



UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

PROJECT NAME: LABORATORY HOODS – INSPECTION, SERVICE AND
MAINTENANCE

DOCUMENT NAME: SCOPE OF WORKS AND PROJECT SPECIFICATION

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Abbreviations

ASHRAE – American Society of Heating, Refrigerating and Air Conditioning Engineers

EN – European Norm

IEC – International Electrotechnical Commission

OEM – Original Equipment Manufacturer

OFMD – Operations and Facilities Management Department

NSF – National Sanitation Foundation

SANS – South African National Standards

1. EXECUTIVE SUMMARY

The purpose of this document is to describe the scope of works required for the Assessment, Maintenance, Validation and Asset Management of

- Ducted fume hoods,
- Ductless fume hoods,
- Laminar flow units,
- PCR cabinets, and
- Biosafety cabinets

within Wits University's facilities, located within the Braamfontein and Parktown campus.

The objective of the works is multifaceted and may be summarised as follows:

- to establish a structured maintenance framework,
- continuous asset management program,
- ensure compliance with applicable standards, and
- support safe and reliable operation of laboratory equipment through a five-year maintenance plan.

This document must be read in conjunction with the bill of quantities.

The successful contractor must ensure that they are able to meet the program schedule of the university including commissioning and hand-over timelines.

2. SCOPE OF WORKS

2.1. Project Objective

The objectives are to:

- Establish a clear and structured maintenance strategy for fume hoods, laminar flow units, PCR cabinets, and biosafety cabinets.
- Define preventative and corrective maintenance requirements as per relevant standards such as SANS, EN, ASHRAE, IEC, NSF etc, and OEM maintenance requirements. A comprehensive list of standards is not included in this Scope of Works document., The Contractor is to provide a reference standard for the maintenance being performed on a particular piece of equipment.
- Maintain all equipment according to maintenance strategies including decommissioning and replacement where applicable.
- Ensure compliance with applicable health, safety, and operational standards
- Ensure compliance with relevant standards and OEM maintenance requirements

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- Provide for validation of equipment.
 - Maintain accurate asset and maintenance records over the contract period and following each intervention.
 - Provide a list of spares to be held by the University, if applicable, per equipment being maintained.

2.2. Project Scope

2.2.1. Scope Inclusions

The Scope of Works includes, but is not limited to, the following activities and equipment:

Equipment Types:

- Ducted Laboratory Fume Hoods
- Ductless Laboratory Fume Hoods
- Laminar flow units
- PCR cabinets
- Biological safety cabinets

Activities:

- Once-off asset assessment and verification of the existing asset register, including the capture and upload of all asset data onto the prescribed asset register template.
- The Contractor shall obtain all applicable OEM operation, maintenance, and technical manuals for the installed equipment. Copies shall be submitted to the client.
- Preventative routine maintenance in accordance with defined schedules according to OEM maintenance requirements and applicable regulatory and compliance standards. Not completing the OEM recommended maintenance requirements shall place the University at risk of negatively affecting warranties, guarantees and or insurance claims.
- Corrective maintenance, including call-outs and fault-finding, and repairs.
- Validation of equipment at prescribed intervals.
- Continuous asset management, reporting, and record keeping throughout the contract period.
- Determining if decommissioning of equipment that is deemed unsafe, obsolete, or beyond economical repair is required and providing recommendation to client.
- Providing quotations for the replacement parts for equipment, where necessary.

- Maintenance of newly installed equipment that the University may have introduced during the contract period, only upon written confirmation from the client once the warranty period of the equipment has ended.

2.2.2. Scope Exclusions

The following activities do not form part of this contract unless specifically instructed in writing by the Client:

- Installation of new equipment.
- Building works and structural modifications.

The maintenance scope shall commence from the point of supply (equipment isolator) and shall include the equipment and all associated auxiliary components necessary for its safe and intended operation.

2.2.3. Scope Assumptions

- All work required for maintaining the assets listed in the asset register shall be included in the SOW.
- The maintenance scope shall commence from the point of supply (equipment isolator) and shall include the equipment and all associated auxiliary components necessary for its safe and intended operation.

2.3. Site Location

The scope of works applies to the aforementioned equipment across the university's campuses, namely:

- Braamfontein Campus – East and West campus
- Parktown Campus – Health Sciences and Education campus, and
- Chris Hani Baragwanath Hospital.

The contractor shall make provisions for works across the above listed sites. The physical address of the sites is as follows:

- Braamfontein Campus: 1 Jan Smuts Avenue, Braamfontein 2000, Johannesburg, South Africa.
- Parktown Campus:
 - Health Science campus: 7 York Rd, Parktown 2193, Johannesburg, South Africa
 - Education campus: 27 St Andrews Rd, Parktown 2193, Johannesburg, South Africa

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- Chris Hani Baragwanath Hosiptal: 26 Chris Hani Road, Johannesburg 1864, South Africa

The Chris Hani Bargwanath Hospital forms part of the Parktown campus Bill of Quantities.

3. CODES AND STANDARDS

All works shall be carried out in accordance with applicable local and international standards according to regulations and OEM's requirements, including but not limited to:

- SANS standards (SANS 10142 etc)
- ASHRAE standards (ASHRAE 110 etc)
- EN standards (EN141751, EN12469, EN61010-1, EN14175, EN1822 etc)
- IEC Standards (IEC61326-1 etc)
- Occupational Health and Safety regulations
- NSF Standards (NSF49, etc)
- And other applicable standards according to OEM manuals.
- OEM's maintenance guidelines

The latest applicable editions of standards shall apply at the time of execution.

4. SYSTEM MAINTENANCE

4.1. Overview

System maintenance shall include the planned preventative maintenance and unplanned corrective maintenance of laboratory fume hoods, laminar flow units, PCR cabinets, biological safety cabinets, and associated auxiliary equipment. The objective of system maintenance is to ensure the safe, reliable, and compliant operation of equipment throughout the contract period.

All maintenance activities shall be carried out by trained, competent, and accredited personnel in accordance with this Scope of Works, applicable regulatory and compliance standards, and OEM requirements.

4.2. Preventative Maintenance

Preventative maintenance activities shall be planned, proactive, ensure continued compliance and intended to minimise equipment downtime and reduce the likelihood of failure.

Preventative maintenance shall be performed in accordance with applicable regulatory and compliance standards and OEM guidelines. This shall include any inspections, tests, servicing procedures, calibrations, consumables, cleaning or verifications specified by the OEM for the relevant equipment type.

Preventative maintenance schedules for all maintenance categories shall be developed and implemented by Contractor in accordance with OEM guidelines and applicable regulatory and compliance standards.

The contractor shall develop and submit a preventative maintenance schedule to the Client after the initial asset assessment has been conducted., detailing the planned dates and scope of maintenance activities for each category across all assets and sites.

4.2.1. Maintenance Frequency Categories

Preventative maintenance shall be categorised as follows:

- Category A – Monthly Maintenance
- Category B – Quarterly Maintenance
- Category C – Bi-Annual Maintenance
- Category D – Annual Maintenance
- Category E – General Weekly Maintenance (University Personnel)

Categories A to D shall be performed by the Contractor in accordance with OEM guidelines and applicable regulatory and compliance standards throughout the full contract period.

Category E is limited to basic visual and operational checks that do not require specialised tools, instruments, or technical expertise and shall be performed by appointed University laboratory personnel following the completion of formal training provided by the Contractor.

4.2.2. Category A to D Maintenance

Categories A to D shall be performed by the Contractor strictly in accordance with OEM maintenance manuals and applicable regulatory and compliance standards.

Preventative maintenance activities shall include, but not be limited to:

- Routine inspections in accordance with OEM guidelines
- Functional checks (Electrical, Mechanical, etc.)
- Testing and Calibrations
- Cleaning and minor adjustments

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- Testing the audible and visual alarm
 - Verification of airflow and containment performance where applicable
 - Confirmation of safe operation
 - Identification of deteriorated, defective, or non-compliant components
 - Decontamination – Issuing of certificates where necessary

Where any component is identified during preventative maintenance as likely to fail before the next scheduled maintenance cycle, the Contractor shall notify the Client in writing and recommend early replacement in order to minimise downtime and ensure continued safe operation of the equipment.

Refer to Annexure A- Monthly Maintenance, Table 1 for the Category A indicative monthly maintenance task schedule per equipment type. The tasks listed are indicative and based on general OEM and industry requirements for the equipment types within scope. The Contractor shall verify all tasks against the applicable OEM maintenance manuals for the specific equipment models installed on site and shall update the schedule accordingly once the asset register has been verified. Where OEM requirements or applicable standards prescribe additional or different tasks, those requirements shall take precedence and be implemented. Any material deviations from the indicative schedule, including the time and cost implications, shall be submitted to the Client for review and acceptance.

The contractor shall complete inspection sheets for each maintenance visit.

4.2.3. Category E- General Weekly Maintenance

Category E encompasses basic visual and operational checks that can reasonably be performed by trained, non-specialist laboratory personnel without the use of specialised tools, calibration instruments or technical testing equipment.

For the initial period of one (1) month of preventative maintenance duties, all Category E activities shall be performed by the Contractor. During this period, the Contractor shall carry out the Category E tasks, demonstrating the correct procedures to the appointed University personnel as part of the structured training programme defined in Section 4.2.4. Upon confirmation that training has been completed and personnel have been assessed as competent, category E responsibilities shall transfer to the appointed University laboratory technicians and/or managers.

Category E activities shall be limited to the following types of works:

- Visual inspection of overall equipment condition
- Inspection of seals, hinges, sashes, and accessible mechanical components for visible wear or damage.

- Basic cleaning of accessible external surfaces, interior work surfaces, and glass or sash surfaces.
- Confirmation of normal operational status- audible and visual indicators only
- Recording and reporting of any visible damage, abnormal noise, vibration or malfunction to contractor.

Category E activities shall not include any tasks requiring technical judgement, instruments, or interaction with internal components. Any defect or concern identified during a Category E inspection shall be reported and shall not be rectified by university personnel. The delegation of Category E activities to University personnel does not relieve the Contractor of responsibility for compliance with the preventative maintenance requirements of this contract

Refer to Annexure B – Weekly Maintenance Task Schedules, Table 1 for the indicative Category E weekly task schedule per equipment type. The tasks listed are indicative and represent the baseline of what University personnel are expected to perform. The Contractor shall review these tasks against the applicable OEM maintenance manuals for the specific equipment models on site and shall update the Category E inspection sheets accordingly. Tasks requiring technical expertise, instruments, or specialist knowledge shall not be introduced into the Category E schedule.

University personnel shall complete a Category E inspection sheet for each weekly check performed. Refer to section 4.3.1 for all inspection sheet requirements. Completed inspection sheets shall be submitted to the Contractor weekly via email, with the OFMD copied. The Contractor shall ensure that all concerns identified on submitted inspection sheets are assessed and remedied in accordance with the applicable priority response times defined in Section 6.3.

4.2.4. Training of University Personnel

The contractor shall provide structured, equipment-specific training to appointed University laboratory technicians and/or managers prior to the commencement of Category E activities. Training shall ensure that appointed personnel are competent and confident in performing the designated category E tasks safely and correctly.

Training shall be provided to an estimated forty (40) University personnel per annum (The University reserves the right to amend this number) and shall satisfy the following requirements:

- Training shall commence at the same time as preventative maintenance activities and shall be completed within the first month of the preventative maintenance programme. The timing and scheduling of training activities shall

be at the discretion of the University and may be adjusted as operational requirements demand, provided that handover of Category E responsibilities shall not occur until training has been completed and University personnel assessed as competent by the Contractor.

- Be conducted annually throughout the contract period to maintain competency.
- Be repeated where significant personnel changes occur, at no additional cost to the Client.
- Be formally recorded, including dated attendance registers and written confirmation of competency for each attendee
- Include clear instructions on the scope and limits of Category E activities, correct inspection procedures, defect identification, and reporting protocols
- Include practical, hands- on demonstration for each equipment type within scope

The Contractor shall provide standardised inspection checklists and documentation templates for use by trained personnel. Only those weekly maintenance activities that can reasonably be performed without specialised tools, instruments, or technical expertise shall be delegated to laboratory personnel.

The Contractor shall not be absolved of responsibility for ensuring compliance with the preventative maintenance requirements of this contract. The Contractor shall verify the proper execution of weekly inspections during scheduled maintenance visits and report any non-compliance to the Client.

4.3. Inspection Sheets and Reporting

4.3.1. Inspection Sheets

The Contractor shall develop and provide standardised inspection sheets and maintenance checklists for all preventative maintenance categories defined in this contract (Categories A–E). These inspection sheets shall be aligned with the applicable OEM guidelines, maintenance procedures, and regulatory and compliance standards for the relevant equipment.

Inspection sheets shall clearly record the following as a minimum:

- Date of inspection and equipment identification
- Required maintenance tasks with completion confirmation
- Observations, faults, or defects identified
- Name and signature of the person performing the activity

Hard copies of the completed Category E inspection sheets shall be retained on site and copies shall be submitted to the Contractor via email on a weekly basis. The Contractor

shall review all completed sheets, follow up on any reported observations, and incorporate a summary of Category E inspection findings into the monthly maintenance report, which is then submitted to the Client.

4.3.2. Reporting

The Contractor shall maintain a two-tier reporting structure consisting of a service report per maintenance intervention and a monthly summary report.

Service Report (Per Intervention)

Following each preventative or corrective maintenance intervention performed by the contractor, a service report shall be generated and submitted to the OFMD within 24 hours of attendance. The service report shall include, but not be limited to:

- Equipment identification and location.
- Date and time of attendance.
- Description of maintenance activities performed.
- Test results or verification checks where applicable.
- Details of any faults identified.
- Components replaced or repaired, including part numbers.
- Recommendations for corrective actions where required.

Monthly Summary report

The Contractor shall compile and submit a monthly maintenance report to the OFMD summarising all maintenance and validation activities carried out during the reporting period. This shall be submitted no later than the fifth (5th) working day of the following month. The monthly report shall include, but not be limited to:

- Summary of preventative maintenance performed (by category and site).
- Summary of corrective maintenance interventions, including status (resolved or pending).
- Equipment currently out of service or awaiting parts, with estimated resolution dates.
- Outstanding recommendations requiring client decision/approval.
- Confirmation of any non-conformances or compliance concerns identified during the reporting period.
- Quotations shall be included in the monthly reports where necessary, detailing the reason for repairs and spare parts.
- Copies of Inspection sheets.

4.4. Corrective Maintenance

4.4.1. Scope of Corrective Maintenance

Corrective maintenance shall be carried out in accordance with applicable regulatory and compliance standards and OEM requirements.

Corrective maintenance shall be undertaken on an as-required basis in response to:

- Equipment failures.
- Performance issues identified by the contractor or reported by the client.
- Faults identified during preventative maintenance.
- Client-reported malfunctions.
- Defects identified during the initial asset assessment.

Corrective maintenance shall aim to restore the equipment to its original operational and safety performance standards. The scope shall include, but not be limited to:

- Call-Out attendance and fault-finding
- Repairs and replacement of defective or failed components.
- Cleaning where required as part of fault rectification.
- Obtaining written client approval before removal of any equipment or parts.

Where maintenance identifies defects that cannot be corrected immediately, the Contractor shall:

- Record the defect
- Report to the client
- Track the item until resolved

No item shall be considered complete until the defect is closed out or formally accepted by the Client.

4.4.2. Initial Restoration Phase

Following the completion of the asset register verification, any corrective maintenance identified during the initial assessment shall be scheduled and executed to restore all equipment to full operational condition.

The Contractor shall submit a consolidated defect list to the Client upon completion of the asset assessment, detailing all pre-existing defects identified per asset.

4.4.3. Spare Parts and Lead Times

Certain equipment within the scope may require imported or specialist spare parts, which may result in extended lead times. The Contractor shall be aware of the

university's service level requirements relating to response times and shall communicate anticipated delays to the Client.

Where equipment is awaiting spare parts, and cannot be operated safely, such equipment may be placed out of service in accordance with the university's procedures. The asset status will be updated accordingly, and the client shall be notified in writing.

The contactor shall maintain a documented parts tracking log for all outstanding orders, recording the date of order placement, expected delivery date, and status. This log shall be included as part of the monthly maintenance report where applicable.

All replacement components and spare parts used for corrective maintenance shall be new, undamaged, fit for purpose, and compatible with the existing equipment. Where OEM parts are mandatory, these shall be procured accordingly. Spare parts shall not be procured or installed without prior written approval from Client. The Contractor shall provide a quotation to the client for each spare part prior to procurement, and proof of purchase shall be submitted to the Client upon delivery. Quotations shall be included in the monthly reports where necessary, detailing the reason for repairs and spare parts. Payment for spare parts shall be certified at the approved markup as defined in the Bill of Quantities.

4.5. Specialist and OEM Maintenance

Certain equipment may require maintenance, repair, or validation to be undertaken by authorised OEM representatives or approved service providers. Where such requirements apply, the Contractor shall make allowance for the engagement of an approved OEM service provider. The contractor shall retain full responsibility for coordination, quality, documentation, and compliance. The engagement of a specialist service provider shall not relieve the Contractor of any contractual obligations.

All documentation generated during OEM or specialist interventions shall be submitted to the Client and captured in the prescribed asset register template after each intervention.

Refer to 6.2 OEM and Specialist Service Provider Requirements for further requirements relating to personnel accreditation and OEM- specific compliance obligations.

4.6. Decommissioning

If, during the course of maintenance, any equipment is determined to be beyond economical repair or incapable of being restored to safe and compliant operating condition due to asset age, failure mode status and risk exposure, the Contractor shall:

- Provide a written technical assessment outlining the reasons for such determination
- Submit a formal recommendation for decommissioning to client
- Obtain written approval from the Client prior to undertaking any decommissioning activity.
- Decommissioning shall include safe isolation ONLY. The contractor is not to remove the asset from the university premises.
- The asset register shall be updated accordingly, including the reason for decommissioning and reports and supporting documentation shall be submitted to the client.

Once formally decommissioned and recorded in the asset register, the equipment shall be removed from the active maintenance schedule. The Contractor shall adjust maintenance planning and associated cost provisions accordingly, with no additional charge to the Client for assets no longer in service.

5. VALIDATION

Validation shall be undertaken to confirm that equipment operates safely and in compliance with applicable compliance standards and regulatory requirements.

The Contractor shall carry out validation procedures for Laboratory fume hoods (ducted & ductless), laminar flow units, PCR cabinets, and biological safety cabinets in accordance with the requirements of this Scope of Works.

The Contractor is responsible for monitoring certification due dates and planning certification activities to ensure continuous compliance.

5.1. Validation Requirements and Frequency

Validation shall be carried out at the following minimum frequencies, unless otherwise required by applicable standards or OEM guidelines:

- Laboratory Fume Hoods: Annually
- Laminar flow units, PCR cabinets, and biological safety cabinets: Bi-annually

Where manufacturer manuals or applicable regulatory and compliance standards prescribe specific validation procedures, test methods, or validation intervals, such requirements shall take precedence and be strictly followed.

Certain equipment may require validation to be undertaken by authorised OEM representatives or approved service providers. Where such requirements apply, the Contractor shall make provision for an approved OEM service provider. The Contractor shall remain fully responsible for coordination, quality, reporting, and compliance with the requirements of this Scope of Works.

5.2. Validation Procedures

Validation procedures shall be carried out by trained, competent, and accredited personnel using appropriate methods and equipment.

Where applicable, validation shall be performed in accordance with OEM guidelines, as well as relevant SANS, ASHRAE, and EN standards etc. Equipment shall only be deemed compliant where test results meet the measurable acceptance criteria defined in, but not limited to, EN 14175, EN 12469, NSF/ANSI 49, ASHRAE 110, EN 1822, applicable SANS requirements, or OEM performance specifications.

Calibration performed as part of compliance testing for validation purposes shall form part of validation activities.

Such tests include, but are not limited to:

- Biosafety Cabinets: Inflow Velocity Test, Downflow Velocity, Filter Integrity test, Light Intensity Test, Decontamination etc.
- PCR Cabinets: Airflow Velocity, Filter Integrity Test, Particle Count Test, UV Intensity Test, etc.
- Laminar Flow Units: Downflow Velocity, Particle count Test, Filter Integrity test, Light Intensity Test, etc.
- Fume Hoods: Face Velocity Measurement Test, Airflow Visualization, etc.

5.3. Validation Records and Reporting

Upon completion of validation activities, the Contractor shall issue validation records and update the University's asset register to reflect the validation status of each item of equipment. The contractor is to issue validation labels for the equipment.

Validation records shall include, as a minimum:

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- Date of validation
 - Equipment identification details
 - Outcome of validation
 - Any limitations, non-compliances, or recommendations identified
 - Proof of accreditation and calibration certificates of testing instruments shall be provided upon request.
 - Where applicable, a SANAS accredited certificate must be issued for Validation purposes.

6. MANDATORY MINIMUM REQUIREMENTS

6.1. Accredited personnel

All maintenance, validation, calibration, and related services under this contract shall be performed by trained, competent, and OEM accredited personnel.

For the purposes of this contract, trained and competent personnel shall be defined as individuals who:

- Have received formal training relevant to the specific equipment type (fume hoods, laminar flow units, PCR cabinets, biological safety cabinets, etc)
- Possess demonstrable experience in maintenance, validation, calibration and troubleshooting of laboratory containment equipment.
- Hold any required accreditation, validation, or competency registration applicable to regulated laboratory equipment.
- Are authorised and/or recognised by the OEM, where such authorisation is required, and are deemed competent by the OEM to perform maintenance, servicing, or validation activities on the relevant equipment.

The Contractor shall ensure that all personnel remain appropriately qualified and accredited for the full duration of the five (5) year contract period. Qualifications, accreditations, and certifications shall be reviewed and renewed annually, and proof of renewal submitted to the Client.

6.2. OEM and Specialist Service Provider Requirements

Certain equipment within the scope of works may require that maintenance, servicing, calibration, or validation be performed exclusively by authorised OEM representatives or approved service providers to maintain warranty validity, compliance status, or operational integrity. The requirements set out in this section apply to all such activities.

6.2.1. Identification and Planning

The Contractor shall identify all equipment requiring OEM specific or specialist intervention during the initial asset assessment phase. The Contractor shall make provision for the engagement of the appropriate OEM-authorised representatives or approved subcontractors.

6.2.2. Proof of Authorisation

Prior to the commencement of any OEM restricted or specialist maintenance, calibration, or validation activity, the Contractor shall submit written proof of authorisation to the Client for review and acceptance. No work shall proceed on OEM-restricted equipment until such proof has been provided and accepted by the client.

Proof of authorisation shall, at a minimum, clearly state the following:

- The full name of the authorised entity or individual performing the work.
- The specific equipment type and make to which the authorisation applies.
- The scope of authorisation, clearly indicating whether it covers maintenance, calibration, validation, or a combination thereof.
- The name of the issuing body, being the OEM or an accredited certification authority
- The validity period of the authorisation, which must be current at the time of intervention.

Generic letters of authorisation that do not specify the equipment type or make shall not be accepted. Expired authorisation documents shall not be accepted under any circumstances. The contractor shall proactively submit updated proof of authorisation to the Client upon renewal, without being requested to do so.

6.2.3. Conduct of Work

All OEM-restricted and specialist maintenance, calibration, and validation activities shall be carried out strictly in accordance with OEM manuals and applicable regulatory and compliance standards. No work shall be carried out on OEM-restricted equipment by unauthorised personnel.

The contractor shall ensure that all equipment warranties are preserved and are not invalidated as a result of work carried out by unauthorised or unqualified personnel. Where OEM parts are mandatory for a repair or replacement, such parts shall be procured and installed accordingly.

The Contractor shall obtain all applicable OEM operation, maintenance, and technical manuals for the equipment. Copies of all manuals must be submitted to the Client at the commencement of the contract and updated where new equipment is introduced.

6.2.4. Contractor Responsibility

The contractor shall retain full responsibility for the coordination, quality, documentation and compliance of all specialist and OEM-specific activities, regardless of whether such activities are performed by the Contractor directly or by an engaged specialist service provider. The engagement of a specialist service provider or OEM representative shall not relieve the Contractor of any contractual obligations under this agreement.

OEM representatives and specialist service providers engaged under this contract shall be treated as subcontractors for contractual purposes and shall be subject to the requirements of Section 7- Subcontracting in addition to the requirements of this section.

6.2.5. Documentation and Record Keeping

All documentation generated during specialist or OEM interventions shall be submitted to the Client and captured in the prescribed asset register template within 24 hours of completion of each intervention. Documentation shall include, but not be limited to:

- Service reports
- Calibration certificates
- Validation records and compliance certificates
- Proof of authorisation used for the intervention
- Parts replaces, including OEM part numbers and proof of purchase.

The contractor shall maintain a complete record of all specialist and OEM interventions for the duration of the contract period. All such records shall be made available to the Client upon request. Upon expiry or termination of the contact, the Contractor shall hand over the full set of records to the Client, including all service reports, calibration certificates, validation records, inspection sheets, and asset register documentation accumulated during the contract period. Handover shall be completed no later than the final day of the contact.

The Contractor shall obtain all applicable OEM operation, maintenance, and technical manuals for the installed equipment. Copies shall be submitted to the Client.

Where such OEM-specific requirements apply:

- The Contractor shall identify such equipment during the asset assessment phase
- The Contractor shall make provision for the engagement of the appropriate OEM- authorised representatives or approved subcontractors.
- Where maintenance, servicing, calibration, or validation is required to be performed by an authorised OEM representative or approved service provider, the Contractor shall provide written proof of such authorisation prior to commencement of the work.

- Such proof shall clearly indicate the name of the authorised entity, the specific equipment type, and the validity period of the authorisation. The Contractor shall ensure that authorisation is current and valid at the time of intervention. Expired or generic authorisation letters shall not be accepted.
- No work shall be carried out on OEM-restricted equipment by unauthorised personnel.
- All OEM-required servicing shall be carried out strictly in accordance with manufacturer guidelines and documented procedures
- The Contractor shall ensure that any warranties are preserved and not invalidated by unauthorised work.
- All documentation generated during maintenance, repair, validation or OEM intervention shall be submitted to the Client and captured by contractor in the prescribed asset register template after each intervention.

6.3. Response Time and Performance Requirements

The Contractor shall respond to reported failures in a timeous and professional manner.

Response times shall take into consideration:

- The safety risk posed by the failure
- The impact on laboratory operations
- The availability of hazardous materials within the affected equipment
- The University's operational requirements

All corrective maintenance requests shall be formally logged and issued by the OFMD, who shall assign the applicable priority level.

6.3.1. Priority Levels

Table 1 classifies the priority levels. All response times shall be measured from the time of formal notification by the Client. The priority level will be assigned by the OFMD upon formal notification.

Where required, the Contractor shall attend outside of normal working hours, including weekends and public holidays, for Priority Level 1 incidents.

Table 1: Priority Levels

Priority Level	Description	Response Time
Priority Level 1 – Emergency	Failures that present an immediate safety, containment, or regulatory compliance risk, or that result in total equipment failure affecting critical laboratory operations.	2–4 hours on site from time of formal notification.
Priority Level 2 – Safety Critical	Failures that do not present immediate danger but may affect safe operation, compliance, or laboratory functionality if not addressed promptly.	Within 24 hours on site from time of formal notification.
Priority Level 3 – Planned / Non-Critical Breakdown	Non-urgent failures or operational issues that do not pose an immediate safety or compliance risk.	Within three (3) working days on site from time of formal notification.

Where required, the Contractor shall attend outside of normal working hours, including weekends and public holidays, for Priority Level 1 incidents.

6.3.2. Performance requirements

The Contractor shall, in terms of performance requirements:

- Minimise equipment downtime
- Ensure that preventative maintenance is completed within scheduled windows
- Service reports shall be submitted within 24 hours of attendance.
- Maintain accurate and up-to-date asset records following each intervention.
- Ensure that certified equipment remains compliant with applicable standards at all times

6.3.3. Working Hours

Standard working hours shall be Monday to Friday, 08:00 to 17:00, excluding public holidays. Work outside these hours shall be treated as emergency call-out unless otherwise agreed to in writing. All after-hours access to be approved by the University's

Operations and Facilities Management Department (OFMD) **PRIOR** to the work being carried out. All access is to be approved by OFMD.

6.4. Site Safety and Laboratory Procedures

The contractor shall compile, maintain and work in accordance with a Safety File for the duration of the contract in compliance with the Occupational Health and Safety Act (Act 85 of 1993) and all regulations promulgated thereunder. The Safety File shall be made available to the University upon request and updated throughout the contract period to reflect current site conditions, risk assessments, and method statements.

The Contractor shall comply with all applicable site health and safety requirements, University laboratory biosafety procedures, and any permit-to-work, decontamination requirements or access control requirements in force at the time of each visit.

The Contractor shall provide, maintain, and correctly use all personal protective equipment (PPE) appropriate to the hazards present in the laboratory environment, including but not limited to gloves, safety glasses, laboratory coat, and respiratory protection where required. PPE requirements shall be determined per laboratory and per equipment type in accordance with the relevant risk assessment and laboratory biosafety level.

6.5. Site Coordination and Access

The Contractor shall coordinate all maintenance, validation, corrective works, and planned shutdowns with the OFMD.

No work affecting building services, access, or laboratory operations shall proceed without prior notification and approval from OFMD where required.

All corrective maintenance call-outs shall be formally initiated and authorised by OFMD. The Contractor shall not respond to direct requests from laboratory personnel or other departments. All requests are to be officially logged and approved through OFMD.

7. ASSET MANAGEMENT

7.1. Asset Assessment and Register Verification

A once-off assessment of all equipment within the scope shall be undertaken to verify the provided asset register (Refer to Annexure C – Asset Register). This shall include, but not be limited to:

- Verification of asset existence and location
- Confirmation of operational status
- Verification of model numbers, serial numbers and asset tags
- Identification of missing, obsolete, or decommissioned equipment
- decom
- Tagging of assets to indicate verification has been completed.

Verified asset data shall be captured in the prescribed template by the contractor (refer to Annexure D- Prescribed Asset Template).

Currently, the asset register lists the following equipment:

- Ducted Laboratory Fume Hoods
- Ductless Laboratory Fume Hoods
- Laminar flow units
- PCR cabinets
- Biological safety cabinets

7.2. Asset Register

Verified asset information shall be captured in the prescribed asset register template.

The Contractor shall be responsible for ensuring that asset information provided by the client is accurate, complete, and aligned with the physical equipment installed on site. Contractor to update and capture details on prescribed asset register template where necessary with the correct information.

The Contractor shall be responsible for updating the prescribed asset register template following each maintenance, repair, validation, or corrective intervention over the contract period of 5 years.

Prescribed asset register template updates shall include, but not be limited to:

- Date of intervention
- Type of work performed (preventative, corrective, validation)
- Description of work carried out
- Parts replaced or installed (including part numbers where applicable)

-
- Changes in operational status
 - Name and details of service provider or subcontractor

The Contractor shall update the asset register template and submit the relevant maintenance records within 24 hours of completion of any maintenance, repair, validation, inspection, or decommissioning activity. The work shall not be regarded as complete until the records have been submitted.

7.3. Decommissioning of Assets

Where equipment is decommissioned, the contractor shall perform the following duties, but not limited to:

- Update the asset register template to reflect the decommissioned status
- Record the reason for decommissioning
- Record the date for decommissioning
- Identify whether the equipment is removed, isolated or retained
- Client approval before decommissioning

7.4. Introduction of New Equipment

Where new or replacement equipment is installed by the University, such equipment shall only be incorporated into the maintenance programme following expiry of the manufacturer's warranty period and upon written agreement between the Contractor and the Client. The Contractor shall have no obligation to maintain, service, or validate equipment that remains under active manufacturer's or installer's warranty unless specifically instructed to do so in writing by the Client.

8. SUBCONTRACTING

The Contractor shall make provision for the engagement of specialist subcontractors where the nature of the work requires mechanical, electrical, calibration, or OEM-specific expertise. Certain equipment types within scope may require maintenance, calibration, or validation by approved or authorised service providers only, as a condition of the manufacturer's warranty, applicable standard, or regulatory requirement. The Contractor shall identify such requirements per equipment type and ensure that only appropriately authorised subcontractors or specialists are appointed for that work, in accordance with Section 6.2.

The Contractor shall retain full responsibility and accountability for all work carried out by subcontractors. The appointment of subcontractors shall not relieve the Contractor of any contractual obligations under this agreement.

Prior to commencement of any subcontracted work, the Contractor shall submit to the Client the curriculum vitae, qualifications, relevant accreditation details, and documentary proof of authorisation to work on the specific equipment type in question for each proposed specialist or subcontractor. The Client shall review and accept all subcontractor appointments before work proceeds. All such information shall be updated annually or whenever a subcontractor or specialist changes.

9. DELIVERY AND STORAGE OF SPARE PARTS

- The Contractor shall be responsible for the supply, delivery and management of all spare parts required for all maintenance activities.
- Spare parts shall not be procured or installed without prior written approval from the Client.
- All spare parts supplied shall be new, fit for purpose, compatible with the existing equipment, and compliant with applicable safety and compliance standards and OEM requirements.
- Where OEM-specific parts are mandatory, these shall be supplied accordingly.
- Contractor to provide a quotation to the client for each spare part.
- For generic or non-proprietary parts, the Contractor shall obtain a minimum of three (3) competitive quotations prior to procurement and submit these to the Client for approval. The Client reserves the right to select the preferred supplier.
- Where OEM-specific or proprietary parts are required, the Contractor shall clearly identify this in the quotation and provide the applicable OEM part number and recommended supplier. Substitution of OEM parts with non-OEM equivalents shall not be permitted without prior written approval from the Client.
- All spare parts shall be supplied at cost plus the approved markup rate as tendered in the Bill of Quantities.

END.

10. Annexure A- Monthly Maintenance

The tasks listed in this annexure are indicative and are based on general OEM and industry requirements applicable to the equipment types within scope. They are provided to define the expected scope at tender stage and to serve as a baseline for inspection sheet development.

Important: The Contractor shall verify all tasks in both Table 1 against the applicable OEM maintenance manuals for the specific equipment makes and models installed on site. Where OEM manuals or applicable regulatory and compliance standards prescribe additional, modified, or different tasks, those requirements shall take precedence. The Contractor shall submit an updated weekly maintenance schedule to the Client for review and acceptance and shall update the schedule whenever new equipment is introduced or OEM guidelines or applicable standards are revised. Any material deviations from the tasks listed in this annexure shall be clearly identified and submitted to the Client for written approval.

Table 1-Category A: Monthly Maintenance Tasks

Equipment Type	Task Description	Frequency
Ducted Fume Hood	Visual inspection of interior and exterior for damage, chemical residue, or contamination	Monthly
	Cleaning and disinfection of interior work surface, walls, and sash / glass surfaces using approved cleaning agent in accordance with laboratory procedures	Monthly
	Determine the face velocity and ensure that the hood is operating properly.	Monthly
	Inspect sash for smooth operation and confirm no visible obstruction, damage, or binding. Adjust as required.	Monthly
	Ensure all lights are functioning	Monthly
	Inspect electrical connections and control panel for visible damage or faults	Monthly
	Measure and record face velocity	Monthly
	Inspect baffles for correct positioning, blockage, or damage — adjust where required	Monthly

Equipment Type	Task Description	Frequency
	Inspect sash seals and perimeter gaskets for cracking, compression fatigue, displacement, or deterioration	Monthly
	Clean exhaust grille and accessible internal surfaces	Monthly
	Test gas tap if applicable	Weekly
	Audible and visual alarm function test: confirm all alarm indicators show normal status.	Weekly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Monthly
Ductless Fume Hood	Visual inspection of interior and exterior for damage, chemical residue, or contamination	Monthly
	Cleaning and disinfection of interior work surface, walls, and sash / glass surfaces using approved cleaning agent in accordance with laboratory procedures	Monthly
	Inspect sash for smooth operation and confirm no visible obstruction, damage, or binding. Adjust as required.	Monthly
	Check filter condition indicator or display for any filter replacement warning or loading alert	Monthly
	Test gas tap if applicable	Monthly
	Ensure all lights are functioning	Monthly
	Check the fans, motor, drives, and bearings for proper operation	Monthly
	Measure and record face velocity	Monthly
	Confirmation of normal operational status via indicators; report any alarms or abnormal readings	Monthly

Equipment Type	Task Description	Frequency
	Inspect sash seals and perimeter gaskets for cracking, compression fatigue, displacement, or deterioration	Monthly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Monthly
Laminar Flow Unit	Visual inspection of cabinet interior and exterior for visible damage or contamination	Monthly
	Cleaning and disinfection of interior work surface and accessible external surfaces using approved cleaning agent in accordance with laboratory procedures	Monthly
	Inspect front panel and confirm no visible obstruction, damage, or blockage	Monthly
	Audible and visual alarm function test	Monthly
	Confirmation of normal operational status; report any alarms, abnormal noise, or vibration	Monthly
	Dust filter inspection and cleaning. Visually check for dust accumulation and clean the filter. Replace if necessary.	Monthly
	Inspect electrical connections and control panel for visible damage or faults	Monthly
	Dust filter inspection and cleaning. Visually check for dust accumulation and clean the filter. Replace if necessary.	Monthly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Monthly
PCR Cabinet	Visual inspection of cabinet interior and exterior for damage or contamination	Monthly

Equipment Type	Task Description	Frequency
	Cleaning and disinfection of interior work surface and accessible external surfaces using approved cleaning agent in accordance with laboratory procedures and OEM guidelines	Monthly
	Inspect front panel and confirm no visible obstruction, damage, or blockage	Monthly
	Visual inspection of UV lamp for visible damage or discolouration (use appropriate UV-protective eyewear)	Monthly
	Audible and visual alarm function test	Monthly
	Confirmation of normal operational status; report any alarms, abnormal noise, or vibration	Monthly
	Dust filter inspection and cleaning. Visually check for dust accumulation and clean the filter. Replace if necessary.	Monthly
	Inspect electrical connections and control panel for visible damage or faults	Monthly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Monthly
Biological Safety Cabinet	Visual inspection of cabinet interior and exterior for damage, contamination, or liquid spills	Monthly
	Cleaning and disinfection of interior work surface, side walls, and sash / front panel surfaces using approved cleaning agent in accordance with biosafety laboratory procedures and OEM guidelines	Monthly
	Inspection of sash for smooth operation, correct seating, and confirm no visible damage to glass, frame, or seals	Monthly
	Audible and visual alarm function test	Monthly

Equipment Type	Task Description	Frequency
	Confirmation of normal operational status via indicators; report any alarms, abnormal noise, or vibration	Monthly
	Dust filter inspection and cleaning. Visually check for dust accumulation and clean the filter. Replace if necessary.	Monthly
	Inspect electrical connections and control panel for visible damage or faults	Monthly
	Clean accessible internal surfaces, front grille, and exhaust grille	Monthly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Monthly

11. Annexure B – Weekly Maintenance Task Schedules

This annexure sets out the indicative weekly maintenance task schedules for Category E (University Personnel) maintenance activities, as defined in Section 4.2 of this Scope of Works.

The tasks listed in this annexure are indicative and are based on general OEM and industry requirements applicable to the equipment types within scope. They are provided to define the expected scope at tender stage and to serve as a baseline for inspection sheet development.

Important: The Contractor shall verify all tasks in both Table 1 against the applicable OEM maintenance manuals for the specific equipment makes and models installed on site. Where OEM manuals or applicable regulatory and compliance standards prescribe additional, modified, or different tasks, those requirements shall take precedence. The Contractor shall submit an updated weekly maintenance schedule to the Client for review and acceptance and shall update the schedule whenever new equipment is introduced or OEM guidelines or applicable standards are revised. Any material deviations from the tasks listed in this annexure shall be clearly identified and submitted to the Client for written approval.

Table 1- Category E: General Weekly Maintenance Tasks (University Personnel)

These tasks are limited to basic visual and operational checks. They shall only be performed by University personnel who have completed the formal training programme delivered by the Contractor as set out in Section 4.2.4. Tasks requiring instruments, technical judgement, or internal component access shall not be performed by University personnel.

All tasks shall be cross-referenced against OEM manuals for the specific equipment on site before being incorporated into the Category E inspection sheets issued to University personnel.

Equipment Type	Task Description	Frequency
Ducted Fume Hood	Visual inspection of interior and exterior for damage, chemical residue, or contamination	Weekly
	Cleaning and disinfection of interior work surface, walls, and sash / glass surfaces using approved cleaning agent in accordance with laboratory procedures	Weekly
	Inspect sash for smooth operation and confirm no visible obstruction, damage, or binding	Weekly
	Inspect exhaust grille and duct connection point for visible obstruction, damage, or signs of leakage	Weekly
	Audible and visual alarm function test	Weekly
	Confirmation of normal operational status via indicators; report any alarms or abnormal readings	Weekly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Weekly
Ductless Fume Hood	Visual inspection of interior and exterior for damage, chemical residue, or contamination	Weekly
	Cleaning and disinfection of interior work surface, walls, and sash / glass surfaces using approved cleaning agent in accordance with laboratory procedures	Weekly
	Inspect sash for smooth operation and confirm no visible obstruction, damage, or binding	Weekly
	Check filter condition indicator or display for any filter replacement warning or loading alert	Weekly
	Audible and visual alarm function test	Weekly

Equipment Type	Task Description	Frequency
	Confirmation of normal operational status via indicators; report any alarms or abnormal readings	Weekly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Weekly
Laminar Flow Unit	Visual inspection of cabinet interior and exterior for visible damage or contamination	Weekly
	Cleaning and disinfection of interior work surface and accessible external surfaces using approved cleaning agent in accordance with laboratory procedures	Weekly
	Inspect front panel and confirm no visible obstruction, damage, or blockage	Weekly
	Audible and visual alarm function test	Weekly
	Confirmation of normal operational status; report any alarms, abnormal noise, or vibration	Weekly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Weekly
PCR Cabinet	Visual inspection of cabinet interior and exterior for damage or contamination	Weekly
	Cleaning and disinfection of interior work surface and accessible external surfaces using approved cleaning agent in accordance with laboratory procedures and OEM guidelines	Weekly
	Inspect front panel and confirm no visible obstruction, damage, or blockage	Weekly
	Visual inspection of UV lamp for visible damage or discolouration (use appropriate UV-protective eyewear)	Weekly

Equipment Type	Task Description	Frequency
	Audible and visual alarm function test	Weekly
	Confirmation of normal operational status; report any alarms, abnormal noise, or vibration	Weekly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Weekly
Biological Safety Cabinet	Visual inspection of cabinet interior and exterior for damage, contamination, or liquid spills	Weekly
	Cleaning and disinfection of interior work surface, side walls, and sash / front panel surfaces using approved cleaning agent in accordance with biosafety laboratory procedures and OEM guidelines	Weekly
	Inspection of sash for smooth operation, correct seating, and confirm no visible damage to glass, frame, or seals	Weekly
	Audible and visual alarm function test	Weekly
	Confirmation of normal operational status via indicators; report any alarms, abnormal noise, or vibration	Weekly
	Any additional tasks according to OEM guidelines or applicable compliance standards	Weekly

The 'Any additional tasks' row in each equipment section is a contractual placeholder. The Contractor shall identify any OEM-prescribed weekly tasks not listed above during the asset register verification and training phases and incorporate these into the finalised inspection sheets submitted to the Client for acceptance.

12. Annexure C – Asset Register

Table 1: Existing Asset Register

#	Campus	Make	Status
1	East Campus	Labotec Bioflow 1880 mm	TBV
2	East Campus	No Name - 2000 mm Laminar Flow	TBV
3	East Campus	LABOTE	Working
4	East Campus	ESCO Class II BSC AC2-4S1	TBV
5	East Campus	ESCO PCR Cabinet SCR - ZA1	Working
6	East Campus	ESCO Class II BSC AC2-4S1	Working
7	East Campus	ESCO Class II BSC AC2-4S1	Working
8	East Campus	ESCO Class II BSC AC2-4S8	TBV
9	East Campus	ESCO Class II BSC AC2-4S8	TBV
10	East Campus	Captair Flow Er Lab	Working
11	East Campus	BIOBASE Class II	Working
12	East Campus	No Name - 2000 mm Laminar Flow	TBV
13	East Campus	Labaire 2100 mm Fume Cabinet	Fail
14	East Campus	Labaire 2100 mm Fume Cabinet	Fail
15	East Campus	Labaire 2100 mm Fume Cabinet	Fail
16	East Campus	Labaire 2100 mm Fume Cabinet	Working
17	East Campus	Labaire 2000 mm Fume cabinet	Working
18	East Campus	Labaire 2000 mm Fume cabinet	Working
19	East Campus	Labaire 1500 mm Fume cabinet	Fail
20	East Campus	Labotec Class II BSC	TBV
21	East Campus	No Name - 680 mm	TBV
22	East Campus	X-Flo 2000 FC	Working
23	East Campus	X-Flo 2000 FC	Working
24	East Campus	X-Flo 2000 FC	Working
25	East Campus	X-Flo 2000 FC	Working
26	East Campus	X-Flo 2000 FC	Working
27	East Campus	X-Flo 2000 FC	Working
28	East Campus	X-Flo 2000 FC	Working
29	East Campus	X-Flo 2000 FC	Working
30	East Campus	Polimatrix	Working
31	East Campus	Polimatrix	Working
32	East Campus	Polimatrix	Working
33	East Campus	Polimatrix	Working
34	East Campus	Polimatrix	Working
35	East Campus	Polimatrix	Working
36	East Campus	Polimatrix	Working
37	East Campus	Polimatrix	Working
38	East Campus	Polimatrix	Working
39	East Campus	Polimatrix	Working

40	East Campus	Polimatrix	Working
41	East Campus	Polimatrix	Working
42	East Campus	Polimatrix	Working
43	East Campus	Polimatrix	Working
44	East Campus	Polimatrix	Working
45	East Campus	Solar Biotech 1500 FC	Working
46	East Campus	Solar Biotech 1500 FC	Fail
47	East Campus	Solar Biotech 1500 FC	Working
48	East Campus	Solar Biotech 1500 FC	Working
49	East Campus	Solar Biotech 1500 FC	FAIL
50	East Campus	Solar Biotech 1500 FC	Working
51	East Campus	Solar Biotech 1500 FC	working
52	East Campus	Solar Biotech 1500 FC	Working
53	East Campus	Solar Biotech 1500 FC	Working
54	East Campus	Solar Biotech 1500 FC	Working
55	East Campus	Solar Biotech 1500 FC	Working
56	East Campus	Solar Biotech 1500 FC	Working
57	East Campus	Solar Biotech 1500 FC	Working
58	East Campus	Solar Biotech 1500 FC	Working
59	East Campus	Solar Biotech 1200 FC	Working
60	East Campus	Solar Biotech 1500 FC	Working
61	East Campus	Solar Biotech 1500 FC	Working
62	East Campus	Solar Biotech 1500 FC	Working
63	East Campus	Solar Biotech 1500 FC	Working
64	East Campus	Solar Biotech 1500 FC	Working
65	East Campus	X-Flo 2000 FC	Working
66	East Campus	X-Flo 2000 FC	Working
67	East Campus	X-Flo 2000 FC	Working
68	East Campus	X-Flo 2000 FC	Working
69	East Campus	X-Flo 2000 FC	Working
70	East Campus	X-Flo 2000 FC	Working
71	East Campus	X-Flo 2000 FC	TBV
72	East Campus	X-Flo 2000 FC	TBV
73	East Campus	Solar Biotech	Working
74	East Campus	Polimatrix	Working
75	East Campus	Polimatrix	Working
76	East Campus	Polimatrix	Working
77	East Campus	Polimatrix	Working
78	East Campus	Polimatrix	Working
79	East Campus	Polimatrix	Working
80	East Campus	Polimatrix	Working
81	East Campus	Polimatrix	Working
82	East Campus	Polimatrix	Working
83	East Campus	Polimatrix	Working
84	East Campus	Wooden Cabinet 1200	Working
85	East Campus	Wooden Cabinet 1200	Working

86	East Campus	PP 1500 FC	Working
87	East Campus	PP 1500 FC	Working
88	East Campus	PP 1500 FC	Working
89	East Campus	PP 1500 FC	Working
90	East Campus	PP 1500 FC	Working
91	East Campus	PP 1500 FC	Working
92	East Campus	Steel 2715 FC	Working
93	East Campus	Steel 2715 FC	Working
94	East Campus	ESCO Frontier EFD-5A1-Cust WO	Working
95	East Campus	ESCO Frontier EFD-5A1-Cust WO	Working
96	East Campus	950 Fume Cabinet Wooden	FAIL
97	East Campus	950 Fume Cabinet Wooden	FAIL
98	East Campus	950 Fume Cabinet Wooden	FAIL
99	East Campus	Solar Biotech 1800 FC	Working
100	East Campus	Solar Biotech 1800 FC	Working
101	East Campus	Solar Biotech 1500 FC	Working
102	East Campus	Solar Biotech 1500 FC	Working
103	East Campus	Solar Biotech 1800	Working
104	East Campus	Solar Biotech 1800	Working
105	East Campus	Solar Biotech 1500 FC	Working
106	East Campus	Solar Biotech WFC	Working
107	East Campus	Solar Biotech 1500 FC	Working
108	East Campus	Solar Biotech WFC	Working
109	East Campus	unknown	Working
110	East Campus	unknown	Working
111	East Campus	unknown	Working
112	East Campus	unknown	FAIL
113	East Campus	unknown	Working
114	East Campus	unknown	Working
115	East Campus	unknown	Working
116	East Campus	unknown	Working
117	East Campus	unknown	Working
118	East Campus	unknown	Working
119	East Campus	unknown	Working
120	East Campus	unknown	Working
121	East Campus	unknown	Working
122	East Campus	unknown	Working
123	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
124	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
125	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
126	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
127	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
128	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
129	East Campus	PP 1500 FC	Working
130	East Campus	PP 1500 FC	Working
131	East Campus	PP 1500 FC	Working

132	East Campus	PP 1500 FC	Working
133	East Campus	PP 1500 FC	Working
134	East Campus	ESCO Frontier 1500 - EFA-5UDRW	Working
135	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
136	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
137	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
138	East Campus	1200 Fume Cabinet ESCO Fronteir	Working
139	East Campus	Lab & Air 1500 FC	Working
140	East Campus	Lab & Air LAF	Working
141	East Campus	Solar Biotech 1500 FC	Working
142	East Campus	Solar Biotech 1200 FC	Working
143	East Campus	ESCO	TBV
144	East Campus	Unknown	FAIL
145	East Campus	Unknown	FAIL
146	East Campus	Unknown	FAIL
147	East Campus	Unknown	FAIL
148	East Campus	Unknown	FAIL
149	East Campus	Unknown	FAIL
150	East Campus	Unknown	FAIL
151	East Campus	Unknown	FAIL
152	East Campus	X-Flo 2000	Working
153	East Campus	X-Flo 2000	Working
154	East Campus	MN 120	TBV
155	East Campus	X-Flo 2000	Working
156	East Campus	X-Flo 2000	Working
157	East Campus	X-Flo 2000	Working
158	East Campus	X-Flo 2000	Working
159	East Campus	X-Flo 2000	Working
160	East Campus	X-Flo 2000	Working
161	East Campus	X-Flo 2000	Working
162	East Campus	X-Flo 2000	Working
163	East Campus	Gelaire VB 85 Laminar Flow 810 mm	Working
164	East Campus	Bonar Filters Laminar Flow	TBV
165	East Campus	Fume Cabinet 1500 mm	Fail
166	East Campus	Nuve LN 120 Laminar Flow	Working
167	East Campus	ESCO Laminar Flow AHC-4D1	TBV
168	East Campus	Fume Cabinet 1200 mm	Working
169	East Campus	Techno lab Fume Cabinet 1200 mm	Working
170	East Campus	Techno lab Fume Cabinet 1200 mm	Working
171	East Campus	Desk Top Laminar Flow	Working
172	East Campus	Techno lab Fume Cabinet 1500 mm	Working
173	East Campus	Techno lab Fume Cabinet 1500 mm	Working
174	East Campus	Techno lab Fume Cabinet 1200 mm	Working
175	East Campus	Techno lab Fume Cabinet 1200 mm	Working
176	East Campus	Bio Flo II Lablotec 1430 mm	Fail
177	East Campus	Fibatron 1235 mm Laminar Flow	Working

178	East Campus	Air-Pure 1345 mm VA-4004	Working
179	East Campus	Lamina Flow Cabinet	TBV
180	East Campus	ESCO Frontier	Working
181	East Campus	ESCO	Working
182	East Campus	New Flare	Working
183	East Campus	New Flare 1500	Working
184	East Campus	Laminaire	Working
185	East Campus	ESCO Frontier EFA - 5UDRW-8	Working
186	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
187	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
188	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
189	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
190	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
191	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
192	East Campus	ESCO Frontier EFA - 4UDRW-9	Working
193	East Campus	ESCO Frontier EFA - 4UDRW-8	Working
194	East Campus	ESCO Laminar Flow AHC - 4D1	TBV
195	East Campus	Laboratory and Air Purification System	Working
196	East Campus	Laboratory and Air Purification System	Working
197	East Campus	Polimatrix X-Flo 1200	TBV
198	East Campus	Polimatrix X-Flo 1200	TBV
199	East Campus	Polimatrix X-Flo 1200	TBV
200	East Campus	BIOBASE FH1800(P)	Working
201	East Campus	BIOBASE FH1800(P)	Working
202	East Campus	Walkin Fume Enclosure	TBV
203	East Campus	Walkin Fume Enclosure	TBV
204	East Campus	Unknow	Working
205	East Campus	Unknow	Working
206	East Campus	Unknow	Working
207	Education Campus	1200 Ductless Fume Cabinet	TBV
208	Education Campus	1200 Ductless Fume Cabinet	TBV
209	Education Campus	1200 Ductless Fume Cabinet	TBV
210	Education Campus	1200 Ductless Fume Cabinet	TBV
211	Education Campus	1200 Ductless Fume Cabinet	TBV
212	Education Campus	1200 Ductless Fume Cabinet	TBV
213	Education Campus	1200 Ductless Fume Cabinet	TBV
214	Education Campus	1200 Ductless Fume Cabinet	TBV
215	Health Sciences Campus	Unknow	TBV
216	Health Sciences Campus	SMS Vertical Laminar Flow 6Ft	TBV
217	Health Sciences Campus	Captair PCR 2 Ft	Working
218	Health Sciences Campus	ESCO Ductless 2 Ft	Working
219	Health Sciences Campus	ESCO Airstream BSC Class II	Working
220	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
221	Health Sciences Campus	ESCO Horizontal Laminar Flow	Working
222	Health Sciences Campus	Vertical Laminar Flow 4 Ft	Working
223	Health Sciences Campus	Labotec Vertical Laminar Flow 6 Ft	TBV

224	Health Sciences Campus	Labcon Vertical Laminar Flow	Working
225	Health Sciences Campus	Captair PCR 2 Ft	TBV
226	Health Sciences Campus	Fibatron Vertical Laminar Flow 4Ft	Working
227	Health Sciences Campus	SMS Vertical Laminar Flow 4 Ft	Working
228	Health Sciences Campus	SMS Vertical Laminar Flow 6Ft	Working
229	Health Sciences Campus	NO NAME	TBV
230	Health Sciences Campus	SMS Vertical Laminar Flow 6Ft	Working
231	Health Sciences Campus	BIO Flow II	TBV
232	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
233	Health Sciences Campus	Labotec Laminar Flow	TBV
234	Health Sciences Campus	SEP Safe BSC Class II	TBV
235	Health Sciences Campus	Healforce	TBV
236	Health Sciences Campus	ECLIPSE 1800	TBV
237	Health Sciences Campus	ECLIPSE 1800	TBV
238	Health Sciences Campus	ECLIPSE 1800	TBV
239	Health Sciences Campus	ECLIPSE 1800	TBV
240	Health Sciences Campus	Esco	working
241	Health Sciences Campus	ESCO Airstream BSC Class II	working
242	Health Sciences Campus	Esco	TBV
243	Health Sciences Campus	Esco	TBV
244	Health Sciences Campus	ESCO Laminar Flow	working
245	Health Sciences Campus	ESCO Laminar Flow	working
246	Health Sciences Campus	ESCO Laminar Flow	working
247	Health Sciences Campus	ESCO Laminar Flow	working
248	Health Sciences Campus	ESCO Laminar Flow	working
249	Health Sciences Campus	ESCO Frontier EFA - 5UDRWV-8	TBV
250	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-9	TBV
251	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
252	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
253	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
254	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
255	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
256	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
257	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
258	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	FAIL
259	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
260	Health Sciences Campus	ESCO Frontier EFA - 6UDRWV-8	TBV
261	Health Sciences Campus	ESCO Frontier	TBV
262	Health Sciences Campus	ESCO Frontier	FAIL
263	Health Sciences Campus	ESCO Frontier	TBV
264	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
265	Health Sciences Campus	ESCO Frontier	TBV
266	Health Sciences Campus	ESCO Frontier	Working
267	Health Sciences Campus	ESCO Frontier	FAIL
268	Health Sciences Campus	ESCO Frontier	TBV
269	Health Sciences Campus	ESCO Frontier	TBV

270	Health Sciences Campus	ESCO Frontier EFA - 5UDRWV-8	
271	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	Working
272	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
273	Health Sciences Campus	ESCO Frontier	FAIL
274	Health Sciences Campus	ESCO Frontier	TBV
275	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
276	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
277	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
278	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
279	Health Sciences Campus	BIO Flow II	TBV
280	Health Sciences Campus	Esco	TBV
281	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	FAIL
282	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	TBV
283	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	FAIL
284	Health Sciences Campus	Esco	working
285	Health Sciences Campus	ESCO Frontier EFA - 6UDRWV-8	Working
286	Health Sciences Campus	ESCO Frontier	Working
287	Health Sciences Campus	Esco	Working
288	Health Sciences Campus	ESCO Frontier	working
289	Health Sciences Campus	ESCO Frontier	TBV
290	Health Sciences Campus	ESCO Frontier	TBV
291	Health Sciences Campus	Esco	TBV
292	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	working
293	Health Sciences Campus	ESCO Frontier	TBV
294	Health Sciences Campus	ESCO Frontier	FAIL
295	Health Sciences Campus	ESCO Frontier	working
296	Health Sciences Campus	ESCO Frontier	TBV
297	Health Sciences Campus	Esco	Working
298	Health Sciences Campus	ESCO Frontier EFA - 5UDRWV-8	TBV
299	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	REPEAT
300	Health Sciences Campus	Esco	Partially Working
301	Health Sciences Campus	Esco Frontier	TBV
302	Health Sciences Campus	Esco	Not Working
303	Health Sciences Campus	Esco Frontier	TBV
304	Health Sciences Campus	ESCO Frontier	Working
305	Health Sciences Campus	ESCO Frontier	TBV
306	Health Sciences Campus	ESCO Frontier	Working
307	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	FAIL
308	Health Sciences Campus	ESCO Frontier	FAIL
309	Health Sciences Campus	ESCO Frontier EFA - 4UDRWV-8	FAIL
310	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
311	Health Sciences Campus	Esco	TBV
312	Health Sciences Campus	Esco	TBV
313	Health Sciences Campus	ESCO	TBV
314	Health Sciences Campus	Esco Frontier	TBV
315	Health Sciences Campus	ESCO Laminar Flow VLF 4ft	TBV

316	Health Sciences Campus	ESCO Laminar Flow VLF 4ft	TBV
317	Health Sciences Campus	ESCO Airstream BSC Class II	Working
318	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
319	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
320	Health Sciences Campus	ESCO Laminar Flow	TBV
321	Health Sciences Campus	ESCO Laminar Flow	TBV
322	Health Sciences Campus	Esco	TBV
323	Health Sciences Campus	Esco	TBV
324	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
325	Health Sciences Campus	ESCO Airstream BSC Class II	TBV
326	Health Sciences Campus	Esco	TBV
327	Health Sciences Campus	Esco	TBV
328	Health Sciences Campus	ESCO	TBV
329	Health Sciences Campus	ESCO LAMINAR FLOW	TBV
330	Health Sciences Campus	ESCO Airstream BSC Class II	Working
331	Health Sciences Campus	ESCO	Working
332	Health Sciences Campus	Esco	TBV
333	Health Sciences Campus	ESCO Airstream BSC Class II	Working
334	Health Sciences Campus	ESCO Airstream BSC Class II	Working
335	Health Sciences Campus	ESCO Airstream BSC Class II	Working
336	Health Sciences Campus	ESCO Airstream BSC Class II	Working
337	Health Sciences Campus	ESCO Airstream BSC Class II	Working
338	Health Sciences Campus	ESCO	Working
339	Health Sciences Campus	Esco	TBV
340	Health Sciences Campus	Air-PCR-3FT	TBV
341	Health Sciences Campus	Air Lamflow 2FT	Working
342	Health Sciences Campus	Air Lamflow 2FT	TBV
343	Health Sciences Campus	VIVID AIR	TBV
344	Health Sciences Campus		TBV
345	Health Sciences Campus	Captair	TBV
346	Health Sciences Campus	Captair	TBV
347	Health Sciences Campus	Captair	TBV
348	Health Sciences Campus	Labotec	Working
349	Health Sciences Campus	Captair	TBV
350	Health Sciences Campus		FAIL
351	Health Sciences Campus	Fibraton	TBV
352	Health Sciences Campus	Fibatron	TBV
353	Health Sciences Campus	LabAir	TBV
354	Health Sciences Campus	Labair BSC Class II	TBV
355	Health Sciences Campus	ESCO BIOFLOW	Working
356	Health Sciences Campus	Fume Hood	TBV
357	Health Sciences Campus	Labotec Laminar Flow	TBV
358	Health Sciences Campus	Labotec Laminar Flow	TBV
359	Health Sciences Campus	Fume Hood	TBV
360	Health Sciences Campus	Fume Hood	FAIL
361	Health Sciences Campus	Fume Hood	TBV

362	Health Sciences Campus	Fume Hood	TBV
363	Health Sciences Campus	Labotec	Working
364	Health Sciences Campus	Captair Bio 321	TBV
365	Health Sciences Campus	Captair Bio 321	TBV
366	Health Sciences Campus	Fume Cabinet 1	FAIL
367	Health Sciences Campus	Captair Bio 321	Working
368	Health Sciences Campus	Erlab	working
369	Health Sciences Campus	Sepsafe	Working
370	Health Sciences Campus	Biobase Laminar Flow	TBV
371	Health Sciences Campus	Labotec BSC Class II	Working
372	Health Sciences Campus	ESCO BIOFLOW	Working
373	Health Sciences Campus	ESCO BIOFLOW	Working
374	Health Sciences Campus	ESCO BIOFLOW	Working
375	Health Sciences Campus	SEP Fume - PFC - 4FT 2016	Working
376	Health Sciences Campus	SEP Safe BSC Class II	Working
377	Health Sciences Campus	Ductless Fume Hood	Working
378	Health Sciences Campus	BIO Flow II	TBV
379	Health Sciences Campus	Labotec Laminar Flow	TBV
380	Health Sciences Campus	Fibatron Laminar Flow Cabinet 4ft	TBV
381	Health Sciences Campus	Labotec Laminar Flow	TBV
382	Health Sciences Campus	Labotec Laminar Flow	TBV
383	Health Sciences Campus	Esco	TBV
384	Health Sciences Campus	Fibatron Laminar Flow Cabinet 4ft	TBV
385	Health Sciences Campus	No Info	TBV
386	Health Sciences Campus	Labconco Protective work Station	TBV
387	Health Sciences Campus	Labotec Laminar Flow	TBV
388	Health Sciences Campus	Unknown	TBV
389	Health Sciences Campus	Unknown	TBV
390	Health Sciences Campus	Esco Frontier	TBV
391	Health Sciences Campus	Esco	TBV
392	Health Sciences Campus	Fume Cabinet 2	FAIL
393	West Campus	X-Flo 3400 FC	Working
394	West Campus	X-Flo 3400 FC	Working
395	West Campus	X-Flo 3400 FC	Working
396	West Campus	X-Flo 3400 FC	Working
397	West Campus	X-Flo 3400 FC	Working
398	West Campus	X-Flo 3400 FC	Working
399	West Campus	X-Flo 3400 FC	Working
400	West Campus	X-Flo 3400 FC	Working
401	West Campus	X-Flo 3400 FC	Working
402	West Campus	X-Flo 3400 FC	Working
403	West Campus	X-Flo 3400 FC	Working
404	West Campus	X-Flo 3400 FC	Working
405	West Campus	X-Flo 3400 FC	Working
406	West Campus	X-Flo 3400 FC	Working
407	West Campus	X-Flo 3400 FC	TBV

408	West Campus	X-Flo Canopy Enclosure	TBV

13. Annexure D- Prescribed Asset Template

Equipment	Equipment Code	Site Code	Building Code	Floor Code	Room Code	Equipment Standard	Equipment Description	Employee Name (W)	Manufacturer	Model Number	Serial Number	Lease Number	P.O. Number
EXAMPLE	01/L1314	EC	1124	01	101	LIFT-PARAPLEGIC	Paraplegic Lift	Mr Z ABC (AA0083359)	Fuji	SLP00000000KG	01/L1314		