



## REQUEST FOR BID CIDB

Supply safety file to be submitted and induction to be attended by successful supplier before work commences

### 10397088 – Scope of Work

Repair all non-compliance at no.1 Control room as per Scope Below:  
Pricing to include all spares required and labor.

1. Several trunking lengths were found with open or missing covers, exposing conductors.
2. Improper joining of cables inside the ceiling void.
3. Open junction boxes with loosely hanging cables.
4. GP wires running barely on cable trays instead of proper enclosures.
5. Incomplete geyser installation, cables hanging out of the conduit without being properly terminated.
6. Exposed wiring on air condition unit.
7. GP wires running inside the ceiling void without enclosures (open wiring).
8. Improper cable entry point into the main DB.
9. Improper cable terminations on junction boxes.
10. Improper earth termination inside switches.

See photos below:

NB – Note that the photos provided below were taken at random in the ceiling void and in case of:

1. Open junction boxes: a lot of them have been mounted throughout the entire length of the trunking and several of them are open without covers exposing connections.
2. Open Wiring: General Purpose wires were run without enclosures inside the ceiling void, linking a number of offices.
3. Open Trunking covers: Extending the entire length of the trunking, with some covers hanging and some missing at all.
4. Improper cable terminations: This is mostly found on junction boxes mounted by the cable trunking side, connections were made without compression glands, allowing cable cords to be suspended by connections.
5. Improper cable joints: Open joints were randomly done inside the ceiling void, taped with insulating tape and left without protection. In some cases, such joints are suspected to have affected the resistance of the earth continuity conductor. The resistance of the earth continuity conductor on the following circuits were found to be above the limit:
  - a) W5 – Administrative Assistant Office.
  - b) W5 – Employee Relations Office
  - c) B4 – OPS Supervisor Office
  - d) B6 – Admin Assistant Office

Fig 1 - Open trucking covers inside the ceiling exposing GP wires – Reception Ceiling Void



Fig 2 - Single core cables running in the ceiling without the proper enclosure – Reception Ceiling Void



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Fig 3 - Air con control box without cover exposing cables and connections. - in front of the Conference Room



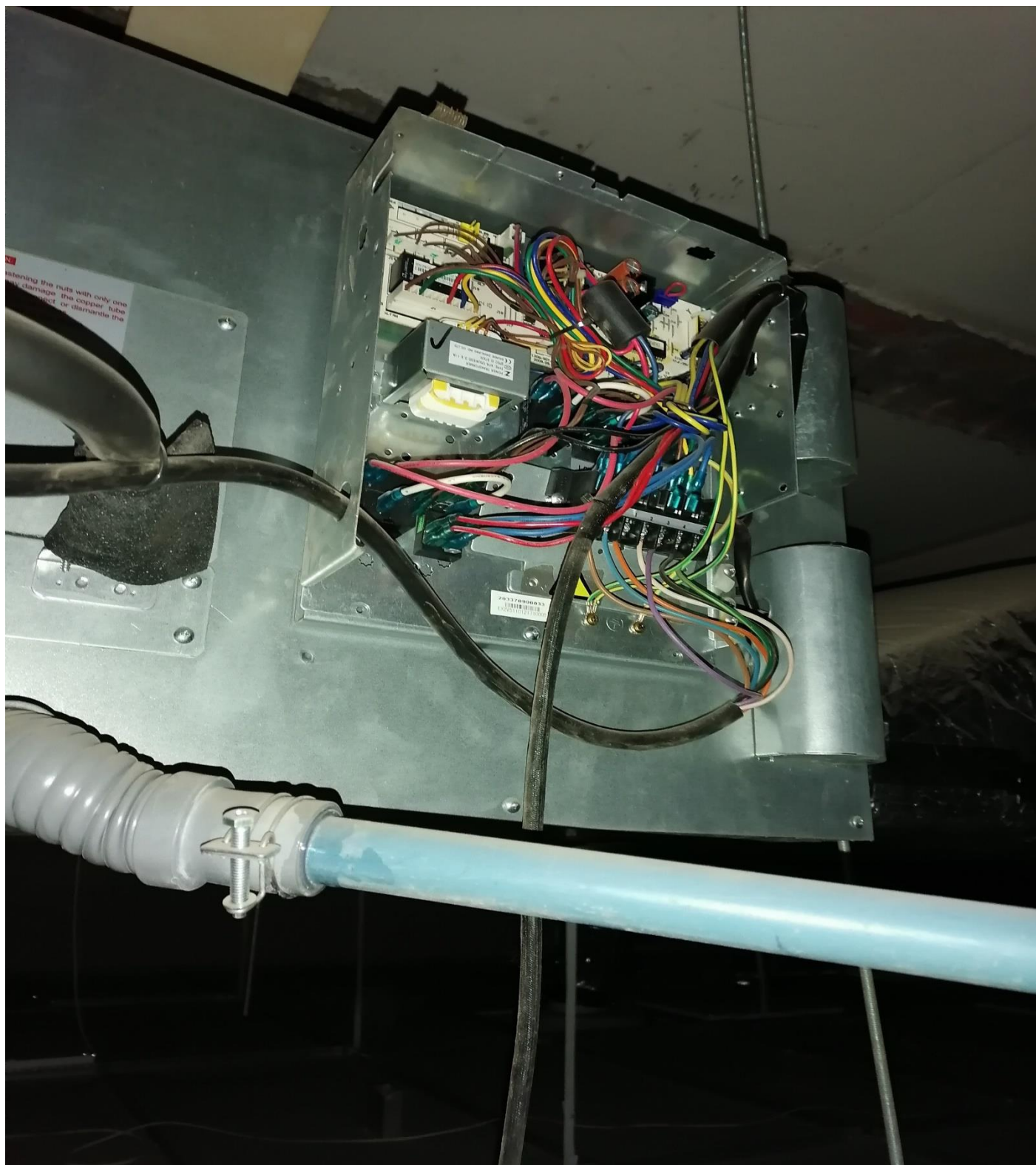


Fig 4 - Single core cables loosely hanging from the open trunking – Office 7 & 8 ceiling Void.



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Fig 5 - Open junction boxes exposing connections and improper cable termination (without the use of glands) – Open Plan (Lavika's Office)

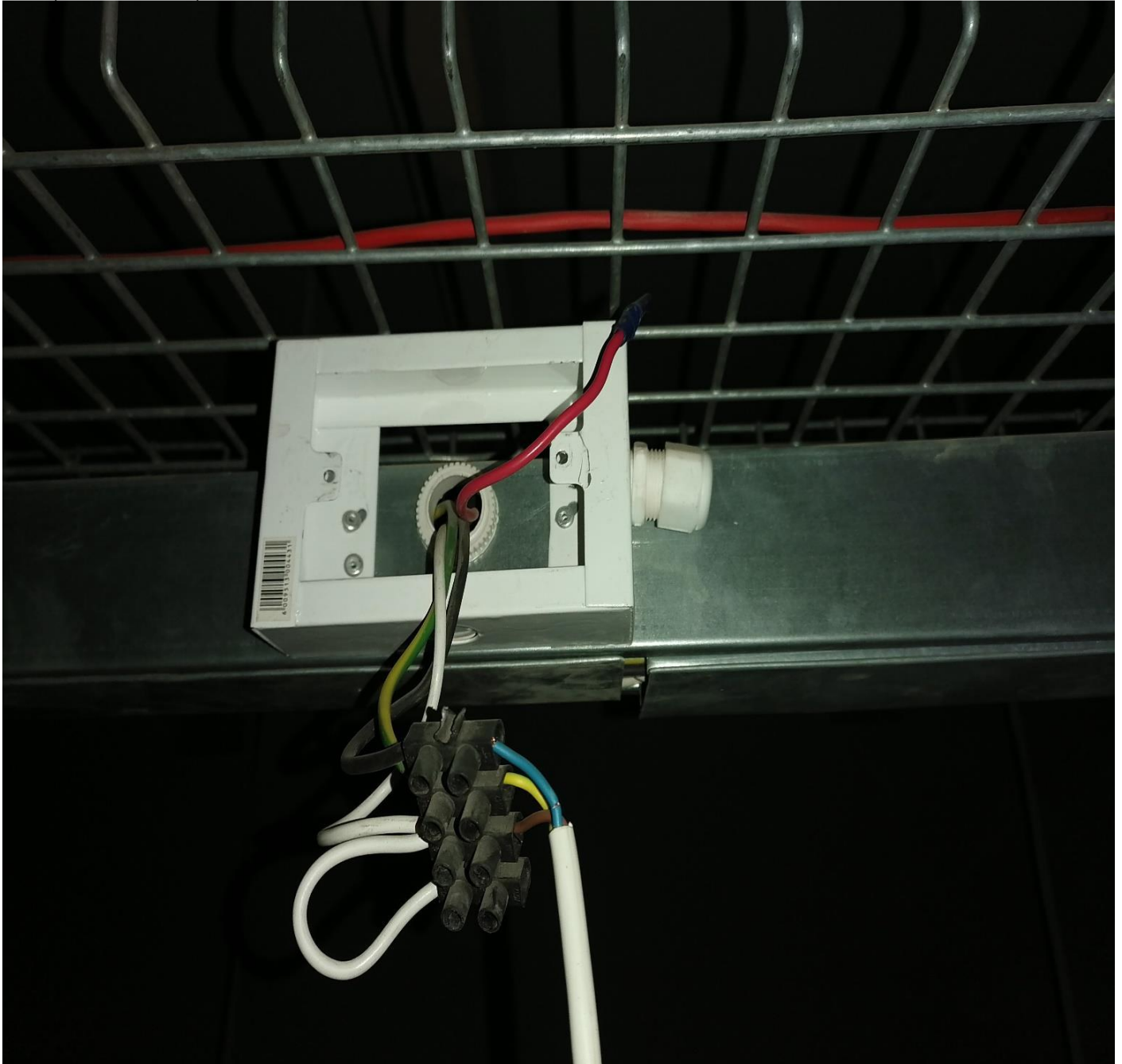




Fig 6 - Open junction boxes exposing connections – Open Plan next to Financial Admin Office





Fig 7 - Open junction boxes exposing connections – Open Plan next to Financial Admin Office



Fig 8 - Trunking with no covers in place exposing GP wires – Between Finance Dept and Control Room





Fig 9 - Cable trunking with open covers - Entrance passage





Fig 10 - Cables improperly joined – Ceiling Void above Supervisor's Office



Fig 11 - Cables improperly joined - Ceiling Void above Supervisor's Office

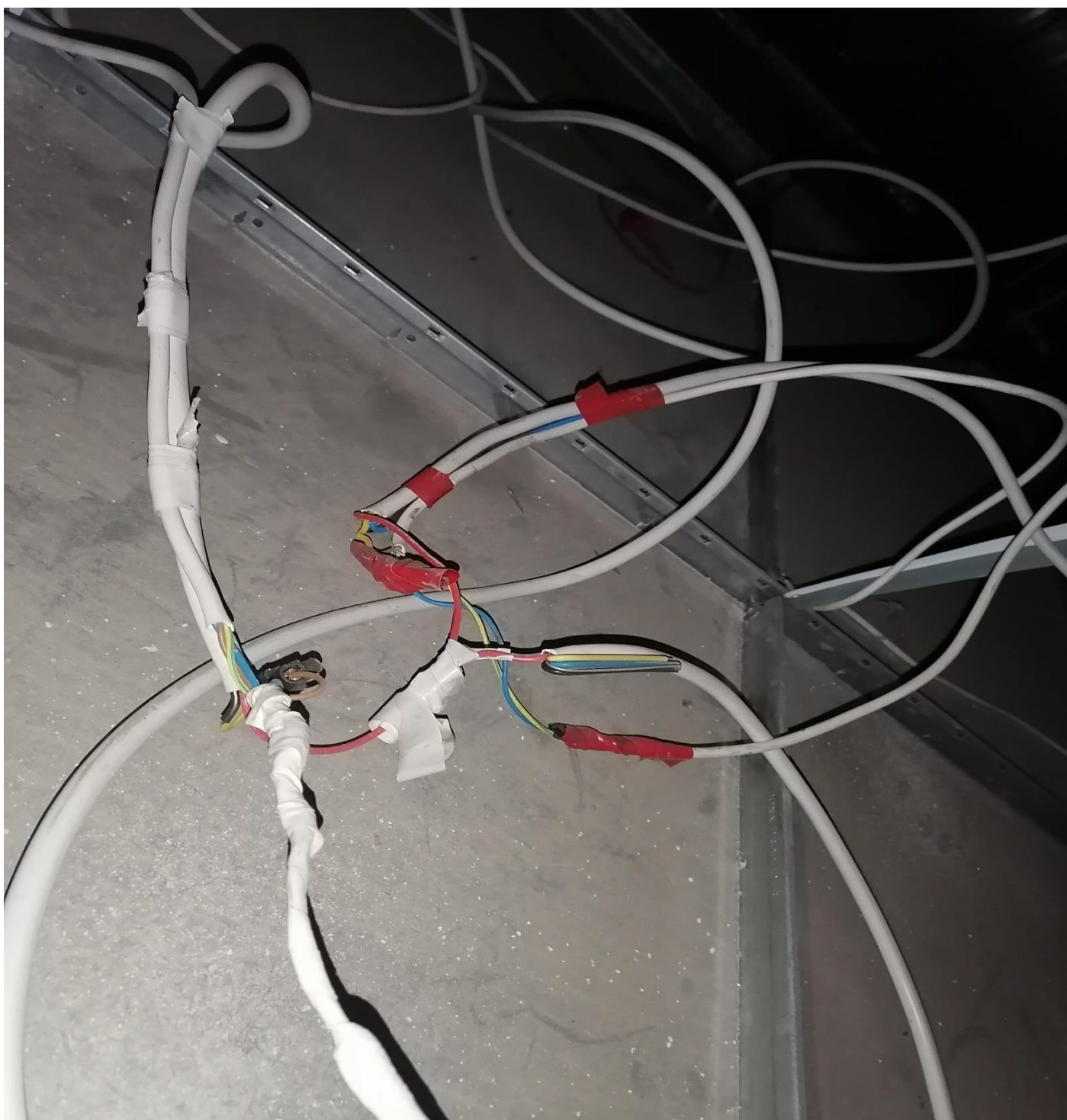


Fig 12 - General Purpose wires running in the cable tray instead of proper enclosed wireway – Cable tray running through a number of offices.





Fig 13 - Improper cable enclosure used, GP wires run on a cable tray - Passage

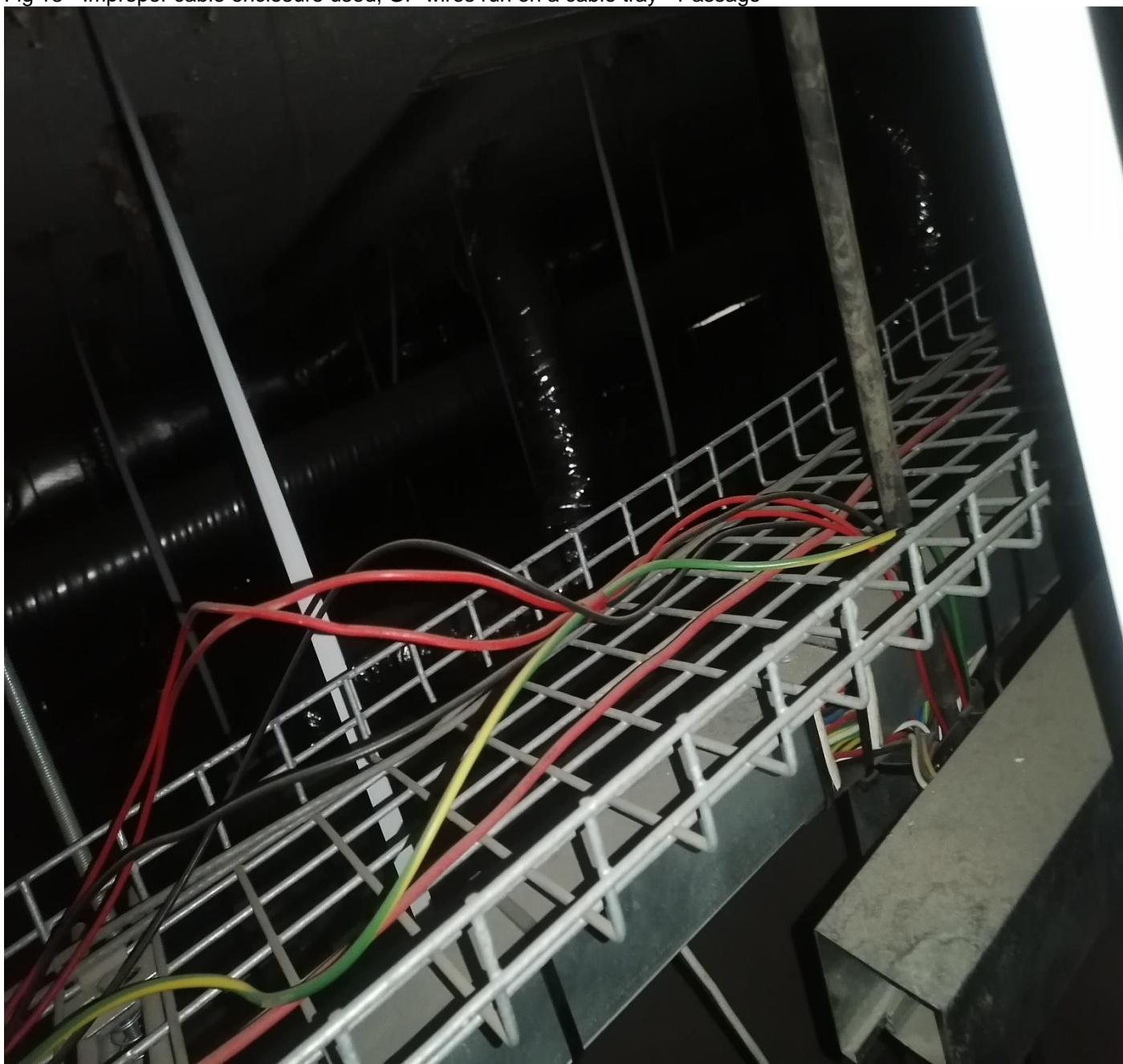


Fig 14 - Trunking not properly covered, cables held by a cable tie – Electrical Room





Fig 15 - Trunking not properly covered.





Fig 16 - Geyser cables not connected, geyser isolator missing – Female Toilets

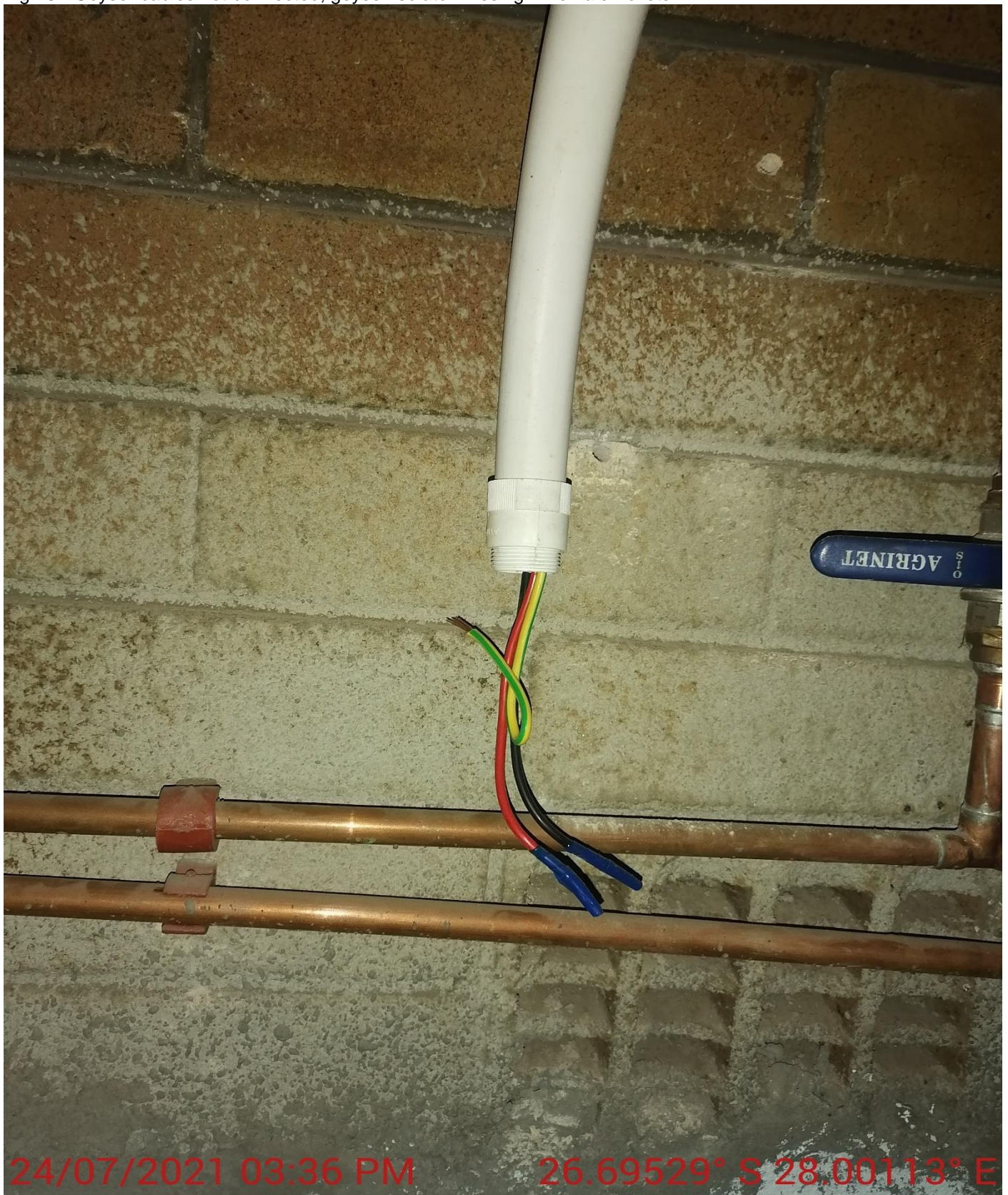
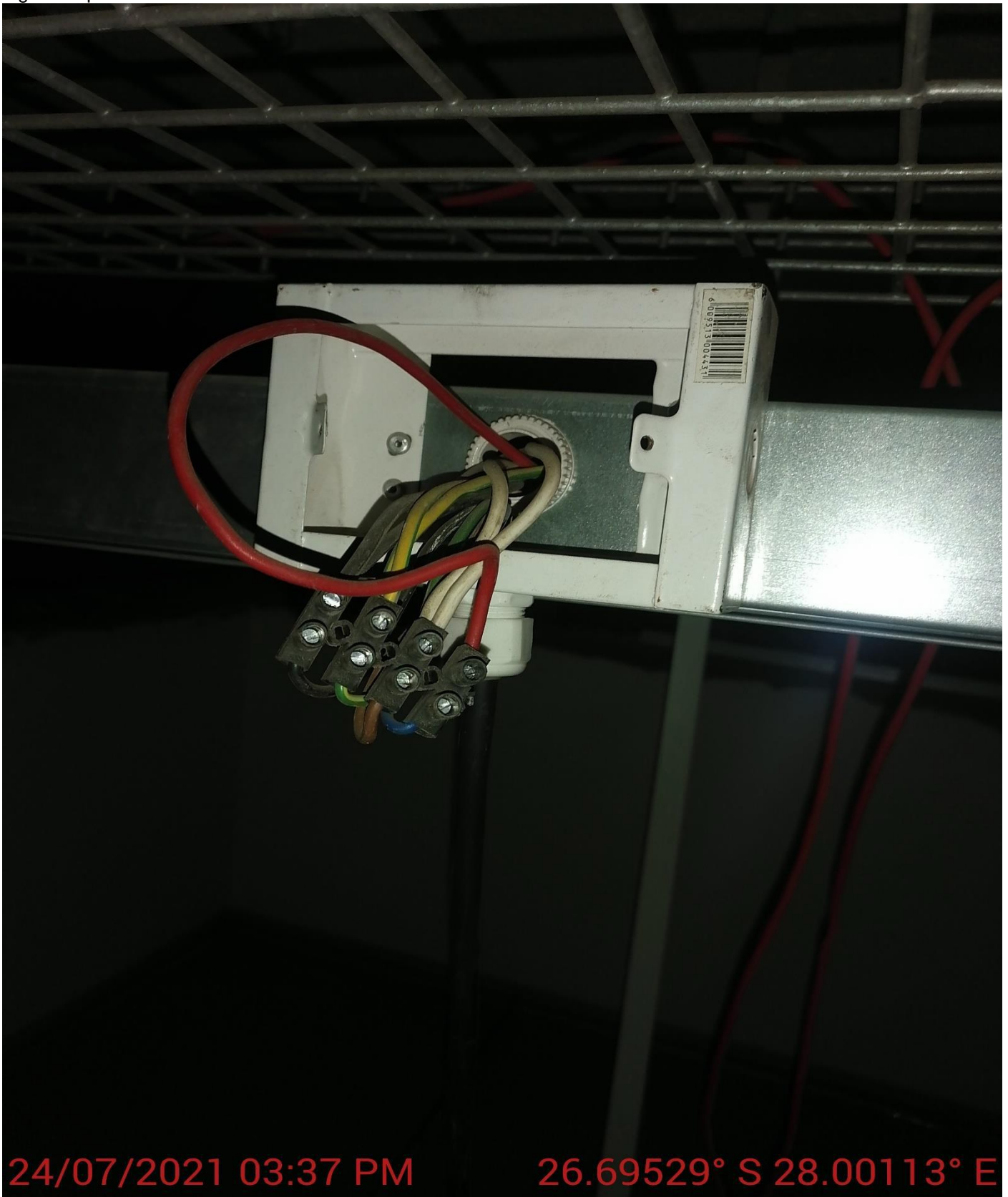




Fig 17 - Open Junction boxes



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Fig 18 - Improper Cable entry into the DB – Electrical Room



Fig 19 - Open Junction Boxes inside the ceiling void



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Fig 20 - GP Wires running on the cable tray inside the ceiling.

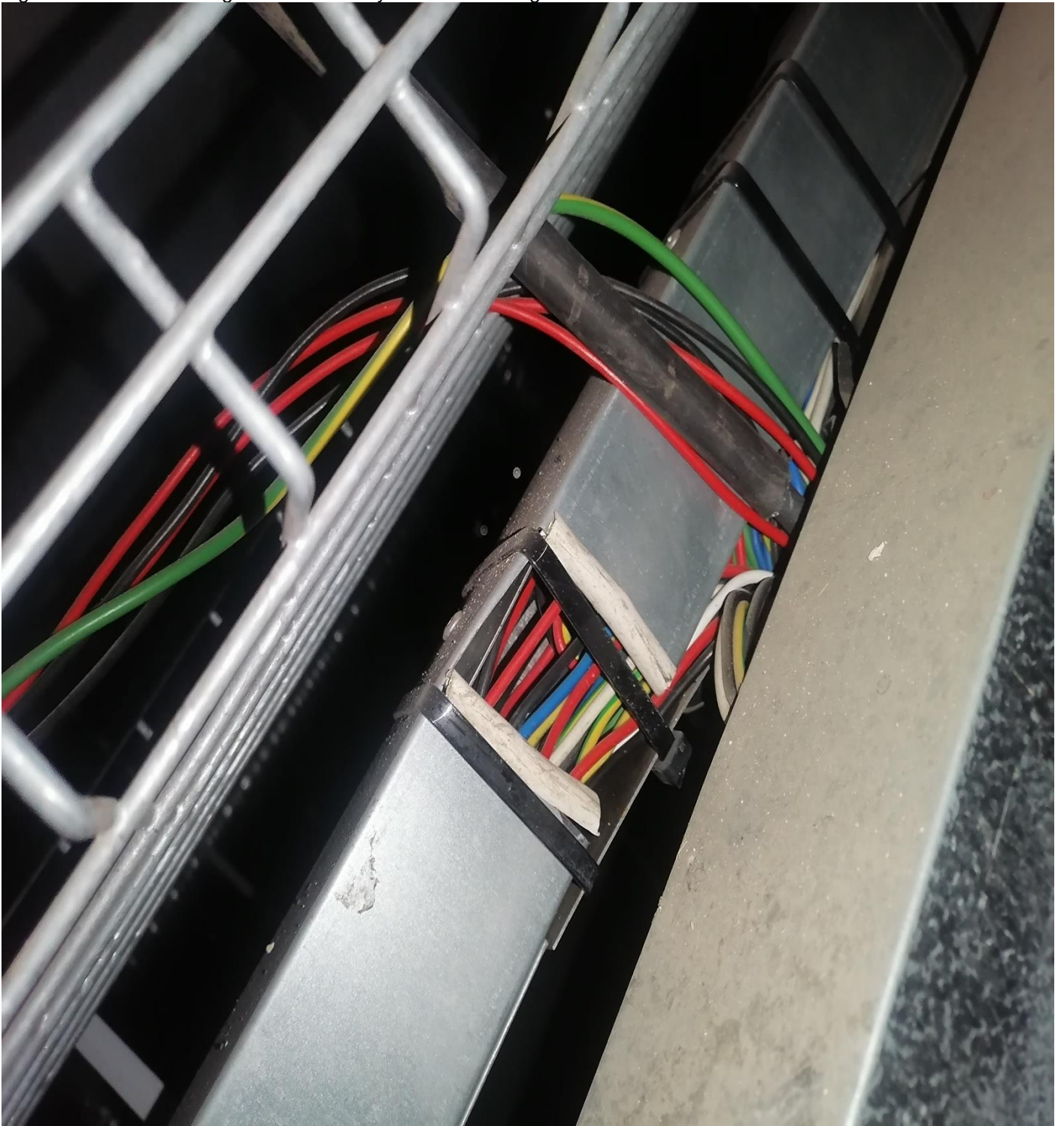




Fig 21 - Open Junction Box exposing conductive parts – Male Toilet Ceiling Void



Fig 22 - Open junction box exposing cables– Ceiling void - Passage in front of the Reception



Fig 23 - Open Junction box – Tea Kitchen ceiling Void



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Fig 24 - Open junction Box exposing connections – Employee Relations Office Ceiling Void.

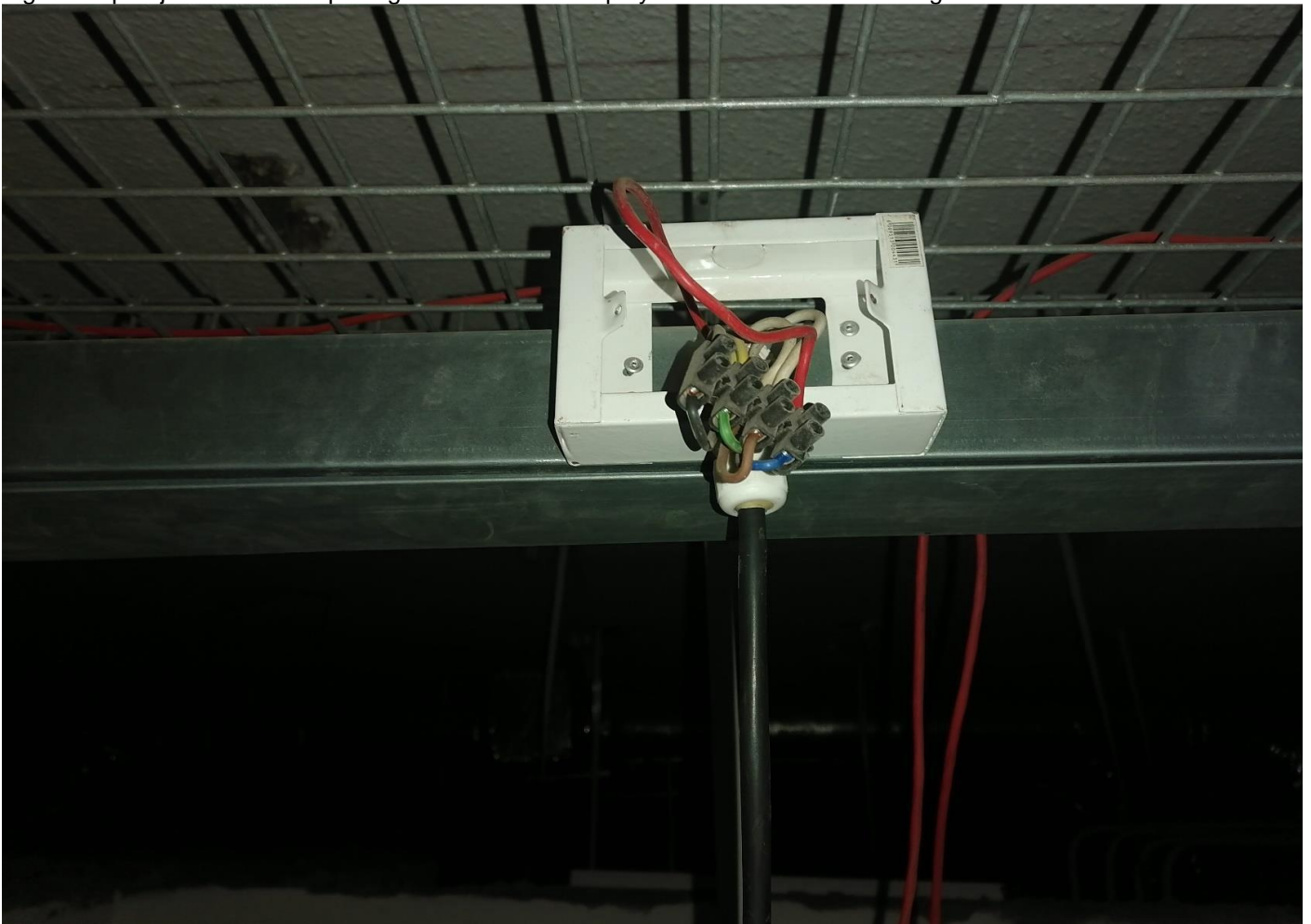


Fig 25 - Improper connections inside the ceiling void – Passage down lights

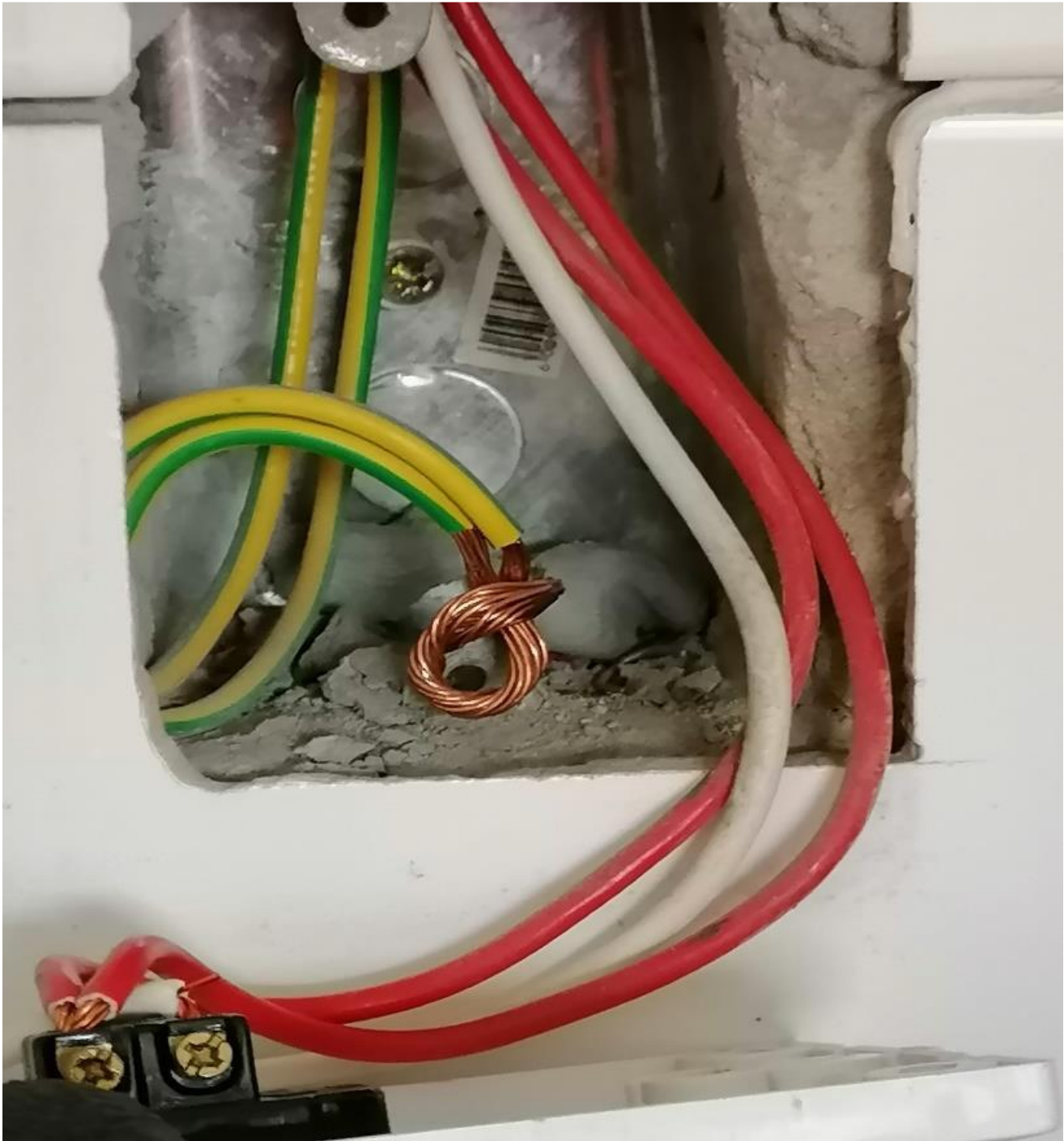




Fig 26 - Improper Cable termination – without compression glands

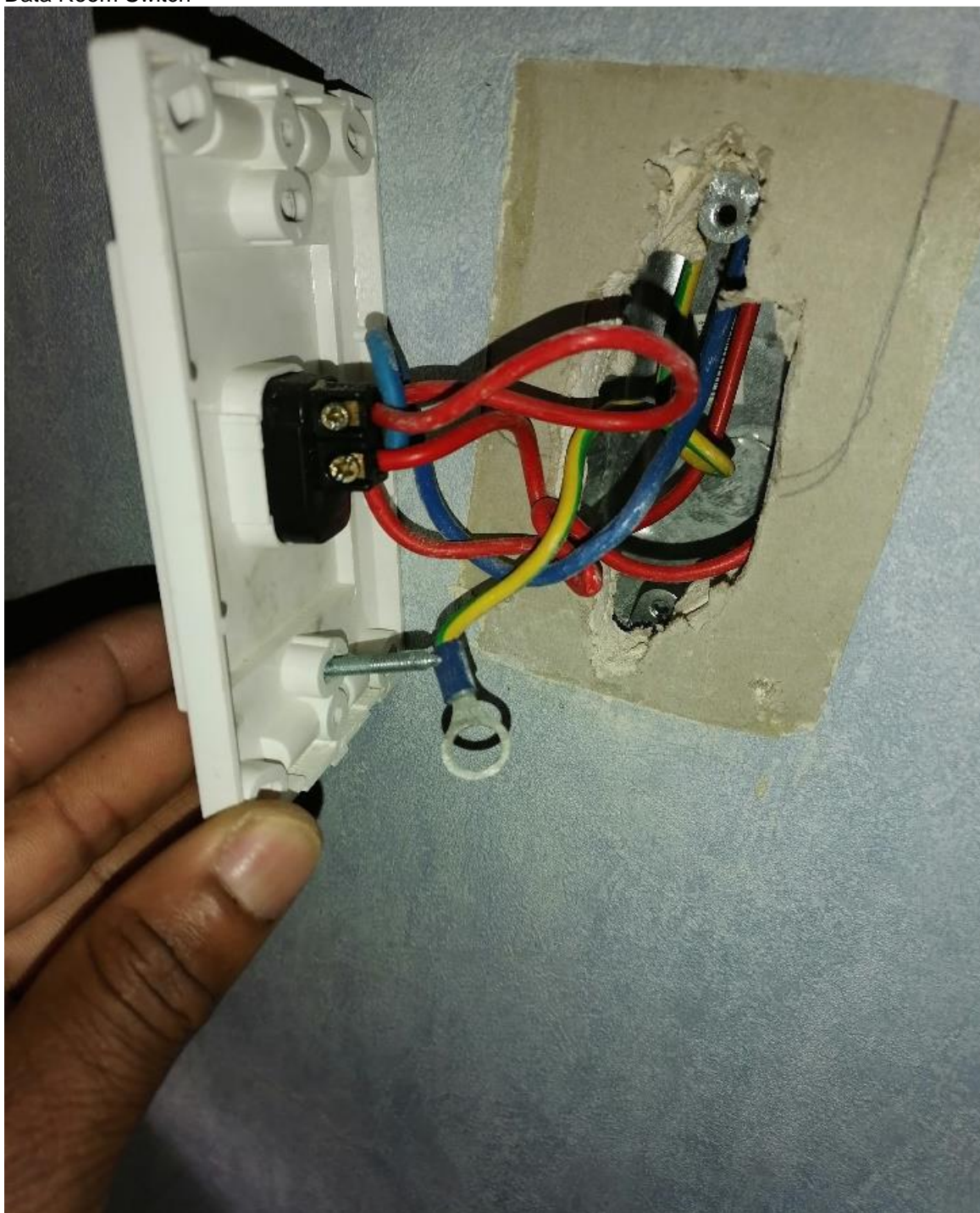


Fig 27 – Improper earth terminations on switch boxes.  
Tea Kitchen Switch





Data Room Switch





Conference Room Switch

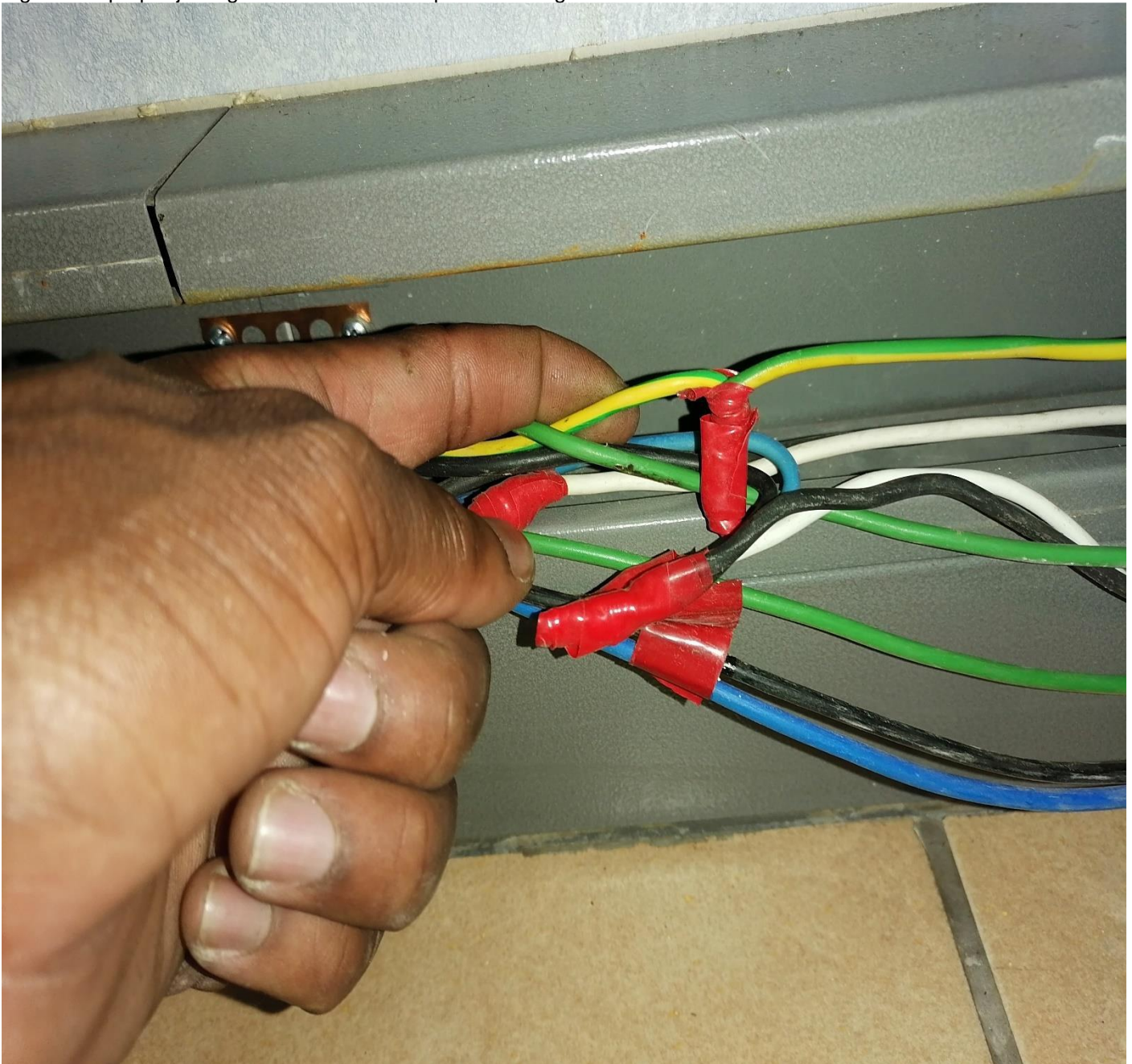


Electrical Room Switch





Fig 28 – Improper joining of cables inside the power skirting.



#### Conclusion

The above issues amount to non-compliance and require attention prior to the installation certified as compliant.



## **Scope of Work – 10397318**

This is for the Inspection and testing of all the Distribution Boards (DB's) at Zuikerbosch Pumping Station. Identify all faults and issue a report of items to be repaired. Issue the Electrical Certificates of compliance (CoC's) for all the units (DB's) after repair work as stated.

Inspect, Test, identify faults and non-conformance to the electrical standard and issue Certificate of Compliance (COC's for each unit after repair Distribution Board

1. Station 1 and 2 at Works Area 1 - 83
2. Property- 121
3. Station 3 at Works Area 2- 17
4. Station 4 at Works Area 2- 31

NB. On completion of inspection, testing and identification of faults for each unit (DB) by a competent appointed person, an inspection and fault report will be handed to Rand Water to repair faults identified and correct all non-conformances. A certificate of compliance (CoC) will therefore be issued after repairs and must be handed over to Rand Water Zuikerbosch Electrical department.

The Electrical contractor shall be registered with the department of labor in terms with the OHS act requirements as an Electrical contractor and his/her or a person in his employ shall have a wire man's license as a minimum for "electrical installation electrician"

This person should also be registered with the ECA (Electrical Contractors Association)

It must be remembered that the registration of electrical contractors is prescribed by the Electrical Installation Regulations (EIR 2009).

### **Design and construction**

(1) No person may authorize, design, install or permit or require the installation of an electrical installation, other than in accordance with a health and safety standard incorporated into these Regulations under section 44 of the Act. Thus, no person – including owners, developers, consultants, Departments of Education, Public Works, Health, etc.) may allow (permit or require) unregistered contractors to do such work.

### **Electrical contractor**

- (1) No person may do electrical installation work as an electrical contractor unless that person has been registered as an electrical contractor in terms of these regulations.
- (2) Any person who does electrical installation work as an electrical contractor shall register annually in the form of Annexure 3 with the chief inspector or a person appointed by the chief inspector.

### **General control**

- (1) A registered person shall exercise general control over all electrical installation work being carried out, and no person may allow such work without such control

### **And Issuing of Certificate of Compliance**

- (1) No person other than a registered person may issue a Certificate of Compliance.
- (2) A registered person may issue a Certificate of Compliance accompanied by the required test report only after having satisfied himself or herself by means of an inspection and test that
- (3) A new electrical installation complies with the provisions of regulation 5(1) and was carried out under his or her general control

## SITE INFORMATION

Work to be done at Rand Water Zuikerbosch

Vischgat Road, Three Rivers East, Vereeniging  
S26 41 520 E28 00 061