

Electrical Distribution Status Quo

Distribution

The Karoo Desert National Botanical Gardens' electrical network is distributed mainly by Kiosks and distribution boards. There are 3 Kiosks, and 7 distribution boards on each facility.

Kiosks

Kiosk A

Kiosk A is situated at the existing solar PV system. This is the main kiosks that is supplied by the mini substation and the inverters from the PV system. This Kiosk supplies the Restaurant and Kiosk B.



Figure 4: Kiosk A

**Kiosk B (This Kiosk Is in an acceptable condition (All CB are intact and labelled))
Does not need refurbishment**



Figure 5: Kiosk B

Kiosk B is being supplied by Kiosk A. This kiosk supplies the admin offices and the residential facilities kiosks.

Residential facilities Kiosk (Needs to be refurbished all with new CBs and labelling)



Figure 6: Residential facilities Kiosk

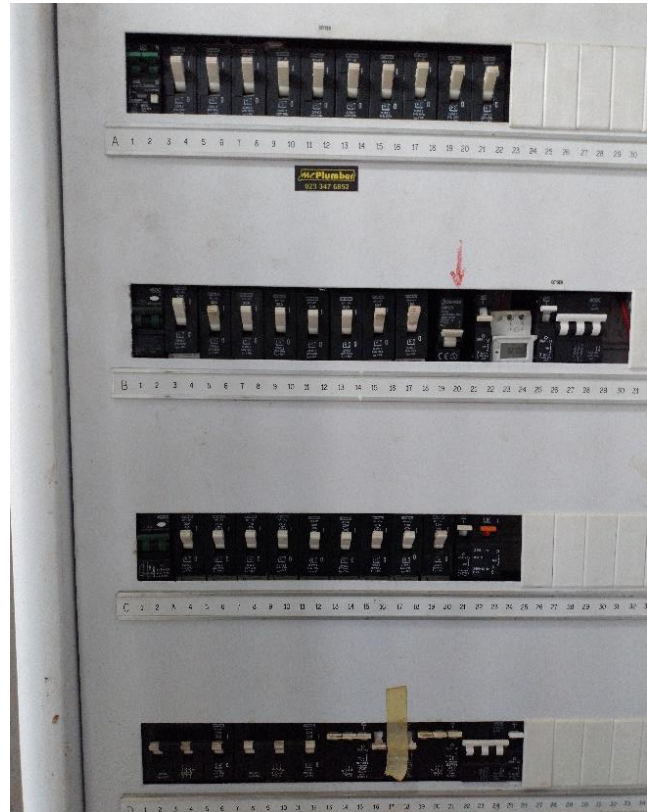
This kiosk receives supply from kiosk B and distributes electricity to all the residential facilities on the garden.

2.2.2 Distribution Boards

Administration Building distribution board
Loads: Lights and Plugs
(No need for refurbishment DB is an acceptable condition)



Restaurant and Kitchen distribution board
Loads: Lights, Plugs, Commercial Kitchen Equipment
(Needs refurbishment, replacement of CBs that are held with tape and labelling of the DB)



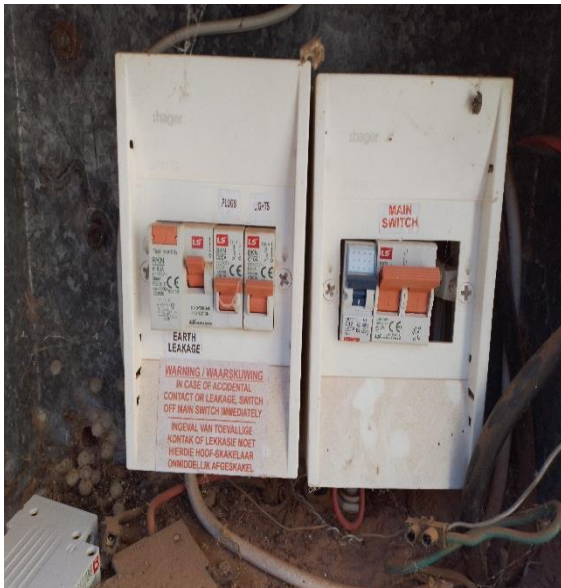
Workshop building main distribution board
 Loads: Industrial workshop equipment, lights, plugs **(Needs refurbishment, meters are not working and the CB / Isolators need to be replaced and labelled properly)**



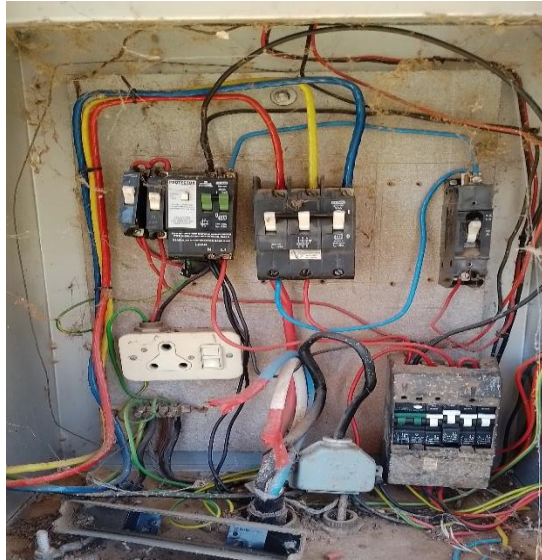
Workshop Distribution board
 Loads: Industrial workshop equipment, lights, plugs **(Needs Refurbishment, the DB needs proper labelling)**



Typical Residential Facilities Distribution box:
 Loads: Lights, Plugs **(Needs refurbishment, DB needs rewiring for the wires to be hidden under the DB and the DB needs proper Labelling)**



Office and kitchen facility Main Distribution Board
 Loads: Industrial Kitchen Equipment, lights, Plugs **(Needs Refurbishment, DB needs rewiring, replacement of isolators and labelling)**



Guard House Distribution Board

Loads: Gate lights (Needs Refurbishment, the BD needs proper labelling)

