



APPENDIX A - SPECIFICATION FOR BAITER GARDENS ELECTRICAL RENEWAL – ELECTRICAL HEATERS AND COMMUNAL LIGHTING

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Version: v1.00

Date: 25/10/2021

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1. GENERAL ITEMS

1.1. Introduction

This contract is aimed to cover the rewiring of the communal lighting, and heating to the common areas throughout one of our sheltered housing schemes. This upgrade will include replacements of electrical heaters and light fittings.

1.2. Objectives

The objective of this project is to upgrade the lighting and heating to the common areas, with more energy efficient fittings. This should provide a better experience for all residents/visitors to these areas, with brighter corridors to walk down and more consistent heating.

1.3. **Scope of Works**

1.3.1. **Heating**

- 1.3.1.1. The Contractor is to renew (20 in total) storage heaters and wiring circuits in communal areas throughout Baiter Gardens as per Appendix C - Dimplex schedule – Baiter Gardens. All heaters are to be replaced in the same locations as existing.
- 1.3.1.2. The Contractor is to allow for all disturbances to walls and handrails and making good to all areas including chasing and making good where required.
- 1.3.1.3. All distribution boards have upgraded recently and are deemed to comply.

1.3.2. **Lighting**

- 1.3.2.1. The contractor is to rewire all lighting circuits in the communal areas, common room, office and stairwells and replace all light fittings with LED type as per the Dextra Lighting schedule in Appendices D1-D5, the contractor shall allow for temporary lighting as and where necessary. The contractor shall allow for full testing of all appropriate circuits in accordance with current Electrical Wiring regulations.
- 1.3.2.2. All existing heating units, light fittings and wiring is to be disposed of by the Contractor.
- 1.3.2.3. All new wiring is to be concealed within the walls and ceilings. Under no circumstances should the Contractor be using surface trunking without the express permission from the CA.
- 1.3.2.4. Where chases are made, the contractors will be responsible for all making good works, this will exclude decorations. The contractors are to fill around any chases with suitable materials, smooth out to existing wall/ceiling surfaces and rub down any edges and leave for others to decorate.

1.4. Location of Work

- 1.4.1. Baiter Gardens is occupied by vulnerable and elderly residents who will remain in occupancy during the works and will regularly use the communal areas to move around the scheme and gain entrance to their flats. As a result, the Contractor must make adequate provisions for all residents/carers/building users safety and convenience at all times during the works.

2. ELECTRICAL SPECIFICATION

2.1. Regulations

2.1.1. All works shall comply with:

- BS7671 'Requirements for Electrical Installations' (The IET Wiring Regulations 18th Edition) and all amendments made on, before or after the date of tender.
- BS7375: 1991 The Electrical Safety Recommendations of the National Joint Council for the Building Industry.
- Electrical Supply Regulations 1988.
- Electricity at Work Regulations 1989, Issue No. 635.
- **The Contractor must be NICEIC approved and remain registered for the duration of the contract.**

2.2. Earthing and Bonding

- 2.2.1. The complete electrical installation shall be earthed and bonded to comply with Chapter 54 of the BS 7671 2018 and with the requirements of the Supply Authority.
- 2.2.2. All main equipotential bonding conductors, main earth conductors and C.P.C.'s shall terminate in separate ways in the main earth bar of the consumer unit
- 2.2.3. All cable terminations at conduits or pipes shall be crimped and fitted to proprietary bonding clamps provided with metal labels engraved "DO NOT REMOVE – ELECTRICAL EARTH CONNECTION."

2.3. Main Equipotential Conductors

- 2.3.1. The Main Equipotential Bonding Conductors shall be separate 10 sq mm green and yellow
- 2.3.2. PVC copper cable connected between the consumer unit main earth terminal and each of the following:
 - Main gas supply pipe, within 600 mm of gas meter on consumer's side.
 - Incoming cold water mains supply pipe, were metallic.
 - Cables to be run straight, vertical or horizontal and parallel to walls unless shown otherwise.
 - Position at least 150 mm clear of other services. Cables running parallel and adjacent to heating pipes to be located below the pipes.
 - Concealed horizontal runs in walls, if unavoidable, to be located within 150mm of ceiling or between 150 and 300 mm of floor

- Concealed cable runs to wall switches and outlets to be vertically in line with the accessory.

2.4. **Installing Cables**

- 2.4.1. Install cables neatly and securely, adequately protected against accidental damage, adverse environmental conditions, mechanical stress and deleterious substances.
- 2.4.2. Install cables without joints. Connections will only be permitted at equipment and fittings. Do not use junction boxes.
- 2.4.3. Sleeve cables passing through masonry walls with conduit bushed at both ends
- 2.4.4. Cables shall be fixed by using plastic type clips with integral masonry nails. The clips shall be the correct size for the cables.
- 2.4.5. All wiring shall be chased in and be concealed, only exceptionally will surface
- 2.4.6. No trunking is allowed. If no alternatives are possible, then this is to be discussed and agreed with CA.
- 2.4.7. Heaters are to be supplied with a permanent supply **and** an off peak supply.

2.5. **Circuit Protective Conductors**

- 2.5.1. Cables shall be used throughout as circuit protective conductors. Conduit and trunking shall not be used as the CPC for circuits.

3. **SOCKETS AND FITTINGS**

- 3.1. See Appendix C for schedule of Dimplex heaters to be used throughout.

- 3.1.1. **Preferred Material and/or Design:** High impact plastic faceplates colour to be white. To include:

- Galvanised flush mounting boxes
- Electric cables etc.
- Switched fused connection units
- 20A double pole switches
- Isolation switches are to be Crabtree

3.2. **Minimum installation requirements**

- 3.2.1. This will include upgrade to existing installations to the minimum provision listed below, to be included with all rewires and deemed to be included in Priced Schedule.

- 3.2.2. Do Not: Surface mount units/wiring/conduits.

3.3. Equipment Schedule

3.3.1. The following schedule lists equipment deemed to comply with PHP's requirements and is to be included when completing Pricing Schedule:

| Category | Description | Manufacturer Ref: | Closer |
|--|--|-------------------|--------|
| SWITCHED FUSE CONNECTION UNITS FUSE CONNECTION | CRABTREE PLUS RANGE COMPLETE WITH NEON INDICATOR or equivalent | 4827/3 | White |
| | UNSWITCHED WITHOUT NEON | 4828 | |
| HEATERS | See Appendix C DIMPLEX heater schedule | | |
| | | | |

4. TESTING AND COMMISSIONING

- 4.1. All other installations shall be fully tested electrically and functionally in compliance with IEE Regulations and Manufacturers requirements.
- 4.2. One set of manufacturer's operating and maintenance instructions and a guarantee certificate shall be handed over, for each house.
- 4.3. Blank copies of the Council's form of installation certificate/disclaimer notice will be provided to the Contractor. The Contractor shall complete the certificate, and pass completed certificates to the Client's representative.

5. INSPECTION AND TESTING

5.1. Inspection

- 5.1.1. Comply with BS 7671 (17th IEE Wiring Regulations: Part 6) and any revisions within the life of this contract.
- 5.1.2. Visually inspect and verify the correctness of all connections, Insulation colour, size segregation and protection of all conductors.
- 5.1.3. Once the Contractor has satisfied himself that all faults have been cleared the installation shall be offered to the Clerk of Works for an official acceptance test. This test shall be carried out by the Contractor, using his own test equipment, to the requirements of the Clerk of Works.
- 5.1.4. Each test instrument shall have its serial number noted on a calibration certificate which should also have the frequency of the calibration test as recommended by the manufacturer.

- 5.1.5. Installations will only be accepted for official testing if the work of all trades is complete and a completed and signed Inspection Certificate Incorporating a Test Results Sheet is made available to the Clerk of Works.
- 5.1.6. The tests to be carried out by the Contractor to satisfy the previous requirements at 5.1.1 to 5.1.5.
- 5.1.7. All measurements shall be given infinite values. Where the reading is greater than the meter full scale, this shall be given as greater than that scale. Infinity will not be accepted.
- 5.1.8. The Contractor shall submit the fully typed Inspection Certificate along with the Completed Test results sheets.
- 5.1.9. Where characteristics of protective devices can be adjusted, confirm devices are within maximum and minimum specified tripping times.
- 5.1.10. Confirm any interlocks or specific sequences operation correctly and safely.
- 5.1.11. The Inspection Certificate shall be in the same form as that specified in Appendix 6 of the 17th Edition, IEE Wiring Regulations and shall be signed and endorsed with the Contractor's name and address.

5.2. Testing Documentation

- 5.2.1. To be provided by the contractor in email/PDF format containing the following information:
 - Manufacturers details of all installed equipment and accessories
 - Equipment Operation Instructions where applicable
 - All test certificates