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**ELECTRICAL BUILDING SERVICES  
PERFORMANCE SPECIFICATION FOR  
BATTLE RECREATION GROUND, NEW PAVILION**



*Battle Town Council*

Project No: 2442  
Reference: ELECSPEC/IWA/LDB/2442  
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### **INTRODUCTION**

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## **0.0 INTRODUCTION**

### **0.1 PROJECT TITLE**

The Project shall be for the Electrical Building Services Installation associated with the New Pavilion at Battle Recreation Ground, North Trade Road, Battle, East Sussex, TN33 0HA.

### **0.2 PROJECT TEAM**

Client: Battle Town Council  
The Almonry  
High Street  
Battle  
East Sussex TN33 0EA  
☎ 01424 772210

Architect: Pump House Designs  
Pump House Yard  
The Green  
Sedlescombe  
East Sussex TN33 0QA  
☎ 01424 871120

Mechanical & Electrical  
Consulting Engineers: IWA Consulting Engineers Ltd  
Pacific House  
Sovereign Harbour Innovation Park  
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East Sussex BN23 6FA  
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Project Manager: Kingston Morehen  
15A Hyde Gardens  
Eastbourne  
East Sussex BN21 4PR  
☎ 01323 411088

All reference in this Specification to Employer/ Architect/ Consulting Engineer shall infer the above.

All reference to Contract Administrator or Supervising Officer shall be the person nominated by the Employer to these roles.

### **0.3 LOCATION OF SITE**

The Site is located at Battle Recreation Ground, North Trade Road, Battle, East Sussex, TN33 0HA.

#### 0.4 DESCRIPTION OF WORKING AREA

The works to be carried out are within the confines of the site located at Battle Recreation Ground, as detailed in the tender documentation. Existing buildings affected by the works will be demolished.

#### 0.5 DESCRIPTION OF WORKS

The Works shall comprise the complete Electrical Services Installation associated with the development including:

- Design, supply & installation of Modifications to the Electrical Supply Intake.
- Design, supply & installation of Distribution boards.
- Design, supply & installation of Sub Main cabling.
- Design, supply & installation of Lighting.
- Design, supply & installation of Lighting controls.
- Design, supply & installation of Small Power.
- Design, supply & installation of Fire Alarm system.
- Design, supply & installation of CCTV system.
- Design, supply & installation of Security System.
- Design, supply & installation of Data Cabling system.
- Design, supply & installation of Photovoltaic System.
- Design, supply & installation of supplies to Mechanical services
- Design, supply & installation of Lightning Protection
- Production of fully detailed Design with drawings
- Production of detailed Installation Drawings (see Clauses 1.51 & 1.52)
- Production of As installed Record Drawings & Manuals (see Clause 1.70 & 1.71)

#### 0.6 EXTENT OF WORKS

The specification provided represents the **Consulting Engineer's performance design** for the proposed services associated with the Project and **does not constitute a full technical specification**. This specification is indicative of the scope and systems that will be required for the project and will require the Contractor to undertake their own detailed design and working drawings based on the specified criteria.

The design shall be carried out by a **competent design/consultancy** company whose staff hold appropriate membership of organisations relevant to that part of the design.

The information contained within this specification should be read in conjunction with the Main Contract Conditions, Architectural and Structural Layouts and indicative position of outlets shown on architectural drawings.

It is essential that Tenderers familiarise themselves with all aspects of the Works such that their Tender is a complete account of the total installation, which shall include design, supply, supervision, installation, fixing, testing and commissioning.

Any subsequent claims for payment due to lack of information will not be entertained.

Designs shall be submitted to the Contract Administrator for comment prior to work commencing, but it will remain the Contractor's responsibility to ensure a fully workable installation complying with all relevant regulations and British Standards.

This specification is intended to enable the Tenderer to submit a Tender and, if successful, provide their own detailed design, based on the specified criteria.

The Tenderer shall include for all detail work of every description required for the absolute completion and proper functioning of the Works and install accordingly.

The Contractor shall be wholly responsible for the design, supply, installation, testing and commissioning of all necessary equipment to complete the Works as described herein.

The Contractor shall provide a calculation package comprising lighting design calculations, cable calculations, load calculations Distribution board sizing etc to provide all calculations necessary and also Technical Submissions for all equipment proposed. This shall be submitted for review by the Client Team 6 weeks before installations of Electrical Services commence.

## 0.7 SPECIAL CONDITIONS

The Contractor shall note the following and make due allowance within his Tender for these restrictions:

- (i) The works **will be carried out** in normal working hours.
- (ii) The works may be carried out in phases.
- (iii) **Allowance shall be made** for any temporary electrical supplies that are needed.
- (iv) The contractor shall note that these works shall fully comply with **BS 7671:2018** Requirements for Electrical Installations which came into effect on **1st January 2019**.
- (v) Within this specification (Section 4) is a list of Recommended Manufacturers & Suppliers, The Contractor may put forward equal and approved alternatives to all NAMED suppliers and specialists. However, this shall be stated in a covering letter with the Tender offer and shall not be deemed as accepted until approved by the CA. However, the Tender and Tender Analysis will be completed using all named "manufacturers and specialists".

For more general conditions related to working arrangements, restrictions on working methods, phasing and contract programme refer to the Clients Contract Conditions.

## 0.8 PRE TENDER SITE VISITS

The Contractor is recommended to visit the Site and ascertain the working conditions and Site restrictions. The Contractor shall have no claim because of want of knowledge.

## 0.9 APPROVAL

All installation works proposed will be to the approval and acceptance of the Contract Administrator, who will retain authority to reject any work not acceptable to the Employer.

**0.10 MAINTENANCE**

The Contractor shall include for 12 months' maintenance for all Electrical Services Installations.

**0.11 PROGRAMME**

Programme to be agreed with the Main Contractor.

**0.12 APPROVED CONTRACTOR**

Only **NICEIC or ECA** registered & approved contractors shall be permitted to install Electrical Services.

The design works shall only be carried out by a competent design/consultancy company whose staff hold appropriate membership of organisations relevant to that part of the design.

## **SECTION 1.0**

### **PRELIMINARIES AND CONDITIONS**

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## 1.0 GENERAL CONDITIONS

### **General:**

All reference to Contract Administrator shall infer the officer appointed by the Employer to administer the Contract.

All reference to Electrical Contractor, Mechanical Contractor shall read, the Contractor.

The following clauses shall be read in conjunction with the Contract Conditions.

The Conditions contained within the Contract Conditions shall take precedence over any of the following clauses should there be any dispute.

## 1.1 FORM OF CONTRACT

The abridged inclusion here of any extract from the Conditions of the Contract in no way absolves the tenderer from their responsibility to examine the same.

The works will be carried out as a Sub Contract. The successful tenderer will become a Sub Contractor employed direct by the Main Contractor. They will be governed by the conditions contained in these documents and, where relative, the conditions of the Main Contract with the employer.

The Contractor shall indemnify themselves against claims in respect of any negligence by the Contractor, their servants or agents, of any misuse by them or them of any scaffolding or any other plant, and shall insure themselves against any such liability.

## 1.2 LOCAL CONDITIONS

The Tenderers shall be deemed to have examined the site, the Conditions of Contract, the Specification, Schedules, Drawings and Plans, and shall satisfy themselves as to the supply and conditions of labour, carriage, carting and off-loading in the area.

The Contractor shall have no claim because of want of knowledge in any respect and shall satisfy themselves of the correctness of all deliveries.

The Contractor shall be responsible for giving reasonable prior notice of delivery of equipment to relevant authorities, such as traffic police etc.

The Contractor shall be responsible for the unloading, storage, hoisting and placing of materials in the general storage, hoisting and placing of materials in the general position of the works.

## 1.3 TENDERING INSTRUCTIONS

The Tenderer must complete and sign the Form of Tender and the schedules incorporated in the Tender Analysis section.

All Tender documents and drawings must be returned with the Tender in accordance with the tender return instructions.

The Employer reserves the right to appoint any of the tenderers invited to tender and is not bound to accept the lowest or any tender. No payment will be made for the costs involved in preparation of tenders.

The Tenderers shall treat all Documents and other information relating to the Contract as strictly confidential.

The Tenderer shall return one completed copy of this document as instructed and within the time specified in the Invitation to Tender Letter.

Any tenders received after the specified time shall be declared null and void. Neither the lowest nor any tender will necessarily be accepted, and the tenderer must bear in full their cost in connection with submitting the tender.

#### **1.4 PRIME COST AND PROVISIONAL SUMS**

Where Prime Cost sums are given on the form of tender, at the time of tender the Contractor shall clearly indicate and include the percentage for profit and overheads that they requires.

Provisional sums shall be included in the tender as they stand, without addition and shall be expended in whole, in part or not at all, at the direction of the Contract Administrator.

The Contractor shall not, without written consent of the Contract Administrator let any portion of the works.

The Contractor may be required to furnish a comprehensive price schedule of equipment with each item priced separately (including erection). The total of this schedule will not be binding, relative to the contract proper, but may be used to assess the value of the Contract Variations (either additions or deductions) from the original requirements.

Extra works and works to be carried out under the Provisional or P.C. Sums shall not be carried out unless instructions in writing are issued by the Contract Administrator. Provisional sums and P.C. sums (including declared profit etc.) not expended or used in the course of the Contract, shall be deducted in whole or in part from the Contract price, and there will be no compensation to the Contractor for this.

Where variation work is not of a similar character or executed under similar conditions as the general work comprising the contract, and where the variation work cannot properly be valued, work shall be charged on a time and materials or daywork basis in accordance with rates agreed.

Where items are described as 'supply only' pricing shall include for all labour, materials, goods and all costs in connection therewith, including conveyance, delivery, unloading, storing, returning packing's, handling hoisting, lowering, use of plant and equipment, establishment charges, overhead charges and profit and handing over in the place prescribed.

Where items are described as 'fix only' pricing shall include for all labour and all costs in connection therewith, taking delivery of materials and goods described, unloading, storing and returning packing's, carriage paid, and fitting and fixing materials and goods in position, including all necessary incidental materials described, use of plant and equipment, establishment charges, overhead charges and profit.

Should any doubt, obscurity or discrepancy arise as to the true meaning of any part of the specification the Contractor shall submit the same for clarification prior to submitting their tenders.

Save as aforesaid, no alteration shall be made by tenderers to the text of the tender documents and items shall be priced as described.

#### **1.5 SCOPE OF THE CONTRACT**

The scope of the contract covers the execution of all works and the supply of all materials specified or called for and, in addition, the supply and fixing of all accessories necessary for the proper completion of the Contract.

The various documents issued in connection with the Tender shall be read conjointly and, in the event of any discrepancy existing, this shall be referred to the Contract Administrator whose decision thereon shall be final.

The Drawings issued with the specification are intended to enable the Tenderer to prepare an accurate estimate and submit a tender and are semi diagrammatic.

The Contractor shall include for all detail work of every description required for the absolute completion and proper functioning of the Works and install accordingly.

#### **1.6 PRE-CONTRACT MEETINGS**

The successful Tenderer will be required to attend a pre-contract meeting at the offices of the Client.

#### **1.7 PHASING**

The work included in this Contract will be undertaken in phases to suit the main programme.

#### **1.8 PROGRAMME**

The Contractor shall commence the works at such time as may reasonably be required, but not earlier than the period stated and agreed. The minimum period required from the date of written acceptance of their tender or from receipt by them of such working drawings and particulars as are sufficient for a start to be made, whichever is the later, must be stated at the time of tender. The Contractor shall complete the whole of the Contract works within the unimpeded working time to be staged by them, whether that working time is worked continuously or staged to suit the progress of other trade.

Notwithstanding the foregoing, the contractor shall place orders, arrange deliveries and execute the works in conformity with a detailed programme agreed prior to commencement of operation on site.

A copy of each order, stating the agreed delivery dates, shall be forwarded to the Main Contractor as soon as the delivery dates have been agreed.

Should the proposed delivery date of a specified item not meet the requirements of the programme, the Contractor shall immediately notify the Contract Administrator.

#### **1.9 DEFINITIONS**

The definitions for words and phrases commonly associated with the design, manufacture and site work for electrical/mechanical installations shall be those of the IEE Regulations, the Mechanical and Institute of Plumbing Data Book, the CIBSE Guide, BS, CP and associated Statutory Acts.

#### **1.10 TENDER DRAWINGS**

The tender drawings are to be read in conjunction with this Specification and copies of each are issued with the tender documents.

#### **1.11 INTERPRETATION OF TENDER DRAWINGS**

This Specification and any drawings or other documents attached thereto and issued by the Contract Administrator/Engineer shall be deemed to include, whether or not specifically mentioned or shown, any materials, accessories or works as may be necessary for the satisfactory completion of the works in accordance with accepted current practice or procedure. The Tenderer shall make due allowance in their tender for such materials or works.

Where a discrepancy exists between the drawings and Specification or where the interpretation of either is in doubt, the Tenderer shall obtain written clarification on such matters before including and submitting their tender accordingly.

**1.12 CLARIFICATION**

Where any possible doubt exists as to the meaning of words or terms used elsewhere in this Specification, it shall be the Contractor's responsibility to ask for clarification and confirm the definition in writing.

**1.13 SUB CONTRACTORS**

Where Sub Contractors are to be used, they must first be approved by the Contract Administrator.

**1.14 SAFETY HEALTH AND WELFARE REGULATIONS**

The Contractor will provide suitable safety, health and welfare measures, all in compliance with the current Safety, Health and Welfare Regulations applicable to the works.

The Contractor will be responsible for compliance by their own staff with the Health and Safety at Work Act in the works required to be carried out. Health and Welfare measures in compliance with the latest relevant regulations will be provided but the Subcontractor will be expected to co-operate in maintaining these standards.

The Contractor shall notify the Contract Administrator in writing of their intention to use on site liquids, gases and other articles or materials which may endanger life or property and shall ensure that any such equipment or materials are properly stored and handled at all times. They shall take all necessary precautions to safeguard against damage by fire or explosion, where the execution of the work may involve the presence of flames or sparks.

Petroleum products and other inflammable or vaporising liquids shall only be used in accordance with the regulations applicable to the storage and use of those products.

When equipment and vessels which contain flammable liquids or gases are not in use, they shall be removed to a safe place of storage.

All materials, plant and equipment, supplied, used, and installed on site, shall comply with all current health, safety and welfare legislation. Any additional cost incurred to ensure compliance shall be deducted from the Contractor's account unless otherwise agreed by the Contract Administrator.

**1.15 WORK IN OCCUPIED AREAS**

Where work is to take place in occupied areas or where work of noisy nature is to take place, prior arrangements must be made with the Client via the Contract Administrator with regard to accessibility and acceptable times.

**1.16 INSURANCE**

The Contractor must insure in respect of their liability at Common Law to their employees whilst engaged upon work in fulfilment of the Contract.

The Contractor should also hold insurances to comply with the requirements of the Main Contract. The cover required for insurances shall be as stated in the Appendix to Main Form of Contract.

**1.17 DELIVERY AND CONSTRUCTION PROGRAMME**

The Contractor shall agree a detailed programme with the Contract Administrator at the earliest possible date. The programme shall include delivery dates of all goods and materials vital to the

programme. Evidence shall be provided that the Contractor has checked with their suppliers, including nominated suppliers that such goods and materials can be made available at the required time.

Any discontinuity of the Contractor's programme arising out of compliance with client's requirements regarding the execution of the Works in such sections and such periods of time as may be required by the client will be deemed to have been taken into account by the Contractor when tendering.

Continuity of work cannot be assured in any one area, and the Contractor shall account for this in their tender.

The responsibility of preparing an accurate and practicable programme and for complying with it rests entirely with the Contractor, but two copies of the programme shall be submitted to the Contract Administrator for their information as soon as it has been agreed.

The Contractor shall arrange for a qualified representative to be present at all site meetings. They shall submit to the Contract Administrator detailed progress report covering the erection of all equipment and materials included in the Contract.

#### **1.18 SCHEDULE OF QUANTITIES AND RATES**

The Tenderer shall furnish to the Contract Administrator for approval within ten days of being requested to do so, three copies of the Schedule of Quantities and Rates upon which their tender has been based. The Schedule shall detail quantities and rates for all works in accordance with the Standard Method of Measurement, 7th edition (metric), authorised by agreement between the Royal Institute of Chartered Surveyors and the National Federation of Building.

The submission of such a schedule will not necessarily imply that the tender will be accepted.

The schedule shall be fully priced and totalled to the original Tender Price. It shall be used only for the pricing of Variation Orders

#### **1.19 VARIATIONS AND OMISSIONS**

The Contractor shall not alter any of the Works except as directed in writing by the Contractor Administrator.

Variations shall be carried out at the discretion of the Contract Administrator, Measured Day Work rates described hereinafter, or as a supplementary quotation agreed in writing with the Contract Administrator

The Contractor's quotation shall be prepared within 14 days after the Contract Administrator's variation order being issued or 14 days after the Contractor has completed the variation works. Failure to produce a quotation in the above timescale shall deem that no extra cost variations shall apply or be approved.

The value of materials used shall be ascertained on the basis of the actual nett cost to the Contractor of the material used, after deducting all trade discounts, rebates, allowances and discounts.

Vouchers for labour engaged on, and materials used on Day Works, shall be presented for signature to the Contract Administrator or their representative at the earliest possible date, and copies distributed by the Contractor to the Contract Administrator and Architect.

The Contractor shall cost all time sheets within one week of issue and supply the Contract Administrator with three copies so that a Variation Order can be issued.

## **1.20 DAY WORKS**

Day works shall not be undertaken without the written sanction of the Contract Administrator.

Charges in respect of Day Work shall be based on the Prime Cost of work plus percentage additions, as set out by the tender in Appendix to the form of Tender. Prime Cost shall be calculated in accordance with "Definition of Prime Cost of Day Work carried out under a Building Contract" current at the date of tender.

The Tenderer shall enter in the appropriate Appendix to the Form of Tender, the rates for labour and the percentage additions to fares and allowances, as well as the materials relating to Day Works at the time of tendering.

The rates for labour in Day Work shall be based on the Nett rates of wages plus travelling time where applicable, provision and use of all plant excluding scaffolding; tools, supervision by foreman and/or office staff; liabilities as labour employer; bonus schemes; working overtime; insurance, holidays with pay; overhead charges and profit.

(Fares and allowances shall be defined as the nett cost of such excluding travelling time).

## **1.21 GUARANTEE AND MAINTENANCE**

The whole of the work called for in this Specification and Schedule shall be guaranteed for twelve months against defect in material or workmanship proved to be due to the negligence of the Contractor, such guarantee to date from the day of completion of the Contract. The Contractor shall reinstate at their own expense to the satisfaction of the Architect any such defective work discovered within the period of the guarantee following notification in writing and shall commence such remedial works within 24 hours of notification. Defects or damage that are not rectified within a reasonable time will be considered as failure to comply with the Contract and retention monies will be withheld.

Materials and equipment supplied and fixed by the Contractor but not of their manufacture shall be guaranteed to the extent given by the manufacturer or supplier.

Notwithstanding the Contract Conditions, all equipment normally guaranteed for a time beyond the termination date of the defects liability period for this Contract shall be held to remain under guarantee for the maximum period.

The Contractor, in quoting for a specific piece of equipment or apparatus, whether specified herein by name, or whether a make selected by the Contractor, shall be deemed to guarantee its satisfactory performance under all working conditions which may be encountered and for the guarantee period which will extend until the end of the Defects liability Period. The Contractor shall be responsible for any defects and maintenance needs which may arise during this period.

## **1.22 RESPONSIBILITY**

The Works shall be carried out under the direction of the Contract Administrator. The Contractor shall be responsible for the completion of the Works to the satisfaction of the Contract Administrator as regards workmanship, materials, execution and designed performance.

Up to the date of practical completion the Contractor shall supply such supervision as may be necessary to maintain the Works in good condition.

### **1.23 MATERIALS AND WORKMANSHIP**

All materials used shall comply with the appropriate British Standards where such apply, and as detailed elsewhere in this Specification. Particular note shall be taken of the List of Prohibited Materials.

The words "equal approved" or "other approved" shall mean any make of equal quality of materials but the use of such alternative make of materials must be approved by the Contract Administrator in writing.

The whole of the work shall be carried out in a straightforward manner by competent workmen under skilled supervision.

The Contract Administrator shall retain authority to reject any work they may consider unfit and to have any portion of the work taken down, removed or undone which they may consider executed in any unworkmanlike manner or with improper materials.

The Contractor shall include for submitting for approval, samples of materials and goods when called upon to do so. All such samples shall be representative of the quality of the materials and goods intended to be used in the contract works.

Should the Contractor at the time of tendering wish to submit the names of any alternative firms or products to those specified, they may do so giving details of the effect of each on their tender. Failure to do so will prevent consideration of alternatives at any subsequent time, but in all cases, tenders will be deemed to include the firms or products specified.

### **1.24 MATERIALS**

The Contractor shall provide all materials, equipment, tools and implements, and shall on completion of the Works, remove all surplus materials and all equipment, tools and implements, and make good or reimburse the Employer for any damage caused to the building fabric or services during the execution of the Works.

Rubbish and waste materials shall be cleared to a central point for removal by the Contractor.

All materials supplied and/or work carried out shall be the best of their respective kinds, and the Contract Administrator shall be at liberty to order the removal and replacement of any faulty or inferior material supplied or work executed.

### **1.25 APPROVAL OF MATERIALS**

The Contractor shall have the Contract Administrator's approval in writing before ordering materials specified as to be of 'approved make'. Samples shall be submitted as required by the Contract Administrator.

### **1.26 WORKMANSHIP**

Unless stated otherwise, all areas of workmanship covered by BS or CP, whether detailed in this Specification or not, shall comply with their requirements.

All workmanship shall be subject to the approval of the Contract Administrator.

The Contract Administrator reserves the right to reject any part of the installation not complying with this Specification, and the Contractor shall carry out the necessary remedial work or replacement, free of charge, without delay to the Contract.

**1.27 BRITISH STANDARDS (BS) AND CODES OF PRACTICE (CP)**

All materials and items of equipment covered by the current BS, whether detailed in this Specification or not, shall comply with the material and test requirements of the particular document.

Where alternatives are permitted by the BS and this Specification does not identify the option required, the most durable materials shall be used, and the most onerous set of tests shall be applied.

**1.28 LABOUR, MATERIALS AND COMMISSIONING**

The work shall comprise the whole of the labour and all materials necessary to form a complete installation and such tests, adjustments and commissioning as are prescribed in subsequent clauses and as may otherwise be required to give an effective working installation to the satisfaction of the Contract Administrator.

**1.29 SUPPLIERS**

The Tenderer shall submit with their tender a detailed list of supplier's names and addresses for materials and equipment they proposes to purchase for the execution of the works.

Each supplier must be willing to admit the Contract Administrator/Engineer to their premises during normal working hours for the purpose of inspecting and testing the materials and equipment offered:

All materials and equipment shall be new.

**1.30 SAMPLES**

The Contractor shall, prior to placing orders, provide manufacturers' samples as requested.

**1.31 COMPLETE INSTALLATION**

The words 'complete installation' in the above clause shall mean not only the major items of plant and equipment conveyed by this Specification, but all the incidental sundry components necessary for the complete execution of the works and for the proper operation of the installation, with their labour charges, whether or not these sundry components are mentioned in detail in the tender documents issued in connection with the Contract.

**1.32 PAYMENT**

Payments will be made on an interim basis.

The Contractor shall present their application for payment to the Engineer giving full details of their claim with works executed and materials delivered to site.

The issue of a certificate of advice by the Engineer will not prejudice their subsequent approval or disapproval of any part of the Works.

The Contract Administrator will advise the Client concerning correctness of valuation of Works executed, and whether materials unfixed on site are not premature and have been adequately stored.

**1.33 NEW TAXES AND DEVALUATION RECOVERY**

The Contractor shall comply with all instruments contained in Clause 31 of the Main Contract, i.e. "Finance (No.2) Act 1975 Statutory Tax Deduction Scheme.

Should any extraordinary tax, levy or other charge be imposed by statute, other regulation or other Government instrument, or devaluation upon any plant appliance, cable or other materials during the contract period or any extension of the contract period resulting from the Contractors being

prevented from/or delayed in progressing with the Contract works for any reason other than the Contractor's own default, all extra expenses thereby incurred shall be added to the Contract.

#### **1.34 TEMPORARY WORKSHOPS**

The Contractor shall, at their own expense, provide and erect all necessary workshops, sheds, or other buildings for their employees and workmen, at such places on site as may be appointed by the Main Contractor who will give all reasonable facilities to the Contractor for such erection.

The Contractor shall be fully responsible for the safe and dry storage of all equipment, plant and materials required for the Contract.

No equipment will be allowed to be deposited other than in the stores etc., except as may be agreed with the Main Contractor and the Contract Administrator. The Stores, Workshops etc. shall be removed as soon as the work is completed, leaving the site in an orderly condition.

#### **1.35 ELECTRICITY/WATER**

Electricity and Water should be assumed to be available on site and to be provided by the Client for the purposes of the Main Contract unless stated elsewhere.

#### **1.36 INTERRUPTION OF SERVICES**

The Contractor shall not, without the permission of the Contract Administrator interrupt or interfere with the operation of existing services such as gas, water, electricity, buried cables, sewers, drains etc., and in the case of works of Statutory Authorities or Private owners, without the permission of such Authorities or Owners.

The Contractor shall be fully responsible for any damage caused and shall make good any damage to the satisfaction of the Supervising Officer, Authorities or Owners as the case may be.

#### **1.37 SITE ORGANISATION**

The Contractor shall designate a senior member of their office staff to be the "Contractor's Representative". Such a Representative shall be an experienced and competent engineer, duly authorised to co-ordinate the Works, maintain liaison with the Contract Administrator and other parties, attend progress meetings, and generally represent the Contractor on all aspects of the Contract.

The Contractor shall, throughout the duration of the Contract, maintain an adequate Drawing Office with staff for the timely preparation of all drawings required for the Contract.

The Contractor shall, throughout the duration of the Contract, keep at least one fully competent qualified site engineer.

Any directions or instructions given by the Contract Administrator to the Contractor's Representative or the site engineer shall be deemed to have been given to the Contractor.

None of the foregoing staff shall be removed from their respective duties without the prior approval of the Contract Administrator. In the event of any of them being, in the opinion of the Contract Administrator and/or the Main Contractor, unsatisfactory or misconducting themselves, they shall be removed forthwith and be replaced by other suitably qualified to the Contract Administrator's satisfaction.

#### **1.38 HOURS OF WORKING**

The Tenderer shall include in their Tender for the difference in cost between the basic hours per week fixed by the National Agreement, and hours which they may agree with their operatives. The

Tenderer shall include for such hours of working as may be necessary to comply with the programme laid down and shall state the number of hours per week included in their Tender.

**1.39 OVERTIME**

Overtime shall be hours of work in excess of the basic normal working hours, as stipulated in the main contract documents and any specific amendments. Only where the Contract Administrator has specifically instructed in writing extra costs to be incurred in respect of overtime, shall the extra costs be included in the Contractor's account.

No addition of the contractor's Profit or Establishment Charges based on extra costs of overtime shall be made in the Contractor's final account.

All claims under this condition shall be recorded in triplicate and submitted weekly by the Contractor for signature by the Clerk of Works or other representative of the Contract Administrator. Such sheets shall show separately the actual hours worked and non-productive time.

**1.40 LABOUR**

The Contractor shall supply all labour necessary for the proper execution of the Works.

The Tenderer shall include in their price for any extra costs of importing labour (including higher rates of wages), travelling time, fares, subsistence, lodging facilities and payments in connection with the operation of bonus schemes, as well as the cost of non-productive overtime involved in executing and completing the Works.

**1.41 PARKING**

It should be assumed that car parking is available on site.

**1.42 TRADE CUSTOM**

The Contractor shall be responsible throughout the contract for ensuring that the trade custom and local practice is followed in the employment of the appropriate grade of operatives. Not more than one apprentice or semi-skilled mate shall be employed for each full rate tradesman.

**1.43 ROYALTIES**

The prices quoted by the Tenderer shall include any patent royalties which maybe legally expendable in respect of any articles, systems, processors or inventions included in their Tender.

The Tenderer in accepting the Contract shall accept full responsibility from all claims in respect of patent royalties.

**1.44 FACILITIES BY MAIN CONTRACTOR**

Welfare facilities normally provided by the main contractor shall be deemed to be included within the Contractor's Tender unless specifically specified otherwise in other Contract Documentation.

**1.45 FINISHES**

Where particular methods of finish and painting are not specified elsewhere, the following requirements shall be met:

- (i) All metalwork shall be adequately protected against corrosion and oxidation.
- (ii) All frames, cladding and the like, of mild steel construction shall be thoroughly cleaned to remove all scale, rust, oil and grease before painting, and treated with a rust inhibiting

solution. One coat of metallic primer shall then be applied followed by two coats of oil bound enamel paint to BS 381C, colour to be approved.

- (iii) Parts which are normally plated shall be heavily plated in hard chromium finish or parkerised, whichever is the more suitable. Cadmium or tin zinc plating will not be accepted.

#### **1.46 FINISHES' DAMAGE**

Any damage to finishes on equipment and plant after leaving the manufacturers' Work shall be made good immediately as follows:

- (i) Where a metal coating is damaged, it shall be cleaned to the parent metal and coated with a zinc rich epoxy (Armour 1527), or alternative approved by the Contract Administrator.
- (ii) Damaged areas of paint work shall be repaired locally by cleaning to bare metal repainted using the complete paint system previously applied.

#### **1.47 SITE PROTECTION**

Electrical equipment, or equipment with electrical component parts, shall be delivered to and stored on site with vapour-proof protection.

Equipment or component parts of equipment specifically designed to operate in normal room conditions, shall be delivered to and stored on site with a suitable waterproof protection.

Where a piece of equipment or an appliance comprises more than one part, the pieces shall be separately packed and be clearly identified on the outside with the manufacturer's name and component reference.

Particular care shall be taken to ensure that all factory applied finishes which are designed as visible finished surfaces, are adequately protected whilst stored on site.

Particular care shall be taken to protect component parts specifically designed to act as heat transfer surfaces. These surfaces all have purpose designed packing to protect them whilst in transit or stored on site.

Valve ports, pump inlets and outlets and similar equipment shall be completely covered to prevent ingress of foreign matter and flanges shall be additionally protected against damage to the flange surface.

#### **1.48 PROTECTION**

The Contractor shall be responsible for the protection of their work during and after erection.

#### **1.49 PACKING AND DELIVERY**

All packaging materials, delivery and unloading charges shall be included in the tender price.

All installation materials, component parts or complete items of equipment, shall be delivered and stored on site in boxes, crates or containers, suitably designed and constructed to give protection against transportation and handling damage. The packaging shall also be weatherproof.

All plant equipment and appliances shall be delivered with the manufacturer's name and a description of the contents on the outside of the packing.

All installation materials shall be packed and secured in a manner to avoid damage and facilitate the checking of quantities.

Materials and equipment shall be stored on site in a sequence to facilitate easy access.

All equipment and materials shall be delivered to site in accordance with the requirements of the programme.

It shall be the Contractor's responsibility to examine all materials and equipment, supplied under their Contract, on delivery to site. The Contractor shall replace, at their own cost, any such material or equipment which is damaged or faulty.

#### **1.50 DRAWING CO-ORDINATION**

The Contractor shall include for co-ordinating their own working drawings with those of the other Contractors, the major control and HVAC plant panel suppliers, the automatic controls supplier and any other suppliers' drawings which are relevant to the complete system. They shall ensure that these drawings are compatible and correctly annotated and cross-referenced at the interfaces.

#### **1.51 INSTALLATION WORKING DRAWINGS**

The Contractor shall, before the relevant work proceeds, prepare and submit for the approval by the Contract Administrator/Engineer detailed installation working drawings based on the Contract Drawings. They shall take into account any modifications either to the building or the installation which may have taken place, incorporating details of the actual items of plant and equipment to be installed.

The Contractor shall similarly prepare all necessary schedules of equipment, and necessary wiring diagrams, including internal diagrams for items of electrical equipment and diagrams showing the interconnections between different items.

It shall be the responsibility of the Contractor to verify the accuracy of all dimensions abstracted from the Architect's/Engineer's drawings in the preparation of the installation working drawings.

Installation working drawings shall be prepared by the Contractor and submitted to the Contract Administrator for approval in duplicate, allowing sufficient time for the approval process without affecting the Contract Programme. Such approval shall not relieve the Contractor of the responsibility for the accuracy of installation details, discrepancies, errors or omissions. Any required amendments shall be carried out by the Contractor at their sole expense and the drawings resubmitted to the Contract Administrator/Engineer for approval.

The drawings required shall include the following:

- (i) Builders Work Drawings  
fully dimensioned showing plant bases, floor ducts, floor chases, sumps, drains all holes in the structure, horizontal and vertical enclosures and other information that may be required and mentioned elsewhere within the Specification.
- (ii) Detailed Engineering Drawings  
fully dimensioned for all Electrical Switch Rooms and Equipment Rooms, Boiler Rooms, Calorifier Rooms, Ventilation Plant Room, Tank Rooms and all other areas having engineering plant and which form part of this Contract.
- (iii) Ductwork Manufacturing Drawings  
fully dimensioned and detailed showing all plain and reinforced cross joints either socket and spigot or angle flanged, bend radius, tees, turning vanes, expansions, contractors, splitters, branches, dampers fire/smoke/regulation, supports etc., all designed in accordance with the relevant Section of the Specification.

- (iv) Pipework Fabrication Drawings  
provided where it is necessary to pre-fabricate sections of pipework off-site and shall be fully dimensional.
- (v) Wiring Diagrams  
provided of all control panels, starter panels and remote equipment shall detail the diagrammatic layout with cable sizes and terminal references and circuit numbers, and panel facia layouts shall provide full information upon the face mounted equipment including isolation and door arrangements.
- (vi) Equipment Drawings  
provided for all items of plant and equipment, giving clear indication of electrical details and duties etc.
- (vii) PHE Drawings and Details  
fully dimensioned showing depths and "cuts" of trenches, positions of all holes through ground beams, footings, walls, floor slabs, balconies and roofs, together with details of all air vents and rainwater outlets through roofs, location and size of all access panels and fixing details for all pipework and traps etc.  
  
fully dimensioned drawings of all cold-water mains, cold water down services, hot water secondary services, overflows, soil and waste pipes, sprinkler pipework and dry risers.
- (viii) Electrical Drawings and Details  
fully dimensioned showing panel layouts for LV, Switchgear, wiring diagrams of Specialist systems, fire alarms, call and communication systems, cable tray routes and layouts indicating the method of installation of cables as per Table 4A of the IEE Regulations, trunking routes detailing sizes and percentages capacity of cables within trunking.

All working drawings issued by the Contractor shall take into account any modifications to the building or to the installations which may have taken place and shall be correctly related to the detail of the actual items of equipment and plant to be installed.

## **1.52 DRAWINGS, MANUALS AND SAMPLES**

The cost of all drawings, manuals and samples prepared and supplied by the Contractor shall be included in the tender price.

Layout, construction and installation drawings shall be drawn on A1 sheets and details may be produced on A4 sheets. In addition to the project title and the Architect's and Engineer's name and address each drawing shall include the Contractor's name and address, a unique drawing number, drawing title, scale and date.

All technical approvals and appraisals shall be in writing, and the Contractor in their programming shall allow a minimum period of twenty-one days, or an otherwise agreed period, for such approval or appraisal of drawings and samples. Equipment shall not be ordered before drawings have been approved.

Where drawings are submitted for appraisal or technical approval a minimum of three copies of each drawing will be required. Only one copy will be returned with comments.

If additional noted copies are required, the Contractor shall be responsible for marking up the necessary copies.

In the event of non-approval of the original submissions, the Contractor shall allow an additional fourteen days in their programme for re-submitting the drawings.

After appraisal or technical approval has been given and before any items are despatched, complete sets of all drawings, as approved or revised to meet approval requirements, shall be distributed via the Main Contractor to the Architect/Engineer.

ALL Architects', interior designers' and structural drawings must be carefully examined before the Contractor completes their working drawings.

### **1.53 MANUFACTURER'S DRAWINGS**

The Contractor shall, prior to the placing of orders, forward to the Architect/Engineer, manufacturer's drawings indicating the principal dimensions and operating all-up weight of the items of plant and equipment.

All installation drawings shall be provided and submitted for approval in duplicate allowing sufficient time for the approval process without affecting the Contract Programme. Upon return of the approved information, any modifications shall be made and (6) copies forwarded for distribution.

### **1.54 DUCTWORK DRAWINGS**

The Contractor shall, prior to commencing manufacture, submit to the Architect/Engineer for technical appraisal manufacturers' shop drawings of the ductwork to be supplied and erected under the terms of the Contract to a scale of not less than 1:20.

Ductwork shop drawings shall indicate the length of each duct section, the internal dimensions of the bare sheet steel, dimensions of bends and fittings, location of stiffeners and supports and shall dimensionally locate the ducts in relation to the supporting or any adjacent structure.

### **1.55 AUTOMATIC CONTROLS DRAWINGS & WIRING DIAGRAMS**

The Contractor shall include for producing plant schematics showing the control layout, with each item identified, and including a brief description of the controls operation and associated interlocking.

The Contractor shall include for producing logic sequence and wiring diagrams, showing the connections of all items of electric control equipment and interlocking details as defined on the plant control schematics.

#### Switchgear, Starter and Control/Instrumentation Panels

The Contractor shall provide mechanical drawings showing the construction, external and internal layouts of panels and widths diagrams comprising internal wiring, schematics of interlocking and external wiring diagrams, for the complete systems in the panels. The drawings shall also show all pipework and capillary connections from the panels to external equipment.

#### Progress Drawings

The Contractor shall arrange for a full set of white prints of installation drawings to be kept on the site showing the progress of all work in connection with the Contract. Such prints shall be kept up to date and all conduit, cable, pipe, trunking and duct runs, positions of equipment and apparatus shall be recorded on the drawings as they are installed.

The progress drawings shall be available for inspection at any time by the Contract Administrator or their appointed representative.

The Contractor shall include for their representative to keep a diary recording the progress of the works and details of all instructions received. The diary shall be at the disposal of the Contract Administrator/Engineer as and when required.

**1.56 CO-OPERATION WITH OTHER TRADES**

The Contractor shall acquaint themselves with the general arrangements of all services and ensure that in fixing their work it will not obstruct the fixing or future maintenance of any other services. They shall fully co-operate with all other trades and take all other reasonable precautions to ensure that their progress does not impede the progress of others.

**1.57 SETTING OUT**

The positions of equipment etc., indicated on the drawings, are given for tendering purposes and the exact position will be decided during the Contract period. The Contractor's price shall include for any minor modifications that may be necessary.

The Contractor shall allow for setting out and shall be responsible for the correctness of the positions, levels and dimensions of the whole of their works on site.

The Contractor shall be responsible for taking all their own dimensions on site, checking runs and levels and marking out for builder's work and shall allow for such in their tender.

Any unnecessary work carried out by the Main Contractor due to inaccuracy of the Contractor's drawings, dimensions, or marking out shall be paid for by the Contractor.

Where detailed drawings do not form part of this Specification, the Contractor shall ensure that the setting out of plant and equipment permits it to fit into the space allocated and allows access for maintenance and replacement purposes.

**1.58 SETTING OUT SUB-CONTRACT WORKS**

The Contractor will be responsible for the setting out of the sub-contract works.

All setting out and site measurement shall be carried out for the erection of all materials on site, making any modification in detail as may be found necessary during the progress of the Works, submitting any such modifications or alterations in detail to the Contract Administrator before proceeding and must allow in their Tender for all such modifications and for the provision of any drawings related thereto.

**1.59 BUILDERS WORK**

The Contractor will be responsible for providing all builders work in association with the installations.

Drilling and plugging of walls, floors and ceilings for the fixing of equipment shall be carried out by the Contractor, who will be held responsible for any damage to the fabric of the building. The Contractor will provide and install all necessary fixing points, i.e. 'noggins' in whatever quantity and material is required to suit the particular item of equipment to be secured, whether it be suspended from the ceiling, bolted to the wall or floor.

The methods adopted shall be agreed by all other interested parties, but in general will be applied as follows:

- (a) Where builder's work is to be formed, drawings shall be provided.
- (b) Where builder's work is to be cut, it shall be marked on site.

The Contractor shall be responsible for the accuracy of the information they provide and shall be liable for the cost of correction of any errors in such information they provides.

All builders' work drawings shall be submitted to the Contract Administrator for approval before issue to site. Notwithstanding the Contract Administrator having given approval to proceed, this shall not absolve the Contractor of their responsibility in Contract to ensure that the detail given is correct.

The Contractor will be responsible for all unloading, loading, storage and craneage.

#### **1.60 LOCAL REGULATIONS, NOTICES, FEES**

The Contractor shall conform to the provisions of all relevant Acts of Parliament, Building Regulation, British Standards, IEE Regulations, British Gas Regulation, the Regulations and Bye-Laws of any Local Authority, Fire officer or Insurance Office, the requirements of the Health and Safety at Work Act, and all other relevant requirements.

The Contractor shall be responsible for giving all necessary notices and for payment of all fees due to Local and Statutory Authorities.

#### **1.61 SATISFACTION OF AUTHORITIES**

All parts of the installation shall, where applicable, be to the complete satisfaction of the Architect/Contract Administrator, all Local Authorities, all Statutory Authorities and Fire and Petroleum Officers, and shall be in strict accordance with all bye-laws, rules and regulations of such authorities.

#### **1.62 PUBLIC UNDERTAKINGS**

The Contractor shall ensure that, where applicable their work and any materials used in the execution of the works in accordance with this Specification, comply with the requirements of the particular supply undertaking.

The Contractor shall, where necessary to comply with regulations, inform the supply undertakings of the proposed works and to obtain from them any written approval that may be required.

The Contractor shall make any arrangements that may be necessary to allow the connection of the new works to the undertaking's supply network. All costs shall be allowed for in their Tender.

The Contractor shall submit to the supply authority any materials for testing that the undertaking may require. The Contractor shall provide the Architect/Contract Administrator and Main Contractor with a copy of all correspondence, test certificates etc., in connection with the above.

#### **1.63 TV INTERFERENCE**

All apparatus, where the normal operation is such that interruption of low frequency or direct electric currents occurs, shall be fitted with means for suppressing the radio and TV interference frequencies so caused.

#### **1.64 RADIO INTERFERENCE**

The equipment and methods to be used in determining the level of radio interference shall be as specified in BS 727 and the limits of interference shall in all cases be those specified in BS 800: Part 1.

#### **1.65 COMMON FITTINGS**

Any items, fittings or accessories which are used in quantity, shall in each case be the product of one manufacturer and shall be used only for the service recommended by that manufacturer.

**1.66 ASBESTOS**

The Contractor shall ensure, prior to commencement of work, that the locations of any existing asbestos products that may be affected by the Works have been identified and that the Contract Administrator has been fully notified.

Initial inspection, however, may not reveal all asbestos materials present, so it is important that during the course of the Works the Contractor is vigilant and if any subsequent asbestos is discovered they stop work in that area immediately and the Contract Administrator is informed so that the correct action can be taken. Any effect on the Contract Programme will be taken into consideration.

The contractor must at all times be aware of their responsibilities under the Health and Safety at Work Act.

**1.67 NOISE AND NUISANCE**

Noise shall be reduced to a minimum, particularly when working adjacent to occupied areas.

Smoking or the playing of radios and tape machines is not permitted in any area of the site.

Compressors, percussion tools and motors shall be fitted with effective silencers as recommended by the manufacturer.

The Contractor shall fully conform to all current noise legislation restricting noise from building sites. In particular the Control of Pollution Act 1974, Sections 60 and 61.

**1.68 SAFETY OF INSTALLATION**

The Contractor shall fully conform to current legislation concerning safe working both during the installation, commissioning and handover. In particular The Health and Safety at Work (Etc.) Act 1974.

**1.69 VARIATIONS TO SPECIFICATION**

The Tenderer must include with their tender, details of all variations from the equipment, materials, installation, performance and operation as specified.

**1.70 RECORD DRAWINGS**

Two weeks before completion and before the final account can be agreed and any retention released, the Contractor must provide record drawings of sufficient scale and not less than the scale of Tender drawings and produced in AutoCAD Release 2002 with a 3½" disk or CD issued to client together with hard copy and one set to the consulting engineer.

These drawings shall show in sufficient detail the precise installation installed including all amendments and variations.

These drawings shall be submitted in print form for approval, after which good quality film negatives and four sets of prints shall be handed to the Contract Administrator in addition to computer disk.

At the distribution point, a framed schematic drawing within a plastic over film will be provided by the Contractor. The "as installed drawings" shall:

- (i) Fully indicate diagrammatically each individual electric air and water system, locating all plant and equipment.
- (ii) Show major items of plant system controls.

- (iii) Indicate plant room layouts, with sections, to a scale of not less than 1: 20
- (iv) Fully indicate with accurate dimensions, the sizes and positions of all plant, equipment, cables, pipes, ductwork, etc., together with all inspection points. Each service shall be clearly identified.
- (v) Provide wiring diagrams of control panels, including thermostatic control wiring, motor control and interlocking wiring
- (vi) Fully indicate with accurate dimensions, the sizes and positions of all plant, equipment, pipes, ductwork, conduits, trunking, underfloor ducting, cable tray, and cable together with all inspection points and cable joints. Each service shall be clearly identified.
- (vii) The complete symbol notation used for all record drawings shall be shown on a separate drawing. The symbols used for individual record drawings shall be identified on each drawing.
- (viii) The preparation of the record drawings shall proceed during the installation of the works as each section is completed. The Contract Administrator shall be allowed to inspect these drawings on request during their preparation.
- (ix) On completion of each drawing it shall be modified as necessary for the Contract Administrator's/Engineer approval.
- (x) In addition to the provision of the above record drawings the following shall be framed under glass and hung in Plant Rooms:
  - (xi) Plant room record drawings showing all plant items, with numbers, locations and duties.
  - (xii) Control Schematics of complete installation.

#### **1.71 MAINTENANCE AND INSTRUCTION MANUALS**

At the same time as the record drawings, the Contractor shall provide the Contract Administrator with four copies of the Maintenance and Instruction Manual covering the following:

- (i) Index of record drawings.
- (ii) General description of systems.
- (iii) Setting up and operating instructions for all equipment and systems installed.
- (iv) Control sequence for all systems installed.
- (v) The scheduled details of all equipment settings and actual valves maintained in controlled variables during commissioning.
- (vi) Frequency and details of routine maintenance requirements
- (vii) Manufacturers' literature, including detailed drawings and electrical circuit details, printed operating and maintenance instruction, for all specific items of equipment and plant supplied under this Contract.

- (viii) Schedules of all equipment and plant stating their locations within the building, duties and performance figures. Each item of equipment shall have a unique code number, cross-referenced with the record drawings. The manufacturer's name and address and telephone number for every item of equipment and plant shall be listed in the manual together with catalogue list numbers for replacement purposes.
- (ix) Diagrammatic drawings of each system indicating the principal items of plant and equipment with the number code of each item indicated.

The diagrammatic drawings shall:

Fully indicate with accurate dimensions, the sizes and positions of all plant, cables, equipment, pipes, ductwork etc., together with inspection points. Each service shall be clearly identified.

The manuals shall be encased in A4 size, plastic covered loose-leaf ring binders, with hard covers. Drawings larger than A4 shall be folded and accommodated in the binder so that they may be unfolded without being in any way detached from the rings.

The maintenance and instruction manuals shall be prepared in draft as soon as the working drawings are in hand.

Two temporary manuals with provisional record drawings shall be made available at least one month before practical completion to enable Client's staff to familiarise themselves with the installation. These should be of the same format as the final manuals with temporary insertions for items which cannot be finalised until the works are completed and tested.

Attention is drawn to the fact that the works will not be accepted as complete and that final payment will not be made for the works until the manuals have been accepted by the Contract Administrator as being satisfactory.

## **1.72 OPERATION OF PLANT PRIOR TO COMPLETION**

The Main Contractor shall be at liberty to require the Contractor to operate the installation or complete portions thereof before the date of completion. Such operation shall not reduce the Contractor's responsibility for handing over the works in good condition on the date of practical completion, fair wear and tear accepted. Should the Contractor be so required to operate the installation or part thereof, they shall be entitled to reimbursement by the Main Contractor unless otherwise stated in the Specification.

The Tenderer shall allow in their tender for the attendance on and operation of, the whole plant for the purposes of performance testing after commissioning.

Prior to the practical completion of the installation the Client will be appointing an Engineer/Engineering Staff to undertake the operation and maintenance of the building services installation. The Contractor shall include for any necessary assistance to the Client's staff during the course of the installation to explain the purpose or function of the works.

The Contractor shall include for 2No. operating days prior to practical completion, to instruct the Client's Engineer/Engineering Staff in the day to day running of the plant and systems. The location and function of all items listed on the record schedules shall be explained and the procedures for starting up, shutting down, isolating sections etc., shall be comprehensively explained and demonstrated to the Client's satisfaction.

**1.73 COMMISSIONING**

The Contractor shall include commissioning the works so that they are in operational order before the Contractor submits in writing a request for inspection by the engineer and subsequent certification of practical completion.

The results of all commissioning, as well as manufacturers' equipment commissioning results, shall be forwarded to the Contract Administrator preferably prior to practical completion, if not, no longer than 7 working days after the said practical completion. The Contractor shall be prepared to demonstrate to the Contract Administrator or Employer, the validity of commissioning results at the Contract Administrator's reasonable request.

**1.74 SETTING TO WORK**

The Contractor shall arrange for a competent Engineer to attend site for a full day, 24 hours prior to the handover of the Works to the Employer and shall on that day rectify any faults and instruct the Employer in the operation of the plant.

The Contractor shall ensure that the aforesaid Engineer is fully conversant with the whole of the installation and competent to carry out adjustments and repairs to any part of the installation as may be necessary.

In addition to the foregoing, the Contractor shall be in attendance and a competent engineer of each specialist Sub-Contractor employed by them in connection with any section of the works.

**1.75 FORM OF WARRANTY**

The Tenderer will be expected to complete and sign the Standard Form of Warranty, in respect of the works, immediately following certification that the works are complete.

**1.76 DATE OF PRACTICAL COMPLETION**

The date of practical completion under the Contract shall be the date of practical completion agreed for the Main Contract, provided that the Contractor shall have previous to that date"

- (a) Made, in the presence of the Contract Administrator, the tests specified or required by them.
- (b) Received a certificate from the Contract Administrator that the Works are satisfactory.
- (c) Handed to the Contract Administrator four copies of Operating and Maintenance instructions covering all plant and apparatus comprising the Works which, prior to their final submission, shall have received the Engineer's approval.
- (d) Instructed the Employer's staff in the use and correct operation of the installation in accordance with the programme to be agreed with the Engineer.

**1.77 FINAL ACCOUNT**

On completion of the installation, the Contractor shall submit their final account based on the accepted figure with amendments as follows:

- (a) Omission of the Provisional Sum and Prime Cost Sum, together with handling charges.
- (b) Addition of Prime Sums incurred during the Contract, and Provisional Sums expended in whole or in part.
- (c) Addition or deletion of the sums relating to Variations to the Contract.

(d) Addition of sums incurred through Day Work or non-productive overtime.

**1.78 CDM REGULATIONS**

The Contractor's attention is drawn to the "Construction (Design and Management) Regulations 2015" The Contractor shall provide complete information as required for proof of their compliance with these Regulations. In particular, record drawings shall be comprehensive and indicate to Owner/Tenant all cable, conduit, pipe and duct routes so as to ensure accidental contact with any service run is avoided.

**1.79 SPARE PARTS**

The Contractor shall submit a schedule of the spare parts that they recommends should be supplied, together with their individual prices. The parts list submitted shall be for component parts over and above consumable spares carried for routine maintenance, included elsewhere in this Specification.

**1.80 MAINTENANCE DURING DEFECTS LIABILITY PERIOD**

The tender shall include for any normal service and maintenance required during the defects liability period on all plant and equipment supplied under the Contract and submit an annual cost for service and maintenance from year 2 onwards.

**1.81 RETENTION**

A 5% retention will be applied to all Interim Payments, 2½ % of which will be released on completion of the Project including supply of As Installed Documentation and Manuals.

## **SECTION 2.0**

### **STANDARD CLAUSES**

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## **2.0 STANDARD CLAUSES – ELECTRICAL**

### **2.1 GENERAL STANDARDS**

All work and materials used within the works shall comply with all relevant British Standards and Codes of Practice. Only the highest standard of work will be accepted, and the Contractor's attention is drawn to producing an end product of the highest standard.

This standard section is to be read in conjunction with Specific Clauses, Section 3.0.

- a) The current edition of BS 7671 Requirements for Electrical Installations.
- b) National Joint Utilities Group Publication No. 1, 2 and No. 6.
- c) All relevant British Standards and Codes of Practice.
- d) CIBSE Guides including Testing and Commissioning.
- e) CIBSE Codes of Practice.
- f) District Surveyor's and Fire Officer's requirements.
- g) Health and Safety requirements.
- h) Construction Design & Management Regulations (2007).
- i) The Building Regulations.
- j) Regulations under the Offices, Shop and Railway Premises Act.
- k) BS EN 62305 Protection against Lightning.
- l) BS 5266 Emergency Lighting Code of Practice.
- m) BS 5839 Fire Detection & Alarm Systems for Buildings.

### **2.2 INFORMATION**

The Electrical Contractor shall be deemed to have examined the Site, the Conditions of Contract, the Specification Schedules, Drawings and Plans. If all particulars required cannot be obtained from this examination, application for information shall be made to the Engineer. The Electrical Contractor shall have no claim because of want of knowledge in any respect of the Contract.

### **2.3 ELECTRICAL BOARDS**

To comply with the requirements of Part L of the Building Regulations all electrical switch boards, panel boards and distribution boards shall be fitted as detailed in section 3 of this specification with multi-function electronic pulsed output meter, which should be able to display as a minimum the following: volts, amps, kW, kWhr, Kva and power factor.

All boards including Panel boards, Distribution boards & Consumer units shall be fitted with Surge Protection Devices, integral to the board or if not possible mounted externally in a suitable enclosure.

### **2.4 CONDUIT**

All metal conduits, without exception, shall be hot dipped galvanised finish complete with proprietary boxes and accessories all galvanised finish. All surface conduit work will be on hospital type spacer bar saddles. All conduit entering a wet area or feeding a fitting below slab level shall have the ends sealed with silicon rubber sealant to make the seal waterproof.

## **2.5 CABLE SECURING**

Particular emphasis is drawn to the use of plastic cable ties which shall not be used to secure cables to cable tray, ladder rack or building structure. Purpose made proprietary cleats are to be used at all times. Occasionally permission is given for use of ties, in which case they must be 10 mm wide minimum. Their use must be agreed in writing with the Contract Administrator.

## **2.6 NAMED MANUFACTURERS**

The Contractor shall base his detailed design on the manufacturers named elsewhere in this specification. Where alternatives have been given, the manufacturer chosen shall be clearly stated and cost implications given.

## **2.7 AESTHETICS**

The Contractor shall ensure that the entire electrical installation is installed as neatly as possible. It is intended that no conduit and cable runs should be visible. Back entry shall be employed wherever possible.

## **2.8 LABELLING**

The Contractor shall be fully responsible for labelling all plant and electrical panels to easily identify size and number of cores and methods of wiring. All labels, including distribution board labelling, shall be on Traffolite labels screwed to the metalwork. Self adhesive labels will not be allowed.

Every lighting switch, SSO, fused spur outlet and isolator shall be provided with an engraved black/white/black "Traffolite" label screwed adjacent to the outlet showing circuit reference and distribution board number.

At the distribution point, a printed laminate board shall be provided showing all ways, MCB sizes etc.

All distribution boards shall be provided with a framed circuit chart giving details of circuit, including phase, size of MCB, size of cable, description and exact location of equipment being served. All charts to be mounted beside distribution boards.

All PVC/SWA/PVC cables will be labelled at each end with a white/black/white "Traffolite" label engraved with details of cable size, number of cores and destination.

## **2.9 FIREBREAKS**

Where building services pass through fire compartmentation walls or floors, including sleeves or electric cables, the Contractor shall install the following compounds to maintain the integrity of the firewall:

Quelfire QF1        -        for all cables

Quelfire QF4        -        for pipework installations

or equal and approved.

## 2.10 OUT OF HOURS WORKING

It is not anticipated that out of hours working will be required and therefore normal working hours will apply.

## 2.11 FIRE ALARM SYSTEM

This Specification and associated drawings are a performance design for the Fire Alarm Installation and has been designed in accordance with BS 5839. This system design must be ratified by a LPS 1014 or BAFE SP203 certified firm and the equipment supplied and installed by the same LPS 1014 or BAFE SP203 certified firm.

As part of this work an LPS or BAFE 'Certificate of Conformity' must be issued on completion, certifying that the fire detection and fire alarm system was designed, installed and commissioned in accordance with these installation rules and ensures that this system is recorded as a certified system.

The system shall be installed using one of the preferred cabling systems "**MICC**" or "**Enhanced Soft skin Fire Resistant Cable**". Should the contractor wish to use an enhanced soft skin cable then acceptable alternatives to MICC are "**Draka UK - Firetuf Plus Enhanced**" or "**Pirelli - FP Plus**" if these cables are used then they must be installed following fully the manufacturers installation instructions paying particular attention to the bending radius.

## 2.12 MICC CABLING

All mineral insulated cables (MIC) shall be manufactured in accordance with BS 6207: Part 1 1995 which implements HD586.1 S1: 1994 and when required shall be provided with an LSF outer covering of appropriate colour.

All mineral insulated cable used shall be 750v heavy duty except fire alarm cabling which shall be 500v light duty, both shall be of one manufacturing origin.

All cable shall be BASEC Type Approved and the manufacture's Quality management system shall be certified to BS EN ISO 9002: 1994.

The fire performance of cables shall comply with BS6387 Category CWZ, all of the three tests having been carried out on the same test sample.

The cable shall be secured using copper or LSF coated clips and saddles, as appropriate. The fixing distances shall be in accordance with the manufacturer's recommendations.

### Terminations

Terminations, Glands and seals shall be manufactured by the cable manufacturer, and shall comply with BS6207 Part 2 1995, which implements HD 586.2 S1: 1994.

Any terminating tools shall be made by the same manufacturer as the cable.

The process of stripping the cable sheath and sealing of the cable shall be undertaken by skilled and proficient tradesmen and shall comply with the cable manufactures instructions.

The seal shall be selected to satisfy the type of installation and ambient temperature.

Where cables terminate at accessory boxes located flush in plaster finish, earth tail seals may be used instead of glands.

Gland threads shall be of the standard ISO Metric conduit thread, sized to suit the cables.

Where LSF covered cable require glands, they shall be protected with the appropriate size and colour LSF shroud. In environments corrosive to copper any exposed cable sheath and the gland shall first be covered by wrapping with pressure sensitive insulating tape.

Each conductor tail shall be long enough to connect to the terminals of the equipment.

Compression connectors shall be of a type which has been Type tested to BS 4579: Part 1 or Part 2 as appropriate using the correct dies and compression tools which shall be so designed that the correct compression must be applied before it can be released.

#### Installation Procedure

The Electrical Contractor shall ensure that his operatives are fully conversant with and are skilled in the installation of MI cables.

All bends shall be neat and uniform and their radius shall not be less than six times the diameter of the cable.

Where cables are buried direct in, or covered by concrete, LSF covered cable shall be utilised.

Straight through joints will not be permitted unless the length of cable run is excessive, in which case the manufactures standard through joint shall be used.

After both ends of the cable have been terminated, the cable shall be subjected to an insulation test 24 hours later, when the reading should be at least 100 megohms. The dc voltage applied should be selected in accordance with BS 7671 (IEE Regulations for Electrical Installations).

When circuits containing inductive components are switched, high transient voltages may be generated. To ensure that the installation complies with the compatibility clauses of the BS 7671 (IEE Regulations for Electrical Installations), it may be necessary to connect a suitable surge diverter to the terminals of the inductive component.

All MI cables are to be rolled before being clipped

### **2.13 ENHANCED FIRE RESISTANT CABLES**

All Enhanced soft skin fire resistant cable must meet the requirements of the construction standard BS7629-1, certified by BASEC and also meets the 'enhanced' requirements for fire resistance in BS8434-2, certified by LPCB. It shall be suitable for all 'enhanced' applications described in BS5839-1,6,8 & 9 and BS5266-1.

#### Construction

Manufacturing standard: - BS 7629-1

Conductors: - Solid or stranded plain annealed copper wire (class 1 or class 2) to BS EN 60228

Conductor (earth): - Solid or stranded tinned annealed copper wire (class 1 or class 2) to BS EN 60228

Insulation: - Enhanced silicone rubber

Binder: - Enhanced close weave glass tape

Electrostatic Screen: - Enhanced aluminium/polyester laminated tape

Sheath: - Enhanced thermoplastic Zero Halogen, Low Smoke (OHLS®)

Sheath colour: - Red

#### Physical Characteristics

Voltage rating: - 300/500V

Operating temp: - (-20°C to 70°C)

(the cable should not be installed when either the ambient or cable temperature is below 0°C)

Min, bending radius: - 6 x overall diameter of cable

Current rating: - Refer to tables 4D2A & 4D2B in BS7671

#### Performance Characteristics

Circuit integrity: - BS 5266-1:2011 Clause 8.2.2(b) Enhanced, BS 5839-1:2013 Clause 26.2(e) Enhanced, BS 6387 C, W & Z, BS 8434-2:2003+A2:2009, BS EN 50200 PH120

Flame propagation: - BS EN 60332-1-2, BS EN 60332-3-24

Smoke emission: - BS EN 61034-2

Acid gas emission: - BS EN 60754-1

### **2.14 CABLE TRAYS, TRUNKING AND LADDERACK**

Trunking shall be return edge, hot dipped galvanised finish and of heavy gauge variety, supported at maximum 1.0m centres and sized to give a maximum of 40% occupancy. All accessories shall be similarly finished. Trunking routes shown on drawings are indicative only. Additional runs of trunking may be required to facilitate cable installation. The Contractor shall allow within his Tender for all additional trunking as required. Tray shall be heavy duty return flange supported at maximum 1.0m centres and sized to give a maximum occupancy of 80%.

### **2.15 EMERGENCY LIGHTING**

Emergency lighting is to be integral within the main fitting. Individual emergency lights will be unacceptable except for illuminated emergency exit signs. Where possible all emergency packs shall be incorporated within the general lighting fittings. For ease of maintenance all emergency fittings shall be of the self testing type complete with a buzzer that sounds under fault conditions. All batteries are to be of a minimum 3 hour duration with a minimum life of 5 years and are to be charged and fully discharged at least twice before handover. All fittings shall use LED light sources.

Note: \*An 'asterisk' or 'E' beside or in the lighting fittings reference indicates fitting supplied by 3 hour ICEL. Emergency Invertor Pack suitable for size and make of luminaire. If remote Invertor packs are required they shall not be surface mounted adjacent to the fitting.

### **2.16 LAMPS**

All fittings shall use LEDs as the light source, no other light source is acceptable

All LEDs shall have a good colour rendering index of between 85-90 ( $R_a$ ) and a colour temperature of between 3000K - 4000K.

## **2.17 COMMISSIONING AND TESTING**

All tests as outlined in the BS7671: Regulation for Electrical Installations shall be carried out.

The following tests should not be considered the only requirement. All other relevant tests and commissioning shall be carried out by the Electrical Contractor or additionally as directed by the Engineer at no extra cost.

Tests shall include continuity, insulation resistance, and earth fault, and loop impedance, operation of residual current devices, polarity, correct phasing, and phase balance.

On completion of tests and commissioning a completion certificate shall be issued by the Contractor.

The Contractor shall display at the main switchgear the recommended date for periodic inspection.

## **2.18 ATTENDANCE ON COMPLETION**

On the day of completion the Contractor shall arrange to have an engineer on the premises to attend to any faults which may occur. The engineer shall be fully conversant with the electrical installation and shall be equipped with tools and materials to carry out any remedial works which may be necessary.

## **2.19 COMPLETION CERTIFICATE**

At the end of the Contract the Contractor shall provide a fully documented and signed completion certificate, of a similar type to that illustrated within the IEE Regulations.

## **2.20 AS INSTALLED DRAWINGS**

Before completion and before the final account can be agreed and any retention released, the Contractor must provide "as installed" documents as further detailed in section 1 of this specification at a scale not less than that of the Contract drawings or less than 1 : 100, whichever is larger.

These drawings shall accurately show, in detail, the final as installed installation, including all amendments and variations.

These drawings shall be submitted in print form for approval, after which AutoCAD (dwg's) on CD and two sets of prints shall be handed to the Client and one set of disks to the Consulting Engineers.

At the main intake and at all distribution boards, a framed schematic drawing within a plastic overfilm will be provided by the Contractor, showing the full extent of the work in schematic form. Alternatively, a printed laminate board can be provided.

## **SECTION 3.0**

### **SPECIFIC ELECTRICAL CLAUSES**

### **Section 3.0 - Specific Electrical Clauses - Table of Contents**

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### 3.0 SPECIFIC ELECTRICAL CLAUSES

The Contractor shall note that the following comprises the Consulting Engineers **Performance Specification** for the electrical services works associated with the development at Battle Pavilion.

These specific clauses shall be read in conjunction with the standard clauses in section 2 of this specification as appropriate.

### 3.1 DESCRIPTION OF WORKS

The Works covered by this Contract comprise the design, supply, & installation of the following:

- Design, supply & installation of Modifications to the electrical supply intake.
- Design, supply & installation of Distribution boards.
- Design, supply & installation of Sub Main cabling.
- Design, supply & installation of Lighting.
- Design, supply & installation of Lighting controls.
- Design, supply & installation of Small Power.
- Design, supply & installation of Fire Alarm system.
- Design, supply & installation of CCTV system.
- Design, supply & installation of Security System.
- Design, supply & installation of Data Cabling system.
- Design, supply & installation of Photovoltaic System.
- Design, supply & installation of supplies to Mechanical services
- Design, supply & installation of Lightning Protection
- Production of fully detailed Design with drawings
- Production of detailed Installation Drawings (see Clauses 1.51 & 1.52)
- Production of As installed Record Drawings & Manuals (see Clause 1.70 & 1.71)

### 3.2 SPECIAL CONDITIONS

The Contractor shall note the following & make allowance within his Tender for these restrictions:

- (i) The works **will be carried out** in normal working hours.
- (ii) The works may be carried out in phases.
- (iii) **Allowance shall be made** for any temporary electrical supplies that are needed.
- (iv) The contractor shall note that these works shall fully comply with **BS 7671:2018** Requirements for Electrical Installations which came into effect on **1st January 2019**.

For more general conditions related to working arrangements, restrictions on working methods, phasing & contract programme refer to the Clients Contract Conditions.

### 3.3 QUOTATIONS / 3<sup>RD</sup> PARTY SPECIFICATIONS

When reference is made in this Specification to quotations or 3<sup>rd</sup> party specifications, the Contractor shall check with the quotation originator & satisfy themselves that the quotation/3<sup>rd</sup> party specifications fully covers the requirement as set out in this Specification, as **no claim** will be entertained after Tender for any omission which may have been made. It should be noted the Specialist quotations/3<sup>rd</sup> party specifications may not have been based on the latest information. All final measurement, quantities & spec requirements are the responsibility of the Electrical Contractor.

### 3.4 SYSTEM OF WIRING

All wiring system shall be wired using the appropriate cable as detailed below, contained within galvanised conduit, trunking, ducts or on cable tray / basket as appropriate.

- All wiring shall be in the new harmonised colours.
- Sub Main distribution cables shall be XLPE/SWA/LSF.
- External supplies shall be fed using XLPE/SWA/LSF.
- Final circuit cabling shall be LSF singles run in conduits & or trunking. All power wiring unless stated shall be a minimum size 2.5mm<sup>2</sup> & lighting wiring a minimum size 1.5mm<sup>2</sup>
- Fire alarms where required shall be wired in Red DRAKA FIRETUF PLUS enhanced cable.
- Comms, Access Control cabling shall be LSF.

The Contractor shall allow for all necessary cable containment together with elbows, bends, & suspension rods required providing a complete & comprehensive continuous wiring system.

The contractor shall also be aware that **detailed installation drawing must be provided** for all parts of the installation to confirm routes of trunking/cable tray runs, cable/conduit drops etc (see Clauses 1.51 & 1.52).

No cabling or containment will be able to be installed without prior sign off/agreement from the Architect/Consultant. **Any works installed without sign off/agreement** shall be re-run/relocated at the contractor's expense with no cost to the contract.

### 3.5 EXISTING ELECTRICAL INTAKE

The contractor shall allow for the design, supply & installation of Modifications to the existing electrical intake supply to the premises. The contractor shall be responsible for design & Liaisons with the utility company (DNO) to reposition the intake head to suit the new intake room.

As part of the electrical installation PV panels will be required. If during the contractors design the PV panel requirements change this revised information may need to be provided to the DNO & a new supply application may be required.

### **3.6 DISTRIBUTION BOARDS**

The Contractor shall, design, supply & install all Distribution Boards. All Boards shall be Type B 3 phase & shall have lockable doors. All Boards shall be provided fully furnished with appropriate MCB' s, RCBO' s & blanks in unused ways. All Boards to be identified with permanent "typed" style labels fixed to the Front Door.

All Boards shall be fitted with a suitably sized (class 1, 2 or 3) Surge Protection Device.

All final circuits (unless noted otherwise) including lighting are to be protected by an RCBO taking up a single way in the distribution board.

To comply with the requirements of part L of the Building Regs all distribution boards shall be fitted with multi-function electronic pulsed output meter, capable of displaying as a minimum the following: volts, amps, kW, kWhr, Kva & power factor. small power.

#### Distribution Board locations

- Electrical Switchroom (Rm No3 Store).

All Distribution Boards shall from Hager Ltd, Hortonwood 50, Telford, Shropshire, TF1 7FT.

The Contractor shall also refer to & take on board the requirements of the Clients Room Data Sheets which form part of this Specification in section

### **3.7 SUB MAIN CABLING**

The Contractor shall design, supply & install all necessary cable basket, tray, clips, cleats etc. to support all sub main cables in compliance with the cable manufacturers recommendations. All sub mains shall be XLPE, LSF, LOSH & shall be clearly identified at both ends to show size, number of cores & destination.

Any routes shown are indicative only the contractor shall allow within his tender for any additional runs that he feels may be required including associated containment. The third core of single-phase supplies shall be used as the CPC & shall be identified as such.

### **3.8 LIGHTING**

#### **3.8.1 General Lighting**

The Contractor shall, design, supply & install a complete Lighting installation. All fully recessed luminaires shall be wired using plug-in ceiling roses located within the ceiling void. Suspended luminaires shall be wired using a surface mounted plug-in ceiling rose arrangement. Surface mounted fittings shall be wired internally within the luminaire where possible or by using a surface mounted plug-in ceiling rose arrangement.

The minimum lighting levels shall be as follows:

- All areas shall comply with the guidance set out in the CIBSE (SLL) lighting guides.

<u>Area</u>	<u>Lux Level</u>	<u>Area</u>	<u>Lux Level</u>
Plant Area	300	WC	200
Changing	250	Shower Room	250
Stores	150	Club / Community Room	400
Kitchen	400	Kitchenette	400
Circulation spaces	200	Officials Room	300

**All Luminaires shall use LED's as the light source, no other sources will be acceptable.**

Generally lighting shall be provided by downlighters, surface mounted or suspended linear fittings or bulkhead type surface fittings as follows:

<u>Fitting Type</u>	<u>Location</u>
Linear GRP LED IP65	Plantroom, Store, Changing Rm's
Recessed LED Downlighter	Circulation Spaces, Club Room, Community Room,
Recessed IP65 LED Downlighter	Kitchen, WC, Shower Room, Kitchenette.

All fittings shall be supplied with push to dim control gear, & with the reactive light switches. In each room the light switches shall be mounted by the room entrance door & will turn off on absence detection.

In Corridors, WC's & other circulation spaces lights shall be controlled by an absence movement detector & daylight sensor.

All fittings shall be provided from Apollo Lighting &/or Dextra Lighting &/or Ansell Lighting, the contractor is to provide full details of all proposed fittings & lighting controls at project commencement for Client & Team approval.

### 3.8.2 Emergency Lighting

The Contractor shall, design, supply & install a complete Emergency Lighting installation.

**All Luminaires shall use LED's as the light source, no other sources will be acceptable.**

The Emergency Lighting (EM) installation shall be designed & installed to fully comply with BS 5266, shall be capable of maintaining light for 3 hours, shall **only** use LED's as the light source & all Luminaires shall comply with ICEL 1004.

All EM Fittings shall be able to be tested with a local key switch.

For escape routes up to 2m in width, the horizontal illuminance on the floor along the centreline of an escape route shall be not less than 1 lux. Wider escape routes can be treated as an open area.

In open area (anti-panic) lighting, the horizontal illuminance shall be not less than 0.5 lux at the floor level.

In areas of high risk, the emergency maintained illuminance on the plane of work (reference plane) shall be not less than 10% of the normal required illuminance for that task, & as a minimum, it should not be less than 15 lux.

Each light shall be identified on the "As Installed Drawing". The test logbook shall be typed out to identify all lights & to indicate when they were installed.  
(See Clause 2.15 relating to Emergency Lighting)

### 3.8.3 External lighting

The Contractor shall, design, supply & install a complete External Lighting installation. New surface mounted fittings shall be mounted to the building to provide lighting around the building perimeter to give safe access.  
The minimum lighting levels shall be as follows:

- All areas shall comply with the guidance set out in the CIBSE (SLL) lighting guides.

**All Luminaires shall use LED's as the light source, no other sources will be acceptable.**

Each fitting shall be controlled by its own movement sensor (PIR) & centralised daylight sensors, with timeclock control & override switch.

The contractor is to provide details of any proposed external fittings at project commencement, & these are for planning approval.

## 3.9 SMALL POWER & ACCESSORIES

The contractor shall, design, supply & install socket outlets, spurs, Telephone points, Data outlets etc. The contractor shall note that any documents issued with this specification are performance, indicative only & it is the contractors responsibility to confirm the quantities & locations of all accessories socket outlets etc.

Also, a 50amp TP&N Isolator shall be installed in the 'Community Area' for Kitchen power requirements only (high level in Kitchen Area). This supply is to be protected in the main panel by a 32amp D rated MCB.

## 3.10 FIRE ALARM SYSTEM

The Contractor shall design, supply, install a Fire Alarm System with sounder / beacon circuits as required by Building Control to comply with BS 5839, with all areas of the buildings being protected.

All works shall be as necessary designed, supplied, installed, commissioned, & certified by a LPS1014 or BAFE SP203 approved Fire Alarm Company & wired using cabling as detailed in clause 2.10. **This specification is a PERFORMANCE DESIGN ONLY** & it is the responsibility of the contractor to ensure that the tender price includes for the design,

supply, installation, commissioning, & certification of the system, & that it is all carried out by a LPS 1014 or BAFE SP203 approved company.

The main panel is located in the Staff entrance Corridor (Rm No 10).

On completion, the contractor shall issue a completion certificate, equipment compliance certificate, design certificate & an installation certificate.

### **3.11 WC ALARM**

The Contractor shall design, supply, install a WC alarm system in the Access WC Rm No 1 which is to be fully compliant with BS8300:2009.

All works shall be as necessary designed, supplied, installed, commissioned, & certified as fully compliant with the BS. This specification is a PERFORMANCE DESIGN ONLY & it is the responsibility of the contractor to ensure that the tender price includes for a fully compliant system. In principle the system shall consist of a controller, Pullcord, Reset point & Over door light/sounder.

### **3.12 CCTV SYSTEM**

The Contractor shall design, supply, install a CCTV system.

All works shall be as necessary designed, supplied, installed, commissioned, & certified by a approved CCTV System Company & wired using cabling as detailed in clause 2.10. This specification is a PERFORMANCE DESIGN ONLY & it is the responsibility of the contractor to ensure that the tender price includes for the design, supply, installation, commissioning, & certification of the system, & that it is all carried out by an approved company.

The system equipment shall be as detailed in the clients room data sheets. The digital recording unit capable of storing 7 days of video for each camera is to be located along with the controller in the boiler room.

On completion, the contractor shall issue a completion certificate, equipment compliance certificate, design certificate & an installation certificate.

### **3.13 SECURITY SYSTEM**

The Contractor shall design, supply, install a Security system.

All works shall be as necessary designed, supplied, installed, commissioned, & certified by a approved Security Company & wired using cabling as detailed in clause 2.10. This specification is a PERFORMANCE DESIGN ONLY & it is the responsibility of the contractor to ensure that the tender price includes for the design, supply, installation, commissioning, & certification of the system, & that it is all carried out by an approved company.

The system shall consist of door, window contacts, PIR's External Sounder to cover the entire of the building & the parking area. The control panel shall be located in the Boiler room, the system & shall be able to communicate with central monitoring station / police.

On completion, the contractor shall issue a completion certificate, equipment compliance certificate, design certificate & an installation certificate.

### **3.14 DATA / COMMS SYSTEM**

The Contractor shall design, supply, install a data / Comms cabling System as required by the client.

All works shall be as necessary designed, supplied, installed, commissioned, & certified by & wired using cabling as detailed in clause 2.10. This specification is a PERFORMANCE DESIGN ONLY & it is the responsibility of the contractor to ensure that the tender price includes for the design, supply, installation, commissioning, & certification of the system, & that it is all carried out by an approved company.

The incoming Fibre service is to terminate in the plantroom in the service providers termination unit & the modem/router. A minimum of 2No 13amp double socket outlets are to be provided adjacent to the intake.

Any patch panels & hardware etc are to be mounted at high level.

On completion, the contractor shall issue a completion certificate, equipment compliance certificate, design certificate & an installation certificate. These works shall be covered by a provisional sum as detailed in section 6.

### **3.15 PHOTOVOLTAIC SYSTEM**

The building shall be fitted with a photovoltaic panel system (PV's) mounted on the roof. This system is to consist of 60 panel units mounted on the roof, inverters & battery storage units 30Kw. & all works shall be as necessary designed, supplied, installed, commissioned, & certified by the specialist PV company.

The PV's shall be configured such that the water heating system shall use the stored electricity in the batteries to heat the water using immersion heaters. The actual control & operation is to be agreed with the client & PV specialist installer.

### **3.16 SUPPLIES TO MECHANICAL SERVICES**

The Contractor shall supply install & connect supplies to all mechanical equipment unless detailed to the contrary. These shall include within the tender the provision of Wireways, Cable, & Isolators etc. **It is the Electrical Contractors responsibility** to identify & check with the Mechanical Contractor on the size, location & wiring requirements of all mechanical plant. Attention is drawn to extract fans which are to be supplied & installed by the Mechanical contractor but wired with local isolator by electrical contractor.

### **3.17 LIGHTNING PROTECTION SYSTEM**

The building shall be protected by a Lightning protection designed to BS EN 6230. A specialist company employed by the electrical sub-contractor shall carry out a risk assessment to determine the extent of the system works. These works shall be covered by a provisional sum as detailed in section 6.

### **3.18 MOUNTING HEIGHTS**

Unless stated or noted otherwise mounting heights shall be as below:

Lighting Switches	1.2m to Top affl
SSO's	450 mm to Bottom affl or 105 mm above worktop.
Data Outlets	450 mm to Bottom affl or 105 mm above worktop.
Fire Detectors	Direct to Ceiling
Zone Thermostats	1.5m to Top affl
Isolators	Adjacent to equipment or 1.2m to Top affl
Distribution Boards	1.3m to Bottom (max) affl

### **3.19 PRODUCTION OF FULLY DETAILED DESIGN DRAWINGS**

The contractor shall allow for providing a fully detailed design including drawings etc prior to any installation works being carried out.

### **3.20 ELECTRICAL TESTING & COMMISSIONING**

This section of the work shall include commissioning, testing, demonstration, & the provision of documentation relating to the electrical services. The scheme shall not be considered ready for practical completion until all conditions described in the tender documents have been successfully accomplished.

## **SECTION 4.0**

### **CLIENTS ROOM DATA SHEETS**

## BATTLE SPORT PAVILLION ROOM DATA SHEETS

### Contents

Generally .....	2
1 & 2 Café (Refreshment Room and Kitchen) .....	3
3 - Clubroom.....	4
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6 - x2 Accessible WCs with baby Changing .....	6
8- Boiler Room (Electrical Services Room).....	7
9 - x1 WC Cubicle off Corridor 7.....	8
13 - Wet Room .....	9
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15 - Changing Rooms inc x4 WCs and x8 Showers.....	12
Undercroft Storage .....	14
External .....	15
Loft Space .....	16

## Generally

Refer to Planning Amendment Drawing SHG/2025/01/28/1 for Room Names and IDs -

1	Room Name / ID																																																																														
	1 & 2 Café (Refreshment Room and Kitchen)																																																																														
2	Description and Use of Room – (function / occupants / number of people / frequency of use)																																																																														
	Coffee shop park cafe to be opened as planned 7 days a week. Intention to have both sit-in and take away service. Customers seated to be dictated by available space. Serving hatch to one exterior wall is an advantage.																																																																														
3	Finishes – Ceiling, walls, floor, joinery																																																																														
	Flooring should be of commercial grade hard wearing quality, easy to clean with mop and bucket and incorporate some elements of non slip. The wall to the exterior should leave space for free standing fridge-freezers. Counters should be of standard width and height with provision for cupboard space underneath. Water and drainage services should be located in such a manor that access is possible to the occupier.																																																																														
4	Specialist Requirement (acoustics / height/ floor loading / security)																																																																														
	No specialist requirements regarding acoustic, height or floor loading, security provision to enclose and lock the cafe kitchen area would be necessary owing to the value of the equipment and stock stored within. Roll shutters or similar.																																																																														
5	Fixtures, Fittings, Furniture, Specialist Equipment																																																																														
	All specialist catering equipment supplied by occupier, provision of a dedicated hand wash sink and a separate commercial sink for cleaning. Provision of or access to a janitor’s-style sink within the building will be required for all occupiers to assist in the cleaning and maintenance of the building. Counter with security shutter Water meter for cafe area (for billing cafe owner) Electric meter for cafe area (for billing cafe owner)																																																																														
6	Mechanical Services – heating / ventilation																																																																														
	<ul style="list-style-type: none"><li>Ventilation to Approved Document F Heating to Approved Document L.</li></ul>																																																																														
7	Electrical Services - power / distribution / lighting / data.																																																																														
	<table><tr><th></th><th>Single Phase</th><th>Three Phase</th><th>L1</th><th>L2</th><th>L3</th></tr><tr><td>espresso machine</td><td></td><td>6000</td><td>2000</td><td>2000</td><td>2000</td></tr><tr><td>coffee grinders</td><td>1000</td><td></td><td>1000</td><td></td><td></td></tr><tr><td>water boiler</td><td>1000</td><td></td><td></td><td>1000</td><td></td></tr><tr><td>ice machine</td><td>500</td><td></td><td></td><td></td><td>500</td></tr><tr><td>fridge freezer</td><td>500</td><td></td><td></td><td></td><td>500</td></tr><tr><td>till system</td><td>100</td><td></td><td></td><td></td><td>100</td></tr><tr><td>drinks fridge</td><td>200</td><td></td><td></td><td></td><td>200</td></tr><tr><td>ice cream freezer</td><td>800</td><td></td><td></td><td></td><td>800</td></tr><tr><td>panini griddle</td><td>240</td><td></td><td></td><td></td><td>240</td></tr><tr><td>insect killer</td><td>50</td><td></td><td></td><td></td><td>50</td></tr><tr><td>drinks blender</td><td>150</td><td></td><td></td><td></td><td>150</td></tr><tr><td>fan</td><td>150</td><td></td><td></td><td></td><td>150</td></tr></table>		Single Phase	Three Phase	L1	L2	L3	espresso machine		6000	2000	2000	2000	coffee grinders	1000		1000			water boiler	1000			1000		ice machine	500				500	fridge freezer	500				500	till system	100				100	drinks fridge	200				200	ice cream freezer	800				800	panini griddle	240				240	insect killer	50				50	drinks blender	150				150	fan	150				150
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drinks blender	150				150																																																																										
fan	150				150																																																																										

<b>1</b>	<b>Room Name / ID</b>
	<b>3 - Clubroom</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>• Multi-use Social and Meeting Room with simple tea/coffee station.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li>• <b>Floor:</b> non slip vinyl</li> <li>• <b>Walls:</b> <ul style="list-style-type: none"> <li>○ Soundbloc Board Free-issue. Skim Plastered. Painted Timber Skirtings. Surface Fixed Conduit. Matt Emulsion. Ceramic Wall Tile on Plasterboard to 2m height on wall behind Kitchen Worktops.</li> </ul> </li> <li>• <b>Ceiling:</b> <ul style="list-style-type: none"> <li>○ Soundbloc Board Free-issue. Skim Coat Plaster. Matt Emulsion.</li> </ul> </li> <li>• <b>Windows/Doors:</b> <ul style="list-style-type: none"> <li>○ Double Glazed “K” Glass with Draught Seal (Tinted).</li> </ul> </li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
	<ul style="list-style-type: none"> <li>• Entry/Exit Control Panel.</li> <li>• Electric Steel Shutters</li> </ul>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>• Proprietary Sliding/Folding Room Divider.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>• Ventilation to Approved Document F Heating to Approved Document L.</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>• 6 No. Twin SSO C/W USB</li> <li>• Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• Presence detection to extinguish lighting when the room is unoccupied.</li> <li>• Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>• LED Lights 200-300 lux minimum.Potential for Dimming)</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>5, 7 and 12 General Public, Friends and Family, and Players Corridor</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>• Players &amp; Officials Entry and Exit Changing Suites.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li>• <b>Floor:</b> PVC Sheet on Power Floated Screed. Turned up as Perimeter Skirting.</li> <li>• <b>Walls:</b> Sound bloc plasterboard, skimmed, on OSB backing. Portaflek Type Spray Plastic Paint.</li> <li>• <b>Ceiling:</b> Soundbloc Board Free-issue. Skim Coat Plaster. Emulsion paint.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>• Fire Alarm Panel.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>• Ventilation to Approved Document F Heating to Approved Document L.</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>• 1 No. Single SSO (Per corridor for cleaners)</li> <li>• Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• Presence detection to extinguish lighting when the room is unoccupied.</li> <li>• Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>• LED Lights 100-150 lux minimum.</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>6 - x2 Accessible WCs with baby Changing</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>All Recreation Ground users, particularly those with disabilities, during pavilion opening times.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li><b>Floor:</b> 2mm non slip vinyl . Turned up as Perimeter Skirting.</li> <li><b>Walls:</b> Soundbloc MR Board Free-issue on OSB, Skim Coat Plaster, moisture and stain resistance emulsion. Ceramic Wall Tile on plasterboard to 2m Height on wall behind W/C and Basin. 450w x 600h Mirror fixed to the wall above Wash Basin.</li> <li><b>Ceiling:</b> Soundbloc MR Board free-issue. Skim Coat Plaster. Moisture and stain resistance emulsion.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>450 x 450 Wall Fixed Mirror. Toilet Tissue Holder. Paper Towel Dispenser. Waste Bin. Sanitary Bin. Baby changing facility</li> <li>Close coupled WC dimensioned for Disabled use. Wash Basin with Lever Operated Thermostatic Mixer Tap. Proprietary Pull Down Handrails. Alarm Pull Cord</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>Ventilation to Approved Document F Heating to Approved Document L</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>1 No. Key switch with neon for emergency lights.</li> <li>Presence detection to extinguish lighting when the room is unoccupied.</li> <li>Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>LED Lights 100-150 lux minimum.</li> <li>Disabled Person Alarm to BS8300:2009</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>8- Boiler Room (Electrical Services Room)</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>• Main Electrical Services. First Aid Kit. Cleaning Store.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li>• <b>Floor:</b> 2mm non slip vinyl. Turned up as Perimeter Skirting.</li> <li>• <b>Walls:</b> Soundbloc MR Board Free-issue, Skim Plastered. Painted Timber Skirtings. Surfaced Fixed Conduit. Emulsion paint</li> <li>• <b>Ceiling:</b> Soundbloc Board Free-issue. Skim Coat Plaster. Emulsion paint.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>• LED Lighting.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>• Heating &amp; Hot Water Controls.</li> <li>• Ventilation to Approved Document F Heating to Approved Document L</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>• 1 No. Single SSO C/W USB</li> <li>• Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• Presence detection to extinguish lighting when the room is unoccupied.</li> <li>• Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>• LED Lights 300 lux minimum.</li> <li>• Main Electrical Distribution Board</li> <li>• CCTV Controls.</li> <li>• Intruder Alarm Main Panel.</li> <li>• Broadband &amp; Wifi Modem.</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>9 - x1 WC Cubicle off Corridor 7</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>For all users of the building when the building is open.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li><b>Floor:</b> 2mm non slip vinyl . Turned up as Perimeter Skirting.</li> <li><b>Walls:</b> Soundbloc MR Board Free-issue on OSB backing, Skim Coat Plaster, moisture and stain resistance emulsion. Ceramic Wall Tile on plasterboard to 2m Height on wall behind W/C and Basin. 450w x 600h Mirror fixed to the wall above Wash Basin.</li> <li><b>Ceiling:</b> Soundbloc MR Board free-issue. Skim Coat Plaster. Moisture and stain resistance emulsion.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>Close Coupled W/C with dual-flush. Wash Basin with Thermostatic Mixer Tap. 450 x 450 Wall Fixed Mirror. Toilet Tissue Holder. Paper Towel Dispenser. Waste Bin. Sanitary Bin.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>Ventilation to Approved Document F Heating to Approved Document L.</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>1 No. Key switch with neon for emergency lights.</li> <li>Presence detection to extinguish lighting when the room is unoccupied.</li> <li>Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>LED Lights 100-150 lux minimum.</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>13 - Wet Room</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>Gender non-specific private Changing Room for people with Disabilities/Injuries. Use at the same time as Changing Rooms. User and Assisting Carer.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li><b>Waterproofing</b> : wall tile backerboard and propriety sheet membrane waterproofing system to the walls and floor</li> <li><b>Floor</b>: Screed Trowelled to fall to gullies. 150x150 Ceramic non-slip Floor Tiles with R13 rating.</li> <li><b>Walls</b>: 150x150 Ceramic Wall Tiles to 2M Height. Surface-fixed pipework. Portaflek type spray paint above tiles.</li> <li><b>Cubicles</b>: Proprietary Shower Dividers and Doors. Commercial quality Solid Grade Laminate (SGL) with anodise aluminium fittings.</li> <li><b>Ceiling</b>: Sound bloc MR Board - free-issue. Skim Coat Plaster. Moisture and stain resistance Emulsion.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
	<ul style="list-style-type: none"> <li>Individual wet rooms to be lockable when not in use</li> </ul>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>Thermostatic Shower with lo-water Fixed Head and motion-sensor activated, and Hand Spray. Close coupled WC with dual-flush, dimensioned for Disabled use. Wash Basin with Lever Operated Thermostatic Mixer Tap. Proprietary Pull Down Handrails. Alarm Pull Cord. 450 x 450 Wall Fixed stainless steel Mirror. Toilet Tissue Holder. Paper Towel Dispenser. Waste Bin. Hanging Hook. Sanitary Bin. Towel Rail.</li> <li>Bench? (as the room is sometimes used as a second Officials Room)</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>Ventilation to Approved Document F Heating to Approved Document L</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>1 No. Key switch with neon for emergency lights.</li> <li>Presence detection to extinguish lighting when the room is unoccupied.</li> <li>Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>LED Lights 100-150 lux minimum.</li> <li>Disabled Person Alarm to BS8300:2009</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>14 - Officials Room inc x1 WC and x1 shower room</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>Gender non-specific Changing Room for Referee and (possibly) 2no Linesmen if not accommodated with their teams.</li> <li>Frequency of use as Changing Areas.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li><b>Changing Area</b> <ul style="list-style-type: none"> <li><b>Floor:</b> 2mm non slip vinyl. Turned up as Perimeter Skirting.</li> <li><b>Walls:</b> Soundbloc MR Board Free-issue on OSB backing, Skim Coat Plaster, moisture and stain resistance emulsion. Ceramic Wall Tile behind Basin. 450w x 600h Mirror fixed to the wall above Wash Basin.</li> <li><b>Ceiling:</b> Soundbloc MR Board free-issue. Skim Coat Plaster. Moisture and stain resistance emulsion.</li> </ul> </li> <li><b>Shower Area:</b> <ul style="list-style-type: none"> <li><b>Waterproofing :</b> wall tile backerboard and propriety sheet membrane waterproofing system to the walls and floor</li> <li><b>Floor:</b> Screed Trowelled to fall to gullies. 150x150 Ceramic non-slip Floor Tiles with R13 rating.</li> <li><b>Walls:</b> 150x150 Ceramic Wall Tiles to 2M Height. Surface-fixed pipework. Portaflek type spray paint above tiles.</li> <li><b>Cubicles:</b> Proprietary Shower Dividers and Doors. Commercial quality Solid Grade Laminate (SGL) with anodise aluminium fittings.</li> <li><b>Ceiling:</b> Sound bloc MR Board - free-issue. Skim Coat Plaster. Moisture and stain resistance emulsion.</li> </ul> </li> <li><b>WC:</b> <ul style="list-style-type: none"> <li><b>Floor:</b> Ceramic non-slip Floor Tiles on Power Floated Screed.</li> <li><b>Walls:</b> Soundbloc MR Board Free-issue, Skim Coat Plaster, moisture and stain resistance emulsion. Ceramic Wall Tile on plasterboard to 2m Height on wall behind W/C.</li> <li><b>Ceiling:</b> Soundbloc Board free-issue. Skim Coat Plaster. Moisture and stain resistance emulsion</li> <li><b>Doors:</b> with half-height scuff plates</li> </ul> </li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
	<ul style="list-style-type: none"> <li>Lockable when not in use.</li> </ul>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>500 Deep Bench fixed to wall. Hanging Hooks, wall fixed at 250mm centres above bench. 1200 x 1200 mirror fixed to wall. Hair Dryer.</li> <li><b>Shower:</b> Thermostatic Shower with Fixed Head. Towel Rail. lo-water shower head, motion-sensor activated shower</li> <li><b>W/C:</b> Close Coupled W/C with dual-flush.</li> <li><b>Wash Basin</b> with Thermostatic Mixer Tap, 450 x 450 Wall Fixed stainless steel Mirror. Toilet Tissue Holder. Paper Towel Dispenser. Waste Bin. Sanitary Bin.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>Ventilation to Approved Document F Heating to Approved Document L</li> </ul>

7	Electrical Services - power / distribution / lighting / data.
	<ul style="list-style-type: none"> <li>• 2No. Single SSO C/W USB</li> <li>• Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• Presence detection to extinguish lighting when the room is unoccupied.</li> <li>• Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>• LED Lights 100-150 lux minimum.</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>15 - Changing Rooms inc x4 WCs and x8 Showers</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>• Sport participants changing area.</li> <li>• All ages and genders.</li> <li>• 1 - 20 occupants</li> <li>• Usage 3 - 10 times a week.</li> <li>• Shower Area: 4 or more separate Cubicles.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li>• <b>Changing Area</b> <ul style="list-style-type: none"> <li>○ <b>Walls:</b> Sound bloc MR plasterboard, skimmed, on OSB backing, moisture and stain resistance emulsion.</li> <li>○ <b>Floor:</b> 2mm non slip vinyl. Turned up as Perimeter Skirting.</li> <li>○ <b>Ceiling:</b> Soundbloc MR plasterboard Free-issue, Skim Coat Plaster, moisture and stain resistance emulsion.</li> </ul> </li> <li>• <b>Shower Area:</b> <ul style="list-style-type: none"> <li>○ <b>Waterproofing :</b> wall tile backerboard and propriety sheet membrane waterproofing system to the walls and floor propriety sheet membrane waterproofing system to the walls and floor</li> <li>○ <b>Floor:</b> Screed Trowelled to fall to gullies. 150x150 Ceramic non-slip Floor Tiles with R13 rating.</li> <li>○ <b>Walls:</b> 150x150 Ceramic Wall Tiles to 2M Height. Surface-fixed pipework. Portaflek type spray paint above tiles.</li> <li>○ <b>Cubicles:</b> Proprietary Shower Dividers and Doors. Commercial quality Solid Grade Laminate (SGL) with anodise aluminium fittings.</li> <li>○ <b>Ceiling:</b> Sound bloc MR Board - free-issue. Skim Coat Plaster. Moisture and stain resistance Emulsion.</li> </ul> </li> <li>• <b>WCs:</b> <ul style="list-style-type: none"> <li>○ <b>Floor:</b> Ceramic non-slip Floor Tiles on Power Floated Screed.</li> <li>○ <b>Walls:</b> Ceramic Wall Tile to 2m height. Surfaced-fixed pipework and conduit. Portaflek type spray plastic paint above tiles.</li> <li>○ <b>Ceiling:</b> Soundbloc Board free-issue. Skim Coat Plaster. Moisture and stain resistance emulsion</li> <li>○ <b>Doors:</b> with half-height scuff plates</li> </ul> </li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading /security)</b>
	<ul style="list-style-type: none"> <li>• Small lockers for valuables.</li> <li>• Visual Privacy &amp; Lockable when not in use.</li> <li>• <b>Shower Area:</b> <ul style="list-style-type: none"> <li>○ Proprietary Cubicles &amp; Doors.</li> <li>○ Thermostatic Showers with Fixed Head</li> </ul> </li> </ul>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>• 500mm Deep Benches fixed to opposite walls.</li> <li>• Hanging Hooks, wall fixed at 200mm centres above bench.</li> <li>• White Board fixed to outside of door for team identification.</li> <li>• 1200 x 1200 stainless steel mirror fixed to wall.</li> <li>• lo-water shower heads</li> <li>• movement-activated shower timer</li> <li>• <b>W/C's:</b> Close Coupled WC with dual flush. Wash Basin with Thermostatic infra-red activated mixer tap, plug-free sink. 450 x 450 Wall Fixed stainless steel mirror.</li> </ul>

	Toilet Tissue Holder. Paper Towel Dispenser. Waste Bin. Sanitary Bin. Hanging Hook.
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>• Ventilation to Approved Document F Heating to Approved Document L</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>• 1 No. Single SSO for Cleaners</li> <li>• Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• Presence detection to extinguish lighting when the room is unoccupied.</li> <li>• Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>• LED Lights 100-150 lux minimum.</li> <li>• 2 No. Twin Sockets for x Hair Dryers.</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>Undercroft Storage</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>Annexed Boiler Room. (Electric Boiler &amp; Hot Water Cylinder).</li> <li>Storage for Sports Equipment.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<ul style="list-style-type: none"> <li>Concrete Floor, Epoxy Resin Floor Paint.</li> <li>Block Walls</li> <li>Double Wooden Doors to Boiler Room.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
	<ul style="list-style-type: none"> <li>Boiler Room Doors BS Key Lock.</li> </ul>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>Racking for Goal Posts &amp; Nets, other Sport Equipment. Bulky items such as goalposts could possibly be stored in an external cage?</li> <li>Exterior Double Wooden Doors, Sheet Metal Faced.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
	<ul style="list-style-type: none"> <li>Electric 24 kW Boiler.</li> <li>1460 Litre Capacity, 2 x Coil Hot Water Cylinder (Height 1.95M, Shallow pit maybe necessary)</li> <li>12 KW Air Source Heat Pump on Exterior Wall.</li> <li>Ventilation to Approved Document F Heating to Approved Document L</li> </ul>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>1 No. Twin Metal clad SSO C/W USB.</li> <li>Emergency lights to allow egress from room in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>1 No. Key switch with neon for emergency lights.</li> <li>Presence detection to extinguish lighting when the room is unoccupied.</li> <li>Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>LED Lights 200-300 lux minimum.</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>External</b>
<b>2</b>	<b>External Building Finishes ( roof / walls / windows / doors )</b>
	Windows & Doors, Double Glazed "K" Glass with Draught Seal (Tinted). Brickwork and weatherboarding to match the Guide Hut, as per the approved planning drawings
<b>3</b>	<b>Security</b>
	<ul style="list-style-type: none"> <li>• CCTV.</li> <li>• Alarmed Entry/Exit.</li> <li>• Security Shutters at tall windows and Main Entrances.</li> <li>• Undercroft External Doors, Wooden with Steel Plate Facia.</li> </ul>
<b>4</b>	<b>Hard Landscaping – surfacing/ railings / features / terraces / steps / ramps</b>
	<ul style="list-style-type: none"> <li>• Porous asphalt (SUDS)</li> </ul>
<b>5</b>	<b>Soft Landscaping</b>
<b>6</b>	<b>Parking</b>
<b>7</b>	<b>External Services – lighting / power / water</b>
	<ul style="list-style-type: none"> <li>• 1 No. External Socket for events size to be determined.</li> <li>• Emergency lights to allow egress from building and all external Steps/Ramps in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• LED Lights 100-150 lux minimum.</li> <li>• Outdoor water fountain / bottle refill station</li> </ul>

<b>1</b>	<b>Room Name / ID</b>
	<b>Loft Space</b>
<b>2</b>	<b>Description and Use of Room – (function / occupants / number of people / frequency of use)</b>
	<ul style="list-style-type: none"> <li>• Miscellaneous Storage Area.</li> <li>• Solar Inverter and Battery Storage.</li> </ul>
<b>3</b>	<b>Finishes – Ceiling, walls, floor, joinery</b>
	<b>Floor:</b> <ul style="list-style-type: none"> <li>• Loft Insulation. Chipboard Flooring on complete area</li> <li>• Mounting for Solar Inverter. Batteries sitting on the floor.</li> </ul>
<b>4</b>	<b>Specialist Requirement (acoustics / height/ floor loading / security)</b>
<b>5</b>	<b>Fixtures, Fittings, Furniture, Specialist Equipment</b>
	<ul style="list-style-type: none"> <li>• Solar Storage Batteries</li> <li>• Solar Electric Inverter.</li> <li>• Lockable Hatch Door</li> <li>• Loft Ladder.</li> </ul>
<b>6</b>	<b>Mechanical Services – heating / ventilation</b>
<b>7</b>	<b>Electrical Services - power / distribution / lighting / data.</b>
	<ul style="list-style-type: none"> <li>• 1 No. Twin SSO (for maintenance)</li> <li>• Emergency lights to allow egress from loft in event of sub circuit failure in accordance with BS5266 and the fire escape strategy drawing compiled by a suitably qualified Fire Risk Assessor.</li> <li>• 1 No. Key switch with neon for emergency lights.</li> <li>• Presence detection to extinguish lighting when the loft is unoccupied.</li> <li>• Fire alarm designed by a suitably qualified installer to BS 5839 - 1 (preferably BAFE certified) to a category of alarm decided by a suitably qualified Fire Risk Assessor.</li> <li>• LED Lights 100-150 lux minimum.</li> </ul>

## **SECTION 5.0**

### **TENDER ANALYSIS & DAYWORKS**

### **Section 5.0 – Tender Analysis & Dayworks – Table of Contents**

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## **5.0 TENDER ANALYSIS**

### **5.1 TENDER ANALYSIS & DAYWORKS**

This Tender Analysis is required to be completed by the Contractor "IN FULL".  
Non-compliance with this requirement will make the Tender "NULL AND VOID".

### **5.2 EQUAL & APPROVED**

The Contractor may put forward equal and approved alternatives to all **NAMED** suppliers and specialists. However, this shall be stated in a covering letter with the Tender offer.

The Tender and Tender Analysis will be completed using all named  
**"MANUFACTURERS AND SPECIALISTS"**.

### **5.3 QUOTATION**

When reference is made in this Specification to quotations, the Contractor shall check and satisfy themselves that the quotation fully covers the requirement as set out in this Specification and the Contract Drawings, as **no** claim will be entertained after Tender for any omission which may have been made. All final measurement and quantities are the responsibility of the Electrical Contractor.

### **5.4 PROVISIONAL & CONTINGENCY SUMS**

Provisional and contingency sums are to be included and used as directed by the Contract Administrator.

## 5.5 ELECTRICAL SERVICES TENDER ANALYSIS (FIXED PRICE)

This Tender Analysis is to be completed in full by the Contractor.

**Non compliance with this requirement will make the Tender null and void.**

No	Item	£
1.	Design, Supply & installation of Modifications to Electrical supply intake.	
2.	Design, supply & installation of Distribution boards.	
3.	Design, supply & installation of sub main cabling.	
4.	Design, supply & installation of lighting.	
5.	Design, supply & installation of lighting controls.	
6.	Design, supply & installation of small power.	
7.	Design, supply & installation of Fire Alarm system.	
8.	Design, supply & installation of Security System.	
9.	Design, supply & installation of WC Alarm System.	
10.	Design, supply & installation of Data Cabling system. (PC Sum)	3,500.00
11.	Design, supply & installation of Photovoltaic System. (PC Sum)	20,000.00
12.	Design, supply & installation of supplies to Mechanical services	
13.	Design, supply & installation of Lightning Protection. (PC Sum)	5,000.00
14.	Production of fully detailed Design with drawings	
15.	Production of detailed Installation Drawings (see Clauses 1.51 & 1.52)	
16.	Production of As installed Record Drawings & Manuals (see Clauses 1.70 & 1.71)	

**Sub Total £** \_\_\_\_\_

<b>Additional Items not covered in the above for consideration:</b>	
1.	
2.	

**Grand Total £** \_\_\_\_\_

The above Fixed Price Tender shall be open for acceptance for the period of three months from date of Tender Return. This priced Specification must be returned in accordance with Invitation to Tender Letter.

**Signature: (Director or Agent)** \_\_\_\_\_

**Name of Firm:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**NICEIC or ECA No:** \_\_\_\_\_

## 5.6 DAYWORKS

For the valuation of variations which cannot be measured and valued, the Contractor shall be allowed to charge daywork in accordance with the conditions of the Contract.

The basis of charging in respect of labour will be the rates inserted by the Contractor below. Such rates will be deemed to include all on costs, statutory contributions, levies, overheads and profit, builders discount and shall not be subject to any percentage or other addition.

The basis of charging in respect of materials and plant will be the cost of the items properly incurred plus percentages for overheads and profit inserted by the Contractor below:

<b>Labour in Dayworks</b>	<b>Normal Working Hours (per hr)</b>	<b>Outside Normal Working Hours (per hr)</b>
Foreman	£	£
Approved Electrician	£	£
Electrician	£	£
Electrician's Mate	£	£

### **Materials in Dayworks:**

Percentage for overheads and profit

### **Plant in Dayworks:**

Percentage for overheads and profit

**Signature: (Director or Agent)** \_\_\_\_\_

**Name of Firm:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**NICEIC or ECA No:** \_\_\_\_\_