MANCHESTER
CITY COUNCIL

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MCC Particular Electrical Specification
Wythenshawe Park Café – Rewire/Fire Alarm & External Power Supplies
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Manchester City Council
Capital Programmes Division
PO Box 532 Town Hall
Manchester
M60 2LA

PARTICULAR SPECIFICATION
Wythenshawe Park Cafe

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ADDRESS:

Wythenshawe Park Cafe
Wythenshawe Park
Wythenshawe Rd
Manchester
M23 0AB

SCOPE OF CONTRACT

The contract covers the supply, delivery, erection, testing and commissioning of the complete Electrical Installation as described in this Specification and on the contract drawings.

WPS-MCC- B02A-GF-DR-E-0010	Lighting & Power (GF)
WPS-MCC- B02A-GF-DR-E-0011	Fire Alarm (GF)
WPS-MCC- B02A-01-DR-E-0010	Fire Alarm & Containment (FF)

The Electrical Contractor shall complete these works in accordance with the Manchester City Council Standard specification for electrical engineering services (January 2018) attached, BS7671 and any associated British or Harmonised European Standards therein.

INTRODUCTION

ELECTRICITY SUPPLY

The existing electricity supply to be retained and re-used.

BUILDERS WORK

The Main Contractor shall carry out all associated builders work and that of any supporting trades which may be required in the execution of the works.

All plasterwork/wall finishes which is disturbed during this work (including holes left after strip out) is to be made good, finished smooth and level with the existing plasterwork and general wall finishes.

Likewise, where paintwork and general decorations are damaged, removed etc. shall be made good to match existing. The making good to decoration damage will be restricted to patch repairs only.

The contractor is to match the patch painting/decorating to the existing finishes, if this is not possible the contractor is to paint the entire wall affected by the decoration

damage.

Existing ceiling tiles will need to be removed to carry out the works, any tiles damaged or dirtied by the contractor are to be replaced at the contractor's expense.

SITE COMPOUND

To be confirmed by the contractor.

The contractor is to ensure that the areas are kept clean at all times.

The locations of site compound and skips is to be agreed at the pre-start meeting.

ASBESTOS

The electrical contractor shall consult the current Asbestos Report for the building.

Irrespective of the above, if during the installation, the contractor finds material of questionable type then they shall stop work **immediately** and report their concerns to the Contract Administrator and Main Contractor without delay.

CLEANLINESS OF SITE

The building must be kept clean at all times, the contractor must keep working areas clear from dust and debris at all times and minimise the transfer of dust and debris into the site.

All equipment and furniture within the working area must be protected against damage and dust, the contractor must have available sufficient **CLEAN** dustsheets to protect all furniture and equipment in the working areas.

All areas must be cleaned prior to handover, this will not be just sweeping the areas, and the room must be in a suitable condition to be occupied. The floors must be mopped/vacuumed out and all dust and debris cleaned from wall finishes and doorframes etc.

Where the electrical installation is to be installed in a flush manor, to minimise the dust and building debris all casing out shall be carried out with electrically powered chasing machines with vacuum dust collection/filtration attachments.

Floor coverings throughout are to be protected from damage and dirt, all working areas are to be covered with self-adhesive carpet protection film (Kick 'n' Stick type), the coverings are too be removed when the areas are complete prior to cleaning for handover.

There is limited works to be carried out in the Kitchen, the kitchen floor shall be protected at all times during the works

The contractor must not use the home's cleaning equipment but is to provide their own cleaning equipment and materials including industrial vacuum cleaners.

The contractor shall work in accordance with COVID-19 guidelines. The contractor shall wipe down and clean all hard surfaces, sockets, door handles, tables, chairs etc. that they or their employees come into contact with during the works.

AS FIXED DRAWINGS

The Contractor shall include in his tender price for the preparation of "As Fitted" drawings.

At the commencement of the Contact, the Contractor will be provided with one complete set of drawings in addition to those issued for the execution of the works.

The "As Fitted" drawings shall be to a scale consistent with that used for the tender drawings and shall indicate:

- Exact locations of all electrical equipment and appliances installed.
- Routes of main cable and trunking routes.
- Circuit references, designations and arrangements.
- Circuit loop arrangements of analogue/addressable fire alarm systems.
- Distribution and final circuit diagrams of the installation.
- Complete schematic, addresses/labels of all devices to be shown on drawings for all devices installed.
- Emergency Lighting system addresses are to be shown on as fitted drawings adjacent to each emergency light and exit sign where centrally monitored systems are installed.
- Wiring diagrams of controls where applicable.
- Concealed junction boxes and service points.

"As Fitted" drawings shall conform in all respects to the complete installation to provide an accurate record of the installation and all distribution and control wiring diagrams shall indicate cable sizes, phase connections, protective device ratings and appropriate circuit identification etc.

The Contractor shall supply the following:

- Two copies of "As Fitted" drawing on disc (Latest Autocad dwg format).
- Two Copies of black and white prints within the O & M Manual.

Operating and Maintenance Manuals

The Contractor shall supply TWO copies of the operating and maintenance manual (or series of manuals, if required by the extent of the installations).

The manual shall be loose leaf A4 sized, hard backed sub-divided for each section with a ready means of reference and detailed index. Each section shall be presented in a systematic form and the binder shall be no more than 70% capacity to facilitate ease of use.

The manual shall have the full project title mounted on the front cover and shall include the following:

1. Description of the installation, itemising the main items of plant.
2. Manufacturer's literature/operating instructions.
3. Complete schematic line diagrams of the installation.
4. Complete control panel wiring diagrams.
5. Methods of adjustment, typical fault analysis routines of the various systems in the installation (i.e. Fire Alarm etc).
6. Regular maintenance description of all items of plant.
7. Full list of spares.
8. Commissioning and completion certificates for the whole installation.
9. As installed drawings.

In addition, two copies of the O & M Manual shall be supplied on disc.

The Contract shall be deemed incompletion until the above have been supplied and approved.

Demonstrations

All systems must be fully demonstrated to the building end user.

This should be presented electronically on a disk for each project.

Consideration should be given to the contractor providing a DVD of the Hand-Over & Demonstrations.

SUPERVISION OF THE ELECTRICAL WORK

The Foreman Electrician shall not just be employed on site as an Electrician, he shall be employed to carry out the role of Foreman. He should be allowed sufficient time and be given sufficient facilities to organise and run the contract.

In addition to the Site Foreman Electrician, the Electrical Contractor shall include for an Engineer to supervise the work at site level. The Electrical Contractor's Supervisor will be responsible for resolving day to day practical problems and checking the quality of the work, the Electrical Contractor shall not rely on the Clerk of Works to do this.

The Electrical Contractor's Supervising Engineer should visit the site at least once a week and more if the contract warrants it.

CONTRACT PROGRAMME

To be agreed with main contractor & Client

No supplies shall be isolated without prior agreement t with the C.A.

RELOCATION OF FURNITURE AND EQUIPMENT

Furniture and equipment will remain in the rooms whilst works are carried out, the contractor will re-locate equipment in rooms as required to carry out his works and protect any equipment in rooms from damage and dust/dirt as required, any damaged equipment will be replaced at the contractor's expense.

If it is necessary to move any equipment or furniture out of the rooms whilst the works are carried out the contractor must move the equipment/furniture out of the room and re-instate the equipment/furniture to its original locations once works are complete.

Any equipment/furniture taken out of rooms is to be securely stored.

The storage cupboards and shelving in the areas to be worked on are to have the doors taped closed to prevent dust entering the cupboards and are then to be sealed with plastic sheeting to protect the cupboards.

Any open shelving is to be over sheeted with plastic sheeting which is then to be sealed closed.

EXISTING INSTALLATION

The Electrical Contractor shall disconnect, take down and remove from site the whole of the existing Electrical Installation made redundant by the works and make all necessary preparations for the installation of the new services whilst works progress.

Where such removal would cause unnecessary structural damage and disruption, then that part of the existing wiring shall be disconnected, cut back, made safe and made good afterwards.

CAFÉ & KITCHEN POWER

All work shall be carried out in accordance with BS7671 latest edition.

The power shall be installed as per the drawings.

Power supplies are to be taken from the Schneider distribution board located in the Male W.C adjacent to the kitchen.

The contractor shall install Cable basket complete with cable partitions in the first-floor space above the kitchen and dining room as per the drawings.

Note: This is a listed building and no new penetrations to the brickwork shall be permitted. All fixings shall be to the mortar joints.

Steel conduits shall be run from the steel basket position down to the socket positions in the café and kitchen below.

The sockets in the kitchen and 'servery' area of the café shall be positioned above the worktops.

The sockets marked LL on the drawings shall be a minimum of 450mm above floor level.

CAFÉ & KITCHEN LIGHTING

All work shall be carried out in accordance with BS7671 latest edition.

The lighting wiring shall be terminated in to 'Klik' style ceiling roses mounted to the inside edge of the ceiling timbers.

The lighting in the café & kitchen shall be suspended, with the luminaire matching the level of the timber beams.

DB/P1 REPLACEMENT

The 3-phase 18-way distribution board and isolator located in the main electrical cupboard in the store room are to be replaced.

The contractor shall install a new Schneider Acti-9 24-Way TPN distribution board complete with SPD.

The contractor shall install a new 125A TPN Isolator.

EXTERNAL POWER SUPPLY

The contractor shall install the 'temporary' external power supplies as shown on the drawing.

2 x new 'Ceenorm' BS7909 Distro units shall be installed to provide power for the 4 x temporary food/drink stalls that are positioned in the courtyard at various points of the

year. The 2 x distro units shall each be supplied and installed with 63A incomer, 2 x 32A TPN, 2 x 32A SPN & 3 x 16A SPN outlets with 30mA RCBO protection.

The new distros shall be supplied via the new DB located in the store room main electrical cupboard as shown on the drawings.

2 x 63A Rotary Isolators and commando sockets shall be installed on a painted fireboard above the existing 'letterbox' penetration to the external wall. The board shall be secured to Unistrut fixed to the wall.

The supplies to the 63A Rotary Isolators are to be in 16mm^2 5-core SWA/LSF Cable.

The supplies from the rotary isolator to the new distro units shall be 16mm^2 5-core SY cable.

The SY cable shall be installed through the existing 'letterbox' opening in the wall, with insulation board installed to prevent excessive heat loss through the opening.

The cable will run down the wall (unclipped) and into a heavy duty 5 compartment external floor mounted cable guard as per the drawing. This will be installed complete with all associated bends and stops where necessary.

Note: This is a listed building and no new penetrations to the brickwork shall be permitted. <u>All fixings shall be to the mortar joints</u>.

CABLE TRAY/BASKET

The electrical contractor will supply and install cable tray/basket as required to carry any wiring installed within the corridors, ceilings and roof spaces.

Generally, tray and basket will be installed in accordance with the section on cable trays in the general specification as well as any manufacturer's instructions, all trays/baskets are to be spaced from the building structure using manufacturer's brackets.

Tray/Basket is to be sized by the electrical contractor and is to have spare capacity of 25% for any future expansion of the installations, the minimum tray/basket size is to be 50mm.

The contractor is to form main routes of cable tray and trunking to form a network throughout the building, single or dual cables may be clipped/fixed direct to the building structure but where there are 3 or more cables Tray/Basket must be installed.

FIRE ALARM

The Electrical Contractor shall supply and install a new fire alarm system as detailed on the drawings and in this Specification. The system shall meet category L2.

The whole installation shall comply with the current edition of BS.5839 Part 1 and associated British and Harmonised European Standards therein.

The existing fire alarm system is to be kept operational until the new fire alarm system is installed and working.

The system shall be a 'Hybrid' system combining wired and wireless detection. Wireless detection is to be installed as per the drawings. This approach is to minimise cable and containment routes through these areas.

FIRE ALARM CONTROL PANEL'S

The buildings new control panels will be 1 x Four Loop networked addressable control panels.

The control panels will be complete with integral or remote batteries and charger capable of maintaining the system in operation for a period of 72 hours after which sufficient capacity should remain to provide an 'Evacuate' in all alarm zones for at least 30 minutes.

The control panels are to be configured/programmed to operate Apollo Discovery and XP95 protocol detection equipment.

The control panels will be installed surface mounted in the location's as indicated on the drawing.

If remote battery boxes are required, they shall be located below/adjacent to the control panel.

The control panel is to be as manufactured by:

Advanced Electronics Ltd
Moorland Way
Cramlington
Northumberland
NE23 1WE
Tel: 01670 707 111

And are to be from their Mx Pro 5 range.

DETECTION EQUIPMENT

Fire alarm detection and sounder/Beacons are to be as manufactured by the following:

Apollo Fire Detectors Ltd
36 Brookside Road
Havant
Hampshire
PO9 1JR
Tel: 023 9249 2412

Wireless detection is to be per the Apollo 'Reach' Wireless Specification.

General

The system shall have the capability to be used either as a standalone wireless solution or allow wired field devices to be combined on the same loop wiring as the wireless loop-interface modules to form a seamless hybrid system. This will be controlled by an analogue addressable fire alarm control panel.

The wireless fire alarm system shall be analogue addressable, and devices are to be installed throughout the areas nominated as part of the system design. The system shall consist of analogue addressable fire detection, wireless smoke and heat detectors, manual call points, sounders and visual alarm devices which use an 868MHz frequency to communicate with the wireless infrastructure devices, through to the fire alarm control panel.

The wireless translator shall sit on the loop and communicate with the wireless devices. The communications are interpreted by the fire alarm control panel and information is sent back to the devices.

The site shall have a full radio survey ensuring the required signal headroom is adhered to as stated in EN54-25.

The fire alarm panel shall meet the requirements of the relevant EN and British standards including EN54-2 and EN54-4.

Each loop of the fire alarm control panel shall have the capacity to allow the installation of up to 126 devices.

The wireless elements of the system shall have the capacity to be programmed and commissioned on site or pre-programmed off site from drawings and/or survey results.

Wireless System Configuration

The loop-interface module will be loop powered by the fire alarm control panel.
The fire alarm control panel shall be capable of supporting multiple loop-interfaces per

loop, maximum of ten.
Each loop-interface shall be capable of communicating with 32 devices in total.
The field devices shall operate across 22 pairs of radio channels (primary and secondary, redundant channels).

The system shall utilise the licence free 868MHz range.

The system shall incorporate redundant channel technology between all field devices and loop-interfaces.

The system shall incorporate fully synchronised outputs.

All field devices shall utilise automatic and independent amplitude control and will optimise its wireless output to fit the device location and site conditions.

Each loop-interface shall have a unique site code preventing any interference with other systems on the site or nearby.

All wireless field devices shall be powered by an internal power source consisting of easily replaceable lithium batteries of standard manufacture. Each power source shall be monitored and capable of reporting is condition to the loop-interface. When the battery capacity is low, a low battery condition shall be indicated at the loop-interface as well as a fault code at the CIE, allowing 30 days of normal use for the batteries to be replaced.

Loop-interface Module Specification

The system shall utilise loop-interface modules to integrate the wired and wireless elements of the fire alarm system. The loop-interface module shall translate all of the analogue and digital messages from radio devices into protocol messages to be handled via the fire alarm control panel.

The loop-interface module shall be powered by the loop and not require a dedicated power supply. loop-interface modules shall include loop isolation in each unit. An EN54-4 PSU may be used in parallel to support the translator radio functions in the event of a loop failure.

The loop-interface module may be used with any fire alarm control panel supporting the Apollo XP95 open protocol and the control panel will fully monitor the status of the loop-interface module and associated wireless devices.

The loop-interface module shall be wall mounted and include an anti-tamper switch which is monitored by the fire alarm control panel.

The loop-interface module shall provide an embedded LCD display and physical buttons for configuration of the wireless system and associated field devices. Additional hardware and software shall not be required.

Functionality

Each loop-interface shall be capable of communicating with 32 field devices.
It shall be possible to connect to a maximum of 10 loop-interface modules modules to a CIE with a 500mA loop driver.

Each loop-interface shall support a maximum of 22 radio channel pairs within a 200m radius. It shall be possible to repeat use of radio channels when a minimum of 100m spacing is maintained between loop-interfaces utilising the same radio channel.

It shall be possible to install and operate a maximum of 22 loop-interfaces with unique radio channel pairs.

Each loop-interface module shall be capable of switching to a secondary redundant radio channel to communicate with unresponsive field devices.

It shall be possible to view the background noise via the on-board loop-interface screen.

Loop-interface modules shall be fully monitored by the fire alarm control equipment.

Loop-interface modules shall be programmed without the need of special tools or software.

Loop-interface modules shall be rated to at least IP65.

The loop-interface module shall indicate power, fault and alarm events via three independent LEDs on the front of the module.

It shall be possible to add/remove/replace devices to the systems configuration using the on-board loop-interface LCD display and physical buttons, without the need for additional hardware or software not included.

MANUAL CALL POINTS

Generally manual call points shall be of the surface mounting type, cables shall be clipped surface mounted down the wall to the back box enclosed in white PVC mini trunking. The back boxes are to be as the MK red alert accessory boxes coloured red.

Call points are to be of the type without glasses and once operated are simply reset with a key without the need to fit any replacement elements or glasses.

Generally new manual call points will be installed 1200mm above finished floor level in the same location as existing to minimise decoration damage, to accommodate this existing call points will be loosened and left temporally supported whilst the works are carried out.

All call points are to be complete with drop down plastic call point covers to prevent accidental operation of the call points.

The contractor is also to supply 5 number STI Fire Stopper surface call point covers complete with integral sounders, these are to be fitted to call points as agreed with the school. (Nursery & Reception Exit Points)

If not required at time of install the unused fire stoppers are to be handed to the school with the spares.

The contractor is to supply and install a fire alarm call point sign above each fire alarm call point, the sign is to be mounted 1.7 to 2 meters above the floor level to ensure the signs are visible if the call point is obscured.

MULTI SENSORS

Multi Sensors are to be combined optical/heat detectors complete with mounting base.

HEAT DETECTORS

Generally, Heat detectors shall be of the fixed temperature type with an operating temperature of 90 degree C complete with mounting base.

SOUNDER BASES

Sounder bases are to be installed as indicated on the drawing and are to be combined sounder and VAD bases.

Sound outputs are to be a minimum of 90db at 1 meter and the VAD is to be EN 54-23 Certified Category O VAD.

SOUNDERS

Generally, sounders will be sounder/strobe bases installed as indicated on the drawing with a variable sound output from 55 to 91 db @ 1 metre.

The sounders shall be of the Apollo Discovery multi-tone type.

In the Kitchen, loop powered high output sounder/strobes are to be installed these are to have a minimum sound output of 100 dB @ 1 metre.

Sounders and strobes will be wall mounted generally 150mm below ceiling height (Assembly and Dining Hall sounders at same height as others), sounders are to be mounted on white MK Red Alert circular pattern boxes if round pattern or accessory

boxes if square.

Any cables dropping from high level to sounders are to be installed in white PVC mini trunkings.

As loop powered sounders are used the first device from the control panel must be a sounder with a short circuit isolate unit after as required by BS 5839.

SHORT CIRCUIT ISOLATE UNITS

Short circuit isolate units shall be installed to separate the wiring into `zones'. The zones are to be confirmed with the school prior to programming.

If possible, they will be installed within detectors otherwise separate isolators shall be installed located in storerooms if practicable. Positions of short circuit isolate units must be shown on the as fitted drawings.

INPUT/OUTPUT UNITS

The input output units are to be single channel units as shown on the drawings to control the equipment indicated, the units are to be in surface enclosures.

Final connections to the controlled equipment is to be made with heat resistant PVC/PVC flex.

Generally output units are to be complete with mains rated voltage free change over relay output.

POWER SUPPLIES

Final connections to the fire alarm panel in the main school is to be via a double pole key switches as the MK 4780WHI and heat resistant LSF/LSF flex mounted on a metallic accessory box to allow the cable to be glanded off.

The following labels are to be fitted:

- Section Board MCCB/Distribution Board MCB – FIRE ALARM in red lettering.
- Section/Distribution Board Main Switch – WARNING. THIS SWITCH ALSO CONTROLS THE SUPPLY TO THE FIRE ALARM SYSTEM.
- Fire Alarm isolating switches – FIRE ALARM. DO NOT SWITCH OFF.

COMMUNICATION TO FIRE BRIGADE

The fire alarm is to communicate to the control via the intruder alarm communicator.

The contractor will install an output unit adjacent to the Intruder Alarm communicator,

the unit will be connected to the Intruder Alarm communicator jointly between the fire alarm and intruder alarm engineers with heat resistant LSF/LSF flex.

MIMIC DIAGRAM'S

Scaled mimic diagram's A3 size printed on light stabilised paper shall be mounted in a frame with black finished wood surround and impact resistant glass adjacent to each control panel, the frame's will be screw fixed to the wall's adjacent to the fire alarm control panels. They must clearly indicate all rooms and zones with titles.

A drawing of the mimic diagram shall be submitted to the CA prior to manufacture. The mimic diagrams title blocks shall consist of the school's name and description of the drawing only. The Electrical Contractor shall not include his name or logo on the mimic diagram.

A copy of the mimic diagrams shall be included in the as fitted drawing as an AutoCAD drawing file as well as paper copies.

METHOD OF WIRING

The Electrical Contractor shall carry out all Fire Alarm wiring in 1.5mm red **Gold** standard fire resisting cables which meet the PH 30 classification when tested in accordance with BS EN 50200 and the 30-minute survival time when tested in accordance with BS 8434-1 and must also be Basec approved.

Power supply and control panel network wiring is to be carried out in **enhanced** fire resisting cables which meet the PH120 classification when tested in accordance with BS EN 50200 and the 120-minute survival time when tested in accordance with BS 8534-2 and must also be Basec approved.

Generally, the fire alarm wiring is to be installed fixed to the cable trays routed through the building.

In loft spaces and ceiling voids the wiring is to be installed to steel basket/cable tray. See drawing for detail on basket installation method.

All cable ties to tray/basket will be made with fire retardant cable ties (steel) using a purpose manufacturer fitting tool to prevent sharp edges.

Cables in trunking are to be independently fixed within the trunkings with fire retardant fixings as required by BS5839. Manual call point boxes are to be finished in RED whilst all detector and sounder boxes are to be finished in white.

Where surface wired in PVC mini trunking all detectors and sounders are to be mounted on MK Red Alert circular accessory boxes single or 2 entries as required.

Remote indicators are to be installed directly below the loft/ceiling void detectors to show which detector has been activated.

All ceiling mounted equipment accessible from the rear (suspended ceiling and loft spaces) are to be installed to galvanised malleable iron conduit boxes complete with an extension ring, the box is to be installed with the front lip finishing level with the front to the ceiling finish, a timber frame will be installed to the rear of each box to ensure that the box is securely fixed.

New fire alarm wiring is to be installed separate to all other wiring as required by BS5839, wiring is to be installed above any loft insulation and is to be on cable tray or basket which is to be installed on top of the ceiling joist, cables will pass through the existing insulation directly into the back of the conduit boxes, all cables must be glanded into conduit boxes.

The Café/Building must have fire alarm cover at all times, once the new system is installed throughout the now redundant control panels and the associated equipment is to be stripped out.

The contractor will allow in his cost for the necessary re-programming of the new systems as works proceed to ensure full fire alarm protection is provided throughout as required by Manchester City Councils insurers.

All cables are to be terminated in accordance with the manufacturer's instructions using cable glands throughout other than where MK Red alert boxes are used.

At the control panel's the contractor will install the cables surface fixed from ceiling void/high level to control panel with the cables glanded off into the control panel, on completion the cables are to be boxed in with the boxing in painted out to match the existing wall finishes.

Routes of surface mounted cables are to be agreed with the C.A. on site prior to installation.

All cables must be fixed with fire resistant fixings (metal tie bands or 'P' clips) as required by BS5839.

The PVC mini trunkings will be sized by the electrical contractor, the minimum size will be 25mm x 16mm.

To hold cables firmly at accessory boxes the cables must be securely fixed within 50mm of the accessory box in the mini trunking using a proprietary metallic fixing which must be screw fixed to the building structure.

COMMISSIONING/TESTING

On completion of the fire alarm installation the system is to be checked and tested by the Electrical Contractor.

All wiring and connections shall be tested in accordance with BS.7671 for continuity, insulation and polarity during the progress of installation. Test certificates to be issued on completion.

Whilst carrying out the sound level checks all sounder outputs shall be set to ensure that excessive sound pressures are not present in any parts of the building.

Sounders will be set to a sweep sound; the sounder setting must be agreed with the CA on site.

When testing the system, the contractor must check not only the operation of all output units but also that the connected equipment is functioning correctly, doors release, communication is achieved with control centre etc.

The Electrical Contractor or Commissioning Engineer shall complete, sign and hand to the C.A. all certificates as referred to in BS.5839, Part 1, and provide a logbook comprising front and back covers and 20 no A4 size pages of certificates of testing as referred to in BS.5839 Part 1 upon completion.

LABELS

All labels as required by BS.5839 Part 1, shall be fitted throughout the installation. The labels shall be engraved "Traffolyte" and shall have black lettering on white background for information and red lettering for warning. The labels shall be clearly marked having lettering not less than 4 mm in height. The labels shall be fixed in position by machine screws with domed heads and nuts plus washers.

Self-adhesive labels are not to be used.

The outline size of the labels shall be consistent throughout the installation to permit interchangeability.

OPERATIONAL: INSTRUCTIONS FOR FIRE ALARM INSTALLATION

On completion of the fire alarm installation the Electrical Contractor shall:

Instruct and inform the staff at the school on the operation of the system.

Hand over copies of the user's data, supplied by the manufacturer, to the staff on site.

All documents relating to the service visits during the first twelve months are to be forwarded to the CA as they occur.

SOAK TEST

Due to the installation method for the system, it will not be possible to carry out a soak test on the system as the existing system will need to be stripped out as the new system is commissioned.

Any equipment causing unwanted alarms on the system will be replaced/relocated immediately, equipment is only to be isolated from the system with the agreement of the Contract Administrator.

PLANT SHUTDOWN

The contractor is to install a key switch adjacent to each control panel which when operated will prevent the fire alarm system operating the interfaces which shut plant down.

If possible, the plant shutdown key switches are to be connected to auxiliary contacts in the control panels otherwise input units will be installed as required.

The Key switches are to be labelled ‘Plant Shutdown – Operate when testing system’.

CAUSE AND EFFECT

The cause and effect will be agreed with the commissioning engineer prior to programming the fire alarm system, it is expected that the system will be programmed so that operation of any device operates all sounders and the communicator.

Operation of the plant shutdowns and door releases is to be agreed with the building management prior to programming

ACCESSORIES

Electrical accessories will generally be installed as indicated on the drawings and in accordance with the DDA regulations.

All accessories are to be manufactured by one of the following: all accessories are to be from one manufacturer.

Crabtree
Lichfield Road
Brownhills
West Midlands
WS8 6JZ
Tel: 01543

Scheider Electric Ltd
Stafford Park 5
Telford
Shropshire
TF3 3BL
Tel: 0870 6088 608

MK Electric
Novar ED&S Ltd
The Arnold Centre
Paydock Road
Basildon
Essex

455010 SS14 3EA

If Schneider accessories are to be used these must be from the Ultimate range, no other Schneider accessories are to be used on this project.

TESTING

Testing of new parts of the installation shall be as per the general specification.

All circuits shall be verified before being energised. The electrical contractor shall test and verify the new installation and issue certificates as required by BS7671.

SPARES

The contractor will supply and handover the following spares:

1. Any Specialist tools required to access equipment installed.
2. Programmed access control card/fobs and spares as requested by the client.
3. All items as per general specification.

The contractor will obtain a signed receipt from the client's representative for the spares, a copy of the receipt must be forwarded to the C.A., payment will not be made for the spares until the receipt is received.

ELECTRICAL PRICING SCHEDULE

PRICE SUMMARY

Itemised below is a pricing schedule for the works in full accordance with this specification and all accompanying tender documents and specifications cited herein. The Contractor may include further details for clarification, but the listed costs shall encompass and include all works necessary to meet all the specified and documented requirements.

Electrical Contractor shall be required to complete this pricing schedule and return accordingly:

Appendix 1 - Fire Alarm Design Certificate

MANCHESTER CITY COUNCIL

FIRE ALARM SYSTEM
DESIGN CERTIFICATE

Certificate of design of the fire alarm system at:
Address: Wythenshawe Park Café & Stables

I/we being the competent person(s) responsible (as indicated by my/our signatures below) for the design of the fire alarm system, particulars of which are set out below, CERTIFY that the said design for which I/we have been responsible complies to the best of my/our knowledge and belief with the recommendations of Section 2 of BS 5839-1:2017 for the system Category described below, except for the variations, if any, stated in this certificate.

Name (in block letters): George Grayson Position: Electrical Engineer

Signature: *G Grayson* Date: 13th January 2026

For and on behalf of: Manchester City Council, Capital Programmes Division.

Address: Level 8, Town Hall Extension, Manchester

Postcode: M2 5EB

The extent of liability of the signatory is limited to the system described below.

System Category (see BS 5839-1:2017, Clause 5): L2.

Variations from the recommendations of Section 2 of BS 5839-1:2017 (see BS 5839-1:2017, Clause 7):

Extent of system covered by this certificate: Kitchen, Café, Toilets, Hall & Store.

Brief description of areas protected (not applicable for Category M, L1 or P1 systems):

All building rooms leading onto escape routes and escape routes. Automatic detection also installed in most loft spaces.

Measures incorporated to limit false alarms. Account has been taken of the guidance contained in Section 3 of BS 5839 1:2017 and, more specifically (tick as appropriate).

- The system is manual. Type and siting of manual call points takes account of the guidance contained in Section 3 of BS 5839-1:2017.
- The system incorporates automatic fire detectors, and account has been taken of reasonably foreseeable cases of unwanted alarms, particularly in the selection and siting of detectors.
- An appropriate analogue system has been specified.
- An appropriate multi-sensor system has been specified.

- A time-related system has been specified. Details:
  .....
  .....
- Fire signals from automatic fire detectors result initially in staff alarm, which delays a general alarm/transmission of signals to an alarm receiving centre (delete as applicable) for ..... mins.
- Appropriate guidance has been provided for the user to enable limitation of false alarms.
- Other measures as follows:
  .....
  .....

Installation and commissioning

It is strongly recommended that installation and commissioning be undertaken in accordance with the recommendations of Section 4 and Section 5 of BS 5839-1:2017 respectively.

Soak Test

- In accordance with the recommendations of 35.2.6 of BS 5839-1:2017, it is recommended that, following commissioning, a soak period of 1 Week should follow.

  Due to nature of building the soak test will not be a 1 week period following installation, equipment will be transferred onto new system and a modified soak test as per the specification undertaken.

  (Enter a period of not less than one week).
- As the system incorporates no more than 50 automatic fire detectors, no soak test is necessary to

  Satisfy the recommendations of BS 5839-1:2017.

Verification

Verification that the system complies with BS 5839 – 1:2017 should be carried out, on completion, in accordance with Clause 43 of BS 5839-1:2017:

Yes ☐ No ☐ To be decided by the purchaser or user ■

Maintenance

It is strongly recommended that, after completion, the system is maintained in accordance with Section 6 of BS 5839-1:2017.

User responsibilities

The user should appoint a relevant member of the premise management to supervise all matters pertaining to the fire detection system and fire alarm system in accordance with the recommendations of Section 7 of BS 5839 – 1:2017.

Appendix 2 - Draft Handover Certificate

MANCHESTER
CITY COUNCIL

Wythenshawe Park Café & Stables
File Number – AMP/45166/3
Building Handover Certificate
Contractor: - ……
……..

Description of Area to be handed over: …….
……..

I confirm that the area above has been cleaned ready for the building to occupy and that all fire alarm works have been tested with the test results recorded on the temporary test certificate in the Construction phase Health and Safety file.

All tools and materials have been removed from the area and the area is safe to be occupied.

Signed: …… Designation: ……..……..
Date: ……

This form is to be completed by the main contractor's representative and handed to the building manager or representative as each area is completed or at the end of a night shift as appropriate