

INVITATION TO SUBMIT A PROPOSAL FOR REQUIREMENTS OF THE SOUTH AFRICAN BUREAU OF STANDARDS (SABS)

RFP NUMBER: 201763

DESCRIPTION: APPOINTMENT OF A SERVICE PROVIDER FOR THE SUPPLY AND INSTALLATION OF NEW ELECTRONICS HVAC SYSTEMS

COMPULSORY BRIEFING SESSION

DATE: 25 AUGUST 2025

TIME: 10H00

VENUE: SABS HEAD-OFFICE, 1 DR LATEGAN ROAD, GROENKLOOF

CLOSING DATE: 08 SEPTEMBER 2025

CLOSING TIME: 11:00am

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THE FOLLOWING PARTICULARS MUST BE FURNISHED
(FAILURE TO DO SO MAY RESULT IN YOUR PROPOSAL BEING DISQUALIFIED)

NAME OF BIDDER				
POSTAL ADDRESS				
STREET ADDRESS				
TELEPHONE NUMBER	(CODE)		(NUMBER)	
FACSIMILE NUMBER	(CODE)		(NUMBER)	
CELLPHONE NUMBER				
E-MAIL ADDRESS				
VAT REGISTRATION NUMBER				

HAS AN ORIGINAL AND VALID TAX CLEARANCE CERTIFICATE BEEN SUBMITTED?	YES or NO
HAS A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED?	YES OR NO
<p><u>IF YES, WHO WAS THE CERTIFICATE ISSUED BY?</u></p> <p>AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CCA) <input type="checkbox"/></p> <p>A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN ACCREDITATION SYSTEM (SANAS) <input type="checkbox"/></p> <p>A REGISTERED AUDITOR <input type="checkbox"/></p> <p>[TICK APPLICABLE BOX]</p>	

NAME OF AUTHORISED PERSON	
SIGNATURE OF BIDDER	
CAPACITY UNDER WHICH THIS BID IS SIGNED	
DATE	

1. Intent

The South African Bureau of Standards (SABS) is inviting experienced and reputable (Suppliers) bidders to submit proposals for the appointment of a service provider for the supply and installation of new electronics HVAC systems.

2. Confidentiality

This document may not be used for any purpose by the Bidder other than for developing their response to it, and all reasonable efforts must be taken by the Bidder to ensure confidentiality of any information provided. This document and any other information of a confidential nature provided to the Bidder during the Request for Proposal (RFP) process are to be covered by the non-disclosure agreement signed between the SABS and the Bidder.

3. Procedural compliance

3.1 Intent to respond

An interested Bidder is required to advise the SABS of its intention to submit a proposal by completing and returning the "Intention to Respond" form (Appendix B) no later than **08 September 2025**. Should a party decide not to respond to this RFP, you are requested to continue to treat the information as confidential in perpetuity.

3.2 Responsibility for costs

Under no circumstances shall the SABS accept any responsibility whatsoever for any of the Bidder's costs associated with the preparation and/or submission of its Bid/Proposal, including any costs incurred by the Bidder prior to the signature, by both parties, of an agreement resulting from a successful bid.

3.3 Amendments to the RFP

Amendments to this document shall only be effective if agreed by the SABS and confirmed in a written addendum to the RFP. The SABS reserves the right to modify the scope of this document at any time prior to and after the award of the tender.

3.4 Delivery of proposals or bids

The Bidder is responsible for ensuring that the Bid/Proposal is submitted and delivered on time to Tenders.Tintswalo@sabs.co.za. The SABS undertakes that the Bids/Proposals shall be stored in a secure place, opened at the same time and not before the deadline for submission.

Note: The above email address should only be used for submission of proposals. No clarity seeking questions should be sent to this email address. (see 4.2 below)

3.5 No obligation to proceed

The SABS reserves the right to discontinue the RFP process at any time prior to the formation of the envisaged agreement and will give written reasons for the cancellation upon written request to do so. The SABS, its subsidiaries, shareholders, advisors, directors, employees, representatives including the SABS Representative shall not be liable for any losses, claims or damages of whatsoever nature or howsoever arising that may be sustained by a Bidder or any other person as a result of its participation or any amendment, termination or suspension of the process set out in this RFP or its exclusion from participating in the tender process at any point. It is an express term that SABS shall in no way be liable

for any indirect/consequential damages, loss of profits, etc. suffered by the Bidder during the RFP process, award, negotiating and/or contracting phase.

After any cancellation of the tender process or the rejection of all tenders due to non-compliance with the thresholds, SABS may abandon the proposed work and services, have it performed in any other manner, or re-issue a similar invitation to tender at any time.

3.6 No contract

Bidders shall note that this RFP does not commit the SABS to any course of action resulting from the receipt of Bids/Proposals and the SABS may, at its discretion, reject any Bid/Proposal that does not conform to instructions and specifications that are contained herein or select a Bidder based upon its own unique set of criteria. SABS also reserves the right not to select a Bidder/award the tender. The SABS does not become bound by any obligations prior to the signature, by both parties, of an agreement - to be negotiated, resulting from a successful bid.

Nothing in this document shall be construed as a contract between the parties and no communication, whether verbal or written, by the SABS personnel or agents during the course of this process shall create such a contract in respect of the requirements specified in this RFP.

SABS shall not be liable for any fees incurred due to any work done/services performed by the Bidder prior to signature, by both parties, of an agreement resulting from a successful bid.

3.7 Validity of proposals

The proposal shall remain valid for a period of one hundred and twenty (120) days from the submission date, where after such proposal expires. SABS retains the right, but is under no obligation, to request Bidders to extend the validity periods of their proposals, prior to expiry thereof. Such request, if any, shall be in writing. The Bidder is not obliged to extend the validity period.

3.8 Intellectual Property

The Bidder undertakes that the SABS retains ownership of all Intellectual property rights on all material and processes developed that relate to the service provided for and on its behalf by the Bidder. The Bidder undertakes to transfer all said Intellectual Property Rights, whether registered and / or unregistered, to the SABS, including undertaking to sign all forms necessary to affect such transfer.

4. General Instructions

4.1 Assumptions

The SABS has endeavoured to provide sufficient guidance to inform Bidders' Bids/Proposals. However, it may be necessary to make some assumptions. Where assumptions have been made these must be documented in the Bid/Proposal. The SABS accepts no responsibility for assumptions made by the Bidder.

4.2 Requests for clarification/additional information

Requests for additional information, questions or issues fundamental to the quality or clarity of the response should be submitted using the 'Request for Proposal Enquiry' (Appendix N). Additional information will be provided at the discretion of the SABS. The SABS also reserves the right to provide the same information to all other interested Bidders.

4.3 Contact information

All enquiries regarding this RFP must be e-mailed to Tintswalo.nyathi@sabs.co.za. Bidders must not contact any other SABS personnel regarding this RFP as this may lead to disqualification of the bid. Also note that any canvassing by Bidders regarding this RFP will result in disqualification.

4.4 Timescale

The proposed timescales for the RFP process are indicated below.

Item	Milestone	Date
1	Date of RFP advertisement	15 August 2025
2	Compulsory Briefing session (only new bidders) SABS Headoffice, 1 Dr Lategan Road, Groenkloof	25 August 2025, 10:00am
5	Final Date for Bidders to submit consolidated requests for clarification (Questions) Questions to be send to Tintswalo.Nyathi@sabs.co.za	05 September 2025
6	SABS clarification. (Not further clarification after this date)	05 September 2025
5	Appendix C, Non-disclosure Agreement /Confidentiality Undertaking signed and submitted	08 September 2025
6	Appendix B, Intention to respond released and submitted	08 September 2025
7	Proposal Submission Date Proposals to be send to Tenders.Tintswalo@sabs.co.za	08 September 2025 11:00am
8	Evaluation of proposals	TBA
9	Awarding of Tender (Next TC seating)	TBA

4.5 Management summary

This section should be submitted as a separate document. The information to be provided in the Management Summary shall include, but not be limited to the following items.

- Company profile
- Completed 'Statement of compliance' (Appendix K)

4.6 Presentations

The SABS reserve the right to request bidders to present for clarification.

4.7 Clarification and inspections

The SABS may submit clarification in writing on specific tender aspects to obtain a better understanding of the received bid/s. This may also include possible inspections of the Bidder's premises at an agreed upon date and time.

4.8 Submitting a response

4.8.1 Due date

- Proposals/ Bids are to be submitted by closing date and time as stipulated on page .
- Proposals/ Bids must be submitted **electronically** to Tenders.Tintswalo@sabs.co.za indicating the tender **reference number** and **description on the subject**. **Maximum size 14MB**.
- Proposals/ Bids must be submitted on **PDF Files** (compressed zipped folder if necessary).
- Proposals/Bids submitted **via a link and/or “we transfer” will not be accepted**.
- The responsibility for on-time submission rests entirely with the Bidders.
- **Late submissions will NOT be accepted.**
- **The above email address should only be used for submission of proposals. No clarity seeking questions should be send to this email address.**

4.8.2 Proposal format

Each proposal shall include a detailed description of the Bidder’s capabilities with regard to the requirements set out in **Appendix A and Section 5.3** of the Mandatory Evaluation.

4.8.3 Central Supplier Database (CSD) Registration

Service providers and suppliers who wish to render services to SABS will no longer register at SABS directly. Suppliers will have to register on National Treasury Central Supplier Database (CSD) as per National Circular No 3 of 2015/6 – Central Supplier Database; National Treasury will maintain the database for all suppliers for Government and its institutions; and All existing and prospective suppliers are requested to register on the CSD by accessing the National Treasury website at www.CSD.gov.za.

5. Evaluation

5.1 Returnable documents

Bidders must provide the following administrative compliance documents. [TICK APPLICABLE BOX]

NO	APPENDIX	TICK
1	Appendix A Scope of Work	
2	Appendix B Company experience/ project list	
3	Appendix C Intention to Respond	
4	Appendix D SBD 4 Bidder’s Disclosure	
5	Appendix E Signed Non-disclosure agreement	
6	Appendix F SBD 6.1 Preference points claim form in terms of the Preferential procurement Regulation 2022	
7	Appendix G CSD Report / Proof of banking details for international suppliers	
8	Appendix H BBBEE/ Sworn affidavit (claim specific goals)	
9	Appendix I Management Summary (including Statement of Compliance)	
10	Annexure J Statement of Compliance	
11	Appendix K Page 2 of the RFP Document	
12	Appendix L Audited Financial Statements	

13	Appendix M Request for Proposal Enquiry	
14	Appendix N Service Agreement	
15	Annexure A New electronics lab HVAC Services Specification	
16	Annexure B HVAC layout Groundfloor	
17	Annexure C HVAC layout plantroom	
18	Annexure D Bill of Quantity	

5.2 Disqualifying criteria is as follows:

- Bidders who do not meet all the requirements as specified on the RFP document scope of work will not be evaluated any further.
- Bidders whose solution is encumbered by any Intellectual Property rights, whether registered and / or unregistered, including but not limited to Copyrights, Patents, Know-How, Registered Designs, Trademarks, Trade Secrets and the like, will not be considered for award of the bid.
- Bidders who make a misrepresentation on the above 2 points or any other material fact.

5.3 Project type contract

The contracting platform that will be used for this project will be NEC4. The detail will be communicated during the compulsory briefing session.

A summer and winter validation of the equipment will be done during the following conditions:

- Very hot sunny period (Summer validation 1)
- Rainy hot period (Summer validation 2)
- Very cold period (Winter validation)

The NEC4 contract to follow will detail the percentages that will be retained until successful system validations were completed (Summer 1 & 2 and winter validation).

5.4 Mandatory Requirements

- Attendance of compulsory briefing session.
- Bidder must have a CIDB contractor grading designation of 5ME or Higher – Bidder must submit/attach proof of valid CIDB registration.
- Bidder must attach a valid COIDA.
- Certified Installation Electrician.
- Registration gasses, accredited for safe handling of refrigeration gasses – proof of accreditation issued by but not limited to (relevant accreditation body) i.e SAIRAC, SARACCA, ACRA, etc must be attached.

Only bidders that submitted and/or meet all the mandatory required documents will be evaluated further on technical evaluation.

5.4 Technical Evaluation

Bids will be evaluated in terms of the Preferential Procurement Regulation of 2022 where the 80/20 preference points system will be used.

Bids will be evaluated in terms of Functionality based on the following criteria:

no.	Selection Criteria		
	Functionality will be measured on a scale of 1-5. Very poor:1, Poor:2, Average:3, Good:4, Excellent:5	sub weight	Weight
1	Company Experience		
	The bidding company must demonstrate experience on similar type (construction of HVAC) successfully completed within the last 10 years. Bidders must submit contactable reference letters of successfully completed HVAC projects.		
	No similar type of projects	0	
	1 similar type of construction projects completed in the last 10 years	1	30%
	2 similar type of construction projects completed in the last 10 years	2	
	3 similar type of construction projects completed in the last 10 years	3	
	4 similar type of construction projects completed in the last 10 years	4	
	5 or more similar type of construction projects completed in the last 10 years	5	
2	Company Experience (controlled humidity and controlled temperature)		
	The Contractor will demonstrate experience on similar accuracy projects successfully completed within the last 10 years. This is a quality requirement regarding the accuracy of the HVAC systems that the contractor has completed. Bidders are encouraged to complete Appendix B: Company experience/project list..		
2.1	Company Experience (controlled humidity and controlled temperature) $\pm 2^{\circ}\text{C}$ and RH $\pm 5\%$		20%
	No projects and/or relevant experience	0	
	1 Project Accuracy: temperature $\pm 2^{\circ}\text{C}$ and RH $\pm 5\%$	1	
	2 Project Accuracy: temperature $\pm 2^{\circ}\text{C}$ and RH $\pm 5\%$	3	
	3 or more Project Accuracy: temperature $\pm 2^{\circ}\text{C}$ and RH $\pm 5\%$	5	
2.2	Company Experience (controlled humidity and controlled temperature) $\pm 2^{\circ}\text{C}$ and RH $\pm 15\%$		
	No projects and/or relevant experience	0	30%
	1 Project Accuracy: temperature $\pm 2^{\circ}\text{C}$ and RH $\pm 15\%$	1	
	2 Project Accuracy: temperature $\pm 2^{\circ}\text{C}$ and RH $\pm 15\%$	3	
	3 Project Accuracy: temperature $\pm 2^{\circ}\text{C}$ and RH $\pm 15\%$	5	
3	Project Plan		
	Bidders must provide a detailed project plan including but not limited to the key milestones and timelines.		
	No project plan and/or schedule provided	0	20%
	Project plan and schedule is high level, i.e. shows estimated start and finish dates, major milestones and critical path and estimated duration and logic to reach works completion. Program and schedule also contain information on execution and integration of the scope of work.	5	
			100%
Minimum threshold is 70%			

NB: Only bidders who meet the 70% minimum threshold on functionality evaluation will be evaluated on the 80/20 preference point system of 2022. (Pricing and Specific Goal)

6. Preference Point System (Price and Specific Goals)

Bids will be evaluated in terms of the Preferential Procurement Regulation of 2022, where the 80/20 preference points system (price and specific goals) will be used.

7. Feedback on Proposals

Once the recommendation to the Tender Committee has been approved, the successful and unsuccessful bidder(s) will be notified in writing.

Successful bidder/s will be issued with a notification letter. Such notification does not constitute an agreement. The award is wholly subject to the successful Bidder entering into a duly signed contract with SABS.

8. Contracting

Successful bidder(s) will be required to enter a contract with the SABS. **JBCC Principle Building Agreement (Edition 6.1 of March 2014) prepared by the Joint Building Contracts Committee Inc will be used in conjunction with the SABS General Conditions.** A formal Agreement will be signed with the successful bidder and SABS further reserves the right to amend, alter or delete clauses relating to, but not limited to insurance, indemnity, undertaking, guarantees, Intellectual Property, service levels and / or tax compliance.

SABS shall not be liable for any costs expended by the bidder prior to any formal agreement being signed. **It is therefore imperative that NO SERVICES are rendered prior to the formal agreement becoming effective.**

Appendix A – Scope of Work

NB: Refer to Annexure A, Annexure B and Annexure C for detailed scope of work.

ANNEXURE A: NEW ELECTRONICS LAB HVAC SERVICES SPECIFICATION

- Detail technical specification for the Air conditioning and ventilation installation
- Standard general specification
- Standard specifications for room air condition units
- Standard specification for room air filters
- Standard specification for air ducts
- Standard specification for osmosis plant

ANNEXURE B: HVAC LAYOUT GROUND FLOOR

ANNEXURE C: HVAC LAYOUT PLANT ROOM

ANNEXURE D: BILL OF QUANTITY

Appendix B

Company Experience/ List of Projects successfully completed (to the client's satisfaction)

NB: To be filled in to support/substantiate the stated experience under the evaluation criteria and bidders are encouraged to complete and return to SABS as part of the proposal.

Client/ Company Name	Contact person/ telephone number/ email	Project name	Project start and end date	Temperature setpoint	Temperature tolerances	Humidity setpoint	Humidity tolerances

Note to Bidder: *If the bidder requires more space than provided above it must prepare a document in substantially the same format setting out all the information referred to above.*

Bidder name: _____

Authorized signatory: _____

Date: _____

Appendix C

Intention to respond to the Request for Proposal

We hereby accept / decline your Request for Proposal.

Company: _____

Company Representative: _____

Position/Title: _____

Signature: _____

Please state a brief reason for declining this Request for Proposal _____

BIDDER'S DISCLOSURE**1. PURPOSE OF THE FORM**

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

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

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise,

employed by the state?

YES/NO

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

Full Name	Identity Number	Name of State institution

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

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

2.2.1 If so, furnish particulars:

.....
.....

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

2.3.1 If so, furnish particulars:

.....
.....

3 DECLARATION

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

- 3.1 I have read, and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

2 Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

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

3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

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

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6

OF PFMA SCM INSTRUCTION 03 OF 2022/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....

Signature

.....

Date

.....

Position

.....

Name of bidder

Appendix E

NON-DISCLOSURE AGREEMENT

THIS AGREEMENT is made BETWEEN

The South African Bureau of Standards (SABS), an organisation established in terms of section 2 of the Standards Act (29 of 1993), whose registered office is at 1 Dr Lategan Road, Groenkloof, Pretoria, 0001, South Africa.

AND _____ (“the Bidder”),

Registration Number: _____ whose registered office is at

(Hereinafter referred to as the “parties”)

WHEREAS in the course of discussions and/or negotiations with the South African Bureau of Standards, the Bidder has received, or may receive in future, information relating to **201763** for the South African Bureau of Standards and other related information hereinafter referred to as “Confidential Information”. “Confidential information” shall include, but not be limited to any information disclosed by the SABS and / or any of its affiliates, employees, agents, representatives, subcontractors and consultants to the Bidder, its employees, agents, representatives and consultants, whether orally, in writing, by graphic, pictorial or electronic format, which information includes but is not restricted to Business information, including know how, commercial and technical aspects of products, processes and services; status and capabilities of the SABS’ business; The SABS or its subcontractors’ marketing and planning programs, products specifications, Service specifications, plans, drawings, test results and findings; financial, operational and technical data; and particular types of technologies and inventions, that already currently exist or that the SABS wishes to be developed, which could be subject to intellectual property rights, whether registered and/or unregistered.

Therefore, the parties wish to agree as follows:

1. The Bidder undertakes to keep strictly secret and confidential all confidential information relayed or transmitted to it in any manner or form and will not divulge any part of the Confidential Information directly or indirectly to any person, firm or entity (other than such of its employees who have a need to know the Confidential Information for the purposes of fulfilling the Bidder’s obligation to the South African Bureau of Standards).
2. The Bidder undertakes to not make copies of the Confidential Information or otherwise disseminate any of the Confidential Information (except as may be required to fulfil specific obligations towards South African Bureau of Standards) without South African Bureau of Standards express prior written consent.
3. This agreement applies to information whether or not such information is marked as or appears to be confidential and whether or not such information is of commercial use to South African Bureau of Standards or any other party.
4. This agreement shall not apply to information which: -
 - (a) the Bidder can show had been lawfully received by it prior to disclosure under this agreement.
 - (b) is in the public domain or becomes so otherwise than through breach of this agreement;

- (c) was disclosed to the Bidder by a third party who was under no obligation of confidence in respect thereof;
5. The Bidder further undertakes that the South African Bureau of Standards retains ownership of all Intellectual property rights on all material and processes developed that relate to the service provided for and on its behalf by the Bidder. The Bidder undertakes to transfer all said Intellectual Property Rights, whether registered and / or unregistered, to the SABS, including undertaking to sign all forms necessary to affect such transfer.
6. The Bidder acknowledges that the confidentiality obligations extend from signature of this agreement and survive the termination of the tender process, whether the Bidder is successful or not.

IN WITNESS WHEREOF the parties hereto have executed this agreement in duplicate.

Signed at.....on this.....day of2025

On behalf of the South African Bureau of Standards (signature) Lerato
Monyepao (Supply Chain Management)

Witness 1. Witness 2.

Signed at..... on this..... day of2025

Signed on behalf of the Bidder, duly authorised thereto..... (signature)

..... (name) (title)

Witness 1. Witness 2.

To: Tenders.Tintswalo@sabs.co.za

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

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

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

1. GENERAL CONDITIONS

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

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 **To be completed by the organ of state**

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

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

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

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

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

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

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

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

$$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right) \text{ or } Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

80/20

or

90/10

$$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right) \text{ or } Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

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

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

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

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

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

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

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

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

Specific Goal	The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
	100% black ownership		10		
	75% - 99% black ownership		8		

Persons historically disadvantaged on the basis of race	60% - 74.99% black ownership		6		
	51% - 59.99% black ownership		4		
	1% - 50.99% black ownership		2		
	0% black ownership		0		
Persons historically disadvantaged on the basis of gender	100% black women ownership		6		
	51% - 99% black women ownership		4		
	1% - 50.99% black women ownership		2		
	0% black women ownership		0		
Persons historically disadvantaged on the basis of disability	100% owned by persons living with disabilities		4		
	51% - 99% owned by persons living with disabilities		2		
	0% - 50.99% owned by persons living with disabilities		0		

DECLARATION WITH REGARD TO COMPANY/FIRM

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

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
 - ☐ One-person business/sole propriety
 - ☐ Close corporation
 - ☐ Public Company
 - ☐ Personal Liability Company
 - ☐ (Pty) Limited
 - ☐ Non-Profit Company
 - ☐ State Owned Company
- [TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

i) The information furnished is true and correct; ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution, if deemed necessary.

SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:
.....
.....

Appendix G
CSD REPORT

Appendix H – BBBEE Certificate/Sworn Affidavit (Claim Specific Goals)

Appendix I
Management Summary

Appendix J

Statement of Compliance to the Request for Proposal

Company Name: _____

Proposed Service: _____

It is hereby confirmed that the proposal response to the SABS' RFP is fully compliant with all points with the exception of the specific issues outlined below:

Signed: _____ (Authorised Signatory)

Name: _____

Position: _____

Date: _____

Appendix K
Page 2 of tender document

APPENDIX L
AUDITED FINANCIAL STATEMENT

APPENDIX M

Request for Proposal Enquiry

To: Tintswalo.nyathi@sabs.co.za

From:

Questions:

Answers:

To: Tintswalo.nyathi@sabs.co.za

Appendix N



SABS
NEW ELECTRONICS LABORATORY

HVAC SERVICES
SPECIFICATION

DATE: 16 October 2024

Table of Contents

TABLE OF CONTENTS	0
1.0 DETAIL TECHNICAL SPECIFICATION FOR THE AIR CONDITIONING AND VENTILATION INSTALLATION	3
1.1 General	3
1.2 Scope of Works	3
1.3 Design Data	4
1.4 Inside Design Conditions	4
1.5 Site and Site Conditions	5
1.6 Quality and Quality Assurance	6
1.7 Drawings	6
1.7 Health and Safety File	8
1.8 Sound Attenuators	8
1.8 General AC Installation	8
1.10 Ducting	9
1.11 Fans	9
1.12 Weather Louvres	10
1.13 Doors	10
1.14 Fire Dampers	10
1.15 Painting	10
1.16 Builders Work	10
2.0 STANDARD GENERAL TECHNICAL SPECIFICATION	10
2.1 General	10
2.2 Regulations	11
2.3 Materials and Workmanship	12

2.4 Arrangements with Supply Authority	12
2.5 Inspection and Testing	13
2.6 At Works	13
2.7 Test Certificates	14
2.8 Tests on Completion	15
2.9 Operator Training	16
2.10 Tools and Equipment	16
2.11 Electrical Data to Be Submitted By the Contractor	16
2.12 Programme and Progress	17
2.13 General Machinery Protection	17
2.14 Welding	18
2.15 Operating and Maintenance Manuals	18
3.0 STANDARD SPECIFICATIONS FOR ROOM AIR CONDITION UNITS	21
3.1 Capacity	21
3.2 Heat Exchange System	22
3.3 Safety Controls	22
3.4 Controls	22
3.5 Building Monitoring System (BMS)	23
3.6 Air Distribution	23
3.7 Construction	23
3.8 Noise and Vibration	24
3.9 Electrical	24
3.10 Types	24
4.0 STANDARD SPECIFICATIONS FOR FANS	24
4.1 General	24

4.2 Centrifugal Fans	25
4.3 AXIAL FLOW FANS	26
4.4 Propeller Fans	27
4.5 Window/Wall Type Extract Fans	28
4.6 Roof Extract Fans	28
5.0 STANDARD SPECIFICATION FOR AIR FILTERS	28
5.1 General	28
5.2 Panel Filters	29
5.3 Spare Media	29
6.0 STANDARD SPECIFICATION FOR AIR DUCTS	30
6.1 General	30
6.1 Duct Hangers	30
6.2 Flexible Duct Connections	31
7.0 STANDARD SPECIFICATION FOR REVERSE OSMOSIS PLANT	31
8.0 VALIDATION	32
9.0 ANNEXURE A	33

1.0 Detail Technical Specification for the Air Conditioning and Ventilation Installation

1.1 General

This Specification shall be read in conjunction with the drawings, Standard Specification and Conditions of Contract which form part of the tender and contract documentation. Any discrepancies between the documents and/or drawings shall be brought to the attention of the Engineer prior to submitting a tender.

1.2 Scope of Works

This specification covers the supply, delivery, erection, testing, commissioning, handing over in a complete working order and the subsequent maintenance and guarantee for a period of 12 months of the air-conditioning and ventilation installations including the following rooftop packaged unit:

- New Electronics Laboratories.

The New Electronics Laboratory are currently served by a mix on non functional and partially functional air handling units. The air handling units are connected to the central site wide chilled water system. The existing plant is located on the first and second floor plantrooms. The air handling units were originally designed to provide cooling via insulated ducting into the labs finally delivering air into the laboratories via ceiling mounted diffusers.

The existing air-conditioning installation shall be stripped out with the exception of the space between HM41 and HM50 on the southern side of the building. The stripped materials shall be carted away from the site under the direction of the onsite facilities management. During the stripping, the chilled water system shall be isolated to ensure that the remaining system is still able to function undisturbed.

Care must be taken to ensure that the ceiling diffusers selected do now dump supplied air to the operational level. A diffuser type with radial jets attached to the ceiling such as Trox ADLR or equal shall be preferred. In the Cooking Appliances Test Laboratory HG45, it is important that this stipulation is particularly adhered to safeguard the integrity of the appliance tests.

The new HVAC system shall in turn consist of a mixture of new packaged air conditioning units, a tempered fresh air delivery packaged air conditioning unit and a VRF system to deliver cooling to the remainder of the laboratories as detailed in the drawings. The new installation is designed to ensure that the building is no longer connected to the chilled water system.

The return air path shall be through return air grilles and ducted back to the packaged units in the plantroom. Door transfer grilles shall be provided in on the VRF fed laboratory doors to

ensure that excess air is delivered using the ceiling void as the return air plenum back to the air-conditioning unit through a return air duct.

The power supplies to the VRF internal units shall be provided in the ceiling voids within 1m of each unit in the ceiling void.

Condensate drains shall be supplied and installed by the air-conditioning contractor in PVC trunking against the outside walls to match the existing condensate drains.

The contractor shall also allow for the replacement of damaged ceiling tiles during the stripping out and installation of the new air conditioning ducting system.

An allowance shall be made to close all openings in the “Mentis” grating floor left behind by the stripping out of ductwork that is currently penetrating the plantroom floor.

Ventilation fans shall be provided in the plantroom to ensure adequate air movement in the plantroom to evacuate excess heat from the space.

A reverse osmosis plant shall be provided in the plantroom to provide treated water to the humidifiers. Water shall be piped from the reverse osmosis plant to the different packaged units.

A validation process which shall be a task of verification to confirm that the HVAC systems and associate axillaries are functional and operated at the required set parameters as per norms and standards within SANAS guidance. The verification will cause affirmation of the basic function of the installed air conditioner system and component whilst satisfying that the key parameters, being temperature and humidity, is met and the system will operate efficiently.

1.3 Design Data

Supply voltage	400/240 V, 50 Hz		
Altitude	1350 m		
Maximum ambient temperature	37 ⁰ C DB		
	20 ⁰ C WB		
Minimum ambient temperature	-3 ⁰ C		
Corrosive conditions	Normal		
Outside air design conditions	Summer:	32 ⁰ C	DB
		19 ⁰ C	WB
	Winter:	-3 ⁰ C	DB
		80 %	RH

1.4 Inside Design Conditions

Room No	Name	Temp Required	RH Required	Internal Load kW
HG41	Vacant	20 ± 3°C	N/A	3

HG42	Ventilator	20 ± 3°C	N/A	2
HG43	Fire-Proof	20 ± 5°C	N/A	2
HG44	Dishwashers	23 ± 2°C	55 ± 5%	6
HG45	Stoves	23 ± 2°C	N/A	8
HG46	Store	N/A	N/A	0
HG47	Geyser	20 ± 3°C	N/A	6
HG48	Vacant	20 ± 5°C	N/A	3
HG49	House Appliances	20 ± 5°C	<75%	3
HG50	Soiling	23 ± 2°C	55 ± 5%	8
HG51	Metering	23 ± 2°C	60 ± 15%	3
HG52	Refrigerators	20 ± 5°C	N/A	2
HG54	Laundry	23 ± 2°C	65 ± 5%	8
HG55	Office Equipment	20 ± 5°C	<75%	3
HG56	Endurance	20 ± 5°C	N/A	4
HG57	Audio Visual	20 ± 5°C	<75%	3
HG58	House Appliances	20 ± 5°C	<75%	3

1.5 Site and Site Conditions

The Contractor shall acquaint himself fully with the prevailing site, conditions, access to the site, storage and other facilities prior to submitting a tender since no claims in this regard will be considered.

The Contractor shall allow for the cost of hoisting heavy equipment and for all hoisting which may be out of sequence with the main Contractor's activities.

Apart from his function as project manager and Co-ordinator of activities on site, the principal Building Contractor will be responsible to provide the finished building structure.

It is the responsibility if the Contractor (Air-conditioning Contractor) to provide "Marked up" drawings timeously indicating all openings, frames, etc. as well as openings or walls to be left out temporarily for access of equipment.

The General Electrical Sub-contractor will be responsible to provide power supplies in the form of isolators at a distance of one meter from each air-conditioning condensing unit and each ventilation fan. The termination to the isolator will be done in this contract.

The power supplies to the split units will be on the roofs in the form of weatherproof isolators at the condensers.

Condensate drains shall be supplied and installed by the air-conditioning contractor in PVC trunking against the outside walls to match the existing condensate drains.

The sub-contractor shall complete a detail programme in conjunction with the Principal Contractor. The programme shall be submitted to the Engineer within two weeks from date of appointment.

1.6 Quality and Quality Assurance

The Sub-contractor is primarily responsible to ensure that the installation meets the requirements of the specification.

The air-conditioning contractor shall comply to the requirements of ISO 14001.

To assist the Sub-contractor in order that corrective action can be taken in good time, at least the following quality control programme will be implemented:

Description	Hold points required
Engineers approval of data sheets for all equipment prior to placing of orders	Yes
Sample ducting approved	Yes

1.7 Drawings

The Contractor shall provide all drawings necessary for the execution of the contract and shall submit general and detailed drawings of the plant and apparatus including in the “Extent of Contract” as the Engineer may reasonably require approving the construction of the plant.

Details and drawings of all major items of equipment made by the Contractor or his suppliers shall be submitted for approval without specific request from the Engineer.

These drawings shall be submitted to an agreed programme to suit the construction of the plant.

All drawings shall be clearly numbered and marked with the equipment item number as listed by the successful tenderer in his equipment schedule.

The Contractor shall submit for approval, in principle, copies of all drawings and all general arrangement drawings of equipment showing overall dimensions, full foundation requirements, building connections and the position of each item relative to the building and other adjacent equipment. The Engineer may require from the Contractor further detail drawings and/or calculations which clarify features not adequately shown on the layout drawings.

The Engineer will return to the Contractor within ten (10) working days of their receipt by him, one copy of each drawing marked “**APPROVED IN PRINCIPLE**” or marked with any changes which are necessary.

The Contractor shall immediately modify the details and drawings as required by the Engineer. The nature and date of each modification and a distinguishing symbol shall be added and the drawings submitted again for approval.

Two copies of each drawing shall be submitted for approval. Five copies of the final General Arrangement and detail drawings shall be issued to the Engineer by the Contractor within ten days of receipt by him for approval, in principle, by the Engineer.

Further copies shall be provided as may be required by the Engineer, either before or after the final approval.

The Contractor shall provide a complete and comprehensive drawing schedule, up-dated with each drawing issue, for the use of the Engineer.

The drawing schedule shall be issued every time drawings are issued.

The Contractor is to ensure that all plants offered can be accommodated in the positions shown on the drawings.

The approval in principle of drawings by the Engineer shall not relieve the Contractor of any responsibility in terms of the Contract.

The Contractor shall be responsible for any discrepancies, errors, or omissions in the drawings and other particulars supplied by him, whether such drawings and particulars have been approved by the Engineer or not, provided that such discrepancies, errors or omissions be not due to inaccurate information or particulars furnished in writing to the Contractor by the Employer or the Engineer.

All dimensions shall be in S.I. metric units.

The Contractor shall provide, at his own expense, all copies of drawings required by him in the execution of the work and shall also, at his own expense, supply to the Engineer such drawings and copies thereof as are provided for in the Specification.

The Sub-contractor will be required to keep a separate set of all approved drawings on site and to continually “mark-up” any alterations and additional information in order that he can produce “as installed” information.

On completion of the installation, but before the Plant is handed over to the client, the Contractor shall provide two negatives on SEPIA of each of the following drawings showing the services as fixed:

- Complete 1:50 scale layouts of pipe work inside the Plant Rooms.
- Large scale details of the Plant Rooms (at least 1:50 scale).
- Complete 1:50 layout drawings of the whole installation.
- Detailed drawings of all items of plant.
- Details of any other items requested by the Engineer.

The drawings shall be sufficient in detail to enable the Employer's staff to maintain, dismantle, reassemble and adjust all parts of the Works.

The layouts shall show the location of all manual and automatic valves, controls, control panels, sensors, thermostats etc.

The wiring diagrams shall indicate all motor kilowatt ratings and circuit breaker and contactor ratings and settings.

A copy of the wiring diagram shall be mounted in the Plant Room in a glass fronted frame. The diagrams shall be printed by a non-fading process.

1.7 Health and Safety File

A health and safety file shall be compiled to comply with the RSA OHS ACT - 1993.

1.8 Sound Attenuators

All attenuator sizes indicated on the drawings and schedule are estimated sizes. The actual attenuator sizes shall be calculated according to the noise levels of selected equipment.

Calculations of sound attenuation in octave bands from 63Hz to 4000Hz shall be submitted to the engineer for approval.

The sound attenuators shall be selected for the air quantities as indicated in the drawings

1.8 General AC Installation

The condensing units shall be installed on the roof plantroom of the building as shown on the drawings. The units shall be of the inverter type with environmentally refrigerant.

The refrigerant piping shall be installed in galvanised trunking where exposed the weather. Refrigeration piping in the rooms shall be installed in PVC trunking cut into the walls with the lids flush with the plaster. The condensate drain piping shall be hard drawn copper piping and recessed into the walls and shall connect to hand wash basins or wash-up troughs. The connection to the above drains shall be above the water traps. All condensate drain piping shall be cut into walls except the piping on the outside walls.

The air-conditioning contractor shall take cognisance of the fact that condensate drain piping shall be installed prior to installing the units. Such piping needs to be properly sealed until the units are installed.

Allowance shall be made for conduit and 100mmx50mm draw boxes to install the thermostats for units with hard wired thermostats. The thermostats shall be mounted at 1400mm AFFL or the same level as the light switches. Hard wired thermostats are preferred on all units.

SABS test certificates shall be provided with the tender confirming capacity and noise ratings. Vacuum shall be drawn on the installed split units prior to charging the unit with refrigerant. A sight glass and drier shall be installed on each split unit.

Power to the units will be supplied by others in the form of isolators. The isolators for the three phase and single phase units will be at the condensers. The wiring from the isolators to the units and between the condensers and evaporators shall form part of this contract.

1.10 Ducting

The ventilation ducting and fresh air ducting shall be galvanised steel ducting with sizes and positions as shown on the drawings. The air-conditioning supply air ducting shall be externally insulated with 25mm FRK insulation.

The flexible ducting and steel spigot shall be the same diameter as the diffuser neck size. The length of the flexible duct shall not exceed 1000mm without external insulation.

1.11 Fans

All fans shall be submitted for approval by the engineer where applicable. The axial flow and in-line duct fans shall be supplied with canvas collars between the sound attenuators and ducting and spring mounting hangers.

Each fan will be installed with a York box, with contactor and fan overload.

Sound attenuators shall be supplied on both sides of the fans and on the "room" side of the AHU systems to meet the specified sound ratings.

The propeller fans shall be supplied with a weather louvre externally and a wire guard on the inside.

The window/wall fans shall be supplied with a weather louvre and louvre shutter. The ceiling fans shall be supplied with a neat grille in the ceiling.

The fans shall supply the air quantities in the schedule against the system resistance.

All fresh air systems shall be supplied with a controller to switch the fan off in case of fire alarm, the fire alarm itself shall be supplied by others. The fresh air fans shall “auto restart” when the fire alarm signal is cancelled.

1.12 Weather Louvres

The weather louvers shall be powder-coated steel louvers. The colour of the weather louvers shall match the existing colour of the building.

1.13 Doors

All doors to laboratories shall be provided with 400 x 400 door grilles unless specified as indicated on the drawings.

1.14 Fire Dampers

All duct penetrations through fire walls including all ducting from plant room to laboratories to be fitted with fire damper.

The fire dampers shall have a fusible link.

The dampers shall be supplied with flanges to match the ducting. The dampers shall have a 2-hour fire rating.

A signal from the fire detection, by others, shall be provided to switch the plant off.

1.15 Painting

All external trunking and ducting shall be painted in a colour to be specified by the Architect.

1.16 Builders Work

The air-conditioning contractor shall take cognisance of the fact that allowance should be made to provide openings for pipes prior to the ceilings being installed. All piping penetrating walls shall be supplied with sleeves in the walls.

2.0 Standard General Technical Specification

2.1 General

This specification covers the general requirements regarding material, equipment, installation, testing, commissioning and maintenance of the Installation.

The complete installation shall comply with the requirements of this Specification. Should any discrepancies or contradictions exist between this specification and the Detail Technical Specification for the specific installation, then the latter shall take preference.

Should any discrepancies appear between written specifications and drawings, Tenderers shall ascertain the position before tender closing date, otherwise the worst case may be assumed correct by the Engineer.

All written parts together with drawings and other documents form part of the specification.

The Engineer will inspect the installation from time to time during the progress of the work. Discrepancies will be pointed out to the Contractor and these shall be remedied at the Contractor's expenses.

Under no circumstances shall these inspections relieve the Contractor of his obligations in terms of the Documents.

The Contractor should notify the Engineer timeously when the installation reaches important stages of completion (e.g. before closing cable trenches, before casting concrete, etc.) so that the Engineer may schedule his inspections in the best interest of all parties concerned.

The word "Contractor" shall also be read to mean "Sub-Contractor" in this specification.

2.2 Regulations

The installation shall be erected and tested in accordance with the following regulations:

- The Factories, Machinery and Building Work Act of 1941 as amended.
- The Regulations of the local Gas Board where applicable.
- The SABS Code of Practice for the Wiring of Premises SABS 0142- 1978.
- The local Municipal by-laws and Regulations as well as the regulations of the local Supply Authority
- The Standard Regulation of **any** Government Department or public service company where applicable.
- The local Fire Regulations
- The Mines and Works Regulations, Government Notice No R1609 of the 28th September 1962, as amended.

The Contractor shall issue all notices and pay all the required fees in respect of the installation to the authorities, and shall exempt the Owner from all losses, claims, costs or

expenditure which may arise as a result of the Contractor's negligence to comply with the requirement of the regulations enumerated in paragraph above or elsewhere.

It shall be assumed that the Contractor is conversant with the abovementioned requirements. Should any requirements, by-law or regulation, which contradicts the requirements of the Document, apply or become applicable during erection of the Installation, such requirement, by-law or regulation shall overrule this document and the Contractor shall immediately inform the Engineer of such a contradiction. Under no circumstances shall the Contractor carry out any variations to the installation in terms of such contradictions without obtaining the written permission to do so from the Engineer.

2.3 Materials and Workmanship

All materials shall be of adequate quality for the duty specified and the workmanship shall be in accordance with the best accepted modern practice. Unless otherwise stated, the Contractor shall be obliged to comply with the requirements of the latest edition (as amended) of the South African Bureau of Standards Specification where applicable.

Failing this the latest edition as amended of the relevant British Standard Specification shall provide the required standard. If the Contractor desires to use any other Standard Specification or Code of Practice it shall be referred to the Engineer for approval.

The Works shall be designed to provide ease of inspection, cleaning and maintenance, and shall conform with modern practice.

All artisans employed on site by the Contractor shall be competent in terms of the Regulations and Acts.

The Contract shall be executed with good workmanship in a workmanlike manner to the satisfaction of the Engineer or his representative. Should any material or workmanship not be to the satisfaction of the Engineer, it shall be rectified at the cost of the Contractor and all rejected materials shall be removed from site.

2.4 Arrangements with Supply Authority

It shall be the responsibility of the Contractor to make the necessary arrangements at his own cost with the local supply authority and to supply the labour, equipment and means to inspect, test and commission the installation to the requirements of the Local and Supply Authorities.

The Contractor shall supply and install all notices and warning signs that are required by the appropriate laws and regulations and/or the Documents.

2.5 Inspection and Testing

The equipment supplied under this Contract shall be subject to inspection by the Engineer or his Nominated Agent at all stages of manufacture.

The tests and commissioning procedure as laid down and such additional tests as the Engineer may reasonably require proving compliance with the Specification shall be carried out at the Contractor's Works and at Site.

The Contractor shall give reasonable notice of time and place in writing, to enable the Engineer to inspect and witness tests of materials and equipment. He shall provide the Engineer with facilities for witnessing same and for any additional tests or inspection of any portion of the works as required by the Engineer.

The Contractor shall, at his own cost, render all assistance and supply all labour, appliance and any other materials, as the Engineer may require to check the setting out, measure up and inspect any portions of the works at any stage during fabrications, construction, erection or painting. During such operations, the Contractor shall, if required, suspend any or all of the Works, without having claim for loss or damage as a result thereof.

The testing of the plant (or any part thereof) supplied under this contract shall be carried out through its full operating range (or part thereof) as required by the Engineer.

All such tests and inspections and the necessary inspection facilities shall be provided at the Contractor's expenses.

At the commencement of and during the whole of the commissioning and Testing Periods, the Contractor shall have available on site all essential spares and tools considered necessary to enable repair work of defective parts to be carried out immediately in the event of a breakdown.

The Contractor shall be responsible for the proper operation and maintenance of the plant throughout the period of the test and until the operator training period is complete.

Acceptance by the Engineer of any plant item, following such inspection or tests, shall not relieve the Contractor of any obligations under this Contract.

2.6 At Works

Materials and Components

All tests to comply with the relevant South African/British Standards.

Motors

All motors shall comply with the relevant South African/ British / I.C. Standards and test certificates in triplicate shall be supplied before despatch. Witnessed tests are not required.

Pumps

All pumps shall be lined up and tested as a complete set. Test certificates shall be supplied before despatch.

Fans

Balance tests to be carried out on all rotors.

2.7 Test Certificates

The Contractor shall provide three copies of test certificates in respect of all materials and equipment, further copies are to be bound into the operating and maintenance manuals.

Insulation Tests

All electrical wiring and equipment shall be subjected to insulation tests. All instruments and other equipment for the tests shall be provided by the Contractor.

Draining and Cleaning

On completion of the pressure test on a section of pipe work the water used for testing shall be drained away as quickly as possible to remove as much dirt and dross as possible. After completion of a pipe work circuit the circuit shall be flushed through to remove all pipe scale, dross and similar materials.

The Contractor shall provide all necessary connections, by-pass pipes temporary strainers, temporary make-up pieces, to enable the systems to be drained and cleaned.

Additionally, on boiler commissioning, steam lines are to be charged with steam to full operating pressure and allowed to cool. This procedure is to be carried out three times over a period of two days. Following the third cycle, the pipes are to be open ended and blown through. These procedures are to be supervised by the Engineer.

Plant Commissioning

The Contractor shall arrange, at his cost, for the manufacturer's representative to check over and fully commission items of equipment. This work is to be carried out by skilled engineers preferably employed by the manufacturers, who are completely familiar with

the equipment involved and shall be capable of training the operating and maintenance staff in the duties they are to perform.

On completion of the plant commissioning, the Contractor shall obtain written confirmation from the various manufacturers that they have completed all commissioning work and are satisfied that the items of plant, for which they are responsible, are functioning satisfactorily.

Copies of the manufacturer's written confirmation shall be sent to the Engineer.

2.8 Tests on Completion

On completion of the balancing and commissioning of equipment, the plant shall be put into normal operation and the final adjustments of the equipment shall be made.

Thereafter, the Tests on completion shall be carried out to ensure that the plant will fulfil the functions for which it has been supplied.

Such test shall include the following:

- Simulated tests for all alarm and safety cut-out of equipment to prove the operation of the equipment.
- Simulated tests on automatic controls to prove the ability of the controls to correct conditions which are outside the required design conditions. The tests shall be carried out manually, changing the desired values to produce an incorrect condition and then re-setting the controls to the design condition and then checking the operation of valves, etc. to restore the design conditions.
- Operational tests on the Plant to demonstrate that it is giving the rated output and efficiency.

The Contractor shall provide all necessary temporary measuring and recording equipment. The equipment shall be of a type generally used for this type of testing and shall be to the approval of the Engineer. All instruments shall be accurately calibrated before the tests begin.

On completion of the whole of the tests and when the Contractor is satisfied that the entire plant is operating satisfactory and will fulfil the function for which it has been supplied, he shall submit to the Engineer triplicate copies of all test records and charts together with reports on all the tests called for in this Specification.

The Engineer shall reserve the right to ask for any reasonable additional tests or for the repetition of previous tests in order to prove that the operation of the plant is satisfactory and in accordance with the Specification and Drawings.

2.9 Operator Training

On the completion of all tests to the Engineer's satisfaction, the Contractor shall continue to be responsible for the complete operation and maintenance of the plant for a further period of three weeks, during which time instruction shall be given to the Employer's staff on the proper operation and maintenance of the Plant.

The operation and maintenance of the plant for the duration of the instruction period shall not in any way relieve the Contractor of his responsibility under the terms of the Contract.

2.10 Tools and Equipment

The Contractor shall provide all tools and equipment necessary for the proper efficient execution of the work.

No extra payment will be made for the Contractor's plant, labour and equipment to complete the work specified.

Maintenance Tools

The Contractor shall provide one complete set of all special tools, gland keys, lock shield valve keys, air lock keys, stoking tools, etc. required for testing, dismantling or operating of all items of equipment.

Electrical Equipment

The Contractor shall provide all motors, limit switches, devices operated by pressure, flow, temperature or any other means, heaters, thermostat, solenoid valves, probes and all other sensing and control devices necessary for the operation of the plant or equipment.

All motor starters, distribution boards and cabling are to be supplied and installed by the Contractor.

All electrical sensing and control devices supplied under this Contract shall be submitted for approval within 60 days from the date of award of the Contract prior to ordering from equipment suppliers.

All motors shall be suitable for operation on 400 volt/ 230V, 50 Hz supply and all electrical control and sensing devices for operation on 400V, or 230V or 24V, 50Hz supply as required.

2.11 Electrical Data to Be Submitted By the Contractor

The Contractor shall, within 30 days after being awarded the Contract submit for approval, final motor power ratings, numbers and locations of motors on each item of machinery; motor characteristic curves' method of starting motors' wiring diagram of electrical appliances on each items of machinery (e.g. stop/start buttons, micro-switches, limit switches, probes etc.,) ; control circuit devices; **complete control** diagrams and all other relevant data of each system, plant or machinery depicting the full operation of the system.

Further, the following additional information shall be provided in respect if each motor:

Two sets of characteristic curves, test certificates, certified prints, shop drawings, wiring diagrams, operating data, instruction books, diagrams covering rigging, assembly, installation, operation and maintenance of motors as required by the Engineer.

2.12 Programme and Progress

The Contractor's programme shall list each scheduled item of equipment in the Contract and indicate periods for:

- Preparation, approval and finalisation of manufacturing drawings
- Ordering
- Manufacturing
- Inspection and testing during manufacture.
- Delivery
- Installation
- Tests on Completion
- Commissioning.

The Contractor shall allocate to a senior member of his staff the duties of studying and evaluating the progress of the works in relation to the approved programme, of devising methods of overcoming or preventing delays and of co-operation with the Engineer and other Contractors working on the Site. He shall report to the Engineer and draw his attention timeously to anything which may cause delay in the execution of the Works.

2.13 General Machinery Protection

Coupling and Shaft Guards

All high-speed couplings, projecting shaft ends and every dangerous moving part of machinery which are within normal reach of a person shall be protected by a guard manufactured from not less than 1 mm mild steel plate.

Belt Guards

All belt or rope drives with normal reach shall be adequately protected by a belt guard.

The guard shall be manufactured from wire mesh or open type expanded metal, securely braced and stiffened with light rolled steel section and bolted in position.

Chain Drives

All chain drives shall be fitted with sheet steel chain cases and lubrication facilities to chain manufacturers' recommendations. All joints shall be dust tight and arranged for convenient installation and dismantling.

Each chain case shall be fitted with a hinged inspection door, drain hole and plug.

Painting

All guards shall be finished in a light orange colour to B.S. 381 C.

2.14 Welding

All oxy-acetylene welding and testing shall be in accordance with B.S. 1821 or B.S. 2640, as applicable, for oxy-acetylene welds in mild steel pipelines up to 1670 kPa and/or temperatures up to 218 degrees Celsius.

Metal arc welding shall be in accordance with B.S. 1856 or B.S. 2633 as applicable.

Before any welding is undertaken, each welder to be used on the Contract Work shall make a sample weld in the Works or on Site of an average size pipe of the same physical and chemical analysis as the tube to be used in the Contract. These test welds shall be executed in the presence of a representative of the Engineer and when completed, the welds shall, after stress relieving or normalising, be cut up and specimens prepared for micro and macro examination and physical tests. After the welding samples have been approved, only the welders who have been responsible for these samples shall be employed on the Contract Works.

The Engineer shall reserve the right to ask for welded joints to be removed for detailed testing at the Contractor's expense.

On completion each weld shall be coated with one coat of red lead paint.

2.15 Operating and Maintenance Manuals

The Contractor shall submit, for approval, four weeks before completion of the installation, two copies of the maintenance and operating manuals for the plant and equipment supplied.

The Engineer will return it to the Contractor within ten working days of their receipt by him, one copy marked with any changes which are necessary.

The Contractor shall modify the manuals as required by the Engineer and submit to the Engineer, within ten working days, two revised copies of the manual. On completion of the installation, but before the plant is handed over to the Employer, the Contractor shall provide three copies of the final maintenance and operating manuals for the plant and equipment supplied. These manuals shall be sewn and bound in book form with hard plastic covers to withstand constant use. All manuals shall be properly indexed to facilitate easy reference.

2.15.1 Contents of Manuals

The manual shall include:

- A list of recommended servicing tools and specialist equipment.
- A list of spares to be supplied by the Contractor to cover the period of warranty.
- A price list of recommended spares necessary for a period of 2 years of operation.
- Exploded drawings or detailed spares list from which every item of every piece of equipment can be positively identified for ordering replacements.
- A list giving the name and address of the local agent for each item of equipment.
- A list giving the name and address of manufacturer of each item of equipment.
- A copy of all test certificates obtained with the plant.
- A list of recommended lubricants.
- A preventative maintenance programme of all equipment.
- Operating instruction for each item of equipment.
- Performance data and/or characteristic curves.

Note:

Drawings and any other information to be bound into the final manuals duly up- dated to indicate the supply “as fixed”.

SABS		
Practical Completion/Take-over Certificate		
Project:.....		
Installation:.....		
Portion:.....		
Contractor:.....		
Reference:.....		
Partial Completion of		
Partial Completion of		
Practical Completion		
It is hereby certified that the installation is practically completed on		
The following items are completed:		
Item	Description	Date completed
1	3 copies of O & M Manuals	
2	2 sets of "As Built Drawings"	
3	Employer Personnel Training	
Signed: Date:		

SABS	
Final Completion Certificate	
Project:	
It is hereby certified that the Contractor has satisfactorily completed all his contractual commitments in terms of the one year comprehensive maintenance contract.	
SIGNED:	
Employer:	Date:

3.0 Standard Specifications for Room Air Condition Units

Units shall be standard products of reputable manufacturers regularly engaged in the fabrication of the specific equipment

3.1 Capacity

Cooling

The units shall be able to deliver their stated capacities at an ambient temperature of 35 °C DB and a room temperature a stated in the attached room datasheets.

The units shall be able to deliver their stated capacities continuously.

The units shall be able to deliver their stated capacities with the units delivering their stated amount of fresh air to the conditioned space. The temperature of the uncooled fresh air shall be the same as the ambient temperature.

Heating

The units shall be able to deliver their stated capacities continuously.

3.2 Heat Exchange System

Compressor

- The compressor shall be a hermetically sealed unit.
- The compressor shall be mounted on springs with rubber seating.

Evaporator

- The evaporator shall be a multi pass copper coil with copper fins or aluminium fins.
- The fin spacing shall be adequate to ensure even with build-up of dirt on the fins the unit still meets its capacity as stated.

Condenser

- The condenser shall be a single or multi pass copper coil with mechanically bonded copper or aluminium fins.

Condenser fan

- The fan shall be rated for continuous duty.
- The fan shall be of the non-overloading type.
- The fan motor shall be rated for continuous duty with long life bearing.
- The fan motor shall be a totally enclosed motor.

3.3 Safety Controls

Heat exchange circuit

- The compressor shall be protected against over current and over temperature.

Heaters

- The heaters shall be fitted with safety thermostats to protect the heaters against over temperature.

3.4 Controls

- The units shall be fitted with a manually adjustable thermostat.
- The thermostat shall automatically select cooling, heating or re-circulation according to the return air temperature.
- The unit shall be fitted with an on-off switch

3.5 Building Monitoring System (BMS)

All new equipment controls to be installed in the laboratory and refurbished areas are to be Building Management System addressable. The SABs currently has a BMS system installed in its facilities which shall be connected to the new installation. The BMS system shall monitor and control the operation of mechanical systems in the building. All offered equipment must be compatible with the BACnet IP protocol.

3.6 Air Distribution

Fan

- The fan shall be a silent running fan.
- The fan shall be of the non-overloading type.
- The fan shall be selected to have a small variation in delivery, between the system resistance of a clean filter and a dirty filter.
- The fan shall be a low speed fan.
- All fans shall be EC (Electro Commutated) fans

Grilles

- The outlet grilles shall be adjustable.
- The grilles shall not rattle, hum or vibrate under any operational conditions.
- The grilles shall not melt with half the outlet grilles blocked and the heaters on at full capacity.

Filters

- The unit shall filter outside air as well as return air.
- The filter shall be of the washable type.
- The filter shall be easily accessible for cleaning purposes.
- The filter shall prevent the clogging of the evaporator coil.

3.7 Construction

Casing

- The casing shall be constructed from the heavy gauge steel.
- The casing shall be painted with stove enamel.
- The casing shall be acoustically and thermally insulated.
- The casing shall not drum vibrate or emit noises when the compressor comes in operation.
- The casing shall be treated for corrosion.
- The unit shall be acceptable to the Engineer.

Condensate

- The unit shall be constructed to collect the condensate from the evaporator coil.
- The fan shall not carry condensate over into the conditioned space.
- The collected condensate shall be piped to the outside of the casing with an adequately sized pipe.
- The condensate shall not collect in the casing.
- The thermal and acoustic insulation shall not be able to absorb condensate.

3.8 Noise and Vibration

- The noise and vibration of the compressor shall be kept as low as possible.
- The unit shall be acoustically tested by the SABs and a copy of the test shall be produced on request.
- The unit shall equal or surpass the noise criteria laid down in the Detailed Specification.
- The casing shall not drum, vibrate or emit noises.
- The grilles shall not drum, vibrate or rattle.

3.9 Electrical

- The unit shall be able to operate on 400/230V, 50Hz
- The unit shall not draw more than 15 Amps when operating on either heating or cooling mode.

3.10 Types

The above specification shall be applicable to a wall type, window type or split type room air conditioning unit.

4.0 Standard Specifications for Fans

4.1 General

Requirements under the above heading apply to fans which are not integral parts of condensing units, cooling towers, air handling units, or similar equipment designed and manufactured as complete units by the manufacturer unless referred to.

Fans shall be statically and dynamically balanced. In the case of direct driven fans, the balancing shall be done on the motor/impeller assembly.

Electrical protection gear characteristics shall be determined by the fan/motor assembly characteristics.

Fans handling air or gases with abnormal qualities shall be selected for the relevant application.

Extract fans shall have suitable access doors to allow for cleaning of the inside of the casing and the impellor.

No fan shall be operated for any purposes, such as temporary ventilation testing etc., until the connected ducts have been cleaned and the filters, if any, have been put in regular operation.

Fans shall be selected to operate in the stable region and as close as possible to the point of maximum efficiency.

Large fans shall be manufactured in easily assembled parts to facilitate installation. This shall not affect the static or dynamic balance of the fans.

All finished parts of fans, such as shafts and bearings, shall be properly protected from rust and foreign matter by means of suitable wrappings and protective grease coatings until commissioning of fans.

The design total fan resistance as indicated in Part 4 shall be finally checked when all the information on selected system elements is available.

Fans shall be of reputable manufacture and approved by the Engineer. Fans shall be selected for the correct air density and temperature.

All fan accessories shall be the product of the manufacturer of the specific fan it is used with. Flexible connections shall be fitted with flanges matching those of the fan.

4.2 Centrifugal Fans

Bearings shall be of the self-aligning ball or roller type and shall be selected for quiet operation as recommended by the bearing manufacturer. Bearings shall be selected for an average life of not less than 200000 hrs, allowance being made for the dead weight of wheel and maximum belt pull. Should the bearings prove to be noisy during the maintenance period, they shall be replaced by a more suitable type. Only bearings supplied by one manufacturer shall be used on one project of centrifugal fans.

Fans shall be driven by V-drives.

V-drives shall be matched sets of "Fenner" or equivalent.

V-drives shall be selected with a service factor and additional factors as recommended by the manufacturer. Operation of over 16 hours per day and 4 starts per hour shall be the

determining factors. Service factors shall be applied to motor power and not absorbed fan power.

V-drives shall be installed and operated according to the manufacturer's instructions.

V-belt tension shall be checked and set after two hours of continuous operation and thereafter daily for two weeks of operations.

The fan and motor shall be mounted on a common frame and means shall be provided to adjust the belt tension.

Adequately ventilated drive guards shall be provided. Care shall be taken that the motor cooling air is not blown onto or into the drive guards.

Drive guards shall be constructed to permit maintenance and the use of speed counters with the guards in position.

Fans shall be supplied with mating flanges.

Fans with impellor diameters above 750 mm shall be provided with access doors in the casing.

Fans shall be fitted with vortex dampers. The vortex dampers shall be manufactured by the fan manufacturer.

All connections to duct work, plenums, etc., shall be flexible. Flexible connections shall be a minimum of 100 mm long and attached to the fan, duct work, plenums etc., in such a way that it can be removed and replaced without disturbing any of the aforementioned equipment.

Flexible connections shall be air-tight. Vibrations isolators shall be installed.

A drainage plug shall be installed at the lowest point of fan casing.

4.3 AXIAL FLOW FANS

Multiply aerofoil blades shall be fitted. Blades shall have an adjustable pitch angle.

Access doors of ample size shall be provided in the casing of long casing fans.

A weatherproof external terminal box forming an integral part of the casing, shall be provided as standard for motor connections.

Fans shall be direct driven with the motor in the air stream.

Inlet cones manufactured by the fan manufacturer shall be fitted to fans of which the inlet is not connected to ducting with the same diameter.

Fan motors shall be flange mounted.

Fans extended for use within duct work shall be of the long casing type such that the casing completely shrouds the fan and motor assembly.

Fans having only one end attached to duct work, plenums, walls, etc., shall be the short casing type. The fan shall be so installed that the motor is accessible.

Anti-vibration mountings shall be utilized.

Fan selection shall be made, ensuring that a stall condition will not occur.

Vortex dampers shall match the fans and be manufactured by the fan manufacturer.

Controllable pitch fans shall have pneumatic or electric actuators. To ensure smooth operation throughout the range there shall be a balance between the control force and return force.

All connections to duct work, plenums, etc., shall be flexible. Flexible connections shall be a minimum of 100 mm long and it can be removed and replaced without disturbing any of the aforementioned equipment.

Flexible connections shall be air-tight.

4.4 Propeller Fans

Fans shall be resiliently mounted on rubber cushions or by other approved means. Fans shall be plate mounted.

Fans shall be direct driven with totally enclosed motors.

Mounting rings or plates shall be die cast or die formed to smooth curves where the air enters the wheels. Mounting plates shall be heavy enough to prevent distortion and shall be adequately braced to prevent vibration.

Fans shall be suitable for speed control.

Speed controllers shall control the speed in steps and be suitable to receive external signals. Speed controllers shall control the speed in steps and shall be hand operated.

4.5 Window/Wall Type Extract Fans

Fans shall be suitable for single phase operation.

Fans shall be reversible.

Fans shall be supplied complete with mounting accessories. Required air volumes shall in all instances be selected at low speed. Fans shall include electrical shutters.

The shutters shall be closed when the fan is not operational.

Fan controllers shall be included. The controller shall be capable of switching the fan on and off.

4.6 Roof Extract Fans

Roof extract fans shall be "Brooks", "Woods" or equivalent factory assembled type. Impellers shall be of the vane-axial type.

Fans shall be selected for quiet operation and shall have ball or roller bearings with dust tight seals.

All metal exposed to weather shall be corrosion resistant or coated so as to prevent corrosion. Fans shall include automatic shutters.

Sound attenuating kerbs shall be provided.

5.0 Standard Specification for Air Filters

5.1 General

Only those filter units shall be acceptable which the tenderer can show as a whole, or the actual filtering elements, media curtains, cells, holding frames etc., incorporated in filter units assembled in his own workshop are the standard product of a reputable manufacturer, regularly engaged in the fabrication of the particular type of air filter. If an imported product, the sub-contractor shall be able to prove that such products are well represented in the Republic of South Africa.

Only filters tested by the South African Bureau of Standards to the ASHRAE standard 51-687 will be acceptable. Arrestance (gravimetric), efficiency (photometric), dust holding capacity and resistance against air velocity shall be documented according to the above test.

Frames and filters shall be constructed in such a manner that the passage of unfiltered air is prevented. Gaskets shall be provided between filters and frames and filter frame unit casings.

Each filter bank shall be supplied with an identification label stating the type of filters, quantity of filter elements, model numbers and all other information necessary for re-ordering filter material.

Filters shall be adequately protected against dirt during construction and shall not be operated until the system is thoroughly cleaned. Filters must be put in regular operating condition before the fans which they connect are operated for any purpose.

An inclined manometer shall be installed on each filter bank. The gauge shall be connected to static pressure taps of approved design so that it will indicate correctly the resistance to air-flow of the filter. Connections shall be made with copper tubing. The full scale reading of the inclined manometer shall be between 30 and 60 percent higher than the change-out pressure of the filters.

All filters, other than automatic types, shall be provided with pressure differential switches which shall operate when the pressure drop across the filter reaches a value recommended by the manufacturer. The switch shall energise a pilot light on the main control board.

Filter dimensions shall be selected to suit the configuration of the air handling unit.

All filter accessories including the filter holding frames and clips shall be standard products of the filter manufacturer.

All metal parts shall be sufficiently protected against corrosion. All metal parts shall be coated with baked enamel or equivalent.

5.2 Panel Filters

Each filter bank shall consist of a factory made robust sectional steel supporting frame, which shall accommodate the filter cells.

All filters cells on the same project shall have the same dimensions.

Filter cells shall be easily removable from the upstream or downstream side of the filter. The filter medium shall be pleated and bonded to the media holding frames.

5.3 Spare Media

One complete set of spare filter media shall be supplied for all filters in the entire project.

Spare filter media shall be suitably packed and protected for storage. The packing shall withstand the normal handling procedures without damage to the filters.

6.0 Standard Specification For Air Ducts

6.1 General

Ducting shall be manufactured according to SABS 1238-1979 as amended.

All duct dimensions, including dimensions for internally insulated ducts refer to the clean internal cross-section area.

Unless specified type 316 stainless steel shall be used for stainless steel ducting.

Opposed blade balancing dampers shall be installed on all branch ducts feeding more than one air outlet.

Dampers shall not be used to create artificial resistance in the system in order to reduce fan air flow capacity. Reduction of air flow shall be accomplished by reduced fan speed or by changing the fan blade angle.

All ducts passing through concrete or brick walls shall be isolated from the walls by means of high-density glass fibre collar of at least 20 mm thickness.

Galvanised steel shall be used for ducting for air conditioning and ventilation unless otherwise specified.

Black mild steel of minimum thickness 1.6 mm thickness shall be used for grease contaminated exhaust systems. All joints shall be welded.

6.1 Duct Hangers

Duct hangers shall be as follows:

Longest Duct Dimensions mm	Round Hangers	Galvanized Strap Hangers	Shelf Angle	Maximum Spacing
Up to 760	6	25x1,6	25x25x3	3,0
761 - 1000	10	38x38x3		3,0
1001 - 2100	10	50x50x3		2,4
2101 - 2400	10	50x50x6		2,4
2401 and over	12	50x50x6		2,4

Round hangers shall not protrude below the lowest part of the shelf angels.

BILL OF QUANTITY

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<u>MECHANICAL WORK</u>				
	<u>SUPPLEMENTARY PREAMBLES</u>				
	Proprietary items or materials				
	Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent				
	<u>THE FOLLOWING TO MECHANICAL INSTALLATION</u>				
1	Supply, install and commission Rooftop packaged units complete with all necessary controls and accessories including filters,built-in humidifiers,suitably sized attenuators and anti-vibration mountings all mounted on a 150mm high concrete slab. Unit capacity shall be as follows:				
1.1	PU01 - 902l/s and 9,4kW colling, 1,9kW heating, 9,7kW reheat and 2,9 kg/hr hum.	No	1		
1.2	PU02 - 1428l/s and 15,0kW colling, 4,3kW heating, 15,4kW reheat and 5,0 kg/hr hum.	No	1		
1.3	PU03 - 1294l/s and 16,4kW colling, 4,9kW heating, 14,0kW reheat and 9,2 kg/hr hum.	No	1		
1.4	PU04 - 1335l/s and 17,7kW colling, 10,0kW heating, 14,4kW reheat and 12,2 kg/hr hum.	No	1		
1.5	PU05 - 4240/s and 85kWcooling and 97kW heating, full F.A.	No	1		
2	Supply and Install VRF Heat Recovery Inverter type AC units complete with condensate pumps and Wires remote Outdoor Unit				
2.1	195,2kW outdoor VRF heat recovery condensor unit.	No	1		
	Indoor Units				
2.2	Hide-away Unit 18,0kW cooling plus heating	No	3		
2.3	Hide-away Unit 14,0kW cooling plus heating	No	3		
2.4	Hide-away Unit 12,8kW cooling plus heating	No	1		
2.5	Hide-away Unit 11,2kW cooling plus heating	No	1		
2.6	Hide-away Unit 9.0kW cooling plus heating	No	1		
2.7	Midwall unit 3,6kW cooling plus heating	No	4		
2.8	Cassette Unit 7,1kW cooling plus heating	No	1		
2.9	4 port MCU Kit	No	4		
2.10	Refrigerant pipes for heat recovery units to suite the lab installation	Item	1		
2.11	dia 32 uPVC drainage piping including bends	m	100		
2.12	200 wide heavy duty welded wire mesh including supports	m	150		
2.13	Circle panel	No	2		

BILL OF QUANTITY

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3	Supply and Install Air Terminals				
3.1	1500 x 400mm weather louvre complete with wooden frame and all accessories required to mount in to position	No	8		
3.2	400 x 400mm door transfer grilles	No	20		
3.3	600 x 600mm 4 way blow Supply Ceiling Diffuser with opposed blade dampers	No	58		
3.4	600 x 600mm Return Ceiling Diffuser	No	9		
3.5	1200x600mm return grille hinged with filters	No	9		
4	Supply and install the following externally insulated galvanised mild steel ducting as per ANSI/SMACNA (sheet metal and air conditioning contractors national associations) and technical specification, complete with hangers, duct sealing and all mounting accessories				
4.1	200mmø Flexi- duct Insulated	m	35		
4.2	250mmø Flexi- duct Insulated	m	45		
4.3	300mmø Flexi- duct Insulated	m	5		
4.4	350mmø Flexi- duct Insulated	m	25		
4.5	200 mmø Insulated	m	20		
4.6	250 mmø Insulated	m	30		
4.7	300 mmø Insulated	m	30		
4.8	350 mmø Insulated	m	25		
4.9	400 mmø Insulated	m	15		
4.10	300 x 250 mm Insulated	m	25		
4.11	300 x 300 mm Insulated	m	35		
4.12	350 x 300 mm Insulated	m	5		
4.13	350 x 350 mm Insulated	m	35		
4.14	400 x 300 mm Insulated	m	15		
4.15	400 x 350 mm Insulated	m	40		
4.16	400 x 400 mm Insulated	m	55		
4.17	450 x 400 mm Insulated	m	10		
4.18	450 x 450 mm Insulated	m	45		
4.19	500 x 400 mm Insulated	m	10		
4.20	500 x 450 mm Insulated	m	5		
4.21	500 x 500 mm Insulated	m	5		
4.22	550 x 550 mm Insulated	m	35		
4.23	600 x 500 mm Insulated	m	35		
4.24	600 x 600 mm Insulated	m	15		
4.25	700 x 600 mm Insulated	m	5		
4.26	800 x 700 mm Insulated	m	10		
4.27	Duct fittings and accessories as per drawings provided.	Item	1		
4.28	Duct pressure testing and balancing of the system	Item	1		

BILL OF QUANTITY

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5	Supply and install the following duct accessories complete with mounting accessories				
5.1	200 mmø Volume control or butterfly damper	no	1		
5.2	250 mmø Volume control or butterfly damper	no	2		
5.3	300 mmø Volume control or butterfly damper	no	2		
5.4	300 x 250 mm Volume control or butterfly damper	no	6		
5.5	300 x 300 mm Volume control or butterfly damper	no	5		
6	Electrical Installation for HVAC				
6.1	Supply and install Electrical installation and wiring, etc., complete for HVAC units, including local starter/isolator switches and fire alarm interface	Item	1		
7	Stripping of existing airconditioning installations				
7.1	Allow for disconnection, dismantling and removal of the HVAC installations first to a temporary location on site as pointed out by the Facilities Manager and final disposal off site.	Item	1		
8	Supply and install the following wall mounted extraction fan complete with relevant electronic and electrical wiring, speed controllers, support brackets, AND ALL NECESSARY MOUNTING ACCESSORIES. the fan shall be wired to run whenever the oxygen plant is running.				
8.1	100l/s @ 50Pa wall mounted extraction fan	Item	1		
8.2	342l/s @ 50Pa wall mounted extraction fan	Item	2		
8.3	140l/s @ 50Pa wall mounted extraction fan	Item	2		
9	Supply and install reverse osmosis plant with a capacity flow rate of 28 litres per hour for treated water supply to the HVAC system humidifiers. The reverse osmosis plant shall be complete with relevant controls, water and electrical connections, support brackets, AND ALL NECESSARY MOUNTING ACCESSORIES as described in the specification	No	1		
9.1	Supply and install PEX pipework and fittings to supply water from the Reverse osmosis plant to the AHUs. Pipe diameter to be 10mm diameter	m	60		

BILL OF QUANTITY

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
10	Builderswork				
10.1	Make openings in the wall to accommodate new ductwork. Make good after installation, including plaster and painting as necessary.	Item	1		
10.2	Supply and install 600 x 600 x 6mm Thick vinylclad fibre cement ceiling boards, cladded in embossed white to match existing ceiling panels, for replacement of broken ceiling tiles.	m²	140		
10.3	Supply and install 40/40/8mm Mentis grating in galvanised mild steel	m²	50		
11	General				
11.1	Testing and commisioning of the above system to the complete satisfaction of the Mechanical engineer and client	item	1		
11.2	Validation of the above system to the satisfaction of the end-users and facilitations manager, in accordance with the specification	item	1		
11.3	Preparation and supply of handover documents	item	1		
11.4	Production of shop drawings and schematics	item	1		
11.5	Allow for a working in an operational building and working on half the building at a time as opposed to working in a vacant building.	item	1		
11.6	Allow for defects and maintenance of the HVAC and RO Plant installation works after practical completion for a period of 12 months	item	1		
11.7	Rigging and/or scaffolding of equipment/materials as requires	item	1		
11.8	Allow for the submittal of test schedules as stated in the specification	item	1		
Grand Total					

GOVERNMENT PROCUREMENT

GENERAL CONDITIONS OF CONTRACT

NOTES

The purpose of this document is to:

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

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

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

TABLE OF CLAUSES

1. Definitions
2. Application
3. General
4. Standards
5. Use of contract documents and information; inspection
6. Patent rights
7. Performance security
8. Inspections, tests and analysis
9. Packing
10. Delivery and documents
11. Insurance
12. Transportation
13. Incidental services
14. Spare parts
15. Warranty
16. Payment
17. Prices
18. Contract amendments
19. Assignment
20. Subcontracts
21. Delays in the supplier's performance
22. Penalties
23. Termination for default
24. Dumping and countervailing duties
25. Force Majeure
26. Termination for insolvency
27. Settlement of disputes
28. Limitation of liability
29. Governing language
30. Applicable law
31. Notices
32. Taxes and duties
33. National Industrial Participation Programme (NIPP)

General Conditions of Contract

1. Definitions

1. The following terms shall be interpreted as indicated:
 - 1.1 “Closing time” means the date and hour specified in the bidding documents for the receipt of bids.
 - 1.2 “Contract” means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - 1.3 “Contract price” means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
 - 1.4 “Corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
 - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
 - 1.6 “Country of origin” means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
 - 1.7 “Day” means calendar day.
 - 1.8 “Delivery” means delivery in compliance of the conditions of the contract or order.
 - 1.9 “Delivery ex stock” means immediate delivery directly from stock actually on hand.
 - 1.10 “Delivery into consignees store or to his site” means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
 - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
 - 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable.

Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

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

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

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

**8. Inspections,
tests and
analyses**

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

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

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

9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

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

11. Insurance

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

12. Transportation

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

13. Incidental services

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and

- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

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

14. Spare parts

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

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

15. Warranty

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

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

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

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

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

16. Payment	<p>16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.</p> <p>16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.</p> <p>16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.</p> <p>16.4 Payment will be made in Rand unless otherwise stipulated in SCC.</p>
17. Prices	<p>17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.</p>
18. Contract amendments	<p>18.1 No variation in or modification of the terms of the contract shall be made except by written amendment signed by the parties concerned.</p>
19. Assignment	<p>19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.</p>
20. Subcontracts	<p>20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.</p>
21. Delays in the supplier's performance	<p>21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.</p> <p>21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.</p> <p>21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.</p> <p>21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.</p>

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

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

22. Penalties

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

23. Termination for default

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

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

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

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

23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard

the intended penalty as not objected against and may impose it on the supplier.

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

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

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

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

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

24. Anti-dumping and countervailing duties and rights

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

25. Force Majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security,

damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

- 25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

**26. Termination
for insolvency**

- 26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

**27. Settlement of
Disputes**

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
- 27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
 - (b) the purchaser shall pay the supplier any monies due the supplier.

**28. Limitation of
liability**

- 28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;
- (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

		(b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
29. Governing language	29.1	The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.
30. Applicable law	30.1	The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.
31. Notices	31.1	Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
	31.2	The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.
32. Taxes and duties	32.1	A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
	32.2	A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
	32.3	No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Department must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.
33. National Industrial Participation Programme (NIP)	33.1	The NIP Programme administered by the Department of Trade and Industry shall be applicable to all contracts that are subject to the NIP obligation.

CONTRACT FORM - **RENDERING OF SERVICES**

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)

1. I hereby undertake to render services described in the attached bidding documents to (name of the institution)..... in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number..... at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid .

2. The following documents shall be deemed to form and be read and construed as part of this agreement:
 - (i) Bidding documents, viz
 - Invitation to bid;
 - Proof of tax compliance status;
 - Pricing schedule(s);
 - Filled in task directive/proposal;
 - Preference claim form for Preferential Procurement in terms of the Preferential Procurement Regulations;
 - Bidder's Disclosure form;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

WITNESSES

1

2

DATE:

CONTRACT FORM - RENDERING OF SERVICES

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I..... in my capacity as..... accept your bid under reference numberdated.....for the rendering of services indicated hereunder and/or further specified in the annexure(s).
2. An official order indicating service delivery instructions is forthcoming.
3. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	PRICE (ALL APPLICABLE TAXES INCLUDED)	COMPLETION DATE	TOTAL PREFERENCE POINTS CLAIMED	POINTS CLAIMED FOR EACH SPECIFIC GOAL

4. I confirm that I am duly authorised to sign this contract.

SIGNED ATON.....

NAME (PRINT)

SIGNATURE

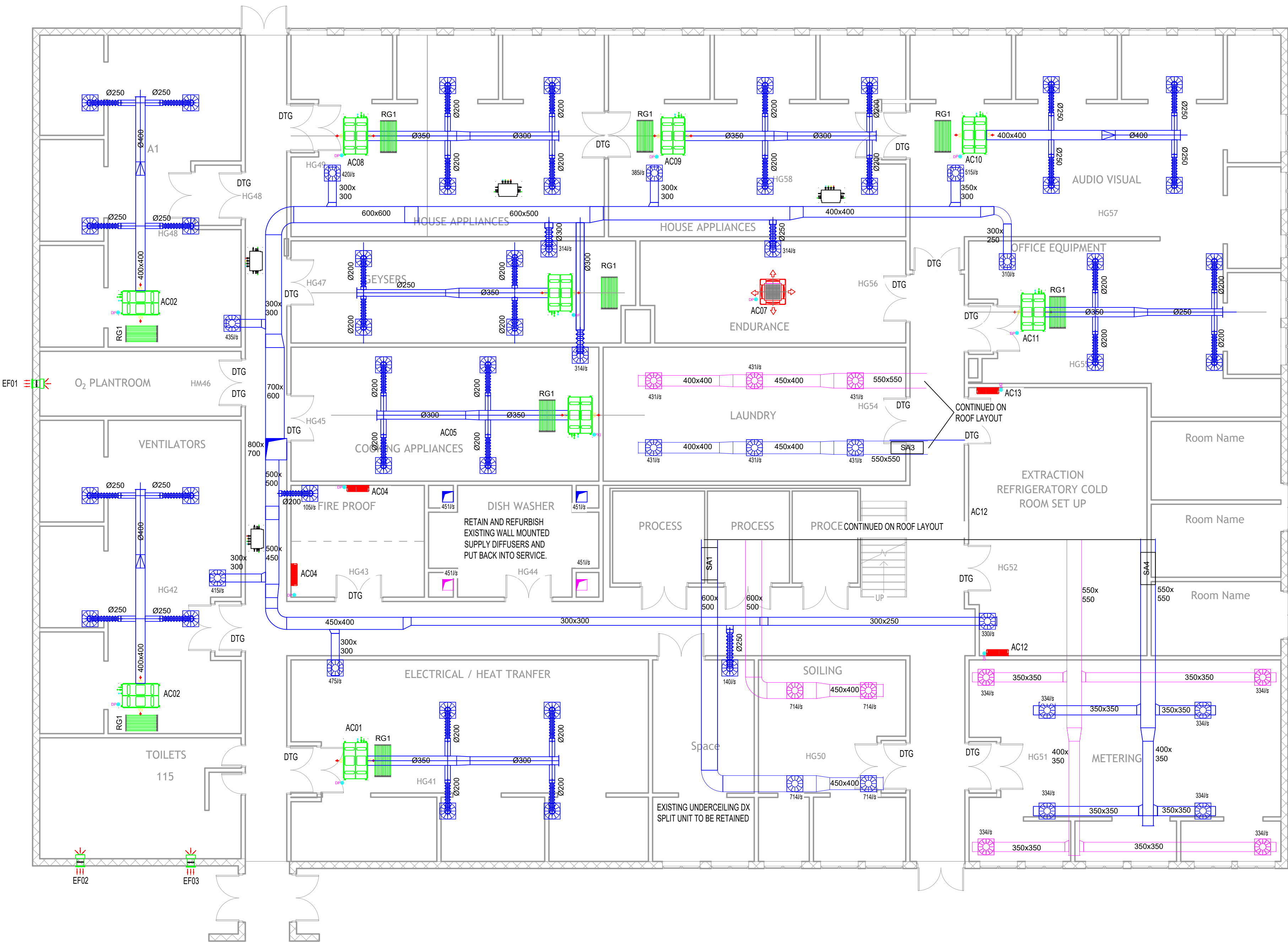
OFFICIAL STAMP

WITNESSES

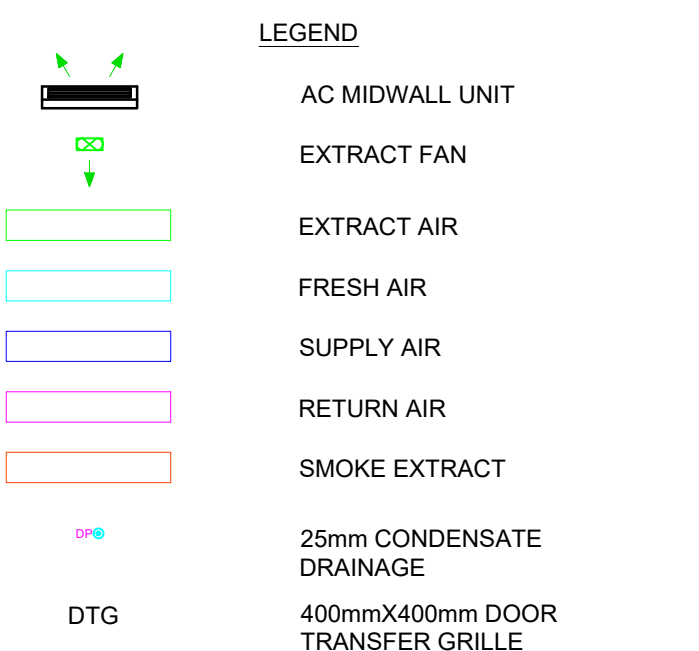
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DATE:



- NOTES:
1. TO BE READ IN CONJUNCTION WITH ARCHITECT'S ROOM DATA SHEETS. ISSUED TO BUILDER. IF THERE ARE ANY DISCREPANCIES ARCHITECT'S ROOM DATA SHEETS SHOULD TAKE FIRST PRECEDENCE & SERVICES ENGINEER SHOULD BE INFORMED ALL FRESH & EXHAUST AIR QUANTITIES TO NBR REQUIREMENTS - SANS 10400 - O 2011
 2. DUCTING TO BE MANUFACTURED IN ACCORDANCE WITH SANS 1238 AND TO BE INSTALLED, TESTED AND COMMISSIONED IN ACCORDANCE WITH SANS 10173 AND CIBSE CODES.
 3. ALL DUCT FLANGES TO BE OF THE MEZZ-FLANGE TYPE, EXCEPT EXTRACT CANOPY DUCTING. EXTRACT CANOPY DUCTING SHALL BE WELDED BLACK STEEL DUCTING. ALL DUCT JOINTS TO BE SEALED WITH BANDAGE AND FOSTER 30/30. ALL EXPOSED DUCTING SHALL BE PAINTED TO A COLOUR AS SPECIFIED BY THE ARCHITECT. FLEXIBLE CONNECTIONS TO HAVE A FIRE RATING IN ACCORDANCE WITH SANS 0177 PART 3 CLASS. MAXIMUM FLEXIBLE DUCT LENGTH TO DIFFUSERS ETC. NOT TO EXCEED 1000mm. AND TO BE FIXED TO ROUND DUCTS AND SPIGOTS WITH SWAGED ENDS BY MEANS OF JUBILEE CLAMPS.
 4. DIFFUSERS, GRILLES AND LOUVRES TO BE EPOXY POWDER COATED TO A COLOUR AS SPECIFIED BY THE ARCHITECT/ENGINEER. ALL COLOURS TO BE CONFIRMED BEFORE ORDER.
 5. ALL AIR FLOW BALANCING DEVICES TO BE POSITIVELY FIXED IN POSITION AND SEALED OR LOCKED ALL MEASUREMENTS TO BE VERIFIED ON SITE BEFORE MANUFACTURING COMMENCES
 6. CONDENSERS TO BE INSTALLED ON 100mm HIGH PLINTHS BY OTHERS. GALVANIZED UNI-STRUT BRACKETS TO BE MANUFACTURED FOR STACKING OF CONDENSERS. DRAIN PIPES TO BE ADEQUATELY SLOPED TO ENSURE POSITIVE DRAINAGE. ALL CONDENSATE PIPE CONNECTIONS TO WASTE WATER PIPES SHALL BE AIR TIGHT AND COMPLETELY SEALED. (NO PVC) ALL CONDENSATE DRAIN PIPES FROM AIR CONDITIONERS TO BE FITTED WITH U-TRAPS. NO TRAPS IN WALLS
 7. MIDWALL UNITS IN SERVER OR UPS ROOMS TO BE FITTED WITH A STAINLESS STEEL DRIP TRAY AND AN INDEPENDENT DRAIN
 8. REFRIGERANT PIPES IN CEILING VOIDS TO BE MOUNTED ON SUITABLE CABLE TRAYS
 9. EXPOSED REFRIGERANT PIPES FROM A SINGLE UNIT TO BE MOUNTED IN PT100 GALVANIZED TRUNKING, EPOXY POWDER COATED TO A COLOUR AS SPECIFIED BY THE ARCHITECT. REFRIGERANT PIPING INSULATION EXPOSED AT FINAL CONNECTION TO CONDENSER TO BE PAINTED WITH UV RESISTENT PAINT
 10. ALL REFRIGERANT PIPES FROM MIDWALL UNITS TO RISE TO CEILING VOID AFTER EXITING THE UNIT.
 11. EXPOSED REFRIGERANT PIPES OF MULTIPLE UNITS TO BE MOUNTED IN PERFORATED CABLE TRAY WITH LID, EPOXY POWDER COATED TO A COLOUR AS SPECIFIED BY THE ARCHITECT.
 12. WIRING OF AC UNITS REQUIRING HARD WIRED REMOTE CONTROLLERS TO BE INSTALLED IN 20mm PVC CONDUIT IN CEILING VOIDS. BOSAL CONDUITS TO BE USED WHERE CONDUITS ARE EXPOSED
 13. ALL WALL MOUNTED WIRED REMOTE CONTROLLERS TO BE CHASED INTO WALL.
 14. POWER SUPPLY FOR INDOOR UNITS TO BE SUPPLIED FROM OUTDOOR UNITS UNLESS OTHERWISE INDICATED.
 15. ALL SUPPLY & RETURN AIR DUCTING TO BE THERMALLY INSULATED - 25mm FRK INSULATION WITH REINFORCED / ALUMINIUM FOIL LAMINATE
 16. ALL FLEX DUCTING TO BE OF ACOUSTIC TYPE
 17. ALL BENDS TO HAVE SPLITTER VANES.
 18. CONNECTION TO RETURN AIR GRILLS TO BE RESOLVED ON WORKSHOP DRAWINGS
 19. FINAL COORDINATION WITH ELECTRICS & PLUMBING TO BE CARRIED OUT ON SITE
 20. FILTER BOXES WITHOUT ACCESS THROUGH LOUVRE TO HAVE HINGED ACCESS PANEL SECURED WITH QUICK RELEASE CLIP
 21. LOUVRE CLEAR OPENING 50mm WIDER/HIGHER THAN ACTUAL LOUVRE WITH A 20mm WOODEN SUBFRAME
 22. TOP OF DUCT INSTALLED 50mm UNDER SOFFIT UNLESS OFFSETS INDICATED.
 23. INTERNAL DUCT INSULATION SHALL NOT BE PERMITTED
 24. ALL DUCTWORK ON THE ROOF SHALL BE CLAD WITH GALVANISED SHEET METAL CLADDING



REV No	DATE	DESCRIPTION
C	16/10/2024	FOR INFORMATION
B	27/09/2024	FOR INFORMATION
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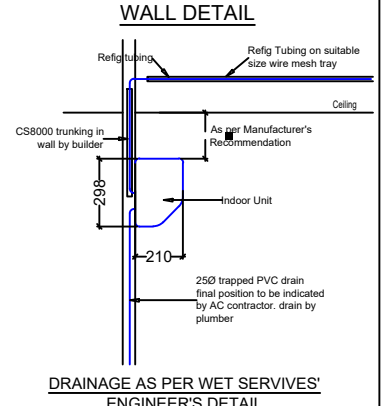
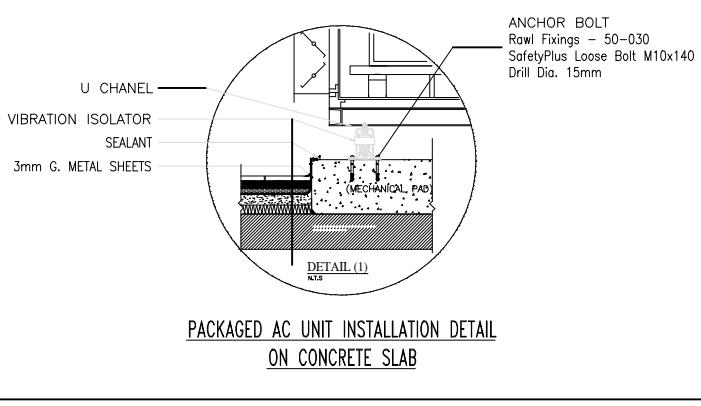
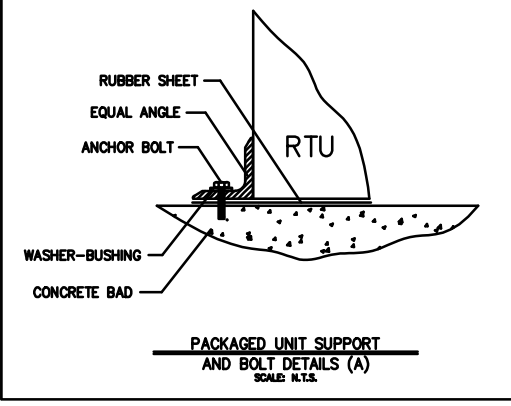
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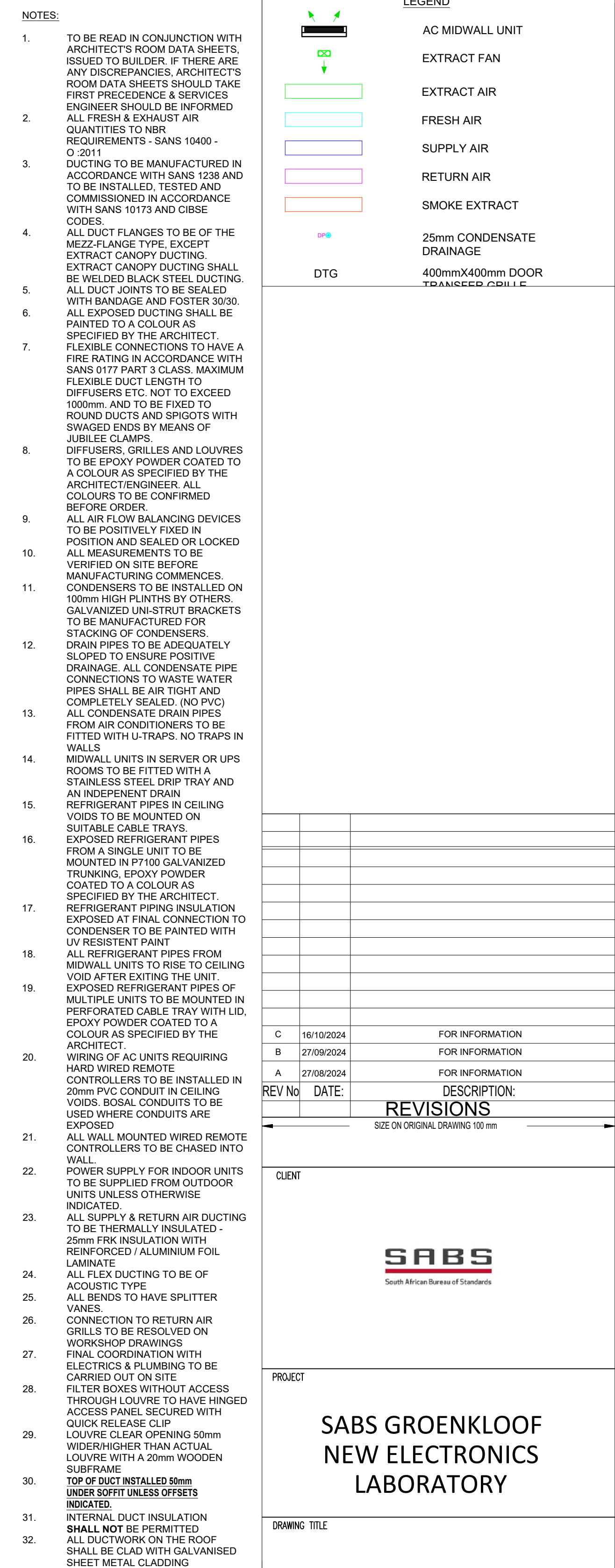
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NUMBER	MAKE	MODEL	TYPE	TOTAL COOLING (kW)	SENSIBLE COOLING (kW)	HEATING (kW)	CONTROLS	FIRE INTERLOCK	POWER (kW/PHASE)
AC01			HIDEAWAY	13.0		DEFAULT	INFRARED REMOTE	YES	
AC02			HIDEAWAY	15.2		DEFAULT	INFRARED REMOTE	YES	
AC03			HIDEAWAY	15.4		DEFAULT	INFRARED REMOTE	YES	
AC04			MIDWALL	3.6		DEFAULT	INFRARED REMOTE	YES	
AC05			HIDEAWAY	12.6		DEFAULT	INFRARED REMOTE	YES	
AC06			HIDEAWAY	9.8		DEFAULT	INFRARED REMOTE	YES	
AC07			CASSETTE	6.0		DEFAULT	INFRARED REMOTE	YES	
AC08			HIDEAWAY	13.8		DEFAULT	INFRARED REMOTE	YES	
AC09			HIDEAWAY	13.6		DEFAULT	INFRARED REMOTE	YES	
AC10			HIDEAWAY	16.5		DEFAULT	INFRARED REMOTE	YES	
AC11			HIDEAWAY	9.0		DEFAULT	INFRARED REMOTE	YES	
AC12			MIDWALL	3.6		DEFAULT	INFRARED REMOTE	YES	
AC13			MIDWALL	3.6		DEFAULT	INFRARED REMOTE	YES	

NUMBER	DESCRIPTION	SIZE
SD1	SUPPLY DIFFUSER	600mm x 600mm Ø200mm CONNECTION
SD2	SUPPLY DIFFUSER	600mm x 600mm Ø250mm CONNECTION
SD3	SUPPLY DIFFUSER	600mm x 600mm Ø300mm CONNECTION
SD4	SUPPLY DIFFUSER	600mm x 600mm Ø350mm CONNECTION
RG1	RETURN GRILLE	1200mm x 600mm
DTG	DOOR TRANSFER GRILLE	400mm x 400mm





VRV HEAT RECOVERY UNIT									
REF.	DESCRIPTION.	TOTAL COOLING CAP. (kW)	SENSIBLE COOLING CAP. (kW)	SENSIBLE HEATING CAP. (kW)	POWER SUPPLY		DIMENSIONS		
					NOMINAL (current input A)	(V/iph/Hz)	H(mm)	W(mm)	D (mm)
VRF01	VRV OUTDOOR UNIT	195.2		78.0		380/3/50			

CONSULTANT :			
CAD SYSTEM	AUTOCAD 2015		FILE NAME
SHEET SIZE	DRAWING NUMBER		REV
A1	SABS-NEL-M6-02		C