

ELECTRICAL SERVICES SPECIFICATIONS

for

29 De Beer Street, Braamfontein

Planned Upgrade of Existing Legal Aid Building Ground Floor

Reception & 6th Floor CEO Offices

For

LEGAL AID SA

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1. INTRODUCTION

This specification document defines the scope of electrical works to be undertaken at the Legal Aid South Africa Head Office, located at 29 De Beer Street, Braamfontein. The works form part of the planned upgrades to the Ground Floor Reception area and the 6th Floor Executive Offices. The recommendations and technical requirements contained herein are informed by the findings of a comprehensive electrical services investigation conducted by a professionally registered engineering technologist.

2. GENERAL REQUIREMENTS

- All electrical works shall be executed in full compliance with the South African National Standards (SANS) 10142 Wiring Code and all applicable City Power regulations.
- All materials, components, and workmanship employed in the execution of the works shall be certified and approved by the South African Bureau of Standards (SABS).
- A valid Certificate of Compliance (CoC), issued by a qualified and registered electrical contractor, shall be provided upon the completion of all electrical installations.
- The scheduling and execution of works shall be planned and coordinated to ensure minimal disruption to the ongoing operations within the building.

3. SCOPE OF WORK

3.1. Mains Power

- The existing 1250 Amp low-voltage (LV) mains supply from City Power is confirmed to be fully operational and does not require any reconfiguration.
- The existing LV Board located at the basement level shall remain undisturbed. However, a detailed inspection must be conducted to ensure regulatory compliance and to verify the correct labelling of all outgoing circuits associated with the designated refurbishment areas.

3.2. Distribution Boards & Reticulation

- The Main Floor Distribution Boards (DBs) located on the Ground Floor and 6th Floor shall be assessed and reconfigured to accommodate the revised spatial layout and any anticipated increases in electrical load demand.
- All circuit breakers shall be clearly verified and re-labelled in accordance with the updated distribution configuration.
- Any obsolete or non-compliant circuit breakers shall be removed and replaced with new, appropriately rated miniature circuit breakers (MCBs), ensuring full compatibility with the existing distribution board infrastructure.
- The ceiling void electrical wiring shall be thoroughly inspected in all areas earmarked for refurbishment and shall be re-routed or upgraded where necessary to meet current standards and project requirements.

3.3. Lighting Installation

- All existing fluorescent lighting fixtures within the office and reception areas shall be removed and replaced with energy-efficient LED panel luminaires that meet the applicable lighting and energy standards.
- The lighting installations in emergency stairwells, lift lobbies, and general circulation areas are currently compliant and may remain unaltered, except where modifications to the architectural layout necessitate adjustment.
- Existing occupancy sensors shall be retained and, where required, extended to ensure continued automatic lighting control, with comprehensive coverage and compliance with applicable regulations.
- Emergency lighting installations shall be thoroughly inspected and upgraded or supplemented as necessary to ensure adequate illumination of designated escape routes in accordance with safety and fire regulations.

3.4. Small Power Installation

- Small power reticulation shall be reconfigured and extended in all areas where spatial layouts are being modified, utilising wall-mounted skirting trunking or recessed socket outlets as specified in the architectural and electrical layout plans.
- All socket outlets shall be properly earthed and appropriately rated in accordance with the intended electrical load requirements and relevant standards.
- A clear and permanent segregation shall be maintained between normal power circuits and those connected to the Uninterruptible Power Supply (UPS) system, to ensure operational integrity and compliance with electrical regulations.

3.5. UPS and Backup Power Supply

- The Uninterruptible Power Supply (UPS) Distribution Boards (DBs) on both the Ground Floor and 6th Floor shall be inspected to confirm full operational functionality, and all associated circuits shall be clearly and accurately labelled.
- Coordination shall be undertaken with the existing generator system interface to ensure that designated emergency circuits—such as those serving essential lighting and IT infrastructure—are properly integrated into the backup power configuration.
- A comprehensive generator load test shall be performed to validate the generator's capacity to sustain any additional or reconfigured emergency loads, in line with the updated electrical demands of the refurbished areas.

3.6. Fire Detection and Alarm System

- The existing addressable fire detection and alarm system is currently operational; however, a full functional test and system-wide certification shall be conducted to confirm its compliance with relevant fire safety standards.
- All smoke detectors, heat detectors, audible sounders, and manual call points located within the areas earmarked for refurbishment shall be assessed and either repositioned or replaced, as necessary, to align with the revised spatial layout and functional requirements.

- All fire detection and alarm system modifications shall be coordinated with the appointed Fire Engineer, who will be responsible for verifying final system compliance and issuing the required certification in accordance with statutory regulations.

3.7. Telecommunications and ICT

- The existing fibre intake points and associated vertical reticulation pathways shall be retained and maintained in their current configuration.
- Category 6 (CAT6) data cabling and associated power outlets shall be reconfigured and extended as necessary to accommodate revised workstation layouts and new furniture configurations within the refurbished areas.
- Wireless connectivity coverage shall be reviewed, and where changes to the internal layout affect signal distribution, existing Wi-Fi access points shall be relocated, or additional access points shall be installed to ensure seamless network performance throughout the affected zones.

3.8. Lightning Protection

- Conduct a comprehensive inspection and performance test of the existing roof-mounted lightning protection system to verify operational integrity and regulatory compliance.
- Reinstate or replace all compromised air-termination components as necessary, ensuring full adherence to the requirements stipulated under SANS 10313.

4. DELIVERABLES AND CLOSEOUT

- Provision of detailed as-built drawings illustrating finalized cable routing, distribution board (DB) schedules, and precise outlet locations throughout the refurbished areas.
- Submission of verified electrical test results, including measurements for continuity, insulation resistance, and earth loop impedance, to confirm compliance with relevant safety standards.
- Issuance of Certificates of Compliance (CoC) for all electrical installations and modifications to the fire detection system, duly signed by qualified and accredited professionals.
- Presentation of manufacturer datasheets and warranty documentation for all newly installed electrical components and equipment, ensuring traceability and product assurance.

5. HEALTH & SAFETY

- All construction-related activities shall be executed in strict accordance with the provisions of the Occupational Health and Safety Act, No. 85 of 1993, as well as the Construction Regulations of 2014, to ensure the safety and welfare of all personnel on site.
- Any scheduled temporary power shutdowns or electrical isolations shall be subject to prior written approval and must be coordinated directly with the building's designated facilities manager to mitigate operational disruptions.
- Lockout-tagout (LOTO) protocols shall be rigorously implemented during maintenance, modification, or commissioning activities to safeguard workers and prevent unauthorized energization of electrical circuits.

6. SUPERVISION AND QUALITY CONTROL

- All electrical works shall be undertaken under the continuous supervision of a duly qualified electrician, with oversight and periodic review conducted by a professionally registered electrical engineer (Pr. Eng) or professional engineering technologist (Pr. Tech Eng), to ensure conformance with technical specifications and regulatory standards.
- Comprehensive site inspections shall be performed both prior to commencement and upon completion of installation activities, to verify compliance with the approved specifications and to confirm the integrity and safety of all executed works.