Eskom	Scope of Work	Generation

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1. INTRODUCTION

Lethabo Power Station, a coal-fired power plant situated in the Northern Free State, consists of six generating units, each with a capacity of 618 MW. The canteen is a standalone structure that caters to all of Lethabo Power Station catering requirements.

It is mandatory for canteens to conduct maintenance of canopies every six month, and this has been successfully carried out for the past three years. However, due to the age of the current canteen canopies, which are substandard the cost of maintaining and repairing them have increased and has become unsustainable.

During a visual inspection of the canteen, it was found that the hood in the main kitchen is severely corroded and has become detached from the Asbestos ceiling. The hood is in the process of sagging which poses a safety risk to personnel in the area. The hood is currently supported by temporary supports to prevent the hood from falling. It will therefore be required to be replaced with all auxiliary work as well.

This document provides the scope of *works* for the safe removal and disposal of ACM in the ceiling of the canteen building. Furthermore, the scope includes the installation of the new ceiling boards. The hood is currently supported by temporary supports to prevent the hood from falling. It will therefore be required to be replaced with all auxiliary work as well as the electrical works.

Lethabo Power Station has various structures that have been constructed using asbestos and/or asbestos containing material (ACM). In terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Asbestos Regulations (Asbestos Abatement Regulations 2020, published under Government Notice R1196 in GG 43893 of 10 November 2020) these structures must be demolished and all asbestos containing material must be safely disposed of.

2. SUPPORTING CLAUSES

2.1 SCOPE

The scope for the project is broken down in the following:

2.1.1 Mechanical Scope

The mechanical scope includes, but not limited to:

- To safely remove the existing two extraction hoods,
- Design, supply, and install two new extraction hoods, complete with fresh air provision.
- Install all the required accessories for the extraction hoods, and
- To test and commission the new extraction hoods and issue relevant certificates if applicable.
- Provide as built drawings, O&M manuals, Training manual for the new installation.
- Train maintenance and engineering personnel on the operation of the new system

The engineering, quality control, inspections, plant and material selection, preparation of installation drawings, testing, balancing, commissioning and preparation of operating and maintenance manuals, are to be managed and executed by the Contactor in a systematic manner as follows:

a) Detailed Design

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b) Plant and material selection;
c) Installation drawings;
d) Plant installation;
e) Testing, balancing and commissioning Documentation;
f) Quality control
g) Operating Instruction and Maintenance Manuals; and
h) Inspection Record Cards/Checklists and final hand-over

The installation shall comply to SANS 1850, latest edition. The *Contractor* shall submit the designs to the Employer for acceptance prior to installation.

2.1.2 Civil Scope

The civil scope is broken up into 2 phases:

Phase 1:

- Safe removal and disposal of ACM within the canteen building.
- Provide all necessary equipment, including safety equipment, tools and materials required for the works.
- Ensure that the building is not damaged during the execution of the project.

Phase 2:

- Installation of the new ceiling boards within the canteen building.
- Installation of new roof flashing to prevent leaks if required.
- Verification of the existing drainage for the building (i.e. gutters and downpipes).
- Procurement of all materials required to complete the installation of the new hood, ceiling and flashing.

2.1.3 Electrical Scope

The electrical scope includes, but is not limited to:

Disconnections & Decommissioning

- Disconnecting electrical supplies to the canteen hood and extraction equipment.
- Disconnecting and removal of all plugs.
- Disconnection of ovens, fryers, and associated cooking equipment.
- Sealing of unused or redundant cable entry points.

Verification & Design

- Verification of load requirements for all new equipment.
- Upgrading existing DB space where required (e.g., MCB resizing, addition of circuits).
- Design and layout of lighting to suit the new hood and kitchen layout.
- Verification of lighting lux levels as per lighting design and applicable standards.
- Addition of new fresh air supply system.

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Installation

- Control and interlock wiring, including:
  - Interlocks between canteen hood and cooking equipment.
  - Emergency stop rewiring.
- Installation of new racking, conduit, and cabling to support the new equipment layout and new cabling.
- Installation of lighting fixtures and associated control gear.
- Earthing and bonding of all equipment as per SANS 10142.

Testing & Commissioning

- Insulation resistance tests.
- Earth continuity tests.
- Polarity checks.
- Load balance checks.
- Verification of all safety interlocks.
- Fan motor testing, including:
  - Verification and setting of overload relays.
  - Testing of motor start/stop controls.
  - Checking motor running current against nameplate values.
  - Verification of correct fan rotation direction.
- Issuance of Certificate of Compliance (CoC) for the electrical installation.

Documentation

- As-built drawings, including updated cable routes, DB schedules, equipment lists, and interlock diagrams.
- Cable schedule, indicating cable sizes, types, routes, and termination points.

2.1.4 Purpose

The purpose of this document is to outline the minimum requirements and the scope of activities required from the *Contractor* for the execution of the *works*.

2.1.5 Applicability

This document applies to Lethabo Power Station and all other stakeholders involved in the project.

2.2 NORMATIVE / INFORMATIVE REFERENCES

Parties using this document shall apply the most recent edition of the documents listed in the following sections.

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2.2.1 Normative

[1] ISO 9001 Quality Management Systems

[2] National Environmental Management Act (NEMA) 107 of 1998

[3] Construction Regulations, 2014

[4] 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy

[5] Occupational Health and Safety Act No. 85 of 1993

[6] 240-99527377: Inspection Manual for Civil Works at Eskom's Power Station

[7] SANS 10400: The application of the National Building Regulation

[8] 32-303: Requirements for the Safe Processing, Handling, Storage, Disposal and Phase-out of Asbestos

[9] 32-245 Eskom Waste Management Standard

[10] Environmental Conservation Act, 1989 (Act 73 of 1989)

[11] Asbestos Abatement Regulations 2020, published under Government Notice R1196 in GG 43893 of 10 November 2020

[12] Department Environmental Affairs: Framework for the Management of Contaminated Land Appendix C

[13] 240-56364545: Structural Design and Engineering Standard

[14] 240-56364535: Architectural Design and Green Building Compliance Manual

[15] SANS 10160 (series)

[16] SANS 10142-1: The wiring of premises: Low voltage installations

[17] 240-56227443: Requirements for Control and Power Cables for Power stations Standard

[18] 240-70164623: Eskom Heating Ventilation and Air Conditioning (HVAC) Design Guideline

[19] 240-102547991 General Technical Specification for HVAC Systems Standard

[20] SANS 18501: The design and manufacture of commercial kitchen extraction/ventilation systems

[21] SANS 1238: Air-conditioning ductwork

[22] SANS 10173: The installation, testing and balancing of air-conditioning ductwork

2.2.2 Informative

[23] 240-53113685: Design Review Procedure

[24] 474-58 (Rev1): Document and Records Management

[25] 240-53114002 Engineering Change Management Procedure

[26] 240-43898151: Perform verification and validation PCM

2.3 DEFINITIONS

Word	Definition
Contractor/Tenderer	Party responsible for the execution of the works as set out in this document
Employer	Eskom Holdings Limited represented by Lethabo Power Station

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Word	Definition
Project Manager	Party responsible for managing the Contractor on behalf of the Employer for the execution of the works
Works	The works as described in this document

2.3.1 Disclosure Classification

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

Abbreviation	Description
ACM	Asbestos Containing Material
ECSA	Engineering Council of South Africa
ERI	Eskom Rotek Industries
ITP	Inspection Test Plan
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
SANS	South African National Standards
SHEQ	Safety, Health, Environmental, Quality
VDSS	Vendor Document Submittal Schedule

2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities shall be as per The *Employer's* Design Review Procedure [23]

Contractor

The Contractor will be responsible for the execution of all the *works* as contained in this scope of *works* ensuring the following:

- The construction satisfies the *Employer's* requirements.
- All relevant Eskom standards, procedures and guidelines have been adhered to.
- The construction work is suitable and executed correctly.
- Develop the required documentation for the project.

Eskom Engineering

Eskom Engineering will play the role of architect engineer and ensure that:

- The construction activities satisfy the stakeholder requirements
- Foreseen technical risks are identified and addressed/challenged with the *Contractor*
- Reviewing complete scope of supply/services/extent of work

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- Reviewing all requirements (such as system operating philosophies, performance requirements, and all particular system requirements)
- Reviewing the applicability of all specified codes, standards and procedures (internal and external).
- Reviewing technical schedules and tender returnables.
- Reviewing referenced drawings in Works Information/*Employers* Requirements.
- Reviewing Bill of Quantities (BOQ) as applicable.
- Reviewing tender technical evaluation strategy.
- Reviewing all detailed system/package boundaries and interfaces.
- Reviewing the technical contents of the contract strategy

2.6 RELATED/SUPPORTING DOCUMENTS

Refer to Section 2.2 for associated documents related to the works.

2.7 PROCESS FOR MONITORING

The process will be monitored via the Engineering Change Management process [25]. This process will allow relevant stakeholders and management to be informed of all decisions made in the execution of the works. The maintenance actions of the new structures and systems will be added to the relevant Plant Maintenance Strategies.

3. *EMPLOYER*'S OBJECTIVES AND PURPOSE OF THE WORKS

The objective and purpose of the *works* is to:

- Ensure statutory compliance with the Occupational Health and Safety Act, 1993 (Act 85 of 1993), Environmental Conservation Act, 1989 (Act 73 of 1989) and ASBESTOS ABATEMENT REGULATIONS, 2020.
- Ensure compliance with the Eskom procedure 32-303: Requirements for the Safe Processing, Handling, Storage, Disposal and Phase-out of Asbestos[8].
- Create a safe and healthy working environment for all employees.
- The ensure compliance in removing the existing extraction hoods and safely dispose according to [9]32-245 Eskom Waste Management Standard [9].

4. SCOPE OF WORKS

4.1 DESCRIPTION OF THE *WORKS*

4.1.1 Mechanical Works

- The *Contractor* shall supply all labour, materials, tools, equipment, and supervision necessary to complete the works as specified below.
- The extraction hoods are to be purchased and installed according to the quotation of the equipment found in Appendix A.

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- The existing installation is to be removed by the *Contractor* prior to installation.
- The current extraction hood is to be removed and safely discarded according to 32-245 Eskom Waste Management Standard [9].
- The HVAC/ Fresh Air System is to be part of the supply and installation according to the following standards:
- 240-70164623: Eskom Heating Ventilation and Air Conditioning (HVAC) Design Guideline[18],
- 240-102547991 General Technical Specification for HVAC Systems Standard[19],
- SANS 18501: The design and manufacture of commercial kitchen extraction/ventilation systems[20],
- SANS 1238: Air-conditioning ductwork[21],
- SANS 10173: The installation, testing and balancing of air-conditioning ductwork[22].

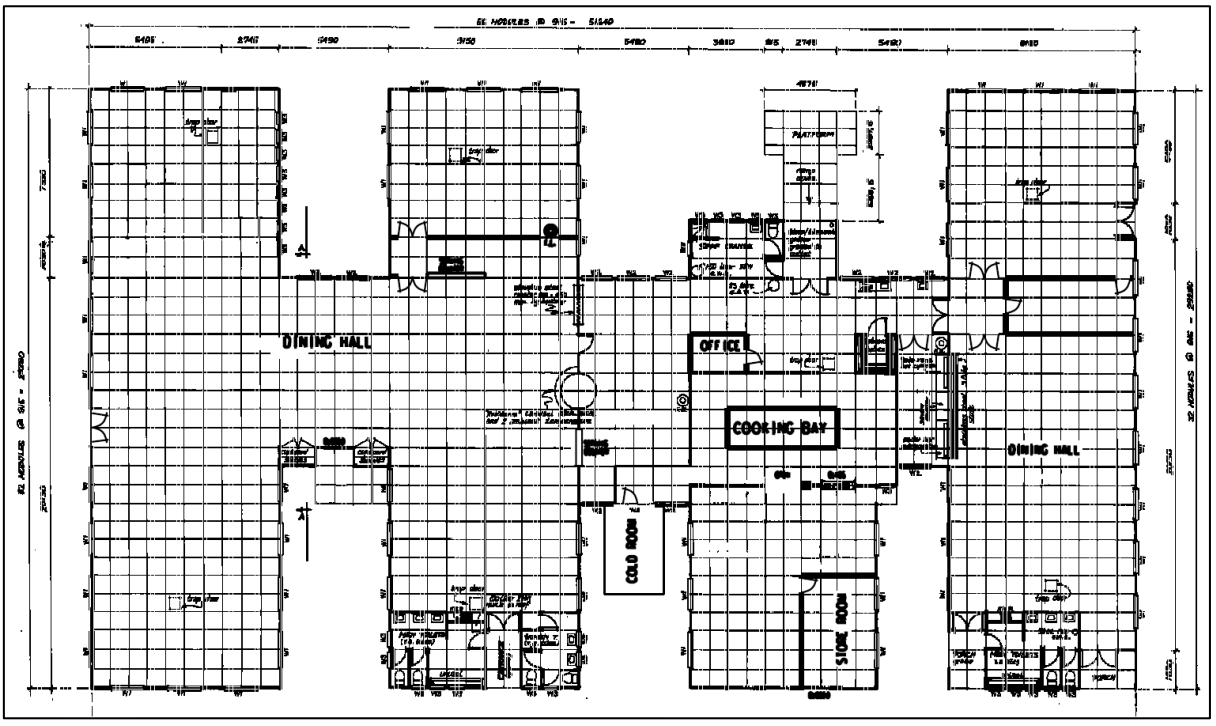

Figure 1: Overview layout of the Canteen

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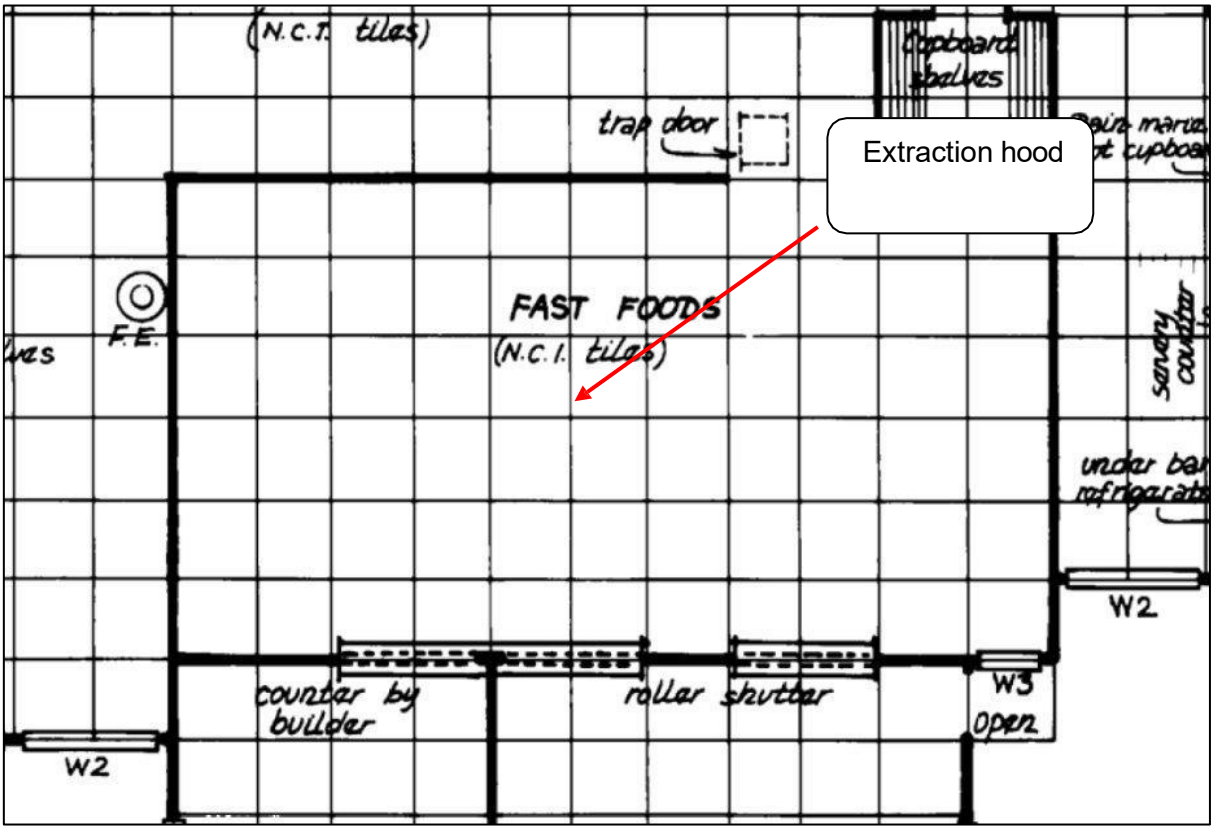

Figure 2: Overview of current hood

4.1.2 Electrical Works

This Scope of Work defines the electrical activities required for the replacement of the canteen hood and associated kitchen equipment. The *Contractor* shall supply all labour, materials, tools, equipment, and supervision necessary to complete the works as specified below.

4.1.2.1 General Requirements

- Perform all work in accordance with SANS 10142, OEM installation requirements, and site-specific electrical safety procedures.
- Ensure all electrical installations are completed to a standard suitable for the issuance of a Certificate of Compliance (CoC).
- All equipment and materials supplied shall be new and appropriately rated for the environment.
- All cabling shall comply with 240-56227443: Requirements for Control and Power Cables for Power stations Standard [17].

The *Contractor* shall refer to the circuit layouts in Figure 3 below.

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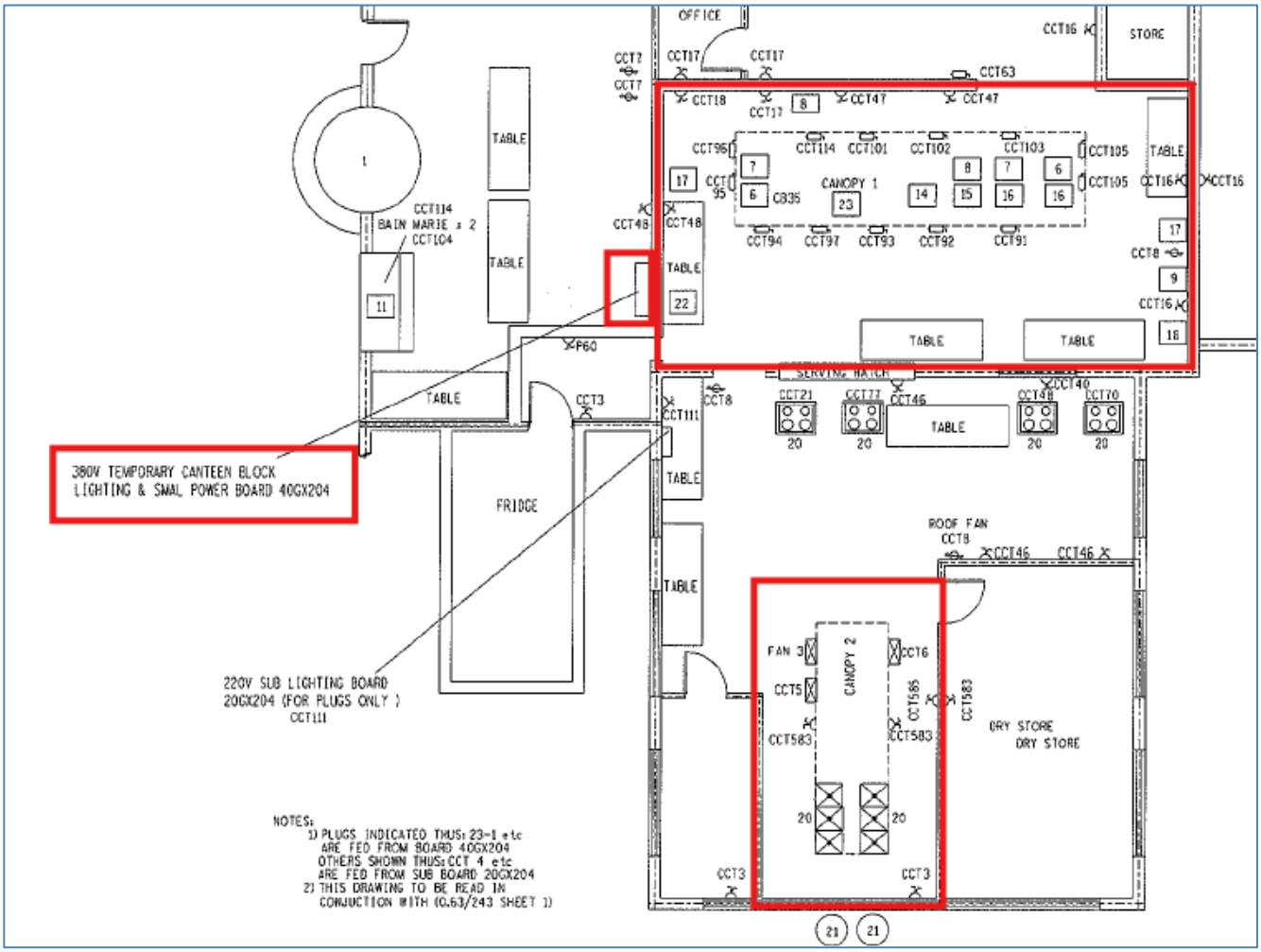

Figure 3: Canopy 1 circuit layouts

4.1.2.2 Disconnection and Decommissioning Works

The Contractor shall:

- Disconnect electrical supplies to the existing canteen hood and extraction equipment.
- Disconnect and remove all plugs, socket outlets, and associated wiring within the affected area.
- Disconnect ovens, fryers, and all associated cooking equipment.
- Remove or cut back redundant cabling and seal all unused cable entry points to maintain electrical enclosure integrity and hygiene compliance.

4.1.2.3 Verification and Design Activities

The Contractor shall:

- Verify electrical load requirements for all new equipment and confirm suitability of existing circuits.
- Assess and upgrade existing distribution board (DB) space where required, including MCB resizing or installation of new circuits.

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- Design of all safety interlocks between hood, extraction system, and cooking equipment.
- Design the lighting layout required for the new kitchen/hood arrangement.
- Verify lighting levels (lux) in accordance with the approved lighting design and applicable standards.
- Design of fresh air supply system supplies.

4.1.2.4 Installation Works

The *Contractor* shall:

- Install new cable racking, trays, conduits, and associated supports to accommodate the revised equipment layout.
- Install new cables for equipment, controls, lighting, and interlocks as required.
- Install lighting fixtures and associated control gear as per the approved lighting design.
- Perform control and interlock wiring, including:
    - Interlocks between the canteen hood extraction system and cooking equipment.
    - Emergency stop rewiring to ensure compliance with safety requirements.
- Install earthing and bonding for all equipment, ensuring compliance with SANS 10142[16] and OEM requirements.

4.1.2.5 Testing and Commissioning

The *Contractor* shall perform and document the following tests and commissioning activities:

- Insulation resistance testing.
- Earth continuity testing.
- Polarity verification.
- Load balance checks on relevant distribution board.
- Verification of all safety interlocks between hood, extraction system, and cooking equipment.
- Fan motor testing, including:
    - Verification and correct setting of overload relays.
    - Testing of motor start/stop controls.
    - Checking motor running current against motor nameplate data.
    - Verification of correct fan rotation direction.
- Complete all tests required for issuing a valid Certificate of Compliance (CoC).

4.1.2.6 Documentation Requirements

The *Contractor* shall provide the following documentation upon completion:

- As-built drawings showing cable routes, DB schedules, equipment positions, and interlock diagrams.
- Cable schedule detailing AKZ, cable sizes, types and termination points.
- Completed test sheets and commissioning reports.
- Certificate of Compliance (CoC) for the electrical installation.

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4.1.3 Civil Works

4.1.3.1 Contractor's Design

4.1.4 Phase 1

4.1.4.1 Demolition Activities

1. The *Contractor* is required to safely strip, remove and dispose of all ACM materials (e.g. ceiling boards) for the Canteen building. This activity also includes other construction materials that may arise from the *works*.
2. The *Contractor* quantifies the limitations and risks in the form of a detailed risk assessment, which is reviewed and accepted by the *Project Manager* prior to commencing with the stripping and removal of asbestos and ACM.
3. The *Contractor* is responsible in ensuring that the structural integrity and stability of the timber roof trusses and steel supports are not compromised during removal of the hob. If required, additional temporary supports may need to be designed and installed to support any fixtures.
4. The *Contractor* takes reasonable care to prevent any damage to the surrounding infrastructure (e.g. roof trusses, fire detection system, small power lighting, etc.) during demolition. The *Contractor* therefore plans the works considering any existing infrastructure and equipment.
5. During the stripping and removal of the fibre cement ceiling boards, the *Contractor* takes reasonable care not to damage the small power lighting system, including the electrical cables and conduits.
6. The *Contractor* is required to strip and remove the insulating form/material installed above the ceiling boards if any.
7. Any damages to existing infrastructure and services resulting from the works is repaired/ made good by the *Contractor* at his own expense. This is subject to the *Contractor* supplying a method statement for the repair works to the *Project Manager* for review and acceptance prior to conducting the repair *works*.
8. The *Contractor* develops a demolition and dismantling method statement complete with drawings (if required) that clearly indicate the various demolition phases. Full details of the demolition procedures and methods (including calculations) are to be provided to the *Project Manager* for review and acceptance prior to any demolition activities.
9. Within the demolition and dismantling method statement, the *Contractor* accounts for the general operations of the building and the safety of occupancy utilizing the building. Sections of the building will be isolated to facilitate the dismantling and installation process.
10. The *Contractor* may be required to remove architectural features and/or fixtures on the roof (i.e., light fittings, roof flushing's etc.) to facilitate the removal of the hood and ceiling. In such a case, the *Contractor* submits a list of existing features/components that require removal in the method statement/methodology for the *Project Manager's* acceptance. The *Contractor* is responsible for the removal, preservation and re-installation of the identified fixtures/components.

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4.1.5 Phase 2

The Canteen Building scope entails removal and replacing of the existing material with new materials for the roof and ceiling system. Below are material properties and descriptions for the existing and replacement materials.

Table 1: Material Properties for Existing Roofing and New Roofing

Existing Material	New Material
Ceiling	
6mm fibre cement ceilings	9mm x 1200 x 600 dropped Fissured ceiling panels, foil back, Gypsum Core + Vinyl Face. Fire Classification: Class B/B1/2, R-Value: 0.045m² K/W
Metal H-cover Strips	Strap hangers @ 1200 c/c, main tees strips at 1200 spacing c/c and cross tees at 600 c/c.
55 mm FC Covered Cornice	Cove Cornice 75mm
225 x 10 fibre cement fascias	225 x 10 facia boards, 275 x 80 barge boards

4.1.5.1 Ceiling Board

1. The *Contractor* is responsible for the procurement and installation of the ceiling boards for the Canteen building.
2. All material datasheets are to be submitted to the *Project Manager* for review and acceptance prior to being installed on the project.

4.2 CONSTRUCTION

4.2.1 Mechanical Works

The *Contractor* is to remove and install the two extraction hoods in the current locations, See Figure 1 and Figure 2 for locations.

4.2.2 General

1. All scaffolding requirements is to be carried out by the current Lethabo Power Station Scaffolding contract with ElectroHeat.
2. The *Contractor* is responsible for the safe removal of all asbestos and ACM's and the subsequent safe transport, storage and disposal thereof.
3. The *Contractor* takes full professional accountability and liability for the permanent and temporary *works* as described in the scope of works.
4. The *Contractor* adheres to all requirements, codes of standards and regulations stated in this scope of works.
5. Any discrepancy or ambiguity between the *Employer's* Specifications or requirements is to be immediately brought to the attention of the *Project Manager* for clarification.

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6. Where the *Contractor* requires additional information on the *works*, the *Contractor* notifies the *Project Manager* of the *Contractor's* requirements a minimum of one (1) week before continuing with the works.
7. All documentation, as specified in this Scope of *Works*, forms part of the *works* and is supplied to the *Project Manager* by the *Contractor*. The *Employer* reserves the right to issue the *Contractor's* design or drawings to other *Contractors* for purposes of maintenance, spares, verifications, modifications in future or any other purposes required by the *Employer*. The *Employer* has total rights to use the design as the *Employer* requires. The *Contractor* notes that all drawings and other documentation supplied to the *Employer* become the property of the *Employer* upon completion of the *works*.
8. The *Contractor* quantifies the limitations and risks into a detailed risk assessment before commencing with the *works*.
9. The *Contractor* develops a detailed demolition and asbestos removal method statement that clearly indicates the activities involved in the demolition and removal of asbestos from the indicated buildings. Full details of the demolition procedures and methods are provided to the *Project Manager* for review and acceptance. Refer to Method Statement4.3.2 for method statement requirements.
10. All asbestos material will after the completion of the stripping/demolition, as soon as reasonably practicable, be removed from site in double bagging, to the temporary transit site, where it will be kept in an enclosed container under lock and key until it is transported to the approved landfill site.
11. The *Contractor* disposes of all rubble at a waste disposal site to be approved by the *Project Manager*. The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are required to be submitted to the *Project Manager*. For all scrap metal, cables and material the *Contractor* submits with the tender the price per tonne for disposal of such material.
12. No drainage system to be used as the asbestos will be sprayed and captured with an approved binding liquid for dust suppression, as long as it is administered in a controlled manner with no excess runoff of the liquid. The floor area, if necessary, will be covered with 250-micron plastic sheeting as well as any platforms or areas where asbestos material debris may fall through to the ground.
13. All contaminated materials used to cover exposed surface areas, i.e. 250 micron plastic sheeting, shall be carefully folded in a manner to prevent spillage of its' content and placed into black 250 micron bags, sealed off with cable ties, and then double bagged with the 250 micron asbestos bags (yellow bags with an asbestos warning sign on it) and sealed off again with cable ties
14. The *Contractor* takes reasonable care to prevent any damage to the surrounding infrastructure during demolition. Any such damage resulting from the works will be repaired or replaced by the *Contractor* at his own cost.
15. Submits a project specific safety file to the *Project Manager* for comments / acceptance.
16. Submits a detailed level 3 schedule for the *works* to the *Project Manager* for acceptance after contract award.

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17. Continuously monitors the conditions within the working and surrounding areas for any hazardous substances or situations, and in such case, the *Contractor* is required to take necessary precautionary measures
18. Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 and Waste Management Procedure, as well as the National Building Regulations and SANS 10400 for all works.
19. Manages access to the working areas and the Site.
20. Manages activities on Site to ensure that no interference takes place between the *works* and that of others.
21. Liaise with the *Project Manager* regarding utilities and telephone facilities required for his site establishment.
22. Liaises with the *Project Manager* regarding the location of waste disposal sites and rubbish dumps.
23. The *Contractor* is responsible for the design, erection, maintenance and removal of all temporary works required for the execution of the works. The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the works. In addition to the aforementioned, the *Contractor* adheres to the following:
    - The *Contractor* is restricted to the designated working areas
    - The *Contractor* is not to enter any other areas and ensures that his employees abide by the applicable regulations
    - The *Contractor* performs all hoisting and lifting by qualified riggers
    - The *Contractor's* Equipment does not impair the operation or access to the plant/building
    - The *Contractor* provides any temporary or expendable materials required for the storage of materials
    - The *Contractor* safeguards and secures all items whilst in the *Contractor's* custody and control, until completion of the works.
    - Plant and equipment not forming part of the *works* are not to be modified without written permission from the *Project Manager*. Modification in this sense includes, but is not limited to the following:
        - Welding onto existing plant,
        - Drilling into structural steel or concrete,
        - Cutting or removing
        - Loading adjacent structures.

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4.3 OTHER REQUIREMENTS

4.3.1 Plant and Material Supply

1. The *Contractor* provides all tools and equipment for the handling of material and the proper execution of the *works*.
2. The *Contractor* takes reasonable care to ensure that equipment used does not cause damage to any existing infrastructure. In the event that such damages do occur to the surrounding infrastructures, the *Contractor* is responsible for repairing such damages and is liable for all costs associated with the repairs.
3. The *Contractor* is to supply, deliver, offload and temporarily store (as may be required) all materials needed to carry out the works.

4.3.2 Method Statement

1. The *Contractor* submits a demolition and asbestos removal Method Statement as well as a Method Statement for the hob ceiling boards.
2. This Method Statement clearly illustrates how the *Contractor* accounts for the risks of this project and is tailored to address the specified project objectives and requirements.
3. The Method Statement includes, as a minimum and where applicable, the following:
   - Work area set-up plan
   - Asbestos removal methods
   - All identified hazards, controls and management of risks
   - Diagrams showing the location of removal area/s, position of decontamination points, nominated transit routes and waste loading area
   - Constraints identified and considered by the *Contractor*.
   - Interfacing with Others; the *Contractor* illustrates an understanding of the work that is to be completed by Others and accommodates for the completion of such work in his methodology.
   - Description and illustrations of a construction traffic plan, use of laydown areas and plot plan.
   - Shifts and handovers for the various sections of the works, this information is to enable the *Employer* to integrate the programmes of the various *Contractor*s.
   - Detailed risk assessment which lists risks specific to the works and is accompanied with associated proposed mitigations.
   - List and description of plant and machinery required to carry out the works.
   - Inspection and quality control plan.
   - A clear description of the responsibilities of the *Contractor*'s personnel involved with the works, including (where applicable) his *Project Manager*, Site Quality Manager, Site Engineer, Health and Safety Manager, Technical Office Manager, Production Manager,

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Supervisor, Environmental Officer, Fabricator, Erection Engineer, Shop detailer, Transporter and other personnel required for the civil and structural works.

- Construction sequencing considerations, which take into account any constraints.
- Health, safety and quality control for the activity.
- All plant, equipment and machinery required to complete activity.
- Plan for confining, collecting and disposing of waste materials as a result of removal operations, where applicable.
- Works required to safeguard existing infrastructure and services.

4. All Method Statements are reviewed and accepted by *Project Manager* prior to commencing any work.
5. The *Contractor* submits a new demolition and asbestos removal Method Statement, a month prior to commencing with any construction activities and after Contract Award, which covers all the aspects listed above, and any additional requirements or changes arising from negotiations or clarifications, for acceptance by the *Project Manager*. This Method Statement is to include interfaces with Others.

4.3.3 Project Schedule

1. As part of the Method Statement and as a tender returnable, the *Contractor* submits a Level 3 project schedule considering all the interfaces and time constraints.
2. The project schedule is submitted within 5 working days after contract award.
3. This schedule does not omit key activities. Timing of the activities is consistent with the demolition and asbestos removal Method Statement.
4. The schedule is to show that the *Contractor* has a clear understanding of the full scope of works, including the accompanying risks. The schedule is to be logical and realistic.
5. The *Contractor* submits a schedule for all the phases of the *works* to the *Project Manager* for his acceptance.
6. This schedule is accompanied with the following:
   - A comprehensive narrative which describes the basis of the schedule;
   - A list of assumptions that the schedule was based on;
7. The schedule clearly indicates the following (as applicable):
   - Activities of all the project work to be done by the *Contractor* and the other work covered by the contract that is being done by the sub-*Contractor*s;
   - Logical links/ sequence/ relationships that connect the various activities together (showing all hold points);
   - Master schedule is to show Links/logic, the CPM (Critical Path Method) technique is used for schedule and planning. The critical path is clearly illustrated.

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- The works is completed within accepted durations that are consistence with key dates provided in the Contract Data. Milestone dates in line with Key Date/Contract Data shown on the schedule.
- The number of shifts planned per day for each section of the works.
- The way in which the *Contractor* plans to interface with Others. Interface points with Others are identified in the schedule;
- A comprehensive description of each activity, including the name and designation of the responsible person;
- Sufficient information regarding the activity duration and a description to enable measurement of the progress of the activity within the required update period;
- Each description in the schedule explains and represents the performance of the activity, including tangible deliverables or products;
- Resources required to perform an activity for each activity that requires resource assignment;
- Single source of responsibility or ownership per activity.

4.3.4 Documentation and Configuration Management

a. Document identification

- All documents supplied by the *Contractor* are subject to the *Employer's* approval. The language of all documentation is required to be in English.

b. Document Submission

- All project documents must be submitted to the delegated *Employer's* Representative with transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014). In order to portray a consistent image, it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction.
- The *Contractor* is required to submit documents as electronic and hard copies, and both copies must be delivered to the *Employer's* Representative with a transmittal note.

In addition, the *Contractor* adheres to the following standards:

- Documentation Management Review and Handover Procedure for Gx Coal Projects (240-66920003).
- Project / Plant Specific Technical Documents and Records Management Work Instruction (240-76992014)

c. Email Subject

The *Contractor* submits all documentation to the *Employer's* Representative in the following media:

- Electronic copies are submitted to Eskom Documentation Centre through generic email address (drmsharedservices@eskom.co.za). The email subject as a minimum has the following: ***(Station_Project Name_Discipline_Subject)***. Electronic copies that are too large for email are delivered on CD/DVD, large file transfer protocol and/or hard drives to the Project Documentation Centre. In a case where CD has been submitted, a notification email, with the

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transmittal note attached, is sent to the project generic email address. The Representative is copied on the email as well.

- Hard copies are submitted to the *Employer's* Representative accompanied by the Transmittal Note.

4.4 ENVIRONMENTAL REQUIREMENTS

4.4.1 Transportation of asbestos and ACM

1. Asbestos and ACM will be transported in accordance with best practices to limit the risk of the potential exposure of people and the environment to asbestos fibres. The requirements and details of the following elements must be well defined, practised, and recorded in order to ensure safe transportation practices:
    - Names of the responsible persons and relevant contact details
    - Instructions issued by the Eskom responsible person
    - Safe handling practices for asbestos and ACM
    - Approved waste contractor registration and certificates
    - Route description of the transportation and disposal
    - Hazardous waste site registration and certificates
    - Temporary waste storage site and security requirements
    - Identification and classification of vehicle(s) used, including the labelling of the vehicle(s)
    - Safety notices
    - Requirements for waste removal containers and bags, including their labelling
    - Cleaning of waste spillages
    - Permit/certificate of removal
    - Certificate of safe disposal
    - Training requirements and records
    - PPE requirements and records

4.4.2 Asbestos waste management

1. The OU/BU responsible manager must ensure that steps are taken to prevent the release of asbestos. These should include filtration systems. Any substance that forms part of the filtration system, when discarded, must be disposed of as asbestos waste.
2. Attention should be given to transport practices to prevent the release of asbestos fibres into the environment arising from the transport of asbestos. All asbestos waste shall be transported in accordance with SANS 10228 and SANS 10229.
3. Waste shall be disposed of only on waste disposal sites specifically designated for this purpose in terms of the Environment Conservation Act 73 of 1989 or the National Environmental Management Waste Act 59 of 2008 (NEMWA 2008). The permit conditions for each site shall be adhered to.

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4. Details of the registered asbestos disposal site for the disposal of any waste during and after removal should be kept on record.
5. Waste shall be deposited in such a manner that it does not cause a hazard on or outside the site concerned, that is, by minimising dust dispersal and the need for further disturbance of the waste.
6. High-density materials such as asbestos cement products and sheets containing asbestos are not likely to release asbestos dust when handled by hand. However, a hazard may arise if the waste is subjected to pounding by vehicles passing over it or is tipped from a vehicle, and such waste should, therefore, also be covered.
7. Liquids or sludge containing asbestos shall be collected in collecting tanks, from which it may be pumped into sealable drums or a closed-type tanker for transit to the waste disposal site.
8. Transport and disposal shall take place in such a way that there is no risk of the material drying out before it has been disposed of and that it is covered to minimise dust dispersal.
9. All used PPE and air filters from vacuum cleaners, air conditioners, and ventilation equipment shall be placed in impermeable bags or similarly effective containers. These containers shall be sealable for disposal, with the outside of all containers to be cleaned before leaving the workplace.

4.5 SAFETY REQUIREMENTS

1. Refer to Appendix B: LBS00190 - Asbestos Management Plan.
2. The *Contractor* is responsible for the safety of all personnel involved in the works as well as the safety of all personnel at Lethabo Power Station affected by the construction of the works.

4.6 QUALITY AND PROJECT HANDOVER REQUIREMENTS

4.6.1 Quality Management

1. The *Contractor* submits a fully detailed Quality Control Plan (QCP) for acceptance, which details all the aspects of the quality management system to be applied. It includes the methods that will be utilized to ensure quality assurance, control and improvement of the identified activities as stated in the Scope of *Works*.
2. The *Contractor* is responsible for defining the level of QA/QC (Intervention Points) or inspection to be imposed on his *sub-Contractor*s and suppliers of material in the Quality Control Plans (QCPs). This level is based on the criticality of equipment and must be submitted to the *Project Manager* for acceptance.
3. Product data sheets, product samples, and any other documents are submitted for review and acceptance by the *Project Manager* after contract award and prior to the commencement of work.
4. All quality control documentation is submitted to the *Project Manager* within seven (7) days of Contract date

4.6.2 Handover

1. Apart from any statutory data packages required, the *Contractor* also submits a data package of the relevant drawings, test certificates etc. to the *Project Manager* for acceptance. These include, but are not limited to:

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- Approved ITP's, QCP's
- Method statements and specifications adhered to
- Risk assessments
- Inspection reports
- Notifications
- Modifications
- Technical Queries, Engineering Responses and communications with *Project Manager*/*Employer*
- Non-conformance reports
- Transport notifications
- Calculations for any temporary works that may be required for the safe execution of the works
- Material certificates
- Test results and reports

4.6.3 Applicable Standards

The *Contractor* is required to adhere to the latest editions of and the normative references within the following SANS standards and other codes of practice, regulations & standards (refer to sections 2.2.1 on additional SANS and Eskom Standards):

Number	Title
SANS 10400	The Application of the National Building Regulations
SANS 10228	The Identification and Classification of Dangerous Goods for Transport by Road and Rail Modes
SANS 10229	Transport of Dangerous Goods - Packaging and Large Packaging for Road and Rail Transport
240-107981296	Constructability Assessment Guideline
240-99527377	Inspection Manual for Civil Works at Eskom's Power Station
240-43898151	Perform verification and validation PCM
240-53114002	Engineering Change Management Procedure
474-58 (Rev1)	Document and Records Management
240-53113685	Design Review Procedure
Government Notice R1196 in GG 43893	Asbestos Abatement Regulations 2020
32-303	Requirements for the Safe Processing, Handling, Storage, Disposal and Phase-out of Asbestos
32-727	Eskom Safety, Health, Environment and Quality (SHEQ) Policy
LBS00190	Asbestos Management Plan
SANS 10142-1	The wiring of premises: Low voltage installations
240-56227443	Requirements for Control and Power Cables for Power stations Standard

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4.6.4 Additional Requirements and Pre-requisites

4.6.4.1 General

1. The *Contractor* is required to confirm all site dimensions, levels and cast-in items positions on site prior to any fabrication of steel or casting of concrete
2. The *Contractor* is required to submit a comprehensive method statement of the works to the Project Manager for acceptance prior to the start of the works
3. Any request for deviation from specified requirements is submitted in writing and include the proposed deviation, rationale for the deviation, any technical data supporting the deviation, and historical experience supporting the deviation.
4. Combining or mixing of different codes is not permitted
5. The Employer will arrange a mandatory site clarification meeting with all tenderers so that tenderers are afforded the opportunity to visually inspect the works to be done

4.7 DELIVERABLES

The *Contractor* provides the following document deliverables as part of the *works*.

4.7.1 Planning Phase

1. A Level 3 schedule (schedule with defined activities) for the scope clearly highlighting all activities involved, major milestones and provision for the *Employer* to review.
2. Method Statement(s)
3. Risk Assessments
4. Project specific safety file
5. Project Quality Control Plan
6. VDSS
    - The *Contractor* is required to update the provided VDSS throughout the project phases.

4.7.2 Pre-construction Phase

1. Detailed demolition method statements and landscaping & rehabilitation method statement for the works
2. Inspection and Test Plans (ITP's) indicating all intervention points
3. Quality Control Plans (QCP's)
4. Construction Programme
5. Project Specific Safety File (updated)
6. Detailed Risk Assessments (updated)

4.7.3 Post-demolition Phase

1. QA returnables
2. Data books as detailed in Section 4.6.2

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5. INFORMATION ISSUED BY THE *EMPLOYER*

The following documents are issued to the *Contractor* for information.

Document Number / ID	Document Title
240-107981296	Constructability Assessment Guideline
240-99527377	Inspection Manual for Civil Works at Eskom's Power Station
240-43898151	Perform verification and validation PCM
240-53114002	Engineering Change Management Procedure
474-58	Document and Records Management
240-53113685	Design Review Procedure
32-303	Requirements for the Safe Processing, Handling, Storage, Disposal and Phase-out of Asbestos
32-727	Eskom Safety, Health, Environment and Quality (SHEQ) Policy
LBS00190	Asbestos Management Plan

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APPENDIX A: EXTRACTION HOOD QUOTATION

ITEM NO	PRODUCT CODE	DESCRIPTION	QTY
		Extraction canopy Canopy 1 1 x 6700 x 3000 x island mount stainless 400 slope sided canopy.Extract/ supply 1.2mm 430 grade material. Comes with light fittings , grease trays and stainless steel filters 2 x stainless steel floor support stand. 4 modules 3350 x 1500 x 600 Galvanized Duct 1mm thick Extraction duct 4 x spigots 2 x stop ends 5 x plenum duct 2 x 45? bends 1 x 90? bend 2 x straight duct 2 x silencer 1 x fan 800 dia 22 380v 4kw 1 x lobster bend 1 x cowl 1 x stop/start overload Fresh air system 4 x washable filters 1 x filter box 2 x square to rounds 2 x silencers 1 x fan 630 dia 2.2kw 380v 3 x 90? bends 8 x spigots 8 x square to rounds 4 x Flexible duct 8 x 250 dia duct	
2		EXTRACTION CANOPY TWO 4600x2200	1

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ITEM NO	PRODUCT CODE	DESCRIPTION	QTY
		Extraction canopy Can 2 Floor Stands 1 x 4600 x 2200 x 600 stainless steel island mount 400 slope sided canopy. 1.2mm 430 grade material. Comes with stainless steel filters, grease trays and LED light fitting 2 x stainless steel floor Stands 4 modules of 2300 x 1100 x 600 Extraction Ducting Galvanized material 1mm thick 4 x spigots 2 x stop ends 5 x plenum duct 2 x 45? bends 2 x straight duct 1 x square to round 2 x silencers 1 x 710 diameter 380v 3kw 1 x lobster bend 1 x cowl 1 x stop start Fresh air system 4 x washable filters 1 x filter box 2 x square to rounds 2 x silencers 5m ducting 4 x spigots 4 x square to rounds Flexible ducting 1 x 630 diameter fan 2.2kw 1 x overload starter	
3		CONSUMABLES	1
4		DELIVERY & INSTALLATION TO SITE	1
5		DE-COMMISSIONING OF EXISTING SYSTEMS	1

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APPENDIX B: ASBESTOS MANAGEMENT PLAN

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