singlet single-use pH Buffer, pH 7.00, pk/202770220 Singlet single-use pH Buffer, pH 10.01, pk/202771420 Singlet single-use conductivity standard solution, 1413 μ S/cm, KCl, 20 mL5828610 Cable marker for rugged electrodeUser manuals



C6: pH Probe

Item description	Units	Technical Particulars	
		Specified	Offered
C6: pH Probe			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		HACH	✓
Type			
Model		PHC10105	✓
Country of origin			
Key operational data			
Special Feature		Low maintenance	✓
Probe Type		Rugged	✓
Range		2 to 14 pH	✓
Temperature Range		Continuous Use: 0 to 50°C	✓
Thermistor		ATC	✓
Dimensions		45mm (D) x 250mm (L)	✓
Sensor Type		Glass	✓
Reference Type		-	✓
Junction		Open	✓
Body Material		Zeonor™ with Stainless Steel	✓
Filling Solution		-	
ISA Required		-	

TDS C6-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

HQd™ DIGITAL METERS & IntelliCAL™ PROBES

Applications ¹⁰⁹⁵

- Drinking Water
- Wastewater
- Beverage
- Food
- Industrial Water
- Power
- Source Water



A customized solution for water quality testing that takes the guesswork out of your measurements.

Easy to Use in the Field

The wide variety of rugged probe options available for the portable meter means it is perfect for field use. All connections between the meter and the probe are secure and waterproof. Connectors can be color-coded for quick identification. Information is clearly displayed on one screen with back light for low light conditions. Display results can be enlarged for easier reading.

Probes for Every Application

For high-volume labs or applications where performance is critical, IntelliCAL Red Rod pH electrodes incorporate proven technology to deliver superior accuracy and response times—even when measuring challenging samples over a wide temperature range.

Standard lab probes and rugged field probes are available to measure a wide variety of parameters. Several probes use specialty designs for specific measurement applications. All IntelliCAL probes are automatically recognized by HQd meters and retain calibration history and method settings to minimize errors and setup time.

Simple and Fast Lab Setup

Offering a complete portfolio of water testing parameters and a simple bench top setup, this meter provides the ultimate in lab analysis. The intuitive user interface with guided calibration ensures accurate results, and with a new, large, backlit LCD screen, the meter is simple to read even when measuring two parameters simultaneously.



HACH
Be Right™

HQd PORTABLE METERS



Now offering a complete water analysis portfolio of testing parameters with standard, rugged, and ultra options. Hach's HQd system gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition.

Parameter	HQ11d DEDICATED pH/mV PORTABLE METER	HQ14d DEDICATED CONDUCTIVITY PORTABLE METER	HQ30d SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40d DUAL INPUT MULTI-PARAMETER PORTABLE METER
Temperature	■	■	■	■
pH			■	■
Glass	■			
Non-glass (ISFET)			■	■
mV	■		■	■
Conductivity		■	■	■
TDS		■	■	■
Salinity		■	■	■
Resistivity		■	■	■
Dissolved Oxygen			■	■
Luminescent (LDO)			■	■
BOD Sensor (with LDO)			■	■
ORP/Redox	■		■	■
Ion Selective Electrodes			■	■
Ammonia			■	■
Ammonium			■	■
Chloride			■	■
Fluoride			■	■
Nitrate			■	■
Sodium			■	■

Specifications	HQ11d DEDICATED pH/mV PORTABLE METER	HQ14d DEDICATED CONDUCTIVITY PORTABLE METER	HQ30d SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40d DUAL INPUT MULTI-PARAMETER PORTABLE METER
IP Rating	IP67	IP67	IP67	IP67
Internal Data Storage	500*	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001
Interface Languages	13**	13**	13**	13**
Warranty	3 years	3 years	3 years	3 years
Compliance	CE, WEEE	CE, WEEE	CE, WEEE	CE, WEEE
Benchtop	with stand	with stand	with stand	with stand
GLP Features	■	■	■	■
PC Data Transfer Software	included	included	included	included
Backlight	■	■	■	■
Battery Operation	■	■	■	■
AC and USB Operation	optional	optional	optional	included
Prod. No.	HQ11D53000000	HQ14D53000000	HQ30D53000000	HQ40D53000000

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQd BENCHTOP METERS

1097

All the benefits of the digital HQd system, with simplified data transfer and easy-to-read results on a large, backlit screen.



Parameter	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
Temperature	■	■	■
pH	■	■	■
Glass	■	■	■
Non-glass (ISFET)	■	■	■
mV	■	■	■
Conductivity	■	■	■
TDS	■	■	■
Salinity	■	■	■
Resistivity	■	■	■
Dissolved Oxygen	■	■	■
Luminescent (LDO)	■	■	■
BOD Sensor (with LDO)	■	■	■
ORP/Redox	■	■	■
Ion Selective Electrodes	■	■	■
Ammonia	■	■	■
Ammonium	■	■	■
Chloride	■	■	■
Fluoride	■	■	■
Nitrate	■	■	■
Sodium	■	■	■

Specifications	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
IP Rating	IP54	IP54	IP54
Internal Data Storage	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001
Interface Languages	13**	13**	13**
Warranty	3 years	3 years	3 years
Compliance	CE.WEEE	CE.WEEE	CE.WEEE
GLP Features	■	■	■
PC Data Transfer Software	included	included	included
Backlight	■	■	■
Battery Operation	■	■	■
Probe Stand	optional for all models	included	included
Prod. No.	HQ411D	HQ430D	HQ440D

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQd IntelliCAL PROBES



Specifications	DO Luminescent Dissolved Oxygen	DO Luminescent Dissolved Oxygen	BOD Luminescent Dissolved Oxygen	Conductivity	Conductivity
Special Feature	LDO technology. No membranes.	LDO technology. No membranes.	LDO technology. Designed for BOD applications. No membranes.		
Probe Type	Laboratory Luminescent Dissolved Oxygen	Rugged Luminescent Dissolved Oxygen	Laboratory	Field & Lab	Rugged Outdoor
Range	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm
Accuracy	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.05 from 0 to 10 mg/L ±0.1 for greater than 10 mg/L	Cond: ±0.5% of range TDS: ±0.5% ±1 digit Salinity: ±0.1, ±1 digit	EC: 0.01 µS/cm (5 digits, maximum) TDS: 0.001, 0.01, 0.1 mg/L Salinity: 0.01 ppt
Temperature Range	0 to 50 °C	0 to 50 °C	0 to 50 °C	-10 to 110 °C	-10 to 110 °C
Dimensions (D x L)	0.59 in x 7.87 in (15 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.62 in x 7.87 in (15.875 mm x 200 mm)	0.65 in x 7.87 in (14 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Lumiphore	Lumiphore	Lumiphore	4-pole graphite, $k = 0.40 \text{ cm}^{-1}$	4-pole graphite, $k = 0.40 \text{ cm}^{-1}$
Material	Sensor Body: Polycarbonate / Abs	Sensor Body: Polycarbonate / Abs with Stainless Steel	Sensor Body: Polycarbonate / Abs	Sensor Body: Noryl	Sensor Body: Noryl with Stainless Steel
Prod. No.	LDO10101	LDO10105	LBOD10101	CDC40101	CDC40105



Specifications	pH Gel-Filled	pH Refillable	pH Refillable	pH Gel-Filled	pH Gel-Filled
Special Feature	Plastic body, general purpose	Plastic body, refillable, general purpose	Plastic body, LIS	Plastic body, wastewater	Low maintenance
Probe Type	Field & Lab	Field & Lab	Field & Lab	Field & Lab	Rugged Outdoor
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	2 to 14 pH	2 to 14 pH
Accuracy	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH
Temperature Range	0 to 80 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Open
Junction	Ceramic pin	Ceramic pin	Open	Open	Open
Material	Sensor Body: Epoxy	Sensor Body: Zeonor™	Sensor Body: Zeonor™	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel
Probe Solution	Non-refillable gel	2841700	2841700	Non-refillable solid gel	Non-refillable solid gel
Prod. No.	PHC20101	PHC30101	PHC28101	PHC10101	PHC10105

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.
*Fits BOD bottle neck size > 15.875mm inside diameter

HQd IntelliCAL PROBES

1099



Specifications

	pH Refillable	pH Red Rod Refillable	pH Red Rod Refillable	pH Red Rod Refillable	pH Red Rod Refillable
Special Feature	Glass body, general purpose	Glass body, high-performance	Glass body, high-performance	Glass body, high-performance, wastewater	Glass body, high-performance, wastewater, infant
Probe Type	Laboratory	Laboratory	Laboratory	Laboratory	Laboratory
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH
Accuracy	±0.02 pH	±0.01 pH	±0.01 pH	±0.01 pH	±0.01 pH
Temperature Range	0 to 60 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl
Junction	Porous Pin	Porous Pin	Annular Ring	High-Flow Annular Ring	Sleeve
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass
Filling Solution	2756559	25118026	25118026	25118026	25118026
Prod. No.	PHC80501	PHC70501	PHC72501	PHC73501	PHC74501



Specifications

	pH Red Rod Refillable	pH Red Rod Refillable	pH Refillable	pH Gel-Filled
Special Feature	Glass body, high-performance, high alkalinity	Glass body, high-performance, flat surface	Glass body, micro-samples	Stainless steel body, piercing tip
Probe Type	Laboratory	Laboratory	Laboratory	Field & Lab
Range	0 to 14 pH	0 to 12 pH	0 to 14 pH	2 to 12 pH
Accuracy	±0.01 pH	±0.01 pH	±0.02 pH	±0.02 pH
Temperature Range	-10 to 100 °C	-10 to 100 °C	0 to 60 °C	0 to 60 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.19 in x 9.72 in (5 mm x 247 mm)	0.24 in x 7.17 in (6 mm x 182 mm)
Sensor Type	Glass	Glass	Glass	Glass
Reference Type	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Ag/AgCl	Ag/AgCl
Junction	Porous Pin	Annular Ring	Porous Pin	Porous Pin + Open
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: SS w/ Glass Tip
Filling Solution	25118026	25118026	2841700	—
Prod. No.	PHC705A01	PHC72901	PHC30701	PHC10801

HQd IntelliCAL PROBES



Specifications	ORP/Redox Gel-Filled	ORP/Redox Refillable	ORP/Redox Refillable	Ammonia Combination ISE	Ammonium Combination ISE
Special Feature	Flat disc sensor for easy cleaning. Low maintenance.	Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.	Easy-to-replace membrane modules.	Dry storage & fast response time. No replacement membranes.
Probe Type	Field & Lab	Field & Lab	Rugged Outdoor	Laboratory Combination ISE	Laboratory Combination ISE
Range	± 1200 mV	± 1200 mV	± 1200 mV	0.01 mg/L (5x10 ⁻⁴ M) to 14,000 mg/L (1 M) NH ₃ -N	0.016 mg/L (10 ⁻⁴ M) to 9,000 mg/L (0.5 M) NH ₄ ⁺ -N
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	0 to 80 °C	0 to 80 °C	0 to 80 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)
Sensor Type	Platinum disc	Platinum disc	Platinum disc	Gas sensing glass w/ replaceable NH ₃ sensitive membrane	Solid-state PVC membrane
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Open	Ceramic pin	Open	Porous PTFE Annular Ring	Porous PTFE Annular Ring
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel	Sensor Body: Epoxy	Sensor Body: Epoxy
Filling Solution	Non-refillable gel	2641700	Non-refillable gel	4447225	Non-refillable driTEK gel
ISA Required	—	—	—	4447169	2980699
Prod. No.	MTC10101	MTC30101	MTC10105	ISENH318101	ISENH418101



Specifications	Chloride Combination ISE	Fluoride Combination ISE	Nitrate Combination ISE	Sodium Combination ISE
Special Feature	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Fast response time
Probe Type	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE
Ranges	0.1 mg/L (3x10 ⁻⁴ M) to 35,500 mg/L (1 M) Cl ⁻	0.01 mg/L (5x10 ⁻⁴ M) to 19,000 mg/L (1 M) F ⁻	0.1 mg/L (7x10 ⁻⁴ M) to 14,000 mg/L (1 M) NO ₃ ⁻ -N	0.025 mg/L (1x10 ⁻⁴ M) to 23,000 mg/L (1 M) Na ⁺
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	5 to 50 °C	5 to 50 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)
Sensor Type	Solid-state crystal membrane	Solid-state crystal membrane	Solid-state PVC membrane	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™
Filling Solution	Non-refillable driTEK gel	Non-refillable driTEK gel	Non-refillable driTEK gel	2965126
ISA Required	2318069	255999	2984799	4451599
Prod. No.	ISECL18101	ISEF12101	ISENO318101	ISENA38101

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.

HQd & IntelliCAL PORTABLE KITS

- | Prod. No. | Description |
|----------------|--|
| 8505300 | Rugged LDO/pH/Conductivity Field Kit
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, PHC101 rugged pH probe with 5-m cable, CDC401 rugged conductivity probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), disposable wipes (qty 280), pH 4.01 buffer solution (singlets, pk/20), pH 7.00 buffer solution (singlets, pk/20), pH 10.01 buffer solution (singlets, pk/20), pH storage solution (50 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505400 | Rugged LDO/pH Field Kit
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, PHC101 rugged pH probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), disposable wipes (qty 280), pH 4.01 buffer solution (singlets, pk/20), pH 7.00 buffer solution (singlets, pk/20), pH 10.01 buffer solution (singlets, pk/20), and pH storage solution (50 mL). |
| 8505200 | Rugged LDO Field Kit (w/ HQ40d Meter)
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), and disposable wipes (qty 280). |
| 8506000 | Portable LDO/pH/Conductivity Kit
Includes: HQ40d portable meter, LDO101 optical dissolved oxygen probe with 1-m cable, PHC301 pH probe with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, meter stand, disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer solution (red, 500 mL), pH 7.00 buffer solution (yellow, 500 mL), pH 10.01 buffer solution (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505800 | Portable pH/Conductivity Kit
Includes: HQ40d portable meter, LDO101 optical dissolved oxygen probe with 1-m cable, PHC301 pH probe with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, meter stand, disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer solution (red, 500 mL), pH 7.00 buffer solution (yellow, 500 mL), pH 10.01 buffer solution (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505100 | Rugged LDO Field Kit (w/ HQ30d Meter)
Includes: HQ30d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), and disposable wipes (qty 280). |



Rugged LDO/pH/Conductivity Field Kit, Prod. No. 8505300

HQd & IntelliCAL BENCHTOP KITS ¹¹⁰¹

- | Prod. No. | Description |
|----------------|--|
| 8508700 | Lab LDO/pH/Conductivity Kit
Includes: HQ440d benchtop meter, PHC281 LIS pH Ultra probe with 1-m cable, CDC401 conductivity probe with 1-m cable, LDO101 optical DO probe with 1-m cable, probe stand, 300-mL disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8510200 | Lab pH/Conductivity Kit
Includes: HQ440d benchtop meter, PHC281 pH Ultra electrode with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8508600 | Lab pH Ultra Kit
Includes: HQ440d benchtop meter, PHC281 pH Ultra probe with 1 m cable, probe stand, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), and pH storage solution (500 mL). |
| 8508500 | Lab LBOD Kit
Includes: HQ440d benchtop meter, LBOD101 BOD probe, 117 disposable BOD bottles, bottle stoppers (qty 25), and snap-over bottle caps (qty 24). |
| 8507600 | Ammonia ISE Measurement Kit
Includes: HQ440d benchtop meter, ISENH3181 ammonia electrode with 1-m cable, probe stand, ammonia nitrogen standard (1 mg/L, 500 mL) ammonia nitrogen standard (10 mg/L, 500 mL), ammonia nitrogen standard (100 mg/L, 500 mL), ammonia ionic strength adjustor powder pillows (qty 100), and ammonia electrode storage solution (500 mL). |
| 8508000 | Fluoride ISE Measurement Kit
Includes: HQ440d benchtop meter, ISEF121 fluoride electrode with 1-m cable, probe stand, fluoride standard (0.5 mg/L, 500 mL), fluoride standard (1.0 mg/L, 500 mL), fluoride standard (10 mg/L, 500 mL), and ionic strength adjustor powder pillows (qty 100). |



Lab LDO/pH/Conductivity Kit, Prod. No. 8508700

hach.com

HQd Accessories

- WM-BOD MGR** Hach BOD Manager™ Software automates data entry and calculations from the HQd Meter and LBOD probe, providing improved productivity and data integrity for BOD testing. This stand-alone version includes: single computer license with a 2 gigabyte database, tracking up to 300 samples, HQd meter interface, one year of support and software updates, one hour of live web-based training, and training video.
- HQDBODMGR** Hach BOD Manager software in a complete kit with HQ440d benchtop meter and LBOD probe.
- 5838000** Replacement LBOD Sensor Cap; includes iButton® and sensor cap
- 5850800** Replacement Stirrer Assembly for IntelliCAL LBOD Probe
- 5811200** Replacement LDO Sensor Cap; includes iButton® and sensor cap
- 5812711** Replacement Membrane (pack of 3) for IntelliCAL Ammonia Probe
- 5828610** Probe Cable Depth Markers; 5/pkg. (for rugged probes only)
- 5818400** Color Coded Probe Clips; includes ten clips of five different colors
- 5825900** Replacement Polymer Shroud Kit for Rugged Probes; includes protective bell and locking ring
- 8508850** Universal Probe Stand for Standard IntelliCAL Probes
- 4754900** Meter Stand for portable HQd meters
- 5828700** Protective Glove for Meter
- 9345200** Field Meter Protective Caps (for use with Protective Glove)
- 5829400** Probe Holder for portable HQd meter (standard probes only)
- 5825800** Field Kit; includes hard-sided carrying case, protective glove, and 5 120 mL sample cups
- 5826300** USB and A/C Power Adapter Kit; adapter is not waterproof (Included with HQ40d models)
- 5854000** HQd Software Upgrade Kit
- LZV582** USB Keyboard
- 2960100** USB Printer; Citizen PD-24 Handy Printer, 120-220 Vac
- 5836000** Printer Paper for PD-24, Thermal 5/pk

iButton® is a trademark of Maxim Integrated Products.



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In the interest of improving and updating its equipment,

Hach Company reserves the right to alter specifications to equipment at any time.



Be Right™

C7: Conductivity Probe

Item description	Units	Technical Particulars	
		Specified	Offered
C7: Conductivity Probe			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		HACH	✓
Type			
Model		CDC40105	✓
Country of origin			
Key operational data			
Special Feature			
Probe Type		Rugged	✓
Range		Conductivity: 0.01 $\mu\text{S}/\text{cm}$ - 200 mS/cm TDS: 0 - 50,000 g/L Salinity: 0 - 42 g/kg or (‰) Resistivity: 2.5 $\Omega\cdot\text{cm}$ - 49 $\text{M}\Omega\cdot\text{cm}$	✓
Temperature Range		Continuous Use: -10 to 110°C	✓
Thermistor		ATC	✓
Dimensions		45mm (D) x 250mm (L)	✓
Sensor Type		4-pole graphite	✓
Reference Type		-	
Junction		-	
Body Material		Noryl with Stainless Steel	✓
Filling Solution		-	
ISA Required		-	

TDS C7-1

Tender
 Part T2: Returnable documents
 Contract No. 295Q/2021/22

T2.2
 Returnable Schedules

HQd™ DIGITAL METERS & IntelliCAL™ PROBES

Applications ¹¹⁰⁴

- Drinking Water
- Wastewater
- Beverage
- Food
- Industrial Water
- Power
- Source Water



A customized solution for water quality testing that takes the guesswork out of your measurements.

Easy to Use in the Field

The wide variety of rugged probe options available for the portable meter means it is perfect for field use. All connections between the meter and the probe are secure and waterproof. Connectors can be color-coded for quick identification. Information is clearly displayed on one screen with back light for low light conditions. Display results can be enlarged for easier reading.

Probes for Every Application

For high-volume labs or applications where performance is critical, IntelliCAL Red Rod pH electrodes incorporate proven technology to deliver superior accuracy and response times—even when measuring challenging samples over a wide temperature range.

Standard lab probes and rugged field probes are available to measure a wide variety of parameters. Several probes use specialty designs for specific measurement applications. All IntelliCAL probes are automatically recognized by HQd meters and retain calibration history and method settings to minimize errors and setup time.

Simple and Fast Lab Setup

Offering a complete portfolio of water testing parameters and a simple bench top setup, this meter provides the ultimate in lab analysis. The intuitive user interface with guided calibration ensures accurate results, and with a new, large, backlit LCD screen, the meter is simple to read even when measuring two parameters simultaneously.



HQd PORTABLE METERS



Now offering a complete water analysis portfolio of testing parameters with standard, rugged, and ultra options. Hach's HQd system gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition.

Parameter	HQ11d DEDICATED pH/mV PORTABLE METER	HQ14d DEDICATED CONDUCTIVITY PORTABLE METER	HQ30d SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40d DUAL INPUT MULTI-PARAMETER PORTABLE METER
Temperature	■	■	■	■
pH			■	■
Glass	■			
Non-glass (ISFET)			■	■
mV	■		■	■
Conductivity		■	■	■
TDS		■	■	■
Salinity		■	■	■
Resistivity		■	■	■
Dissolved Oxygen			■	■
Luminescent (LDO)			■	■
BOD Sensor (with LDO)			■	■
ORP/Redox	■			■
Ion Selective Electrodes			■	■
Ammonia			■	■
Ammonium			■	■
Chloride			■	■
Fluoride			■	■
Nitrate			■	■
Sodium			■	■

Specifications	HQ11d DEDICATED pH/mV PORTABLE METER	HQ14d DEDICATED CONDUCTIVITY PORTABLE METER	HQ30d SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40d DUAL INPUT MULTI-PARAMETER PORTABLE METER
IP Rating	IP67	IP67	IP67	IP67
Internal Data Storage	500*	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1/0.01/0.001	0.1/0.01/0.001	0.1/0.01/0.001	0.1/0.01/0.001
Interface Languages	13**	13**	13**	13**
Warranty	3 years	3 years	3 years	3 years
Compliance	CE, WEEE	CE, WEEE	CE, WEEE	CE, WEEE
Benchtop	with stand	with stand	with stand	with stand
GLP Features	■	■	■	■
PC Data Transfer Software	included	included	included	included
Backlight	■	■	■	■
Battery Operation	■	■	■	■
AC and USB Operation	optional	optional	optional	included
Prod. No.	HQ11D53000000	HQ14D53000000	HQ30D53000000	HQ40D53000000

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQd BENCHTOP METERS ¹¹⁰⁶

All the benefits of the digital HQd system, with simplified data transfer and easy-to-read results on a large, backlit screen.



Parameter	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
Temperature	■	■	■
pH	■	■	■
Glass	■	■	■
Non-glass (ISFET)	■	■	■
mV	■	■	■
Conductivity	■	■	■
TDS	■	■	■
Salinity	■	■	■
Resistivity	■	■	■
Dissolved Oxygen	■	■	■
Luminescent (LDO)	■	■	■
BOD Sensor (with LDO)	■	■	■
ORP/Redox	■	■	■
Ion Selective Electrodes	■	■	■
Ammonia	■	■	■
Ammonium	■	■	■
Chloride	■	■	■
Fluoride	■	■	■
Nitrate	■	■	■
Sodium	■	■	■

Specifications	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
IP Rating	IP50	IP54	IP52
Internal Data Storage	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001
Interface Languages	13**	13**	13**
Warranty	3 years	3 years	3 years
Compliance	CE, WEEE	CE, WEEE	CE, WEEE
GLP Features	■	■	■
PC Data Transfer Software	Included	Included	Included
Backlight	■	■	■
Battery Operation	■	■	■
Probe Stand	optional for all models	included	included
Prod. No.	HQ411D	HQ430D	HQ440D

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQd IntelliCAL PROBES

					
Specifications	DO Luminescent Dissolved Oxygen	DO Luminescent Dissolved Oxygen	BOD Luminescent Dissolved Oxygen	Conductivity	Conductivity
Special Feature	LDO technology. No membranes.	LDO technology. No membranes.	LDO technology. Designed for BOD applications. No membranes.		
Probe Type	Laboratory Luminescent Dissolved Oxygen	Rugged Luminescent Dissolved Oxygen	Laboratory	Field & Lab	Rugged Outdoor
Range	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm
Accuracy	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.05 from 0 to 10 mg/L ±0.1 for greater than 10 mg/L	Cond: ±0.5% of range TDS: ±0.5% ±1 digit Salinity: ±0.1, ±1 digit	EC: 0.01 µS/cm (5 digits, maximum) TDS: 0.001, 0.01, 0.1 mg/L Salinity: 0.01 ppt
Temperature Range	0 to 50 °C	0 to 50 °C	0 to 50 °C	-10 to 110 °C	-10 to 110 °C
Dimensions (D x L)	0.59 in x 7.87 in (15 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.62 in x 7.87 in (15.875 mm x 200 mm)	0.55 in x 7.87 in (14 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Lumiphore	Lumiphore	Lumiphore	4-pole graphite, $k = 0.40 \text{ cm}^{-1}$	4-pole graphite, $k = 0.40 \text{ cm}^{-1}$
Material	Sensor Body: Polycarbonate / Abs	Sensor Body: Polycarbonate / Abs with Stainless Steel	Sensor Body: Polycarbonate / Abs	Sensor Body: Noryl	Noryl with Stainless Steel
Prod. No.	LDO10101	LDO10105	LBOD10101	CDC40101	CDC40105

					
Specifications	pH Gel-Filled	pH Refillable	pH Refillable	pH Gel-Filled	pH Gel-Filled
Special Feature	Plastic body, general purpose	Plastic body, refillable, general purpose	Plastic body, LIS	Plastic body, wastewater	Low maintenance
Probe Type	Field & Lab	Field & Lab	Field & Lab	Field & Lab	Rugged Outdoor
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	2 to 14 pH	2 to 14 pH
Accuracy	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH
Temperature Range	0 to 60 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Ceramic pin	Ceramic pin	Open	Open	Open
Material	Sensor Body: Epoxy	Sensor Body: Zeonor™	Sensor Body: Zeonor™	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel
Filling Solution	Non-refillable gel	2M LiCl	2M LiCl	Non-refillable solid gel	Non-refillable solid gel
Prod. No.	PHC20101	PHC30101	PHC28101	PHC10101	PHC10105

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.
 *Fits BOD bottle neck size > 15.875mm inside diameter

HQd IntelliCAL PROBES



Specifications	pH Refillable	Red Rod Refillable	Red Rod Refillable	pH Red Rod Refillable	pH Red Rod Refillable
Special Feature	Glass body, general purpose	Glass body, high-performance	Glass body, high-performance	Glass body, high- performance, wastewater	Glass body, high-performance, wastewater resistant
Probe Type	Laboratory	Laboratory	Laboratory	Laboratory	Laboratory
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH
Accuracy	±0.02 pH	±0.01 pH	±0.01 pH	±0.01 pH	±0.01 pH
Temperature Range	0 to 60 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl
Junction	Porous Pin	Porous Pin	Annular Ring	High-Flow Annular Ring	Sleeve
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass
Filling Solution	2756559	25118026	25118026	25118026	25118026
Prod. No.	PHC80501	PHC70501	PHC72501	PHC73501	PHC74501



Specifications	pH Red Rod Refillable	pH Red Rod Refillable	pH Refillable	pH Gel-Filled
Special Feature	Glass body, high-performance, high alkalinity	Glass body, high-performance, flat surface	Glass body, micro-sampler	Stainless steel body, piercing tip
Probe Type	Laboratory	Laboratory	Laboratory	Field & Lab
Range	0 to 14 pH	0 to 12 pH	0 to 14 pH	2 to 12 pH
Accuracy	±0.01 pH	±0.01 pH	±0.02 pH	±0.02 pH
Temperature Range	-10 to 100 °C	-10 to 100 °C	0 to 80 °C	0 to 60 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.19 in x 9.72 in (5 mm x 247 mm)	0.24 in x 7.17 in (6 mm x 182 mm)
Sensor Type	Glass	Glass	Glass	Glass
Reference Type	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Ag/AgCl	Ag/AgCl
Junction	Porous Pin	Annular Ring	Porous Pin	Porous Pin + Open
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: SS w/ Glass Tip
Filling Solution	25118026	25118026	2841700	—
Prod. No.	PHC705A01	PHC72901	PHC30701	PHC10801

HQd IntelliCAL PROBES



Specifications	ORP/Redox Gel-Filled	ORP/Redox Refillable	ORP/Redox Refillable	Ammonia Combination ISE	Ammonium Combination ISE
Special Feature	Flat disc sensor for easy cleaning. Low maintenance.	Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.	Easy-to-replace membrane modules.	Dry storage & fast response time. No replacement membranes.
Probe Type	Field & Lab	Field & Lab	Rugged Outdoor	Laboratory Combination ISE	Laboratory Combination ISE
Range	± 1200 mV	± 1200 mV	± 1200 mV	0.01 mg/L (5x10 ⁻⁵ M) to 14,000 mg/L (1 M) NH ₃ -N	0.018 mg/L (10 ⁻⁵ M) to 9,000 mg/L (0.5 M) NH ₄ ⁺ -N
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	0 to 80 °C	0 to 80 °C	0 to 80 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)
Sensor Type	Platinum disc	Platinum disc	Platinum disc	Gas sensing glass w/ replaceable NH ₃ sensitive membrane	Solid-state PVC membrane
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Open	Ceramic pin	Open	Porous PTFE Annular Ring	Porous PTFE Annular Ring
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel	Sensor Body: Epoxy	Sensor Body: Epoxy
Filling Solution	Non-refillable gel	2841700	Non-refillable gel	4447226	Non-refillable driTEK gel
ISA Required	—	—	—	4447169	2980699
Prod. No.	MTG10101	MTG30101	MTG10105	ISENH318101	ISENH418101



Specifications	Chloride Combination ISE	Fluoride Combination ISE	Nitrate Combination ISE	Sodium Combination ISE
Special Feature	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Fast response time.
Probe Type	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE
Range	0.1 mg/L (5x10 ⁻⁵ M) to 35,500 mg/L (1 M) Cl ⁻	0.01 mg/L (5x10 ⁻⁵ M) to 19,000 mg/L (1 M) F ⁻	0.1 mg/L (7x10 ⁻⁵ M) to 14,000 mg/L (1 M) NO ₃ ⁻ -N	0.025 mg/L (1x10 ⁻⁵ M) to 25,000 mg/L (1 M) Na ⁺
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	5 to 50 °C	5 to 50 °C	0 or 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)
Sensor Type	Solid-state crystal membrane	Solid-state crystal membrane	Solid-state PVC membrane	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™
Filling Solution	Non-refillable driTEK gel	Non-refillable driTEK gel	Non-refillable driTEK gel	2965126
ISA Required	2318069	236999	2984799	4451558
Prod. No.	ISECL18101	ISEFL12101	ISENO318101	ISENA38101

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.

HQd & IntelliCAL PORTABLE KITS

- | Prod. No. | Description |
|----------------|--|
| 8505300 | Rugged LDO/pH/Conductivity Field Kit
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, PHC101 rugged pH probe with 5-m cable, CDC401 rugged conductivity probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), disposable wipes (qty 280), pH 4.01 buffer solution (singlets, pk/20), pH 7.00 buffer solution (singlets, pk/20), pH 10.01 buffer solution (singlets, pk/20), pH storage solution (50 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505400 | Rugged LDO/pH Field Kit
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, PHC101 rugged pH probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), disposable wipes (qty 280), pH 4.01 buffer solution (singlets, pk/20), pH 7.00 buffer solution (singlets, pk/20), pH 10.01 buffer solution (singlets, pk/20), and pH storage solution (50 mL). |
| 8505200 | Rugged LDO Field Kit (w/ HQ40d Meter)
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), and disposable wipes (qty 280). |
| 8506000 | Portable LDO/pH/Conductivity Kit
Includes: HQ40d portable meter, LDO101 optical dissolved oxygen probe with 1-m cable, PHC301 pH probe with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, meter stand, disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer solution (red, 500 mL), pH 7.00 buffer solution (yellow, 500 mL), pH 10.01 buffer solution (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505800 | Portable pH/Conductivity Kit
Includes: HQ40d portable meter, LDO101 optical dissolved oxygen probe with 1-m cable, PHC301 pH probe with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, meter stand, disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer solution (red, 500 mL), pH 7.00 buffer solution (yellow, 500 mL), pH 10.01 buffer solution (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505100 | Rugged LDO Field Kit (w/ HQ30d Meter)
Includes: HQ30d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), and disposable wipes (qty 280). |



Rugged LDO/pH/Conductivity Field Kit, Prod. No. 8505300

HQd & IntelliCAL BENCHTOP KITS ¹¹¹⁹

- | Prod. No. | Description |
|----------------|--|
| 8508700 | Lab LDO/pH/Conductivity Kit
Includes: HQ440d benchtop meter, PHC281 LIS pH Ultra probe with 1-m cable, CDC401 conductivity probe with 1-m cable, LDO101 optical DO probe with 1-m cable, probe stand, 300-mL disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8510200 | Lab pH/Conductivity Kit
Includes: HQ440d benchtop meter, PHC281 pH Ultra electrode with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8508600 | Lab pH Ultra Kit
Includes: HQ440d benchtop meter, PHC281 pH Ultra probe with 1-m cable, probe stand, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), and pH storage solution (500 mL). |
| 8508500 | Lab LBOD Kit
Includes: HQ440d benchtop meter, LBOD101 BOD probe, 117 disposable BOD bottles, bottle stoppers (qty 25), and snap-over bottle caps (qty 24). |
| 8507600 | Ammonia ISE Measurement Kit
Includes: HQ440d benchtop meter, ISENH3181 ammonia electrode with 1-m cable, probe stand, ammonia nitrogen standard (1 mg/L, 500 mL), ammonia nitrogen standard (10 mg/L, 500 mL), ammonia ionic strength adjustor powder pillows (qty 100), and ammonia electrode storage solution (500 mL). |
| 8508000 | Fluoride ISE Measurement Kit
Includes: HQ440d benchtop meter, ISEF121 fluoride electrode with 1-m cable, probe stand, fluoride standard (0.5 mg/L, 500 mL), fluoride standard (1.0 mg/L, 500 mL), fluoride standard (10 mg/L, 500 mL), and ionic strength adjustor powder pillows (qty 100). |



Lab LDO/pH/Conductivity Kit, Prod. No. 8508700

hach.com

HQd Accessories

- WM-BOD MGR** Hach BOD Manager™ Software automates data entry and calculations from the HQd Meter and LBOD probe, providing improved productivity and data integrity for BOD testing. This stand-alone version includes: single computer license with a 2 gigabyte database, tracking up to 300 samples, HQd meter interface, one year of support and software updates, one hour of live web-based training, and training video.
- HQDBODMGR** Hach BOD Manager software in a complete kit with HQ440d benchtop meter and LBOD probe.
- 5838000** Replacement LBOD Sensor Cap; includes iButton® and sensor cap
- 5850800** Replacement Stirrer Assembly for IntelliCAL LBOD Probe
- 5811200** Replacement LDO Sensor Cap; includes iButton® and sensor cap
- 5812711** Replacement Membrane (pack of 3) for IntelliCAL Ammonia Probe
- 5828610** Probe Cable Depth Markers; 5/pkg. (for rugged probes only)
- 5818400** Color Coded Probe Clips; includes ten clips of five different colors
- 5825900** Replacement Polymer Shroud Kit for Rugged Probes; includes protective bell and locking ring
- 8508850** Universal Probe Stand for Standard IntelliCAL Probes
- 4754900** Meter Stand for portable HQd meters
- 5828700** Protective Glove for Meter
- 9345200** Field Meter Protective Caps (for use with Protective Glove)
- 5829400** Probe Holder for portable HQd meter (standard probes only)
- 5825800** Field Kit; includes hard-sided carrying case, protective glove, and 5 120 mL sample cups
- 5826300** USB and A/C Power Adapter Kit; adapter is not waterproof (Included with HQ40d models)
- 5854000** HQd Software Upgrade Kit
- LZV582** USB Keyboard
- 2960100** USB Printer; Citizen PD-24 Handy Printer, 120-220 Vac
- 5836000** Printer Paper for PD-24, Thermal 5/pk

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In the interest of improving and updating its equipment,

Hach Company reserves the right to alter specifications to equipment at any time.



Be Right™

C8: Weighing Instrumentation

Item description	Units	Technical Particulars	
		Specified	Offered
C7: Weighing Instrumentation			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		A&D	A DAME EQUIPMENT
Type			
Model		AD1671	
Country of origin			S.A.
Key operational data			
Max Loading Capacity		Approx. 40kg	
Material		Natural Granite	✓
Dimensions		460(W) x 400(D) x 71(H) mm	400 x 450 x 78
Weight		Approx. 27kg	55KG

TDS C8-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

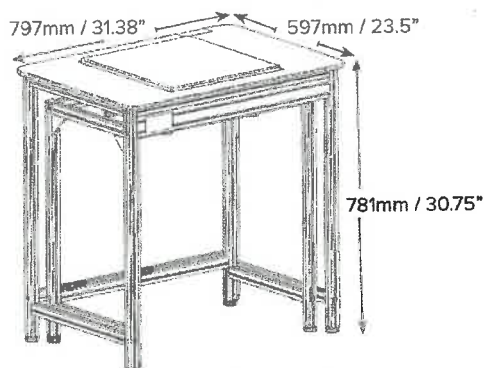


Ergonomically styled, the AVT offers a solid, stable surface developed specifically to help decrease vibration during measurement. When used in tandem with a balance, the table allows the balance to perform with marked precision, despite air currents or movements that might cause readings to fluctuate. The AVT is easy to assemble, with all necessary tools supplied. The internal working surface measures 15.7" x 17.7" / 400 x 450mm, allowing ample space for a balance. Its large, scratch-resistant dark granite slab sits on shock-absorbing rubber mounts, while leveling feet accommodate uneven surfaces. The balance fits in the middle of the AVT's granite surface, stabilizing the base and enabling greater precision.

The smartest solution for reducing vibration when weighing

Features

- Two-table construction keeps the granite block in the middle and reduces interference
- Large working surface of 15.7" x 17.7" / 400 x 450mm
- Scratch-resistant granite slab
- Extra space surrounding the vibration slab for resting samples
- Lightweight tubular aluminium frame
- Adjustable levelling feet for uneven surfaces
- Polished finish is easy to clean
- Total weight of table and work surface 121lb / 55kg



About ADAM:

For more than 40 years, professionals worldwide have relied on Adam Equipment for an extensive selection of dependable and affordable weighing equipment. Adam provides the right balance of speed, performance and value.

Supplied by:

www.adamequipment.com

Adam Equipment follows a policy of continuous improvement and reserves the right to change specifications and pricing without notice. Adam Equipment's standard terms and conditions of sale apply. Errors and omissions excepted.
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C9: Portable Water Quality Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C9: Water Quality Meter			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		HACH	✓
Type			
Model		HQ30D	HQ1130
Country of origin			
Key operational data			
Power		USB/DC and AC/DC power connections available	✓
Languages		Selectable: English, French, German, Italian, Spanish, Danish, Dutch, Polish, Portuguese, Turkish, Swedish, Czech, Russian	✓
Display		Display readings from one or two probes Simultaneous readings from two probes (HQ40d only) pH Display: pH, mV, temperature Conductivity Display: Conductivity, TDS, salinity, resistivity, temperature LDO/LBOD Display: dissolved oxygen, pressure, temperature ORP/Redox Display: mV, temperature ISE Display: Concentration, mV, temperature	✓
Data Memory		500 results	✓
Data Storage		GLP/ISO compliant data stored with calibration details. Calibration and check standard data stored in data log. Automatically store in "press to read" mode and interval measurement mode. Manually store in "continuous read" mode.	✓

TDS C9-1

Tender
 Part T2: Returnable documents
 Contract No. 295Q/2021/22

T2.2
 Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Data Export		Download via USB connection to PC or flash memory device. Automatically transfer entire data log or as readings are taken.	✓
Connections		Optional w/ use of USB/Power adapter: USB type A (USB flash memory device, printer, keyboard) Integrated USB type B (PC)	✓
Communication		Direct to PC (Bi-directional) via USB Virtual Serial Port and USB/Power Adapter	✓
Temperature Correction/ Compensation		Off, automatic, and manual (auto correction is parameter dependent)	✓
Display Lock Function		Continuous measurement or "press to read" mode available with averaging function for LDO measurement	✓
Automatic pH Buffer Recognition		Color-coded: 4.01, 7.00, 10.01 pH; IUPAC: 1.679, 4.005, 7.000, 10.012, 12.45 DIN: 1.09, 4.65, 9.23 User-defined custom buffer sets	✓
Keyboard		External PC keyboard via USB connection	✓
Water Resistance		Meter Casing: 1 meter submersion for 30 minutes (IP67)	✓
Dimensions		23.5 x 17.5 x 8.6 cm (9.3 x 6.9 x 3.4 in.)	✓
Weight		335 g (0.75 lb.)	✓

TDS C9-2

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules



HQ1130 Portable Dedicated Dissolved Oxygen Meter with Rugged Field Dissolved Oxygen Electrode, 5 m Cable

Product #: LEV015.53.11302
 USD Price: Contact Hach
 Call for ship date

A robust and intuitive range of portable meters, instilling confidence in reporting and managing your results.

The HQ Series is for water quality professionals who want to perform electrochemical analysis for field and lab environments. Our new portable platform will allow you to collect intuitive, accurate measurements, manage data, and easily review results, while supplying an IP67 robustness rating.

They provide a true rugged, field-ready solution with on-screen, visual step-by-step operating guidance that provides users with confidence in reporting and managing their results. Unlike other field meters with basic user interfaces and without easily accessible data, the HQ Series secures, simplifies, and accelerates the complete measurement process for field users.

Choose from 4 models, including the three-input HQ4000 series, dual-input HQ2000 series, and single-input HQ1000 series. These meters offer a range in measurement versatility - eliminating the need for multiple pieces of equipment.

Performing a successful calibration has never been so simple

Most measuring issues are due to incorrect calibration procedures. With our illustrated, step-by-step on-screen calibration and troubleshooting procedures, water quality professionals can succeed every time.

Deliver your daily activity in just a few clicks

Whether you are at your facility or working in the field, the Hach® HQ Series portable meter ensures your data will be safely transferred via USB or optional Bluetooth*. Take advantage of additional data validation when you connect your field meter to Claros™ Data Management software.

Sensors designed for every application

We offer standard laboratory and rugged field IntelliCAL® smart sensors available with the HQ Series to measure a wide variety of parameters including Total Dissolved Solids (TDS), Optical Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Temperature, Conductivity, and pH. IntelliCAL smart probes are automatically recognized by HQ meters, retain calibration history and method settings to minimize errors and setup time. They incorporate proven technology to deliver superior accuracy and response times – even when measuring challenging samples or challenging operating environments.

Peace of mind: Hach service and support will be there for you

Our Technical Support, Field Service, and Central Service Teams work together with over 80 years of electrochemistry expertise to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk. Never feel alone when you need support.

Specifications

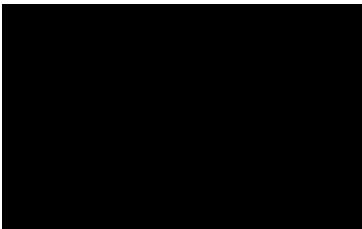
Accessories Included:	USB charger, power cable, and clips
Automatic Buffer Recognition:	Yes
Backlight:	Yes

Barometric Pressure Measurement:	Automatic compensation of DO when using an LDO or LBOD probe
Cable Length:	5 m
Calibration Intervals/Alerts/Reminder:	Off, selectable from 2 hours to 7 days
Certifications:	CE, FCC, ISED, RCM, KC, ETL Verified: US DOE/ NRCan Energy Efficiency, RoHS
Data Export:	USB connection to PC or USB storage device (limited to the storage device capacity).
Data Memory:	5000 data points
Data Storage:	Automatic in Press to Read Mode and Interval Mode. Manual in Continuous Read Mode.
Dimensions (H x W x D):	63 mm x 97 mm x 220 mm
Display:	Up to 3 parameters at a time, dependent on HQ model
Display Type:	536x336 Mono-TFT
DO Measurement Range:	0.1 - 20.0 mg/L (ppm), 1 - 200% saturation
DO Resolution:	0.1
Enclosure Rating:	IP67 (with battery compartment installed)
GLP Features:	Date; Time; Sample ID; Operator ID, Calibration
Inputs:	1
Instrument:	Portable
ISE Direct Measurement Range:	No
ISE Electrode Calibration:	No
Kit?:	Yes
Languages:	English, Chinese - Simplified, Spanish, French, German, Italian, Japanese, Turkish, Dutch, Portuguese (PT & BR), Korean, Danish, Swedish, Polish, Norwegian, Hungarian, Greek, Finnish, Czech, Romanian, Croatian, Bulgarian, Slovak, Lithuanian, Estonian, Slovenian, Russian
Lock Function:	Continuous / Auto-stabilization ("press to read") / At Interval
Measurement Method:	Probe specific programmed method settings
Model:	HQ1130 DO/1 Channel
mV Measurement at Stable Reading:	No
mV Measurement Range:	No
mV Resolution:	0.1 mV
Operating Error Messages:	Clear text error messages displayed
Operating Humidity:	90% (non-condensing)
Operating Interface:	Soft Touch Keypad
Operating Temperature:	0 - 60 °C
Parameter:	Dissolved Oxygen (DO)
Power Supply:	Rechargeable lithium-ion battery 18650 (internal)
Probe Type:	Intellical Standard Laboratory or Rugged Field
Probes included:	LDO10105
Protection Class:	IEC Class III (SELV (Separated/Safety Extra-Low Voltage) powered); external
Region:	US
Sensor A:	LDO10105
Sensor B:	None
Sensor C:	None
Software available:	Claros
Storage Conditions:	-20 - 60 °C, max. 90% relative humidity (non-condensing)

Temperature Compensation:	Automatic Temperature compensation for pH	1118
Temperature Measurement:	°C or °F	
Temperature Resolution:	0.1 °C	
Type of measurement:	Field Measurements	
Warranty:	12 months	
Weight:	519 g (Meter only)	
What's included?:	LEV015.53.1130A HQ1130 Portable DO Meter, 1 channel	
	LDO10105 IntelliCAL dissolved oxygen (DO) sensor, 5 m cable	
	LEZ015.99.A002A HQ rugged electrode field case	
	LEZ015.99.A003A HQ hand strap & kickstand	
	LEZ015.99.A004A HQ protective glove	
	2097000 Disposable wipes, 11x22 cm, pk/280	
	5828610 Cable marker for rugged electrode	
	User manuals	

What's included?

LEV015.53.1130A HQ1130 Portable DO Meter, 1 channel LDO10105 IntelliCAL dissolved oxygen (DO) sensor, 5 m cableLEZ015.99.A002A HQ rugged electrode field caseLEZ015.99.A003A HQ hand strap & kickstandLEZ015.99.A004A HQ protective glove 2097000 Disposable wipes, 11x22 cm, pk/2805828610 Cable marker for rugged electrodeUser manuals



C10: Dissolved Oxygen Probe

Item description	Units	Technical Particulars	
		Specified	Offered
C10: Dissolved Oxygen Probe			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		HACH	✓
Type			
Model		LDO10105	✓
Country of origin			
Key operational data			
Special Feature		LDO technology. No membranes	✓
Probe Type		Standard	✓
Range		DO: 0.1 - 20.0 mg/L % Saturation: 1 - 200%	✓
Temperature Range		Continuous use:0 to 50°C	✓
Thermistor		ATC	✓
Dimensions		15mm (D) x 200mm (L)	✓
Sensor Type		Lumiphore	✓
Junction		-	✓
Body Material		PC/Abs	✓
Filling Solution		-	
ISA Required		-	

TDS C10-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

HQd™ DIGITAL METERS & IntelliCAL™ PROBES

Applications ¹¹²⁰

- Drinking Water
- Wastewater
- Beverage
- Food
- Industrial Water
- Power
- Source Water



A customized solution for water quality testing that takes the guesswork out of your measurements.

Easy to Use in the Field

The wide variety of rugged probe options available for the portable meter means it is perfect for field use. All connections between the meter and the probe are secure and waterproof. Connectors can be color-coded for quick identification. Information is clearly displayed on one screen with back light for low light conditions. Display results can be enlarged for easier reading.

Probes for Every Application

For high-volume labs or applications where performance is critical, IntelliCAL Red Rod pH electrodes incorporate proven technology to deliver superior accuracy and response times—even when measuring challenging samples over a wide temperature range.

Standard lab probes and rugged field probes are available to measure a wide variety of parameters. Several probes use specialty designs for specific measurement applications. All IntelliCAL probes are automatically recognized by HQd meters and retain calibration history and method settings to minimize errors and setup time.

Simple and Fast Lab Setup

Offering a complete portfolio of water testing parameters and a simple bench top setup, this meter provides the ultimate in lab analysis. The intuitive user interface with guided calibration ensures accurate results, and with a new, large, backlit LCD screen, the meter is simple to read even when measuring two parameters simultaneously.



HQd PORTABLE METERS



Now offering a complete water analysis portfolio of testing parameters with standard, rugged, and ultra options. Hach's HQd system gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition.

Parameter	HQ11d DEDICATED pH/mV PORTABLE METER	HQ14d DEDICATED CONDUCTIVITY PORTABLE METER	HQ30d SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40d DUAL INPUT MULTI-PARAMETER PORTABLE METER
Temperature	■	■	■	■
pH			■	■
Glass	■			
Non-glass (ISFET)			■	■
mV	■		■	■
Conductivity		■	■	■
TDS		■	■	■
Salinity		■	■	■
Resistivity		■	■	■
Dissolved Oxygen			■	■
Luminescent (LDO)			■	■
BOD Sensor (with LDO)			■	■
ORP/Redox	■			
Ion Selective Electrodes			■	■
Ammonia			■	■
Ammonium			■	■
Chloride			■	■
Fluoride			■	■
Nitrate			■	■
Sodium			■	■

Specifications	HQ11d DEDICATED pH/mV PORTABLE METER	HQ14d DEDICATED CONDUCTIVITY PORTABLE METER	HQ30d SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40d DUAL INPUT MULTI-PARAMETER PORTABLE METER
IP Rating	IP67	IP67	IP67	IP67
Internal Data Storage	500*	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001
Interface Languages	13**	13**	13**	13**
Warranty	3 years	3 years	3 years	3 years
Compliance	CE, WEEE	CE, WEEE	CE, WEEE	CE, WEEE
Benchmark	with stand	with stand	with stand	with stand
GLP Features	■	■	■	■
PC Data Transfer Software	Included	Included	Included	Included
Backlight	■	■	■	■
Battery Operation	■	■	■	■
AC and USB Operation	optional	optional	optional	Included
Prod. No.	HQ11D53000000	HQ14D53000000	HQ30D53000000	HQ40D53000000

*Expanded storage with external USB storage devices. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQd BENCHTOP METERS ¹¹²²

All the benefits of the digital HQd system, with simplified data transfer and easy-to-read results on a large, backlit screen.



Parameter	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
Temperature	■	■	■
pH		■	■
Glass	■		
Non-glass (ISFET)			■
mV	■	■	■
Conductivity		■	■
TDS		■	■
Salinity		■	■
Resistivity		■	■
Dissolved Oxygen		■	■
Luminescent (LDO)			■
BOD Sensor (with LDO)			■
ORP/Redox	■	■	■
Ion Selective Electrodes			■
Ammonia		■	■
Ammonium		■	■
Chloride		■	■
Fluoride		■	■
Nitrate		■	■
Sodium		■	■

Specifications	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
IP Rating	IP54	IP54	IP54
Internal Data Storage	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001	0.1 / 0.01 / 0.001
Interface Languages	13**	13**	13**
Warranty	3 years	3 years	3 years
Compliance	CE.WEEE	CE.WEEE	CE.WEEE
GLP Features	■	■	■
PC Data Transfer Software	Included	Included	Included
Backlight	■	■	■
Battery Operation	■	■	■
Probe Stand	optional for all models	Included	Included
Prod. No.	HQ411D	HQ430D	HQ440D

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQd IntelliCAL PROBES



Specifications	DO Luminescent Dissolved Oxygen	DO Luminescent Dissolved Oxygen	BOD Luminescent Dissolved Oxygen	Conductivity	Conductivity
Special Feature	LDO technology. No membranes.	LDO technology. No membranes.	LDO technology. Designed for BOD applications. No membranes.		
Probe Type	Laboratory Luminescent Dissolved Oxygen	Rugged Luminescent Dissolved Oxygen	Laboratory	Field & Lab	Rugged Outdoor
Range	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm
Accuracy	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.05 from 0 to 10 mg/L ±0.1 for greater than 10 mg/L	Cond: ±0.5% of range TDS: ±0.5% ±1 digit Salinity: ±0.1, ±1 digit	EC: 0.01 µS/cm (5 digits, maximum) TDS: 0.001, 0.01, 0.1 mg/L Salinity: 0.01 ppt
Temperature Range	0 to 50 °C	0 to 50 °C	0 to 50 °C	-10 to 110 °C	-10 to 110 °C
Dimensions (D x L)	0.59 in x 7.87 in (15 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.62 in x 7.87 in (15.875 mm x 200 mm)	0.55 in x 7.87 in (14 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Lumiphore	Lumiphore	Lumiphore	4-pole graphite, k = 0.40 cm ⁻¹	4-pole graphite, k = 0.40 cm ⁻¹
Material	Sensor Body: Polycarbonate / Abs	Sensor Body: Polycarbonate / Abs with Stainless Steel	Sensor Body: Polycarbonate / Abs	Sensor Body: Noryl	Sensor Body: Noryl with Stainless Steel
Prod. No.	LDO10101	LDO10105	LBOD10101	CDC40101	CDC40105



Specifications	pH Gel-Filled Plastic body, general purpose	pH Refillable Plastic body, general purpose	pH Refillable Plastic body, LIS	pH Gel-Filled Plastic body, wastewater	pH Gel-Filled Plastic body, low maintenance
Special Feature					
Probe Type	Field & Lab	Field & Lab	Field & Lab	Field & Lab	Rugged Outdoor
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	2 to 14 pH	2 to 14 pH
Accuracy	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH
Temperature Range	0 to 60 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Open
Junction	Ceramic pin	Ceramic pin	Open	Open	Open
Material	Sensor Body: Epoxy	Sensor Body: Zeonor™	Sensor Body: Zeonor™	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel
Filling Solution	Non-refillable gel	2841750	2841750	Non-refillable solid gel	Non-refillable solid gel
Prod. No.	PHC20101	PHC30101	PHC28101	PHC10101	PHC10105

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.
 *Fits BOD bottle neck size > 15.875mm inside diameter

HQd IntelliCAL PROBES



Specifications	pH Refillable	pH Red Rod Refillable	pH Red Rod Refillable	pH Red Rod Refillable	pH Red Rod Refillable
Special Feature	Glass body, general purpose	Glass body, high-performance	Glass body, high-performance	Glass body, high- performance, wastewater	Glass body, high-performance, wastewater influent
Probe Type	Laboratory	Laboratory	Laboratory	Laboratory	Laboratory
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH
Accuracy	±0.02 pH	±0.01 pH	±0.01 pH	±0.01 pH	±0.01 pH
Temperature Range	0 to 80 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C	-10 to 100 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Red Rod, Saturated KCl
Junction	Porous Pin	Porous Pin	Annular Ring	High-Flow Annular Ring	Sleeve
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass
Filling Solution	2756559	25118026	25118026	25118026	25118026
Prod. No.	PHC80501	PHC70501	PHC72501	PHC73501	PHC74501



Specifications	pH Red Rod Refillable	pH Red Rod Refillable	pH Refillable	pH Gel-Filled
Special Feature	Glass body, high-performance, high alkalinity	Glass body, high-performance, flat surface	Glass body, micro-samples	Stainless steel body, piercing tip
Probe Type	Laboratory	Laboratory	Laboratory	Field & Lab
Range	0 to 14 pH	0 to 12 pH	0 to 14 pH	2 to 12 pH
Accuracy	±0.01 pH	±0.01 pH	±0.02 pH	±0.02 pH
Temperature Range	-10 to 100 °C	-10 to 100 °C	0 to 80 °C	0 to 60 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.19 in x 9.72 in (5 mm x 247 mm)	0.24 in x 7.17 in (6 mm x 182 mm)
Sensor Type	Glass	Glass	Glass	Glass
Reference Type	Red Rod, Saturated KCl	Red Rod, Saturated KCl	Ag/AgCl	Ag/AgCl
Junction	Porous Pin	Annular Ring	Porous Pin	Porous Pin + Open
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: SS w/ Glass Tip
Filling Solution	25118026	25118026	2641700	-
Prod. No.	PHC705A01	PHC72901	PHC30701	PHC10601

HQd IntelliCAL PROBES



Specifications	ORP/Redox Gel-Filled	ORP/Redox Refillable	ORP/Redox Refillable	Ammonia Combination ISE	Ammonium Combination ISE
Special Feature	Flat disc sensor for easy cleaning. Low maintenance.	Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.	Easy-to-replace membrane modules.	Dry storage & fast response time. No replacement membranes.
Probe Type	Field & Lab	Field & Lab	Rugged Outdoor	Laboratory Combination ISE	Laboratory Combination ISE
Range	± 1200 mV	± 1200 mV	± 1200 mV	0.01 mg/L (5x10 ⁻⁵ M) to 14,000 mg/L (1 M) NH ₃ -N	0.018 mg/L (19 ⁻⁵ M) to 9,000 mg/L (0.5 M) NH ₄ ⁺ -N
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	0 to 80 °C	0 to 80 °C	0 to 80 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)
Sensor Type	Platinum disc	Platinum disc	Platinum disc	Gas sensing glass w/ replaceable NH ₃ sensitive membrane	Solid-state PVC membrane
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Open	Ceramic pin	Open	Porous PTFE Annular Ring	Porous PTFE Annular Ring
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel	Sensor Body: Epoxy	Sensor Body: Epoxy
Filling Solution	Non-refillable gel	2841703	Non-refillable gel	4447226	Non-refillable drITEK gel
ISA Required	—	—	—	4447169	2980699
Prod. No.	MTC10101	MTC30101	MTC10105	ISENH318101	ISENH418101



Specifications	Chloride Combination ISE	Fluoride Combination ISE	Nitrate Combination ISE	Sodium Combination ISE
Special Feature	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Fast response time.
Probe Type	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE
Range	0.1 mg/L (3x10 ⁻⁴ M) to 35,500 mg/L (1 M) Cl ⁻	0.01 mg/L (5x10 ⁻⁵ M) to 19,000 mg/L (1 M) F ⁻	0.1 mg/L (7x10 ⁻⁴ M) to 14,000 mg/L (1 M) NO ₃ ⁻ -N	0.025 mg/L (1x10 ⁻⁴ M) to 23,000 mg/L (1 M) Na ⁺
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	5 to 50 °C	5 to 50 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)	0.47 in x 8.66 in (12 mm x 220 mm)
Sensor Type	Solid-state crystal membrane	Solid-state crystal membrane	Solid-state PVL membrane	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™
Filling Solution	Non-refillable drITEK gel	Non-refillable drITEK gel	Non-refillable drITEK gel	2965126
ISA Required	2318359	258995	2964799	4451569
Prod. No.	ISECL18101	ISEF12101	ISENO318101	ISENA38101

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.

HQd & IntelliCAL PORTABLE KITS

- | Prod. No. | Description |
|----------------|--|
| 8505300 | Rugged LDO/pH/Conductivity Field Kit
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, PHC101 rugged pH probe with 5-m cable, CDC401 rugged conductivity probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), disposable wipes (qty 280), pH 4.01 buffer solution (singlets, pk/20), pH 7.00 buffer solution (singlets, pk/20), pH 10.01 buffer solution (singlets, pk/20), pH storage solution (50 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505400 | Rugged LDO/pH Field Kit
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, PHC101 rugged pH probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), disposable wipes (qty 280), pH 4.01 buffer solution (singlets, pk/20), pH 7.00 buffer solution (singlets, pk/20), and pH storage solution (50 mL). |
| 8505200 | Rugged LDO Field Kit (w/ HQ40d Meter)
Includes: HQ40d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), and disposable wipes (qty 280). |
| 8506000 | Portable LDO/pH/Conductivity Kit
Includes: HQ40d portable meter, LDO101 optical dissolved oxygen probe with 1-m cable, PHC301 pH probe with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, meter stand, disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer solution (red, 500 mL), pH 7.00 buffer solution (yellow, 500 mL), pH 10.01 buffer solution (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505800 | Portable pH/Conductivity Kit
Includes: HQ40d portable meter, LDO101 optical dissolved oxygen probe with 1-m cable, PHC301 pH probe with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, meter stand, disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer solution (red, 500 mL), pH 7.00 buffer solution (yellow, 500 mL), pH 10.01 buffer solution (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8505100 | Rugged LDO Field Kit (w/ HQ30d Meter)
Includes: HQ30d portable meter, LDO101 rugged dissolved oxygen probe with 5-m cable, rugged field case, protective meter glove, PMP erlenmeyer flask (250 mL), sample containers (qty 4, 120 mL), wash bottle (500 mL), and disposable wipes (qty 280). |



Rugged LDO/pH/Conductivity Field Kit, Prod. No. 8505300

HQd & IntelliCAL BENCHTOP KITS ¹¹²⁶

- | Prod. No. | Description |
|----------------|--|
| 8508700 | Lab LDO/pH/Conductivity Kit
Includes: HQ440d benchtop meter, PHC281 LIS pH Ultra probe with 1-m cable, CDC401 conductivity probe with 1-m cable, LDO101 optical DO probe with 1-m cable, probe stand, 300-mL disposable BOD bottle, BOD bottle stoppers, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8510200 | Lab pH/Conductivity Kit
Includes: HQ440d benchtop meter, PHC281 pH Ultra electrode with 1-m cable, CDC401 conductivity probe with 1-m cable, probe stand, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), pH storage solution (500 mL), and NaCl conductivity standard (1000 µS/cm, 100 mL). |
| 8508600 | Lab pH Ultra Kit
Includes: HQ440d benchtop meter, PHC281 pH Ultra probe with 1 m cable, probe stand, pH 4.01 buffer (red, 500 mL), pH 7.00 buffer (yellow, 500 mL), pH 10.01 buffer (blue, 500 mL), and pH storage solution (500 mL). |
| 8508500 | Lab LBOD Kit
Includes: HQ440d benchtop meter, LBOD101 BOD probe, 117 disposable BOD bottles, bottle stoppers (qty 25), and snap-over bottle caps (qty 24). |
| 8507600 | Ammonia ISE Measurement Kit
Includes: HQ440d benchtop meter, ISENH3181 ammonia electrode with 1-m cable, probe stand, ammonia nitrogen standard (1 mg/L, 500 mL) ammonia nitrogen standard (10 mg/L, 500 mL), ammonia nitrogen standard (100 mg/L, 500 mL), ammonia ionic strength adjustor powder pillows (qty 100), and ammonia electrode storage solution (500 mL). |
| 8508000 | Fluoride ISE Measurement Kit
Includes: HQ440d benchtop meter, ISEF121 fluoride electrode with 1-m cable, probe stand, fluoride standard (0.5 mg/L, 500 mL), fluoride standard (1.0 mg/L, 500 mL), fluoride standard (10 mg/L, 500 mL), and ionic strength adjustor powder pillows (qty 100). |



Lab LDO/pH/Conductivity Kit, Prod. No. 8508700

HQd Accessories

- WM-BOD MGR** Hach BOD Manager™ Software automates data entry and calculations from the HQd Meter and LBOD probe, providing improved productivity and data integrity for BOD testing. This stand-alone version includes: single computer license with a 2 gigabyte database, tracking up to 300 samples, HQd meter interface, one year of support and software updates, one hour of live web-based training, and training video.
- HQDBODMGR** Hach BOD Manager software in a complete kit with HQ440d benchtop meter and LBOD probe.
- 5838000** Replacement LBOD Sensor Cap; includes iButton® and sensor cap
- 5850800** Replacement Stirrer Assembly for IntelliCAL LBOD Probe
- 5811200** Replacement LDO Sensor Cap; includes iButton® and sensor cap
- 5812711** Replacement Membrane (pack of 3) for IntelliCAL Ammonia Probe
- 5828610** Probe Cable Depth Markers; 5/pkg. (for rugged probes only)
- 5818400** Color Coded Probe Clips; includes ten clips of five different colors
- 5825900** Replacement Polymer Shroud Kit for Rugged Probes; includes protective bell and locking ring
- 8508850** Universal Probe Stand for Standard IntelliCAL Probes
- 4754900** Meter Stand for portable HQd meters
- 5828700** Protective Glove for Meter
- 9345200** Field Meter Protective Caps (for use with Protective Glove)
- 5829400** Probe Holder for portable HQd meter (standard probes only)
- 5825800** Field Kit; includes hard-sided carrying case, protective glove, and 5 120 mL sample cups
- 5826300** USB and A/C Power Adapter Kit; adapter is not waterproof (Included with HQ40d models)
- 5854000** HQd Software Upgrade Kit
- LZV582** USB Keyboard
- 2960100** USB Printer; Citizen PD-24 Handy Printer, 120-220 Vac
- 5836000** Printer Paper for PD-24, Thermal 5/pk

iButton® is a trademark of Maxim Integrated Products.



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Bc Right™

C11: Total Suspended Solids Measuring Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C11: Total Suspended Solids Measuring Apparatus			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		HACH	✓
Type			✓
Model		TSS Portable Hand-held	
Country of origin			
Key operational data			
Measurement Principle		Combined multi-beam alternating light method with infrared diode system Turbidity: 2-channel 90° scattered light measurement in accordance with DIN EN 27027/ISO 7027; additional measured value verification by six-channel multiple angle measurement Suspended Solids: modified absorbance measurement, six-channel multiple angle measurement	✓
Range		Turbidity: 0.001 to 4000 NTU Suspended Solids: 0.001 to 400 g/L (1 to 400,000 mg/L) (upper range depending on sample characteristics)	✓
Accuracy		Turbidity: less than 3% or ±0.02 NTU, whichever is greater Suspended Solids: less than 4% or ±0.001 g/L whichever is greater	✓
Resolution		Turbidity: 0.001 at 0 to 0.999 NTU; 0.01 at 1 to 9.99 NTU; 0.1 at 10 to 99.9 NTU; 1 at greater than 100 NTU Suspended Solids: 0.001 at 0 to 0.999 g/L; 0.01 at 1 to 9.99 g/L; 0.1 at 10 to 99.9 g/L; 1 at greater than 100 g/L	✓
Units of Measure		Turbidity: NTU, FNU, EBC Suspended Solids: ppm, mg/L, g/L, %	✓

TDS C11-1

Tender
 Part T2: Returnable documents
 Contract No. 295Q/2021/22

T2.2
 Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Operating Modes		Single, interval, or continuous measurement	✓
Display		24 mm (0.95 in.) high LCD graphic display; UV treated; alphanumeric 4 lines of 16 characters each	✓
Operating Temperature		0 to 60°C (32 to 140°F)	✓
Operating Pressure		0 to 10 bar (0 to 145 psi)	✓
Relative Humidity		0 to 95% relative humidity	✓
Power Requirements		Meter: 6 rechargeable NiMH batteries (recommended 1.2 V/min. 1800 mAh) or 6 "AA" standard batteries Plug-in Charger: 115/230 Vac, 50/60 Hz	✓
Sensor Cable Length		10 m (32.8 ft.)	✓
Meter Enclosure Rating		IP55	✓
Probe Enclosure Rating		IP68	✓
Current Input		Approx. 60mA	✓
Wetted Materials		Probe: stainless steel Sensor Window: sapphire	✓
Internal Data Memory		For up to 290 measured values	✓
Weight		Meter: 0.6 kg (1.2 lb.) Probe: 1.6 kg (3.5 lb.)	✓
Dimensions		Meter: 110 x 230 x 40 mm (4.3 x 9.1 x 1.6 in.) Probe: 290 x 40 mm (11.4 x 1.6 in.) Case: 320 x 450 x 110 mm (12.6 x 17.7 x 4.3 in.)	✓
Warranty		2 years	✓

TDS C11-2

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Blanket Level Instrument

Features and Benefits

Three Parameters in One Instrument

The Hach TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Blanket Level Instrument's unique multi-beam alternating light method with infrared diode system gives it a broad measuring range for both turbidity and suspended solids in one portable handheld instrument.

Multiple Calibration Curves for Convenience

It stores up to four different calibration curves for suspended solids and one for turbidity. There's no need for constant re-calibration for different locations or types of sludge.

Easy Sludge Blanket Levels

The sludge blanket level can be measured by setting the units to mg/L, g/L or percent. Calibrate the instrument and then slowly lower the sensor into the clarifier. The suspended solids concentration will significantly increase as it reaches the sludge blanket level. Once the blanket level is reached, examine the sensor cable which is marked every meter to determine the sludge blanket level depth from the water surface.

Air Bubble Compensation for Accuracy

The instrument software automatically compensates for air bubbles to prevent its influence on the measurement. Turbidity is pre-calibrated with a calibration curve stored in the instrument. For suspended solids, each of the calibration curves can be closely adjusted to the laboratory results because each calibration curve can use up to three points per curve plus a zero value.

Durable Materials for Long Life

The probe is made of polished stainless steel with a scratch-resistant sapphire window to withstand harsh environments. Polished stainless steel helps keep particles from sticking to the surface of the probe. The internal memory stores up to 290 measuring values, including time, date, measurement, location, and homogeneity. Three operating modes are available—single, interval, or continuous.

Rechargeable Battery Power

With rechargeable batteries, the Hach TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Blanket Level Instrument can provide up to one month of usage in typical measuring mode and up to four hours of continuous operation. Interval mode has automatic shut off between measurements for longer operation in the field. The battery status is always visible. The operating menu is user-friendly and is displayed on an easy-to-read LCD graphic display.



Turbidity, Suspended Solids, and Sludge Blanket Level

The Hach TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Blanket Level Instrument is ideal for remote monitoring in municipal and industrial wastewater, drinking water, and river monitoring. This instrument can be used as an optimization tool for monitoring processes or as an easy way to calibrate or validate online sensors.

DW
WW

Specifications*

Measurement Principle

Combined multi-beam alternating light method with infrared diode system

Turbidity: 2-channel 90° scattered light measurement in accordance with DIN EN 27027/ISO 7027; additional measured value verification by six-channel multiple angle measurement

Suspended Solids: modified absorbance measurement, six-channel multiple angle measurement

IW
E

Range

Turbidity: 0.001 to 4000 NTU

Suspended Solids: 0.001 to 400 g/L (1 to 400,000 mg/L) (upper range depending on sample characteristics)

Accuracy

Turbidity: less than 3% or ± 0.02 NTU, whichever is greater
Suspended Solids: less than 4% or ± 0.001 g/L whichever is greater

Resolution

Turbidity: 0.001 at 0 to 0.999 NTU; 0.01 at 1 to 9.99 NTU; 0.1 at 10 to 99.9 NTU; 1 at greater than 100 NTU

Suspended Solids: 0.001 at 0 to 0.999 g/L; 0.01 at 1 to 9.99 g/L; 0.1 at 10 to 99.9 g/L; 1 at greater than 100 g/L

Units of Measure

Turbidity: NTU, FNU, EBC

Suspended Solids: ppm, mg/L, g/L, %

Continued on next page.

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications* continued

Operating Modes
Single, interval, or continuous measurement

Display
24 mm (0.95 in.) high LCD graphic display; UV treated; alphanumeric 4 lines of 16 characters each

Operating Temperature
0 to 60°C (32 to 140°F)

Operating Pressure
0 to 10 bar (0 to 145 psi)

Relative Humidity
0 to 95% relative humidity

Power Requirements
Meter: 6 rechargeable NiMH batteries (recommended 1.2 V/min. 1800 mAh) or 6 "AA" standard batteries
Plug-in Charger: 115/230 Vac, 50/60 Hz

Sensor Cable Length
10 m (32.8 ft.)

Meter Enclosure Rating
IP55

Probe Enclosure Rating
IP68

Current Input
Approx. 60 mA

Wetted Materials
Probe: stainless steel
Sensor Window: sapphire

Internal Data Memory
For up to 290 measured values

Weight
Meter: 0.6 kg (1.2 lb.)
Probe: 1.6 kg (3.5 lb.)

Dimensions
Meter: 110 x 230 x 40 mm (4.3 x 9.1 x 1.6 in.)
Probe: 290 x 40 mm (11.4 x 1.6 in.)
Case: 320 x 450 x 110 mm (12.6 x 17.7 x 4.3 in.)

Warranty
2 years

*Specifications subject to change without notice

Ordering Information

LXV322.99.00002 Complete TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Blanket Level System; includes meter, probe, rechargeable batteries, charger for rechargeable batteries with four plug adapters, manual, quick start guide and carrying case.

Replacement Parts

LXV320.99.00002 TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Blanket Level Meter only

LXV321.99.00002 TSS Turbidity, Suspended Solids, and Sludge Blanket Level Probe only; with 10 m (32.8 ft.) cable and plug

LZY607 Charger; for rechargeable batteries; includes 4 plug adapters (for Spain, United States, Great Britain, Hong Kong, Malaysia, Singapore, Australia, New Zealand, and China)

LZY606 Battery Holder

LZY604 Rechargeable NiMH Batteries; qty. 6

LZY605 Hard-sided Instrument Carrying Case; with handle, empty

TSS Portable Handheld System
(order Prod. No. LXV322.99.00002)



Lit. No. 2634

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At Hach, it's about learning
from our customers and
providing the right answers.
It's more than ensuring the
quality of water—it's about
ensuring the quality of life.
When it comes to the things
that touch our lives...

Keep it pure.

Make it simple.

Be right.

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Be Right™

C12: Colorimetry Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C12: Colorimetry Apparatus			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		HACH	✓
Type			✓
Model		DR300	
Country of origin			
Key operational data			
Source Lamp		Light emitting diode (LED)	✓
Detector		Silicon photodiode	✓
Enclosure Rating		IP67, waterproof at 1 m for 30 minutes	✓
Wavelength		As specified by model, ±2 nm	✓
Spectral Bandwidth		15 nm filter bandwidth	✓
Absorbance		0 - 2.5 Abs	✓
Sample Cell Compatibility		1 cm (10 mL), 25 mm (10 mL)	✓
Operating Conditions		0 - 50 °C (32 - 122 °F); 0 - 90% relative humidity (non-condensing)	✓
Display		LCD with backlight	✓
Power Supply		Four AAA alkaline batteries; approximate life is 5000 tests	✓
Data Logger		Last 50 measurements	✓
Weight		0.25 kg (0.55 lbs.)	✓
Dimensions (H x W x D)		34 mm x 69 mm x 157 mm	✓

TDS C12-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

DR300 Pocket Colorimeter

Applications

- Drinking Water
- Wastewater
- Power
- Industrial Water
- Field Use
- Beverage
- Food QC Lab



Proven past. Innovative future.

The DR300 maintains the Pocket Colorimeter legacy of reliability while providing state-of-the-art data transfer capability and connection to Claros*. Reduce data collection hassles, eliminate transcription errors, and ensure stronger compliance traceability.

Connected*

Optional Bluetooth connectivity allows you to safely transfer measurement data to Claros – Hach®'s Water Intelligence System – reducing errors and saving time by eliminating manual data entry.

Reliable

Rugged, waterproof (IP67) design withstands whatever conditions you encounter in the field (drops, extreme temperatures, rain and dirt) and still delivers years of dependable, accurate measurements.

Simple

Simple, intuitive operation reduces potential manual error, ensuring accurate measurement data you can trust, time after time. Larger display with improved backlight makes reading measurements in all conditions even easier.

**Claros connectivity currently available only in US, Canada and EU.*



Technical Data*

Source Lamp	Light emitting diode (LED)
Detector	Silicon photodiode
Enclosure Rating	IP67, waterproof at 1 m for 30 minutes
Wavelength	As specified by model, ± 2 nm
Spectral Bandwidth	15 nm filter bandwidth
Absorbance	0 - 2.5 Abs
Sample Cell	1 cm (10 mL), 25 mm (10 mL)
Compatibility	

Operating Conditions	0 - 50 °C (32 - 122 °F); 0 - 90% relative humidity (non-condensing)
Display	LCD with backlight
Power Supply	Four AAA alkaline batteries; approximate life is 5000 tests
Data Logger	Last 50 measurements
Weight	0.25 kg (0.55 lbs.)
Dimensions (H x W x D)	34 mm x 69 mm x 157 mm

*Subject to change without notice.

Parameters

Parameter	Range	Measurement Method
Aluminum	0.02 - 0.80 mg/L Al	Aluminon
Ammonia	0.01 - 0.80 mg/L NH ₃ -N	Salicylate
Bromine	0.05 - 4.50 mg/L Br ₂ 0.2 - 10.0 mg/L Br ₂	DPD
Chlorine, free ¹⁾ + total ^{1), 2)}	0.02 - 2.00 mg/L Cl ₂ 0.1 - 8.0 mg/L Cl ₂	DPD
Chlorine, free ¹⁾ + total ^{1), 2)} , MR	0.05 - 4.00 mg/L Cl ₂ 0.1 - 10.0 mg/L Cl ₂	DPD
Chlorine, pH	0.1 - 10.0 mg/L Cl ₂ 6.0 - 8.5 pH	DPD Phenol Red
Chlorine dioxide	0.05 - 5.00 mg/L ClO ₂	DPD/Glycine
Iron, Ferrover ²⁾	0.02 - 5.00 mg/L Fe	Ferrover
Iron, TPTZ	0.01 - 1.70 mg/L Fe	TPTZ
Manganese, HR ²⁾	0.2-20.0 mg/L Mn	Periodate Oxidation
Molybdenum	0.02 - 3.00 mg/L Mo 0.1 - 12.0 mg/L Mo	Ternary Complex
Monochlor/Free Ammonia	0.04 - 4.50 mg/L Monochloramine as Cl ₂ 0.02 - 0.50 mg/L Free Ammonia as NH ₃ -N	Indophenol
Nitrate	0.4 - 30.0 mg/L NO ₃ -N	Cadmium Reduction
Oxygen, dissolved	0.2 - 10.0 mg/L O ₂	HRDO
Ozone	0.01 - 0.25 mg/L O ₃ 0.01 - 0.75 mg/L O ₃	Indigo Trisulfonate
Phosphate ^{1), 2)}	0.02 - 3.00 mg/L PO ₄	Phosver 3
Zinc ²⁾	0.02 - 3.00 mg/L Zn	Zincon

¹⁾Method is USEPA accepted or approved for drinking water (additional steps may be required)

²⁾Method is USEPA accepted or approved for wastewater (additional steps may be required)

Note: Phenol Red colorimetric pH measurement is not accepted for regulatory reporting

Order Information

DR300 Pocket Colorimeters

The DR300 Pocket Colorimeter includes manual, sample cells, and a carrying case. Reagents can be purchased by contacting Hach or your Hach distributor.

LPV445.97.00110	DR300 Pocket Colorimeter, Chlorine, Free + Total
LPV445.97.01110	DR300 Pocket Colorimeter, Bromine
LPV445.97.02110	DR300 Pocket Colorimeter, Nitrate
LPV445.97.03110	DR300 Pocket Colorimeter, Dissolved Oxygen
LPV445.97.04110	DR300 Pocket Colorimeter, Ozone
LPV445.97.06110	DR300 Pocket Colorimeter, Phosphate
LPV445.97.09110	DR300 Pocket Colorimeter, Zinc
LPV445.97.10110	DR300 Pocket Colorimeter, Molybdenum, LR/HR
LPV445.97.12110	DR300 Pocket Colorimeter, Chlorine & pH
LPV445.97.15110	DR300 Pocket Colorimeter, Manganese, HR
LPV445.97.16110	DR300 Pocket Colorimeter, Iron, TPTZ
LPV445.97.22110	DR300 Pocket Colorimeter, Iron, Ferrover
LPV445.97.25110	DR300 Pocket Colorimeter, Aluminium
LPV445.97.26110	DR300 Pocket Colorimeter, Monochloramine/Free Ammonium
LPV445.97.40110	DR300 Pocket Colorimeter, Ammonium
LPV445.97.51110	DR300 Pocket Colorimeter, Chlorine Dioxide
LPV445.97.62110	DR300 Pocket Colorimeter, Chlorine, Free + Total, MR

Wavelength-specific DR300 Pocket Colorimeters

Program custom methods and calibrations on two channels.

LPV445.97.50110	DR300 Pocket Colorimeter, 500 nm
LPV445.97.52110	DR300 Pocket Colorimeter, 528 nm
LPV445.97.60110	DR300 Pocket Colorimeter, 600 nm
LPV445.97.65110	DR300 Pocket Colorimeter, 655 nm



Order Information

Accessories

2635300	SpecCheck secondary gel standard kit, LR Chlorine, DPD, 0-2.0 mg/L Cl ₂
2893300	SpecCheck secondary gel standard kit, Chlorine, DPD, 0-8.0 mg/L Cl ₂
2507500	SpecCheck secondary gel standard kit, Monochloramine/Free Ammonia, 0-4.50 mg/L Cl ₂ , 0-0.50 mg/L NH ₃ -N
2708000	SpecCheck secondary gel standard kit, Ozone, 0-0.75 mg/L O ₃
4674300	Batteries, AAA, Alkaline, 1.5 V, pk/4
4660200	Multitest kit case (22 x 17 x 15 cm), blue polypropylene
2427606	Sample cell, 1 inch round glass, 6 pcs
4864302	Sample cell, 1 inch round polystyrene, 2 pcs
2126102	Sample cell, 1cm round, pk/2 (unmatched, caps not included)

SpecCheck Ampule Standards are colored gels that simulate the color produced by the analytical procedure, for simple checks on instrument response. Each set includes a blank and three concentrations.

Be confident with Hach Service

Service Agreement: Hach provides on-site and in-factory repair, preventive maintenance, and calibration programs for your instruments to ensure reliability and instrument up-time. We have services to fit your specific needs.

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Be Right™

C13: Hydrogen Sulphide Detector

Item description	Units	Technical Particulars	
		Specified	Offered
C13: Hydrogen Sulphide Detector			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		GMI	TELEDYNE
Type			
Model		PS200	✓
Country of origin			
Key operational data			
Size		121 x 59 x 32mm (4.8" x 2.3" x 1.3")	✓
Weight		230g (8oz) with pump 215g (7.6oz) without pump	✓
Temperature		-20oC to +50oC (-4oF to 122oF)	✓
Humidity		0 to 95% R.H non-condensing	✓
Alarms		Highly visible flashing LED, piercing >90dB audible	✓
Display		Green and red LCD backlight display	✓
Datalogging		Timed: 24 hours of timed logs at 1 log per minute Session: Minimum of 180 logs Calibration: Minimum of 8 calibration logs Bump Logs: Minimum of 180 logs	TIMED: MIN 6 MONTHS TIMED DATALOGGING SESSION: MIN OF 360 LOGS CALIBRATION: MIN OF 8 LOGS BUMP: MIN OF 360 LOGS
Battery		Lithium Ion rechargeable battery Run Time: Up to 14 hrs (diffusion) Charging Time < 4 hrs	✓
Enclosure		High Impact rubberized polycarbonate case	✓
Drop Test		3m (10ft)	✓
IP Rating		IP67 (Dust-tight and waterproof to 1m)	✓
Response Times (T90)		LEL = 10 secs (IEC 60079-29-1) O2 = 12 secs (BSEN 50 104) CO < 20 secs H2S < 20 secs	LEL = 15 SEC (IEC 60079-29-1) O2 = 12 SEC (BSEN 50104) CO < 20 SEC H2S < 20 SEC

TDS C13-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T22
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Approvals		IEC Ex ia d IIC T4 Gb ATEX Ex II 2 G Ex ia d IIC T4 CSA Class 1 Div 1 Groups A,B,C,D, T4 Class 1, Zone 1 EX ia d IIC T4 MED (0038/YY) - Module B & E 0518	✓
Warranty		2 years as standard	✓



PS200

Portable 4 Gas Monitor

Description

The PS200 Series combines quality, ruggedness and advanced technology in a user friendly, portable gas monitor. It is compact, lightweight, water resistant, extremely robust, and is certified to multiple international and regional standards.

The PS200 can measure any combination of LEL, O₂, CO and H₂S making it suitable for a wide range of personal monitoring and confined space applications. *

In addition to extensive datalogging capabilities, the PS200 is available with an optional internal pump and an extensive range of accessories to meet a wide variety of user applications.

Importantly, the PS200 has been designed to enable easier user maintenance which includes a fully automatic calibration station to simplify product compliance.

Features

- Simple 2-button operation
- Any combination of LEL/O₂/CO/H₂S
- Audible, visual and vibrating alarms
- Fully certified
- Internal pump (optional)
- Datalogging capabilities (up to 6 months)
- Run-time up to 80 hours, when using low power LEL sensor (optional)
- Configurable operations
- Quick field calibration (optional)
- Lightweight
- Sensor integrity checking
- Robust construction
- Ease of maintenance



PS200

Portable 4 Gas Monitor

Technical Specification

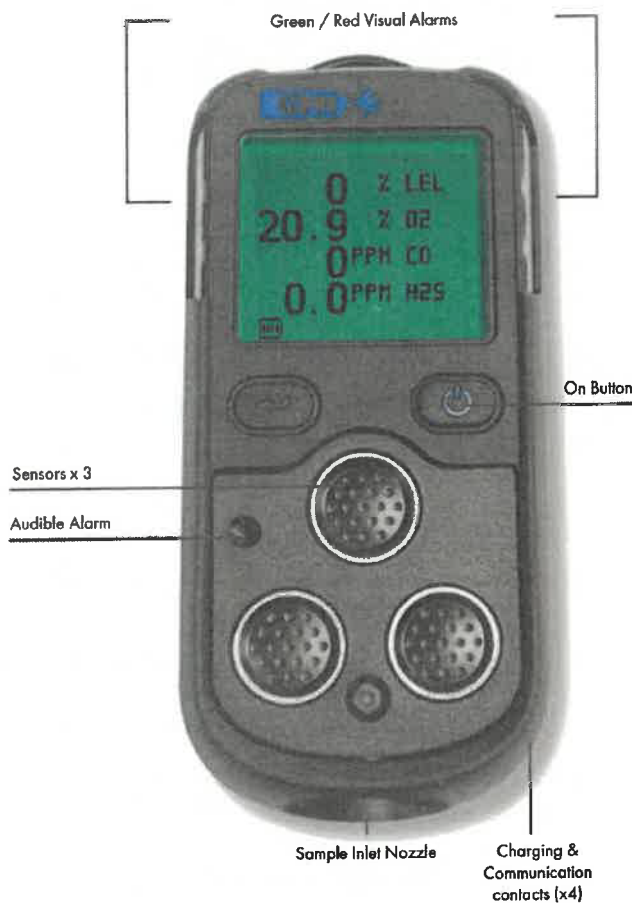
Size:	121 x 59 x 32mm (4.8" x 2.3" x 1.3")
Weight:	230g (8oz) with pump 215g (7.6oz) without pump
Temperature:	-20°C to +50°C (-40°F to 122°F)
Humidity:	0 to 95% R.H non-condensing
Alarms:	Highly visible flashing LED, piercing >90dB audible, vibrating
Display:	Green and red LCD backlight display
Datalogging	Timed: Minimum of 6 months timed datalogging* Session: Minimum of 360 logs Calibration: Minimum of 8 calibration logs Bump: Minimum of 360 logs
Battery:	Lithium Ion rechargeable battery Run Time: Up to **80 / 14 hrs (diffusion) Up to **20 / 8 hrs (pumped) Charging Time < 4 hrs
Enclosure:	High impact rubberized polycarbonate case
Drop Test:	3m (10 ft)
IP Rating:	IP67
Response Times (T90):	LEL = 15 secs (IEC 60079-29-1) O ₂ = 12 secs (BSEN 50104) CO < 20 secs H ₂ S < 20 secs
Approvals:	ATEX  II 2G Ex ia d IIC T4 Gb IECEx  Ex ia d IIC T4 Gb ATEX  II 1G Ex ia IIC T4 Ga* IECEx  Ex ia IIC T4 Ga* CSA   Combustible Instruments: Class I, Div. 1 Groups A,B,C,D Class I, Zone 1 AEx d ia IIC T4 Gb, Ex ia d IIC T4 Gb Class I, Div. 1 Groups C,D** Class I, Zone 0 AEx ia IIB T4 Ga, Ex ia IIB T4 Ga*** Non-combustible instruments: Class I, Zone 0 AEx ia IIC T4 Ga, Ex ia IIC T4 Ga 1Ex dia IIC T3/T4 Gb 0Ex dia IIC T3/T4 Ga  MED (0038/YY) — Module B & E*** 
Warranty:	2 years standard warranty against faulty goods or workmanship from date of shipment from Teledyne. Consumable parts are not included. Warranty covers monitor assembly, power supply, and sensors.

* This is based on a gas event every 1-hour during a typical 8-hour shift with a datalog interval of every 1 minute.

** Low Power LEL sensor

*** Only applicable to marine variants with "M" prefix.

Features



Red display in alarm conditions



Configurable calibration options



Configurable bump options

PS200

Portable 4 Gas Monitor

Automatic Bump Testing and Calibration

To complement the Personal Surveyor product line, Teledyne has developed a compact, robust and easy to use Auto Bump & Calibration Station that can provide full bump and calibration options. Data transfer is facilitated using a USB memory stick with Standalone software that is simple to set up and customise based on end users' specifications. Standalone, PC, and ethernet versions are available.



Coloured 'rubber boot' for multi-site or multi-application working (7 colours available)

Auto Bump & Calibration Station technical specification

Size:	200 x 140 x 135mm (7.9" x 5.5" x 5.3")
Weight:	1.2kg (43oz)
Interfaces:	Standalone / USB / Ethernet
LED Indicators:	Power (Green) / Testing (Yellow) / Pass (Green) / Fail (Red)
Testing Time:	Bump Test 60 secs Calibration Test 90 secs
Data Storage:	up to 5000 Bump & Calibration results
Power Supply:	12V dc, 2A
Operating Temperature:	-10°C to 40°C (14°F to 104°F)
Gas Ports:	3 (Air, Combi Gas & Exhaust)

Standalone

By adding the Auto Bump & Calibration Station to your PS200 package, test data can be easily retrieved using specific software in a user-friendly time logged format. This gives you the ability to create and print your personalised calibration certificate.

PC

Allows easy configuration (bump test or calibration) of Auto Bump & Calibration Station and allows all results to be automatically stored to a database on the PC. The stored results can be easily viewed and calibration certificates produced. The history of all results can be easily viewed and reports of instruments can be easily compiled.

Ethernet

Same as PC except multiple units can be connected to a network allowing one PC to control and receive data.

Sensor specification

Gas	Ranges	Increments	Sensor Type
LEL	0-100% LEL	1% LEL	Catalytic Bead
O ₂	0-25%	0.1%	Electrochemical
CO	0-1000 ppm	1 ppm	Electrochemical
H ₂ S	0-9.9 ppm 10-100 ppm	0.1 ppm 1 ppm	Electrochemical

Combustible sensor options

LEL Sensor	Benefit	Gases Detected	Certification Gas Groups	Division / Zone
Standard Filtered	Detects most combustible gases	C1 - C8 Hydrocarbons Includes, but not limited to: Methane, Ethane, Propane, Butane, Pentane, Hexane, Heptane, Octane, Hydrogen	IIC A,B,C and D	Class I, Div. 1,2 Zones 1,2
Enhanced Filtered	Enhanced H ₂ S and Silicone poisoning resistance	C1 - C6 Hydrocarbons Includes, but not limited to: Methane, Ethane, Propane, Butane, Pentane, Hexane, Hydrogen	IIC A,B,C and D	Class I, Div. 1,2 Zones 1,2
Low Power	Improved battery life	C1 - C5 Hydrocarbons Includes, but not limited to: Methane, Ethane, Propane, Butane, Pentane	IIB C and D	Class I, Div. 1,2 Zones 0,1,2

PS200

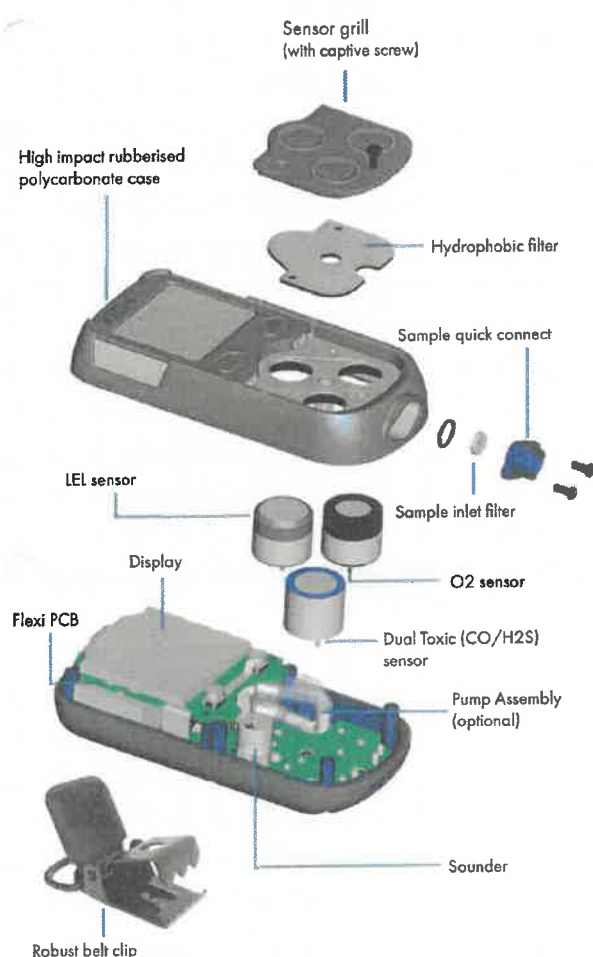
Portable 4 Gas Monitor

Ordering information & accessories

Accessories supplied with the instrument	
64260	USB Charging / Comms Clip
64247	Universal Power Plug (Mains – USB)
64172	Quick Operating Instructions

Software

64197	Data downloading CD-ROM (c/w Handbook)
64184	Auto Bump & Calibration Station USB Flash Drive (c/w Handbook)

Simple User Maintenance**Recommended spare parts**

64254	Hydrophobic Filter
64084	Sample Inlet Filter
64825	LEL sensor (c/w Enhanced Filter)
66725	LEL sensor
66750	LEL sensor (Low Power)
64066	O ₂ sensor (2 years)
*	O ₂ sensor (3 years)
64067	Dual Toxic CO/H ₂ S Sensor
64176	CO sensor
64128	H ₂ S sensor
64255	Pump Assembly

* contact Teledyne GMI to verify instrument compatibility

Additional accessories

66123	Hand Aspirator
66478	Hand Aspirator (c/w 10 ft. tubing)
66112	Sample Line Extender
66485	In-Line Hydrophobic Filter Assy
66545	Ball Float
64151	PS200 Confined Space Probe
64100	Rugged Carry Case
64150	PS200 Confined Space Demonstration Kit
64160	PS200 Field Kit

Charging accessories

64248	In-Vehicle Charging Adaptor (12V/24V – USB)
64138	5 Way Multi-Charger
64491	In-Vehicle Charging Cradle

Automatic Bump & Calibration (ABC)

64052	Auto Bump & Calibration Station (6mm. fittings & incl. PSU and USB stick with Standalone software)
64052Q	Auto Bump & Calibration Station (1/4 in. fittings & incl. PSU and USB stick with Standalone software)
99553	flexiCal Plus software for PC
99118	Demand Flow Regulator
64265	Tubing with 6mm Push Fit Connector

Manual Bump & Field Calibration Kits

64051	Manual Bump Kit (no power required) (c/w Combi Test Gas 99146, Direct Flow Regulator, tubing & sample line connector)
943-000QBK-4M9	Combi-Gas EcoBump Kit

Gas Kits for Auto Bump & Calibration Station

99146	Combi Test Gas Cylinder (2.5% CH ₄ , 500ppm CO, 50ppm H ₂ S, 18% O ₂ , balance N ₂)
64060	Test Gas Kit (6mm fittings) (Combi Test Gas 99146, Demand Flow Regulator 99118 c/w 6mm tubing)
64060Q	Test Gas Kit (1/4 in Fittings) (Combi Test Gas 99146, Demand Flow Regulator part no. 99118 c/w 1/4" tubing)

As an ISO 9001 approved company, Gas Measurement Instruments quality assurance programmes demand the continuous assessment and improvement of all GMI products. Information in this leaflet could thus change without notification and does not constitute a product specification. Please contact GMI or their representative if you require more details.



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C14: E.coli Reagent

Item description	Units	Technical Particulars	
		Specified	Offered
C14: E.coli Reagent			
Note: that the Information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		Idexx	✓
Type			
Model		Colilert-18	✓
Country of origin			
Key operational data			
Detection Limit		1 cfu/100ml (Suppresses 2 million heterotrophs per 100ml)	✓
Shelf Life		15 months at 2 - 25°C	✓
Time to Results		18 hours	✓

TDS C14-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules



Colilert-18



Simultaneously detects both total coliforms and *Escherichia coli* in water, giving you results in 18 hours.

- **ISO Standard:** The Colilert-18/Quanti-Tray method is a worldwide ISO standard for detecting total coliforms and *E. coli* in water (ISO 9308-2:2012).
- **18-hour Confirmed Result:** Samples incubated overnight are ready to read early the next day. Delivers significant workflow benefits and speed in the event of a contamination issue.
- **Sensitivity:** Early coliform detection in the distribution system can help to reduce biofilm buildup and sporadic downstream contamination events.
- **Specificity:** Significantly reduce false alarms created by inaccurate false positive results which give rise to uncertainty and unnecessary expense.
- **Lab efficiency:** Our ISO 17025 accreditation and ISO 11133 compliance help simplify your Quality Control procedures.

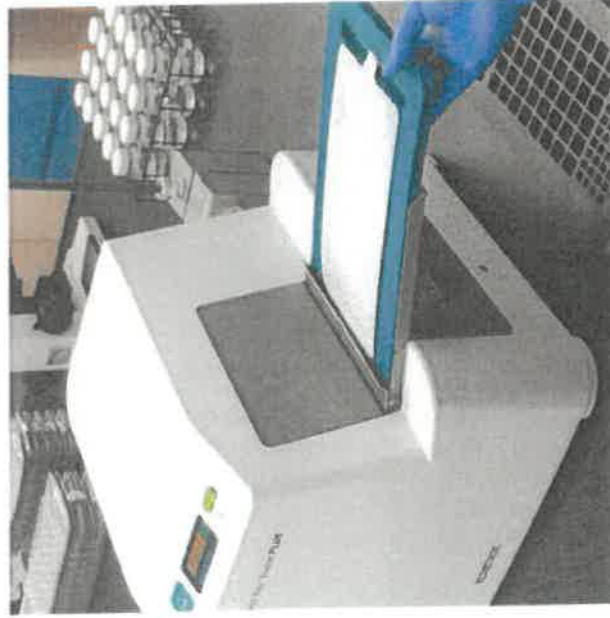
C15: E.coli Sealing Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C15: E.coli Sealing Apparatus			
Note: that the Information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		Idexx	✓
Type			✓
Model		Plus	
Country of origin			
Key operational data			
Weight		11kg	✓
Dimension		41cm W x 36cm D x 33cm H	✓
Ambient Temperature		0 - 32°C	✓
Power		230V, 50Hz, 3amp	✓

TDS C15-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules



Quanti-Tray System

Take the guesswork out of bacterial counts



- Provides easy, rapid, and accurate bacterial counts.
- Quanti-Tray and Quanti-Tray/2000 are used when quantifying coliforms, *E. coli*, enterococci, *Pseudomonas aeruginosa*, and Heterotrophic Plate Counts (HPC).
- The Quanti-Tray/Legiolert is only used to quantify *Legionella pneumophila*.
- The Quanti-Tray System delivers semiautomated

quantification methods based on the Most Probable Number (MPN) model in Standard

Methods for the Examination of Water and Wastewater.

- Learn about the Quanti-Tray Sealer PLUS and our generous trade-in program.

Contact us

Overview

Easy

- No media preparation.
- No pipetting.
- No dilutions (for counts up to 200 with Quanti-Tray; 2,419 with Quanti-Tray/2000; and up to 2,272 with Quanti-Tray/Legiolert).

Rapid

Accurate

- Detects down to one organism per 100 mL.
- 95% confidence limits better than 5- or 10-tube Most Probable Number (MPN).
- 95% confidence limits better than or comparable to membrane filtration (MF).

Cost effective

- Less than 1 minute of hands-on time.
- Results in 24 hours or less (7 days for Legiolert).
- No confirmation necessary.
- Minimal equipment to purchase and maintain.
- No glassware to purchase and clean.
- Minimal bench space needed.

Science

How Quanti-Tray works

Quanti-Tray

With Quanti-Tray, a 100 mL sample is divided into 51 wells. Then the Standard Methods' Most Probable Number (MPN) approach is used to determine the number of bacteria in the original sample. Automation minimizes hands-on time and maximizes throughput (up to 4 samples per minute). The relatively large number of wells provides a high counting range of 1 – 200 (without dilutions) and very tight 95% confidence limits.

Quanti-Tray/2000

<https://www.idexx.com/en/water-products-services/quantiti-tray-system/>

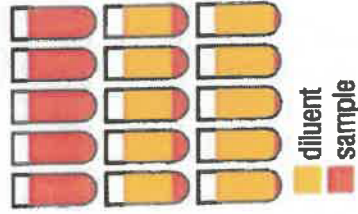
Quanti-Tray Sealer PLUS

The Quanti-Tray Sealer PLUS is the next generation sealer in the Quanti-Tray system. The sealer makes quantification with Quanti-Tray and Quanti-Tray/2000 possible while saving time and improving laboratory efficiency. Features include a 2–3 minute warm-up time, faster sealing of trays, energy efficiency, and an access panel that makes cleaning easy.

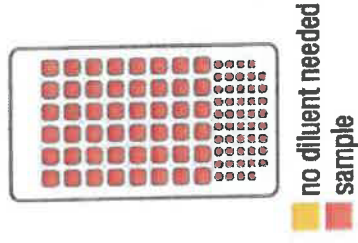
The Quanti-Tray/2000 is based on the same

statistical model as the traditional 15-tube serial dilution. With the Quanti-Tray/2000, the sample is automatically divided into the proper portions when sealed by the Quanti-Tray Sealer PLUS. The Quanti-Tray system does not require the use of test tubes, Durham tubes, or any dilutions. By automatically distributing the sample into 97 wells of 2 different sizes, Quanti-Tray/2000 yields a counting range of 1–2,419 with a far better 95% confidence limit than a 15-tube serial dilution.

15-Tube Serial Dilution



Quanti-Tray/2000



Quanti-Tray/Legiolert

With Quanti-Tray/Legiolert, a 100 mL sample is divided into 96 wells. The Standard Methods' Most Probable Number (MPN) approach is used to determine the number of bacteria in the original sample, using the MPN tables provided. Automation minimizes hands-on time and maximizes throughput (up to four samples per

minute). The 96-well tray provides a counting range of 1 – 2,272 (without dilutions).

How to use

Instructions

Step 1



Add sample/reagent to tray.

Step 3

Step 2



Seal tray in Quanti-Tray Sealer PLUS.



Incubate, count positive wells, and refer to appropriate MPN table.

Frequently asked questions

- + Are Quanti-Tray, Quanti-Tray/2000, and Quanti-Tray/Legiolert U.S. EPA approved?
- + How do Quanti-Tray, Quanti-Tray/2000, and Quanti-Tray/Legiolert compare to other standard methods?

- + Are Quanti-Tray, Quanti-Tray/2000, and Quanti-Tray/Legiolert trays sterile?
- + What is the shelf life of Quanti-Tray, Quanti-Tray/2000, and Quanti-Tray/Legiolert?
- + Does the temperature of the sealer affect the organisms that may be in the water sample?
- + Sometimes a few of the wells are not completely filled, what impact will that have on interpreting results?
- + Can the trays be stacked in the incubator?
- + How is Quanti-Tray interpreted?
- + Some Colilert and Colilert-18 tests positive wells are darker than others. How does this affect interpretation?
- + How do you interpret fluorescent wells that are not yellow when using the Colilert or Colilert-18 tests?
- + Can I use the Quanti-Tray 2X Sealer for Quanti-Tray/Legiolert?

Resources & Tools

Tests & Accessories	Product Information	Resources
Search the Water Tests & Accessories tool	Quanti-Tray 51-Well Trays (100 pack) Product Number: 98-21378-00 Catalog Number: WQT-100	IDEXX Water has reference materials and approval documents to support the many products in our water portfolio. Find the document(s) you need by selecting the link below.
	Quanti-Tray/2000 97-Well Trays (100 pack) Product Number: 98-21675-00 Catalog Number: WQT-2K	Search the Reference & Regulatory Documents tool
	Combo packs: Snap pack and Quanti-Tray bundles are available.	

Support

International

Locations and ISO Certificates

Support

International

Locations and ISO Certificates

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Find a representative near you

Australia

Brazil

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United Kingdom



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Quantil-Tray System - IDEXX US

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C16: E.coli Sample Tray

Item description	Units	Technical Particulars	
		Specified	Offered
C16: E.coli Sample Tray			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		Idexx	✓
Type			
Model		Quanti-Tray/2000	✓
Country of origin			
Key operational data			
Detection Limit		1 to 2 419/ 100ml	✓
Shelf Life		36 months at 4 - 30°C	✓

Quantification



Quantit-Tray* and Quantit-Tray*/2000

Quantit-Tray and Quantit-Tray/2000 are used to quantify results using Colilert*, Colilert*-18, Colisure*, Enterolert*, Enterolert-DW*, Enterolert*-E, Pseudolert* and HPC for Quantit-Tray. Quantit-Tray has 51 wells and provides counts from 1 to 200/100 mL. Quantit-Tray/2000 has 97 wells and counts 1 to 2,419/100 mL.

Shelf Life Up to 36 months at 4–30°C

Item/Sample Size	Quantity	Catalog Number
Quantit-Tray	100	WQT100
Quantit-Tray/2000	100	WQT-2K

Quantit-Tray* Sealer 2X

Quantit-Tray Sealer automates the sample handling of bacterial enumeration. It seals Quantit-Tray and Quantit-Tray/2000 in approximately 15 seconds per tray.

Dimensions 11" W x 16" D x 12" H (27 cm x 39 cm x 30 cm)
Weight 35 lb (16 kg)

Item/Sample Size	Quantity	Catalog Number
Quantit-Tray Sealer 2X, 115 V	1	WQT82X-115
Quantit-Tray Sealer 2X, 230 V Includes UK, European (Shuko) and Swiss power cords	1	WQT82X-230
Spare Quantit-Tray Rubber Insert	1	WQTSBR-61
Spare Quantit-Tray/2000 Rubber Insert	1	WQTSBR-2K

Quantit-Tray Technology



Quantit-Tray is an innovative advance in bacterial enumeration. When used with IDEXX reagents, Quantit-Tray provides an automatic sample-handling system to produce bacterial counts with membrane filtration accuracy for total coliforms, *E. coli* and enterococci. Quantit-Tray eliminates subjective colony interpretation and time-consuming confirmation. The need for making manual dilutions of heavily contaminated water samples is greatly reduced because the maximum counting range of 200 for Quantit-Tray and 2,419 for Quantit-Tray/2000 far exceeds that of traditional methods. With a total hands-on time of under 1 minute per sample, Quantit-Tray is not only a faster and far simpler method, it is also extremely cost-effective.

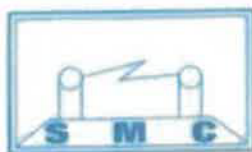
C17: Incubator

Item description	Units	Technical Particulars	
		Specified	Offered
C17: Incubator			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General Information			
Manufacturer		Binder	SMC
Type			
Model			1030
Country of origin			SA
Key operational data			
Dimension		560mm W x 625mm H x 565mm D	W570 x D650 x H720
Chamber Dimensions		400mm W x 440mm H x 340mm D	W455 x D455 x H340
Temperature Range		5° (above ambient) to 100°C	AMBIENT + 5°C to 100
Temperature Stability		± 0.5°C at 37°C	± 0.25°C
Voltage		230V, 50Hz	✓

TDS C17-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T22
Returnable Schedules



SCIENTIFIC MANUFACTURING cc.

LABORATORY TEST EQUIPMENT MANUFACTURER
LIGHT DUTY STAINLESS STEEL ENGINEERING
Reg. No. CK 90/15936/23

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LABORATORY OVENS & INCUBATORS



DIGITAL OVENS AND INCUBATORS



ECONOMY OVENS AND INCUBATORS



SMC Ovens and Incubators are available in the following popular sizes: 30, 80, 160, 240 & 400 Litre. 30-160 litre units are suitable for bench mounting and 80-240 litre are available with optional stand. Two control systems are available, namely electronic with digital display or analogue thermostat. Incubators are supplied standard with internal toughened glass door. Ovens are supplied standard with outlet exhaust.

SPECIFICATIONS	30Lt	80Lt	160Lt	240Lt	400Lt
Internal Sizes (mm)	350(W) 350(D) 275(H)	455(W) 500(D) 345(H)	455(W) 500(D) 750(H)	590(W) 590(D) 700(H)	590(W) 590(D) 1175(H)
External Sizes (mm)	450(W) 455(D) 640(H)	570(W) 600(D) 700(H)	570(W) 600(D) 1100(H)	700(W) 765(D) 1095(H)	700(W) 765(D) 1650(H)
Weight (kg)	30	52	58	78	90
Number of Shelf Locations	2	3	5	4	8
Number of Shelves	2	2	2	2	4
Power Rating (kW)	500	1000	1500	2000	3000 1500x3
Power Rating (V)	220	220	220	220	220 380

FEATURES

- Grade 304 stainless steel interior
- Epoxy coated electrogalvanised exterior
- High temperature wool insulation for minimum heat loss.
- Anti-tilt shelf runners with electropolished stainless steel wire shelves
- Positive latching door handle
- Long-life silicone door seal
- Forced air circulation with internal baffles for temperature stability
- Variable positive displacement exhaust (ovens only)
- illuminated "mains on" rocker switch
- "Heater on" indicator light
- Over-temp analogue cutout with indicator light
- Accuracy: Economy $\pm 2.5^{\circ}\text{C}$ / Digital $\pm 0.1^{\circ}\text{C}$
- Digital control features P.I.D. fuzzy logic with auto tune facility and PT 100 probe
- Oven temperature ranges: 5°C above ambient to 210°C
- Incubator temperature range: 5°C above ambient to 120°C
- Above instruments are supplied with 2 metre lead, 3 pin plug and panel

C18: UV Viewing Apparatus

Item description	Units	Technical Particulars	
		Specified	Offered
C18: UV Viewing Apparatus			
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
General information			
Manufacturer		Idexx	✓
Type			UV VIEWING
Model			
Country of origin			HAMILTON
Key operational data			
Dimension		23cm W x 30cm D x 17cm H	✓

TDS C18-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules



UV Lamp



UV Viewing Cabinet

UV Lamp

6-watt fluorescent, 365 nm long-wave UV lamp with bulb.

Dimensions

10" W x 2" D x 2.5" H (25.4 cm x 7.5 cm x 6 cm)

Item/Sample Size

Quantity

Catalog Number

UV Lamp, 110 V	1	WL160
UV Lamp, 220 V-UK	1	WEA160
UV Lamp, 220 V-EU	1	WEA160F
6 watts, 9" Replacement UV Bulb	1	WL161
4 watts, 6" Replacement UV Bulb	1	WL201
4-watt Portable UV Lamp	1	WL200

UV Viewing Cabinet

Aluminum cabinet with built-in UV-absorbing window, access curtain and holding bracket for lamps (catalog numbers WL160 and WEA160, lamps not included).

Dimensions

9" W x 12" D x 6.5" H (23 cm x 30 cm x 17 cm)

Item/Sample Size

Quantity

Catalog Number

UV Viewing Cabinet	1	WCM10
--------------------	---	-------

TDS E: Electrical Technical Data Sheets

E1: Low Voltage Cables

Item description	Units	Technical Particulars	
		Specified	Offered
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
E1: Low Voltage Cables			
General information			
Manufacturer			AKROAR /
Key operational data			AFRICAN CABLES
Operating Voltage	V	600/1000	
Number of Cores	No	See Project Specs and BOQ	
Size	mm ²		
Conductor Type	Cu/Al		
Cable Type			175 PER SPEC
Full Load Current	A		
Armouring	Yes/No	Yes, SWA or AWA for single cores	
Depth of installation	mm (to cable centre)	800	
Outdoor Cable Markers	Yes/No	No	

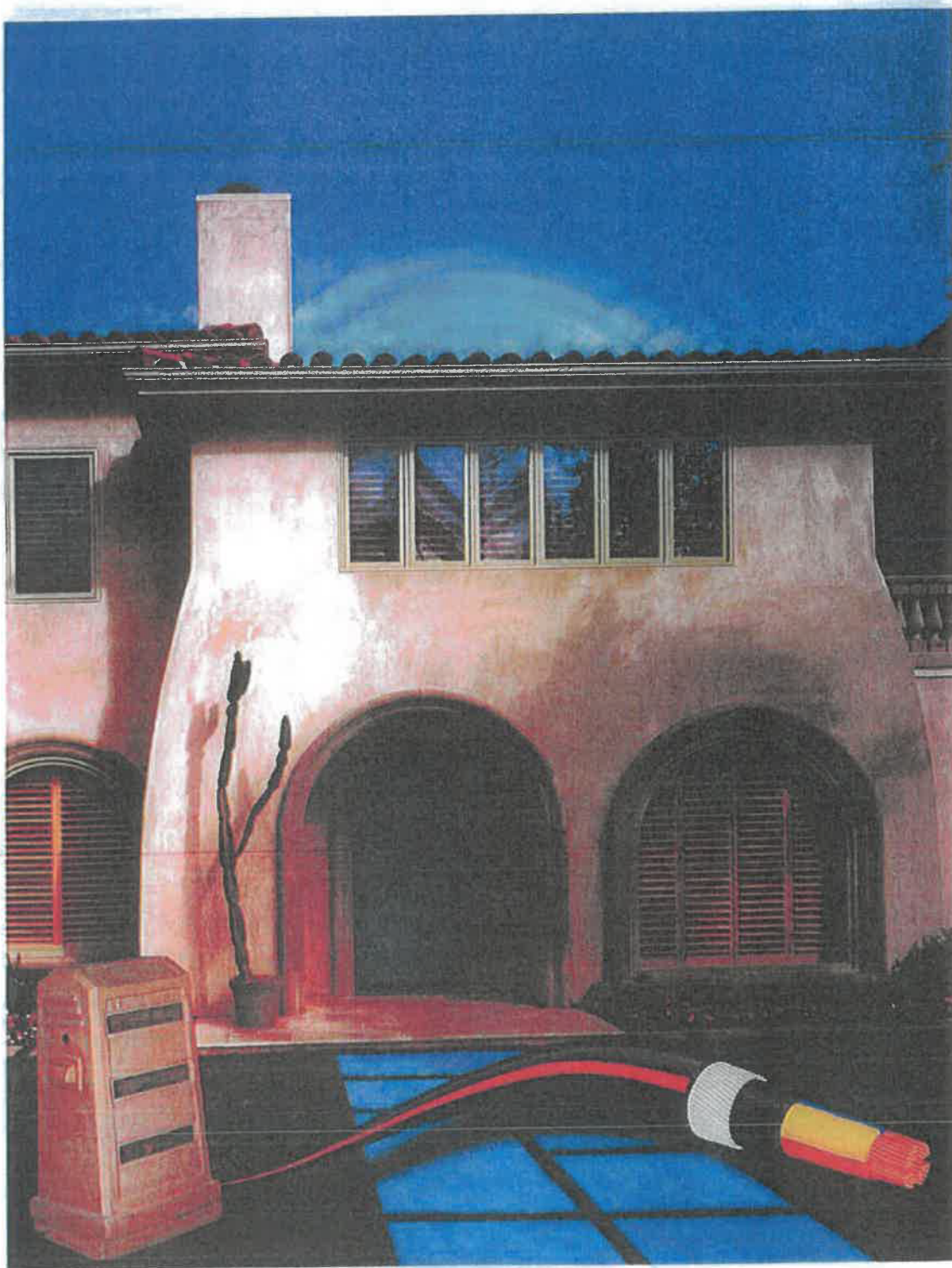
TDS E1-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

Low Voltage Armoured Cables

ABERDARE
CABLES
Driven by Powertech 



Bells & Mains Cable

PVC PVC SWA PVC (FR) BLK/Red

ABERDARE
CABLES

Driven by Powertech



D1 = Diameter over bedding sheath d = Diameter of armour wire D2 = Diameter over outer sheath



Electrical and physical properties of 3 and 4 core PVC insulated PVC bedded *SWA PVC sheathed 600/1000 V cables with aluminium or copper conductors and manufactured to SANS 1507-3.

* Where the armouring of cable is used as the earth continuity path, it may be necessary to replace some of the steel wires with tinned copper wires (ECC) or to use a supplementary earth continuity conductor.

Technical Data

Copper Conductors

Electrical Properties							Physical Properties							
Cable Size	Current Rating			Impedance	Volt Drop	1 Sec Short Circuit Rating	Nominal Diameters						Approx. Mass	
							D1		d		D2			
	Ground	Ducts	Air				3c	4c	3c	4c	3c	4c	3c	4c
(mm²)	(A)	(A)	(A)	(Ω/km)	(mV/A/m)	(kA)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg/km)	(kg/km)
1,5	24	20	19	14,48	25,080	0,17	8,51	9,33	1,25	1,25	14,13	14,95	448	501
2,5	32	26	26	8,87	15,363	0,28	9,61	10,66	1,25	1,25	15,23	16,18	522	597
4	42	34	35	5,52	9,561	0,46	11,40	12,57	1,25	1,25	17,02	18,39	667	762
6	53	43	45	3,69	6,291	0,69	12,58	13,90	1,25	1,25	18,41	19,72	790	910
10	70	58	62	2,19	3,793	1,15	14,59	16,14	1,25	1,25	20,41	21,96	1066	1169
16	91	75	83	1,38	2,390	1,84	16,55	19,18	1,25	1,25	22,37	25,92	1355	1768
25	119	96	110	0,8749	1,515	2,87	19,46	21,34	1,60	1,60	26,36	28,34	1838	2196
35	143	116	139	0,6335	1,057	4,02	20,89	23,97	1,60	1,60	28,89	31,17	2315	2732
50	169	138	164	0,4718	0,817	5,75	24,26	28,14	1,60	1,60	31,46	36,54	2871	3893
70	210	171	207	0,3325	0,576	8,05	27,07	31,29	2,00	2,00	35,47	40,09	3617	4837
95	251	205	251	0,2460	0,427	10,92	31,19	35,82	2,00	2,00	39,99	44,62	4501	6115
120	285	234	290	0,2012	0,346	13,80	33,38	38,10	2,00	2,00	42,18	47,40	5720	7269
150	320	263	332	0,1698	0,294	17,25	36,68	42,05	2,00	2,00	45,95	52,65	6958	9250
185	361	298	378	0,1445	0,250	21,27	40,82	46,75	2,50	2,50	51,12	57,45	8090	11039
240	416	344	445	0,1220	0,211	27,80	46,43	53,06	2,50	2,50	57,13	64,16	10367	13726
300	465	385	510	0,1090	0,189	34,50	51,10	58,53	2,50	2,50	62,20	70,13	12050	16544

Aluminium Conductors

Aluminium Conductors														
Cable Size	Electrical Properties						Physical Properties							
	Current Rating			Impedance	Volt Drop	1 Sec Short Circuit Rating	Nominal Diameters						Approx. Mass	
							D1		d		D2			
	Ground	Ducts	Air	(Ω/km)	(mV/A/m)	(kA)	3c	4c	3c	4c	3c	4c	3c	4c
(mm²)	(A)	(A)	(A)				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(kg/km)	(kg/km)
25	90	73	80	1,4448	2,502	1,80	17,76	20,65	1,60	1,60	24,76	27,65	1301	1554
35	108	87	99	1,0465	1,813	2,52	19,33	21,93	1,60	1,60	26,33	29,13	1477	1757
50	129	104	119	0,7749	1,342	3,61	21,87	25,05	1,60	1,60	29,04	32,25	1782	2150
70	158	130	151	0,5388	0,9333	5,05	24,76	29,27	1,60	1,60	31,96	37,67	2132	2930
95	192	157	186	0,3934	0,681	6,86	28,68	33,73	2,00	2,00	37,08	42,53	2908	3647
120	219	179	216	0,3148	0,545	8,66	31,09	35,44	2,00	2,00	39,89	44,24	3328	4023
150	245	201	250	0,2607	0,452	10,83	33,99	39,39	2,00	2,50	42,79	49,69	3837	5276
185	278	229	287	0,2133	0,369	13,35	37,80	44,51	2,00	2,50	47,10	54,81	4557	6231
240	324	268	342	0,1708	0,296	17,32	42,00	50,04	2,50	2,50	52,90	61,14	5977	7550

Under short circuit conditions a maximum conductor temperature of 160°C is allowed for a maximum of 1 second

PVC Current Ratings are Based on the following Environmental Parameters

Maximum Sustained Conductor Temperature	Ground Temperature	Ambient Air Temperature (Free Air Shaded)	Ground Thermal Resistivity	Depth of Laying to top of Cable or Duct
70°C	25°C	30°C	1,2 K.m/W	500mm

Multicore Cable

Low-voltage Armoured Cable

ABERDARE
CABLES

Driven by Powertech



D1 = Diameter over bedding sheath d = Diameter of armour wire D2 = Diameter over outer sheath

Electrical and physical properties of Multicore PVC Insulated PVC Bedded *SWA PVC sheathed 600/1000V cables with stranded copper conductors manufactured to SANS 1507-3.

* Where the armouring of cable is used as the earth continuity path, it may be necessary to replace some of the steel wires with tinned copper wires (ECC) or to use a supplementary earth continuity conductor.

Technical Data

1.5mm² Multicore Cables

No of Cores	Electrical Properties					Physical Properties			
	Current Rating			Impedance	Capacitance	Nominal Diameters			Mass
	Ground	Ducts	Air			(mm)			
	(A)	(A)	(A)	(Ω/km)	(nF/m)	D1	d	D2	(kg/km)
2	29	23	22	14,4782	422	8,1	1,25	13,8	422
3	24	20	19	14,4782	422	8,6	1,25	14,3	456
4	24	20	19	14,4782	422	9,5	1,25	15,1	510
5	21	17	17	14,4782	422	10,3	1,25	15,8	577
6	20	16	16	14,4782	422	11,4	1,25	17,0	612
7	18	15	15	14,4782	422	11,4	1,25	17,0	629
8	17	14	14	14,4782	422	12,6	1,25	18,2	710
10	16	13	13	14,4782	413	14,8	1,25	20,7	837
12	15	12	12	14,4782	413	15,3	1,25	21,2	901
14	14	11	12	14,4782	413	16,2	1,60	22,0	930
19	12	10	11	14,4782	379	19,2	1,60	25,9	1404
24	11	9	10	14,4782	379	22,4	1,60	29,3	1687
27	11	8	10	14,4782	379	22,9	1,60	29,8	1783
30	10	8	9	14,4782	379	23,7	1,60	30,7	1867
37	9	7	9	14,4782	379	26,9	1,60	32,8	2153

2.5mm² Multicore Cables

No of Cores	Electrical Properties					Physical Properties			
	Current Rating			Impedance	Capacitance	Nominal Diameters			Mass
	Ground	Ducts	Air			(mm)			
	(A)	(A)	(A)	(Ω/km)	(nF/m)	D1	d	D2	(kg/km)
2	37	31	31	8,8668	487	9,0	1,25	14,7	475
3	32	26	26	8,8668	487	9,6	1,25	15,2	524
4	32	26	26	8,8668	487	10,6	1,25	16,2	606
5	27	22	22	8,8668	487	11,5	1,25	17	693
6	25	20	21	8,8668	487	12,7	1,25	18,5	737
7	24	19	20	8,8668	487	12,7	1,25	18,5	756
8	22	18	19	8,8668	487	13,0	1,25	18,9	806
10	21	17	18	8,8668	477	16,6	1,60	22,5	1000
12	19	15	17	8,8668	434	18,1	1,60	24,8	1306
14	18	14	16	8,8668	434	19,0	1,60	25,7	1421
19	16	13	14	8,8668	434	21,4	1,60	28,1	1695
24	14	12	13	8,8668	434	25,1	1,60	32,0	2053
27	14	11	13	8,8668	434	25,7	1,60	32,6	2181
30	13	10	12	8,8668	434	26,6	2,00	34,8	2564
37	12	10	11	8,8668	410	29,4	2,00	37,6	3011

PVC Current Ratings are Based on the following Environmental Parameters

Maximum Sustained Conductor Temperature	Ground Temperature	Ambient Air Temperature (Free Air Shaded)	Ground Thermal Resistivity	Depth of Laying to top of Cable or Duct
70°C	25°C	30°C	1,2 K.m/W	500mm

Multicore Cable

Low-voltage Armoured Cable

ABERDARE
CABLES

Driven by Powertech

Technical Data

4mm² Multicore Cables

No of Cores	Electrical Properties					Physical Properties			
	Current Rating			Impedance	Capacitance	Nominal Diameters			Mass
	Ground	Ducts	Air			(mm)			
	(A)	(A)	(A)	(Ω/km)	(nF/m)	D1	d	D2	(kg/km)
2	50	41	41	5,5171	487	10,2	1,25	16,3	597
3	40	34	35	5,5171	487	10,9	1,25	17,0	659
4	42	34	35	5,5171	487	12,3	1,25	18,4	764
5	35	28	29	5,5171	487	13,6	1,25	19,7	884
6	33	27	28	5,5171	487	14,8	1,25	21,0	961
7	31	25	26	5,5171	487	14,9	1,25	21,0	986
8	29	24	25	5,5171	487	18,1	1,25	24,2	1079
10	27	22	23	5,5171	477	20,2	1,60	27,0	1253
12	25	20	22	5,5171	434	20,4	1,60	28,2	1211
14	23	19	21	5,5171	434	22,8	1,60	29,6	1385
19	21	16	19	5,5171	434	24,9	2,00	32,5	2282

6mm² Multicore Cables

No of Cores	Electrical Properties					Physical Properties			
	Current Rating			Impedance	Capacitance	Nominal Diameters			Mass
	Ground	Ducts	Air			(mm)			
	(A)	(A)	(A)			(Ω/km)	(nF/m)	D1	
2	62	51	53	3,6868	556	11,8	1,25	17,4	684
3	55	43	45	3,6868	556	12,6	1,25	18,4	791
4	53	43	45	3,6868	556	13,9	1,25	19,7	911

Sustained Current Rating Factors for Non-Standard Conditions for both PVDAC and Multicore LV PVC Cables

Maximum Conductor Temperature (°C)	Ground Temperature (°C)				Maximum Conductor Temperature (°C)	Air Temperature (°C)			
	25	30	35	40		30	35	40	45
70	1,00	0,94	0,82	0,82	70	1,00	0,94	0,87	0,79

Depth of Laying (mm)		Direct In Ground	
500		1,00	
800		0,96	
1000		0,94	
1250		0,92	
1500		0,90	

Current Rating Factors for Grouping of Multicore Cables Installed Horizontally in Air

No of Cables in group	Direct in ground				
	Axial Spacing (mm)				
	Touching	150	300	450	600
2	0,81	0,87	0,91	0,93	0,94
3	0,70	0,78	0,84	0,87	0,90
4	0,63	0,74	0,81	0,86	0,89
5	0,59	0,70	0,78	0,83	0,87
6	0,55	0,67	0,76	0,82	0,86

No of Cables		2	3	5	6	9
Condition		Derating Factor				
Cables touching		0,86	0,81	0,75	0,74	0,72
Clearance D* between cables		0,91	0,89	0,87	0,87	0,85

* Note: - D is overall diameter of one cable

Single Core Cable

Low-voltage AWA

ABERDARE
CABLES

Driven by Powertech



D1 = Diameter over insulation d = Diameter of armour wire D2 = Diameter over outer sheath

Electrical and physical properties of single core stranded copper conductors, PVC Insulated, PVC bedded, AWA PVC sheathed 600/1000V cables manufactured to SANS 1507-3.

Technical Data

Rated Area (mm ²)	Approximate Diameters			Approx. Mass (kg/km)	Impedance (Ω/km)	Cables in Trefoil Formation			
						Current Rating			Voltage Drop per Amp per metre (mV)
						Ground (A)	Ducts (A)	Air (A)	
25	8,35	1,25	15,45	563	0,879	125	112	121	1,62
35	9,40	1,25	16,50	700	0,639	156	140	147	1,11
50	10,95	1,25	18,05	846	0,473	183	165	177	0,83
70	12,59	1,25	19,69	1128	0,339	223	200	221	0,59
95	14,71	1,25	22,04	1504	0,257	266	238	273	0,45
120	16,16	1,60	25,16	1784	0,213	301	269	314	0,37
150	17,99	1,60	26,99	2102	0,182	336	299	357	0,30
185	20,10	1,60	29,30	2547	0,157	370	329	401	0,27
240	23,11	1,60	32,31	3114	0,134	410	363	481	0,23
300	26,25	2,0	37,05	4124	0,123	476	420	546	0,21
400	29,50	2,0	41,50	5133	0,113	529	465	622	0,19
500	32,51	2,0	44,51	6203	0,106	581	500	695	0,18
630	38,75	2,5	51,75	8218	0,099	623	541	779	0,17

PVC Current Ratings are Based on the following Environmental Parameters

Maximum Sustained Conductor Temperature	Ground Temperature	Ambient Air Temperature	Ground Thermal Resistivity	Depth of Laying to top of Cable
70°C	25°C	30°C	1,2 K.m/W	500mm

E2: Encapsulated Busbar for MBR MCC

Item description	Units	Technical Particulars	
		Specified	Offered
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
E2: Encapsulated Busbar System for MBR MCC			
General information			
Manufacturer			
Key operational data			N/A
IP rating		IP68	
Conductive material		Cu	

TDS E2-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

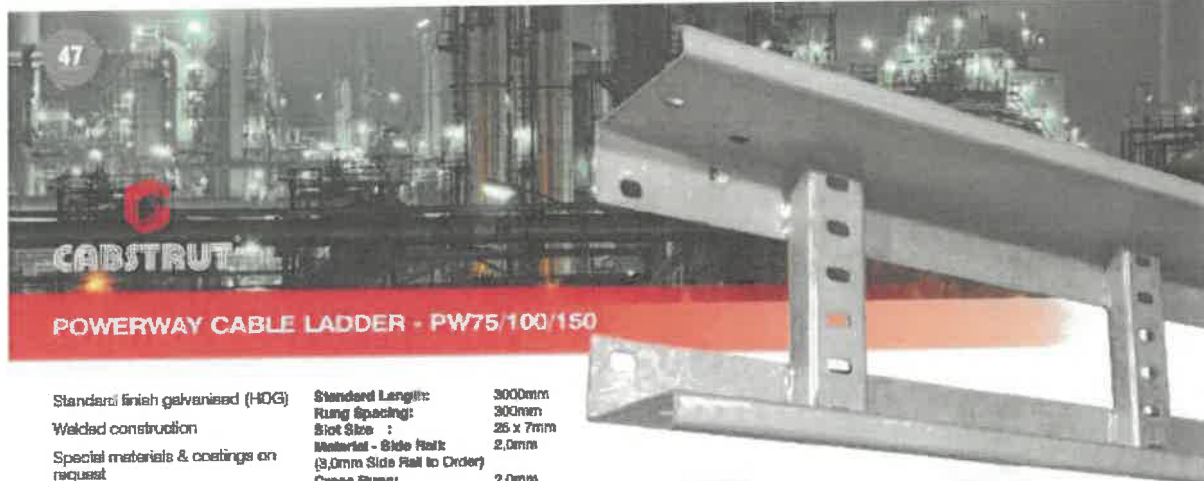
E3: Cable Ladder

Item description	Units	Technical Particulars		
		Specified	Offered	
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.				
E3: Cable Ladder				
General information				
Manufacturer			CABSTRUT.	
Type			POWERWAY	
Key operational data				
Material		Stainless Steel 316	YES	
Duty	Heavy / Medium		YES HD MP	
Application		Heavy LV cables	YES	

TDS E3-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules



Standard finish galvanized (HOG)
Welded construction
Special materials & coatings on request

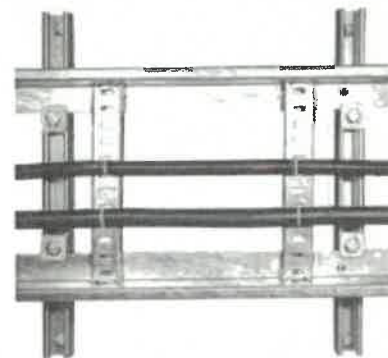
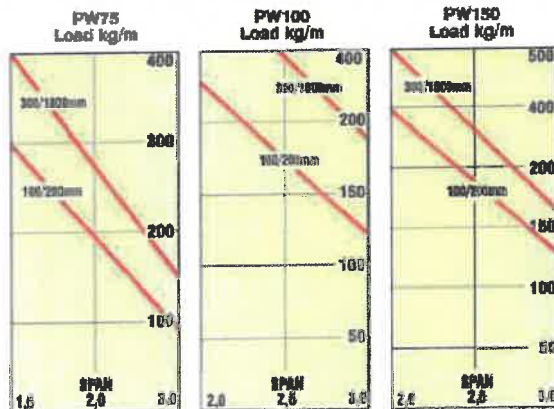
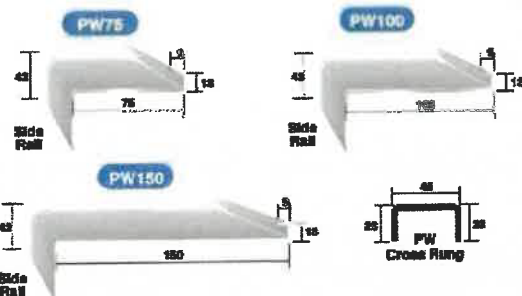
Standard Length: 3000mm
Rung Spacing: 300mm
Slot Size : 25 x 7mm
Material - Side Rail: 2,0mm
(3,0mm Side Rail to Order)
Cross Rung: 2,0mm
Standard Acc. Radius: 450mm

PW75, PW100 & PW150 POWERWAY

Width 150 200 300 400 500 600 800 1000

PW75, PW100 & PW150 Splice sets comprise:
2 x Plates, 16 x M8 x 16 Cup Sq. Screws, Nuts & Washers

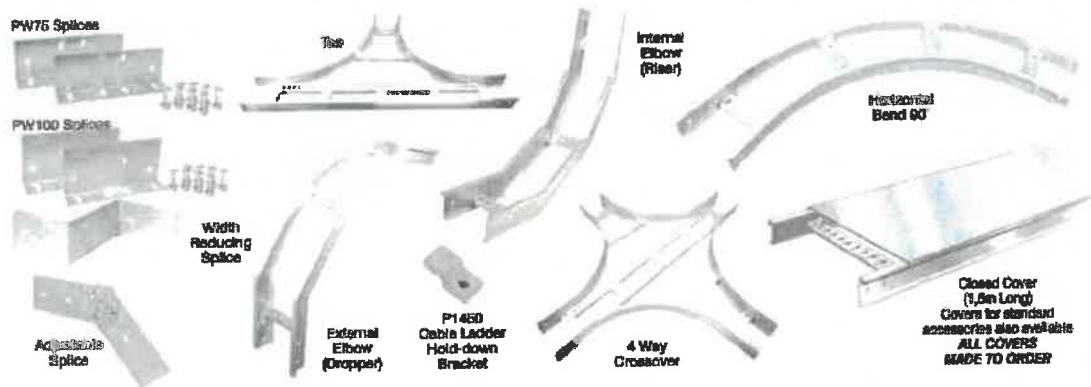
Adjustable PW75, PW100 & PW150 Splice sets comprise:
4 x Plates, 16 x M8 x 16 Cup Sq. Screws, Nuts & Washers, 4 x M8 x 20 Hex. Screws, Nuts & Washers



Specifically designed for side oriented installations.

Standard Accessories (available for all ladders) Accessory Radius: 450mm. Other radii to order

(For Covers see pages 49-50)



E4: Switchgear and Control Gear Assemblies (Local Control Panels)

Item description	Units	Technical Particulars	
		Specified	Offered
Note: that the information stipulated below does not necessarily represent all the information required for this item/system. The tenderer shall provide drawings and/or brochures showing details of the equipment offered and any other relevant information shall be submitted with the tender.			
E4: LV SWITCHGEAR AND CONTROLGEAR ASSEMBLIES - LOCAL CONTROL PANELS			
General Information			
Distribution Board Manufacturer			BHODI
Control Voltage	230V/ 24VDC		
Construction requirements			
Steel Work Manufacturer			BHODI
Form of Internal Separation		1	Form 2 & 3 Form
Material of Construction		Stainless Steel 316	E/GALV + 3041
Ingress Protection (doors closed)	IP	55	IP 55 & IP 4
Method of Installation		Flush	Flush & Floor S
Epoxy Powder Coated	Yes / No	Yes	YES
Colour of Assembly			ELECTRIC ORANGE
Size of Panel	HxWxD		VARIOUS
Spare Space Required	%	30	30%
Access	Back / Front / Side		AS SPECIFIED
Cable Entry	Top / Bottom	Bottom / Top	AS SPECIFIED
Doors / Removable Panels		Doors	INNER PANEL LO
Door Locks	Yes / No		YES
Door Locks - Type			SQUARE KEY
Door Locks - Material		Stainless Steel 316	WHELE STEEL
Incomer Section Required	Yes / No	Yes	YES
Corrosion protection		S6 solder tinned	N/A
Gland Plates		Not painted	YES
Electrical components			
Moulded Case Circuit Breakers			
Manufacturer			ABB
Type		Fixed	FIXED
Model			
Rated Current	A	See Project Specs	AS PER SPEC
Service short-circuit breaking capacity (Ics)	kA	See Project Specs	AS PER SPEC
Overload release		Thermal/ electronic	THERMAL
Short-circuit release		Magnetic/ electronic	MAGNETIC
Miniature Circuit Breakers			
Manufacturer			

TDS E4-1

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Type			
Model			
Rated Current	A		
Service short-circuit breaking capacity (Ics)	kA		
Tripping Curve			
Fuse-Switch-Disconnecter			
Manufacturer			
Model			
High Rupture Capacity (HRC) Fuse Links			
Manufacturer			
Model			
Surge Arrestors			
Power Circuits - Manufacturer			
Power Circuits - Model			
Power Circuits - Rating	kA		
Remote Indication	Yes / No		
Control Circuits - Manufacturer			
Control Circuits - Model			
Remote Indication	Yes / No		
Contactors			
Manufacturer			
Model			
Contactor rating		AC3	
Coordination		Type 2	
Overload Relays			
Manufacturer			
Type			
Model			
Rated Current	A		
Resetable from front of Panel	Yes / No	Yes	
Miniature Relays			
Manufacturer			
Model			
Control switches and pushbuttons			
Manufacturer			
Model			
Indicating Lamps			
Manufacturer			
Model			
Type		LED	

Each DIS HAS
DIFFERENT SPECST
DETAILS, BUT ALL
WILL MEET THE
CONTRACT REQUIREMENTS
AND SPECIFICATIONS

TDS E4-2

Tender
Part T2: Returnable documents
Contract No. 295Q/2021/22

T2.2
Returnable Schedules

Item description	Units	Technical Particulars	
		Specified	Offered
Control-Circuit and auxiliary supply transformer			
Manufacturer			
Field E-Stop/ Start local control stations			
Method of Installation		See Project Specs	
Material of Construction		Stainless Steel 316	
Manufacturer			
Keyswitch Required	Yes / No	No	
IP rating	IP	65	

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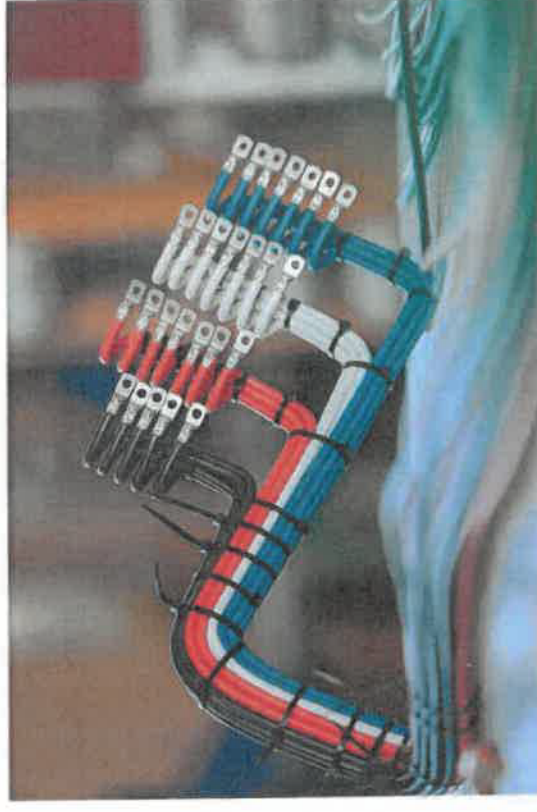
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After sales service and support you can rely on

Our after sales service plays a key role in the sustainable long-term relationships we build with our clients. We're keenly aware of the vital role that our switchgear products fulfil, and we're on hand to ensure that any downtime is kept to an absolute minimum.

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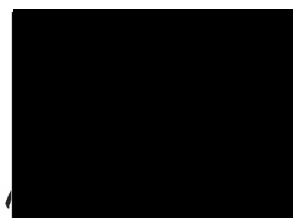
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1180

PART 6 SCOPE OF WORKS



Part C3: Scope of Work

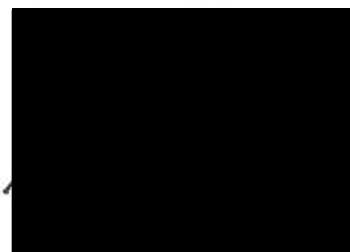
	Page No.
C3.1 Description of the Works	173
C3.2 Engineering / Design	184
C3.3 Procurement	187
C3.4 Construction	189
C3.5 Management.....	195
C3.6 Annexes.....	215

Status

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, particular specification or any drawings, the order of precedence, unless otherwise specified, is:

- 1 Project Specifications/Detailed Specifications
- 2 Amendments to Standard (and Particulate) Specifications
- 3 Particular Specifications
- 4 Standard Specifications
- 5 Drawings
- 6 Priced Bill of Quantities

In all events, the discrepancy shall be brought to the attention of the Engineer before the execution of the work under the relevant item.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C3.1 Description of the Works

CONTENTS

- 3.1.1 EMPLOYER'S OBJECTIVES
- 3.1.2 OVERVIEW OF THE WORKS
- 3.1.3 EXTENT OF THE WORKS
- 3.1.4 EXISTING SERVICES
- 3.1.5 LOCATION OF THE WORKS
- 3.1.6 CLIMATE INFORMATION
- 3.1.7 TEMPORARY WORKS
- 3.1.8 SITE FACILITIES AND SERVICES AVAILABLE
- 3.1.9 WORKS TO BE CARRIED OUT BY OTHERS

3.1.1 EMPLOYER'S OBJECTIVES

It is the objective of the Employer to appoint a suitably qualified and experienced engineering contractor for the site preparation and construction of the civil and building works associated with the upgrading and expansion of the Potsdam WWTP in terms of the SAICE GCC (2015).

Upon commissioning, the Potsdam WWTP will have an Average Wet Weather Flow (AWWF) capacity of 120 million litres per day. The additional treatment capacity will be attained via the implementation of, inter alia, a new membrane biological reactor train and a new sludge management facility for handling additional sludge generated at the plant.

The mechanical and electrical-related works associated the project will be executed under a separate contract by a Mechanical and Electrical (M&E) contractor. The civil and M&E contracts will therefore be implemented in parallel and close liaison between the contractors & associate subcontractors will be required and promoted. The design of specific civil structures will be modified as part of the final design review process to be completed by the mechanical/electrical contractor (i.e. GCC for the mechanical/electrical contract will be FIDIC yellow). The appointment of the civil contract can therefore be subject to the finalisation of the design period specified in the mechanical/electrical contract.

The Works shall be done in portions as referenced in the GCC Clause 1.1.1.30 with portions; Portion A: UF Works including UF Reuse system and Reuse site manifold, Portion B: Management building and associated site services and parking, and Portion C: whole of the Works excluding Portions A, B & D and including Portion C with Sub-portion A: Sludge Storage and Dewatering, Section D: Refurbishment of '08 Works and Demolition of the '97 Works.

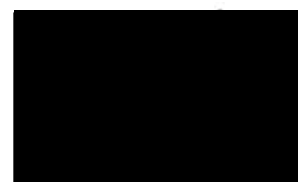
Installation of mechanical and electrical equipment can only commence once the civil works have progressed to a stage where unhindered and safe access can reasonably be given to the mechanical and electrical contractors. Therefore, specific details related to the project implementation program for planning purposes has been included under C3.5.5, and the Contractor shall be deemed to have based his tender price on these program specifications and maximum Time for Completion. Any material deviations from these program specifications shall be clearly noted in the Contractor's tender submission.

Although it is the Employer's objective to implement the full scope of works as included in this tender, certain portions may be omitted at the discretion of the Employer.

3.1.2 OVERVIEW OF THE WORKS

The treatment modules are referenced in terms of their commissioning date. Therefore, any reference to '97, '08 and '24 refers to the modules commissioned in 1997, 2008 and 2024 (note that 2024 is the anticipated future commissioning date).

The Potsdam WWTP will consists of the following main treatment trains/systems after the upgrade and expansion has been finalised:



- A new head of works for the overall Potsdam WWTP (to be installed as part of this project).
- The '08 activated sludge train (currently in operation).
- A tertiary treatment facility for the '08 supernatant (to be installed as part of this project).
- The '24 primary sedimentation system (to be installed as part of this project).
- The '24 membrane biological reactor train (to be installed as part of this project).
- A new '24 sludge management facility (to be installed as part of this project).
- '24 treated effluent reuse facilities for both the '08 and '24 trains (to be installed as part of this project).

The civil work associated with the upgrade and expansion of the Potsdam WWTP comprise of the construction of water retaining structures, pipelines and interconnecting pipework, earthworks and storm water drainage, access roads and ancillary works, control and administration buildings, modifications of same of the existing structures and buildings and other works as shown on the drawings.

The Portions of Works defined in terms of Clause 1.1.1.30 of the General Conditions of Contract are listed below:

Portion A: **ULTRA-FILTRATION WORKS**

Portion B: **MANAGEMENT BUILDING**

Portion C: **Whole of the Works excluding Portions A, B and D**

Sub-Section A: **SLUDGE STORAGE AND DEWATERING** (Including site preparation namely, demolition works, excavation, etc.)

Portion D: **MAIN DEMOLITION WORK AND REFURBISHMENT OF '08 WORKS**

Table 3.1.2-1 below list the relevant structure that forms part of the Portions of Works and gives the structure codes to reference across to the applicable drawings:

Table 3.1.2-1: Portions of Works Structure Reference

Description	Structure Code ¹
PORTION A²	
GENERAL ARRANGEMENT ULTRA FILTRATION	AAB
UF FEED PUMP STATION AND MICRO SCREEN	WPC
UF REJECT RETURN PUMP STATION	WPE
ULTRA FILTRATION PLANT	WOB
UF REUSE PUMP STATION	WPD
UF REJECT RETURN PUMP STATION	WPE
MAIN SUBSTATION	ELA
300MM DIA REJECT RETURN PUMP STATION FLOW METER CHAMBER	SQC
UF FEED AND BACKWASH WATER FLOW METER CHAMBER	SQD
UF REUSE PUMP STATION 800mm DIA ULTRASONIC FLOW METER CHAMBER	SQE
CHAMBERS	SQJ
CHAMBERS	SQK
CHAMBERS	SQL
CHAMBERS	SQM
CHAMBERS	SQN
CHAMBERS	SQO
CHAMBERS	SQP
CHAMBERS	SQQ
UF SUBSTATION	ELE
EARTHWORKS	GZB
PORTION B^{2,3}	
MANAGEMENT BUILDING	SUA
EARTHWORKS	GZB
PORTION C SUB-PORTION A²	
GENERAL ARRANGEMENT SLUDGE MANAGEMENT FACILITY	AAB
EARTHWORKS	GZB
DEWATERING PLANT	WLA
PRIMARY SLUDGE HOLDING TANKS	WKA
WAS SLUDGE HOLDING TANKS	WLB

Description	Structure Code ¹
SLUDGE CAKE SILOS (EAST SIDE)	WLC
SLUDGE CAKE SILOS (WEST SIDE)	WLD
PRIMARY / WAS FILTRATE PUMP STATION	WLF
SLUDGE FEED PUMP INSTALLATION	WLE
SLUDGE MANAGEMENT SUBSTATION	ELD
PORTION C	
HEAD OF WORKS SUBSTATION	ELB
BIOREACTOR SUBSTATION	ELC
EARTHWORKS	GZB
DIVISION STRUCTURE	SQA
CHAMBERS	SQB
CHAMBERS	SQF
CHAMBERS	SQG
CHAMBERS	SQH
CHAMBERS	SQI
CHAMBERS	SQR
INLET WORKS	WBA
DEGRITTERS	WBB
STONE TRAPS	WBC
PRIMARY SETTLING TANK	WDA
ULTRAFINE SCREENS	WFA
STRAIN PRESS	WFB
MEMBRANE PLANT	WHA
BIOLOGICAL REACTOR	WIA
'08 WAS PUMP STATION	WLG
OVERFLOW DAMS	WMA
EMERGENCY STORAGE DAM	WMB
CHEMICAL DOSING FERRIC CHLORIDE DOSING SYSTEM	WNA
CHEMICAL DOSING FERRIC CHLORIDE DOSING SYSTEM	WNB
RAW SEWAGE PUMP STATION	WPA
PRIMARY SLUDGE PUMP STATION	WPB
MBR REUSE PUMP STATION AND MCC	WPF
FLAMMABLE STORAGE	SUB
GATEHOUSE	SUC
GUARD TOWER	SUD
WEIGH BRIDGE OFFICE	SUE
EXISTING DEWATERING BUILDING	SUJ
PORTION D	
LANDSCAPING	AAD
'08 PRIMARY SETTLING TANKS	WDE
EXISTING RAW SEWAGE PUMP STATION	WPG
SUPPORT STAFF BUILDING	SUF
EXISTING WORKSHOP	SUH
EXISTING '08 CONTROL ROOM	SUK
EXISTING RAW SEWAGE PUMP STATION	SUL
EXISTING PRIMARY SLUDGE PUMP STATION	SUN
Note: ¹ The structure code refers to the three letters included in the drawings number. For example, if the drawing number is 3089.00.00.AAA.01.A002, the structure code associated with this drawing is AAA. ² It should be noted that although the list shown here highlights the main components of the Portion of Works further details are included in the drawing lists which can form part of the applicable Portion. The Contractor shall familiarise itself with the Portions of Works and ensure the all systems associated with these Portions are completed within the given timeframes to avoid penalties in terms of Clause 5.13.1 of the General Conditions of Contract. ³ The mechanical and electrical scope of works that shall form part of Section B is the HVAC for the Management Building. ⁴ Drawings codes of structures not listed here, and which are not relevant to the successful commissioning of the Portions defined here, can be assumed to form part of Portion C (i.e. the remainder of the Works).	

The Contractor will work in close proximity to the existing water retaining structures, buildings, operational pipelines, roads, services, etc. The Contractor is obligated to become acquainted with the nature of the proposed Works by visiting the site prior to submitting a Tender Offer. This will include examining the conditions under which the work is to be done, means of access, any limitations or restrictions that may be imposed upon the Tenderer and generally with all matters which may influence the tender.

The Works shall be designed and constructed to function safely and effectively in conjunction with the infrastructure provided by others for this project (see C3.1.9 titled Work to be Carried Out by others), and where components of the Works (provided by Others) are incorporated into the design, the overall quality of the system shall be of high quality.

The Contractor shall not disrupt the operation of the treatment works in any way without prior authorization by the Engineer. Further, the Contractor shall finalise the specific arrangements and timing of such disruptions with the Employer's Agent and the Employer's staff responsible for the operation of the treatment works, two weeks in advance of the event.

The Contractor shall execute the Works in such a way as to allow the Employer's operation and maintenance staff to have safe and convenient access to all parts of the treatment works save those parts where the Contractor has been granted full access and possession and which have thus been temporarily de-commissioned for the execution of the Works.

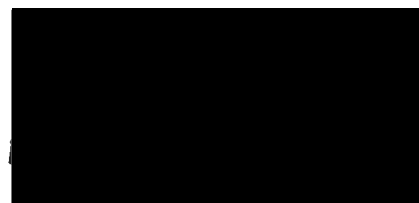
3.1.3 EXTENT OF THE WORKS

The extent of the works forming part of this Contract includes, but is not limited to, the following:

- Setting out of works;
- Activities related to earthworks including, but not limited to, site clearance, excavation, trenching, safeguarding, backfilling, dewatering, shoring, disposal of excess material, etc. that will be required for various structures, pipes, buildings, landscaping, etc. as indicated on the relevant drawings;
- Trench excavations and embankment protection for site pipework and specials made from concrete, HDPE and uPVC pipe material, including trench backfilling and associated site pipework commissioning activities.
- Construction of reinforced concrete structures, majority of which will be water retaining, including (but not limited to) to following:
 - '24 Inlet works that includes channels, screens, degritters and flow measuring station;
 - '24 raw sewage pump station;
 - '24 Emergency storage tank;
 - '24 Overflow dams;
 - '24 Hydraulic division structures;
 - '24 Primary sedimentation tanks;
 - '24 Primary sludge pump station with sludge strainer platform;
 - '24 Ultra fine screening station;
 - '24 Biological reactor;
 - '24 Membrane Bio-reactor (MBR);
 - '24 MBR reuse pump station;
 - '24 Ultra Filtration (UF) micro screening station;
 - UF feed and backwash pump station;
 - Concrete structures associated with UF system;
 - UF Ultra Violet (UV) and reuse pump station;
 - UF reject return pump station;
 - Primary sludge holding tanks;
 - Waste activated sludge storage tanks;
 - Sludge dewatering feed pump stations;
 - Sludge cake silos;
 - Chambers, manholes and other miscellaneous structures;
- Casting in of various mechanical components (primarily pipe specials) supplied by others.
- Diversion (permanent and temporary) of sewage flow between stone trap and '24 HoW.



- Water tightness testing of water retaining structures and pipelines.
- Connecting to water mains and other sundry pipelines.
- Dealing with sewage flows during work on existing structures.
- Construction of electrical draw pits/manholes and site ducting.
- Refurbishment and/or alterations of existing reinforced concrete structures including, but not limited to, the follow structures:
 - Conversion of inlet screening station to stone trap system;
 - '08 raw sewage pump station;
 - '08 primary sedimentation tanks;
 - '08 activated sludge reactor;
- Construction of buildings with all associated electrical components including, but not limited to, the following:
 - Management building;
 - Gatehouse;
 - Weighbridge station;
 - '24 head of works building;
 - '24 raw sewage building;
 - A number of motor control centres and sub-stations;
 - A number of guardhouses and security stations;
 - '24 primary sludge pump station building;
 - Membrane building (including mechanical and electrical equipment housing structure);
 - '24 MBR reuse pump station building;
 - '24 UF mechanical housing building;
 - '24 UF reuse pump station building;
 - '24 Sludge dewatering building;
- Refurbishment of existing building work to ensure aesthetic features coincide with new building work that will form part of the upgrade and expansion of Potsdam wastewater treatment plant including, but not limited to, the following buildings:
 - Support Staff (existing admin building);
 - Existing workshop;
 - Storage Building (Existing dewatering building);
 - Existing '08 Control Room Building;
 - '08 Raw Sewage Pump Station building;
 - '24 Stone Trap building;
 - '08 Primary Sludge Pump Station;
- Construction of other general civil infrastructure including, but not limited to, the following:
 - Access and maintenance roads and pavements with kerbing and channels and drainage systems;
 - Stormwater management system;
 - Paving;
 - Fencing;
- Landscaping, grassing in accordance with landscape architect specifications.
- Desludging and cleaning of existing sludge and maturation ponds, including the provision of interconnecting/diversion systems (i.e. pipes, valves, weirs and sluice gates).
- Electrical works of the scope for the plant includes, but is not limited to, the following:
 - Small power and lighting for various buildings and structures;
 - Distribution boards at various buildings;
 - Liaison with Mechanical and Electrical Contractor to co-ordinate power supply to distribution boards;
 - Testing and commissioning of electrical installation;



- Demolition of existing buildings, ancillary brick walls and associated concrete work, as shown on the relevant drawings, or inspected on site, which includes, but is not limited to, the following:
 - '08 Inlet works (including screens, degritters, flow measuring stations, etc.);
 - '97 activated sludge module (including pump stations, primary sedimentation tanks, bio reactors, secondary settling tanks and various smaller structures associated with the module);
 - A number of pipelines (mostly asbestos cement) and other services.
 - Existing concrete sludge holding tanks;
 - Existing concrete sludge cake silos;
 - Dismantling, cleaning and storage of various mechanical and electrical equipment.

The list above is not necessarily complete and shall not limit the work to be carried out by the Contractor under this contract. The approximate quantities associated with the scope of work of the contract is given in the Bill of Quantities.

Furthermore, the Contractor shall familiarise him/herself with all requirements related to commission and operating including (but not limited to) testing, training and maintaining components forming part of this Contract. These requirements are included under Section C3.4.

3.1.3.1 Considerations for demolition work

Any and all disposal shall be the responsibility of the Contractor and shall be done in safe and legal manner, at a disposal site capable of handling the disposal material. Proof of such disposal will have to be provided upon the request from the Employer's Agent.

a) Demolish and removal of existing concrete structures:

The Contractor shall demolish, crush and stockpile existing concrete structures as indicated on the relevant drawings, or agreed with the Employers Agent on site. Various water retaining structures and associated cast in items will form part of the scope of works. It can be expected that the majority of these structures have been founded at a level in excess of 3 m below ground level. Where relevant, all ancillary equipment associated with the specific structures, which includes any mechanical and electrical components, has to be removed with the structure.

All steel (including reinforcing) shall be removed and recycled (or disposed of) at an area identified by the Contractor. Any disposal site used by the Contractor should comply with the regulatory requirements for handling the material disposed at the site. Proof of such compliance (including delivery of the material) will be presented to the Employer's Agent upon request.

Where instructed, voids created by the removal of the existing structures shall be backfilled with G6/G7 material, compacted in layers not exceeding 300 mm to 100% Mod AASHTO dry density (MADD) and shaped to conform to the natural ground level surrounding the structure prior to the removal of the said structure. A 150 mm thick layer of top soiling shall be placed where voids were backfilled and will be lightly compacted.

No demolition activity shall cause damage to the Works. Where special allowance are required in this regard the Contractor's tender rates include for the relevant allowances in this regard.

b) Crushing, sorting and storage of material:

All structural concrete forming part of this Contract will be crushed on site to a nominal maximum size of 75 mm and be free of any bricks, reinforcing, steel or any impurities preventing the material to be used as a subbase layer in the future.

This will be achieved through the provision of a temporary crusher plant, to be provided by the Contractor. The crushed material will be sorted and stockpiled on site, at an area identified by the Employers Agent for future use. It is a specific requirement that this crusher plant operate on an area smaller than 1000 m².

c) Demolish and removal of existing pipelines:

Existing pipelines (above or belowground) and fittings, shall be removed and disposed of off-site at a disposal site identified by the Contractor.

It is anticipated that the majority of the pipes situated below the ground will be asbestos cement. All asbestos related material shall be dealt with in accordance with the Asbestos Regulation of the Occupational Health and Safety Act. Steel and reinforcement shall be recycled or disposed of off-site (depending on the Contractors preferred method).

Pipe ends at the boundary of the demolition zones, as indicated by the Employers Agent, shall be sealed with brickwork for pipe diameters in excess of 500 mm. Smaller pipes shall be sealed by way of 10 Mpa concrete. Any manhole situated within the demolition boundary will be completely removed.

Where instructed, voids created by the removal of the existing pipes shall be backfilled with G7 material, compacted as per the relevant specification and shaped to conform to the natural ground level surrounding the excavation.

d) Dismantling, cleaning and storage of mechanical and electrical equipment

Mechanical equipment such as pumps, valves, screens, handstops/ sluice gates, lifting equipment, etc. shall be decommissioned, dismantled, removed and stored in the municipal yard. The Contractor shall ensure that all requirements related to the Client's decommissioning process is followed prior to commencing with demolition activities. Other rubble shall be removed from site in an approved site to be determined by the Contractor.

3.1.4 EXISTING SERVICES

The position and details of existing services and structures that are known to the Employer's Agent are shown on the drawings. The drawings show the best information available to the Employer's Agent at time of tender. The Employer and Employer's Agent take no responsibility for the accuracy or completeness of this information and have provided this information merely as an aid to the tenderers in preparing their tenders for construction of the Works.

The Contractor(s) shall acquaint themselves with the exact position of all existing services and clearly mark the positions of services before any exploration, excavation or other work likely to affect the existing services, is commenced. In order to achieve this, the Contractor shall conduct a thorough search to locate the positions of known and any possible unknown services. After this search all services shall be deemed as known.

All excavation for exposing underground services shall be done by hand under close supervision. The cost of searching for existing services, accommodating all existing services and relocating all services shown on the Tender Drawings shall be priced into the appropriate work items forming part of the Contract.

Before entering upon existing service servitudes or before commencing any exploration work, the Contractor is required to liaise with service owners to ensure:

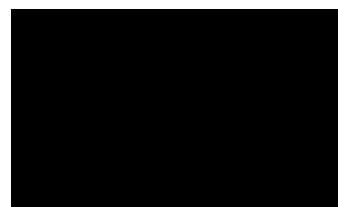
- that planning of work in the servitude is done in accordance with wayleave agreements and the express requirements of the service owner;
- that service owners are aware of the date and time when work will commence in the servitude;
- that service owners provide the necessary superintendence during critical aspects of the work affecting their service.
- that contact details of the service owner's staff in case of accidental damage or emergency are obtained, which numbers must be clearly displayed in the Contractor's Site Agent's office.

The Contractor shall be required to provide a method statement for any work to take place, on, over, under or adjacent to existing services, including safety precautions and contingency plans, should damage to services occur, before commencing with any such work. No working activities on or near existing services including searching work will be allowed to commence without the written approval of the Employer's Agent.

The Contractor shall protect all known existing services as well as all work being carried out and structures being erected on the Site by other contractors or public authorities. The Contractor must familiarise himself with the various standard regulations of the relevant public authorities and act accordingly. Any damage caused to these services or structures, or any obstructions or hindrance caused to other contractors or public authorities by the Contractor (and all claims arising from such damage, obstruction or hindrance) shall be the sole responsibility of the Contractor. The Contractor shall immediately repair such damage caused at his own expense and to the entire satisfaction of the Employer's Agent and the owner of the service.

The Contractor shall immediately inform the Employer's Agent or Employer's Agent's Representative of any damage caused to services so that the damage may be inspected, the circumstances under which the damage was caused can be determined, and the liability for the damage determined on site.

The Contractor shall only use temporary or permanent access roadways identified in the specifications and drawings or approved by the Employer's Agent. The Contractor must stay off private roads unless written permission is provided by the Employer's Agent.



Notwithstanding any repair or rehabilitation work to roads that may be provided for in the contract, the Contractor shall during the contract maintain and rehabilitate local, public and private roads, where damaged due to construction activities. The costs of such work shall be deemed to be included in the relevant tendered rates for construction activities and shall not be measured and paid for separately.

The Contractor shall photographically record conditions of public and private roads, structures, buildings and existing services before commencement of works.

3.1.5 LOCATION OF THE WORKS

Potsdam WWTP is located west of Koeberg Road opposite the Chevron Oil Refinery in Milnerton. The co-ordinates for the site are listed below:

33° 50' 13" South
18° 31' 22" East

3.1.6 CLIMATE INFORMATION

Maximum ambient temperature:	27°C (Monthly average)
Average ambient temperature:	17°C (Monthly average)
Minimum ambient temperature:	7°C (Monthly average)
Altitude (meters above mean sea level):	10 mamsl
Humidity:	High
Atmosphere:	Coastal
Lightning:	Infrequent
Wind:	Frequently reaching very high speeds
Rainfall:	Annual precipitation – 213.4mm Wettest month – June (47.4mm avg)

3.1.7 TEMPORARY WORKS

The Contractor shall determine and be responsible for the design of all temporary works, inclusive of concrete mixes, formwork, excavation shoring, pumping, pipelines, chambers, etc. and their compatibility with the permanent works as will be required for the successful completion of the works specified in this Contract.

It is a specific requirement that the Contractor will have to establish a temporary crusher plant on site. Crushed material will be sorted and stockpiled on site, at an area to be identified by the Employers Agent for future use. It is a specific requirement that this crusher plant operate on an area smaller than 1000 m².

The proposed location of the Contractors site camp shall be identified on site during the site clarification meeting. The Contractor shall ensure that this camp is clean at all times.

The use of the existing access to site for all construction vehicles shall be allowed. This access will become obstructed for a period when construction activities around this area of the plant commences. The Contractor will be responsible to construct a temporary access road which will be shared with other Contractors and City of Cape Town personnel. The exact position of this temporary access road shall be finalised and agreed with the Employers Agent's Representative on site. Provision for a 150 m long, 6 m wide gravel road, designed for the Contractors heaviest vehicle, shall be provided by the Contractor and rehabilitated once the main access to the site is complete. This access shall include a temporary security house suitable for facilitating two security guards and a boom control to prevent unauthorised access to site.

The Contractor shall refer to the proposed programming and sequencing requirements provided under Part C3.5.5 for (possible) requirements related to temporary works and how the commissioning of the main components forming part of the Works will/can be achieved. Co-ordination between the Civil and M&E Contractor will be required and temporary systems will have to be constructed and maintained in accordance with programming requirements for both Contracts.

No temporary works shall be commissioned without the written notification to the Employers Agent and subsequent approval to proceed with the specified activity/works.

3.1.8 SITE FACILITIES AND SERVICES AVAILABLE

3.1.8.1 Location of site camps and depots

The proposed position of the Contractor's camp and depot for the Works Site will be indicated to the Contractor during the Site Clarification Meeting.

Should the Contractor deem the area made available by the Employer to be inadequate or unsuitable for the Contractor's particular needs, then the Contractor shall be at liberty to make his/her own arrangements with the owners of other sites which he/she considers better suited to his/her needs; provided that the use by the Contractor of any area other than that made available to him/her by the Employer shall be subject to the prior written approval of the Employer's Agent, which approval shall not be unreasonably withheld; and provided further that the Contractor shall have no claim against the Employer in respect of any costs incurred by him/her, either directly or indirectly in consequence of utilising any area other than that made available to him/her by the Employer, and which costs exceed those costs allowed for by the Contractor in his Tender.

3.1.8.2 Access to Site

The Contractor may make use of the existing access road to and within the Site, but shall be responsible to restore these roads as part of the rehabilitation requirements to a similar or better condition that prevailed at the Commencement Date at his/her own expense. If the Contractor requires additional access to and within the Site, these shall be submitted to the Employer's Agent for approval and constructed at his/her own expense. Proper access control shall be instituted by the Contractor to prevent any unauthorised entry to the Work as well as to the Employer's facilities.

3.1.8.3 Water supply

Potable water is available on Site and the Contractor shall be responsible under the Contract for the supply and distribution at his/her own cost of all water that he/she may require for purposes of human consumption, construction, testing and commissioning of the Works. Accordingly, the Contractor shall pay all consumption charges, and at his/her cost provide and install all connections, consumption meters, pipework, storage tanks, transport and other items associated with the supply of water for construction activities. All connections to pipelines of the Employer shall be in accordance to standards approved by the Employer.

Potable water for construction activities and domestic use at the Contractor's camp will be charged at R 7.00/kl and amounts for consumption shall be deducted from Interim Payment Certificates.

Where possible, and only with the prior approval from the Employer's Agent, will the Contractor be allowed to use treated effluent for specific purposes deemed appropriate by the Employers Agent (which might include filling of water retaining structures for water tightness testing).

The Contractor shall, at his own expense, be responsible for obtaining and distributing all water as may be required for the purposes of executing the Contract, including water for both construction purposes (including flushing/washing and testing all water retaining structures and curing) and domestic use, as well as for making all arrangements in connection therewith. The Contractor shall further, at his/her own expense, be responsible for providing all necessities for procuring, storing, transporting and applying water required for the execution of the Contract, including but not limited to all piping, valves, tanks, pumps, meters and other plant and equipment, as well as for all work and superintendence associated therewith.

The sources of all water utilised for the purposes of the Contract shall be subject to the prior approval of the Employer's Agent, which approval shall not be unreasonably withheld.

The Contractor shall comply with all prevailing legislation in respect of drawing water from natural and other sources and shall, when required by the Employer's Agent, produce proof of such compliance. The distribution of water shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

All water provided by the Contractor for construction purposes shall be clean, free from undesirable concentrations of deleterious salts and other materials and shall comply with any further relevant specifications of the Contract. The Contractor shall, whenever reasonably required by the Employer's Agent, produce test results demonstrating such compliance. Water provided by the Contractor for human consumption shall be healthy and potable to the satisfaction of the health authorities in the area of the Site.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of water, the costs of which will be deemed to be included in the Contractor's tendered rates.

3.1.8.4 Power supply

Electricity is available near the Site but the assurance of supply cannot be guaranteed. The Contractor shall be responsible for the supply and distribution at his/her cost of all electricity that he/she may require

for the purposes of constructing the Works. The Contractor may apply with the local authority for installation of an electrical connection. Accordingly, the Contractor shall pay all consumption charges, and at his/her own cost provide all connections, distribution, consumption meters and the like for construction of the Works. The distribution of electricity shall be in accordance with the applicable bylaws and regulations of the local authority.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of electricity, the costs of which will be deemed to be in the Contractor's tendered rates and prices.

3.1.8.5 Sanitation

The Contractor shall provide the necessary ablution facilities for his/her camps and depots. Pit latrines shall not be permitted and the Contractor shall either provide a connection to the existing outfall sewer or install a conservancy tank, which will be removed once construction has been completed.

Sanitation systems shall be installed in accordance with the Employer's standards and shall be down to the Employer's Agent's approval.

No separate payment will be made to the Contractor in respect of discharging his obligations in terms of this sub-clause and the costs thereof shall be deemed to be included within the Contractor's tendered Preliminary and General Items.

3.1.8.6 Site access

The Contractor shall take cognisance of the fact that the site will be shared with other contractors (refer to C3.1.9) who will be responsible for mechanical and electrical installation, as well as the Employers personnel who are responsible for the operation of the Potsdam WWTP.

The Contractors employees will not be allowed to stay on site except for the duration of a working day. The only person(s) to be allowed on site for the duration of a calendar day will be the site security.

3.1.9 WORKS TO BE CARRIED OUT BY OTHERS

The upgrade and expansion of the Potsdam wastewater treatment plant will be implemented with two main contracts, namely:

- Contract No. 295Q/2021/22: Civil work – Build of upgrading and expansion of the Potsdam wastewater treatment plant (i.e. this contract)
- Contract No. 146Q/2021/22: Mechanical and electrical works – Design-build for the upgrading and expansion of the Potsdam wastewater treatment plant

The majority of the mechanical and electrical works associated with the upgrade and expansion of the Potsdam wastewater treatment plant will form part of Contract No. 146Q/2021/22. Some changes/alterations to this Contract (i.e. civil design details) are likely to occur based on the requirements for the installation of the mechanical and electrical equipment that will be provided by the mechanical/electrical Contractor.

The Potsdam wastewater treatment plant will also be active which will result in City of Cape Town operational and maintenance staff requiring access to all live areas of the plant.

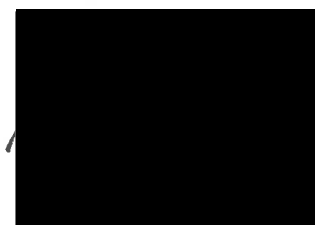
3.10 GEOTECHNICAL CONDITIONS

The Contractor shall refer to section C4.1 [Site Information] for relevant geotechnical studies. A short summary of conditions at each site is given hereafter.

The geological setting of the site is one of transported soils with some ferricrete layers over Malmesbury Group bedrock. The transported soils have, however, been worked during previous construction to form a large platform on the high lying parts of the site and fill materials have been introduced in some of the low lying parts of the site.

Excavation to a depth between 3m to 6m (depending on the location) are not expected to be problematic. Loose sand might be an issue and hence allowance for shoring and embankment protection will be required.

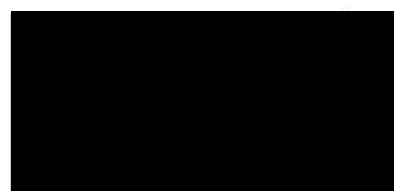
The groundwater on site is a relatively thin body of saturated sand overlying a lower permeability clayey / ferruginized sand layer. The seepage rates are therefore not excessive and the total volume of seepage is also relatively low. This is especially true in the higher eastern parts of the site. Dewatering of



excavations will therefore not require excessive pumping and seepage will cease after some time as the perched table is depleted locally.

On the sloping parts of the site seepage rates may increase and the volume of seepage will be higher. In such areas upslope cut-off drains could be used to divert the groundwater around any excavations or structures.

In the flat low lying parts of the site the water table is expected to be variable in the fill materials due to the variable nature and compaction of the materials. The water table in that area is however not a perched water table but a continuous body that extends down to the residual bedrock. Where natural ground is present (e.g. TP13) the water table is expected to be present at a consistent elevation of approximately 3mamsl.



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C3.2 Engineering / Design

CONTENTS

- 3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX
- 3.2.2 EMPLOYER'S DESIGN
- 3.2.3 DESIGN BRIEF
- 3.2.4 DRAWINGS
- 3.2.5 DESIGN PROCEDURES

3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

The following table provides an overview of the design and related documentation:

Design Service	Responsible Party
Concept, feasibility and overall process	Employer
Basic engineering and detail layouts to tender stage	Employer
Detailed design of works	Employer
Temporary works	Contractor
As built drawings	Contractor

3.2.2 EMPLOYER'S DESIGN

The Employer's Agent has designed the Works on behalf of the Employer for the intended use and has selected materials that he deems suitable and fit for purpose. The Contractor shall be expected to construct the Works in terms of the construction drawings and specifications compiled and issued by the Employer's Agent or special directives issued by the Employer's Agent in writing. These may include general arrangement and/or workshop-type drawings for mechanical and/or electrical equipment prepared under another Contract, which may be formally issued to the Contractor by the Employer's Agent's Representative under a Site Instruction or letter. Under such circumstances, the details of the mechanical and electrical equipment, inasmuch as it affects the civil works, will supersede the civil details as shown on the construction drawings and the Contractor shall proceed in accordance with the details on these mechanical and/or electrical drawings.

In cases where there is a discrepancy between the civil drawings and structural (rebar) drawings, the Contractor shall request clarification from the Employer's Agent prior to proceeding with the affected work.

With regards to pipe items cast into concrete structures as well as interconnecting pipework, the Employer's Agent has provided the proposed layout of the pipework on the drawings for tendering purposes. However, the Contractor shall be responsible for all final measurements on site, final design, correct manufacturing and installation of all pipe items and pipework covered under the scope of works. Any/all modifications on site shall be handled in terms of the relevant Specifications for repairs to damaged corrosion protection. The Contractor shall also maintain suitable records of all such items in order to complete the as-built drawings at the completion of the works.

The Contractor is responsible for the design of the temporary Works, inclusive of concrete mixes, formwork and shoring, and their compatibility with the permanent Works. The Contractor shall also be responsible for the production of shop drawings and related design, in accordance with the drawings and Scope of Work, of structural steelwork, steel pipe specials, and miscellaneous items such as gratings, walkways and ladders. The Contractor shall supply all details necessary to assist the Employer's Agent in the compilation of the as-built drawings.

3.2.3 DESIGN BRIEF

Before any demolition or excavation activity commences, the Contractor shall follow the procedure below, without exception:

- a) Survey the structure and/or area to locate existing services.
- b) Use specialist underground service detection device to locate any underground cables or pipes.
- c) Expose any underground services detected.
- d) Isolate any electrical connections and or cables safely. Written proof from a suitably qualified electrician shall accompany each method statement.
- e) Mark all identified services onto a layout drawing.
- f) Conduct a detailed photographic survey of the structure and area surrounding the structure as proof of the pre-demolition condition.

The following list of activities are only applicable to demolition work:

- g) Submit a method statement to the Employers Agent with a detailed plan of how the demolition of the particular structure will be undertaken, indicating what demolition plant will be employed, the expected duration and how existing services will be safeguarded.
- h) Include in the method statement, the procedure to be followed to ensure that the demolition work will be carried out in a safe manner.
- i) Perform test throughout the structure using multi-gas monitors to determine whether trapped hazardous gases are present and to gauge the oxygen levels. Include the results of these tests with each method statement as well as an appropriate response plan. Special consideration should be given to low lying and enclosed areas. If an area is considered dangerous or high risk continuous testing may be required.
- j) Set up a pre-demolition inspection to be attended by the Employer's Agent and a representative from the WWTP's process control team.
- k) Present each attendee with a method statement for the proposed demolition.
- l) Confirm that the equipment to be demolished has been scrapped from the City of Cape Town's asset register.
- m) Ascertain whether the Employer wants to retain any of the mechanical or electrical equipment. If indeed, the identified equipment will be removed and delivered to a designated area where a delivery note shall be signed by a recipient of the equipment.
- n) If operational infrastructure has to be shutdown temporarily to enable the execution of the work in the Contract, the Contractor shall inform the Plant Manager and Employer's Agent. Arrangements shall then be made to conduct such a shutdown at a convenient time and prescribe the implications of such a shutdown should there be any requirement for the Contractor to put measures in place to keep the section shut down. Under no circumstances shall the Contractor shut down any area of the plant without written consent of the Plant Manager.
- o) Obtain written approval from the Employer's Agent's Representative that demolition may commence for each structure.

This procedure should be followed for each structure listed in the **Section 3.1.3**.

3.2.4 DRAWINGS

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the Contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are listed in Volume 4: Book of Drawings and are issued for tendering purposes. They are issued separately to this document as Volume 4: Book of Drawings and must be regarded as provisional and preliminary for Tenderers to generally assess the scope of work.

Construction drawings will be issued in electronic format (PDF format). Only digitally signed drawings of which the signature is certified by SigniFlow will be accepted as official construction drawings. Construction drawings will be issued by means of an electronic issue list which will record the latest version of the drawing issued and the issue date. The Contractor shall sign the issue list and return the signed issue list to the Engineer to confirm that the drawings have been received. The latest version of the drawing issued shall be applicable from the date of issue.

One A3 set of paper prints of the construction drawings will be made available to the Contractor on or before the handing over of Site for information purposes only. No further paper copies will be issued to the Contractor. The onus will be on the Contractor to ensure that paper copies of the latest issued electronic format construction drawings are available on Site for construction purposes.

The Employers Agent will maintain a set of paper copies of all issued drawings on Site for the recording of As Built information.

The Employer reserves the right to issue amended and add additional drawings during the Contract.

3.2.5 DESIGN PROCEDURES

The Contractor shall be responsible for the design of the temporary Works as defined in C3.1.7.

Where the Contractor is to supply the design of designated parts of the permanent Works or temporary Works it shall supply full working drawings supported by a professional engineer's design certificate.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C3.3 Procurement

CONTENTS

- 3.3.1 PREFERENTIAL PROCUREMENT
- 3.3.2 SUB-CONTRACTING PROCEDURES

3.3.1. PREFERENTIAL PROCUREMENT

The Works shall be executed in accordance with the conditions associated with the granting of preferences detailed in the **Preference Schedule** where preferences are granted in respect of B-BBEE contribution.

Financial penalties, as described in the **Preference Schedule**, shall be applied in the event that the Contractor is found to have breached and of the conditions contained in the **Preference Schedule** (unless proven to be beyond the control of the Contractor).

Notwithstanding the application of penalties, the Contractor's attention is drawn to other sanctions that may be applied by the Employer (listed in the **Preference Schedule**) with due consideration to the circumstances.

3.3.2. SUB-CONTRACTING PROCEDURES

3.3.2.1 Monitoring the use of subcontractors

Notwithstanding the restriction on sub-contracting as described on the **Preference Schedule**, it is recognised that sub-contracting is an integral part of construction, which the conditions of contract make provision for.

In order, however, to comply with the requirements of the **Preference Schedule**, the Contractor shall submit to the Employer's Agent, on a monthly basis, a **B-BBEE Sub-contract Expenditure Report**. The format of this report is provided in Annex 2 attached.

The Contractor shall submit to the Employer's Agent documentary evidence in accordance with the applicable codes of good practise, of the B-BBEE status level of every subcontractor employed by the Contractor. Until such time as documentary evidence as described above has been submitted to the Employer's Agent, a subcontractor shall be deemed to be a non-compliant contributor.

The Contractor shall furthermore, on the written request of the Employer's Agent, provide documentary evidence showing the value of work sub-contracted to any or all of the subcontractors employed by the Contractor.

3.3.2.2 Procedure for the selection of subcontractors/suppliers

Where monetary allowances for provisional sums or prime costs items have been provided in the Bills of Quantities, and where the work or items to which the allowances relate are to be executed/supplied by subcontractors/suppliers, then the following selection process shall be followed in respect of the required subcontractors/suppliers:

Where the monetary allowance is less than or equal to R300 000, the Contractor shall invite three quotations from suitably qualified subcontractors/suppliers for the required work or items. The selection of the three subcontractors/suppliers shall be in consultation with, and to the approval of the Employer's Agent. The evaluation of the quotations received must include a preference points system as described in C.3.11 of the Tender Data.

Where the monetary allowance is in excess of R300 000, an open competitive tender process shall be followed in respect of the selection of a subcontractor/supplier for the required work or items. In such circumstances, tender documentation will be prepared by the Employer's Agent in consultation with and to the approval of the Contractor, invitations to tender will be advertised in the media by the Employer's Agent on behalf of the Contractor, and a subcontractor/supplier will be selected from the responses received, by the Contractor and Employer's Agent in consultation. The evaluation of the offers received must include a preference points system as described in C.3.11 of the Tender Data. The Contractor must satisfy itself that the selected subcontractor/supplier can meet the requirements of the sub-contract /supply agreement and may, on reasonable grounds, elect not to employ a particular subcontractor/supplier.

In both instances above (less than or equal to R300 000 or in excess of R300 000), the contractual relationship between the Contractor and subcontractor/supplier shall be as described in the conditions of contract.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C3.4 Construction

CONTENTS

- 3.4.1 TRADE NAMES OR PROPRIETARY PRODUCTS
- 3.4.2 GENERAL CLAUSES AND REQUIREMENTS
- 3.4.3 APPLICABLE STANDARDISED SPECIFICATIONS FOR CIVIL WORKS
- 3.4.4 VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATIONS FOR CIVIL WORKS
- 3.4.5 PARTICULAR SPECIFICATIONS FOR CIVIL WORKS
- 3.4.6 APPLICABLE STANDARDISED SPECIFICATIONS FOR ELECTRICAL WORKS
- 3.4.7 DETAILED ELECTRICAL SPECIFICATIONS
- 3.4.8 PARTICULAR SPECIFICATIONS FOR ELECTRICAL WORKS
- 3.4.9 WAYLEAVES, PERMISSIONS AND PERMITS
- 3.4.10 LOCAL PRODUCTION AND CONTENT
- 3.4.11 EMPLOYMENT OF SECURITY PERSONNEL
- 3.4.12 UNIVERSAL ACCESS

3.4.1. TRADE NAMES OR PROPRIETARY PRODUCTS

Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words "or equivalent".

TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS 'OR EQUIVALENT'

3.4.2 GENERAL CLAUSES AND REQUIREMENTS

3.4.2.1 Sanitary conditions

The Contractor shall provide adequate toilet and ablution facilities for all his personnel on site in accordance with the requirements of the Environmental Specifications and Environmental Management Plan.

Unhygienic habits and any behaviour that may cause contamination of any part of the Works or the surrounding areas are strictly prohibited. The Contractor shall ensure that sanitary conditions prevail throughout the site and that all his workmen are aware of, and comply with this rule.

3.4.2.2 Maintaining and cleaning of site

The Contractor shall maintain the whole of the Site where his activities are taking place in a clean, tidy and orderly condition, to the satisfaction of the Engineer. The Contractor shall be liable for the cost of making good any damage to the Site or to the facilities constructed by other contractors on site, or to other contractor's camp and plant, or to any of the Employer's or Engineer's property.

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

3.4.2.3 Testing

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Engineer in deciding whether the quality of materials utilised and workmanship achieved by the Contractor comply with the requirements of the Specifications. The

afore going shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Engineer or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Engineer with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean an "approved laboratory" (as defined in sub-clause 7.2 of SANS 1200 A) which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

3.4.2.4 Sub-contracting

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Employers Agent and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Employers Agent will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor. All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Employers Agent will not become involved.

3.4.2.5 Dealing with water

The Contractor shall deal with water, whatever its origin, on the Site so that the Works are kept sufficiently dry for their proper execution. In general, the Contractor shall:

- a) Keep all completed Works or portions thereof properly drained.
- b) Not inhibit surface drainage
- c) Protect all parts of the Works against damage and erosion caused by rain and surface, as well as sub-surface water.
- d) Manage and dispose of water; which shall include for by-pass arrangements, temporary earthworks, cofferdams, pumping equipment, well-pointing, de-watering equipment etc, and for dealing with all possible flows whether or not the existing flow path is being interfered with during construction.
- e) Note and allow for the fact that in addition to work in and around the river, it is anticipated that some pipe trench excavations and excavations for structures, could be below the water table; and that it shall therefore be necessary to dewater the relevant sections of the Works, as required, for the duration of construction.

3.4.2.6 Construction in restricted areas

Working space is sometimes restricted. The construction method used in these restricted areas largely depends on the Contractor's Plant. Notwithstanding, measurement and payment will be strictly according to the specified cross-sections and dimensions irrespective of the method used, and the rates and prices tendered will be deemed to include full compensation for any difficulties encountered by the Contractor while working in restricted areas. No extra payment nor any claim for payment due to these difficulties will be considered.

3.4.2.7 Continuous operation of existing services

The construction work shall take place at the existing wastewater treatment works. The treatment works must remain in operation at all times except where otherwise specified or for connection purposes. The Contractor shall ensure that, wherever possible, the Employer's personnel have unhindered access to, and use of, all parts of the existing works at all times, as necessary.

The Contractor shall notify the Employer's Agent in writing of when he intends to interrupt the operation of the treatment works in order to effect connections with the new treatment works. Such notice shall be given in writing at least 2 weeks in advance. Approval of such work shall be given only when the timing of the work is acceptable to the Employer's Agent.

The Contractor shall ensure that his workmen do not interfere with the operation of the treatment works and he shall instruct them to refrain from entering areas where they are not required to carry out any work related to the Contract.

The Contractor shall not be allowed to shut down the treatment works completely at any stage. Work requiring interruptions of the operation of the treatment works may have to be done outside normal working hours (e.g. between midnight and early morning). Such work shall be undertaken in a manner and to the approval of the Employer's Agent. No claims for additional payment will be considered in this regard.

The Contractor shall take care to protect existing services against damage.

3.4.2.8 Monthly statements and payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 (GCC 2015) of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Employer's Agent, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Employer's Agent's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Employer's Agent for the purposes of accurately reflecting the actual quantities and amounts which the Employer's Agent deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Employer's Agent within three (3) normal workings days from the date on which the Employer's Agent communicated to the Contractor the adjustments required. The Contractor shall submit to the Employer's Agent three (3) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Employer's Agent the requisite copies of the adjusted statement for the purposes of the Employer's Agent's payment certificate will be added to the times allowed to the Employer's Agent in terms of Clause 6.10.4 (GCC 2015) of the Conditions of Contract to submit the signed payment certificate to the Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

3.4.2.9 Quality assurance and control

All materials and workmanship shall be of a suitable type and quality to ensure that the Works will operate satisfactorily in accordance with the Specifications.

The Contractor shall submit a Quality Assurance Plan outlining quality assurance policies and procedures to be used for the project relating to the areas such as materials, manufacturing, installation and testing. A documented quality control and quality assurance system shall be maintained, which shall be in accordance with ISO 9000 or equivalent approved by the Employers Agent. The Contractor shall ensure that the same requirements is applied to products, systems, and services supplied by his subcontractors and suppliers. The Contractor shall file all quality certification documents relating to the products and systems supplied for the Works. The Employers Agent shall have full access to such files.

Registration to [REDACTED] is preferable and evidence of current registration to this or another acceptable quality management system shall be provided upon request.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work.

3.4.2.10 Excavation permit requirements

Due to the severity of the consequence of damaging any existing services on an active large scale treatment plant the Contractor will be required to survey all areas where excavation will take place. This shall be done with ground penetrating radar, cable detection units and hand excavation to expose existing services. No excavation permit or wayleave shall be issued by the City of Cape Town unless a detailed detection, location and exposure activity has been completed for areas where excavation is to take place.

The drawings show the position of existing services based on the information available. However, the Contractor shall verify the position of all services and all other obstacles and existing works on the Site. Manholes, valves boxes and the like will be regarded as known services.

Where any underground services are shown on the drawings, the Contractor shall have the equipment referred to above available on the Site for as long as is necessary to detect and locate such services and, if so ordered, he shall excavate by hand to expose such services in areas and in a manner and at a time agreed upon with the Employers Agent.

If existing services are not shown on the drawings but the existence thereof can be reasonably expected, the Contractor shall, in conjunction with all relevant authorities, determine the exact depth and location of such services before the commencement of construction. After locating the exact position of services, whether indicated on the drawings or not, such services shall be deemed to be known services and the

Contractor shall be liable for all costs and subsequent costs arising from the damage thereof as a result of the Contractor's activities. These services must also be indicated on the "As Built" drawings."

No extra payment shall be made for the detection of existing services using ground penetrating radar and electrical cable detection devices.

3.4.2.11 Survey of existing services

All survey work shall be performed by registered surveyors or professional land surveyors registered with the South African Geomatics Institute (SAGI) and South African Council for Professional and Technical Surveyors (PLATO) will be considered.

The Surveyor is required to furnish all equipment necessary to physically perform the surveys of cable routes and existing service (i.e. as defined below).

The Surveyor shall survey all infrastructure (i.e. manholes, culverts, channels, etc.) encountered along the planned cable and site pipework routes in detail. This shall also be done for all main excavations outlines. Upon completion of the survey activity the following parameters are required to be recorded and shall be shown on survey plans:

- X and Y co-ordinates for the outline of the excavations;
- X and Y co-ordinates for any existing services encountered in the excavation (refer to detection of existing services);
- Indicate direction in which services are routed (where services cross excavation trench);
- X and Y co-ordinates for the centre of the cable route markers;
- X and Y co-ordinates for the centre of all electrical sleeves;

All new cable and pipe routes shall first be planned with information obtained from surveyor and submitted for approval to the Employers Agent and City of Cape Town's Representative.

3.4.2.12 Construction work permit

The Contractor is responsible for preparing documentation associated with the application construction work permit in terms of the Occupational Health and Safety Act: Construction Regulations 3 or latest Gazetted equivalent version thereof (refer to Section 2.4 of the Health and Safety Specifications). Should the issuing of a construction work permit be delayed by the submission these documents or if the Employer's Health and Safety Agent, or the Provincial Director of the Department of Labour, deems the documents unacceptable, no claim for an extension of time will be entertained.

The issuing of a construction work permit by the Department of Labour shall in no way nullify the requirement to submit a Health and Safety Plan to the Employer's Health and Safety Agent for discussion and approval before commencement with Works execution.

3.4.3 APPLICABLE STANDARDISED SPECIFICATIONS FOR CIVIL WORKS

The Standard Specifications on which this contract is based are the South African Bureau of Standard's Standardized Specifications for Civil Engineering Construction (SABS 1200). (Note: "SABS has been changed to "SANS"; the SABS 1200 specifications are due to be replaced in the foreseeable future by SANS 2001 amongst other specifications).

Although not bound in nor issued with this Document, the relevant sections of the standard specifications shall form part of this Contract. These documents are available at the Contractor's expense from the SA Bureau of Standards, Private Bag X191, PRETORIA, 0001

The applicable SABS 1200 Standardised Specification for this Contract shall be the following:

- A - General
- AB - Engineer's offices
- C - Site clearance
- D - Earthworks
- DB - Earthworks (pipe trenches)
- DM - Earthworks (roads, subgrade)
- G - Structural

H	- Structural steel
HB	- Cladding and sheeting
HC	- Corrosion protection
L	Medium pressure pipe lines
LB	Bedding (pipes)
LC	- Cable ducts
LD	Sewers
LE	Stormwater drainage
M	- Roads (general)
ME	- Subbase
MF	- Base
MG	- Bituminous surface treatment
MH	- Asphalt base and surfacing
MJ	- Segmented paving
MK	- Kerbing and channelling
MM	- Ancillary Roadworks

The term "project specification" must be replaced by "scope of works" wherever it appears in these standardized specifications.

In addition, the City of Cape Town's standard specifications for mechanical works, namely,

- Standard Specifications for Mechanical Works - City of Cape Town

shall be considered where any mechanical work is priced in the Bill of Quantities. Although not bound in this Document, the SABS 1200 shall form part of this Contract. The Standard Specifications for Mechanical Works will be distributed with the Document in electronic format.

The various documents listed in Section C3.4.3 shall be treated as mutually explanatory. However, should any requirement of Section C3.4.4 conflict with any requirement of the Standardised Specifications or with any requirement of the Particular Specifications, then the requirements of Sections C3.4.4 shall prevail.

3.4.4 VARIATIONS AND ADDITIONS TO STANDARD SPECIFICATION FOR CIVIL WORKS

The project specifications associated with the Civil Works are set out in C3.6.1. For further details on these specifications, refer to Volume 3A.

3.4.5 PARTICULAR SPECIFIC SPECIFICATIONS FOR CIVIL WORKS

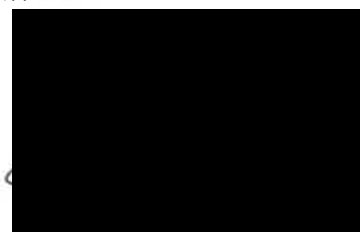
Civil particular specifications for Sections of the Works not covered by the standard specifications are set out in C3.6.2. For further details on these specifications, refer to Volume 3A.

3.4.6 APPLICABLE STANDARDISED SPECIFICATIONS FOR ELECTRICAL WORKS

The City of Cape Town's standard specifications for mechanical & electrical works, namely,

- Standard Specifications for Mechanical Works - City of Cape Town
- Standard Specifications for Electrical Works - City of Cape Town

shall be considered where any mechanical or electrical work is priced in the Bill of Quantities. Although not bound in with this Document, the standard specifications for mechanical and electrical works shall form part of this Contract. These documents will be distributed with the Document in electronic format.



The City of Cape Town's Standards Specifications for Electrical Works is included in **C3.6.7**. For further detail refer to Volume 3B.

The various documents listed in Section **C3.4.6** shall be treated as mutually explanatory. However, should any requirement of Section **C3.4.7** conflict with any requirement of the Standardised Specifications or with any requirement of the Particular Specifications, then the requirements of Sections **C3.4.7** shall prevail.

3.4.7 DETAILED ELECTRICAL SPECIFIC SPECIFICATIONS

The project specifications associated with the Electrical Works are set out in **C3.6.5**. For further details on these specifications refer to Volume 3B.

3.4.8 PARTICULAR SPECIFIC SPECIFICATIONS FOR ELECTRICAL WORKS

Electrical particular specifications for Sections of the Works not covered by the standard specifications are included in **C3.6.6**. For further details on these specifications refer to Volume 3B.

3.4.9 WAYLEAVES, PERMISSIONS AND PERMITS

The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits.

The Contractor shall ensure that all wayleaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand.

The Contractor shall also ensure that any wayleaves in respect of electricity services are renewed timeously every three months.

3.4.10 LOCAL PRODUCTION AND CONTENT

The Contractor will be required to comply with all requirements as stated in this document.

3.4.11 EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the contractor on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the employer's agent upon request.

3.4.12 UNIVERSAL ACCESS

In pursuit of becoming a fully accessible city, the City of Cape Town expects all Consultants and Service Providers to design and construct to SANS Standards for accessible Design, and any relevant City of Cape Town documents as may be relevant, and to exhibit a commitment to employing Universal Design Principles in their design, construction, service and product delivery of construction projects. This applies to all projects whether new, temporary, upgrades or rehabilitation works.

The contractor will engage with project representatives and the CCT's Universal Accessibility Department on how Universal Design Principles will enhance accessibility, within this project, that meets a variety of needs and creates a city that is accessible to everyone.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C3.5 Management

CONTENTS

- 3.5.1. FORMS FOR CONTRACT ADMINISTRATION
- 3.5.2. PARTICIPATION OF TARGETED LABOUR
- 3.5.3. COMMUNITY LIAISON OFFICER
- 3.5.4. PARTICIPATION OF TARGETED ENTERPRISES
- 3.5.5. PROGRAMMING, SEQUENCING, INTERFACE REQUIREMENTS AND TESTING
- 3.5.6. KEY PERSONNEL
- 3.5.7. ENVIRONMENTAL MANAGEMENT PROGRAMME
- 3.5.8. HEALTH AND SAFETY
- 3.5.9. MANAGEMENT ANNEXES

3.5.1. FORMS FOR CONTRACT ADMINISTRATION

The Contractor shall complete, sign and submit with each monthly statement for payment, the following updated returns (the format of which are attached in C3.5.9 Management Annexes as amended from time to time):

- a) Monthly Project Labour Report (Annex 1)
- b) B-BBEE Sub-contract Expenditure Report (Annex 2)
- c) Joint Venture Expenditure Report (Annex 3)
- d) Targeted Labour Contract Participation Expenditure Report (Annex 4)
- e) Targeted Enterprises Contract Participation Expenditure Report (Annex 5)
- f) Monthly Progress Report

The Monthly Project Labour Report must include details of all labour (including that of subcontractors) that are South African citizens earning less than **R350.00** per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Contractor shall simultaneously furnish the Employer's Agent with copies of the signed employment contracts entered into with such labour, together with certified copies of identification documents, proof of attendance in the form of attendance register or timesheets as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it and proof of such acknowledgement shall be furnished to the Employer's Agent.

The Monthly Project Labour Reports shall be completed and submitted in accordance with the instructions therein and copies of all submitted documents must be kept on site be made available to the employer's agent upon request.

The **B-BBEE Sub-contract Expenditure Report** is required for monitoring the prime contractor's compliance with the sub-contracting conditions of the **Preference Schedule**.

The Joint Venture Expenditure Report is required for monitoring the joint venture's compliance with the percentage contributions of the JV partners as tendered, where the joint venture has been awarded preference points in respect of its consolidated B-BBEE scorecard.

The Targeted Labour Contract Participation Expenditure Report (if applicable) is required for monitoring the contractor's compliance for achieving the specified minimum targeted labour contract participation goal (CPGL) and, if applicable, for calculating any penalty in terms thereof.

The Targeted Enterprises Contract Participation Expenditure Report (if applicable) is required for monitoring the contractor's compliance for achieving the specified minimum targeted enterprises contract participation goal (CPGE) and, if applicable, for calculating any penalty in terms thereof.

The Expenditure Reports shall be verified by the Employer's Agent/Employer's Agent's Representative.

In respect of Annexes 2 and 3, the Employer shall, in addition to any other sanctions available to it, apply the financial penalties applicable to breach of preferencing conditions in the **Preference Schedule** Preference Schedule in Part T2.2 Returnable Schedules. In the case of joint ventures (Annex 3), the contractor shall prove his compliance with item 6) in Section 2 of the Preference Schedule by providing a consolidated scorecard at his own cost on instruction from the Employer's Agent.

Further to the requirements of the Contract Data, the Contractor shall submit written reports every month (three days before each monthly site meeting) showing progress related to the agreed programme. The format of this report shall be agreed and approved by the Employer and the Employers Agent.

3.5.2 PARTICIPATION OF TARGETED LABOUR

3.5.2.1 Minimum targeted labour contract participation goal

In support of the National Department of Public Works' Expanded Public Works Programme which is aimed at alleviating poverty through the creation of temporary employment opportunities using labour intensive methodologies and practices where possible, the Employer is seeking to increase the intensity of labour, as appropriate, in all of its infrastructure sector projects.

It is a requirement of this contract, therefore, that the work be executed in such a manner so as to maximise the use of labour intensive construction methods in order to provide low and semi-skilled temporary employment opportunities.

To this end, a minimum targeted labour contract participation goal is specified below, which shall be achieved by the Contractor in the performance of the contract, failing which, penalties as described will be applied. The Contractor is required to provide all skills training where necessary, so as to ensure that a minimum level of competence is achieved and maintained, such that the various activities are carried out safely and to the required standard. The cost of training shall be included in the rates for the various work activities.

The specified minimum targeted labour contract participation goal (CPGL) is **1.5 %**

The minimum CPGL is such that the Contractor will have to carry out some of the work that would normally have been undertaken using mechanised construction methods, by using labour intensive construction methods instead. It is left to the discretion of the Contractor to identify suitable work activities for the intensification of labour. The Contractor shall, within 5 working days of being requested in writing by the Employer's Agent to do so, submit details of his/her plan to achieve the minimum CPGL.

3.5.2.2 Definitions

For the purposes of the requirements in respect of the participation of targeted labour, the following definitions shall apply:

"Target area" means the geographical area included in the City of Cape Town's Ward No. 4, 5, 104, 107 & 113.

"Targeted labour contract participation goal (CPGL)" means the sum of the wages (excluding any benefits), for which the Contractor, or any of his/her subcontractors contracts targeted labour in the performance of the contract, expressed as a percentage of the value of the contract.

"Targeted labour" means low and semi-skilled individuals, whose wages (excluding any benefits) do not exceed the threshold value, who reside in the target area, that are employed by the Contractor, or any of his/her subcontractors, in the performance of the contract.

"Threshold value" is R450.00 per day as adjusted from time to time (excluding any benefits). The threshold value is not to be confused with any industry sector minimum wage determined in accordance with the Basic Conditions of Employment Act, 75 of 1977.

"Value of the contract" means the contract sum (accepted contract amount) less provisional sums, contingencies and VAT.

3.5.2.3 The selection and recruitment of targeted labour

Where targeted labour is to be drawn from specific local communities (defined in terms of the target area), such labour shall be identified using the relevant Sub-Council Job-Seekers Database. The Contractor shall

request, via a Community Liaison Officer (if required in terms of the contract), a list of suitable candidates from the database, from which the Contractor shall make his/her final selection. The contractor shall enter into written contracts of temporary employment with all targeted labour.

Any difficulty experienced by the Contractor in identifying candidates through the Job-Seekers Database, or as regards any matter relating to the employment of targeted labour, shall be immediately referred to the Employer's Agent.

3.5.2.4 Contract participation goal credits

Credits towards the achieving the minimum CPG_L shall be granted by converting the total monetary value of wages paid to targeted labour (including that of subcontractors) to a percentage of the value of the contract. No credits shall be accorded should the contractor/subcontractor fail to enter into written contracts with the targeted labour. Furthermore, no credits shall be accorded in respect of targeted labour employed on work in respect of provisional sums or prime cost items. Such labour shall nevertheless be recorded on the Project Labour Report which is required to be furnished by the Contractor.

3.5.2.5 Training of targeted labour

The Contractor is required to provide all informal (on-the-job) skills training so as to ensure that a minimum level of competence is achieved and maintained, such that the various activities are carried out safely and to the required standard. The cost of informal training shall be included in the rates for the various work activities.

3.5.2.6 Penalties

The financial penalty to be applied for failing to meet the specified minimum targeted labour contract participation goal in the performance of the contract (unless proven to be beyond the control of the Contractor), is as follows:

$$\text{Penalty} = (\text{CPG}_L^S - \text{CPG}_L^A) \times P^*$$

Where CPG_L^S = the specified minimum targeted labour contract participation goal (expressed as a percentage).

CPG_L^A = the targeted labour contract participation goal achieved (expressed as a percentage).

P^* = the value of the contract.

3.5.3. COMMUNITY LIAISON OFFICER

It is a requirement of this Contract that a Community Liaison Officer (CLO) shall be appointed by the Contractor. The primary functions of the CLO shall be to assist the Contractor with the selection and recruitment of targeted labour, to represent the local community in matters concerning the use of targeted labour (and/or enterprises) on the works, and to assist with and facilitate communication between the Contractor, the Employer's Agent and the local communities.

The identification of suitable candidates (maximum 5; minimum 3) for the CLO position shall be resolved by the relevant Sub-council Manager through a process of advertising and shortlisting. Should suitable candidates not be identified through this process, the Contractor shall be allowed to seek candidates from the relevant Sub-Council Job-Seekers Database. The final selection and appointment of the CLO in terms of the contract shall be the responsibility of the Contractor.

The period of appointment of the CLO shall be as stated in the Contract for Temporary Employment as a Community Liaison Officer referred to below. The date of commencement of temporary employment of the CLO shall be as agreed with the Employer's Agent.

It is required, therefore, that the Contractor enter into a contract of temporary employment with the selected CLO, the contracting parties being the Contractor and the CLO. To this end, a specimen Form of Contract of Temporary Employment as Community Liaison Officer is included in this document (Part C1.7: Agreement and Contract Data). This Form of Contract sets out, inter alia, the agreement between the parties, the duties and conditions of employment of the CLO. The rate of remuneration for the CLO, payable by the Contractor, is currently R420 per day.. As said contract will be between the Contractor and the CLO, all costs involved shall be borne by the Contractor and the tender shall be deemed to include for this.

3.5.4. PARTICIPATION OF TARGETED ENTERPRISES

3.5.4.1 Minimum targeted enterprises contract participation goal

It is a requirement of this contract that enterprises located within the target area, as defined, be engaged by the Contractor for the provision of supplies, services or works necessary for the performance of this contract.

To this end, a minimum targeted enterprises contract participation goal is specified below, which shall be achieved by the Contractor in the performance of the contract, failing which, penalties as described will be applied.

The specified minimum targeted enterprises contract participation goal (CPG_E) is

1%

The Contractor shall engage targeted enterprises directly or indirectly in the performance of the contract to the extent that the total monetary value of such engagements (exclusive of VAT), expressed as a percentage of the value of the contract, is sufficient to achieve the specified minimum CPG_E.

3.5.4.2 Definitions

For the purposes of the requirements in respect of the participation of targeted enterprises, the following definitions shall apply:

“**Target area**” means the geographical area included in the City of Cape Town’s Ward No. 4, 5, 104, 107 & 113.

“**Targeted enterprises contract participation goal (CPG_E)**” means the value of supplies, services or works (exclusive of VAT), for which the Contractor contracts targeted enterprises, either directly or indirectly, in the performance of the contract, expressed as a percentage of the value of the contract.

“**Targeted enterprises**” means any sole trader, partnership or legal entity that acts as a supplier, manufacturer, service provider or sub-contractor, and which has its base of operations in the target area.

“**Value of the contract**” means the contract sum (accepted contract amount) less provisional sums, contingencies and VAT.

3.5.4.3 Achieving the contract participation goal

The contractor may achieve the specified minimum CPG_E as follows:

- a) by engaging one or more targeted enterprises to perform commercially useful functions in the performance of the contract;
- b) by engaging non-targeted enterprises, who in turn engage one or more targeted enterprises to perform commercially useful functions in the performance of the contract;
- c) by a combination of the above.

The Contractor shall, within 5 working days of being requested by the Employer’s Agent to do so, submit details of his/her plan to achieve the minimum CPG_E.

3.5.4.4 Contract participation goal credits

Credits towards achieving the minimum CPG_E shall be granted by converting the total monetary value (exclusive of VAT) of the agreements between the Contractor, or Contractor’s sub-contractors, and targeted enterprises, to a percentage of the value of the contract.

No credits shall be accorded should the Contractor (or sub-contractors):

- a) make direct payment to third parties in connection with the contract on behalf of targeted enterprises, when such payment is recovered by making deductions from payments due to the targeted enterprise;
- b) fail to enter into written contractual agreements with the relevant targeted enterprises.

Credits claimed towards the contract participation goal shall be denied where such written contractual agreements contain any of the following:

- c) conditions which are more onerous than those that exist in the prime contract (this contract);

- d) payment procedures based on a pay when paid system;
- e) authoritarian rights given to the employing contractor, with no recourse to independent adjudication in the event of a dispute arising.

No credits may be claimed in respect of targeted enterprises that do not adhere to statutory labour practices.

No credits shall be accorded in respect of targeted enterprises engaged on work in respect of provisional sums or prime cost items.

In the event that a targeted enterprise sub-contracts to another targeted enterprise, only the value of the higher level sub-contract shall be granted as credit towards achieving the specified minimum CPG_E.

In addition to the form required for contract administration (the Targeted Enterprises Contract Participation Expenditure Report), the Contractor shall furnish the Employer's Agent, upon written request, with documentary evidence that the targeted enterprises have their base of operations in the target area, copies of the contractual agreements with the various targeted enterprises, as well as documentary proof of payments made to the various targeted enterprises.

3.5.4.5 Penalties

The financial penalty to be applied for failing to meet the specified minimum targeted enterprises contract participation goal in the performance of the contract (unless proven to be beyond the control of the Contractor), is as follows:

$$\text{Penalty} = (\text{CPGE}^S - \text{CPGE}^A) \times P^*$$

Where CPG_E^S = the specified minimum targeted enterprises contract participation goal (expressed as a percentage).

CPG_E^A = the targeted enterprises contract participation goal achieved (expressed as a percentage).

P* = the value of the contract.

3.5.5 PROGRAMMING, SEQUENCING, INTERFACE REQUIREMENTS AND TESTING

3.5.5.1 General

The layout of the civil structures as shown on the tender drawings is designed to generally accommodate mechanical equipment as specified in the M&E contract that will run concurrent with this Contract. Once this Contract is awarded, these and other structures may be modified to accommodate the specific requirements of the M&E equipment offered. Portions of the Works can therefore only commence after a specified period to allow for liaison period between himself, the Employer and mechanical-electrical contractor to enable finalizing the proposed amendments to civil structures. Access to site for the relevant Portions are described in Clause 1.1.1.30 of the Contract Data (Part C1.2). Any amendments required may be provided during this period.

Due to the nature of the work the Contractor will have to coordinate with other contractors on site to ensure that the program is not delayed as a result of known factors such as progress of mechanical and electrical works. To this end the Contractor shall agree and price for the co-operative management of the Project program and the relevant requirements associated with the co-ordination between the various contractors that will be onsite, and which Works (specifically their progress) will affect the completion of the milestone stipulated in this Contract. Allowance has been made in the bill of quantities for these coordination meetings. These meetings shall be conducted on site at a minimum cycle of once every 2 weeks. The Integration Manager (Design and program co-ordinator in terms of Clause 4.1.4 and 4.1.5 of the Contract Data Provided by the Employer, Part C1.2) shall attend each and every coordination meeting and shall report on the actions required to avoid delays in the overall project program.

Planning and programming of the works is addressed in the Contract Data. The Contractor shall update its programme (and submit it to the Engineer for approval) before each of the site meetings held to discuss programming and co-ordination with other contractors, so as to reflect the outcome of those discussions. The Contractor's programme shall show the work required in terms of all phases of the specified Portions of Works, for each of the structures/components of structures/areas of Site listed in Table 3.5.5.5.1: Sequencing of Work with Civil Contract (refer to C3.5.5.5).

3.5.5.2 Programming

Each Tenderer shall submit with his Tender a suitable and realistic preliminary programme as specified for Returnable Schedule 15 of Part T2.2. This programme shall clearly indicate the:

- The assumed Commencement Date;
- be prepared in accordance with the maximum Time for Completion offered for the completion of the Works and;
- provide interim completion dates for each milestone or element of the works, including the commissioning period.

After award of the Contract, the Contractor shall submit a detailed construction programme to the Employers Agent in accordance with the requirements of Sub-Clause 5.6 [Programme] of the Conditions of Contract. Except as provided above, the approval by the Employer's Agent of the Contractor's construction programme, or of any amendment or adjustment thereto, shall not in any way alter the Contract, act as an estoppel or limit the right of the Employer to demand due performance under the Contract. The approval of a construction programme by the Employers Agent indicates only that the Employers Agent will be satisfied if the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme.

The Contractor shall take into account and allow for being on Site for construction purposes whilst installation by others is on-going (refer to C3.1: Description of the Works). The Contractual Period for this Contract is defined in Clause 1.1.1.14 of C1.2 Contract Data. Within that period there shall be intermediate target dates/milestones where certain portions of the Works shall be handed over to others for the installation of mechanical and electrical equipment. These intermediate targets are defined in Clause 1.1.1.30. Once the above Portions have been handed over, the Contractor will not be permitted to restrict access to the structure.

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the tender shall be used as basis for this programme. The Contractor's attention is also drawn to Clause 5.7 of the General Conditions of Contract.

The Contractor shall indicate on the programme all critical path activities. In this regard, the Contractor's attention is drawn to Clause 5.12.1 of the General Conditions of Contract, where consideration may only be given to claims for extension of time associated with critical path activities.

The Contractor's planning, programme and method statements are to comply with the following:

- a) The programme shall be prepared in bar (Gantt) chart form, using Microsoft Projects and shall be issued to the Employer's Agent in both hard copy and electronic format. The programme shall be structured to cover all items of work conceivable including all work to be done by sub-contractors and shall clearly indicate the critical path.
- b) The programme must clearly show the intermediate milestone dates to be achieved taking the indicative construction sequences into account.
- c) Irrespective of any constraints, the Contractor shall be responsible for the construction management, timing and sequence of the works, so as to avoid the repair or reinstatement (or both) of completed works or damage to existing works.
- d) Regular meetings must be held with the Employer's Agent.
- e) Method statements shall be prepared in accordance with the requirements of the project specifications.
- f) The period of notice shall be a minimum of one working day whenever any material or work which is subject to inspection is to be covered up or concealed in any way, and the Contractor shall expose and later make good such material or work where such notice was not so provided.
- g) Where the scope of work is not complete in all respects at the commencement of the contract, the Contractor and the Employer shall work together to identify the outstanding scope of work and agree upon reasonable dates for the Contractor to be furnished with such information.

3.5.5.3 Co-ordination for planning and programming

When instructed by the Employers Agent, the Contractor shall, in consultation with the Employers Agent and the mechanical and electrical contractor, draw up a detailed programme reflecting the completion of the Works including the installation of mechanical and electrical equipment and all work required in completing the finishes to the buildings, the grouting in of pipes and holding down bolts, and testing and commissioning. For this purpose, and to continue good communication and planning of the interfaces between the Contractor and the M&E Contractor, the Contractor shall attend coordination meetings at least once per month or more frequently.

3.5.5.4 Management meetings

The Contractor shall be required to attend the following site meetings during the currency of the Contract:

- a) An inaugural site meeting, a maximum of three weeks after the Commencement Date.
- b) Monthly site meetings from the order to commence the works until the completion of the Works.
- c) Regular coordination meetings with the Employers Agent and the M&E Contractor until the completion of the Works.
- d) Four meetings during the Defects Liability at 3 month intervals (i.e. month 3, 6, 9 and 12).

During the currency of the Contract, the Contractor shall submit written reports every month (two days before each monthly site meeting) showing progress related to the agreed programme, and shall update his programme in accordance with actual progress.

The above requirements do not limit the Contractors responsibility in terms of the Contract to attend to defects and malfunctions during the Defects Liability Period. Reports and records which are to be submitted to the Engineer or his representative shall be in a format agreed by the Engineer or his Representative.

3.5.5.5 Sequencing and Access to Site

The Contractor shall give access to the M&E contractor to install and commission the mechanical and electrical components associated with the Portions and/or systems stipulated in Table 3.5.5.5-1 (refer to C3.1.9).

Table 3.5.5.5-1: *Contractual dates for access to site for erection and installation*

Description	Access to site to erect and install
Portion A ¹	480 days after commencement date
Portion B ¹	1010 days after commencement date
Portion C ¹	920 days after commencement date
Portion C Sub-section A ¹	450 days after commencement date
Note: ¹ Portions as defined in Clause 1.1.1.30 of the GCC.	

As described, co-operation and co-ordination will be required to ensure the key milestone date associated with the Civil and M&E contract align to avoid unnecessary delays in the commissioning of the Plant.

The details provided in Table 3.5.5.5-1 are linked to the anticipated progress of the M&E contractor, and may be changed by order of the Employers Agent should there be any deviations in the progress of the said contract (refer to C3.1.9 for details on work to be carried out by others). Site meetings and co-ordinations meetings shall be used to track progress and the Civil and M&E programs will have to be aligned on an continuous basis.

The contractual dates for access to site for erection and installation shown in Table 3.5.5.5-1 reflects the anticipated period by which the Civil Works shall have to progressed sufficiently to allow the M&E contractor to commence with installation activities in the corresponding structure/portions of site. To avoid confusion specific terms are listed below which indicate what "access to site for erection and installation" means in terms of the Civil Works:

- a) Where relevant, the structure shall have passed water tightness tests. An important point to consider is that the majority of the supply of the cast-in items fall under the M&E scope. The Contractor will have to indicate by when the relevant cast in items are to be on site as to allow him to make the necessary preparations and casting in mechanical components (supplied by others) to avoid any delays in his program. Water tightness shall remain the responsibility of the Contractor, regardless of who supplies the cast in items.
- b) The structure in question is complete except in respect of matters such as floor screeds, benching, tiling, painting, which have to be done after the equipment has been erected,
- c) The disturbed ground within 7 m of the structure with access routes has been compacted and levelled to allow vehicles and cranes to run and operate on it and is near final level to allow cables to be laid to the equipment,
- d) Concrete has been sufficiently cured to allow erection work to start,
- e) The structure and adjacent areas are clean and tidy, and the structure/components of structure/area of the Site is ready to accommodate the mechanical and electrical equipment.

It will be a specific requirement that design review commences with Portions A and B of the Works to ensure civil work required in terms of these portions of the Plant can commence as soon as practically possible.

The areas of work where the civil contractor can expect to commence with work without any delays from the design review process are presented in the list below:

- a) The new fence specified for the perimeter of Potsdam WWTP;
- b) The new '24 Management Building;
- c) Refurbishment of existing buildings that will form part of the upgraded and expanded Plant;
- d) Facilities associated with interconnecting the reed beds;
- e) Cleaning and rehabilitation of the sludge collection ponds situation to the north of the Plant;
- f) '24 Emergency Overflow Tank;

3.5.5.6 Program considerations for alterations and modifications to existing works

Proposals and/or considerations are provided under this section which the Contractor will have to take into account whilst preparing its construction program. This is done to ensure the Contractor is aware of the various interdependence and interface requirements associated with the construction of the upgrade and expansion of the Potsdam WWTP.

Although these proposals and/or recommendations are provided, the Contractor shall note that these remain recommendations and guidelines which aim to assisting the Contractor in the compilation and execution of its construction program and allowing for relevant temporary works in its tender rates. These stipulations do not in any way limit the Contractor's responsibility in constructing the works in a safe, timeously manner without contamination of the surrounding resources.

The Contractor shall take note that in the majority of the systems there are specific requirements for electrical and mechanical components to be operational prior to the final commissioning of the treatment systems. This does not only include electro-mechanical equipment, but also the main electrical supply to these systems (i.e. main Eskom supply, substations and Motor Control Centres (MCC)).

The Contractor shall compile and prepare, in consultation with the M&E contractor and to the acceptance of the Employers Agent, method statements for the construction activities and associated temporary works for all components associated with construction of the upgrade and expansion of the Potsdam WWTP.

3.5.5.6.1 Pre-Commissioning priority Portion C sub-section A (Sludge management facility)

Potsdam WWTP is an active plant and special consideration to ensure none of the live systems are disrupted during this construction activity are required. Although this is a general requirement, the commissioning of the sludge management facility will require specific sequencing and interfacing as the '08 sludge handling facility will have to be decommissioned and demolished to make way for the '24 sludge management facility. This will have to be achieved without compromising the sludge handling capacity of the Potsdam WWTP during the changeover process.

The proposed interface and sequencing required to construct and commission the '24 dewatering facility is presented in the table below. The table highlights the main activities that have to be allowed for in the construction program. This table does not limit the Contractor's responsibility regarding compiling and adhering to a realistic construction program, to be submitted in terms of Clause 5.6 of General Conditions of Contract. The table only proposes what activities (with appropriate sequence) have to be followed to avoid compromising the sludge management functionality at the Potsdam WWTP during the construction activity.

Table 3.5.5.6 – 1: Interface on sludge management facility

Sequence of activities	Description of activities	Responsible Contractor
Activity 1	Finalise design of Temporary works and receive approval from Engineer to commence with Works.	M&E
Activity 2	Modify existing aerobic digesters (two (2) no.'s of) to function as temporary sludge storage tanks.	C
Activity 3	Reposition existing dewatering sludge feed pumps to area outside of construction/demolition area.	M&E
	Supply, install and commissioning two temporary sludge feed pumps (sludge handling submersible type pumps) to convey WAS and Primary Sludge to the existing dewatering facility with temporary connection to the dewatering system feed pumps.	M&E

Sequence of activities	Description of activities	Responsible Contractor
	Install temporary supply pipelines from temporary sludge storage tanks to the existing dewatering system (HDPE ring mains).	C
	Commissioning temporary sludge feed system to allow unhindered access to existing dewatering sludge storage area.	M&E
	Expose and divert existing '97 & '08 primary sludge pump station discharge mains to the temporary primary sludge storage tanks.	C
	Expose and divert existing '97 & '08 WAS pump station discharge mains to the temporary WAS sludge storage tanks.	C
Activity 4	Maintain and uphold equipment associated with Temporary Works	C & M&E
Activity 5	Finalise design of Permanent Works and receive approval from Engineer to commence with Works.	M&E
Activity 6	Demolition of existing sludge storage facilities to avail space for new structures.	C
Activity 7	Receive final and updated construction drawings from Engineer	C
Activity 8	Construction of the civil works associated with the '24 Dewatering facility.	C
Activity 9	Supply, install and pre-commission mechanical and electrical equipment associated with the '24 Dewatering facility.	M&E
Activity 10	Construction of the civil work associated with the '24 sludge transfer pump station.	C
Activity 11	Supply, install and pre-commission mechanical and electrical equipment associated with the sludge storage facility.	M&E
Activity 12	Decommissioning and remove temporary sludge feed ring main pump and sludge feed pump station.	M&E
Activity 13	Remove temporary sludge feed ring main pumps.	M&E
Activity 14	Commission Sludge Management Facility	M&E
Activity 15	Temporary operation of Sludge Management Facility from RFC up to RFTO.	M&E
Activity 16	Commence with Trial Operation of Sludge Management Facility for 12 month period.	M&E
Activity 17	Maintain and uphold plant during Defects and Notifications period (i.e. 12 months)	M&E
Activity 18	Remedy defects and receive Performance Certificate in terms of Clause 11.9 of the General Conditions of Contract.	M&E
Note: The "C" in the Responsible Contractor refers to the Civil Contractor appointed under Contract 295Q/2021/22 The "M&E" in the Responsible Contractor refers to the Mechanical and Electrical Contractor appointed under Contract 146Q/2021/22.		

3.5.5.6.2 Diversion of sewage between the '08 Inlet works and the '24 Head of Works (HoW)

The Contractor will be required to construct a new HoW for the Potsdam WWTP with a dedicated pump station to supply the '24 MBR module. The Works comprise of the following main components:

- Conversion of the existing coarse screen station to a stone trap facility (Dwg. code WBC) and diverting flow from to the '24 inletworks.
- Construction of '24 inlet works (Dwg. code WBA) and '24 raw sewage pump station (Dwg. code WPA)
- Construction of site pipework including gravity and pressure pipelines which will link the '08 train, emergency overflow dam and '24 train.
- Decommissioning and demolition of the '08 HoW.

The proposed sequence of activities follows a "backwards approach" by constructing all components from the '08 raw sewage pump station in sequence of reversed flow to end at the required modification of the stone trap system. Access to site for the installation of mechanical equipment shall be agreed with the mechanical contractor.

The sequence and programming of the decommissioning and demolition of the '08 HoW is subject to two main aspects, namely i) the successfully commissioning of the '24 HoW in its entirety and ii) the decommissioning of the '97 train. The second aspect is highlighted based on the fact that the '97 train is supplied under gravity flow via the '08 HoW. Should the demolition of the '08 HoW precede the decommissioning of the '97 train (which is subject to the commissioning of the '24 MBR train) the Contractor will have to allow for full time pumping of raw sewage to the '97 train until such time when treatment capacity of the new '24 MBR train becomes available.

Diversion

The majority of the construction activities listed will have to be completed as far as practically possible before any diversion will be possible. Only once the mechanical and electrical equipment associated with these systems have proved to be reliable and fit for purpose, may the diversion activities commence.

The conversion of the existing coarse screen channels to the stone trap system will be achieved by constructing a diversion chamber over the two Du Noon inlet gravity pipes which will provide the capability to bypass the stone trap system. Once the stone trap is isolated the inlet to the stone trap channels can be closed which will allow the contractors to make the necessary alterations to the stone trap system as shown on the drawings. Alternatively, individual stone traps can be constructed one by one via isolating each (existing) screen by closing the up-and downstream channel gates, providing the opportunity to commencing with construction work on this system. This will be a live system and the Contractor will have to allow for this accordingly.

Temporary works

The '24 inlet works will be constructed over the '97 PST feed pipelines. The functionality of the '97 train cannot be lost until the new '24 MBR train has been successfully commissioned. To that end the '97 feed pipes will have to be diverted prior to the construction of the '24 inlet works to avoid any clashes or disruption in the flow to the '97 train. There are two pipes supplying the '97 PSTs which provides the ability isolate one pipe at a time to implement the diversion without closing off the supply to the '97 train completely. Alternatively, allowance for pumping of raw sewage will have to be made for the duration from construction the '24 HoW to the decommissioning of the '97 train. The '97 train has a rated treatment capacity of 17 ML/d (ADWF) which will have to be maintained should the decision be made to divert the flow via a pumping system.

3.5.5.6.3 Alterations and modifications to the '08 Raw sewage pump station and '24 Emergency Overflow Tank

The Contractor will be required to make alterations and modifications to the '08 Raw sewage pump station. The work comprises of the following main components:

- a) Modify the pump station sump roof and emergency overflow weir level (Dwg. code SUL).
- b) Emptying and desludging of existing emergency overflow pond. Lining it with concrete and constructing an emergency overflow recycle pump station (Dwg. code WMB).

Modifications and alterations to the '08 raw sewage pump station will be difficult to complete whilst the pump station is operational. The commissioning of the '24 raw sewage pump station and confirmation that the mechanical and electrical equipment is fit for purpose will provide the opportunity to take the '08 raw sewage pump station off line for a limited period (specifically during a dry weather period). It should be considered that the entire '24 HoW will have to be operational for this proposed sequence to be implemented. Referring to the '24 PST division structure (Dwg. code SQA) it can be noted that the '24 raw sewage pump station can be used to supply the '08 train via the motorised overflow weir situated in this structure. This implies that the '24 PST division structures will have to be fully commissioned and the mechanical and electrical equipment functional and fit for purpose if this proposal is to be implemented.

The construction of the '24 Emergency Overflow Tank can commence without any specific prescribed sequencing. However, the system is part of a functional Plant and therefore allowance will be required for the temporary diversion of the emergency overflow pipes feeding into the tank.

Diversion

The site pipework connecting the '24 raw sewage pump station sump and the '08 raw sewage pump station shall be fitted with a sluice gate. This sluice gate will provide the isolation functionality to take the '08 raw sewage pump station off line.

Temporary works

There are two pipes feeding into the existing (unlined) emergency storage pond. These lines will have to be diverted to an adjacent reed beds located to the south of the emergency storage pond. This is to avoid

the flooding of the construction activity of the '24 Emergency Storage Tank. Once the construction of the '24 Emergency Storage Tank is finalised, the temporary diversion shall be removed and the inlet pipes to the tank reinstated as per the relevant drawings and specifications.

3.5.5.6.4 Additions and alterations associated with the '24 MBR train

The Contractor has to construct the '24 MBR train. These work comprises of the following main components:

- a) '24 Primary Sedimentation Tanks (PST) with associated pipework (Dwg. code WDD).
- b) Primary sludge pump station (Dwg. code WPB).
- c) Primary sludge strainpress system (Dwg. code WLH).
- d) Ultra-fine screenings station (Dwg. code WFA).
- e) '24 Biological reactor (Dwg. code WIA).
- f) The '24 Membrane plant (Dwg. code WHA).
- g) The '24 MBR reuse pump station (Dwg. code WPF).
- h) Various site pipework connecting the '24 MBR train with associated structures and systems.

The nature and layout of the '24 MBR train is such that this entire system will have to be constructed and commissioned in its entirety before any beneficial use will be obtained from it. The exact sequence in which these structures are build is not critical to the commissioning of the Works.

The commencement of works associated with these structures are subject to M&E design finalisation. The envisaged period for this design input is defined in the contract data (Part C1.2). The commencement of works on these structure's shall therefore correspond to periods defined therein. Access to site for installation of mechanical and electrical equipment shall be provided as specified.

3.5.5.6.5 Additions and alterations associated with the '08 Activated Sludge Train

The Contractor will construct a new WAS pump station, tertiary treatment and treated effluent reuse facility at the '08 train. These works comprise of the following main components:

- a) A new dry well WAS pump station (Dwg. code WLG).
- b) '24 Micro screening station with associated site pipework (Dwg. code WFC).
- c) '24 Ultra-filtration feed and backwash pump station (Dwg. cod WPC).
- d) '24 Ultra filtration reject return pump station (Dwg. code WPE).
- e) '24 Ultra filtration plant (Dwg. code WOB).
- f) '24 Ultra filtration blower and air compressor room (Dwg. code WOC).
- g) '24 Ultra filtration UV and CIP pump station (Dwg. code WOD).
- h) '24 Ultra filtration reuse pump station (Dwg. code WPD).
- i) Various interconnecting site pipework and chambers associated with these systems.

It is a specific requirement that the UF system be one of the first treatment systems to be commissioned as part of the upgrade and expansion of the Potsdam WWTP. Construction work on the UF system will commence as defined in the contract data (Part C1.2). Access for erection and installation of mechanical and electrical works will have to be provided as defined in the contract data (Part C1.2). It will be possible to commission each component in isolation starting from the micro screening station and flowing the flow path to the subsequent process units. However, it is a specific requirement that the system as a whole be available for mechanical and electrical erection and installation as defined in the contract data (Part C1.2).

The Contractor may have to divert large volumes of treated effluent whilst construction and commissioning of the '24 UF treated effluent pipeline and maturation ponds. This can be achieved via the use of an existing diversion chamber feeding into the reed beds located south of the '24 UF plant. However, this will only be allowed in special circumstances and the Contractor will have to prove there are no alternative arrangements that can be made in this regard and obtain written approval from the Employer for such an activity.

Another large component of the UF system will be the off-site reuse pipe line which consist of multiple section of large diameter HDPE pipe sections and valve chambers with pipe specials. Careful consideration shall be given to the requirements to scan, identify, expose, record and mark existing services associated pipe/trench routes of site pipework. The off-site reuse supply cannot be interrupted during the construction activity. The Contractor shall therefore take every precaution to avoid such occurrences.

Diversions

The diversion of the '08 treated effluent to the new '24 UF facility may be achieved via the use of an existing diversion structure which will, after the modifications have been made, be capable of diverting flow between the '24 UF system and the maturation ponds. Details of this diversion structure can be seen on the relevant drawings.

Diversion of treated effluent from the '08 train will require an average and maximum hydraulic capacity of 462 l/s (i.e. 1664 m³/hr) and 1736 l/s (i.e. 6250 m³/hr), respectively.

Temporary works

The area where the new '08 WAS pump station is situated has a number of existing services that will have to be relocated. These services will have to remain in operation whilst construction is taking place. A critical service here is the existing '08 WAS site pipeline. This is a gravity uPVC pipe that will have to be relayed around the sump and recommissioned prior to commencing with excavation of the new '08 WAS pump station.

3.5.5.6 Additions and alterations associated with the '24 Overflow Dams and existing UV channels

The construction of the overflow dams essentially entails the lining of two existing maturation ponds. The overflow dams and effluent diversion channel consists of the following main components:

- a) The lining of the two maturation ponds complete with associated services and chambers (Dwg. code WMA).
- b) Overflow recycle pump station complete with associated services and chambers (Dwg. code WMA).
- c) Various interconnecting site pipework and chambers associated with these systems.
- d) Construction of long-pond bypass facility.

The existing ponds will have to be isolated to allow for the desludging, cleaning and preparation work to commence for lining the overflow dams. This will require the diversion of both the '08 and '97 treated effluent stream as both these streams currently collect in these ponds.

Provided that the construction of the overflow dams precede the decommissioning of the '97 train, effluent from the '97 train will have to be bypassed across the overflow dams. This can be achieved via temporary pumping or the construction of a temporary bypass pipe capable of handling the hydraulic capacity of the '97 train. The Contractor will have to allow for this temporary works accordingly.

The diversion of the '08 treated effluent is part of the permanent works. Therefore the Contractor shall commission the effluent chambers with interconnecting pipework as shown on the relevant drawings prior to the construction of the overflow dams.

The construction of the long-pond bypass facility will have to take into account that the effluent UV channels will be live and the Contractor shall allow for the appropriate construction activities in this regard.

Diversions

Three options are proposed to allow for the diversion of the treated effluent from the '97 train away from the overflow dams, namely:

- i. Isolate the complete '97 train by method of closing existing channel gates at the '08 inletworks outlet chamber. This will have to be done during periods of low flow and using accelerated construction methods to limit the period that the '97 train is offline. Modifications to the treated effluent overflow bypass pipeline can be done during this period.
- ii. Pump the treated effluent from the '97 train whilst the relevant modifications are made to commissioning the temporary diversion gravity main. This pump system will have to pump a flow of 196 l/s for the duration of the diversion activity.
- iii. Isolate individual '97 Secondary Settling Tanks (SST) at the SST diversion structure and relay the effluent pipe to the newly constructed temporary collection chamber feeding the '97 temporary overflow dam bypass pipeline.

The Contractor can use any one or a combination for diverting treated effluent from the '97 train to bypass the overflow dams.

Should temporary diversion of the '08 treated effluent be required this can be achieved via two options, namely:
reed beds situated to the south of the Plant.

- i. Allow for temporary pumping facility. This pump system will have to have a capacity of 1736 l/s and pump for the duration of the diversion activity.
- ii. Divert flow to the existing reed beds for a limited duration whilst the tie-in activities are being conducted.

Temporary works

Should the Contractor plan to construct the '24 Overflow Dams prior to the final commissioning of the '24 MBR train (i.e. the whole train including the inlet works) temporary works can include the pumping of the treated effluent from the '97 train or the temporary gravity pipeline bypassing the maturation ponds where the overflow dams are to be constructed.

Temporary works associated with the diversion of the '08 train's treated effluent can include pumping.

3.5.5.6.7 Demolition, landscaping and access roads

The main demolition work (i.e. demolition of the '97 train) will have to be completed after all additions and modifications associated with the '08 and '24 trains have been constructed and commissioned in full (i.e. commissioning of civil, mechanical and electrical components). This excludes the demolition activities associated with the sludge management facility which will have to be done intermittently to make the necessary space available to the new '24 sludge management facility.

It is advised that landscaping take place as and where construction activity is finalised in the relevant zones of the construction site.

All access and service roads should be constructed late in the program to avoid unnecessary damage to these structures/components. This specifically applies to the construction of the '24 MBR treated effluent pipe that discharges into the Diep river, as this pipe route will be located underneath a large portion of the access roads forming part of this SoW.

3.5.5.7 Testing, Commissioning and Completion

The requirements stated below are additional to the requirements set out in the Detailed Specification for Testing and Commissioning included in the contract documents. Should any discrepancy or conflict between these requirements and the requirements of the Testing and Commissioning specification be found, the Contractor shall refer these to the Employer's Agent for clarification.

Proof that the entire Works have been completed and conform in all respects to the Specifications and Guarantees under the Contract shall be shown by the results of progressive testing during the course of manufacture, installation and construction, as well as the Tests on Completion.

All the results obtained by the Contractor in the course of his process control of the Works shall be submitted to the Employer's Agent or his Representative prior to requesting inspection of the relevant portions of the Works. Any request for inspection shall be submitted on the forms prescribed by the Engineer.

3.5.6 KEY PERSONNEL

The Contractor shall commit the named key personnel to each of the key personnel roles identified in the tender offer, which personnel shall remain permanently assigned to the Contract and dedicated full-time at least until the Engineer agrees that such personnel have completed their assignments. The exception to this will be the situation where any of the key personnel ceases to be employed by the Contractor for any reason, or decides to withdraw from the Contractor's team, for reasons beyond the Contractor's control. In such instances the Contractor will be required to submit to the Engineer proposals to replace the key person, which will only be considered by the Engineer if the Contractor can show that the proposed replacement has qualifications and experience equivalent to, or better than, the original key person and scores the same or higher than the offered key person in terms of the Functionality Criteria in the tender offer.

3.5.7. ENVIRONMENTAL MANAGEMENT PROGRAMME

The Environmental Management Specification and its Annexures are included in Volume 3A.

3.5.8. HEALTH AND SAFETY

The Health and Safety Specification included in Volume 3A.

3.5.9. Management Annexes**CONTENTS**

Annex 1: Monthly Project Labour Report

Annex 2: B-BBEE Sub-contract Expenditure Report

Annex 3: Joint Venture Expenditure Report

Annex 4: Targeted Labour Contract Participation Expenditure Report

Annex 5: Targeted Enterprises Contract Participation Expenditure Report

ANNEX 1

CITY OF CAPE TOWN MONTHLY PROJECT LABOUR REPORT



Instructions for completing and submitting forms

General

- 1 The Monthly Project Labour Reports must be completed in full, using typed, proper case characters; alternatively, should a computer not be available, handwritten in black ink.
 - 2 Incomplete / incorrect / illegible forms will not be accepted.
 - 3 Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted out services or works) shall apply to the completion and submission of these forms.
 - 4 This document is available in Microsoft Excel format upon request from the City's EPWP office, tel 021 400 9406, email EPWPLR@capetown.gov.za.
- #### Project Details
- 5 If a field is not applicable insert the letters: NA
 - 6 Only the Project Number supplied by the Corporate EPWP Office must be inserted.
- The Project Number can be obtained from the Coordinator or Project Manager or from the e-mail address in point 4 above.
- 7 On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.
- #### Beneficiary Details and Work Information
- 8 Care must be taken to ensure that beneficiary details correspond accurately with the beneficiary's ID document.

- 9 A new beneficiary is one in respect of which a new employment contract is signed in the current month. A certified ID copy must accompany this labour report on submission.
 - 10 Was the beneficiary sourced from the City's job seeker database?
 - 11 The contract end date as stated in the beneficiary's employment contract.
 - 12 Where a beneficiary has not worked in a particular month, the beneficiary's name shall not be reflected on this form at all for the month in question.
 - 13 Training will be recorded separately from normal working days and together shall not exceed the maximum of 23 days per month
 - 14 Workers earning more than the maximum daily rate (currently R450 excluding any benefits) shall not be reflected on this form at all.
- #### Submission of Forms
- 15 Signed hardcopy forms must be scanned and submitted to the City's project manager in electronic (.pdf) format, together with the completed form in Microsoft Excel format.
 - 16 Scanned copies of all applicable supporting documentation must be submitted along with each monthly project labour report. Copies of employment contracts and ID documents are only required in respect of new beneficiaries.
 - 17 If a computer is not available hardcopy forms and supporting documentation will be accepted.

PROJECT DETAILS

Numbers in cells below e.g (6) refer to the relevant instruction above for completing and submitting forms

CONTRACT OR WORKS PROJECT NAME: (6)		EPWP SUPPLIED PROJECT NUMBER: (6)										
DIRECTORATE:		DEPARTMENT:										
CONTRACTOR OR VENDOR NAME:		CONTRACTOR OR VENDOR E-MAIL ADDRESS:										
CONTRACTOR OR VENDOR CONTACT PERSON:		CONTRACTOR OR VENDOR TEL. NUMBER:										
PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")												
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR

ACTUAL START DATE (yyyy/mm/dd)		ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd)		(7)
TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)				
R				

MONTHLY PROJECT LABOUR REPORT



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

BENEFICIARY DETAILS AND WORK INFORMATION

CONTRACT OR WORKS PROJECT NUMBER:		Year		Month		Sheet 1 of						
No.	(8) First name	(8) Surname	(8) ID number	(9) New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	(10) Job seeker database (Y/N)	Contract start date (DDMMYY)	(11) Contract end date (DDMMYY)	(12) No. days worked this month (excl. training)	(13) Training days	(14) Rate of pay per day (R - c)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
Declared by Contractor or Vendor to be true and correct:		Name		Date		Signature						
Received by Employer's Agent / Representative:		Name		Date		Signature						

CITY OF CAPE TOWN

CONTRACTOR:

B-BBEE SUB-CONTRACT EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (P^*)	R	B-BBEE Status Level of Prime Contractor
---	---	---

Name of Subcontractor (list all)	B-BEE Status Level of Subcontractor ¹	Total value of Sub-contract (excl. VAT) ¹	Value of Sub-contract work to date (excl. VAT) ¹	Value of Sub-contract work to Subcontractors with a lower B- BEE Status Level than Prime Contractor
Subcontractor A		R	R	R
Subcontractor B		R	R	R
Subcontractor C		R	R	R
Documentary evidence to be provided				
Total:				R
Expressed as a percentage of p*				%

¹Documentary evidence to be provided

**Declared by Contractor
to be true and correct:**

**Verified by Employer's Agent/
Employer's Agent's Representative:**

Date:

ANNEX 3

CITY OF CAPE TOWN

CONTRACT NO. AND NAME:

CONTRACTOR:

JOINT VENTURE EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO.						
Value of the contract (as defined in the Preference Schedule) (P*)		R	B-BBEE Status Level of Joint Venture			
Name of Joint Venture partner (list all)	B-BBEE Status Level of each JV partner as at contract award	Percentage contribution of JV partner per JV Agreement ¹ A	Total value of JV partner's contribution (excl. VAT) ¹ B = A% x P*	Value of JV partner's contribution to date (excl. VAT) ¹ C	Value of JV partner's contribution as a percentage of the work executed to date D = C/P* x 100	
JV Partner A		%	R	R	%	
JV Partner B		%	R	R	%	
JV Partner C		%	R	R	%	

¹Documentary evidence to be providedSignatures

Declared by Contractor to be true and correct:

Date:

Verified by Employer's Agent/
Employer's Agent's Representative:

Date:

Contract
Part C3: Scope of Work
Contract No. 295Q/2021/22

ANNEX 4

CITY OF CAPE TOWN

CONTRACT NO. AND NAME:

CONTRACTOR:

TARGETED LABOUR CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.				
Value of the contract (as defined in the Preference Schedule)		R	Specified Targeted Labour Contract Participation Goal	%
Name of Contractor/Subcontractor (list all)	Total previous expenditure on wages in respect of targeted labour	Net Amount for this month ¹	Total expenditure on wages in respect of targeted labour	
Contractor	R	R	R	
Subcontractor A	R	R	R	
Subcontractor B	R	R	R	
'Documentary evidence to be provided			Total: R	
			Expressed as a percentage of P*	%

Signatures

Declared by Contractor
to be true and correct:

Date

Verified by Employer's
Agent/
Employer's Agent's
Representative:

Date

Contract
Part C3: Scope of Work
Contract No. 295Q/2021/22

213

1223
C3.5
Annexes

CITY OF CAPE TOWN

CONTRACTOR:

TARGETED ENTERPRISES CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (P^*)	R	Specified Targeted Enterprises Contract Participation Goal	%
--	---	--	---

Name of targeted enterprise (list all)	Total previous expenditure (excl. VAT) to targeted enterprises	Net Amount for this month ¹	Total expenditure (excl. VAT) to targeted enterprises
Targeted Enterprise A	R	R	R
Targeted Enterprise B	R	R	R
Targeted Enterprise C	R	R	R
¹ Documentary evidence to be provided			
Total:			R
Expressed as a percentage of P*			%

**Declared by Contractor
to be true and correct:**

**Verified by Employer's Agent/
Employer's Agent's Representative:**

1224

C3.5 Annexes

CITY OF CAPE TOWN

ROADS AND STORMWATER

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C3.6 Annexes (*Refer to Document C*)

CONTENTS

Refer to VOLUME 3A

C3.6.1 Variations and additions to the standard specifications – Civil works

C3.6.2 Civil particular specifications – Civil works

C3.6.3 Environmental management plan

C3.6.4 Health and Safety Specification

Refer to VOLUME 3B

C3.6.5 Variations and additions to the standard specifications – Electrical Works

C3.6.6 Electrical particular specifications – Electrical Works

C3.6.7 City of Cape Town Standard Specifications for Electrical Works

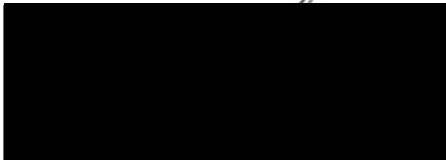
The Contents of C3.6 is included under Document C.

PART 7: SITE INFORMATION



Part C4: Site information

	Page No.
C4	
Site information	217



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C4 Site Information

CONTENTS

- C4.1 Geotechnical Investigation Report (Enclosure, 96 pages)
C4.2. RECORD OF DECISION: (The Proposed extension and upgrading of water treatment facilities and associated infrastructure for the Blaauberg Area)

CITY OF CAPE TOWN

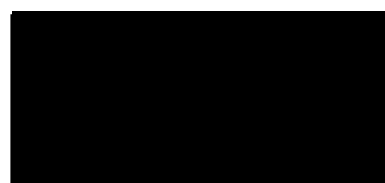
WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C4.1 GEOTECHNICAL REPORT (Refer to Document C)

(Geotechnical Report included under Document C).



CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 295Q/2021/22

BUILD OF CIVIL WORKS FOR THE UPGRADE AND EXPANSION OF POTSDAM WASTEWATER TREATMENT PLANT

C4.2 RECORD OF DECISION (Refer to Document C)

The Record of Decision as received by the EADP is issued in electronic format only. For details pertaining to the contents of these Sections refer to Document C (distributed via USB drive with Tender Document).