



Technical Specification

Eskom Real Estate

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Park Project**

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1. INTRODUCTION

This document provides the completed detail design status for the Parliament Executive Suite architectural fit-out. It serves to establish a complete design package, producing the necessary component specifications for partition walls, glazing, flooring, and ceilings to enable procurement, construction, and commissioning. Furthermore, it addresses the critical integration of architectural elements with the Heating, Ventilation Air Conditioning (HVAC), Electrical, and Control & Instrumentation (C&I) services housed within the ceiling and floor voids.

The scope of work covered in this package extend to all areas of the above-mentioned site and includes:

- Fire Detection System (FDS),
- Fire Protection System (FPS),
- Public Address (PA) System,
- Boardrooms Audio/Visual System,
- Eighth (8th) Floor Closed-Circuit Television (CCTV) Surveillance,
- Access Control System and Security system,
- Electricity and Water Metering,
- Heating, Ventilation and Air Conditioning (HVAC) System,
- Electrical and Auxiliary Power System
- Architectural/Space Planning
- General Interior Building, Safety, Accessibility, Branding and Informational Signage

2. SUPPORTING CLAUSES

2.1 SCOPE

This document covers the minimum technical specification for the scope of the *works* for Thibault Square Office Building 8th floor in Cape Town that is referred to as Parliament Executive Suite. This building was under the property management SGK Properties.

2.1.1 Purpose

The purpose of this document is to outline the minimum technical specifications for the *works*. This document provides the Engineering and Architectural/ Space Planning input to be included in a contract document based on the NEC conditions of contract.

2.1.2 Applicability

This document applies to the Control and Instrumentation, Electrical, Mechanical, Architectural Space Planning, Safety and Building Management Systems for the Parliament Executive Suite.

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2.2 NORMATIVE/INFORMATIVE REFERENCES

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

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems.
- [2] Construction Regulations, 2014
- [3] 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy
- [4] SANS 9001, Quality systems
- [5] National Building Regulations and Building Standards Act No. 103 of 1977
- [6] SANS 10400 The application of the National Building Regulations. All Parts
- [7] The Occupational Health and Safety Act, Act 85 of 1993 as amended including all regulations.
- [8] 240-102220945 Specification for Integrated Access Control System for Eskom sites
- [9] 240-91190304 Specification for CCTV Surveillance with Intruder Detection
- [10] 240-86738968 Specification for Integrated Security Alarm System for Protection of Eskom Installations and its Subsidiaries
- [11] 240-170000096 Physical Security Integration Standard
- [12] 240-60725641 Specification for Standard (19-inch) Equipment Cabinets
- [13] DEM2412993 & 2425114 LAD (Logical Architecture Definition) PAC (Physical Application Component) for Physical Security Information Management System (PSIM)
- [14] Business Requirement Specification DEM_2412993 & 2425114 Tx and ET Security Monitoring System
- [15] 240-170000691 Standard for Intrusion Pre-detection Systems used at Eskom sites.
- [16] 240-170000723 Generic Technical Requirements for Physical Security Technologies Contracts
- [17] 240-56296995 Standard for Retention Periods Rev_4
- [18] 240-56737448 - Fire Detection and Life Safety Design Standard
- [19] 240-71432150 - Plant Labelling and Equipment Description Standard
- [20] 240-171000171 Commissioning Guideline for Secondary Plant Physical Security System
- [21] 240-180100001 Secondary Plant Security Systems Maintenance Procedure
- [22] 240-55410927 Cyber security standard for Operational Technology
- [23] 0.54-393 Earthing Standards
- [24] 240-185000221 IP Address Allocation standard for Physical Security Devices rev 1
- [25] 240-170000098 Security Public Address Systems for Substations and Telecoms High Sites
- [26] 240-118870219 – Standby Power Systems Topology and Autonomy for Eskom Sites
- [27] 240-91190294 – DC and Auxiliary Supplies Philosophy

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2.2.2 Informative

- [28] 240-53113685, Design Review Procedure
- [29] 474-58 (Rev1): Document and Records Management
- [30] SANS 10139
- [31] ISO 7240
- [32] SANS 10400-T

2.2.3 Disclosure Classification

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

2.3 DEFINITIONS

BACnet: BACnet is a communication protocol, with a set of rules, for building automation and control networks. It allows different devices, such as those from various manufacturers, to communicate and work together on a single network to control systems like HVAC, lighting, and fire detection.

CBMS: A consolidated Building Management System is a centralized, integrated platform that controls and monitors various systems within a building, including HVAC, lighting, security, fire safety, and energy management. It allows building owners and managers to remotely monitor and adjust these systems for optimal efficiency, occupant comfort, and safety. The system typically includes sensors, controllers, and software that collect and analyse data to make informed decisions about building operations.

Failover: A procedure by which a system automatically transfers control to a duplicate system when it detects a fault or failure.

Middleware Platforms: Software that acts as a bridge between different applications, systems, and data sources, enabling them to communicate and share data seamlessly.

Modbus: Modbus is an industrial communication protocol for data exchange between electronic devices, originally developed for programmable logic controllers (PLCs). It is a client-server protocol where a client (master) initiates requests to one or more servers (slaves) to read or write data, enabling devices like sensors and PLCs to communicate with each other. Common versions include Modbus RTU, Modbus TCP, and Modbus ASCII.

VPN: A service that creates a secure, encrypted "tunnel" for your internet traffic over a public network, like the internet. It works by routing your connection through a remote server, which masks your IP address and encrypts your data, enhancing your online privacy and security.

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2.3.1 Disclosure Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
API	Application Programming Interface
BMS	Building Management System
CBMS	Consolidated Building Management System
CCTV	Closed Circuit Television
DALI	Digital Addressable Lighting Interface
ECM	Engineering Change Management
ECSA	Engineering Council of South Africa
ERE	Eskom Real Estate
HMI	Human Machine Interface
HVAC	Heating, Ventilation, and Air Conditioning
IoT	Internet of Things
LAN	Local Area Network
MDR	Multi-disciplinary Review
MWP	Megawatt Park
NAE	Network Automation Engine
NEC	New Engineering Contract
OEM	Original Equipment Manufacturer
PA	Public Address System
PLC	Programmable Logic Controller
PvC	Polyvinyl Chloride
SABS	South African Bureau of Standards
SANS	South African National Standards
SCADA	Supervisory Control and Data Acquisition
SRD	Stakeholders Requirements Definition
UI	User Interface
UPS	Uninterruptible Power Supply
VPN	Virtual Private Network
VSD	Variable Speed Drive
HVAC	Heating Ventilation and Air Conditioning
ASHRAE	American Society of Heating Refrigeration and Air Conditioning Engineers
ASIB	Automatic Sprinkler Inspection Bureau
LVP	Luxury Vinyl Plank

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Abbreviation	Description
NTCSA	National Transmission Company South Africa
TSG	Toughened Safety Glass
Rw	Weighted Sound Reduction Index (a measure of acoustic insulation).
PIU	Perimeter Induction Unit (Air Conditioning casings).
P&SCM	Procurement and Supply Chain Management

2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities shall be as per *The Employer's* design review procedure 240-53113685.

Contracts Manager:

The contracts manager is responsible to incorporate this Technical Specification into a contract based on the NEC conditions of contract.

Architectural Practitioner:

The Architectural Practitioners are responsible to review the completed contract to ensure that this Technical Specification has been incorporated correctly.

Project Manager:

The project manager is responsible for facilitating and ensuring continuous coordination and management of the requirements during the design development, execution phase and closing out of the project.

Facilities Manager:

The facilities manager is responsible for ensuring continuous sustainable performance of facilities. During construction phase he/she ensures that there are smooth interactions with tenants and stakeholders where required.

Contractor:

The contractor's responsibility is to engineer, procure and construct the project according to the contract documentation within the required cost and time budgets and the specified standards.

The Contractor will play the role of the design authority ensuring the following:

- The design satisfies the design requirements.
- All relevant Eskom design standards, procedures and guidelines have been adhered to.
- The design is suitable and correct calculations, philosophy, functionality, etc. have been applied.
- The design is integrated by identifying all interfaces with other packages/plant systems/assets and ensuring that these interfaces are catered for.

Eskom Engineering

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

- The design satisfies the stakeholder requirements (i.e., validation of design deliverables against stakeholder requirements)

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- The design is integrated by identifying all interfaces with other packages/plant systems/assets and ensuring that these interfaces are catered for
- Foreseen technical risks are identified and addressed/challenged with the Design Authority
- General technical oversight is provided over the design.

2.6 PROCESS FOR MONITORING

The design aspects will be monitored by conducting end of phase design reviews as described in the Eskom design review procedure [28]

2.7 RELATED/SUPPORTING DOCUMENTS

None

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3. ENGINEERING AND THE *CONTRACTOR'S* DESIGN

3.1 DESCRIPTION OF THE PARLIAMENT EXECUTIVE SUITE *WORKS*

3.1.1 Parliament Executive Suite Overview

The scope of *works* for this package includes the engineering design, procurement and construction work as indicated in this document for Fire Detection System (FDS), Public Address (PA) System, Electricity Metering, Environmental Monitoring, Fire Protection System (FPS), Heating, Ventilation and Air Conditioning (HVAC) System, Security System, Electrical and Auxiliary Power System, Architectural/Space Planning and General Interior Building, Safety, Accessibility, Branding and Informational Signage.

The Parliament Executive Suite will serve as a dedicated executive engagement facility aimed at improving collaboration between Eskom and Shareholder. Through the provision of secure meeting spaces, executive work areas, and enabling technologies, the facility will support the efficient management of shareholder engagements, improve responsiveness, and contribute to the timely execution of strategic and governance-related activities. This 8th Floor Executive Suite at Thibault Square Building is designed to accommodate:

- Group Chief Executive (GCE) and Chairman offices.
- General Managers offices.
- Executive Boardrooms.
- Large Multi-Use Space.
- Reception and Visitor Areas.
- Meeting Rooms.
- Information Technology (IT) Server Room.
- Kitchen and Tea Stations.
- Dining/Entertainment Facilities.
- VIP facilities.
- Accessible toilets that are friendly for the disabled and
- Support Amenities.

The executive suite layout is shown in Figure 1a and b below.



Figure 1a: 8th Floor Area.

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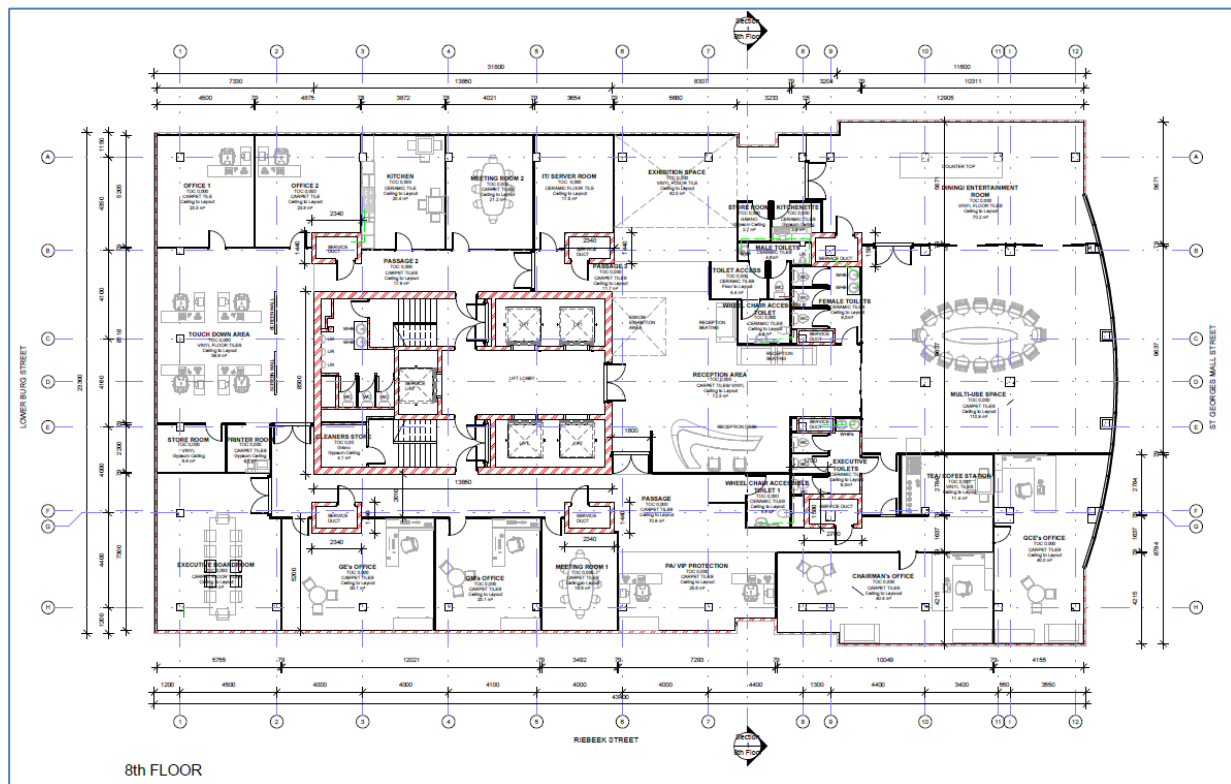


Figure 1b: Proposed Parliament Executive Suite Floor Layout

This detail design report outlines the architectural and interior fit-out specifications for the Eskom Executive Suite located on 8th of floor of Thibault Square Building. The primary design objective for this phase is the creation of a high-performance, acoustically secure executive workspace that integrates seamlessly with the existing building infrastructure. Key achievements in this design iteration include the finalization of the spatial layout, the specification of high-density acoustic drywall systems to ensure executive privacy, and the coordination of interior finishes including Luxury Vinyl Plank (LVP) and heavy commercial carpet tiles over the existing raised access floors. Major technical integration points involve sealing the ceiling plenum barriers within the existing waffle slab.

A non-loadbearing interior architectural fit-out utilizing high-performance acoustic drywalls, specialized acoustic glazing, and coordinated floor/ceiling systems adapted to an existing raised-floor office environment.

3.1.2 Existing offices at Thibault Square Building

3.1.2.1 Architectural/Space planning:

The existing 8th Floor office accommodation at Thibault Square, Cape Town, was designed for a previous tenant requirement and is not compliant with Eskom office space standard, Eskom's Universal Access Specification (240-157602340), access control & security standard, and the requirements of SANS 10400-S for persons with disabilities. The current layout consists of a mostly enclosed offices, meeting facilities, and a centrally positioned kitchen. The male and female ablution facilities are located on split levels between Floors 8 and 9, and Floors 7 and 8 respectively, resulting in accessibility constraints that require remediation as part of the proposed Parliament Executive Suite development.

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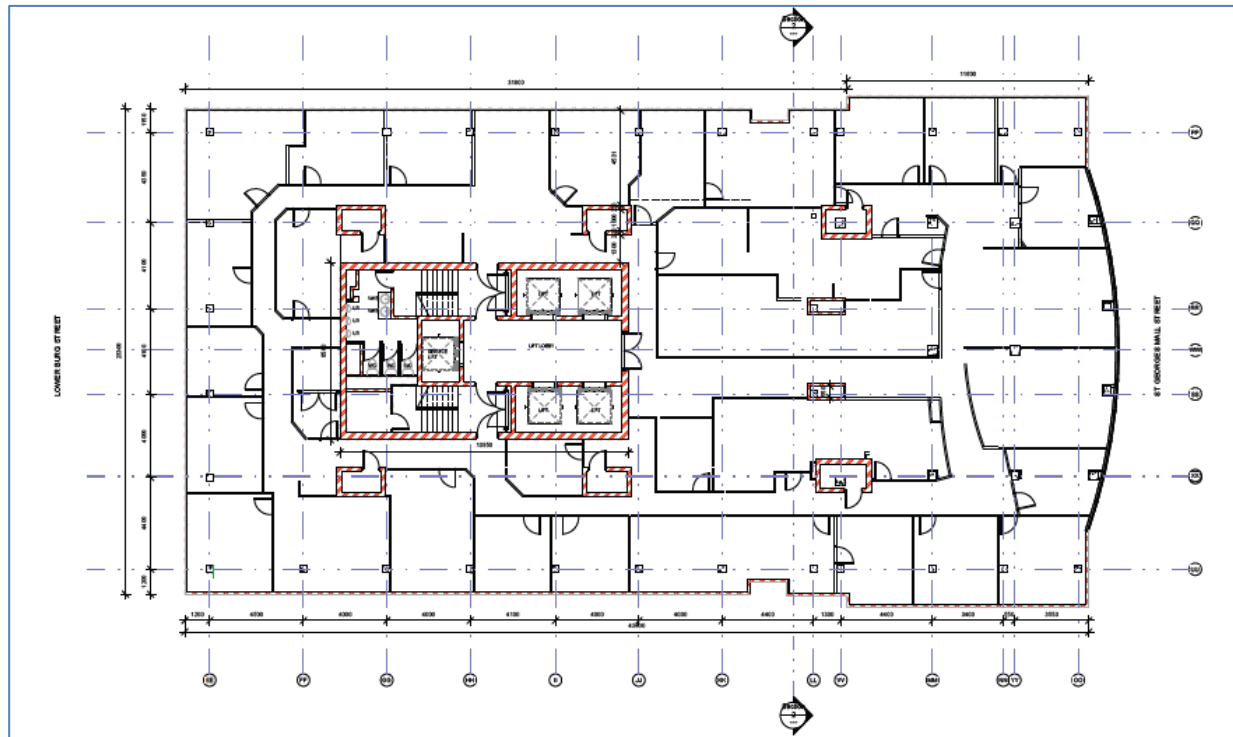


Figure 2a: 8th floor Thibault Square as-built space planning layout.

The existing windows were provided with normal blinds and compensated with UV blinds as shown in the figure 2b below.



Figure 2b: 8th Floor Thibault Square Building window finishes.

3.1.2.2 EXISTING CONTROL AND INSTRUMENTATION SYSTEMS:

The 8th Floor Executive Suite at Thibault Square Building currently does not Building Management. The active fire detection system is a Ziton ZP3 system.

The Thibault Square Building is currently equipped with a TOA Public Address system which is gradually being phased out by the equipment manufacturer and retrofitted with the SX2000 series which is backwards compatible with the installed series meaning that, if a migration route is followed, peripherals such as speakers, amplifiers etc. can be reutilised.

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3.1.2.3 EXISTING HEATING, VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM:

The base system that forms the primary section of the air conditioning system is a chilled water system utilizing a combination of centrifugal and screw chillers at roof level. The chillers supply chilled water to a series of large air-handling plants at the roof the building. Refer to figure 3a below for the HVAC components and figure 3a for the HVAC during layout.



Figure 3a: HVAC components at the Thibault Square Building.

These air handling plants supply air directly into the ducts located in the building six cores.

Return air reaches these plants via the masonry riser ducts and is therefore a mixed return from all the levels served by the plant. There is a large concrete duct beneath the air handling plant rooms that brings fresh air into the plant.

The fresh air, supply air and return air volumes are controlled with a combination of dampers and variable speed fan drives.

This equipment will not be attended in any way as it is outside the terminal points of this project.

HVAC Reticulation System

This entails variable air volume system including supply air ducting, diffusers and control system. The design has variable volume diffusers for both the perimeter and the internal zones. The diffusers and the new room (space) temperature control system are electric / electronic.

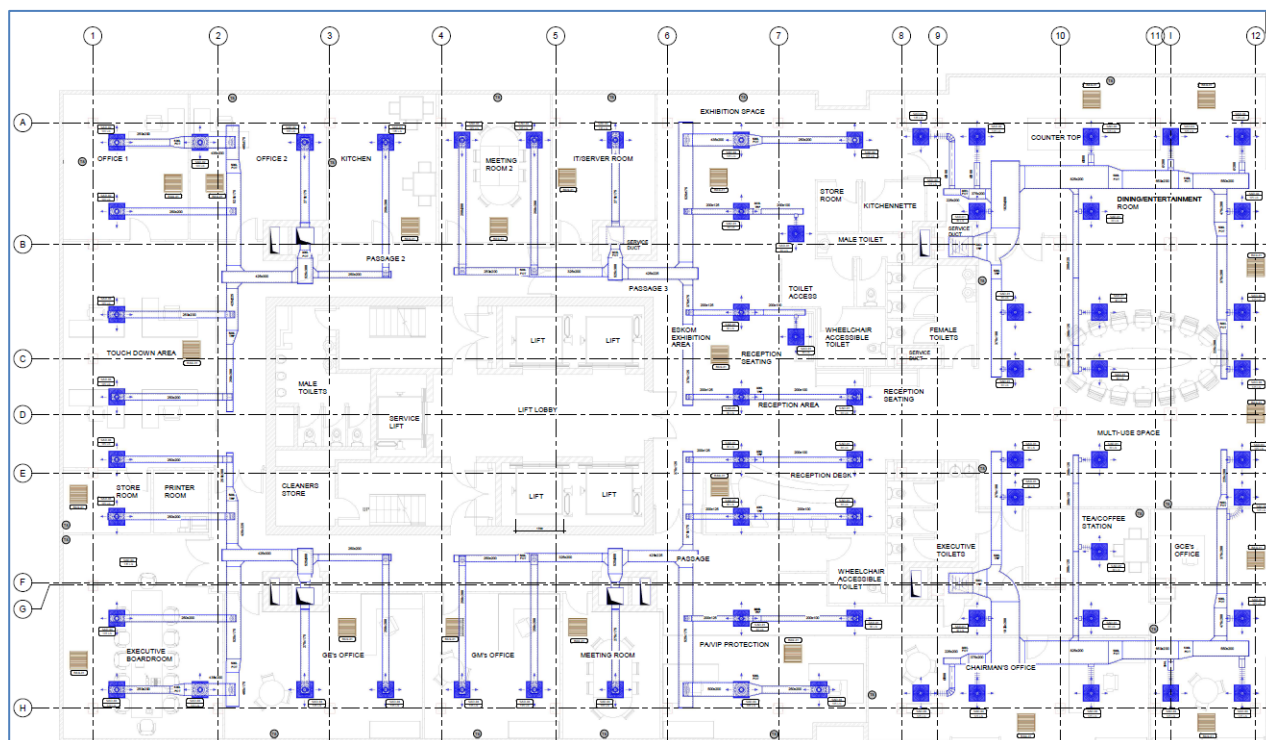


Figure 3: 8th Floor Thibault Square Building HVAC ducting arrangement.

3.1.2.4 EXISTING FIRE PROTECTION SYSTEM (FPS):

The 8th Floor Executive Suite at Thibault Square Building is equipped with Fire protection system comprising of automatic fire sprinklers, pipe risers, fire extinguishers, fire hydrants and fire hose reels fed from the existing building fire mains reticulation.

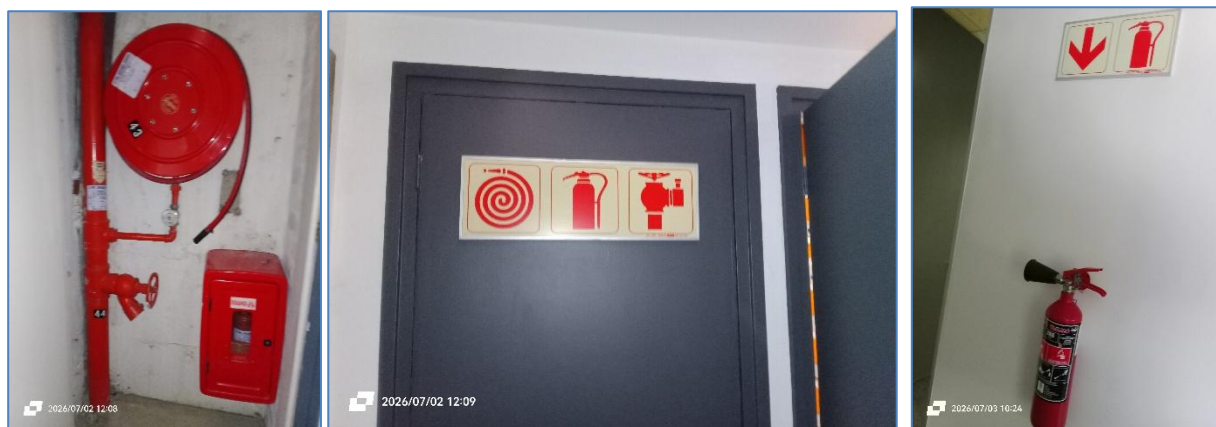


Figure 4a: Fire hose reel, fire signage and fire extinguisher.

The 8th Floor Executive Suite at Thibault Square Building is equipped with existing fire hydrants, hose reels, fire extinguishers and SABS approved photo luminescent symbolic fire signage. The passage had smoke detectors and fire alarm. Most the offices had fire sprinklers, but the smoke detectors were not provided for as depicted below in figure 5.

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Figure 5: Sprinkler, smoke detector and fire alarm.

3.1.2.5 EXISTING ELECTRICAL AND AUXILIARY POWER SYSTEM:

The existing electrical installation on the 8th floor is currently supplied by a 160A incoming feed. This supply provides power to the floor's lighting and socket outlets, which are to be removed as part of the planned refurbishment. The floor also has established connections to both the building's generator and the existing Uninterrupted Power Supply (UPS) system, which together provide partial backup capability for selected loads. The current UPS arrangement does not extend to full coverage of all electrical systems on the floor, meaning that only certain circuits benefit from backup power in the event of a supply interruption. The lighting and socket outlets are configured to suit the previous layout and therefore do not align with the new partitioning and space planning requirements.

In summary, the existing system comprises a 160A supply, partial 200 KVA generator and UPS backup, and a distribution network of lights and sockets that are no longer suitable for the revised design. This forms the baseline from which the new electrical design will be developed.

3.1.2.5.1 Distribution Board

The 8th Floor Executive Suite at Thibault Square is supplied with a Distribution Board (DB) located on the roof named "DB8" rated at 160 A. The current DB is to be reused as a supply source to the proposed development.



Figure 5a: Floor 8 distribution board.

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3.1.2.5.2 Lighting

The existing lighting will be adapted for the proposed 8th floor layout and energy efficient lighting type will be used. This supply source is to be reused. Refer to Eskom 8th Floor Thibault Square Building Lighting Layout – Drawing no: Parliament office-10002- Rev 0.

3.1.2.5.3 Small Power

Small Power is currently supplied from the roof distribution board. This supply source is to be reused. Refer to 8th Floor Thibault Square Building Small Power Layout – Drawing no: Parliament Office-10001- Rev 0.

3.1.2.5.4 Existing power backup

The 8th Floor Executive Suite at Thibault Square Building is equipped with a power backup system that is rated at 186 kW as shown below. This caterpillar generator is located at the building roof in an enclosed area. Reliability statistics of the of the power backup generator could not be established but it was stated that it was about 40 years old and this generator was only able to provide partial backup.

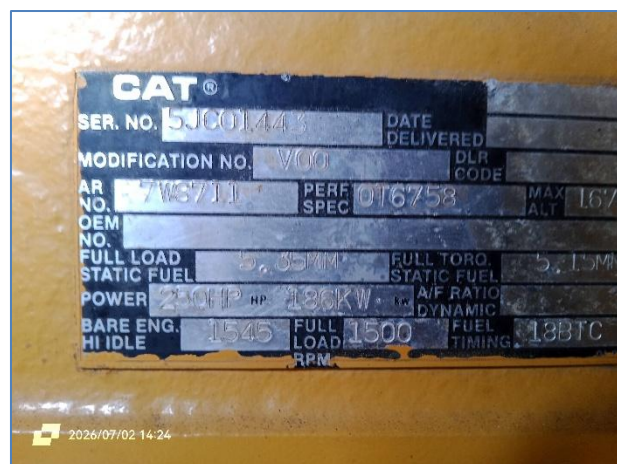


Figure 6: Power Generator Nameplate.

3.1.2.5.5 Existing eighth (8th) floor Closed-Circuit Television (CCTV) Surveillance, Access control system and Security system, Information and Cyber Security.

3.1.2.5.6 Access control

The access control system was a manual system based on guards that are placed at the main entrance ground floor to manage the entry and exit of the personnel. Every visitor had to sign the access register and declare his or her identity.

3.1.2.5.7 Closed-Circuit Television (CCTV) Surveillance

The facility was provided with 24-hour CCTV and the command control centre was at the ground floor next to the lifts. Below in figure 7 is the typical command and control centre of the Thibault Square Building.



Figure 7: Power Generator Nameplate.

3.1.2.5.8 Information and Cyber Security

The facility did not have Information and Cyber Security for the tenants.

3.2 MANAGEMENT AND START UP.

3.2.1 *Management* meetings

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register	Weekly on ____ at ____	Microsoft teams	Employer, Contractor
Progress report, reporting on actual work completed.	Weekly on ____ at ____	Megawatt Park	Employer, Contractor, Supervisor, and ____
Compensation events	When required	Megawatt Park	Employer, Contractor
Project Progress meetings	Weekly on ____ at ____	Megawatt Park	Employer, Contractor
Overall contract progress	Weekly on ____ at ____	Megawatt Park	Employer, Contractor
Look ahead schedule	Bi-weekly on ____ at ____	Megawatt Park	Employer, Contractor

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

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All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

3.2.2 Documentation control

All documents supplied by the *Contractor* are subject to Eskom's acceptance. The language of all documentation is English.

The *Contractor* includes the *Employer's* drawing number in the drawing title block. This requirement only applies to design drawings developed by the *Contractor* and *Subcontractors*.

Drawing numbers are assigned by the *Employer* as drawings are developed.

All review documentation is submitted with transmittals. Any review information submitted without transmittals are considered rejected automatically.

The *Contractor* complies a Master Document List (MDL) which contains a list of all documents issued for review, document number, document title, transmittal number, date of submission, overall document review status. The MDL is a live document, the contractor issues an updated MDL within the progress report to the *Project Manager*

3.2.3 Health and *safety* risk management

The supplier/contractor/tenderer is expected to comply to the following documents when working at/rendering a service to Eskom but not limited to the following:

- a. Occupational Health and Safety Act 85 of 1993 and its Regulations (OHS Act)
- b. Disaster Management Act, no 57 of 2002.
- c. Safety, Health and Environmental requirements contained in the SHE Specification for Contractors.
- d. Eskom SHEQ Policy, Standards, Procedures, Guidelines, Specifications and Regulations as listed below:
 - i. Eskom Safety, Health, Environmental and Quality Policy: 32-727
 - ii. Eskom Lifesaving Rules, Directive: 32-421
 - iii. Eskom Procedure on Smoking: 32-36
 - iv. Eskom Incident Management Procedure 32-95 (latest revision)
 - v. Implementation of Occupational Hygiene management programme, Standard 240-42262670
 - vi. Eskom Life Saving Rules, Directive: 240- 62196227
 - vii. Eskom vehicle and driver safety management 32-93
 - viii. Eskom vehicle specification 32-345
 - ix. Eskom *Contractor* Health and Safety requirements standards 32-136
 - x. Employees' right of refusal to work in an unsafe situation 240-43848327
 - xi. Eskom Waste Management Standard 32-245
 - xii. Annexure B: Acknowledgement Form for Eskom SHE Rules and other Requirements

The *Contractor* requests all applicable Eskom procedures & requirements. The *Contractor* ensures safety awareness at all times through continuous training. The *Contractor*, at all times

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is responsible for the supervision of his employees, agents, Subcontractors and takes full responsibility and accountability for ensuring they are competent, compliant and aware of the legal requirements and other requirements and execute the *works* accordingly.

The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made in writing and that all appointees fully understand their responsibilities and are trained and competent to execute their duties.

The Divisional/Regional Safety Risk Manager or his representative having jurisdiction over the *works* must provide the relevant safety, health and environmental (SHE) criteria for incorporation into this Works Information. The SHE specification / scope must be signed off by the Divisional/Regional Safety Risk Manager or his representative confirming that the applicable safety criteria have been considered.

The Commodity Manager / Buyer must refer the tender to the Divisional/Regional Safety Risk Manager or his representative in order to evaluate against enquiry-specific safety criteria.

The Divisional Safety Risk Managers who will be responsible for the allocation of resources to assist P&SCM with the above processes are as follows:

- Generation: Roley McIntyre
- Transmission: Tony Patterson
- Distribution: Alex Stramrood
- Enterprises: Jace Naidoo
- Corporate: Kerseri Pather

The *Contractor* shall comply with the health and safety requirements.

3.2.4 Environmental *constraints* and management

All waste introduced and/or produced on the *Employer's* premises by the *Contractor* for this contract is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry and *Employer's* environmental requirements.

All environmental incidents are reported to the *Employer* within 24 hours of such occurrence. All environmental incidents occurring on the Project Site (or on any other places, if any, as may be specified under the Contract as forming part of the Site) are recorded, detailing how each incident was dealt with in an Environmental Incident register.

The *Contractor* shall construct and/or implement all the necessary environmental protection measures in each area before any production work will be allowed to proceed. The *Employer* may suspend the Works at any time in terms the Conditions of Contract should the *Contractor*, in the *Employer's* opinion, fail to implement, operate or maintain any of the environmental protection measures adequately.

The *Contractor* ensures that all goods, services or works supplied in terms of the Contract comply with all applicable environmental legislations (National Environmental Management Act, 1998 [Act No 107 of 1998]). The *Contractor* is responsible for keeping the work area clean of any environmental waste.

The *Contractor* shall comply with all relevant applicable laws, environmental legislation and regulations, conditions of environmental approvals, environmental management plans, and *Employers* Policies and Procedures. The *Contractor* must submit an Environmental Policy demonstrating commitment to protection of the environment. The Environmental Policy shall form part of the SHE file submission. Upon the *Employer's* approval, the *Contractor* shall immediately implement the policy and any amendments and keep it in operation for the full

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duration of the Contract. The policy shall be communicated to all personnel and copies of the policy shall be prominently displayed at all places of work.

The *Contractor* shall determine and develop the aspects and impacts register related to the scope of work. All aspects of the planning, manufacturing, pre-construction, construction and operational phases shall be considered. During the designing activity, the Contractor must always take into account the product's life cycle perspective in mind.

The *Contractor* shall comply with the environmental criteria and constraints.

3.2.5 Quality assurance requirements

The *Contractor* complies to the following documents when working at/rendering a service to Eskom but not limited to the following:

- i. 240-12248652 - List of Tender Returnable/Quality Requirement Document
- ii. 240-68099512 - FORM A: Tender & Contract Quality Requirements for QM 58 and Quality Requirements for ISO 9001 Standard
- iii. 240-105658000 (QM 58)- Supplier Quality Management: Specification
- iv. 240-109253698- Contract Quality Plan (CQP)
- v. 240-109253302- Quality Control Plan (QCP)/ Inspection and Test Plan (ITP)

After the acceptance of the construction drawings the *contractor* submits the associated construction Method Statements and relevant QCP/ITP for acceptance and determination of intervention points prior to construction.

Failure to comply with an accepted Method Statement/QCP or ITP may result the issuing of a Non-conformance report (NCR), rejection of the works as well as the withholding of payment until the appropriate remedial actions have occurred.

1. The *Contractor* demonstrates, provide, and maintains a Quality Management System that is ISO 9001:2008 certified or compliant thereto. Compliance with the provisions of this clause in no way relieves the *Contractor* of the final responsibility to furnish an acceptable product and/or services.
2. The *Contractor* agrees to control and professionally preserve and store appropriate documents, records, and recordings for a period of at least 3 years after termination of the agreement to guarantee the traceability of the services rendered and inspection thereof.
3. The *Contractor* agrees to regularly update and implement all the latest technology available as well as the necessary improvements for the installation, production and organisation deemed necessary to meet the requirements of the agreement and in order to enhance all system capabilities and effectiveness to deliver high quality, cost-effective services.
4. The delivered product and / or services shall be uniform in Quality and condition, sound and free from defects or external copyright or intellectual property rights, consistent with good industry practices and adhere to requested Eskom requirements, without deviation.
5. Eskom shall have the right to conduct surveys and perform surveillance of the *Contractor's* and/or Sub-Contractor facilities to evaluate their capability to comply with the requirements necessary to conform to contractual requirements.
6. Eskom reserves the right to inspect, at reasonable times, any or all of the work included in the Works Information at the *Contractor's* or Sub-Contractor's premises or elsewhere. Verification by Eskom shall not absolve the *Contractor* of the responsibility to provide acceptable product and / or services, nor shall it preclude subsequent rejection by Eskom.

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7. The services must comply with the agreed specifications and the applicable directives and technical standards set out in the contract and annexures. Defects notified by Eskom shall be remedied by the *Contractor* upon demand by Eskom without undue delay and at no extra cost. The *Contractor* shall continuously monitor and identify non-conformances, both internal and external, as signals of opportunities for improvement making process and other relevant changes to prevent recurrence.
8. The *Contractor* shall further identify potential problems before they occur by identifying deviations in patterns or trends in product, service or process performance.
9. Nothing contained in the contract and/or scope of work and /or *Works* information shall relieve in any way the *Contractor* from the obligation of quality control thereof.
10. The Contractor guarantees that the quantity, quality and outward appearance of the delivered Product / services comply with the requirements of the contract and/or relevant specifications.
11. The *Contractor* shall, on request, prove its ability to relate to the proposed scope of work which establishes the manner in which the *Contractor* intends to perform the Contract.
12. The Contractor shall, on request, prove its organisational, logistics and support resources to ensure the requirements of the contract can and will be achieved.
13. Eskom reserves the right to assess and measure, during the existence of the agreement, the qualifications, capability and competence of the key staff (assigned personnel) in relation to the scope of work and to interview any / all Contractors to confirm the Quality evaluation.
14. The professional personnel who will be conducting the service will be available on a continuous basis until the conclusion of the project.
15. The Contractor shall demonstrate experience in comparable projects or specific aspects of the project and / or performance in similar projects, on request.
16. The Quality of the service / product and the contents thereof will always be in accordance with professional standards.
17. For the duration of the Contract, the professional staff rendering the service / product, must be and remain a member of his/her Professional Society (where available/applicable)
18. The Contractor must, at all relevant times, scrutinise and be aware of Eskom's requirements with specific focus on, inter alia, its philosophy, principles, strategies, practises, mission, vision, models, policies and practises.
19. It is the Contractor's obligation to ensure that their operations and the products and services it provides to Eskom comply with any applicable statutes and or regulations. Any non-compliance by the Contractor and the resultant corrective actions shall be the responsibility of the Contractor.
20. The Contractor shall ensure that he complies with the Works Information and that appropriate quality requirements (as in the main contract) are included in subcontracts placed by Contractors to ensure subcontractor's compliance with the Works Information.
21. The Contractor shall execute the Works in accordance with Eskom's Quality requirements set out in QM 58 document: Supplier Contract Quality Requirements Specification.

3.2.6 Programming constraints

A programme showing the key activities is to be submitted with the tender documents and once appointed within two weeks. The *Contractor* submits a single integrated programme that incorporates all the work to be performed including that of his Subcontractors.

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The interfaces between Subcontractors as well as the interfaces between Subcontractors and the *Contractor* are clearly identified.

Project key dates are incorporated into the programme.

All critical path items are indicated and outlined on the programme.

The order and timing of operations which the *Contractor* plans in order to provide the *Works*. Strict adherence to the programme will be monitored and updated on fortnightly basis to achieve the completion dates and submitted to Eskom Project Co-ordinator. Non-conformance to the stated programme will be liable for delay damages. Any deviations on time and cost are subject to Eskom approval.

The *Contractor* provides the Project Programme in Microsoft Projects Format to the level 3 detail. The programme is to be updated weekly and submitted to the Project Manager for review.

3.2.7 *Contractor's* management, supervision and key people

The *Contractor* provides the *Employer* with a detailed organogram of all staff and management on the contract, showing their lines of authority / communication, within two weeks of contract award. This is revised monthly and reflects any changes to the staff and management structure. The *Employer* reserves the right to audit and verify the structure. The *Contractor* has a full-time Safety and Health Officers onsite.

Roles and responsibilities shall be as per the *Employer's* design review procedure 240-53113685.

Contracts Manager:

The contracts manager is responsible to incorporate this Technical Specification into a contract based on the NEC conditions of contract.

Architectural Practitioner:

The Architectural Practitioners are responsible to review the completed contract to ensure that this Technical Specification has been incorporated correctly.

Project Manager:

The project manager is responsible for facilitating and ensuring continuous coordination and management of the requirements during the design development, execution phase and closing out of the project.

Facilities Manager:

The facilities manager is responsible for ensuring continuous sustainable performance of facilities. During construction phase he/she ensures that there are smooth interactions with tenants and stakeholders where required.

Contractor:

The *Contractor's* responsibility is to build the project according to the contract documentation within the required cost and time budgets and the specified standards.

The Contractor will play the role of the design authority ensuring the following:

- i. The design satisfies the design requirements.
- ii. All relevant Eskom design standards, procedures and guidelines have been adhered to.
- iii. The design is suitable and correct calculations, philosophy, functionality, etc. have been applied.

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- iv. The design is integrated by identifying all interfaces with other packages/plant systems/assets and ensuring that these interfaces are catered for.

Eskom Engineering

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

- i. The design satisfies the stakeholder requirements (i.e., validation of design deliverables against stakeholder requirements).
- ii. The design is integrated by identifying all interfaces with other packages/plant systems/ assets and ensuring that these interfaces are catered for.
- iii. Foreseen technical risks are identified and addressed/challenged with the Design Authority
- iv. General technical oversight is provided over the design.

3.2.8 Invoicing and *payment*

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager's payment certificate*.

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

- Name and address of the *Contractor* and the *Project Manager*;
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

Add procedures for invoice submission and payment (e. g. electronic payment instructions)

3.2.9 Insurance *provided by the Employer*

The *Contractor* familiarises themselves with the Eskom Insurance Format A as provided in the Contract Data and make provision for all items that they are liable for.

3.2.10 Contract *change* management

The *Employer* instructs changes to the scope at any time, each instruction sets out the change and the date on which it becomes effective; and is issued to the *Contractor* in writing to be valid.

3.2.11 Provision of *bonds* and *guarantees*

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee.

Such withholding of payment due to the *Contractor* does not affect the *Employer's* right to termination stated in this contract.

3.2.12 Records of *Defined Cost*, payments & assessments of compensation events to be kept by the *Contractor*

3.2.12.1 The *Contractor* to keep accurate and detailed records of:

3.2.12.2 *Defined Cost* – the actual costs the *Contractor* incurs (e.g. People, Equipment, Materials, Subcontractors)

3.2.12.3 Payments received – for completed work or milestones

3.2.12.4 Compensation events – including supporting evidence of time and cost impacts

3.2.13 Training *workshops* and technology transfer

After Completion of the contract, the *Contractor* is required to provide training and transfer system knowledge to the building owner/manager by submitting documented Design Intent, As-built drawings, Operational and Maintenance Manual, Commissioning Records, Commissioning Report and by providing training on all the systems to the building management staff to ensure that they have all the information and understanding needed to operate and maintain the features and systems in the building.

The *Contractor* is to provide on-site training and training material to the Engineers, Operators and Maintenance personnel prior to taking-over of the *Works*. The training will preferable be offered during the commissioning and testing. The *Contractor* will, prior to handing over of the *Works*, satisfy the *Employer* or authorized representative that maintenance and operational personnel are competent and adequately trained to maintain and operate the Plant and Materials supplied.

The training is to cover the following, however not limited to:

- a. Information provided in the design intent report (including energy/environmental features)
- b. Review of controls set up, programming, alarms and troubleshooting
- c. Review of Operation & Maintenance manuals
- d. Building operation (start up, normal operation, unoccupied operation, seasonal changeover, shutdown)
- e. Measures that can be taken to optimise energy efficiency
- f. Occupational health and safety (OH&S) issues
- g. Maintenance requirements and sourcing replacements
- h. Obtaining and addressing occupant satisfaction feedback Steps for Conducting On site Training are to include, but not limited to:
 - i. Preparation
 - ii. Introduction
 - iii. Explanation
 - iv. Demonstration
 - v. Practice Under Supervision
 - vi. Conclusion

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The operating and maintenance manual must be available during the training of site staff. Site staff must also be made familiar with the contents of that manual.

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3.3 ENGINEERING AND THE CONTRACTOR'S DESIGN

3.3.1 Employer's design

3.3.1.1 ARCHITECTURAL/SPACE PLANNING DESIGN

The project entails the demolition of existing and modernisation of the entire 8th Floor to accommodate Executives and Support Staff. The works include full architectural and space-planning upgrades to all internal building elements. This involves redesigning the entire floor, consisting of Executive Offices; Support Staff Workstations and Office spaces; Meeting rooms, and Support areas. All existing finishes within the whole Floor to be removed and replaced with new flooring, walls, and ceiling systems throughout the floor and link structures.

Meeting Rooms; Printer Room; and Storerooms will be strategically located adjacent to service cores for improved efficiency. All existing dry walls will be demolished and re-established within the link areas to enhance accessibility and user experience. New Ablution facilities will be added closer to the Reception Area to allow easy access, to meet current standards.

3.3.1.1.1 Overview of the Floor Layout

New Concept design drawings below have been completed for 8th Floor Eskom Executive Suite at Thibault Square Building, in line with SANS and Eskom Standards. The design is envisioned to embody a cohesive, modern, and efficient design language that reflects international best practice for the Executive Offices of a large state-owned enterprise.

The extent of the works includes demolition, construction of permanent fixtures and finishing of permanent fixtures to the following areas:

- All dry walls; flooring and ceilings to be replaced.
- New additional ablution facilities to be added.
- Upgrade security and access control.
- Add new meeting areas, workspaces and supporting spaces
- Add new storage areas.

The floor to accommodate:

- Eskom Executives and their Support Staff

Eskom employs very specific standards and guidelines regarding corporate image, interior design and space planning. The floor plates are planned with a very specific zoning in place resulting in the following:

- Open plan work areas on the perimeters; Closed spaces (i.e. offices, meeting rooms, print rooms, storerooms) positioned around the central core, as shown in the new Floor Layout.
- The resulting benefits of this planning include:
- Maximisation and better use of natural light as it can penetrate further into the office space

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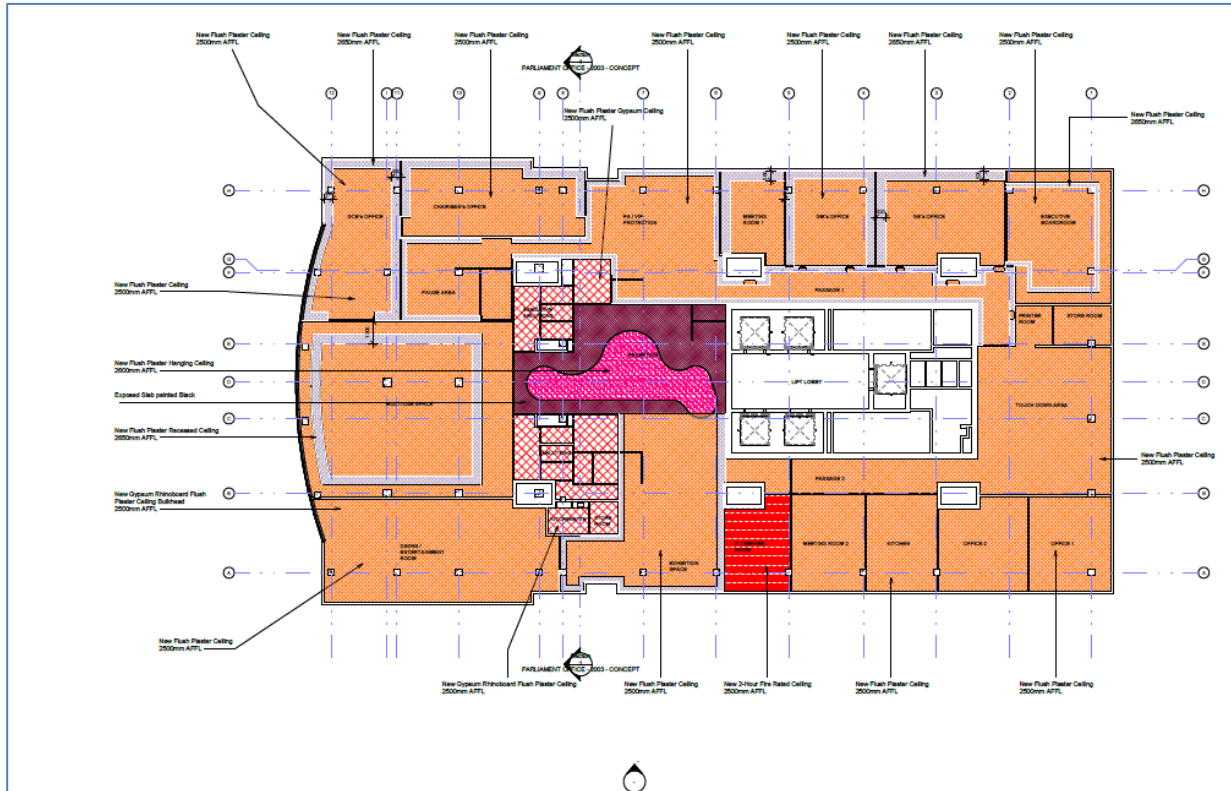


Figure 8: Proposed 8th floor Eskom Executive Layout at Thibault Square.

3.3.1.1.2 DEMOLITION OF 8TH FLOOR PARTITION WALLS AND FINISHES

The Contractor provides a solution for the demolition of the existing 8th floor offices at the Thibault Square Building in line with the requirements of the technical specification. Demolition solutions are developed by a competent person up to a detailed design level, in accordance with section 14 of the Construction Regulations. Refer to Figure 9 for the demolition drawing layout.

- Remove all existing dry walls, partitioning and other fixtures as per Demolition Drawings
- Remove all ceiling boards and suspension structures
- Remove all services as required, as per the drawings.
- Remove all demolished materials and dispose of them in an accepted and proper way with minor disturbance of office staff working within other Floors of the building.
- Care to be taken not to damage any materials or portion of the building that remains for re-use on completion.

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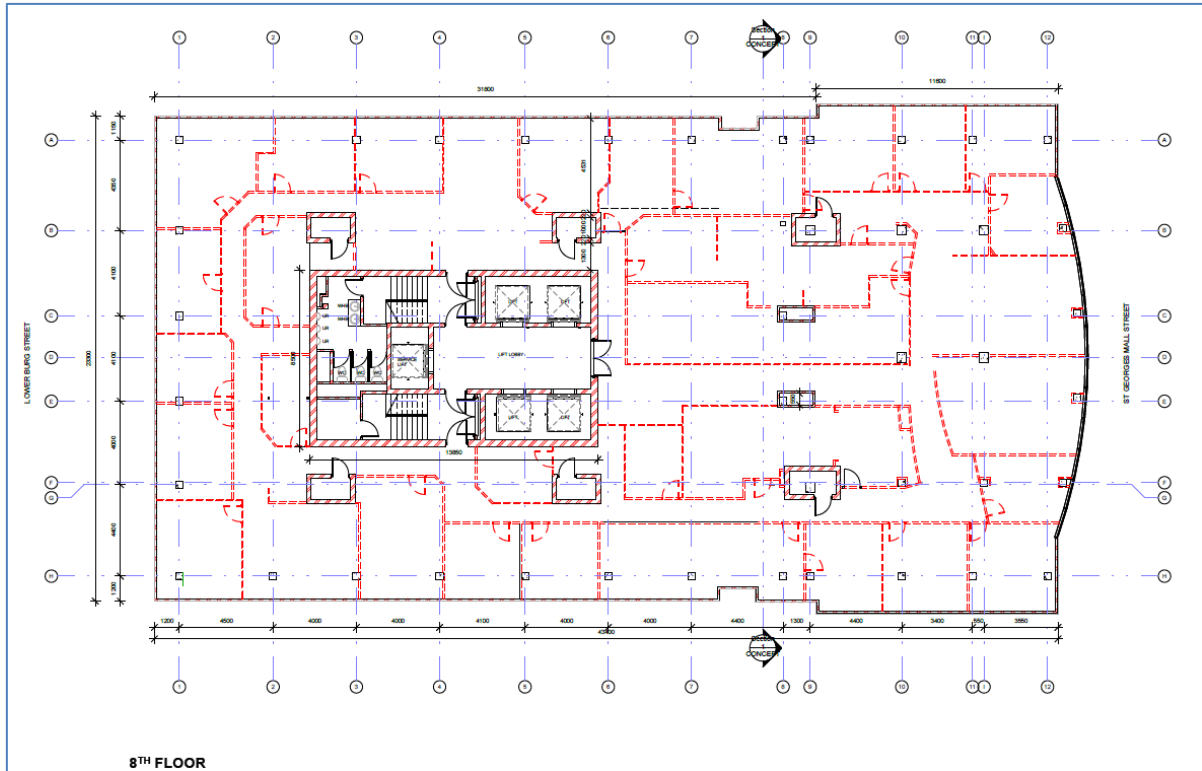


Figure 9: Demolition of the existing offices at the 8th Floor Thibault Square offices infrastructure.

a. Partitions

The Contractor shall demolish and remove all non-load-bearing internal partition walls indicated on the demolition drawings shown above, including:

- Existing drywall partitions.
- Gypsum board partitions.
- Glazed partition systems and associated framing.
- Associated doors, ironmongery, door frames and sidelights.
- Skirting, architraves and wall finishes attached to demolished partitions.

Based on the drawing, the majority of the existing office cellular layout identified by the red dashed demolition lines is to be removed to create an open-plan workspace and facilitate the new space planning arrangement. Existing core structural walls surrounding lifts, staircases and service shafts shall remain.

b. Ceilings

The Contractor shall demolish and remove:

- Existing suspended ceiling tiles.
- Ceiling grid systems.
- Suspension hangers and support channels.
- Bulkheads identified for removal.
- Existing access panels.

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- Associated ceiling finishes and trims.

The extent of demolition shall cover the entire refurbishment area to allow installation of new ceiling systems, lighting layouts, air distribution systems and other building services.

c. Electrical Wiring and Services

Prior to demolition, all electrical services shall be isolated by authorized personnel.

The Contractor shall demolish and remove:

- Existing lighting fittings identified for demolition.
- Electrical wiring and cabling associated with removed areas.
- Conduits and trunking rendered redundant by the new layout.
- Power outlets and socket outlets.
- Floor boxes and recessed floor boxes.
- Data points, VGA points and communication outlets.
- Power skirting systems.
- Distribution boards identified for replacement.
- Associated containment systems and supports.

The red and blue service symbols displayed on the demolition layout indicate extensive removal of electrical points, floor boxes, data outlets and lighting installations throughout the floor.

d. Flooring

The Contractor shall remove and dispose of:

- Existing carpet tiles.
- Carpet sheeting.
- Raised access flooring systems.
- Existing floor screeds where required.
- Ceramic floor tiles identified for replacement.
- Adhesives and floor preparation materials.

Following demolition:

- All floor penetrations shall be repaired.
- Existing floor box openings shall be made good.
- Floors shall be re-screeded and levelled using approved self-levelling compounds.
- All damaged walls shall be repaired.
- All damaged fire protection systems shall be repaired.
- All damaged central air-conditioning system (HVAC) shall be repaired.
- Surfaces shall be prepared for installation of new floor finishes.

e. Extent of Demolition

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The demolition works shall comprise the complete strip-out of existing architectural, electrical and floor finish elements within the designated refurbishment area, including:

- Cellular office partitions.
- Suspended ceiling system.
- Lighting installations.
- Power and data reticulation.
- Floor finishes and floor service outlets.

The intended outcome is to provide a clean, unobstructed shell suitable for the installation of the new architectural layout, HVAC systems (Diffusers and split units), electrical reticulation, ICT infrastructure, building monitoring instruments and associated building services.

The Contractor shall provide a Quality Control Plan (QCP) indicating Architectural/Space Planning and Demolition hold points are enforced to ensure full compliance with applicable standards.

3.3.1.1.3 Thibault Square 8th Floor Executive Suite Finishes

a. Flooring

- Remove all existing floor finishes.
- Make good of the entire floor.
- Refill and make good all electrical outlets in floors.
- Re-screed all floors with accepted self-levelling compound
- Install products strictly to manufacturer's specifications.

Refer to Drawing list for floor finishes.

b. Services First Fix

- Install all required services in ceiling voids.
- The Architects drawings are to be read in conjunction with the BoQ.
- Complete First Fix of:
 - Electrical
 - Fire protection
 - HVAC
 - Control & Instrumentation

c. Services Second Fix

Install all services in ceiling void to complete for final fittings on completion of ceiling insulation / installation.

d. Partitioning

- All partitioning is installed after complete floor finishes are laid.
- Install partitioning Light Steel Frame (LSF) wall system in configuration with ceiling grid system, strictly in accordance with manufacturer's specifications.
- Install all services as required into partitioning walls prior to installation of double boarding system as accepted.
- Install sound dampening materials as accepted and strictly to manufacturers specification.

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- Install new frameless glass double doors.
- Install new full-height glass and timber doors in closed office spaces.
- Install black anodised frames.
- The Architects Drawings are to be read in conjunction with the Bill of Quantities (BoQ).

Refer to Partitioning Layout Drawings.

3.3.1.2 Ceiling Tiles and Plasterboard

- Install 1200mm x 600mm accepted acoustic ceiling tiles in grid system, strictly in accordance with manufacturer's details and specifications. (CF-1),
 - Install 600mm x 600mm accepted acoustic ceiling tiles in grid system strictly in accordance with manufacturer's details and specifications. (CF-2),
 - Install 9.5mm plasterboard suspended ceilings, strictly in accordance with manufacturer's specifications
 - Install 9.5mm flush plasterboard bulkheads strictly in accordance with manufacturer's specifications. (CF-3),
 - Install new flush plaster ceiling with shadow line detail.
 - Install custom bulkheads suspended on exposed slab.
 - Install new LED strip lights in bulkheads.
 - Install suspended designer pendants.
 - The Architect's Drawings are to be read in conjunction with the BoQ,
- See Ceiling Layout drawing for ceiling material details, refer to drawings list*

3.3.1.3 Specialised Fittings and Installation

Approved specialists to design and install their own equipment during the building process:

- Specialised furniture in Entrance and Executive Areas
- Access Control and Fire Equipment,
- Safe Doors and Security Equipment are installed by the *Employers* subcontractor as indicated on drawings),
- High Energy Absorbing Material,
- Specialised protective film on glass as specified,
- Seamless flooring,
- Meeting Rooms: - 1200mm high white filmed glass writing boards & TV screens recessed into walls, where possible.

3.3.1.4 Internal Façade

- The internal façades will be an interplay of new dry walls; new frameless glass and aluminium shopfronts installed in the entire floor.
- The only access to this floor plates will be through access-controlled doors.
- These internal facades will also feature actuator-controlled smoke vents.

3.3.1.5 Workspace Screens

3.3.1.6 Wall and floors - finishes

- Install tiled/ painted glass splashbacks in kitchen.

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- Install ceramic wall tiles in the toilets.
- Plaster skim and paint new walls.
- Install customer specified printed vinyl to glass partitions.
- Install faggot wall cladding on some columns.
- Install new epoxy flooring in designated areas.
- Install acoustic decorative panels.
- Install new timber flooring in specified areas.

3.3.1.7 Window Coverings

- Install new motorised roller blinds. Refer to figure 10 below for details.
- Install new wooden venetian blinds.
- Install Veneer, Duco, Stone, Glass, Solid wood coverings as per design.
- Install heavy commercial acoustic curtains.

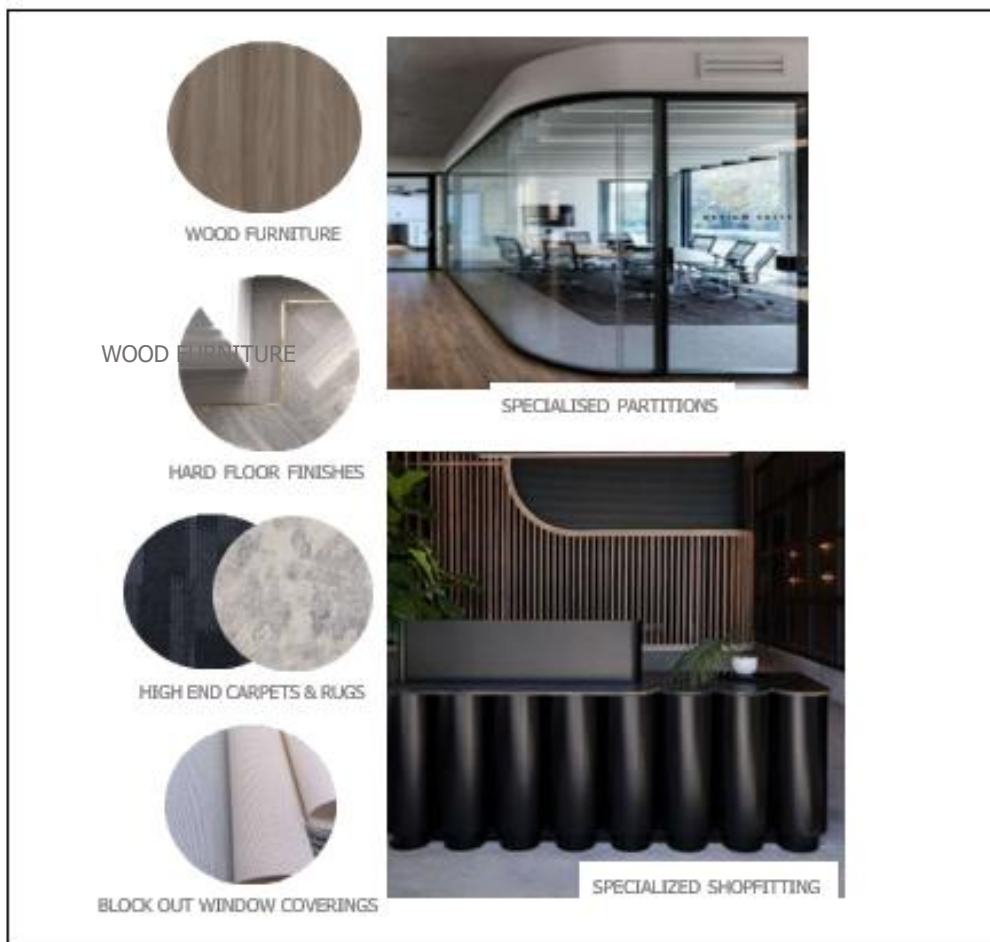


Figure 10: Window coverings.

3.3.1.8 Furniture Specification

- Workspace furniture, desks, chairs and cabinets are placed as per furniture layouts
- Loose furniture supplied by the Employer.

Refer to furniture layout drawings.

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3.3.1.9 Executive Boardroom Specification

3.3.1.9.1 Partitions

Specified as nominal 120mm High-performance Acoustic Drywalls (Rw 50-55dB).

3.3.1.9.2 Audio

- Audio to be integrated: A & V Specialist or OEM to advise. Audio to be either ceiling mounted or desk mounted to ensure leak is eliminated.
- All systems to be ducted, or planned for and hidden behind cladding, walls, ceilings and or floors.
- No surface mounted or ad hoc systems to be fitted

3.3.1.9.3 Videowall

- High end finishes
- Wall to have acoustic grade cladding in real wood veneer. All cladding will make provision for any hidden ducting.

3.3.1.9.4 Wallpaper

Design approach is to bring in the Eskom Corporate identity elements and colours. This is done by using wallpaper which signifies the essence of the business, enhancing interior aesthetics without being overwhelming nor distracting.

3.3.1.9.5 Carpet Flooring

Heavy commercial 500mm x 500mm acoustic carpet tiles, tufted textured, for sound deadening.

Refer to Eskom Executive Boardroom Specifications.

3.3.1.10 Universal Access

The design for all the entire floor meets the latest standards regarding Universal Access.

3.3.1.11 CONTROL AND INSTRUMENTATION DESIGN

The scope for 8th Floor Executive Suite at Thibault Square Building includes the Fire Detection System (FDS), Public Address and Voice Evacuation System, Physical Security System, Access Control System, Closed-Circuit Television (CCTV) Surveillance and Boardroom Audio Visual System.

The *Contractor* provides preliminary designs by registered engineers to the *Engineering Lead* and *Project Manager* for acceptance. These would have to be reviewed with possible amendments having to be made to comply with Eskom requirements. Adequate time is allowed for this. After acceptance of preliminary designs, the *Contractor* provides detailed designs.

The scope of works includes the detail design, drawings, procurement, manufacture, fabrication, quality control, supply, delivery, installation, commissioning, testing, handing over, training and maintenance during the guarantee period of all materials and equipment necessary for a complete *works*.

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By virtue of the Department of Employment and Labour (DEOL) mandate to the South African Qualifications and Certification Committee (SAQCC), any person designing, installing, commissioning or maintaining Fire Detection System needs to be certified by SAQCC at the appropriate level.

The *Contractor* provides proof of valid certification as part of the tender returnable. In the absence of the main *Contractor's* personnel being certified he/she can submit an agreement with a certified sub-contractor to perform the duties that require certification. In this case, proof of certification of sub-contractor and formal agreement shall be supplied.

The descriptions below cover 8th Floor Executive Suite at Thibault Square Building but, it goes without saying that for full compliance of the entire 8th floor must be serviced and therefore form part of the scope of this contract.

3.3.1.11.1 Fire Detection and GAS Suppression Detection Systems

The primary purpose of the Fire Detection and GAS Suppression Detection Systems is to provide early fire warning and to notify the building occupants and the 1st responder at the Main Control Room in case of a fire event.

The secondary purpose of the Fire Detection and GAS Suppression Detection Systems is to provide a fire alarm signal to 3rd party systems such as HVAC, fire dampers, smoke extraction systems, etc. required to initiate the necessary safety functions in the event of a fire. These 3rd party interfaces are identified during the assessment and built into the *Contractor's* design.

Smoke / Heat Detection

With the installation of partitions, some of the rooms/offices are now not fully covered by smoke detectors. Also, some of the existing detectors are situated closer to the partitioning walls than what is allowed by SANS standards. At the junction of a wall and a ceiling, there is a "dead space", within which heat or smoke detection would not be adequately effective. For this reason, heat and smoke detectors should not be mounted within 500 mm of any walls, partitions or obstructions.

Manual Call Points

With the change in occupation from open plan to closed offices together with a new access controlled entrance/exit point, the positioning of manual call points does not meet the SANS standards stating that manual call points need to be distributed such that, from any point in the building, it is impossible to leave the storey or the building without passing a manual call point.

Sounders / Strobes

Previously, with the open space occupancy, the sound levels of the exiting sounders could freely travel to all corners of the floor. With the introduction of lockable offices this may not be the case anymore. Sound levels will have to be tested to ensure compliance with SANS 10139 stating that the sound levels at any given point should not be less than 65 dB. It is also recommended to add visual alarms for the hearing impaired.

Because the floor layout and orientation are being changed from the current layout, all fire detection devices such as *detectors*, sounders and *manual call points* must be redesigned to ensure compliance.

- i. There is an existing Ziton ZP 3 fire alarm panel servicing this floor.
- ii. The *Contractor* designs and install a fire detection system for this floor that is compliant with the National Building Regulations and SANS 10139. This includes the Control and Indicating Equipment (CIE), power supply equipment, communication networks, detectors, alarm devices, cabling and 3rd party system interfaces.

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- iii. The *Contractor* ensures that this fire panel is interfaced with the existing network and configures the system to have the alarms initiated at the 8th Floor Executive Suite at Thibault Square Building main control room master panel.

The Fire Detection and Alarm contractor shall assess the existing building fire detection and alarm system and develop a detailed design for the 8th Floor refurbishment. The design shall comply with the latest editions of SANS 10139, ISO 7240, SANS 10400-T, and all other applicable legislation and Employer standards. The scope shall include verification of the existing fire alarm infrastructure, loop capacity, network topology, and available panel capacity to accommodate the additional field devices.

The contractor shall design, supply, install, test and commission a complete fire detection and alarm system for the refurbished floor, including but not limited to smoke detectors, heat detectors where applicable, manual call points, sounders, sounder-beacons, interface modules, detector bases, loop wiring, containment, and associated accessories. Detector selection shall be based on the occupancy classification and environmental conditions of each space.

The fire alarm system shall be fully integrated with the existing building fire alarm control panel and network, ensuring that all alarms, faults, supervisory conditions, and device status are reported at the building's main fire alarm control panel and any central monitoring station. Cause-and-effect programming shall be updated to include the refurbished floor, ensuring that alarm initiation results in the correct operation of sounders, visual alarms, HVAC shutdown, smoke control systems, access control release, lift interfaces and other fire engineering functions where applicable.

The contractor shall prepare fire alarm layouts, loop drawings, cause-and-effect matrices, cable schedules, equipment schedules, testing and commissioning procedures, operation and maintenance manuals, and as-built documentation. The scope shall include factory acceptance testing (where applicable), site acceptance testing, integrated system testing, commissioning, and user training.

The assessment done by the *Contractor* is done with compliance in mind and must identify and resolve all areas of no-compliance.

3.3.1.11.2 8th Floor Executive Suite at Thibault Square Building Public Address and Voice Evacuation System

The main function of the Public Address and Voice Evacuation System is to ensure effective communication to all employees, contractors and visitors during emergency evacuation. The system shall be primarily used to provide clear one-way voice communication and audio alarm tones during an emergency to affect a rapid and orderly evacuation of everyone in response to the emergency.

With the installation of partitions, some of the rooms/offices are now not covered by public address system speakers.

- i. The *Contractor* performs an assessment of the 8th Floor Executive Suite at Thibault Square Building Public Address and Voice Evacuation System and speakers pertaining to coverage and then designs a new layout and install additional speakers to cover the new layout.
- ii. The assessment by the *Contractor* is done with compliance in mind and must identify and resolve all areas of no-compliance.

The Public Address (PA) and Voice Evacuation contractor shall assess the existing building PA/Voice Alarm system and develop a detailed design for the 8th Floor refurbishment. The design shall comply with the applicable requirements of ISO 7240-16, EN 54-16, SANS 10139, and other relevant standards governing emergency voice communication systems.

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The scope shall include the design, supply, installation, testing and commissioning of ceiling speakers, wall speakers where required, speaker circuits, speaker line monitoring, attenuators where applicable, amplifier capacity verification, zone allocation and associated cabling.

The contractor shall verify the capacity of the existing PA/Voice Alarm equipment, including controllers, amplifiers, battery systems and network infrastructure, and upgrade these where necessary to accommodate the additional speaker circuits.

The refurbished floor shall be fully integrated into the building's existing PA and Voice Evacuation System to enable emergency evacuation announcements and routine testing of the system. Speaker coverage shall be designed to achieve the required speech intelligibility throughout all occupied areas including reception areas, passages, meeting rooms, boardrooms, offices, exhibition spaces, kitchens and support areas.

3.3.1.11.3 Boardroom Audio Visual System

The Audio Visual (AV) Contractor shall design a modern integrated boardroom communication system suitable for executive meetings, presentations and hybrid collaboration.

The scope shall include the design, supply, installation, programming, testing and commissioning of a fully integrated Audio-Visual solution comprising:

- High-definition display screens or laser display systems.
- Video conferencing equipment (Microsoft Teams and Zoom compatible).
- Pan-Tilt-Zoom (PTZ) conference cameras.
- Ceiling or table microphones.
- Digital signal processors (DSPs).
- Wireless presentation systems.
- HDMI, USB-C and wireless content sharing.
- Audio amplifiers.
- Ceiling or wall-mounted loudspeakers.
- Touch-screen room control panels.
- Equipment racks.
- AV switching equipment.
- Cable management systems.
- Digital room scheduling panels where required.

The AV system shall provide high-quality audio reproduction, speech reinforcement, echo cancellation, automatic camera tracking where required, wireless presentation capability and seamless integration with corporate communication platforms.

The Engineer shall coordinate the installation with the architectural reflected ceiling plan, furniture layouts, lighting, HVAC, ICT and electrical services to ensure optimum equipment positioning and user experience.

The scope shall include network integration, configuration, programming, functional testing, user acceptance testing, commissioning, end-user training, operation and maintenance manuals, equipment schedules, rack layouts, single-line diagrams and as-built documentation.

The Contractor shall provide a Quality Control Plan (QCP) indicating Control & Instrumentation hold points are enforced to ensure full compliance with applicable standards

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3.3.1.11.4 Integrated Access Control System, Security and Closed-circuit television (CCTV) System

a. Integrated Access Control System (IACS)

The scope shall include the design, supply, installation, testing and commissioning of smart access control systems, including access control panels, intelligent door controllers, card readers, biometric readers where required, electromagnetic locks, electric strikes, request-to-exit devices, emergency break-glass units, door contacts, locking hardware, power supplies and associated cabling according to 240-102220945 Specification for Integrated Access Control System (IACS) for Eskom Sites.

Access control shall be provided for the main office entrance, executive offices where required, IT/server room, communication rooms, security-sensitive areas and other locations identified by the Employer.

The system shall be fully integrated with the floor Access Control Management System, ensuring central monitoring, alarm reporting, cardholder management and event logging.

The scope shall further include CCTV coordination, interface with the fire alarm system for emergency door release, integration with visitor management where applicable, testing, commissioning, operation and maintenance manuals, system administration training and as-built documentation.

Table 1: Access control requirements

Door ID	Location	Required Control	Access Permission
AC-01	Main entrance from lift lobby to reception.	Enterprise facial recognition terminal integrated with electronic door lock, video intercom, door position sensor and break-glass unit.	All authorized staff; visitors by reception verification and escort.
AC-02	Executive Zone Entrance 1.	Enterprise facial recognition terminal integrated with electronic door lock, door position monitoring and CCTV verification.	Chairman, GCE, authorized executives, executive assistants, VIP protection and approved staff.
AC-03	Executive Zone Entrance 2.	Enterprise facial recognition terminal integrated with electronic door lock and audit logging.	Authorized executive-zone users only.
AC-04	Executive Zone Entrance 3.	Enterprise facial recognition terminal integrated with electronic door lock and alarm monitoring.	Authorized executive-zone users only.
AC-05	Chairman's Office.	Smart facial-recognition lock with card backup, mechanical emergency override, audit trail and duress integration.	Chairman and approved support / protection personnel.
AC-06	GCE Office.	Facial-recognition smart lock with card backup, mechanical emergency override, audit trail and remote lockdown capability.	GCE and approved support / protection personnel.
AC-07	GE Office.	Card-access smart lock with audit logging and time-based permissions. No facial recognition required because the office is not dedicated to one GE.	Approved Group Executives and authorized users.

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Door ID	Location	Required Control	Access Permission
AC-08	GM Office.	Card-access smart lock with audit logging and time-based permissions. No facial recognition is required because the office is not dedicated to one GM.	Approved General Managers and authorized users.
AC-09	Storeroom	Card-access smart lock with audit logging and restricted access list.	Safe storage of groceries and other materials.
AC-10	Executive Boardroom.	Facial-recognition-enabled smart lock with card backup, secure meeting mode and audit trail.	Approved meeting participants and authorized executive personnel.
AC-11	Meeting Room 1.	Card-access smart lock with booking-based or time-based access where available.	Authorized staff and approved visitors under escort.
AC-12	Meeting Room 2.	Card-access smart lock with audit trail.	Authorized staff and approved visitors under escort.
AC-13	IT / Server Room.	Facial-recognition-enabled smart lock, card backup, two-factor authentication capability, CCTV and alarm integration.	Approved ICT personnel, security administrators and authorized maintenance only.
AC-14	Emergency Exit Door 1.	One-way egress, no re-entry, door position sensor, forced-door alarm, door-held-open alarm and CCTV on both sides.	Emergency exit only.
AC-15	Emergency Exit Door 2.	One-way egress, no re-entry, door position sensor, forced-door alarm, door-held-open alarm and CCTV on both sides.	Emergency exit only.

b. Closed-circuit television (CCTV) System

The Security and Access Control contractor shall assess the existing building security infrastructure and prepare a detailed design for the refurbished 8th Floor Executive Suite at Thibault Square Building in accordance with the Employer's security requirements and applicable industry standards.

The scope shall include the design, supply, installation, testing and commissioning of smart access control systems, including access control panels, intelligent door controllers, card readers, biometric readers where required, electromagnetic locks, electric strikes, request-to-exit devices, emergency break-glass units, door contacts, locking hardware, power supplies and associated cabling.

Access control shall be provided for the main office entrance, executive offices where required, IT/server room, communication rooms, security-sensitive areas and other locations identified by the Employer.

The system shall be fully integrated with the floor Access Control Management System, ensuring central monitoring, alarm reporting, cardholder management and event logging.

The scope shall further include CCTV coordination, interface with the fire alarm system for emergency door release, integration with visitor management where applicable, testing,

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commissioning, operation and maintenance manuals, system administration training and as-built documentation.

The Security Contractor shall develop a CCTV design that provides appropriate surveillance coverage for the refurbished areas in accordance with 240-91190304 Specification for CCTV Surveillance With Intruder Detection.

The scope shall include the design, supply, installation and commissioning of IP cameras, network switches where required, camera mounting brackets, structured cabling, patch panels, fibre interfaces where applicable and associated power supplies.

Camera locations shall provide surveillance of:

- Main entrances.
- Reception.
- Lift lobby.
- Corridors.
- Exhibition areas.
- Executive areas.
- Server room entrance.
- Other security-sensitive locations.

i. CCTV Design Principles

- Cameras must cover all access points onto the 8th Floor Executive Suite at Thibault Square Building.
- Cameras must provide clear facial identification at the main entrance, executive-zone entrances and reception area.
- Cameras must monitor all corridors leading to executive offices, boardrooms, meeting rooms and the IT / Server Room.
- Cameras must cover both sides of both emergency escape doors.
- Cameras must monitor the lift lobby and service lift area.
- Cameras must monitor sensitive support areas such as the server room, VIP Protection Office, service ducts and ceiling-access areas.
- CCTV footage should be retained for a minimum of 90 days, subject to Eskom policy and storage capacity.
- Cameras should support motion detection, intrusion detection and tamper alarms where supported by the selected platform.
- The CCTV system must be integrated with the NSCC platform at Megawatt Park to support continuous remote monitoring, incident detection and coordinated response for the site.
- The contractor to work with the Eskom IT to link the site CCTV to NSCC at Megawatt Park.

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Table 2: Camera Locations and Identity (ID)

Camera ID	Location	Camera Type	Coverage Objective
CCTV-01	Lift lobby facing lifts area.	Fixed dome / wide-angle.	All persons exiting or entering passenger lifts.
CCTV-02	Main entrance from lift lobby into reception.	Identification camera.	Facial capture of persons entering the leased floor.
CCTV-03	Inside reception facing main entrance.	Fixed dome.	Reception counter and visitor arrival point.
CCTV-04	Reception seating / waiting area.	Fixed dome / wide-angle.	Visitors waiting before escort.
CCTV-05	Reception facing exhibition area.	Wide-angle.	Public-facing circulation around exhibition area.
CCTV-06	Executive entrance 1.	Identification camera.	Access into executive security zone.
CCTV-07	Executive entrance 2.	Identification camera.	Second controlled executive-zone entry point.
CCTV-08	Executive entrance 3.	Identification camera.	Third controlled executive-zone entry point.
CCTV-09	Corridor outside GCE Office.	Fixed dome.	Approach to GCE Office.
CCTV-10	Corridor outside Executive Boardroom.	Identification / corridor camera.	Boardroom approach and entry.
CCTV-11	Corridor outside VIP Protection Office.	Fixed dome.	Approach to VIP Protection Office.
CCTV-12	Inside IT / Server Room.	Internal dome.	Server room entry and cabinet movement.
CCTV-13	Main internal passage.	Corridor dome.	Primary staff movement route.
CCTV-14	Passage 2.	Corridor dome.	Secondary circulation route.
CCTV-15	Passage 3.	Corridor dome.	Additional circulation route.
CCTV-16	Office 1 and Office 2 corridor approach.	Corridor dome.	General office access.
CCTV-17	Touchdown area entrance.	Wide-angle dome.	Open staff workspace and visitor overflow.
CCTV-18	Dining / entertainment room entrance.	Fixed dome.	Shared executive hospitality space entrance.
CCTV-19	Emergency exit door 1, stairwell side.	Rugged fixed camera.	Attempted entry from stairwell side.

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Camera ID	Location	Camera Type	Coverage Objective
CCTV-20	Emergency exit door 2, stairwell side.	Rugged fixed camera.	Attempted entry from stairwell side.
CCTV-21	Service duct near reception / toilets.	Mini dome / tamper resistant.	Access to service duct area.
CCTV-22	Service ducts near executive offices.	Mini dome / tamper resistant.	Duct and ceiling access near executive zone.
CCTV-23	Service duct near server room.	Mini dome / tamper resistant.	Service duct close to critical infrastructure.
CCTV-24	Multi-use space.	Wide-angle dome.	Situational awareness during events or gatherings.

ii. CCTV Technical Requirements

Requirement	Recommended Specification
Camera resolution	Minimum 4MP for general monitoring and minimum 8MP for identification-critical positions.
Low-light capability	Infrared or low-light enhancement for stairwells, emergency exits and after-hours monitoring.
Analytics	Motion detection, line crossing, intrusion detection, loitering detection, abandoned object detection and camera tamper detection where supported.
Retention	Minimum 90 days subject to Eskom policy and storage design.
Power	Power-over-Ethernet with UPS-backed switches for critical cameras.
Cybersecurity	Segmented CCTV network, strong credentials, firmware management, restricted administration and logging.
Integration	Access control, smart locks, facial recognition, visitor management, alarms and central security monitoring.
Monitoring	Reception security officer during office hours and central monitoring / security control room after hours where available.

iii. Intercom System

The Contractor shall design, supply, install, configure, test and commission a complete IP-based video intercom system for the executive Floor. The intercom system shall provide secure visitor communication, visual verification, controlled access release and integration with the access control, CCTV and security monitoring systems.

The intercom system shall be based on open IP communication principles and shall support Power-over-Ethernet, two-way audio, video verification, remote door release, and integration

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with the Employer's approved security platforms. The system shall be suitable for executive office environments where controlled access, visitor screening and auditable entry management are required.

iv. Intercom System Scope

- IP video intercom door stations at designated controlled entrances, including the main entrance from the lift lobby into reception and executive-zone entrances where visitor verification is required.
- Indoor answering stations, desktop clients or approved operator consoles for reception and authorised security personnel.
- Integration with electronic locks, access control panels, door position monitoring, CCTV viewing and alarm/event management systems.
- Network switches, PoE power provisioning, structured cabling, mounting accessories, back boxes, relays, power supplies and all associated containment.
- Configuration, user administration, call routing, call escalation, testing, commissioning, training and as-built documentation.

v. System Requirements

- The intercom system shall be IP-based and shall communicate over the approved security network.
- Door stations shall support SIP-based communication for integration with approved IP telephony, operator consoles.
- The system shall support ONVIF or equivalent open video streaming capability to allow live viewing and recording by the approved CCTV/VMS platform.
- The system shall provide full-duplex or high-quality half-duplex two-way audio with echo cancellation, noise reduction and automatic gain control.
- The system shall support call forwarding, missed-call handling and escalation to an alternative operator or security control point where calls are not answered within a configurable time.
- The system shall record and retain intercom events, including call initiation, call answer, door release, denied access, tamper alarms, device faults and operator actions.

Table 3: IP Video Door Station Requirements

Requirement	Minimum Specification
Camera	Integrated HD video camera with wide dynamic range suitable for backlit entrance conditions and positive visitor verification.
Audio	Integrated microphone and speaker with echo cancellation, noise suppression and sufficient sound level for reception and entrance environments.
Call Button	Clearly labelled, durable call button or touch interface with visual and audible call-progress indication.

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Requirement	Minimum Specification
Door Release Interface	Relay or secure interface to the access control system for controlled door release by authorised operators only.
Tamper Protection	Tamper detection shall generate an alarm to the security monitoring system and shall be logged as a security event.
Construction	Vandal-resistant construction suitable for public-facing entrances, with flush or surface mounting as approved by the Engineer.
Power	Power-over-Ethernet as the preferred power method, supplied from UPS-backed network switches.

vi. Reception and Answering Station Requirements

- Reception shall be provided with an answering station or approved software client capable of receiving video calls from each intercom door station.
- The answering station shall display live video before access is granted and shall allow the operator to communicate with the visitor before releasing the door.
- Authorised operators shall be able to release the relevant door only after successful visual and verbal verification.
- The system shall support configurable call routing to reception, security personnel or a central security monitoring point during after-hours periods.
- Operator actions, including answered calls and door-release commands, shall be logged against the user or workstation where technically supported.

vii. Panic and Duress Button Systems

The Contractor shall design, supply, install, configure, test and commission a complete panic and silent duress alarm system for the executive floor. The system shall provide discreet emergency activation capability for designated high-risk areas and shall immediately alert the approved security monitoring platform, the National Security Coordination Centre and the Close Executive Protection response team without generating visible or audible indication to an aggressor.

- The scope shall include fixed panic buttons, silent duress capability, alarm inputs, interface modules, cabling, containment, labelling, power supplies, integration, configuration, testing, commissioning, training and handover documentation.
- The Contractor shall provide all hardware, software, licences, accessories, mounting plates, back boxes, relays and interface equipment required to deliver a complete operational system.
- The system shall be integrated with the alarm system, access control system, CCTV system, security monitoring platform and remote monitoring point where applicable.
- The installation shall comply with the Employer's applicable security, alarm, access control, CCTV, cybersecurity, electrical and commissioning standards.

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viii. Device Requirements

- Panic buttons shall be discreet, robust and suitable for executive office and reception environments.
- Devices shall be positioned to allow activation by authorised occupants without drawing attention.
- Under-desk fixed panic buttons shall be provided for offices, boardrooms and reception desks unless otherwise approved by the Employer.
- Wireless panic devices may only be used where approved by the Employer and shall include battery supervision, tamper monitoring and low-battery alarm reporting.
- All panic and duress devices shall be tamper supervised and shall generate a fault or tamper alarm if removed, opened, disconnected or otherwise compromised.
- The activation mechanism shall minimise accidental activation while still allowing rapid emergency use.
- Each device shall have a unique device name, location description and alarm point reference aligned with the approved alarm schedule.

Table 4: Panic button Location Requirements

Device ID	Location	Minimum Requirement
PB-01	Chairman's Office.	One fixed under-desk silent panic button and duress alarm integration with the smart lock where supported.
PB-02	GCE Office.	One fixed under-desk silent panic button and duress alarm integration with the smart lock where supported.
PB-03	Executive Boardroom.	Discreet fixed panic button strategically positioned in the Executive boardroom
PB-04	Reception Desk.	One fixed under-counter silent panic button accessible to reception personnel.

ix. Alarm Routing and Escalation

- Panic and duress activations shall be treated as high-priority security alarms.
- Alarms shall be routed to security monitoring platform, the National Security Coordination Centre and the Close Executive Protection response team.
- The alarm message shall identify the device ID, exact location, alarm type, date and time of activation.
- No local siren, flashing light, audible tone or visible alarm indication shall be generated at the point of activation.
- Alarm acknowledgement, escalation and closure shall be recorded in the system audit trail.
- The Contractor shall configure the alarm priority, routing and escalation workflow in accordance with the Employer's approval.

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x. Installation Requirements

- Final device positions shall be agreed with the Employer before installation.
- Panic buttons shall be concealed or discreetly mounted while remaining reachable by the intended user.
- Cabling shall be installed in approved containment and shall be concealed where practical.
- All field wiring shall be labelled, terminated and tested in accordance with the approved design.
- Devices shall be connected to supervised alarm inputs or approved alarm interface modules.
- The installation shall not interfere with office furniture, ergonomic use of desks, boardroom equipment, access control devices or life-safety systems.

Note: The panic and duress system shall not be accepted as complete until all devices have been tested, all alarm routing has been verified, all silent activation requirements have been demonstrated, and all handover documentation has been submitted and accepted by the Employer.

xi. Alarm System

The Alarm System shall be installed according to and will form an integral part of the other security systems installed on site to provide proactive coverage and monitoring of all protected areas i.e. site entrances, boardrooms, server rooms and other strategic places on site. The following inputs shall trigger the Alarm System:

- Camera video analytics alarm detection on the zone(s).
- Alarm inputs from intrusion pre-detection devices including but not limited to PIR-sensors.
- Alarm inputs from all access control points.
- The installed Alarm System shall comply with the requirements of the Specification for Integrated Security Alarm System for Protection of Eskom Installations and its Subsidiaries (Identifier: 240-86738968) and alarming requirements of other integrating technologies mentioned above, forming part of the Integrated Security System at the site.

xii. System Integration

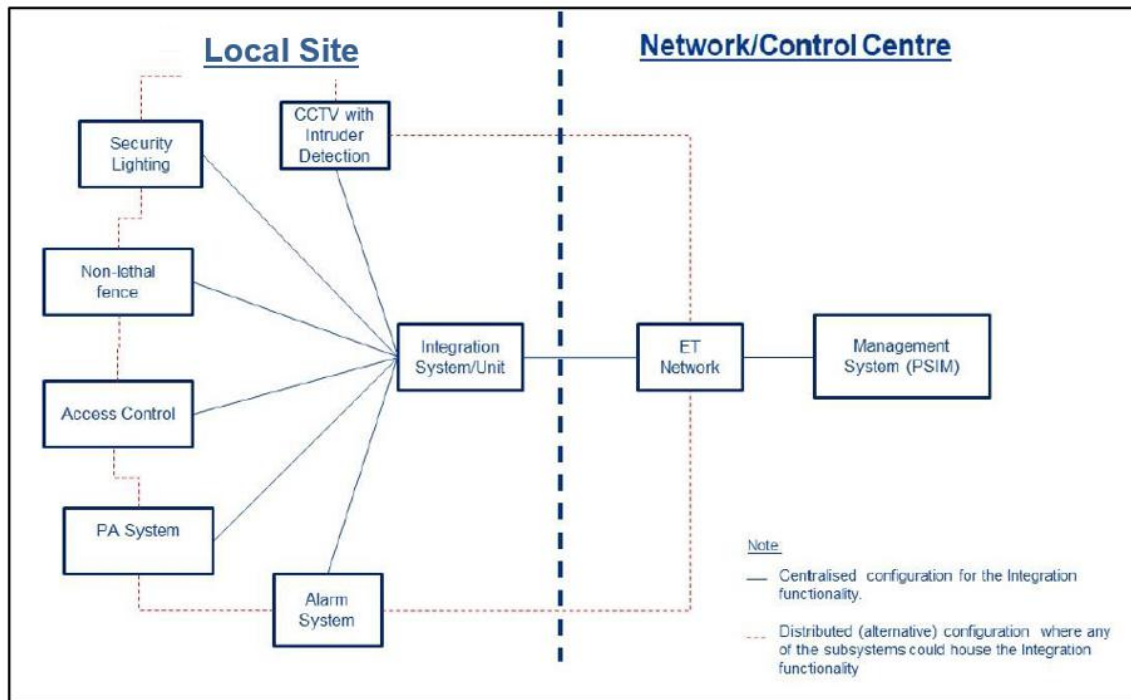
The Contractor shall design, supply, configure, test and commission a fully integrated security system for the site. The integrated system shall bring together the access control system, smart locks, facial recognition devices, CCTV system, video intercom system, alarm system, public address / voice evacuation, fire alarm interfaces, visitor management system and security monitoring workstations into a unified system.

The integration shall comply with the Employer's applicable physical security, cybersecurity, network, access control, CCTV, alarm and commissioning standards. The Contractor shall ensure that all subsystems are interoperable, correctly configured and capable of exchanging alarms, events, video, access-control status, door status, device health information and operator actions with the approved security management platform.

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The integrated system must be able to scale over multiple site sizes, from very small to very large sites. Support for multiple manufacturers: from a business continuity perspective, it is required that equipment from multiple manufacturers can be integrated.

Figure 11: Integrated Security System Configuration



xiii. Integration Objectives

- Provide a single coordinated view of security events across the site.
- Enable security operators to verify access, intercom and alarm events using associated CCTV views.
- Allow access control, smart locks, intercoms, CCTV and alarm events to be correlated for incident management.
- Provide auditable event logging for access granted, access denied, door forced open, door held open, intercom call, door release, alarm activation, CCTV analytics and operator actions.
- Support remote monitoring by the National Security Coordination Centre where applicable.
- Reduce reliance on stand-alone systems by ensuring that all critical devices report to the approved security monitoring environment.
- Support future expansion without major redesign of the installed infrastructure.

The Contractor shall submit a detailed integration architecture diagram showing all subsystems, servers, network switches, controllers, workstations, communication paths, protocols, firewall interfaces, VLANs, IP address ranges, data flows and integration points.

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xiv. Access Control, Smart Lock and CCTV Integration

Access control events shall be integrated with CCTV to support visual verification of access activity. The system shall display or link the relevant camera view when access is granted, access is denied, a door is forced open, a door is held open, a duress event is activated or an unauthorised entry attempt occurs.

Smart locks and facial-recognition-enabled locks shall report access events, lock status, battery or power status where applicable, tamper alarms and audit trail information to the access control management system or approved monitoring platform. Card-access smart locks for shared GE and GM offices shall provide auditable access records and shall support time-based or role-based permissions.

Where technically supported, access events shall be associated with the closest CCTV camera listed in the CCTV schedule. The Contractor shall configure the event-to-camera association during commissioning and demonstrate the functionality during system acceptance testing.

xv. Intercom and Door Release Integration

The video intercom system shall integrate with the access control system to enable authorised operators to verify visitors before releasing controlled doors. Door release from the intercom answering station or operator client shall be controlled, auditable and restricted to authorised users only.

Intercom calls shall be linked to the relevant door, access point and CCTV camera view. The operator shall be able to view the visitor, communicate with the visitor and release the door only after successful visual and verbal verification. All intercom calls, missed calls, answered calls, door-release actions, tamper alarms and device faults shall be logged.

The intercom video stream shall be available to the CCTV or video management platform for live viewing and recording where required.

xvi. Alarm and Event Integration

The alarm system shall form part of the integrated security system and shall receive alarms and events from access control devices, CCTV analytics, intercom devices, smart locks, intrusion inputs and device-health monitoring.

- Door forced open.
- Door held open.
- Access denied.
- Repeated failed access attempts.
- Smart lock tamper.
- Intercom tamper.
- Emergency exit door activation.
- CCTV analytics alarm.
- Camera tamper.
- Camera offline.
- Network device offline.

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- Controller offline.
- Power failure or UPS fault.
- Fire alarm interface activation where applicable.
- Duress or panic activation where provided.

Alarms shall be displayed at the appropriate operator workstation and shall include a clear event description, device location, date and time, priority level, associated camera view and required operator action.

xvii. **Local and Remote Monitoring Interface**

The integrated system shall interface with the security management platform and linked to NSCC platform. The interface shall support the transfer of alarms, events, device status, operator actions, access logs, video references and system health information.

The Contractor shall configure the system to support centralised monitoring, incident verification, event escalation, reporting and dashboard visibility. The system shall support remote viewing of live and recorded CCTV footage by authorised users, subject to cybersecurity and network approval.

The Contractor shall define the method of integration, including application programming interfaces, software development kits, database connectors, event forwarding, network ports, firewall rules, protocol requirements and data exchange intervals. All interfaces shall be tested and documented before handover.

xviii. **Cybersecurity and Network Requirements**

The integrated security system shall comply with the Employer's cybersecurity and operational technology security requirements. The Contractor shall implement secure configurations for all servers, workstations, controllers, cameras, intercom devices, smart locks, switches and associated software.

No device shall be connected to the Employer's network until it has been configured, hardened, scanned or assessed as required by the Employer's IT or cybersecurity representative.

xix. **Graphical User Interface and Floor Plan Integration**

The Contractor shall configure the approved operator interface to display the refurbished floor layout with relevant access-control points, cameras, intercom points, alarm zones, emergency exits and key security-sensitive rooms. The graphical user interface shall allow operators to identify the location of events quickly and to select associated cameras or devices where supported by the platform.

The floor plan shall be updated to reflect the final as-built installation and shall include device names and references consistent with the approved access control and CCTV schedules.

Note: The system will not be accepted as complete until all integration functions have been tested, all documentation has been submitted, and the Employer has confirmed that the integrated system operates in accordance with the approved design.

xx. Power Supply

- a) All system servers shall be housed in 19-inch equipment cabinets as specified in the Eskom Standard 240-60725641. This specification covers the earthing requirements in the cabinet as well.
- b) Power shall be distributed through the panel to isolate the supply of the subsystems using appropriately sized MCBs. At a minimum, the following will be on separate supply circuits:
 - All cameras
 - PA system devices
 - Site controllers and server-based equipment.
- a) Other security-related equipment such as gate motors and electric fence energisers.
- b) The system shall have a power failure indication that shall be sent through to the remote Security Control Room should the supply be interrupted.
- c) The existing power systems on site shall be used as the primary power sources, provided that the site's standby time (autonomy) requirements are not adversely affected.
- d) Contractor is required to propose a suitable standby power system and UPS sized appropriately to handle the expected system load. The employer may, however, decide to utilise the existing standby batteries at the site.

xxi. Commissioning, Testing and Handover

The Contractor shall develop comprehensive testing, commissioning and handover procedures for all engineering systems included in the project and shall provide construction support throughout the installation and commissioning phases. The Contractor shall ensure that all installed systems comply with the Employer's specifications and standards.

The scope shall include the preparation of detailed commissioning plans, inspection and test plans, quality control plans (QCPs), commissioning procedures, functional test sheets, integrated system testing procedures and acceptance criteria for each engineering discipline.

The employer shall witness, supervise and certify the testing and commissioning of all systems, including but not limited to the fire detection and alarm system, public address and voice evacuation system, access control system, CCTV system, audio visual systems, ICT infrastructure and all associated interfaces.

The commissioning activities shall include pre-commissioning inspections, point-to-point verification, equipment configuration, calibration of field devices, loop checks, functional testing, performance testing, integrated systems testing, fail-safe testing, alarm verification, communication testing, network testing and demonstration of compliance with the approved design documentation.

The Consultant shall verify that all integrated systems operate correctly under both normal and emergency operating conditions, including interfaces between the fire detection system, public address system, access control system, HVAC systems, Building Management System, CCTV system and any other interconnected building services.

The Consultant shall prepare snag lists, monitor the rectification of defects, witness re-testing of corrected items and certify that all outstanding defects have been satisfactorily resolved prior to Practical Completion.

Upon completion of commissioning, the Consultant shall coordinate the handover process and ensure submission of all project close-out documentation, including:

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- Commissioning reports and test certificates.
- Integrated system test reports.
- Equipment calibration certificates.
- Inspection and acceptance records.
- Compliance certificates.
- As-built drawings.
- Single-line diagrams.
- Network architecture diagrams.
- Equipment schedules.
- Final software backups and configuration files.
- Preventive maintenance schedules.
- Warranty certificates.
- Manufacturer's documentation.

The Contractor shall provide comprehensive training to the Employer's operations, maintenance and facilities personnel covering the operation, routine maintenance, fault diagnosis, emergency procedures and system administration of all installed systems. Training shall include both classroom and practical on-site sessions, supported by user manuals and training material.

The Contractor shall further provide technical support during the Defects Liability Period, assist with the resolution of commissioning-related defects and participate in the Final Completion inspection to confirm that all contractual obligations have been satisfactorily fulfilled.

This scope ensures that all building systems are fully tested, integrated, documented and handed over in a safe, compliant and operational state, enabling a smooth transition to the Employer's operations and maintenance teams.

3.3.1.12 HVAC DESIGN

3.3.1.12.1 Terminal Points

The terminal point interface with existing HVAC services will be at the existing duct risers currently serving parliament office park eighth floor.

3.3.1.12.2 Scope of work Summary

This includes for the existing, supply, co-ordination, fabrication, delivery, installation, painting, testing, commissioning and handing over in complete working order a new HVAC system, ducting, diffusers, controllers of parliament office park eighth floor in Cape Town.

- The *works* covered under this section includes the installation of:
- Supply and installation of new Variable air volume diffusers and Return air grilles for partitioned offices.
- Upgrade HVAC and Supply and install new space controllers and supply additional controllers to the partitioned offices.
- Supply and installation of two direct expansion (Dx) Under ceiling units for IT / Server Room.
- Mechanical Ventilation – Toilet ventilation
- Supply and install (if required) metal sheet and flexible ducting in accordance with provided

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Construction HVAC Layout.

- Supply and installation of DX Air Handling Units
- Each section is discussed in detail within the document.

3.3.1.12.3 Contractor's Drawing, Equipment Selection and Sample Submissions

The contractor shall select material, submit selected materials for approval to the employer, submit shop drawing to the employer for approval, the contractor shall submit method statements, quality control documents to the employer for approval prior construction, the contractor shall construct, test balance and commission the units and hand it over to the employer, the contractor shall decommission existing plant in preparation to install new plant.

3.3.1.12.4 Variable Air Volume Diffusers and Return air grilles

The Contractor shall supply and install new variable air volume diffusers for each office partitioned office and boardroom for Indoor Air Quality to comply with SAN10400-part O and SANS 10147 according to Construction Layout ERE.65/000001 Parliamentary Office Park 8th Floor Diffuser Repositioning.

The Contractor shall supply and install additional return air grilles for the new office space and boardrooms.

Each of the diffusers will be connected to the ceiling ducts with a 1.5-meter length of insulated flexible ducting.

It is important that the positioning and co-ordination of the ceiling grid, diffusers, the lighting and the sprinkler heads are carefully checked to ensure the correct and most suitable positioning of the various services is achieved.

3.3.1.12.5 Variable air flow HVAC system as standby plant

The Contractor shall supply and install new variable air volume indoor and outdoor units as a standby plant for the central HVAC system.

The Contractor to supply and install variable air volume diffusers for each office partitioned office and boardroom for Indoor Air Quality to comply with SANS 10400-part O and SANS 10147 according to the Construction Layout for parliament office park eighth floor.

3.3.1.12.6 Upgrade Temperature sensor controllers

The Contractor shall supply and install the Temperatures Sensor Controllers for every office.

The contractor shall supply and install new additional install temperature sensor controllers for each office partitioned offices and boardrooms.

Each new partitioned office and boardroom should have their own dedicated temperature controllers.

3.3.1.12.7 Installation of Dx Under ceiling units for Server Room.

The Contractor shall supply and install Dx Under ceiling units for Server Room to the new position of the IT Server Room to comply with Layout ERE.65/000001 Parliamentary Office Park 8th Floor Diffuser Repositioning and SAN10400-part O and SANS 10147.

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3.3.1.12.8 Mechanical Ventilation – Toilet ventilation

The existing ablutions on Eighth Floor have separately mechanically Extraction air system consisting of extraction disc valves and sheet metal ducts located on the Eighth Floor connected to a duct riser and Extraction fan at the located Roof.

The Contractor shall design, supply, install and commission galvanised sheet metal Ducting and Extract Disc Valves extracting from the Ablutions for the new ablutions on the Eighth Floor as per SANS 10400-part O.

The Contractor shall supply and install Ablution doors with ventilation grilles.

The Contractor shall provide a Quality Control Plan (QCP) indicating HVAC hold points are enforced to ensure full compliance with applicable standards.

3.3.1.12.9 Supply Air Ducting

This existing Supply Air Ducting will not be modified.

The Contractor shall clean the supply ducts to remove in built dust and allergens to improve indoor Air Quality.

The terminal point interface with existing HVAC services will be at the existing duct risers currently serving 8th Floor Eskom Executive Suite at Thibault Square Building.

3.3.2 Dx Air handling Units

The Contractor shall supply, install and commission Six Air Handling units for the Eighth Floor as per Layout ERE.65/000001 Parliamentary Office Park 8th Floor Diffuser Repositioning. The air handling units shall comprise of filters, cooling/heating coils, supply air fan, return air fan, dampers, insulated casing for the components, actuators, controllers and sensors.

3.3.3 Variable Air Flow HVAC System for selected offices

The Contractor shall design, supply, install and commission Variable Air Flow HVAC system for selected offices.

The Contractor shall provide a Quality Control Plan (QCP) indicating HVAC hold points are enforced to ensure full compliance with applicable standards.

3.3.3.1 WET SERVICES DESIGN

3.3.3.1.1 Terminal Points

The terminal point of the scope of work will be the existing inner wall terminal interfaces of the hot and cold-water reticulation, sewage and drainage systems within the existing ablution facilities for 8th Floor Executive Suite at Thibault Square Building.

3.3.3.1.2 Scope of work Summary

This includes for the decommission existing, supply, co-ordination, fabrication, delivery, installation, painting, testing, commissioning and handing over in complete working order a new

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wet services system and drainage system for the refurbishment of 8th Floor Executive Suite at Thibault Square Building

The works covered under this section includes the installation of:

- cold water supply pipes and fittings for ablutions and kitchens
- Drainage, sanitary fixtures and plumbing equipment for the ablutions and kitchens

The contractor shall decommission existing Wet services and drainage system and replace with new wet services and drainage system for 8th Floor Executive Suite at Thibault Square Building.

Each section is discussed in detail within the document.

3.3.3.1.3 Contractor's Drawing, Equipment Selection and Sample Submissions

The contractor shall select material, submit selected materials for approval to the employer, submit shop drawing to the employer for approval, the contractor shall submit method statements, quality control documents to the employer for approval prior construction, the contractor shall construct, test balance and commission the units and hand it over to the employer, the contractor shall decommission existing plant in preparation to install new plant.

3.3.3.1.4 Cold Water Supply

The contractor shall strip existing Coldwater pipes and valves for the existing ablutions and kitchens and supply and install new piping and valves for 8th Floor Executive Suite at Thibault Square Building.

The Contractor shall supply and install new piping and fixtures for the new ablutions for the 8th Floor Executive Suite at Thibault Square Building to connect to existing cold water pipe risers.

The Contractor shall where required make provision for suitable material for the Terminal interface between copper pipes supplying the ablutions and kitchen and galvanized mild steel pipe risers.

3.3.3.1.5 Metering

The Contractor shall supply and install Smart meter(s) for the cold-water supply system to block 8th Floor Executive Suite at Thibault Square Building.

3.3.3.1.6 Drainage system, sanitary fixtures and plumbing equipment

The contractor shall strip existing drainage pipes, sanitary fixtures and plumbing equipment for the Ablutions and Kitchen and design, supply and install new drainage pipes, sanitary fixtures and plumbing equipment for 8th Floor Executive Suite at Thibault Square Building as per SANS.

The Contractor shall design, supply and install new drainage pipes, sanitary fixtures and plumbing equipment for the new Ablutions for the 8th Floor Executive Suite at Thibault Square Building to connect to existing drainage pipe Risers.

The Contractor shall provide a Quality Control Plan (QCP) indicating HVAC hold points are enforced to ensure full compliance with applicable standards.

3.3.3.2 FIRE PROTECTION DESIGN

3.3.3.2.1 Terminal Points

The terminal point interface with existing fire protection system will be at the existing pipe risers currently serving 8th Floor Eskom Executive Suite at Thibault Square Building.

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3.3.3.2.2 Existing Fire Protection System (FPS):

Parliament building is equipped with Fire protection system comprising of automatic fire sprinklers, pipe risers, fire hydrants, fire hose reels fed from the existing building fire mains reticulation and fire extinguishers and SABS approved photo luminescent symbolic fire signage.

3.3.3.2.3 Scope of work Summary

This includes for the design (Where required), decommission existing, supply, co-ordination, fabrication, delivery, installation, painting, testing, commissioning and handing over in complete working order automatic fire sprinkler system, fire hydrants, hose reels, portable fire extinguishers, fire sealing, fire signage installations for the refurbishment of 8th Floor Eskom Executive Suite at Thibault Square Building.

The works covered under this section includes the installation of:

- An automatic fire sprinkler system within the voids and below the new ceilings.
- Fire protection equipment
- Fire signage
- Fire sealing

Each section is discussed in detail within the document.

3.3.3.2.4 Contractor's Drawing, Equipment Selection and Sample Submissions

The contractor shall select material, submit selected materials for approval to the employer, submit shop drawing to the employer for approval, the contractor shall submit method statements, quality control documents to the employer for approval prior construction, the contractor shall construct, test balance and commission the units and hand it over to the employer, the contractor shall decommission existing plant in preparation to install new plant.

3.3.3.2.5 Automatic Fire Sprinklers

There is an existing Automatic fire sprinkler system, the assumption the fire pumps feeding sprinkler system is functional and compliant.

3.3.3.2.6 Fire Protection equipment (Fire Hydrants, hose reels and extinguishers)

There are existing Fire Hydrants, fire hose reels and extinguishers for the Eight Floor the assumption the fire pumps feeding fire hydrants and fire hose reels system is functional and compliant.

The existing Fire Extinguishers to be serviced as per legislation.

3.3.3.2.7 Fire suppression system for Information Technology (IT) / Server Room

The Contractor shall design, supply, and install gas suppression system for the IT / Server Room, compliance is based upon SANS14520, SANS10139 and SANS10400-T

All gas installations to be designed, installed, commissioned, and serviced by a competent professional registered with South African Qualification and Certification Committee (SAQCC) For Fire.

3.3.3.2.8 Symbolic Fire Signage

The contractor shall install were required SABS approved photo luminescent (glow in the dark) symbolic signs mounted in aluminium frames indicating all firefighting equipment, fire escape routes and exit doors in accordance with SANS 1186.

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3.3.3.2.9 Fire Sealing

The Contractor shall where required seal all service penetrations through concrete floors and walls for block 8th Floor Eskom Executive Suite at Thibault Square Building to achieve a 120-minute fire rating in accordance with SANS 10400-T-2011.

3.3.3.2.10 Piping

Piping for sprinkler system for 8th Floor Eskom Executive Suite at Thibault Square Building shall be galvanized and in accordance with SANS 62 and SANS 719.

Fire piping shall be fully painted signal red in accordance with SANS 1091. Note that the contractor is accountable to provide the proper priming on galvanised pipes before it is painted to ensure the paint does not flake off.

3.3.3.2.11 Welding

Welding shall be done according to 240-106628253 Standard for Welding requirement on Eskom Plant.

The Contractor shall provide a Quality Control Plan (QCP) indicating Fire Protection System hold points are enforced to ensure full compliance with applicable standards.

3.3.3.3 ELECTRICAL DESIGN

The primary objective of the project is to upgrade and reconfigure the electrical infrastructure on the 8th floor to align with the new office layout and operational requirements. This includes removing outdated installations, providing a new UPS system capable of delivering 100% backup, and installing new lighting and socket outlets that are coordinated with the revised partitioning plan.

The purpose of these works is to ensure that the 8th floor is fully equipped with a reliable, resilient, and modern electrical system that supports business continuity and workplace functionality. By integrating a new UPS with full backup capacity, the project guarantees uninterrupted power supply for critical operations. The state of the art of lighting and socket outlets will enhance usability, safety, and compliance, while supporting the flexibility of the new partitioned layout.

This specification covers the manufacture, supply, delivery, offloading, installation, testing, commissioning and handing over of all the electrical works required for the proposed 8th Floor Eskom Executive Suite at Thibault Square Building Project.

The attention of the Contractor is drawn to the Bill of Quantities (BoQ) that forms an integral part of the specification and especially the following clauses:

- Where the term “or other approved” is used in connection with proprietary materials or articles, it is to be understood that approval shall be at the sole discretion of the Engineer. Where brand or trade names are referred to in the Drawings and Bill of Quantities, these shall indicate the quality and type of material or fitting required and no substitution of materials so specified will be permitted, unless the authority of the Engineer has been obtained, in writing, before tenders close.
- The drawings listed in the index form an integral part of this specification but are issued for tender purposes only and are not intended to be used for construction without the prior written approval of the Employer’s Representative.
- The positioning of all equipment, light fittings, light switches, socket outlets etc. on the

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drawing, is schematic only and in some cases may not correspond to the actual layout of the buildings. The successful Contractor shall be responsible for indicating the correct position of all electrical equipment on their working drawings to enable the Employer's Representative to produce "as built" drawings.

The successful Contractor shall provide all labour, materials, equipment, tools and supervision to transport, assemble, erect, install, connect, test and place into service the complete electrical works. The works shall consist of, but are not limited to:

- Supply and installation of light fittings and occupancy sensors.
- Supply and installation complete with termination of conduit, wiring earthing, etc where required.

Contractors are to allow for ALL work and materials indicated and implied on the drawings, whether indicated in the specification or not, to deliver a complete and operational project.

All work shall be done by an electrical contractor registered with the following regulatory bodies:

- Electrical Contractor with the Department of Labour - Compulsory
- Electrical Contracting Association of South Africa (ECA) - Optional.

The electrical contractor shall provide valid and certified copies as proof of accreditation and registration with the Electrical Contractor certificate prior to commencement at the site hand-over meeting and prior to commencement of any work.

3.3.3.3.1 Balancing of load

The successful Contractor is required to balance the load as equally as possible over the multiphase supply where applicable.

3.3.3.3.2 Low Voltage Cable Installation

All low voltage cables shall be in accordance with the standard and detail specifications.

Use the existing cables to terminate on the lighting fixtures and small power as per drawings.

The minimum radius of bends in all cables shall be as per the manufacturer recommendation to ensure that the minimum bending radii of the cables are maintained at all times during and after installation. Failure to adhere to this requirement may result in the rejection of the particular cable.

3.3.3.3.3 Distribution Boards

Issue a Certificate of Compliance (CoC) as per SANS 10142-1 for the existing supply Distribution Board (DB). The existing 160A supply will remain as the primary incoming feed, but all current lighting and socket outlets are to be removed to allow for a complete redesign. The existing generator and UPS connections will be retained (UPS to be relocated to new position); however, the Employer requires the installation of a new 60kVA UPS system capable of delivering 100% backup coverage to all critical loads, ensuring full resilience and continuity of operations for minimum time of 1 hour at full capacity occupancy.

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The generator will kick in and provide supply to the lights and a few socket outlets once the UPS batteries are depleted. The generator will provide partial backup solution which will ensure that operations can continue as long as the generator is running.

3.3.3.3.4 Wiring

In general, all wiring, where applicable used in installations shall be of at least 600/1000V grade in accordance with SABS 1507 and PVC insulated.

Light circuits shall be wired with 2.5mm² 7 strand copper conductor PVC insulated wire.

Switched socket outlets and power points shall be wired with 4mm² 7 strand copper conductor PVC insulated wire.

Air conditioner and heater circuits, where applicable shall be wired with 6mm² 7 strand copper conductor PVC insulated wire.

Wiring for circuits not specified shall be according to SANS 10142-1.

Associated with every circuit, a stranded copper earth conductor shall be run and connected to the terminal of the appliance or outlet and on the installed earth bar within the distribution board. Wire sizes shall be as follows:

- 6mm² conductor : 4mm² earth wire
- 4mm² conductor : 2.5mm² earth wire
- 2.5mm² conductor : 2.5mm² earth wire
- 1.5mm² conductor : 2.5mm² earth wire

Where circuits are run in metal conduit, bare earth conductor shall be used and PVC insulated earth conductor shall be used for circuits run in PVC conduit.

3.3.3.3.5 Power skirting

The power skirting shall provide for all the services detailed on the layout diagrams and shall be in accordance with the type specified in the legend, or equal approved. Wiring shall conform to the standards detailed within this specification. The power skirting shall be of the type detailed on the layout diagrams complete with all bends and end caps.

The per meter rate quoted for the supply of the power skirting shall include for all necessary covers, fitting mechanisms, fixers and consumables, but shall not include for switched socket, telephone or computer LAN outlets plus cover plates and other hardware fitted into the power skirting.

Conduits linking between sections of power skirting and between the power skirting and the relevant distribution boards shall be provided as per the requirements for plug, telephone and computer LAN circuits.

3.3.3.3.6 Workstation Point Consisting

- 1 X 16A Normal Power SSO (White)
- 1 X 16A Euro Plug
- 1 X 16A SSO With Shaved Earth Pin (Red)
- 1 X USB Type A

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- 1 X USB Type C
- 1 X Data Connector
- 1 X Voice Connectors

3.3.3.3.7 Lighting

The new electrical design incorporates lighting systems that are tailored to the new partitioning arrangement, providing appropriate illumination levels and compliance with workplace standards as per the lighting layout. All light fittings will be new and made of Type A 50W 2433x96x66mm Recessed LED Linear Light fixture, Type B 18W recessed LED Downlight, Type C 10W recessed LED Downlight and will be controlled using the occupancy sensors as directed in Drawing No: parliament office-100002-Rev 0. Supply DB is the existing SDB-8TH Floor as per the single line diagram.

a. Lighting Conduit Work

Lighting circuits are to be conduited using 20 mm conduit, and all lighting circuits are to be routed via the ceiling. A separate circuit shall be run from the distribution board for each of the light circuits as indicated on the layout diagrams.

The successful Contractor is to co-operate closely with the building contractor to ensure that luminaires are symmetrically positioned with regards to the ceiling pattern. The exact positioning of lights and switches is to be confirmed with the Client's Representative.

b. Lighting General

Lighting shall comply with the SABS standards where applicable. The luminaires specified are detailed in the Bill of Quantities and drawings. Where alternative luminaires and lamps are offered, the details shall be submitted with the tender. All alternatives shall be subject to the approval of the Client's Representative.

Earth conductors shall be connected to the earthing terminal of all luminaires and in accordance with SANS 10142-1. All luminaires shall be supplied complete with a first working fitting of the appropriate lamp in each lamp holder. Each lighting circuit on the Distribution Board shall consist of a 10A single pole MCB of 5 kA rupturing capacity, unless specified otherwise on the single line diagram.

Lighting will be controlled by occupancy sensors in most spaces to maximize energy efficiency and automate switching. In service ducts and utility areas, lighting will be operated by manual switches only. DALI (Digital Addressable Lighting Interface) system will be implemented to allow individual control of luminaires and enable dimming.

The contractor shall be responsible for the design, supply and installation of the DALI system that will enable the efficient control of lighting.

Lighting shall comply with the SABS standards where applicable. The luminaires specified are detailed in the Bill of Quantities and drawings. Where alternative luminaires and lamps are offered, the details shall be submitted with the tender. All alternatives shall be subject to the approval of the Client's Representative.

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3.3.3.3.8 Air Conditioner Circuits

Air conditioner circuits are to be conduited using 25mm conduit, and all air conditioner circuits are to be routed via the ceiling.

The Contractor shall provide a Quality Control Plan (QCP) indicating Electrical System hold points are enforced to ensure full compliance with applicable standards

3.3.3.3.9 Electrical health and safety risk management

The works on the 8th floor involve the removal of existing electrical installations, the installation of a new UPS system, and the redesign of lighting and socket outlets to suit the revised partitioning. These activities present a range of health and safety risks that must be carefully managed to ensure compliance with statutory requirements and the protection of all personnel on site.

Key risks include electrical hazards during the strip out and installation phases, potential exposure to live circuits, manual handling injuries from the movement of heavy equipment such as UPS units and working at height during the removal and installation of lighting fixtures. Dust, noise, and general construction hazards associated with demolition and fit out works also need to be controlled.

Risk management will be achieved through strict adherence to established health and safety protocols. This includes isolating and locking out electrical supplies before removal works commence, ensuring all operatives are competent and trained, and providing appropriate personal protective equipment (PPE). Safe systems of work will be implemented for manual handling and working at height, supported by risk assessments and method statements. Fire safety and emergency procedures will be reviewed and updated to reflect the temporary removal of existing systems and the installation of new equipment. Regular site inspections, toolbox talks, and coordination meetings will be conducted to reinforce safety awareness and address emerging risks. All activities will be monitored to ensure compliance with occupational health and safety legislation, and a dedicated safety officer will oversee the implementation of risk management measures throughout the project.

3.3.3.3.10 Electrical environmental constraints and management

The refurbishment of the 8th floor presents several environmental considerations that must be addressed to ensure compliance with sustainability standards and minimize adverse impacts. The removal of existing lighting and socket outlets will generate electrical and construction waste, which must be managed responsibly. Hazardous materials, such as fluorescent lamps require safe handling and disposal in accordance with environmental regulations. Noise and dust generated during strip out and installation activities may also affect building occupants and the surrounding environment, necessitating appropriate mitigation measures.

Environmental management will focus on waste reduction, segregation, and recycling wherever possible. All redundant electrical components will be collected and disposed of through certified recycling channels. The procurement of the new UPS system and lighting will prioritize energy efficient equipment to reduce long term environmental impact and operational carbon footprint. Dust suppression techniques controlled working hours, and noise management strategies will be implemented to minimize disruption to occupants and neighbouring areas.

In addition, the new design will incorporate modern, energy efficient lighting and power distribution systems that align with sustainability objectives. The UPS installation will be specified to optimize efficiency and reduce energy losses, supporting the organization's broader environmental commitments. Regular monitoring and reporting will be undertaken to ensure compliance with environmental legislation and to demonstrate responsible management throughout the project lifecycle.

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3.3.3.3.11 Electrical spares and consumables

To ensure the long term reliability and maintainability of the refurbished electrical installation, a comprehensive package of spares and consumables will be provided as part of the project handover. These items will support routine maintenance, facilitate rapid replacement in the event of component failure, and minimize downtime for critical systems. For the UPS system, spare batteries, fuses, and control modules will be supplied to allow for immediate replacement of high wear or failure prone components. The lighting installation will be supported with spare luminaires, drivers, and lamps to cover potential failures and ensure consistent illumination across the floor. Similarly, spare socket outlets, switches, and circuit breakers will be provided to maintain the integrity of the power distribution system.

Consumables such as cabling, connectors, fasteners, and protective covers will also be included to support minor repairs and adjustments during the operational phase. All spares and consumables will be catalogued and documented within the operating manuals, ensuring that building management has clear guidance on usage, storage, and replacement procedures. This structured provision of spares and consumables ensures that the Employer can maintain the installation efficiently, safeguard against unexpected failures, and uphold the quality and resilience of the electrical systems over their lifecycle.

3.3.3.3.12 Electrical quality management

The quality of the 8th floor refurbishment will be assured through a structured and comprehensive management process. All works will be carried out in accordance with relevant industry standards, statutory regulations, and the Employer's design requirements. Quality assurance will begin at the design stage, ensuring that the new UPS system, lighting, and socket outlets are specified to meet performance, safety, and efficiency criteria. During installation, strict inspection and testing procedures will be implemented to verify compliance with design specifications and regulatory standards. This includes routine checks on electrical connections, verification of UPS capacity and functionality, and commissioning of lighting and socket outlets to ensure they align with the new partitioning layout. Any deviations or defects identified will be rectified promptly under a controlled corrective action process.

Documentation such as as built drawings, operating manuals, and maintenance schedules will form part of the quality deliverables, provide a clear record of the completed works and ensure long term reliability. Independent audits and client inspections will be facilitated to confirm that the project meets contractual obligations and quality benchmarks.

3.3.3.3.13 Testing and Inspection

The successful Contractor shall comply with the relevant requirements concerning registration of electricians, registration of the works, testing and inspection.

Prior to handover, a comprehensive program of tests and inspections will be undertaken to verify that all installations meet the Employer's design requirements, statutory regulations, and industry standards. These procedures are critical to ensuring the safety, reliability, and performance of the new electrical systems. For the UPS system, factory acceptance tests will be conducted to confirm capacity, efficiency, and full back-up functionality. On site commissioning will include load testing, integration with the generator supply, and verification of seamless transfer during power interruptions.

The lighting installation will undergo lux level testing to ensure compliance with workplace standards, alongside functional checks of emergency lighting and controls. Socket outlets and power distribution circuits will be tested for continuity, insulation resistance, polarity, and earth fault loop impedance to guarantee safe operation. All systems will be subject to independent inspections and witnessed testing where required, with results documented in formal test

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certificates. Quality assurance procedures will ensure that any defects identified during testing are rectified prior to delivery.

The successful Contractor shall ensure that all equipment is installed and tested in full compliance with the requirements of the manufacturers of the equipment so as to ensure that the guarantees offered by the manufacturers are not compromised. The successful Contractor shall familiarise himself in detail with the manufacturer's requirements prior to the installation of the equipment, and, where necessary, the installation work shall be carried out under the supervision of the manufacturer/supplier.

The successful Contractor shall carry out continuity, earth leakage, earth loop impedance and insulation tests to ensure that the installation is functional and safe.

A full functional test will be carried out on the installation for a period to determine the satisfactory working thereof after completion of the works and before first delivery is taken. During this period the installations will be inspected and the successful Contractor shall make good, to the satisfaction of the Engineer, any defects that may arise.

The successful Contractor shall provide all instruments and equipment required for testing and any water, power and fuel required for the commissioning and testing of the installations at completion.

The successful Contractor shall on completion of the tests, submit, in terms of the OHS Act No.85 of 1993 (as amended), a completed and signed Certificate of Compliance for Electrical Installations to the Clients Representative.

On completion of the Contract Works, the successful Contractor shall remove all dirt and debris arising from the Contract Works from site, paying particular attention to roof spaces.

Only Contractors registered with the Electrical Contracting Board of South Africa in accordance with Regulation 5 of the Occupational Health and Safety Act will be accepted and permitted to do work under this Contract.

The requirements of Regulation 5(2) will be strictly enforced, and are repeated for convenience purposes:

"5(2) The Electrical Contracting Board of South Africa shall, free of charge, register as an electrical contractor and enter into a register kept for that purpose the name of any person who applies therefore in terms of sub-regulation (1) and who

- a) has a fixed address and has a telephone listed in his name; and
- b) employs an accredited person on a full-time basis or is himself an accredited person."

An "accredited person" is defined in the Regulations as ".....a person registered in terms of Regulation (9) (of the Act) as an electrical tester for single phase, an installation electrician or a master installation electrician, as the case may be". If, for any reason whatsoever, the successful Contractor fails to comply with these statutory requirements during the Contract period, after having been accepted initially to do work under this Contract, the services of the successful Contractor will be terminated in accordance with Clause 56 of the Conditions of Contract.

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3.3.3.3.14 Commissioning of the electrical system

Commissioning will ensure that all electrical installations are fully tested, verified, and operational before handover. The process will include:

- UPS System: Load testing, battery autonomy verification, and seamless transfer checks between mains and generator supply.
- Lighting: Lux level measurements, emergency lighting functionality, and compliance with SANS 10114 standards.
- Socket Outlets & Distribution: Continuity, insulation resistance, polarity, and earth fault loop impedance testing to confirm safety and reliability.
- Integration: Verification of coordination between UPS, generator, and distribution systems to guarantee uninterrupted operation.
- Documentation: Test certificates, commissioning reports, and updated as built drawings will be issued to confirm compliance.
- Training: Building management staff will be briefed on system operation and maintenance procedures.

Only once all commissioning activities are successfully completed and documented will the installation be deemed ready for handover.

On completion, the contractor must provide as built drawings showing the final electrical layout, UPS integration, lighting, and socket outlets. Operating manuals for all systems, including UPS and lighting, must be delivered with clear instructions for use and safety.

A set of maintenance schedules will outline inspection intervals and replacement timelines for critical components. Test certificates and commissioning reports must confirm compliance with design and regulatory standards.

The Contractor shall provide a Quality Control Plan (QCP) indicating Electrical system hold points are enforced to ensure full compliance with applicable standards

3.3.3.4 Standards and Code of Practice

Where reference is made to any Code of Practice or Standard Specification, the latest amendment or edition shall apply. The contractor shall ensure that they are acquainted with the contents of such documents.

Installation work shall be carried out in full compliance with the Codes of Practice mentioned and in accordance with good engineering practice. All materials and equipment shall be new and of high quality which complies with the relevant Specifications. The contractor shall ensure compliance with these specifications and if requested by the engineer, shall prove compliance at his own cost.

The manufacture of equipment and the complete installation shall be carried out and tested in accordance with the latest issue and/or amendments of the regulations.

The contractor shall issue all notices and pay all the required fees in respect of the installation to the authorities and shall exempt the employer and the engineer from all losses, claims, costs or expenditure which may arise as a result of the contractor's negligence to comply with the requirements of the regulations.

It shall be assumed that the contractor is conversant with the abovementioned requirements and specifications. Should any requirements, by-laws or regulation, which contradicts the

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requirements of this document, apply or become applicable during erection of the installation, such requirement, by-law or regulation shall overrule this document and the contractor shall immediately inform the engineer of such contradiction. Under no circumstances shall the contractor carry out any variations to the installation in terms of such contradictions without obtaining the written permission to do so from the engineer.

3.3.3.5 Employer's requirements

In line with accepted practice, the Employer has, from time to time, standardised on the supply of various items of equipment. The Contractor shall undertake, and by the submission of his tender confirms that he has undertaken, to inform himself of the status of such standardisation requirements ruling at the time of tender, and any deviations from such standards shall be corrected by the successful Contractor at his expense.

3.3.3.6 Drawings and Documentation

The successful Contractor shall provide four sets of "as built" drawings and operational manuals for all equipment installed in terms of this specification, the drawings and Bill of Quantities. One set shall be provided to the Clients Representative and three to the Employer.

The maintenance and operational manuals must be complete with an index and be bound in a suitable hard cover binder such as Bantex A4 Ring Binders. The files must be provided with stiff dividers on which the relevant sections are indicated and are to be in printed or typed format. Drawings shall be housed in plastic pockets in the file, and only one (1) drawing per pocket will be allowed.

In addition, all "as built" drawings must be stored on CD in .dwg format and must also be submitted with the manuals.

All schematic electrical "as built" drawings of distribution boards must be laminated and attached to the inside of the doors with double sided tape.

The main distribution board/electrical panel schematic diagram in the low voltage plant room or in other plant rooms as well as the schematic site reticulation layout, if applicable, must be suitably framed with Perspex and be mounted in the plant room in a position as indicated on site.

The maintenance and operational manuals must consist of the following sections where applicable to the project:

- Operations section, covering description of the system and functioning thereof, all starting up and stopping procedures, fault-finding procedures, pre-start checks and equipment running checks.
- Comprehensive data log sheets to be kept by the user of the system.
- General system description and general information schedules of plant and equipment, such as description of equipment, model number, capacity, electrical requirements of equipment, name and address of supplier, name of manufacturer.
- Design information: Design data sheet containing all design and selection parameters, calculations, selection curves, etc. Settings and values recorded during commissioning.
- Manufacturers' brochures, pamphlets, pump curves, etc. Maintenance data and schedules: The lapse of time between services and the description of service

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requirements for each part, piece of equipment or item installed under the Contract. This section must also include the detailed daily, weekly, monthly, three monthly, six monthly and yearly preventative maintenance instructions and checklists.

- Manufacturers' literature indication lubrication points, lubricants to be used and other data referred to above.
- Commissioning data of all equipment and systems with all set points listed in table format relating to the specific piece of equipment and/or system.
- All other data relating to other components forming part of the system/reticulation such as valves, diffusers, medical gas outlet points, etc.
- Critical spare parts list for all equipment.
- All test certificates (any certificates required in terms of the installations as pertaining to the project), compliance certificates, lightning protection certificates, certificates of construction of electrical panels.
- Schematic wiring diagrams and equipment ratings of all electrical panels and distribution boards.
- All "As-Built" drawings of mechanical and electrical installations pertaining to the project. "As-Built" drawings must be the true reflection of the installation as on site and must include the actual particulars of the equipment as installed on site and must be signed and dated by the responsible consultant and must be marked "AS BUILT".
- All "As-Built" drawings, including wiring diagrams, must be produced in Autocad format and be stored on CD as listed above.

3.3.4 EXCLUSIONS

None.

3.3.5 Parts of the *works* which the *Contractor* is to design

The scope of work includes assessment, design, procurement, construction, manufacturing, installation, testing, commissioning, 3rd party certification and training for all affected systems.

3.3.6 Procedure for submission and acceptance of *Contractor's* design

All Documents are submitted to the *Project Manager* for review prior to implementation. All review documentation is submitted with transmittals. Any review information submitted without transmittals are considered rejected automatically.

At the end of each contracted design phase (e.g., Concept, Basic, detailed design phase), the *Contractor* provides an integrated design report which is reviewed at a Multi-Disciplinary Design Review (MDR) which will allow the project to move into the next design phase or allow for design freeze.

Construction may not begin prior to design freeze.

The following process will be followed during submission of documents:

- a) The *Contractor* submits the documents/drawings to the *Employer*
- b) The *Employer's* Document Controller registers the documents.
- c) The *Employer's* Document Controller will supply the documents/drawings to all relevant parties within the *Employer's* project team.
- d) The *Employer's* project team reviews the documents/drawings and will submit all comments or inputs to the *Contractor* for consideration.

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When downloaded from the EDMS, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

- e) If the *Employer* finds major deficiencies in the submitted documents/drawings, the *Contractor* revises the documents/drawings and resubmits to the *Employer*.
- f) The *Employer* reviews the documents/drawings and if no major deficiencies are found, the *Contractor* organises a Review session.
- g) The *Employer* and the *Contractor* conduct a Review.
- h) If any fundamental errors were found in the works or further actions are required, the *Contractor* records all concerns raised and revises the designs.
- i) The *Contractor* organises a review session once all works were revised according to the concerns raised by the *Employer*.
- j) If no fundamental errors were found in the designs during the Design Review session, the *Contractor* compiles the Review minutes or report and submits it to the *Employer*
- k) The *Employer's* Document Controller registers the report.
- l) The *Employer's* project team reviews the *Contractor* report/minutes. If the report/minutes are not acceptable, the *Contractor* revises the report/minutes and resubmits to the *Employer's* Agent.
- m) The *Employer's* Agent will accept the *Contractor* works once the report/minutes are accepted by the *Employer's* project team.
- n) Work shall always be subject to full time supervision by a qualified and experienced site agent. This representative must be authorised and competent to receive instructions on behalf of the *Contractor*.

The following documents are supplied to the *Employer* by the *Contractor* as a minimum:

- i. Detail Design
- ii. Detail design report
- iii. Detail calculations
- iv. Coordination between services
- v. Design including components data sheets and specification for selected components, distribution, electrical cabling and other associated component
- vi. Dimensioned detailed drawings showing the general arrangement of all plant and component including isometrics and/or P&ID's where required. Sufficient views must be given to ensure clarity, and the drawing shall have at least a plan and two different elevations or sections giving overall dimensions.
- vii. Detail design drawings. Dimensioned detail drawings showing proposed method of fixing of all the plant and component
- viii. Detailed electrical wiring diagrams including schematic and control circuits.
- ix. Detailed sequencing manner for installation procedure of Works
- x. Detailed programme for the *Works* in sufficient detail as to represent the units of work to enable the representative to assess the progress of the *Works*
- xi. Technical Specifications and Technical literature for all items of component that forms part of the complete installation
- xii. List of recommended spares and technical specifications for the spares
- xiii. Detailed structural & civil work for the complete *Works*
- xiv. Detailed maintenance, reliability, control and operating philosophies

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- xv. Testing and commissioning procedures
- xvi. Plant and material acceptance testing
- xvii. Plant Codification Lists for each Section of the Works

3.3.7 Other requirements of the *Contractor's* design

Creation of KKS Coding and cable numbers up to component level.

Allocation of drawing numbers, based on the envisaged quantities of drawings to be produced by the *Contractor*, a block of drawing numbers will be supplied to the *Contractor* for allocation to individual drawings.

Labelling of plant to suit KKS and cable numbering.

All the design solutions are developed by the relevant Professional Engineers at all design stages, the associated Professional Engineer will form part of the *Contractor's* supervision team and inspect and sign off the various quality documents.

The *Contractor* is to comply with all legislated safety requirements as well as Eskom's health and safety standards.

3.3.8 Use of *Contractor's* design

The *Contractor* grants to the *Employer*, with effect from the starting date, an irrevocable royalty-free non-exclusive licence to use all of the documents provided to provide the Works (including, but not limited to calculations, drawings, manuals, models and other documents of a technical nature), for any purpose whatsoever, including for the purpose of operating, repairing, maintaining, dismantling, re-assembling and making adjustments to all parts of the Works.

3.3.9 Design of Equipment

The components are to be designed to facilitate efficient manufacture, inspection, transportation, installation, maintenance, cleaning and repairs.

- a) The components are to be designed to ensure safe and satisfactory operation for a life expectancy of at least 15 years under the conditions prevailing at Eskom Megawatt Park.
- b) The components are to be designed to prevent undue stresses being produced by expansion and contraction due to temperature change and other local natural and manmade conditions.
- c) The components are to be designed to keep maintenance costs to a minimum.
- d) The components are to be designed to comply with all the legal requirements in respect of safety and the prevention of environmental pollution.
- e) The components are to be designed to satisfy any specific requirements contained in the relevant statutory codes and standards.
- f) The components are to be designed for operation of 365 day per annum, 24hrs per day.
- g) The components are to be designed such that all material from which the components are manufactured from is compatible with the intended duty and service conditions. All components are suitable treated and protected from corrosion.

3.3.10 Equipment required to be included in the *works*

As per the *Contractor's* approved design to satisfy the requirements stated in this document.

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3.3.11 As-built drawings, operating manuals and maintenance schedules

At Take-over, the *Contractor* provides two full sets of as-built documentation as hard copies and electronic PDF and native CAD formats (.DGN or .DWG which must be compatible with Bentley MicroStation) to the *Employer*.

The Operating and Maintenance Manual and Schedules must describe how the plant is to be operated and by whom, as well as the desired level of training and orientation required for the building occupants. The operation and maintenance manuals are to consist of the following as a minimum:

- i. List of Contents (Index)
- ii. Introduction
- iii. General description of the functions of each of the systems including detailed description of each element of each system, how it functions, how it operates and how to maintain it and what attic stock or tools to carry.
- iv. Full as-built drawings and detailed drawings, brochures and catalogues for each system and each element of each system.
- v. The format of the O & M documentations is to be A4 and be a specially bound document with hard cover and with metal ring binding. (All drawings and details are to be reduced to A3 format and folded into A4 format.)
- vi. The names, addresses and telephone/fax numbers/email addresses of all responsible persons and manufacturers/suppliers are to be listed in the O&M manual.
- vii. A full list with reference numbers is to be included to enable the O&M staff to order materials and spares.
- viii. Colour diagrams are to be provided to illustrate the operation and function of each system with reference to the relevant as-built drawings or brochures of Plant and Materials. These diagrammatic drawings must also indicate the locations of installed equipment with their generated codification.
- ix. Outlines all the required maintenance activities for the complete works as well as the frequency of such activities and by whom.
- x. Proposed maintenance schedules and activities to complete during maintenance activities.

Shop Drawings

Shop drawings are to indicate all Plant and Materials, distribution systems, testing/inspection/instrumentation positions, access requirements and builder's work requirements.

The *Contractor* is to review, stamp all shop drawings to confirm that co-ordination with building and services drawings have taken place before submitting to the *Employer* for Acceptance.

The *Contractor's* drawings are to be prepared in accordance with SANS 10111 (Engineering drawing practice) and 240-86973501 (Eskom Engineering Drawing Standard Common Requirements). General arrangement and detailed drawings are to be cross referenced using codification system.

3.4 PROCUREMENT

The *Contractor* provides the following procurement services in performing the Works:

- i. Preparation of *Employer* approved supplier and Sub-Contractor's lists for equipment and contracts to be submitted to the *Employer* for review and approval.

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- ii. Follows the most cost and time saving procurement strategies.
- iii. Contract management services for the selection, appointment, and management of Sub-Contractors, where required to execute the scope.
- iv. Obtains delivery dates from Sub-Contractors and suppliers in order to realize the Completion Date;
- v. Receiving of invoices, verification thereof in terms of purchase orders and contract provisions, certification of invoices as being correct and payable and supply of correct invoices to the *Employer*
- vi. Management of and negotiating of all suppliers and Sub-Contractors compensation events and recommendations to the *Employer* as to the validity, amount and payment of such events.
- vii. Determination of penalties payable by suppliers and Sub-Contractors and recommendation to the *Employer* as to the enforcement of such penalties prior to any communication to suppliers and *Contractors*.
- viii. Ensuring that all suppliers and Sub-Contractors, from whom the *Contractor* procures equipment and materials do not retain, encumber or reserve title to such items.

3.4.1 People

3.4.1.1 Minimum requirements of people employed on the Site

All the *Contractors* personnel are subjected to access control conditions as per Eskom requirements.

- i. All workers employed on site comply with Eskom's health and safety standards. Workers are not allowed to be transported on the back of vans or bakkies.
- ii. Workers are restricted to the area of activity in close proximity to the construction.
- iii. The *Contractor* recruits within the immediate District Municipality for general labour/ skills to execute the project.

3.4.1.2 BBBEE and *preferencing* scheme

The *Contractor* is required to achieve or maintain BBBEE Level 4 rating in accordance with SD&L requirements.

3.4.1.3 Accelerated *Shared Growth Initiative* – South Africa (ASGI-SA)

Not applicable for the contract.

3.4.2 Subcontracting

3.4.2.1 Preferred *subcontractors*

The *Contractor* notifies the Project Manager in the event of using any Sub-contractor and provides the Project Manager with a list of all sub-contractors on the project. Subcontractors cannot subcontract work to another subcontractor. The choice of the proposed sub-contractor is subject to the Project Manager's approval before using the services of such subcontractor. The Subcontractor must be familiar with the required work and should submit CV's of past experience and have the necessary statutory accreditations.

The *Contractor* provides the Project Manager with the Health and Safety plans of all the sub-contractors on the project, before commencing the project.

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3.4.2.2 Subcontract documentation, and *assessment* of subcontract tenders

The *Contractor* uses the NEC subcontractor agreements. All subcontractor quotations for which provisional sums or budgets have been allowed, is first approved by the *Employer* or his representative with documentary proof. This is done well in advance of the planned scheduling of the work.

3.4.2.3 Limitations on *subcontracting*

As per Eskom requirements, subcontracting will be limited to 30% as far as possible. The *Employer* is notified where subcontracting exceeds the 30% threshold prior to commencement of the specific subcontracting works.

3.4.2.4 Attendance on *subcontractors*

The *contractor* attends to the activities of all subcontractors including direct subcontractors

3.4.3 Plant and Materials

3.4.3.1 *Quality*

The *Contractor* will not use Plant or Materials which are generally recognised as being unsuitable or otherwise to be avoided for the purpose for which they are intended.

Only components of high reliability will be utilised, with a proven operating history, to enable the Plant to achieve required reliability and availability. Plant and Material design, engineering and manufacture will accord with the best modern practice applicable to high-grade products of the type to be furnished, so as to ensure the efficiency and reliability of the Works and the strength and suitability of the various parts for the Works.

Plant and Materials withstands ambient conditions and the variations of temperature arising under working conditions without distortion, deterioration or undue strains in any part.

All parts are made accurately, and where practicable, to standard gauges so as to facilitate replacement and repairs. Like parts are interchangeable.

No repair of defective Plant and/or Materials will be permitted without the Project Manager's Acceptance and any such repair, if accepted, will be carried out to the satisfaction of the *Employer*.

The Project Manager is free to specify hold and witness points during the installation and on-site testing stages of the project. The *Contractor* issues preliminary notification of such hold and witness points by fifteen working days advance notice to the Project Manager and confirms such hold and witness points at least seven working days prior to the activity.

Typical hold points are listed below:

- i. Design Review
- ii. Factory Acceptance Test
- iii. Delivery to Site
- iv. Erection and configuration
- v. Site Acceptance Test
- vi. All manuals and drawings (in the specified format)
- vii. Commissioning

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In addition to maintaining appropriate inspection and test records to substantiate conformance to requirements, the following records are safely stored for a minimum period of seven years following the final Completion of the Works:

- i. Construction, layout and component Acceptances
- ii. Type and routine test certificates
- iii. Construction drawings and Acceptances

After this period, the *Contractor* offers these records to the *Employer* (in writing) and obtains a disposal instruction.

Documentation regarding quality procedures is submitted within thirty days of Contract Award. The *Employer* will review and comment on the acceptability of these documents in a time frame as per the requirements of the contract for contractual correspondence. If controlled copies of these documents have been submitted to the *Employer*, then the controlled copy numbers may be quoted in the submission.

3.4.3.2 Plant & Materials provided “free issue” by the *Employer*

None, all Plant and Materials are to be provided by the *Contractor*.

3.4.3.3 *Contractor's* procurement of Plant and Materials

The *Contractor* is responsible for ensuring that all products are preserved in their appropriate manner as described in their specifications or in Eskom preservation, shipping and transportation procedures as applicable. The *Contractor* shall submit the preservation, shipping and transportation procedures to the *Employer* for review and acceptance. The *Employer* may choose to witness the packaging, loading and offloading of the products depending on their criticality, this will be indicated in the intervention points on the QCP / ITP document. The *Contractor* shall ensure that all storage requirements for products are properly implemented to preserve the products against adverse conditions, deterioration, damages, etc. Storage and preservation procedures for the different products must be submitted to the *Employer* for review and acceptance. The *Employer* may request to inspect the stored products at any given point during the storage period of the product. Requirements for preservation, shipping and transportation are addressed in 240-105658000.

3.4.3.4 Spares and consumables

The *Contractor* provides as part of the tender proposal, a recommended parts list as well as a proposal for the execution there of:

- i. The *Employer* is responsible for purchasing of recommended spares.
- ii. The *Contractor* is responsible for ensuring that consignment spares are available in time of need.

Each recommended spare part is to be uniquely identified with a part number, which can be cross referenced to a part list and associated drawing. The *Employer* prefers that support from the OEM is available locally in South Africa.

3.4.4 Tests and inspections before delivery

The *Employer* carries out quality inspections at his own discretion. The *Employer* will inspect and approve stages of manufacture of all Plant and Materials necessary to ensure the correct quality of Plant and Materials as prescribed in the accepted project quality plan.

All inspections and testing are to be performed in accordance with the Quality Control Procedure (QCP) developed by the *Contractor* after Acceptance by the *Employer*.

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The *Contractor* must provide facilities for inspection of all items of Plant and Materials at the place of the manufacture and this requirement must extend to all sub-contractors and suppliers if applicable. All material labour or assistance, tools, gauges, articles or apparatus that the *Employer* may require for the purpose of testing, gauging and inspection, must be provided by the *Contractor*. The *Contractor* must provide all such facilities for testing and the contract price must include for this.

The *Employer* reserves the right to reject items that do not conform to the *Employer's* requirements. When the plant has passed the prerequisite tests, the *Employer* will furnish to the *Contractor* a certificate or endorse the *Contractor's* test certificate to that effect. Examination by the *Employer* does not relieve the *Contractor* from the responsibility of carrying out all tests which may be necessary to ensure the required standard of manufacture or from any obligations in terms of the contract.

The achievement of adequate standards during the tests at the place of manufacture, if performed, is only the first requirement. The final criterion will be performance onsite, and any of the requirement which proves defective due to bad workmanship or material must be replaced forthwith by the *Contractor* at his own cost on the instruction of the *Employer*.

The following tests are conducted by the *Contractor* and are to be witnessed by the *Employer* at the manufacturer's works or *Contractor's* premises as a minimum requirement:

- i. Visual inspection of the Plant and Materials
- ii. Review of the certification requirements
- iii. Inspection of paint work and corrosion protection.
- iv. Verification that all components are delivered to the *Contractor's* premises.
- v. Verification that all power plugs is correct.
- vi. Verification that components installed is correct.
- vii. Verification that all labels are correct.

3.4.5 Marking Plant and Materials outside the Working Areas

All Material paid for by the *Employer* is clearly labelled as being the *Employer's* property.

3.4.6 *Contractor's* Equipment (including temporary works).

The *Contractor* provides the following to complete the Works:

- i. All scaffolding required
- ii. Any Equipment necessary to complete the Works
- iii. Lifting facilities

The *Contractor* supplies, installs, maintains and removes all temporary construction facilities and utilities necessary to Provide the Works.

3.4.7 Cataloguing requirements by the *Contractor*

Unique Identifier 240-1289988974 to be provided on request.

3.5 CONSTRUCTION

The *Contractor* is required to:

- i. Submit a comprehensive method statement of the entire Works to the Project Manager for acceptance prior to the start of the Works

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- ii. Submit a project specific safety file to the *Employer* for comments / acceptance.
- iii. Prepare earthworks for craneage access and working rigging areas if required.
- iv. Manage his activities on site to ensure that no interference takes place between his work and that of others.
- v. Complete "Contract Activities Daily Reports".
- vi. Liaise with the Project Manager regarding utilities and telephone facilities required for his Site establishment.
- vii. Liaise with the Project Manager regarding the location of waste disposal sites and rubbish dumps,
- viii. Maintain and promotes labour harmony on the Site and in the working environment.
- ix. Immediately report any potential labour disharmony to the Project Manager.
- x. Not recruit or employ any personnel from the *Employer* and Others, without prior acceptance of the Project Manager.
- xi. The *Contractor* submits a fully detailed Quality Control Plan (QCP) for acceptance within one week of the Contract Date.
- xii. The *Contractor* submits a schedule of unpriced orders to be placed and this is updated regularly.

3.5.1 Temporary works, Site services & construction constraints

3.5.1.1 *Employer's* Site entry and security control, permits, and Site regulations

The site is located in a part of an existing campus, with existing buildings all around, most buildings are currently occupied.

- i. The *Contractor* attends the site clarification meeting prearranged by the *Employer* prior to submitting tender.
- ii. The *Contractor* ensures that he familiarizes himself with site conditions.
- iii. *Contractor's* access is limited to the areas as indicated in the scope and *Contractor's* staff is prohibited from roaming in the rest of the facility.
- iv. Eskom Holdings indemnifies themselves from any negligent events by the *Contractor* relating to the scope of the works within the contract period
- v. The *Contractor*, his staff and the Sub-contractors maintain identification at all times e.g. Uniforms etc.
- vi. The *Contractor* is deemed to execute Safety Procedures to ensure the safety of his staff, Sub-contractors, Eskom staff during the Contract Period.
- vii. Use of power and loud tools to be controlled and/or managed with Eskom office management team.
- viii. The safety of the *Contractors* Employees, Subcontractors and building's tenants takes preference over the scope of the Works of this project.
- ix. All site instructions to be approved and authorised in writing by the *Project Manager*. If this directive is not adhered to it could result in non-payment.

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3.5.1.2 Restrictions to access on Site, roads, walkways and barricades

The *Employer* provides the *Contractor* with an Access Certificate to formally provide access to the site.

The *Contractor* ensures that he is familiar with conditions of access to the buildings, which includes constraints to limited parking and no goods lift is available in some of the blocks.

The *Contractor* adheres to all the requirements which include, but not restricted to:

- i. Identity cards with photographs
- ii. Cooperation to help Eskom provide the customer with a project schedule reflecting the period during which the construction and commissioning activities will take place.

The Contractor will be responsible for external disputes which may occur regarding the Works.

The *Contractor* is when necessary or needed, required to make all the necessary arrangements with the Local Authorities via the Building Manager and or Eskom Representative.

3.5.1.3 People restrictions on Site; hours of work, conduct and records

Working after normal working hours and on weekends requires special permission. The *Contractor* shall give the *Employer* adequate notice if this is planned.

3.5.1.4 Health and safety facilities on Site

A day clinic for medical emergencies is available on site, should the clinic not be able to attend to the emergency, the patient will be transported to a hospital at the *Contractor's* cost.

3.5.1.5 Environmental controls, fauna & flora, dealing with objects of historical interest

The *Contractor* shall ensure that all fauna and flora is preserved and protected during his activity on site. All such fauna and flora will be reinstated after completion of the work

3.5.1.6 Title to materials from demolition and excavation

The *Contractor* has no such title.

3.5.1.7 Cooperating with and obtaining acceptance of Others

Two weeks look-ahead schedule to be developed and submitted to Project Manager on a fortnight basis in order to make timeous arrangements for access into occupied buildings with the occupants concerned.

3.5.1.8 Publicity and progress photographs

The *Contractor* requests approval from Project Manager for any photography and progress photographs prior to undertaking.

3.5.1.9 Contractor's Equipment

The *Contractor* keeps an inventory of equipment brought to site. This is verified and acknowledged by Eskom security to allow removal of such equipment when required by the *Contractor*

The *Contractor* provides own security on site and is held liable for excess of insurance in case of theft or loss.

3.5.1.10 Equipment *provided by the Employer*

The *Contractor* provides all equipment and tools required to complete the *Works*.

3.5.1.11 Site services and facilities

The *Employer* will provide power and water. The *Contractor* shall make provision of waste disposal and submit proof in a form of Waste Disposal Certificates to the *Employer* for approval. The *Contractor* shall provide everything else necessary for providing the *Works*

3.5.1.12 Facilities provided by the *Contractor*

A clearly demarcated site establishment area will be provided by the *Contractor* for the following:

- i. Suitable facilities for *Contractor* to store all material and equipment
- ii. Suitable facilities for his employees for changing
- iii. Facilities for the consumption of food
- iv. Site offices
- v. Toilet/Ablution facilities
- vi. Other temporary facilities required by the *Contractor*

3.5.1.13 Existing premises, *inspection of adjoining properties and checking work of Others*

The *Contractor* is to investigate existence of any services before commencement of work. Care is to be taken when *Contractor* is doing demolitions so as not to damage the work of *Others*.

3.5.1.14 Survey control *and setting out of the works*

It is the *Contractor's* responsibility to ensure accuracy when performing setting out of the *Works*. The *Contractor* shall provide adequate fastening to existing connection points.

3.5.1.15 Excavations and *associated water control*

Where excavation is required, the *Contractor* takes the necessary precautions not to damage any existing services.

3.5.1.16 Underground services, *other existing services, cable and pipe trenches and covers*

There is no information regarding existing underground services.

Should the need arise for the *Contractor* to work on underground services, the *Contractor* is required to conduct scanning to determine the existing/underground services and provides this information as As-Build drawings to the *Employer*.

3.5.1.17 Control of noise, dust, water and waste

The *Contractor* takes all precautions necessary to prevent any noise and dust whilst carrying out the work.

3.5.1.18 Sequences of *construction or installation*

The *Contractor* sequences execution in order of priority as per the sectional completion schedule and ensures all interfaces are coordinated and carried out without causing any disruptions.

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3.5.1.19 Giving notice of work to be covered up

The *Contractor* to advise at least 4 weeks prior to starting work at that particular section so that proper notification is provided, including relevant authorisation to proceed.

3.5.1.20 Hook ups to *existing* works

The *Contractor* stipulates methodology for hooking-up when working in heights and provides notification to the SHE Officer in advance and obtain permission to proceed. The *Contractor* cannot not hook up for lifting, supporting or for any other reason to any position or existing works in the plant without a written approval by the Project Manager.

3.5.2 Completion, testing, commissioning and correction of Defects

3.5.2.1 Work to be done by the Completion Date

The contract is deemed complete when the following have been completed in accordance with the scope of work:

- i. The Plant is erected, and commissioned
- ii. Signed erection and safety clearance certificates have been submitted.
- iii. The final drawings have been submitted.
- iv. All documentation has been submitted including testing reports and the associated certificates received. All Quality Control Plan (QCP) documentation received. Final Draft of the Technical, Operating, Maintenance manuals have been delivered
- v. The Plant and all documentation / drawings are coded and labelled.
- vi. All special tools / spares have been supplied.

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case, before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the Works and Others from doing their work.

	Item of work	To be completed by
	As built drawings of last commissioned systems	Within 10 days after Completion

3.5.2.2 Use of the *works* before Completion has been certified

On completion, commissioning and testing of plant, the *Contractor* may hand over completed section of the Works for certification and operation.

3.5.2.3 Materials facilities and samples for tests and inspections

The *Contractor* provides all Materials, facilities and/or samples required for tests and inspections.

The *Employer* reserves the right to call for samples of the Equipment offered to inspect the workmanship as the work proceeds and to either accept or reject the Equipment or workmanship.

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The *Employer's* Acceptance of the workmanship or Equipment must in no way reduce the *Contractor's* liability to provide complete solutions.

The purpose of these inspections is to reduce the risk of non-compliant Equipment and Materials being transported to site. The presence of the *Employer* at the inspections does not reduce the *Contractor's* responsibility to comply with the contract.

The *Contractor* is to make arrangements that these inspections are carried out within the boundaries of South Africa. Should any tests or inspections be required outside of the Gauteng Area, the *Contractor* is to allow in his Tender price for all costs (travel, accommodation, subsistence, etc) for two persons to attend such tests or inspections. Accommodation and subsistence arrangements are to be submitted to the *Employer* for Acceptance in writing.

3.5.2.4 Commissioning

When the system is ready for service; commissioning shall take place to check whether the correct quantities of equipment have been delivered, and the installation is in accordance with the specifications. Commissioning shall be performed in co-operation with the *Contractor* and representatives of the *Employer* and Supervisor.

Practical Completion certificates will only be issued once the whole of the system installation satisfies the operational performance requirements of the contract and the Supervisor is satisfied that all systems are capable of operating effectively.

Performance and acceptance testing to determine whether the system achieves the required level of performance will only be undertaken after all routine testing, adjusting, commissioning, approvals and building work associated with the contract are complete and the work have been fully tested and commissioned by the *Contractor*.

Details of the testing required for each system and equipment shall be included in the *Contractor's* quality plan.

The *Contractor* shall supply all labour, materials and equipment required to fully commission and test the installation.

All costs associated in demonstrating that the system performs as required by the contract, shall be borne by the Contractor. Equipment which fails to operate correctly or is found to be installed incorrectly shall be repaired or replaced by the *Contractor*. Where any test is unsuccessful the defective equipment shall be repaired appropriately and subjected to retesting.

3.5.2.5 Start-up procedures required to put the *works* into operation

In order to put the Works into operation the *Contractor* demonstrates that the systems comply with all standards and regulations referenced and specified in this document.

3.5.2.6 Take over procedures

The *Contractor* shall do his own complete commissioning tests before the actual first take-over tests are done. This is to satisfy himself that everything is working and is in accordance with the specification.

3.5.2.7 Access given by the *Employer* for correction of Defects

The Project Manager arranges the date and access to site for the *Contractor* to correct defects. The *Contractor* updates the site safety file and the records contained inside as per construction regulations. The *Contractor* will be responsible for ensuring that the area is barricaded before correcting any defects.

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3.5.2.8 Performance tests after Completion

In accordance with clause X17, performance test will be conducted on completion.

3.5.2.9 Training and technology transfer

After Completion of the contract, the *Contractor* is required to provide training and transfer system knowledge to the building owner/manager by submitting documented Design Intent, As-built drawings, Operational and Maintenance Manual, Commissioning Records, Commissioning Report and by providing training on all the systems to the building management staff to ensure that they have all the information and understanding needed to operate and maintain the features and systems in the building.

The *Contractor* is to provide on-site training and training material to the Engineers, Operators and Maintenance personnel prior to taking-over of the Works. The training will preferable be offered during the commissioning and testing. The *Contractor* will, prior to handing over of the Works, satisfy the *Employer* or authorized representative that maintenance and operational personnel are competent and adequately trained to maintain and operate the Plant and Materials supplied.

Steps for Conducting On-site Training are to include, but not limited to:

- i. Preparation
- ii. Introduction
- iii. Explanation
- iv. Demonstration
- v. Practice Under Supervision
- vi. Conclusion

The *Contractor* shall accordingly take into the Works an agreed number of members of the *Employer's* staff for an agreed period. The *Contractor* shall give the staff workshop hands-on training as fitter-erectors on the plant and shall give instruction in the assembly, adjustment and works testing of main items of plant.

Subsequently the *Contractor* will have the assistance of *Employer's* staff in commissioning of the plant and shall give appropriate instruction during these periods. Whilst the personnel allocated by the *Employer* can be expected to contribute in some measure to the erection work, the *Contractor* shall, in the Tender and when determining the programme, take into account that these personnel are involved only for training purposes.

The *Contractor* shall include attendance of the *Employer's* staff during testing and witnessing and for key works inspections.

The *Contractor* shall provide detailed proposals setting out the key aspects of training which will be provided for the *Employer's* personnel, both in the manufacturers' works and on the Site, including the proposed training programmes.

3.5.2.10 Operational maintenance after Completion

The *Contractor* will be liable for maintenance of the equipment for 52 weeks after the completion date.

3.6 PLANT AND MATERIALS STANDARDS AND WORKMANSHIP

The drawings include final general arrangements. Drawings include sections and details to fully identify design concepts, design loadings and any other special features.

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Drawings are fully dimensioned and the dimension figures on the drawing are deemed to be correct, even if the drawings are not to scale. No dimensions are obtained from a drawing by scaling.

All drawings show full endorsement by a Professional Engineer.

3.6.1 Investigation, survey and Site clearance

The *Employer* shall instruct the *Contractor* to conduct additional investigations of existing facilities within the building if required for interfacing purposes.

3.6.2 Architectural/Planning Layout STANDARDS

- [33] SANS 10400: The Application of the National Building Regulations (Specifically Part T: Fire Protection).
- [34] SANS 1253: Fire Doors and Fire Shutters.
- [35] 240-52599753: Workspace and Furniture Standard for Commercial Properties
- [36] 240-15762340: Universal Access Specifications
- [37] 240-56364535: Architectural Design and Green Building Compliance Manual
- [38] 32-727: Eskom Safety, Health, Environment and Quality (SHEQ) Policy
- [39] SANS/ISO 9001: Quality management systems
- [40] 240-56364535: Architectural Design and Green Building Compliance Manual
- [41] Eskom Universal Access Specifications

3.6.3 Fire Protection System STANDARDS

- [42] SANS 10400: 2011 – Part T: Fire Protection
- [43] SANS 10400: 2011 – Part W: Fire Installation
- [44] SANS 10287: Automatic Fire Sprinkler Systems
- [45] SANS 10400: The application of the National Building Regulations Part T: Fire protection
- [46] ASIB 11th Edition Eleventh edition rules for automatic sprinkler installations
- [47] SANS 543: Fire Hose reels
- [48] SANS 1186– 5: Symbolic Safety Signs – Part Five: Photo luminescent signs.
- [49] SANS 10105-1: The use and control of Firefighting equipment – Part One: Portable and wheeled fire extinguishers.
- [50] SANS 10139: Fire detection and alarm systems for buildings – system design, installation and servicing
- [51] 240-54937439: Fire Protection / Detection Assessment
- [52] 240-54937450: Eskom Fire Protection and Life Safety Design Standard
- [53] 240-54937454: Eskom Inspection, Testing and Maintenance of Fire Protection Systems

3.6.4 Heating, Ventilation, Airconditioning System STANDARDS

- [54] SANS 10400 National building regulations
- [55] SANS 10400-O Ventilation and Lighting

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- [56] ASHRAE 62 American Society of Heating Refrigeration and Air Conditioning Engineers. Ventilation for acceptable indoor air quality
- [57] 240-102547991 Eskom General Technical Specification for HVAC Systems
- [58] 240-143112846 Heating Ventilation and Air Conditioning (HVAC) System Work Instruction
- [59] SANS 10147 Refrigerating systems including plants associated with air conditioning systems
- [60] SANS 10142-1 The wiring of premises Part 1: Low-voltage installations
- [61] SANS 10173 The installation, testing, and balancing of air-conditioning duct work
- [62] SANS 1424 Filters for use in air-conditioning and general ventilation
- [63] SANS 0173 Installation, Testing and Balancing of Air-conditioning Ducting
- [64] SABS 1424 Filters Used in Air Conditioning and General Ventilation
- [65] SANS 10142-1 The wiring of premises Part 1: Low-voltage installations
- [66] SANS 1238 Air-conditioning ductwork
- [67] SANS 10173 The installation, testing, and balancing of air-conditioning duct work
- [68] SANS 1424 Filters for use in air-conditioning and general ventilation
- [69] ASHRAE 52/76 Standard test method for filters
- [70] SANS 0173 Installation, Testing and Balancing of Air-conditioning Ducting
- [71] SABS 1238 Air Conditioning Ductwork
- [72] SABS 1424 Filters Used in Air Conditioning and General Ventilation
- [73] ASHRAE 55 Thermal Environment Condition for Human Occupancy
- [74] ASHRAE 15 Safety Codes for Mechanical Refrigeration

3.6.1 Wet Services System STANDARDS

- [75] SANS 10252-1: Water supply and drainage for buildings Part 1: Water supply installations for buildings
- [76] SANS 10252-2: Water supply and drainage for buildings Part 2: Drainage installations for buildings
- [77] SANS 241: Drinking water

3.6.2 Electrical and Auxiliary Power System STANDARDS

- [78] SANS Code of Practice 10142-1 for the Wiring of Premises (SABS 0142).
- [79] SANS Code of Practice 10313: Protection of Structures against Lightning.
- [80] SANS Code of Practice 10114-1 Interior Lighting.
- [81] SANS Code of Practice 10114-2 Emergency Lighting.
- [82] SANS Code of Practice 10098 – 1 Public Lighting
- [83] SANS Code of Practice 1507-3 Low Voltage Cables.
- [84] SANS Code of Practice 1473 – 1 & 1765 Distribution Boards.
- [85] All other relevant and applicable IEC/SANS (SABS) Codes.
- [86] The National Building Regulations.

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- [87] The local Municipal By-laws and Regulations as well as the Regulations of the local Supply Authority.
- [88] The local Supply Authority Specifications and Regulations
- [89] SANS 10142: The Wiring of Premises - Governs electrical installations in South Africa, ensuring compliance with safety, design, and installation requirements.
- [90] Occupational Health and Safety Act (OHS Act, Act 85 of 1993): Provides the legal framework for workplace safety, including electrical safety, risk management, and safe working practices.
- [91] SANS 1475: Fire Protection Systems - Relevant for ensuring electrical installations do not compromise fire safety and that emergency lighting and systems are compliant.
- [92] SANS 1186 – Symbolic Safety Signs: Ensures proper signage for electrical rooms, UPS systems, and emergency exits.
- [93] SANS 10114 – Interior Lighting: Specifies requirements for lighting design, illumination levels, and energy efficiency.
- [94] ISO 9001 – Quality Management Systems: Often applied to ensure consistent quality assurance and documentation in project delivery.
- [95] Environmental Regulations (NEMA – National Environmental Management Act) Guides responsible disposal of electrical waste, batteries, and luminaires, ensuring environmental compliance.

3.6.3 Public Address (PA) System

- [96] SANS/ISO 7240 Part 19 Design, installation, commissioning and service of sound systems for emergency purposes.
- [97] SANS/EN54 7240 Part 16 Sound system control and indicating equipment.
- [98] EN54 Part 4 (EN54-4) - Voice Alarm Power Supply Equipment.
- [99] EN54 Part 16 (EN54-16) - Voice Alarm and Indicating equipment.
- [100] EN54 Part 24 (EN54-24) - Voice Alarm Loudspeakers.
- [101] 240-64720986 Emergency Preparedness Public Address System Standard.
- [102] Speakers may also conform to ISO 7240-24 and / or BS-5839-8 standards.
- [103] All modems, routers, switches, patch panels, and external media inputs shall be ICASA approved.

3.6.4 Fire Detection System (FDS) and Gas Suppression System

- [104] SANS 10139 Code of practice for design, installation, commissioning and maintenance of fire detection and alarm systems in non-domestic premises.
- [105] SANS 14520 Gaseous fire-extinguishing systems – Physical properties and system design

3.6.5 Building Management System (BMS)

- [106] ISO/IEC 27001 Information Security (Applicable if IoT connectivity)
- [107] National Building Regulations and Building Standards Act No. 103 of 1977
- [108] SANS 10400 The application of the National Building Regulations. All Parts

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3.6.6 Digital Addressable Lighting Interface (DALI)

[109] IEC 62386 Part 101, General Requirements

[110] IEC 62386 Part 102, Control Gear

[111] IEC 62386 Part 103, Control Device

[112] ISO 50001, Energy efficiency targets

3.6.7 Other

[113] 240-129014618 Generation Cyber Security Compliance Guideline

[114] 32-273 Information Security IT/OT Remote Access Standard

[115] 240-55410927 Cyber Security Standard for Operational Technology

[116] 240-79669677 Demilitarised Zone (DMZ) Designs for Operational Technology

[117] 240-60725641 Specification for Standard (19-inch) Equipment Cabinets

3.7 LIST OF DRAWINGS**3.7.1 Documentation issued by the *Employer***

Documentation and drawings pertaining to the building designs will be received from others as the designs for the refurbishment project is forthcoming.

Document number	Revision	Title
Architectural/Planning Layout		
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Executive Suite
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Demolition Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Ceiling Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building General Interior Building, Safety, Accessibility, Branding and Informational Signage
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Eighth Floor – As-Built
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Demolition Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Floor Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Furniture Layout

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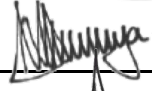
Document number	Revision	Title
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Floor Finishes Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Ceiling Layout
Control and Instrumentation Drawings		
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Fire Detection Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Security and Access Control Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Public Address and Voice Evacuation System Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building CCTV Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Boardroom Audio Visual System Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Telecom/Internet/LAN Layout
Mechanical Drawings		
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building HVAC Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building HVAC split units' Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Fire Protection Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Fire Protection – Gaseous Systems for the server rooms Layout
ERE.65/000001	0	Parliamentary Office Park 8th Floor Diffuser Repositioning Layout
Electrical Drawings		
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Power Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Lighting Layout
To be provided during construction phase	0	8th Floor Executive Suite at Thibault Square Building Power Backup Layout

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4. AUTHORISATION

This document has been seen and accepted by:

Name & Surname	Designation	Signature
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5. REVISIONS

Date	Rev.	Compiler	Remarks
July 2026	0	Sello David Koloane	Initial Draft

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