

UK-Shrewsbury: Mechanical installations.

UK-Shrewsbury: Mechanical installations.

Section I: Contracting Authority

I.1) Name and addresses

Shropshire Council

Shirehall, Abbey Foregate, Shrewsbury, SY2 6ND, United Kingdom

Contact: Procurement Manager

Main Address: www.shropshire.gov.uk

NUTS Code: UKG22

I.2) Joint procurement

The contract involves joint procurement: Yes.

In the case of joint procurement involving different countries, state applicable national procurement law: Not provided

The contract is awarded by a central purchasing body: No.

I.3) Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at: <https://www.delta-esourcing.com/tenders/UK-UK-Shrewsbury:-Mechanical-installations./8NJD7X3855>

Additional information can be obtained from: the abovementioned address

Tenders or requests to participate must be sent electronically via <https://www.delta-esourcing.com/tenders/UK-title/8NJD7X3855> to the abovementioned address

Electronic communication requires the use of tools and devices that are not generally available.

Unrestricted and full direct access to these tools and devices is possible, free of charge, at: Not provided

I.4) Type of the contracting authority

Regional or local authority

I.5) Main activity

General public services

Section II: Object

II.1) Scope of the procurement

II.1.1) Title: RMNB 034 - Theatre Severn Replacement of Chillers & Controls

Reference Number: RMNB 034

II.1.2) Main CPV Code:

45350000 - Mechanical installations.

II.1.3) Type of contract: WORKS

II.1.4) Short description: Please refer to the MEP Specification and read in conjunction with the full tender package, for full details of the scheme.

The works associated with this contract involve replacement of the existing chillers, associated controls and ancillaries.

The contractor will need to maintain reduced capacity throughout the works except during the summer break from 1st August to 28th August 2022

II.1.5) Estimated total value:

Value excluding VAT: 200,000

Currency: GBP

II.1.6) Information about lots:

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV codes:

45310000 - Electrical installation work.

II.2.3) Place of performance:

UKG22 Shropshire CC

II.2.4) Description of procurement: Please refer to the MEP Specification and read in conjunction with the full tender package, for full details of the scheme.

The works associated with this contract involve replacement of the existing chillers, associated controls and ancillaries.

The contractor will need to maintain reduced capacity throughout the works except during the summer break from 1st August to 28th August 2022

II.2.5) Award criteria:

Criteria below

Quality criterion - Name: Quality / Weighting: 60

Cost criterion - Name: Price / Weighting: 40

II.2.6) Estimated value:

Value excluding VAT: 200,000

Currency: GBP

II.2.7) Duration of the contract, framework agreement or dynamic purchasing system:

Start: 01/08/2022 / End: 31/08/2022

This contract is subject to renewal: No

Description of renewals: Not provided

II.2.10) Information about variants:

Variants will be accepted: No

II.2.11) Information about options:

Options: No

Description of options: Not provided

II.2.12) Information about electronic catalogues:

Tenders must be presented in the form of electronic catalogues or include an electronic catalogue: No

II.2.13) Information about European Union funds:

The procurement is related to a project and/or programme financed by European Union funds: No

Identification of the project: Not provided

II.2.14) Additional information: To respond to this opportunity please click here: <https://www.delta-sourcing.com/respond/8NJD7X3855>

Section III: Legal, Economic, Financial And Technical Information

III.1) Conditions for participation

III.1.1) Suitability to pursue the professional activity, including requirements relating to enrolment on professional or trade registers

List and brief description of conditions:

See tender documents

III.1.2) Economic and financial standing

List and brief description of selection criteria:

See tender documents

Minimum level(s) of standards possibly required (if applicable) :

See tender documents

III.1.3) Technical and professional ability

List and brief description of selection criteria:

See tender documents

Minimum level(s) of standards possibly required (if applicable) :

See tender documents

III.1.5) Information about reserved contracts (if applicable)

The contract is reserved to sheltered workshops and economic operators aiming at the social and professional integration of disabled or disadvantaged persons: No

The execution of the contract is restricted to the framework of sheltered employment programmes:
No

III.2) Conditions related to the contract

III.2.2) Contract performance conditions

See tender documents

III.2.3) Information about staff responsible for the performance of the contract

Obligation to indicate the names and professional qualifications of the staff assigned to performing the contract: No

Section IV: Procedure

IV.1) Description OPEN

IV.1.1) Type of procedure: Open Accelerated

Justification for the choice of accelerated procedure: Due to urgency and operational requirements and to ensure continuity of service provision.

IV.1.3) Information about a framework agreement or a dynamic purchasing system

The procurement involves the establishment of a framework agreement - NO

In the case of framework agreements justification for any duration exceeding 4 years: Not Provided

IV.1.6) Information about electronic auction:

An electronic auction will be used: No

Additional information about electronic auction: Not provided

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: No

IV.2) Administrative information

IV.2.1) Previous publication concerning this procedure:

Notice number in the OJ S: Not provided

IV.2.2) Time limit for receipt of tenders or requests to participate

Date: 23/05/2022 Time: 12:00

IV.2.4) Languages in which tenders or requests to participate may be submitted: English,

IV.2.6) Minimum time frame during which the tenderer must maintain the tender: Not Provided

IV.2.7) Conditions for opening of tenders:

Date: 23/05/2022

Time: 12:00

Place:

Shirehall, Shrewsbury

Section VI: Complementary Information

VI.1) Information about recurrence

This is a recurrent procurement: No

Estimated timing for further notices to be published: Not provided

VI.2) Information about electronic workflows

Electronic ordering will be used No

Electronic invoicing will be accepted No

Electronic payment will be used No

VI.3) Additional Information: The contracting authority considers that this contract may be suitable for economic operators that are small or medium enterprises (SMEs). However, any selection of tenderers will be based solely on the criteria set out for the procurement.

For more information about this opportunity, please visit the Delta eSourcing portal at:

<https://www.delta-esourcing.com/tenders/UK-UK-Shrewsbury:-Mechanical-installations./8NJD7X3855>

To respond to this opportunity, please click here:

<https://www.delta-esourcing.com/respond/8NJD7X3855>

VI.4) Procedures for review

VI.4.1) Review body:

Shropshire Council

Shirehall, Shrewsbury, SY2 6ND, United Kingdom



Internet address: www.shropshire.gov.uk

VI.4.2) Body responsible for mediation procedures:

Shropshire Council

Shirehall, Abbey Foregate, Shrewsbury, SY2 6ND, United Kingdom

[REDACTED]
Internet address: www.shropshire.gov.uk

VI.4.3) Review procedure

Precise information on deadline(s) for review procedures:

Not Provided

VI.4.4) Service from which information about the lodging of appeals may be obtained:

Shropshire Council

Shirehall, Abbey Foregate, Shrewsbury, SY2 6ND, United Kingdom

[REDACTED]
Internet address: www.shropshire.gov.uk

VI.5) Date Of Dispatch Of This Notice: 05/05/2022

Annex A

IV) Address of the other contracting authority on behalf of which the contracting authority is purchasing
Purchased on behalf of other contracting authority details:

1: Contracting Authority

Shropshire Council is purchasing on behalf of itself and any wholly owned local authority company or other entity that is deemed to be a contracting authority by virtue of the Council's involvement.

Shirehall, Abbey Foregate, Shrewsbury, SY2 6ND, United Kingdom

[REDACTED]

NUTS Code: UKG22



Dear Bidder

**RMNB 034 – THEATRE SEVERN – REPLACEMENT OF CHILLERS & CONTROLLERS
SHROPSHIRE COUNCIL**

You have been invited to tender for the above requirement. With this letter please find copies of the following documents:

1. Instructions to Tenderers
2. Tender Response Document
3. Form of Fixed Price Tender
4. Performance Bond
5. MEP Specification
6. Severn Theatre HAZRA
7. Contract Sum Analysis
8. Contract Completion Form
9. Mechanical Drawing T0
10. Parent Company Guarantee
11. Schedule of Amendments to JCT Intermediate Building Contract 2016 Edition
12. Preliminaries & General Terms & Conditions

Tenders should be made on the enclosed Tender Response Document. Your Tender must be completed, signed and returned along with a signed copy of the instructions for tendering through our Delta Tenderbox.

Please pay particular attention to the points below concerning the returning of tenders.

Returning of Tenders

- The deadline for returning tenders is **noon on 23rd May 2022** any tenders received after this time will not be accepted
- Tenders are to be submitted through Delta, our electronic tender portal
 - **Please ensure that you allow yourself at least two hours when responding prior to the closing date and time**, especially if you have been asked to upload documents. If you are uploading multiple documents you will have to individually load

one document at a time or you can opt to zip all documents in an application like WinZip. Failure to submit by the time and date or by the method requested will not be accepted.

- **Once you upload documentation ensure you follow through to stage three and click the 'response submit' button. Failure to do so, will mean the documents won't be viewable by the Council.**

Tenders **cannot** be accepted if:

- Tenders are received by post, facsimile or email
- Tenders are received after **12 noon on the given deadline**

Freedom of Information

Under the provisions of the Freedom of Information Act 2000 from 1 January 2005, the public (included in this are private companies, journalists, etc.) have a general right of access to information held by public authorities. Information about your organisation, which Shropshire Council may receive from you may be subject to disclosure, in response to a request, unless one of the various statutory exemptions applies.

Therefore if you provide any information to Shropshire Council in the expectation that it will be held in confidence, you must make it clear in your documentation as to the information to which you consider a duty of confidentiality applies. The use of blanket protective markings such as “commercial in confidence” will no longer be appropriate and a clear indication as to what material is to be considered confidential and why should be given.

Other Details

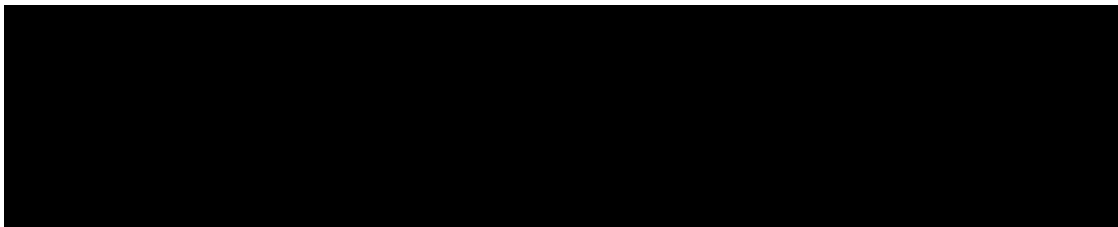
Please note that if supplementary questions are raised by any tenderer prior to the closing of tenders and Shropshire Council decides that the answers help to explain or clarify the information given in the Tender Documents, then both the questions and the answers will be circulated to all enterprises invited to submit a tender. Please raise all clarification questions before the deadline of **16th May 2022**.

Shropshire Council is purchasing on behalf of itself and any wholly owned local authority company or other entity that is deemed to be a contracting authority by virtue of the Council's involvement

Please also note that Shropshire Council is committed to achieving Social Value outcomes through maximising the social, economic and/or environmental impact of all its procurement activity. Specific requirements for this contract are set out within the Tender Response Document and in addition for your further information the council's Social Value Framework guidance can be found at www.shropshire.gov.uk/doing-business-with-shropshire-council.

If you have any queries relating to this invitation to tender, please contact us through the Delta e-tendering portal.

Yours faithfully







INSTRUCTIONS FOR TENDERING

**RMNB 034 – Theatre Severn
Chiller Replacement**

Shropshire Council Instructions for tendering

Contract Description:

Please refer to the MEP Specification and read in conjunction with the full tender package, for full details of the scheme.

The works associated with this contract involve replacement of the existing chillers, associated controls and ancillaries.

The contractor will need to maintain reduced capacity throughout the works except during the summer break from 1st August to 28th August 2022

Index

Section	Description
1.0	Invitation to Tender
2.0	Terms and Conditions
3.0	Preparation of Tenders
3.1	Completing the Tender Response Document
3.2	Tender Preparation and Cost
3.3	Parent Company Guarantee
3.4	Warranty
4.0	Tender Submission
5.0	Variant Bids
6.0	Tender Evaluation
7.0	Clarifications
8.0	Continuation of the Procurement Process
9.0	Confidentiality
10.0	Freedom of Information
11.0	Disqualification
12.0	E-Procurement
13.0	Award of Contract
13.1	Award Criteria
13.2	Award Notice
13.3	Transparency of Expenditure
14.0	Value of Contract
15.0	Acceptance
16.0	Payment Terms
17.0	Liability of Council
18.0	Attendance at Committee
19.0	Declaration

1.0 Invitation to Tender

- 1.1** You are invited to tender for the works associated with this contract involve replacement of the existing chillers, associated controls and ancillaries as detailed in the Tender Response Document. The contractor will need to maintain reduced capacity throughout the works except during the summer break from 1st August to 28th August 2022
- 1.2** Tenders are to be submitted in accordance with the Schedule of Amendments to JCT Building Contract 2016 Edition, and the instructions outlined within this document.
- 1.3** Tenders must be submitted in accordance with the following instructions. Tenders not complying in any particular way may be rejected by Shropshire Council (the Council) whose decision in the matter shall be final. Persons proposing to submit a Tender are advised to read the Invitation to Tender documentation carefully to ensure that they are fully familiar with the nature and extent of the obligations to be accepted by them if their Tender is accepted.
- 1.4** The Invitation to Tender documents must be treated as private and confidential. Tenderers should not disclose the fact that they have been invited to tender or release details of the Invitation to tender document other than on an “in confidence” basis to those who have a legitimate need to know or who they need to consult for the purpose of preparing the tender as further detailed in these Instructions for Tendering.
- 1.5** Tenderers shall not at any time release information concerning the invitation to tender and/or the tender documents for publication in the press or on radio, television, screen or any other medium without the prior consent of the Council.
- 1.6** The fact that a Tenderer has been invited to submit a tender does not necessarily mean that it has satisfied the Council regarding any matters raised in the pre-tender questionnaire submitted. The Council makes no representations regarding the Tenderer’s financial stability, technical competence or ability in any way to carry out the required services. The right to return to any matter raised in any pre-tender questionnaire submitted as part of the formal tender evaluation is hereby reserved by the Council.
- 1.7** The Invitation to Tender is issued on the basis that nothing contained in it shall constitute an inducement or incentive nor shall have in any other way persuaded a tenderer to submit a tender or enter into a Contract or any other contractual agreement.
- 1.8** Shropshire Council is purchasing on behalf of itself and any wholly owned local authority company or other entity that is deemed to be a contracting authority by virtue of the Council’s involvement.

2.0 Terms and Conditions

- 2.1** Every Tender received by the Council shall be deemed to have been made subject to the Schedule of Amendments to JCT Building Contract 2016 and these Instructions for Tendering unless the Council shall previously have expressly agreed in writing to the contrary.

- 2.2** The Tenderer is advised that in the event of their Tender being accepted by the Council, they will be required to undertake the required services.

3.0 Preparation of Tenders

3.1 Completing the Tender Response Document

- 3.1.1** Tenders should be submitted using the 'Tender Response Document' following the instructions given at the front of the document. The Tenderer's attention is specifically drawn to the date and time for receipt of Tenders and that no submission received after the closing time will be considered.

- 3.1.2** All documents requiring a signature must be signed;

- a) Where the Tenderer is an individual, by that individual;
- b) Where the Tenderer is a partnership, by two duly authorised partners;
- c) Where the Tenderer is a company, by two directors or by a director and the secretary of the company, such persons being duly authorised for the purpose.

- 3.1.3** The Invitation to Tender Documents are and shall remain the property and copyright of the Council

3.2 Tender Preparation and Costs

- 3.2.1** It shall be the responsibility of Tenderers to obtain for themselves at their own expense all information necessary for the preparation of their Tender. No claim arising out of want of knowledge will be accepted. Any information supplied by the Council (whether in the Tender Documentation or otherwise) is supplied only for general guidance in the preparation of tenders.

- 3.2.2** Any Tenderer considering making the decision to enter into a contractual relationship with the Council must make an independent assessment of the Tender opportunity after making such investigation and taking such professional advice as it deems necessary.

- 3.2.3** Tenderers will be deemed for all purposes connected with their Tender submission where appropriate to have visited and inspected the Council, its assets, all the locations in respect of the delivery of the services/supplies/works and to have satisfied themselves sufficiently as to the nature, extent and character of the services supplies/works sought, and the human resources, materials, software, equipment, machinery, and other liabilities and other matters which will be required to perform the contract.

- 3.2.4** The Council will not be liable for any costs incurred by Tenderers in the preparation or presentation of their tenders.

- 3.2.5** Tenderers are required to complete all pricing schedules in the Invitation to tender documents. The terms "Nil" and "included" are not to be used but a zero or figures must be inserted against each item. Unit rates and prices must be quoted in pounds sterling and whole new pence.

- 3.2.6** It shall be the Tenderer's responsibility to ensure that all calculations and prices in the Tender documentation are correct at the time of submission.

- 3.2.7** The Tenderer is deemed to have made him/herself acquainted with the Council's requirements and tender accordingly. Should the Tenderer be in any doubt regarding the true meaning and intent of any element of the specification he is invited to have these fully resolved before submitting his Tender. No extras will be allowed for any loss or expense involved through any misunderstanding arising from his/her failure to comply with this requirement.
- 3.2.8** Any Tender error or discrepancy identified by the Council may be drawn to the attention of the Tenderer who will be given the opportunity to correct, confirm or withdraw the Tender.
- 3.2.9** The Tender Documents must be treated as private and confidential. Tenderers should not disclose the fact that they have been invited to tender or release details of the Tender document other than on an In Confidence basis to those who have a legitimate need to know or whom they need to consult for the purpose of preparing the Tender.

3.3 Parent Company Guarantee

It is a condition of contract that if the tendering company is a subsidiary then its Ultimate Group/Holding Company must guarantee the performance of this contract and provide a letter to that effect signed by a duly authorised signatory of the Ultimate Group/Holding Company if requested to do so by the Council. Where the direct parent company cannot provide an adequate guarantee in the opinion of the Council, the Council will look to another group or associate company, with adequate assets, to be the guarantor. In cases where the contract is with a Joint Venture Company (JVC) or a Special Purpose Vehicle (SPV) company, which may have two or more parent companies and which may not be adequately capitalised or have sufficient financial strength on its own to support the risk and obligations it has under the contract, 'joint and several' guarantees / indemnities from the parent companies of the JVC or SPV may be sought.

3.4 Warranty

The Tenderer warrants that all the information given in their Tender and if applicable their Request to Participate Questionnaire is true and accurate. The information provided will be deemed to form part of any contract formed under this contract.

The Tenderer warrants that none of their current Directors have been involved in liquidation or receivership or have any criminal convictions

4.0 Tender Submission

- 4.1** Tenders must be submitted strictly in accordance with the letter of instruction accompanying this Invitation to Tender. Tenders must be submitted by the deadline of **noon, 23rd May 2022**.
- 4.2** No unauthorised alteration or addition should be made to the Specification and Tender Response Document, or to any other component of the Tender document. If any such alteration is made, or if these instructions are not fully complied with, the Tender may be rejected.
- 4.3** Qualified tenders may be submitted, but the Council reserves the right not to accept any such tender. The Council's decision on whether or not a Tender is acceptable will be final.

4.4 Tenderers should note that their Tender must remain open and valid and capable of acceptance for a period of at least 90 days.

4.5 Tenderers should note that Tenders and supporting documents must be written in English and that any subsequent contract, which may or may not be entered into, its formation, interpretation and performance, shall be subject to and in accordance with the laws of England and subject to the jurisdiction of the Courts of England and Wales.

4.6 Where Tender submissions are incomplete the Council reserves the right not to accept them.

5.0 Variant Bids

5.1 The Council is interested in alternative solutions which would provide and develop opportunities for savings in service costs, service improvement or other financial benefits. In particular, the Council wishes to encourage solutions which also deliver benefits and added value to the local economy, residents and the business community.

5.2 Tenderers may submit, at their discretion, a Tender offering a different approach to the project as a "Variant Bid". However, to permit comparability, at least one bid must be submitted strictly in accordance with the Invitation to Tender Documents (the "Compliant Tender") . Any Tender variant proposed must clearly state how it varies from the requirements of the Compliant Tender Documents, and be explicit in demonstrating the benefits that will accrue to the Council from adopting this approach. Tenderers will be required to identify which submission, in their view, demonstrates best value to the Council.

5.3 Variant Bids must contain sufficient financial and operational detail to allow any Variant Bid to be compared with the standard Tender, permitting its considerations in written form.

6.0 Tender Evaluation

6.1 The Tenderers may be called for interview to seek clarification of their tender or additional or supplemental information in relation to their tender. The presentations will not carry any weighting to the final score achieved by Tenderers, but will be used to clarify and moderate issues raised in the Tenderer's submissions. Any areas of discrepancy between submissions and information gained from the presentations will be reviewed and scores previously awarded will be amended if necessary.

6.2 If the Council suspects that there has been an error in the pricing of a Tender, the Council reserves the right to seek such clarification, as it considers necessary from the Tenderer in question.

7.0 Clarifications

7.1 Tenderers are responsible for clarifying any aspects of the tendering process and/or the Invitation to Tender documents in the manner described below.

7.2 If you are unsure of any section and require further clarification, please contact via our Delta Tenderbox.

- 7.3** Where appropriate, the Authorised Officer named above may direct the Tenderer to other officers to deal with the matter.
- 7.4** All queries should be raised as soon as possible (in writing), in any event not later than **16th May 2022**.
- 7.5** All information or responses that clarify or enhance the tendering process will be supplied to all Tenderers on a uniform basis (unless expressly stated otherwise). These responses shall have the full force of this Instruction and where appropriate the Conditions of Contract. If a Tenderer wishes the Council to treat a question as confidential this must be expressly stated. The Council will consider such requests and will seek to act fairly between the Tenderers, whilst meeting its public law and procurement duties in making its decision.
- 7.6** Except as directed in writing by the Authorised Officer, and confirmed in writing to a Tenderer, no agent or officer or elected Member (Councillor) of the Council has any express or implied authority to make any representation or give any explanation to Tenderers as to the meaning of any of the Tender Documents, or as to anything to be done or not to be done by a Tenderer or to give any warranties additional to those (if any) contained in the ITT or as to any other matter or thing so as to bind the Council in any way howsoever.
- 8.0 Continuation of the Procurement Process**
- 8.1** The Council shall not be committed to any course of action as a result of:
- i) issuing this Invitation to Tender;
 - ii) communicating with a Tenderer, a Tenderer's representative or agent in respect of this procurement exercise;
 - iii) any other communication between the Council (whether directly or through its agents or representatives) and any other party.
- 8.2** The Council reserves the right at its absolute discretion to amend, add to or withdraw all, or any part of this Invitation to Tender at any time during the tendering stage of this procurement exercise.
- 8.3** At any time before the deadline for receipt of tender returns the Council may modify the Invitation to Tender by amendment. Any such amendment shall be numbered and dated and issued by the Council to all participating tenderers. In order to give prospective Tenderers reasonable time in which to take the amendment into account in preparing its Tender return, the Council may in its sole discretion, extend the deadline for submission of the tender returns. The Council reserves the right to amend, withdraw, terminate or suspend all or any part of this procurement process at any time at its sole discretion.
- 9.0 Confidentiality**
- 9.1** All information supplied by the Council in connection with or in these Tender Documents shall be regarded as confidential to the Council unless the information is already within the public domain or subject to the provisions of the Freedom of Information Act 2000.

- 9.2** The Contract documents and publications are and shall remain the property of the Council and must be returned upon demand.
- 9.3** Tenderers shall ensure that each and every sub-contractor, consortium member and/or professional advisor to whom it discloses these papers complies with the terms and conditions of this ITT.
- 9.4** The contents of this Invitation to Tender are being made available by the Council on condition that:
- 9.4.1** Tenderers shall at all times treat the contents of the Invitation to tender and any related documents as confidential, save in so far as they are already in the public domain and Tenderers shall not, subject to the provisions relating to professional advisors, sub-contractors or other persons detailed below, disclose, copy, reproduce, distribute or pass any of the contents of the Invitation to tender to any other person at any time or allow any of these things to happen;
- 9.4.2** Tenderers shall not use any of the information contained in this Invitation to tender for any purpose other than for the purposes of submitting (or deciding whether to submit) the tender; and
- 9.4.3** Tenderers shall not undertake any publicity activity within any section of the media.
- 9.5** Tenderers may disclose, distribute or pass this Invitation to tender to their professional advisors, sub-contractors or to another person provided that:
- 9.5.1** this is done for the sole purpose of enabling an Invitation to tender to be submitted and the person receiving the Information undertakes in writing to keep the Invitation to Tender confidential on the same terms as if that person were the Tenderer; or
- 9.5.2** the Tenderer obtains the prior written consent of the Council in relation to such disclosure, distribution or passing of the Invitation to Tender; or
- 9.5.3** the disclosure is made for the sole purpose of obtaining legal advice from external lawyers in relation to the procurement or to any Contract(s) which may arise from it; or
- 9.5.4** the Tenderer is legally required to make such a disclosure.
- 9.6** The Council may disclose detailed information relating to the Invitation to Tender to its officers, employees, agents, professional advisors or Governmental organisations and the Council may make any of the Contracts and procurement documents available for private inspection by its officers, employees, agents, professional advisors, contracting authorities or Governmental organisations.

9.7 Transparency of Expenditure

Further to its obligations regarding transparency of expenditure, the Council may be required to publish information regarding tenders, contracts and expenditure to the general public, which could include the text of any such documentation, except for any information which is exempt from disclosure in accordance with the provisions of the Freedom of Information Act to be determined at the absolute discretion of the Council.

10.0 Freedom of Information

- 10.1** Please note that from 1 January 2005 under the provisions of the Freedom of Information Act 2000, the public (included in this are private companies, journalists, etc.) have a general right of access to information held by public authorities. One of the consequences of those new statutory responsibilities is that information about your organisation, which Shropshire Council may receive from you during this tendering process may be subject to disclosure, in response to a request, unless one of the various statutory exemptions applies.
- 10.2** In certain circumstances, and in accordance with the Code of Practice issued under section 45 of the Act, Shropshire Council may consider it appropriate to ask you for your views as to the release of any information before we make a decision as to how to respond to a request. In dealing with requests for information under the Act, Shropshire Council has to comply with a strict timetable and it would therefore expect a timely response to any such consultation within five working days.
- 10.3** If, at any stage of this tendering process, you provide any information to Shropshire Council in the expectation that it will be held in confidence, then you must make it clear in your documentation as to the information to which you consider a duty of confidentiality applies. The use of blanket protective markings such as “commercial in confidence” will no longer be appropriate and a clear indication as to what material is to be considered confidential and why should be given.
- 10.4** Shropshire Council will not be able to accept that trivial information or information which by its very nature cannot be regarded as confidential should be subject to any obligation of confidence.
- 10.5** In certain circumstances where information has not been provided in confidence, Shropshire Council may still wish to consult with you as to the application of any other exemption such as that relating to disclosure that will prejudice the commercial interests of any party. However the decision as to what information will be disclosed will be reserved to Shropshire Council.

For guidance on this issue see: <http://www.ico.gov.uk>

11.0 Disqualification

- 11.1** The Council reserves the right to reject or disqualify a Tenderer's Tender submission where:
- 11.1.1** The tenderer fails to comply fully with the requirements of this Invitation to tender or is in breach of clause 15 of the Council's General Terms and Conditions relating to Bribery and Corruption or is guilty of a serious or intentional or reckless misrepresentation in supplying any information required; or
- 11.1.2** The tenderer is guilty of serious or intentional or reckless misrepresentation in relation to its tender return and/or the procurement process.
- 11.1.3** The tenderer directly or indirectly canvasses any member, official or agent of the Council concerning the award of the contract or who directly or indirectly obtains or attempts to obtain information from any such person concerning any other Tender or proposed Tender for the services. The Canvassing Certificate must be completed and returned as instructed.
- 11.1.4** The Tenderer :

- a) Fixes or adjusts the amount of his Tender by or in accordance with any agreement or arrangements with any other person; or
- b) Communicates to any person other than the Council the amount or approximate amount of his proposed Tender (except where such disclosure is made in confidence in order to obtain quotations necessary for preparation of the Tender for insurance purposes); or
- c) Enters into an agreement or arrangement with any other person that he shall refrain from tendering or as to the amount of any Tender to be submitted; or
- d) Offers or agrees to pay or give or does pay or gives any sum of money, inducement or valuable consideration directly or indirectly to any person for doing or having done or causing or having caused to be done in relation to any Tender or proposed Tender for the services any act or omission.

11.2 Any disqualification will be without prejudice to any other civil remedies available to the Council and without prejudice to any criminal liability which such conduct by a Tenderer may attract. The Non-Collusive Tendering Certificate must be completed and returned as instructed.

11.3 The Council reserves the right to disqualify an Applicant from further participating in this procurement process where there is a change in the control or financial stability of the Tenderer at any point in the process up to award of a contract and such change of control or financial stability has a materially adverse effect on the Tenderer's financial viability or ability to otherwise meet the requirements of the procurement process.

12.0 E-Procurement

As part of its procurement strategy Shropshire Council is committed to the use of technology that can improve the efficiency of procurement. Successful Tenderers may be required to send or receive documents electronically. This may include purchase orders, acknowledgements, invoices, payment advices, or other procurement documentation. These will normally be in the Council's standard formats, but may be varied under some circumstances so as not to disadvantage small and medium suppliers.

13.0 Award of Contract

13.1 Award Criteria

The Award Criteria has been set out within the Tender Response Document accompanying this invitation to tender. The Council is not bound to accept the lowest or any Tender.

13.2 Award Notice

The Council will publish the name and addresses of the successful Tenderers where appropriate. The Contracting Authority reserves the right to pass all information regarding the outcome of the Tendering process to the Office of Fair Trading to assist in the discharge of its duties. Additionally, the Council will adhere to the requirements of the Freedom of Information Act 2000 and Tenderers should note this statutory obligation.

13.3 Transparency of Expenditure

Further to its obligations regarding transparency of expenditure, the Council may also be required to publish information regarding tenders, contracts and expenditure to the general public, which could include the text of any such documentation, except for any information which is exempt from disclosure in accordance with the provisions of the Freedom of Information Act to be determined at the absolute discretion of the Council.

14.0 Value of Contract

Shropshire Council cannot give any guarantee in relation to the value of this contract

15.0 Acceptance

15.1 Tenders must be submitted strictly in accordance with the terms of the Council's Invitation to Tender documentation and acceptance of the tender shall be conditional on compliance with this Tender Condition.

15.2 The Tender documentation including the Council's draft form of contract, the Tender Response document and these Instructions to Tender shall form the basis of the final binding agreement between the Contractor and the Council.

15.3 The Tenderer shall be prepared to commence the provision of the supply and services on the start date of the contract being **1st August 2022**

16.0 Payment Terms

Tenderers should particularly note that the principles governing public procurement require that, as far as is reasonably possible, payments for Goods, Works or Services are made after the provision. Therefore any indication of a pricing strategy within a Tender which provides for substantial payments at the outset of the Contract will be examined carefully to decide whether or not a Tender in such form can be accepted. If in the opinion of the Council such substantial payments appear excessive in relation to the requirements of the Contract the Council reserves, without prejudice to any other right to reject any Tender it may have, the right to require the Tenderer to spread such proportion of the costs as are considered excessive over the duration of the Contract.

17.0 Liability of Council

17.1 The Council does not bind himself to accept the lowest or any tender.

17.2 The Council does not accept any responsibility for any pre-tender representations made by or on its behalf or for any other assumptions that Tenderers may have drawn or will draw from any pre-tender discussions.

17.3 The Council shall not be liable to pay for any preparatory work or other work undertaken by the Tenderer for the purposes of, in connection with or incidental to this Invitation to Tender, or submission of its Tender response or any other communication between the Council and any other party as a consequence of the issue of this Invitation to Tender.

17.4 The Council shall not be liable for any costs or expenses incurred by any Tenderer in connection with the preparation of a Tender return for this procurement exercise,

its participation in this procurement whether this procurement is completed, abandoned or suspended.

17.5 Whilst the Tender Documents have been prepared in good faith, they do not purport to be comprehensive nor to have been formally verified. Neither the Council nor any of its staff, agents, elected Members, or advisers accepts any liability or responsibility for the adequacy, accuracy or completeness of any information given, nor do they make any representation or given any warranty, express or implied, with respect to the Tender Documents or any matter on which either of these is based (including, without limitation, any financial details contained within the Specification and Contract Documentation). Any liability is hereby expressly disclaimed save in the event of fraud, or in the event of specific warranties provided within the Contract Documentation.

18.0 The Contractor agrees that where requested in writing during the term of any Agreement for the supply Goods Works or Services it will ensure that an appropriately authorised representative of the Contractor shall attend a Committee meeting of the Council upon being invited to do so by the Council

19.0 **Declaration**

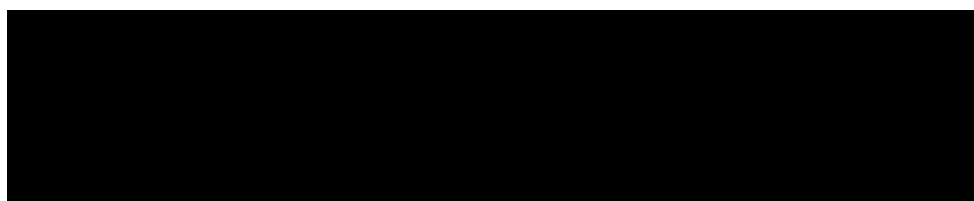
We, as acknowledged by the signature of our authorised representative, accept that we have read and understood these Instructions to Tender and agree to be bound by them when submitting our tender response. We confirm that all the responses provided within our tender response are true and accurate and acknowledge and accept that, if successful in being appointed as the Contractor, our tender responses shall be included as part of the final binding agreement between the Contractor and



Tender Response Document

RMNB 034 9309 – Theatre Severn – Replacement of Chillers & Controls

Name of TENDERING
ORGANISATION
(please insert)



Please also add your company name to the footer of each page of the returned document



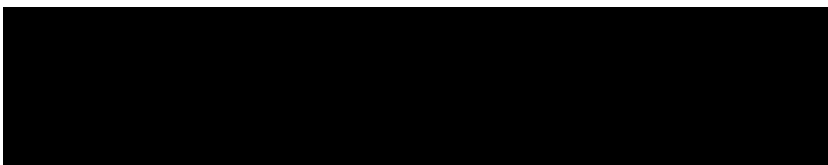
Shropshire Council Tender Response Document

Contract Description/Specification:

Please refer to the MEP Specification and read in conjunction with the full tender package, for full details of the scheme.

The works associated with this contract involve replacement of the existing chillers, associated controls and ancillaries.

The contractor will need to maintain reduced capacity throughout the works except during the summer break from 1st August to 28th August 2022



Instructions for the completion of this document

1. This document must be completed in its entirety with responses being given to all questions. If you are unsure of any section/question and require further clarification, please contact us via our Delta Tenderbox. You are recommended to keep a copy of all tender documents and supporting documents for your own records.
2. Tenderers must also complete and sign the four certificates in Sections A1 to A4. These must be signed;
 - a) Where the tenderer is an individual, by that individual;
 - b) Where the tenderer is a partnership, by two duly authorised partners;
 - c) Where the tenderer is a company, by two directors or by a director and the secretary of the company, such persons being duly authorised for the purpose.
3. All questions require specific responses from you relating to the organisation named in Section B Part 1 Question 1.1 (a). All information supplied must be accurate and up to date. The Council reserves the right to refuse to consider your application if the Tender Response Document is not fully completed or is found to be inaccurate.
4. Where copies of certificates and other details are requested **a copy must** accompany your tender response.

Contents

Section	Description	Page
A1	Form of Tender	8
A2	Non-Canvassing Certificate	9
A3	Non-Collusive Tendering Certificate	10
A4	Declaration of Connection with Officers or Elected Members of the Council	11
You must sign all 4 certificates in sections A1 to A4		
B Part 1	Supplier Information– For information only	14
B Part 2 Section 2	Grounds for <u>Mandatory</u> Exclusion	18
B Part 2 Section 3	Grounds for Discretionary Exclusion	21
Section C	Tender, Pricing and Social Value Schedule	29



Evaluation Criteria

Tenders will be evaluated on the answers provided in this 'Tender Response Document'. The following criteria is made up of 'pass/fail' (selection criteria) questions and 'weighted marked' (award criteria) questions and shows how each section is to be marked.

Selection Criteria Pass/Fail Questions (Section B)

This information will be provided for proof of compliance and will be judged on a pass or fail basis. Applicants must comply with these issues to demonstrate their proven competency, financial stability, resources and other arrangements. Questions marked 'For information only' will not be assessed; however they must still be answered in full.

Section / Question No.	Selection Criteria
Section B Part 1	Supplier Information– For information only
Section B Part 2 Section 2	Grounds for <u>Mandatory</u> Exclusion
Section B Part 2 Section 3 - 8	Grounds for Discretionary Exclusion

In relation to discretionary exclusion grounds (section B part 3):-

Financial viability: Responses will be analysed and evaluated by the Authority's Audit sections and will include checks via an independent agency (currently Equifax).

If the financial analysis of the Applicant (please note financial information provided by consortium members will be evaluated to assess the Applicant consortium as a whole) gives cause for concern as to its ability to deliver the Contract, the Applicant will fail this section.

If the financial analysis of the Applicant does not give any cause for concern as to its ability to deliver the Contract – it shall be deemed to have passed the section.

Please note the Contracting Authority reserves the right to further check the Financial Stability and Capacity of an applicant prior to any award of contract in the manner set out above in order to ensure that they still pass that requirement.

For other Discretionary exclusion grounds: If in the opinion of the Contracting Authority the responses provided casts serious doubt on the Tenderer's ability to perform this contract, they may be excluded.



Award Criteria – Weighted Marked Questions

Tenders will be evaluated on the answers provided in this Tender Response Document and judged against the criteria shown in the table below. The following award criteria is made up of 'Quality' and 'Price' and shows how each criteria is to be weighted against each other.

Section / Question No.	Award Criteria	Max Marks Available
Price 40% (200 marks)		
Section C / Q 1.1	Price	160 max marks
Section C / Q 1.2	Dayworks	40 max marks
Total for price		200 max marks
Quality 50% (250 marks)		
Section C / Q 2.1	Project Management	75 max marks
Section C / Q 2.2	Project Team	50 max marks
Section C / Q 2.3	After Sales service	25 max marks
Section C / Q 2.4	Risk assessment and method statement	25 max marks
Section C / Q 2.5	Continuity	50 max marks
Section C / Q 2.6	Issues on site	25 max marks
Total for quality		250 max marks
Social Value 10% (50 marks)		
Section C / Q 3.1	Social Value proposals	25 max marks
Section C / Q 3.2	Carbon Emissions	25 max marks
Total for Social Value		50 max marks

Shropshire Council is committed to securing Social Value through all its procurement activity. By requiring contractors to deliver Social Value we will improve social, economic and environmental outcomes for Shropshire and beyond. Our Social Value Framework sets how the Council's priorities can be met by a range of Social Value measures

<https://www.shropshire.gov.uk/social-value/>



Quality Questions/ Scoring Scheme

Questions within the quality sections shown above will be scored using the following scoring scheme. Each answer from the questions identified below will be given a mark between 0 and 10 with the following meanings:

Assessment	Mark	Interpretation
Excellent	10	<i>Exceeds the requirement. Exceptional demonstration by the Tenderer of how they will meet this requirement by their allocation of skills and understanding, resources and quality measures. Response identifies factors that demonstrate added value, with evidence to support the response.</i>
	9	
Good	8	<i>Satisfies the requirement with minor additional benefits Above average demonstration by the Tenderer of how they will meet this requirement by their allocation of skills and understanding, resources and quality measures. Response identifies factors that demonstrate added value, with evidence to support the response.</i>
	7	
Acceptable	6	<i>Satisfies the requirement. Demonstration by the Tenderer of how they will meet this requirement by their allocation of skills and understanding, resources and quality measures, with evidence to support the response.</i>
	5	
Minor Reservations	4	<i>Satisfies the requirement with minor reservations Some minor reservations regarding how the Tenderer will meet this requirement by their allocation of skills and understanding, resources and quality measures, with limited evidence to support the response.</i>
	3	
Serious Reservations	2	<i>Satisfies the requirement with major reservations. Considerable reservations regarding how the Tenderer will meet this requirement by their allocation of skills and understanding, resources and quality measures, with little or no evidence to support the response.</i>
	1	
Unacceptable	0	<i>Does not meet the requirement Does not comply and/or insufficient information provided to demonstrate how the Tenderer will meet this requirement by their allocation of skills and understanding, resources and quality measures, with little or no evidence to support the response.</i>

The use of odd numbers indicates an answer's allocated mark lies between definitions.

The tender receiving the highest initial mark for Quality Criteria overall will receive the full 250 marks available for Quality. Other tenders will receive a final mark that reflects the final % difference in the initial marks between those tenders and the tender receiving the highest initial mark for Quality overall.



Price Evaluation and scoring

Section C / Q 1.1 Price.

This will be evaluated by using the 'total value' tendered in the Form of Fixed Price Tender document

The most competitively priced tender will receive the maximum mark for question 1.1 being **160. Less competitive tenders** will receive a % of the maximum mark that represents the difference in cost between that tender and the most competitively priced tender.

Section C / Q 1.2 Dayworks.

Dayworks will be evaluated based on 37 hours on site with £2,000.00 (nett cost) materials plus contractors uplift, £500.00 (nett cost) Plant Hire plus contractors uplift and £4,000.00 (nett cost) Sub-Contractors plus contractors uplift.

The most competitively priced tender will receive the maximum mark for question 1.2 being 40. Less competitive tenders will receive a % of the maximum mark that represents the difference in cost between that tender and the most competitively priced tender.

Validating Prices and overall cost tendered:

Please note any contract awarded at the conclusion of this procurement process must be able to viably operate and be sustainable. Tendered prices and overall costs will therefore be subject to scrutiny and may be rejected if considered by Shropshire Council not to be sustainable over the duration of the contract or not to be affordable. Clarifications sought may require the provision of the tenderer's calculations of their tendered Prices or any other aspect of the overall cost.

Failure to provide satisfactory evidence to support any part of this aspect of the tender may result in the tender being rejected.

Social Value Evaluation and Scoring

Proposals for delivery of Social Value in accordance with Shropshire Council's Social Value Framework will be scored using the scoring scheme applied to responses in the 'Quality' section of this tender response. Where we have not set out any particular measures for you to consider we will take into account the nature and proportionality of your Social Value commitment in relation to this contract. Where we have set out measures for you to consider we will take into account the extent to which your response meets these particular requirements.

The tender receiving the highest initial mark for Social Value overall will receive the full 50 marks available for Social Value. Other tenders will receive a final mark that reflects the final % difference in the initial marks between those tenders and the tender receiving the highest initial mark for Social Value overall.



Section A:

1. Form of Tender

NOTE – PLEASE SEE APPENDIX – “Section A - Signed Form of Tender”

Form of Tender

Shropshire Council

Tender for 9309 – Severn Theatre – Replacement of Chillers and Controls

We confirm that this, our tender, represents an offer to Shropshire Council that if accepted in whole, or in part, will create a binding contract for the supply/provision of the replacement of the chillers and controls at the prices and terms agreed and subject to the terms of the invitation to tender documentation and the Terms and Conditions, copies of which we have received.

Section A:

2. Non – Canvassing Certificate

NOTE – PLEASE SEE APPENDIX –

“Section A – 2 signed Non-Canvassing Certificate”

Non-Canvassing Certificate

To: Shropshire Council (hereinafter called “the Council”)

I/We hereby certify that I/We have not canvassed or solicited any member officer or employee of the Council in connection with the award of this Tender or any other Tender or proposed Tender for the Services and that no person employed by me/us or acting on my/our behalf has done any such act.

I/We further hereby undertake that I/We will not in the future canvass or solicit any member officer or employee of the Council in connection with the award of this Tender or any other Tender or proposed Tender for the Services and that no person employed by me/us or acting on my/our behalf will do any such act.

**NOTE – PLEASE SEE APPENDIX –
“Section A – signed Non-Collusive Tendering Certificate”**

Non-collusive Tendering Certificate

To: Shropshire Council (hereinafter called “the Council”)

The essence of selective tendering is that the Council shall receive bona fide competitive Tenders from all persons tendering. In recognition of this principle:

I/We certify that this is a bona fide Tender, intended to be competitive and that I/We have not fixed or adjusted the amount of the Tender or the rates and prices quoted by or under or in accordance with any agreement or arrangement with any other person.

I/We also certify that I/We have not done and undertake that I/We will not do at any time any of the following acts:-

- (a) communicating to a person other than the Council the amount or approximate amount of my/our proposed Tender (other than in confidence in order to obtain quotations necessary for the preparation of the Tender for insurance); or
- (b) entering into any agreement or arrangement with any other person that he shall refrain from Tendering or as to the amount of any Tender to be submitted; or
- (c) offering or agreeing to pay or give or paying any sum of money, inducement or valuable consideration directly or indirectly to any person for doing or having done or causing or having caused to be done in relation to any other Tender or proposed Tender for the Services any act or omission.

**NOTE – PLEASE SEE APPENDIX –
“Section A – 4. Signed Declaration of Connection”**

Section A:
**4. Declaration of Connection with Officers or Elected
Members of the Council**

Are you or any of your staff who will be affected by this invitation to tender related or connected in any way with any Shropshire Council Elected Councillor or Employee?

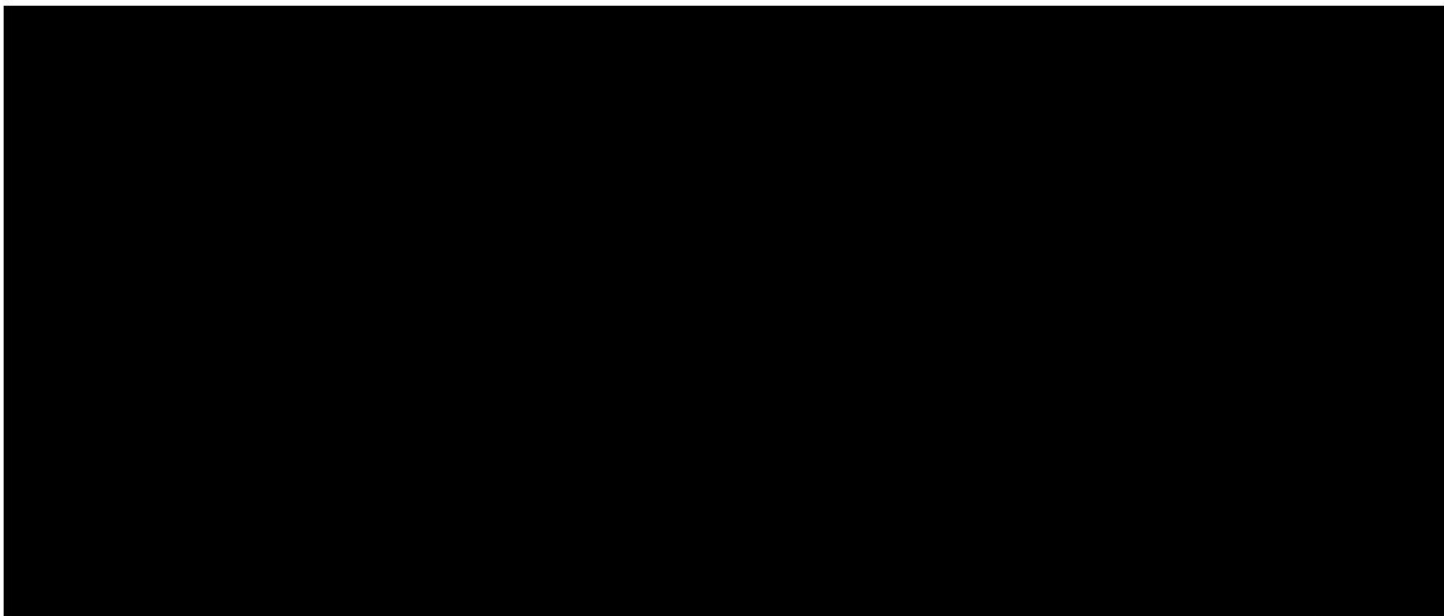


If yes, please give details:

Name	Relationship

Please note:

This information is collected to enable the Council to ensure that tenders are assessed without favouritism. Whether or not you have a connection with elected members or employees will have no bearing on the success of your tender, but your tender will not be considered unless this declaration has been completed.



SECTION B

Standard Selection Questionnaire

Potential Supplier Information and Exclusion Grounds: Part 1 and Part 2.

The standard Selection Questionnaire is a self-declaration, made by you (the potential supplier), that you do not meet any of the grounds for exclusion. If there are grounds for exclusion (there is an opportunity to explain the background and any measures you have taken to rectify the situation (we call this self-cleaning). For the list of exclusion please see

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/551130/List_of_Mandatory_and_Discretionary_Exclusions.pdf

A completed declaration of Part 1 and Part 2 provides a formal statement that the organisation making the declaration has not breached any of the exclusions grounds. Consequently we require all the organisations that you will rely on to meet the selection criteria to provide a completed Part 1 and Part 2. For example these could be parent companies, affiliates, associates, or essential sub-contractors, if they are relied upon to meet the selection criteria. This means that where you are joining in a group of organisations, including joint ventures and partnerships, each organisation in that group must complete one of these self-declarations. Sub-contractors that you rely on to meet the selection criteria must also complete a self-declaration (although sub-contractors that are not relied upon do not need to complete the self-declaration).

When completed, this form is to be sent back to the contact point given in the procurement documents along with the selection information requested in the procurement documentation.

Supplier Selection Questions: Part 3

This document provides instructions on the selection questions you need to respond to and how to submit those responses. If you are bidding on behalf of a group (consortium) or you intend to use sub-contractors, you should complete all of the selection questions on behalf of the consortium and/or any sub-contractors.

If the relevant documentary evidence referred to in the Selection Questionnaire is not provided upon request and without delay we reserve the right to amend the contract award decision and award to the next compliant bidder.

Consequences of misrepresentation

If you seriously misrepresent any factual information in filling in the Selection Questionnaire, and so induce an authority to enter into a contract, there may be significant consequences. You may be excluded from the procurement procedure, and from bidding for other contracts for three years. If a contract has been entered into you may be sued for damages and the contract may be rescinded. If fraud, or fraudulent intent, can be proved, you or your responsible officers may be prosecuted and convicted of the offence of fraud by false representation, and you must be excluded from further procurements for five years.

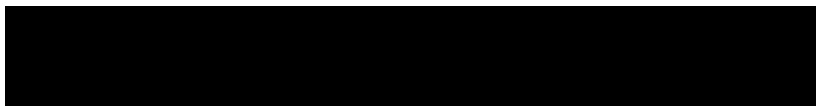


Notes for completion

1. The “authority” means the contracting authority, or anyone acting on behalf of the contracting authority, that is seeking to invite suitable candidates to participate in this procurement process.
2. “You” / “Your” refers to the potential supplier completing this standard Selection Questionnaire i.e. the legal entity responsible for the information provided. The term “potential supplier” is intended to cover any economic operator as defined by the Public Contracts Regulations 2015 (referred to as the “regulations”) and could be a registered company; the lead contact for a group of economic operators; charitable organisation; Voluntary Community and Social Enterprise (VCSE); Special Purpose Vehicle; or other form of entity.
3. Please ensure that all questions are completed in full, and in the format requested. If the question does not apply to you, please state ‘N/A’. Should you need to provide additional information in response to the questions, please submit a clearly identified annex.
4. The authority recognises that arrangements set out in section 1.2 of the standard Selection Questionnaire, in relation to a group of economic operators (for example, a consortium) and/or use of sub-contractors, may be subject to change and will, therefore, not be finalised until a later date. The lead contact should notify the authority immediately of any change in the proposed arrangements and ensure a completed Part 1 and Part 2 is submitted for any new organisation relied on to meet the selection criteria. The authority will make a revised assessment of the submission based on the updated information.
5. For Part 1 and Part 2 every organisation that is being relied on to meet the selection must complete and submit the self-declaration.
6. **Note for Contracting Authorities: The following paragraph is optional for inclusion if a decision has been made to request a self-declaration of the exclusion grounds from sub-contractors. All sub-contractors are required to complete Part 1 and Part 2¹.**
7. For answers to Part 3 - If you are bidding on behalf of a group, for example, a consortium, or you intend to use sub-contractors, you should complete all of the questions on behalf of the consortium and/ or any sub-contractors, providing one composite response and declaration.

The authority confirms that it will keep confidential and will not disclose to any third parties any information obtained from a named customer contact, other than to the Cabinet Office and/or contracting authorities defined by the regulations, or pursuant to an order of the court or demand made by any competent authority or body where the authority is under a legal or regulatory obligation to make such a disclosure.

¹ See PCR 2015 regulations 71 (8)-(9)



Part 1: Potential supplier Information

Please answer the following questions in full. Note that every organisation that is being relied on to meet the selection must complete and submit the Part 1 and Part 2 self-declaration.

Section 1	Potential supplier information	
Question number	Question	Response
1.1(a)	Full name of the potential supplier submitting the information	
1.1(b) – (i)	Registered office address (if applicable)	
1.1(b) – (ii)	Registered website address (if applicable)	
1.1(c)	Trading status a) public limited company b) limited company c) limited liability partnership d) other partnership e) sole trader f) third sector g) other (please specify your trading status)	
1.1(d)	Date of registration in country of origin	
1.1(e)	Company registration number (if applicable)	
1.1(f)	Charity registration number (if applicable)	
1.1(g)	Head office DUNS number (if applicable)	
1.1(h)	Registered VAT number	
1.1(i) - (i)	If applicable, is your organisation registered with the appropriate professional or trade register(s) in the member state where it is established?	
1.1(i) - (ii)	If you responded yes to 1.1(i) - (i), please provide the relevant details, including the registration number(s).	
1.1(j) - (i)	Is it a legal requirement in the state where you are established for you to possess a particular authorisation, or be a member of a particular organisation in order to	



	provide the services specified in this procurement?	
1.1(j) - (ii)	If you responded yes to 1.1(j) - (i), please provide additional details of what is required and confirmation that you have complied with this.	
1.1(k)	Trading name(s) that will be used if successful in this procurement.	
1.1(l)	Relevant classifications (state whether you fall within one of these, and if so which one) a) Voluntary Community Social Enterprise (VCSE) b) Sheltered Workshop c) Public Service Mutual	
1.1(m)	Are you a Small, Medium or Micro Enterprise (SME) ₂ ?	
1.1(n)	Details of Persons of Significant Control (PSC), where appropriate: ₃ - Name; - Date of birth; - Nationality; - Country, state or part of the UK where the PSC usually lives; - Service address; - The date he or she became a PSC in relation to the company (for existing companies the 6 April 2016 should be used); - Which conditions for being a PSC are met; - Over 25% up to (and including) 50%, - More than 50% and less than 75%, - 75% or more. (Please enter N/A if not applicable)	
1.1(o)	Details of immediate parent company: - Full name of the immediate parent company - Registered office address (if applicable) - Registration number (if applicable) - Head office DUNS number (if applicable) - Head office VAT number (if applicable) (Please enter N/A if not applicable)	
1.1(p)	Details of ultimate parent company: - Full name of the ultimate parent company - Registered office address (if applicable) - Registration number (if applicable) - Head office DUNS number (if applicable) - Head office VAT number (if applicable) (Please enter N/A if not applicable)	

Please note: A criminal record check for relevant convictions may be undertaken for the preferred

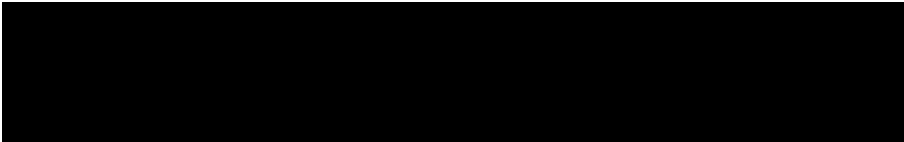


suppliers and the persons of significant in control of them.

2 See EU definition of SME - https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en
3 UK companies, Societates European (SEs) and limited liability partnerships (LLPs) will be required to identify and record the people who own or control their company. Companies, SEs and LLPs will need to keep a PSC register, and must file the PSC information with the central public register at Companies House. See PSC guidance.

Please provide the following information about your approach to this procurement:

Section 1	Bidding Model																																																											
Question number	Question	Response																																																										
1.2(a) - (i)	Are you bidding as the lead contact for a group of economic operators?																																																											
1.2(a) - (ii)	Name of group of economic operators (if applicable)																																																											
1.2(a) - (iii)	Proposed legal structure if the group of economic operators intends to form a named single legal entity prior to signing a contract, if awarded. If you do not propose to form a single legal entity, please explain the legal structure.																																																											
1.2(b) - (i)	Are you or, if applicable, the group of economic operators proposing to use sub-contractors?																																																											
1.2(b) - (ii)	If you responded yes to 1.2(b)-(i) please provide additional details for each sub-contractor in the following table: we may ask them to complete this form as well.																																																											
	<table><tr><td>Name</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Registered address</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Trading status</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Company registration number</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Head Office DUNS number (if applicable)</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Registered VAT number</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Type of organisation</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>SME (Yes/No)</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>The role each sub-contractor will take in providing the works</td><td></td><td></td><td></td><td></td><td></td></tr></table>	Name						Registered address						Trading status						Company registration number						Head Office DUNS number (if applicable)						Registered VAT number						Type of organisation						SME (Yes/No)						The role each sub-contractor will take in providing the works										
Name																																																												
Registered address																																																												
Trading status																																																												
Company registration number																																																												
Head Office DUNS number (if applicable)																																																												
Registered VAT number																																																												
Type of organisation																																																												
SME (Yes/No)																																																												
The role each sub-contractor will take in providing the works																																																												



	and /or supplies e.g. key deliverables					
	The approximate % of contractual obligations assigned to each sub- contractor					

Contact details and declaration

I declare that to the best of my knowledge the answers submitted and information contained in this document are correct and accurate.

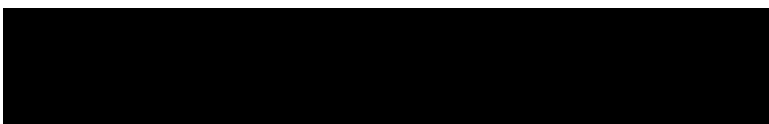
I declare that, upon request and without delay I will provide the certificates or documentary evidence referred to in this document.

I understand that the information will be used in the selection process to assess my organisation's suitability to be invited to participate further in this procurement.

I understand that the authority may reject this submission in its entirety if there is a failure to answer all the relevant questions fully, or if false/misleading information or content is provided in any section.

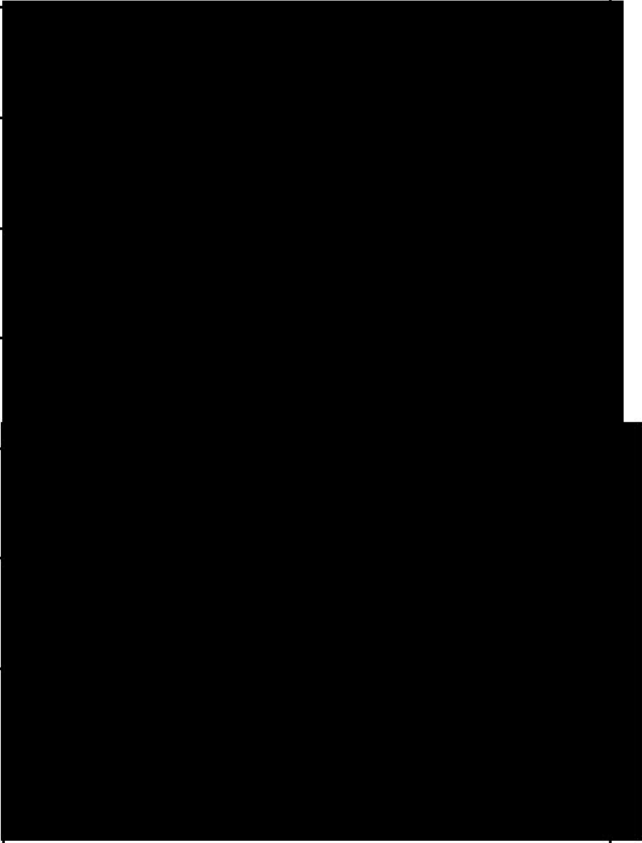
I am aware of the consequences of serious misrepresentation.


Section 1	Contact details and declaration	
Question Number	Question	Response
1.3(a)	Contact name	
1.3(b)	Name of organisation	
1.3(c)	Role in organisation	
1.3(d)	Phone number	
1.3(e)	E-mail address	
1.3(f)	Postal address	
1.3(g)	Signature (electronic is acceptable)	
1.3(h)	Date	



Part 2: Exclusion Grounds

Please answer the following questions in full. Note that every organisation that is being relied on to meet the selection must complete and submit the Part 1 and Part 2 self-declaration.

Section 2	Grounds for mandatory exclusion	
Question number	Question	Response
2.1(a)	Regulations 57(1) and (2) The detailed grounds for mandatory exclusion of an organisation are set out on the webpage (see link on page 11), which should be referred to before completing these questions. Please indicate if, within the past five years you, your organisation or any other person who has powers of representation, decision or control in the organisation been convicted anywhere in the world of any of the offences within the summary below and listed on the webpage.	
	Participation in a criminal organisation.	
	Corruption.	
	Fraud.	
	Terrorist offences or offences linked to terrorist activities	
	Money laundering or terrorist financing	
	Child labour and other forms of trafficking in human beings	
2.1(b)	If you have answered yes to question 2.1(a), please provide further details. Date of conviction, specify which of the grounds listed the conviction was for, and the reasons for conviction, Identity of who has been convicted If the relevant documentation is available electronically please provide the web address, issuing authority, precise reference of the documents.	
2.2	If you have answered Yes to any of the points above have measures been taken to demonstrate the reliability of the organisation despite the existence of a relevant ground for exclusion? (Self Cleaning)	



2.3(a)	Regulation 57(3) Has it been established, for your organisation by a judicial or administrative decision having final and binding effect in accordance with the legal provisions of any part of the United Kingdom or the legal provisions of the country in which the organisation is established (if outside the UK), that the organisation is in breach of obligations related to the payment of tax or social security contributions?		
2.3(b)	If you have answered yes to question 2.3(a), please provide further details. Please also confirm you have paid, or have entered into a binding arrangement with a view to paying, the outstanding sum including where applicable any accrued interest and/or fines.		
2.4	Please confirm that you have in place, or that you will have in place by contract award, the human and technical resources to perform the contract to ensure compliance with the General Data Protection Regulation and to ensure the protection of the rights of data subjects		
2.4(a)	Please provide details of the technical facilities and measures (including systems and processes) you have in place, or will have in place by contract award, to ensure compliance with the General Data Protection Regulation and to ensure the protection of the rights of data subjects. Your response should include, but should not be limited to facilities and measures: <ul style="list-style-type: none"> ○ to ensure ongoing confidentiality, integrity, availability and resilience of processing systems and services; ○ to comply with the rights of data subjects in respect of receiving privacy information, and access, rectification, deletion and portability of personal data; ○ to ensure that any consent based processing meets standards of active, informed consent, and that such consents are recorded and auditable; ○ to ensure legal safeguards are in place to legitimise transfers of personal data outside the EU (if such transfers will take place); ○ to maintain records of personal data processing activities; and ○ to regularly test, assess and evaluate the effectiveness of the above 		

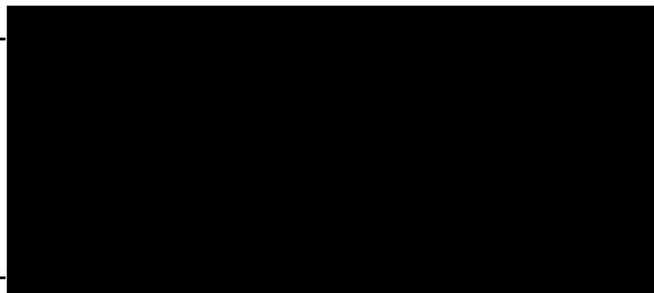
	measures.	
--	-----------	--

Please Note: The authority reserves the right to use its discretion to exclude a potential supplier where it can demonstrate by any appropriate means that the potential supplier is in breach of its obligations relating to the non-payment of taxes or social security contributions.

Section 3	Grounds for discretionary exclusion	
Question number	Question	Response
	<p>Regulation 57 (8) The detailed grounds for discretionary exclusion of an organisation are set out on this webpage (see link on page 11), which should be referred to before completing these questions.</p> <p>Please indicate if, within the past three years, anywhere in the world any of the following situations have applied to you, your organisation or any other person who has powers of representation, decision or control in the organisation.</p>	
3.1(a)	Breach of environmental obligations?	
3.1(b)	Breach of social obligations?	
3.1(c)	Breach of labour law obligations?	
3.1(d)	Bankrupt or is the subject of insolvency or winding-up proceedings, where the organisation's assets are being administered by a liquidator or by the court, where it is in an arrangement with creditors, where its business activities are suspended or it is in any analogous situation arising from a similar procedure under the laws and regulations of any State?	
3.1(e)	Guilty of grave professional misconduct?	
3.1(f)	Entered into agreements with other economic operators aimed at distorting competition?	
3.1(g)	Aware of any conflict of interest within the meaning of regulation 24 due to the participation in the procurement procedure?	
3.1(h)	Been involved in the preparation of the procurement procedure?	



3.1(i)	Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions?
--------	---



3.1(j)	Please answer the following statements	
3.1(j) - (i)	The organisation is guilty of serious misrepresentation in supplying the information required for the verification of the absence of grounds for exclusion or the fulfilment of the selection criteria.	
3.1(j) - (ii)	The organisation has withheld such information.	
3.1(j) –(iii)	The organisation is not able to submit supporting documents required under regulation 59 of the Public Contracts Regulations 2015.	
3.1(j)-(iv)	The organisation has influenced the decision-making process of the contracting authority to obtain confidential information that may confer upon the organisation undue advantages in the procurement procedure, or to negligently provided misleading information that may have a material influence on decisions concerning exclusion, selection or award.	

3.2	If you have answered Yes to any of the above, explain what measures been taken to demonstrate the reliability of the organisation despite the existence of a relevant	
-----	---	--

Section 4	Economic and Financial Standing	
Question number	Question	Response
4.1	Are you able to provide a copy of your audited accounts for the last two years, if requested? If no, can you provide one of the following: answer with Y/N in the relevant box.	



	(a) A statement of the turnover, Profit and Loss Account/Income Statement, Balance Sheet/Statement of Financial Position and Statement of Cash Flow for the most recent year of trading for this organisation.
	(b) A statement of the cash flow forecast for the current year and a bank letter outlining the current cash and credit position.
	(c) Alternative means of demonstrating financial status if any of the above are not available (e.g. forecast of turnover for the current year and a statement of funding provided by the owners and/or the bank, charity accruals accounts or an alternative means of demonstrating financial status).
4.2	Where we have specified a minimum level of economic and financial standing and/ or a minimum financial threshold within the evaluation criteria for this procurement, please self-certify by answering 'Yes' or 'No' that you meet the requirements set out.

Section 5	If you have indicated in the Selection Questionnaire question 1.2 that you are part of a wider group, please provide further details below:
Name of organisation	
Relationship to the Supplier completing these questions	
5.1	Are you able to provide parent company accounts if requested to at a later stage?
5.2	If yes, would the parent company be willing to provide a guarantee if necessary?
5.3	If no, would you be able to obtain a guarantee elsewhere (e.g. from a bank)?

Section 6	Technical and Professional Ability
6.1	<p>Relevant experience and contract examples</p> <p>Please provide details of up to three contracts, in any combination from either the public or private sector; voluntary, charity or social enterprise (VCSE) that are relevant to our requirement. VCSEs may include samples of grant-funded work. Contracts for supplies or services should have been performed during the past three years. Works contracts may be from the past five years.</p> <p>The named contact provided should be able to provide written evidence to confirm the accuracy of the information provided below.</p> <p>Consortia bids should provide relevant examples of where the consortium has delivered similar requirements. If this is not possible (e.g. the consortium is newly formed or a</p>

	<p>Special Purpose Vehicle is to be created for this contract) then three separate examples should be provided between the principal member(s) of the proposed consortium or Special Purpose Vehicle (three examples are not required from each member).</p> <p>Where the Supplier is a Special Purpose Vehicle, or a managing agent not intending to be the main provider of the supplies or services, the information requested should be provided in respect of the main intended provider(s) or sub-contractor(s) who will deliver the contract.</p> <p>If you cannot provide examples see question 6.3</p>
--	---

6.2	<p>Where you intend to sub-contract a proportion of the contract, please demonstrate how you have previously maintained healthy supply chains with your sub-contractor(s)</p> <p>Evidence should include, but is not limited to, details of your supply chain management tracking systems to ensure performance of the contract and including prompt payment or membership of the UK Prompt Payment Code (or equivalent schemes in other countries)</p>

--

6.3	If you cannot provide at least one example for questions 6.1, in no more than 500 words please provide an explanation for this e.g. your organisation is a new start-up or you have provided services in the past but not under a contract.

Section 7	Modern Slavery Act 2015: Requirements under Modern Slavery Act 2015	
	Are you a relevant commercial organisation as defined by section 54 ("Transparency in supply chains etc.") of the Modern Slavery Act 2015 ("the Act")?	
	If you have answered yes to question 7.1 are you compliant with the annual reporting requirements contained within Section 54 of the Act 2015?	

8. Additional Questions

Suppliers who self-certify that they meet the requirements to these additional questions will be required to provide evidence of this if they are successful at contract award stage.

Section 8	Additional Questions	
8.1	Insurance	
	Please self-certify whether you already have, or can commit to obtain, prior to the contract award stage, the insurance cover indicated below:	
	<p>Employer's (Compulsory) Liability Insurance = £5,Million</p> <p>Public Liability Insurance = £5Million</p> <p>Professional Indemnity Insurance = £2 million</p> <p>Product Liability Insurance = £2 million</p> <p>*It is a legal requirement that all companies hold Employer's (Compulsory) Liability Insurance of £5 million as a minimum. Please note this requirement is not applicable to Sole Traders.</p>	

8.2	Skills and Apprentices 4 –	
a.	Do you have a process in place to ensure that your supply chain supports skills, development and apprenticeships in line with PPN 14/15 (see guidance) and can provide evidence if requested?	

--	--	--

4 Procurement Policy Note 14/15– Supporting Apprenticeships and Skills Through Public Procurement

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/456805/27_08_15_Skills_Apprenticeships_PPN_vfinal.pdf

8.3 – Compliance with equality legislation

For organisations working outside of the UK please refer to equivalent legislation in the country that you are located.	
1.	<p>In the last three years, has any finding of unlawful discrimination been made against your organisation by an Employment Tribunal, an Employment Appeal Tribunal or any other court (or in comparable proceedings in any jurisdiction other than the UK)?</p>
2.	<p>In the last three years, has your organisation had a complaint upheld following an investigation by the Equality and Human Rights Commission or its predecessors (or a comparable body in any jurisdiction other than the UK), on grounds or alleged unlawful discrimination?</p> <p>If you have answered “yes” to one or both of the questions in this module, please provide, as a separate Appendix, a summary of the nature of the investigation and an explanation of the outcome of the investigation to date.</p> <p>If the investigation upheld the complaint against your organisation, please use the Appendix to explain what action (if any) you have taken to prevent unlawful discrimination from reoccurring.</p> <p>You may be excluded if you are unable to demonstrate to the Authority’s satisfaction that appropriate remedial action has been taken to prevent similar unlawful discrimination reoccurring.</p>
3.	<p>If you use sub-contractors, do you have processes in place to check whether any of the above circumstances apply to these other organisations?</p>

8.4 – Environmental Management

1.	<p>Has your organisation been convicted of breaching environmental legislation, or had any notice served upon it, in the last three years by any environmental regulator or authority (including local authority)?</p> <p>If your answer to the this question is “Yes”, please provide details in a separate Appendix of the conviction or notice and details of any remedial action or changes you have made as a result of conviction or notices served.</p> <p>The Authority will not select bidder(s) that have been prosecuted or served notice under environmental legislation in the last 3 years, unless</p>
----	--



	the Authority is satisfied that appropriate remedial action has been taken to prevent future occurrences/breaches.
2.	If you use sub-contractors, do you have processes in place to check whether any of these organisations have been convicted or had a notice served upon them for infringement of environmental legislation?

8.5 – Health & Safety

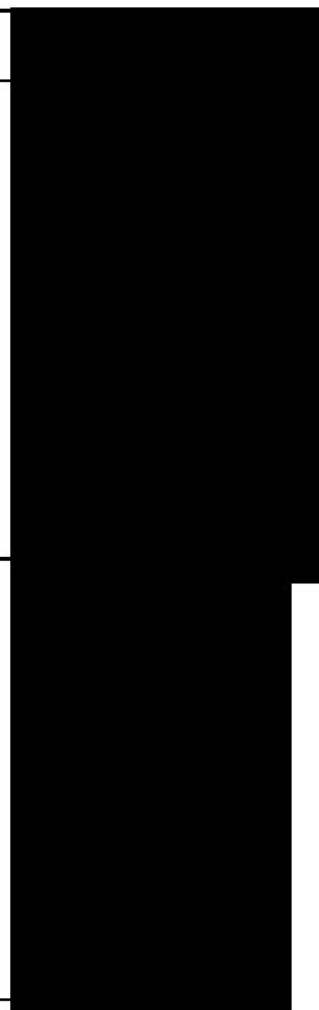
1.	Please self-certify that your organisation has a Health and Safety Policy that complies with current legislative requirements.
2.	<p>Has your organisation or any of its Directors or Executive Officers been in receipt of enforcement/remedial orders in relation to the Health and Safety Executive (or equivalent body) in the last 3 years?</p> <p>If your answer to this question was “Yes”, please provide details in a separate Appendix of any enforcement/remedial orders served and give details of any remedial action or changes to procedures you have made as a result.</p> <p>The Authority will exclude bidder(s) that have been in receipt of enforcement/remedial action orders unless the bidder(s) can demonstrate to the Authority’s satisfaction that appropriate remedial action has been taken to prevent future occurrences or breaches.</p>
3.	If you use sub-contractors, do you have processes in place to check whether any of the above circumstances apply to these other organisations?

8.6 Climate Impact / Carbon Reduction Plans

The Council has declared a climate emergency and is committed to achieving ‘net-zero’ carbon impact by 2030. Procured goods, works and services make up a significant proportion of the Council’s total carbon footprint. It is therefore important that all contractors take steps to understand the carbon impact of the goods, works or services they provide and are able to set out how they will work with the Council to help us achieve ‘net-zero’.

1.	<p>Please certify if your organisation has a Carbon Reduction / Climate Impact / Environmental Policy or Plan that aims to reduce your carbon footprint over the term of this contract.</p> <p>If your answer to this question was “Yes” and you are successful in this tender, we may ask you to submit a copy of your policy or plan.</p>
2.	<p>Does your organisation use a recognised tool to generate Climate Impact Statements and report the climate impact of your operations?</p> <p>If your answer to this question was “Yes” and you are successful in this tender, we may ask you to submit details of the reporting tool you use and any outputs from it.</p>

3.	<p>Is your organisation certified or accredited under any recognised framework (eg Carbon Trust or Planet Mark or equivalent)?</p> <p>If your answer to this question was "Yes" and you are successful in this tender, we may ask you to submit a copy of your latest certification / accreditation.</p> <p>If your answer to this question was "No" please say whether you plan to achieve certification / accreditation under a recognised framework in future.</p>
4.	<p>If you use sub-contractors, do you have processes in place to check whether any of the above apply to these other organisations?</p>



CONTENTS

PART A – PRELIMINARIES	6
SITE	7
DESIGN TEAM	7
DESIGN RESPONSIBILITY	7
SCOPE OF WORKS	7
SCHEDULE OF DRAWINGS	8
INSTALLATION DESIGN STANDARDS	8
DESIGN STANDARDS	9
CDM REGULATIONS	10
DELIVERY OF MATERIALS & EQUIPMENT	10
ASBESTOS	10
SECURITY/SAFETY/PROTECTION	11
BUILDERS WORKS	11
PROVISION OF DRAWINGS	11
FINISHING	11
LABELS & CHARTS	12
SIZING OF SERVICES & DEMONSTRATION OF COMPLIANCE	12
FIRE SAFETY	12
NOISE	13
EXTERNAL SERVICES UNDERGROUND	13
PART E BUILDING REGULATIONS COMPLIANCE	13
COORDINATION OF SERVICES	13
STRUCTURAL LIMITATIONS & SUPPORTS	14
CONTRACT DRAWINGS & SPECIFICATION	14
CONTRACT PROGRAMME	15
FUEL AND POWER	15
ALTERATIONS, MODIFICATION & REMOVAL OF EXISTING SERVICES	15
MAINTENANCE & ROUTING TESTING	16
TESTING & COMMISSIONING	17
BREEAM	19
OPERATIONS & MAINTENANCE MANUALS	19
MAINTENANCE AGREEMENT	20
BIM MODELLING	20
PART B – MECHANICAL & PUBLIC HEALTH PARTICULARS	21
GENERAL MECHANICAL SERVICES	22
STRIP OUT WORKS	22
MECHANICAL SERVICES DESIGN	22
CHILLED WATER SYSTEM	23
AUTOMATIC CONTROLS & BUILDING ENERGY MANAGEMENT SYSTEM	24

FIELD WIRING	26
NOISE & VIBRATION CONTROL.....	27
BUILDERS WORK IN CONNECTION WITH MECHANICAL SERVICES.....	27
TESTING & COMMISSIONING	27
RECORD DOCUMENTATION.....	28
MAINTENANCE AGREEMENT	28
PART B – ELECTRICAL PARTICULARS.....	29
SITE VISITS	30
MAINTENANCE.....	30
BUILDERS WORK.....	30
ELECTRICAL INSTALLATION PARTICULARS.....	30
PART C – MECHANICAL & PUBLIC HEALTH GENERIC SPECIFICATION.....	31
GENERAL	32
INSTALLATION OF PIPEWORK	32
STEEL TUBE AND FITTINGS APPLICATIONS:.....	33
COPPER PIPES AND FITTINGS APPLICATIONS:	35
PLASTICS PIPES AND FITTINGS APPLICATIONS Soil, Waste & Ventilation	37
LIQUEFIED PETROLEUM GAS SYSTEM.....	37
PLASTICS PIPES AND FITTINGS FOR CONDENSATE APPLICATIONS:	38
PIPE SLEEVES AND FLOOR PLATES	38
PIPE SUPPORTS AND BRACKETS.....	39
VALVES.....	40
STOPCOCKS, BALL ISOLATING VALVES, DRAIN COCKS AND CHECK VALVES	41
TEMPERATURE REGULATING VALVES (TRVs) ON RADIATORS	42
TEMPERATURE REGULATING VALVES ON HEATED CEILING PANELS.....	42
AUTO AIR VENTS.....	42
SPACE HEATING CIRCULATION PUMPS	42
DOMESTIC HOT WATER CIRCULATION PUMPS	43
DUCTWORK.....	43
AIR TERMINALS, DIFFUSERS and GRILLES.....	45
FANS FOR DUCTWORK.....	45
VENTILATION DUCTED HEAT EXCHANGERS	45
EXTRACT FANS	46
THROUGH-WALL HEAT RECOVERY VENTILATORS	46
HEATING AND COOLING CASSETTES : SPLIT AND VRF SYSTEMS	46
SUPPORT OF DUCTWORK AND DUCTED HEAT-EXCHANGER CASSETTES.....	47
INSULATION OF MECHANICAL SERVICES	48
PAINTING.....	49
PIPEWORK IDENTIFICATION BANDS	50
VALVE LABELS & CHART	50
PSG	3

CHLORINATION OF THE HOT & COLD WATER SERVICES.....	51
COMMISSIONING & TESTING	51
TESTS ON SITE	52
TESTING PIPED SERVICES.....	53
TESTING VESSELS	53
HOT WATER TESTS	54
TESTING VENTILATION & AIR CONDITIONING.....	54
TESTING AUTOMATIC CONTROLS AND INSTRUMENTS	54
OPERATING THE INSTALLATION	55
TRAINING OF OPERATOR.....	55
OPERATING AND MAINTENANCE MANUALS AND RECORD DRAWINGS	55
DEFECTS LIABILITY PERIOD	56
DRYING OUT OF BUILDINGS	56
FILTERS.....	56
KEYS AND TOOLS.....	56
PART C – ELECTRICAL GENERIC SPECIFICATION	57
GENERAL	58
MAINTENANCE OF SERVICES	58
STRIPPING OUT, MAKING SAFE AND REDUNDANT MATERIALS	58
DRAWING AND POSITIONS OF POINTS.....	59
SWITCH AND DISTRIBUTION EQUIPMENT	59
FIXING OF CONDUIT AND ACCESSORY BOXES	60
ALIGNMENT OF ACCESSORIES AND FIXING HEIGHTS.....	60
CABLE INSTALLATION CONDITIONS.....	61
TRUNKING	69
CABLE TRAYS	69
NON-METALLIC CONDUIT AND TRUNKING	70
FLEXIBLE CONDUITS	73
CATENARY WIRES.....	73
REQUIREMENTS FOR CABLES.....	73
SEGREGATION OF SERVICES.....	73
THREE PHASE SERVICES.....	74
EQUIPMENT ISOLATION & CONTROL SWITCHING	74
EARTHING	74
LIGHTING INSTALLATION.....	75
CONNECTIONS TO HOT POINTS	76
INSPECTION, TESTING, PROVING, DEMONSTRATION AND PUTTING TO WORK	76
COMMISSIONING	79
E.M.C. REGULATIONS	79

LABELS AND CHARTS 79

SPARE FUSES: SPARE GLASSES, ETC80

TELECOMMUNICATION & DATA COMMUNICATIONS. 81

PART D – PRICING SCHEDULE82

PART A – PRELIMINARIES

SITE

The existing Performance Theatre is based in the centre of Shrewsbury, SY3 8FT.

The works associated with this contract involve replacement of the existing chillers, associated controls and ancillaries.

The contractor will need to maintain reduced capacity throughout the works except during the summer break from 1st August to 28^h August.

DESIGN TEAM

Client:	Shropshire Council
Architect:	N/A
Civil & Structural Engineer:	N/A
MEP:	PSG – Shropshire Council

DESIGN RESPONSIBILITY

The mechanical, electrical and public health drawings and specification issued represent the design strategy for this project, for which the Council takes responsibility, and describe the design, materials, products and standards of workmanship to be employed and the Codes of Practice which shall be maintained by the contractor to achieve the requirements of the Council.

The drawings are not, and can never be, exhaustive and it shall be deemed to be agreed upon commencement of this contract that the contractor shall execute the works in full compliance with all relevant legislation and incorporate all features and components which are generally accepted good practice for any particular configuration whether or not they are explicitly described on the drawings or in this specification.

In the event of the contractor discovering any issues arising with regard to the design, layout, routing, practicability, availability of specified components, site coordination etc then he shall report his concerns promptly to the Council's Mechanical Engineer for a judgement.

As-built drawings shall reflect the installations as finally constructed and shall therefore be prepared by the contractor and not be over-printed copies of the Council's drawings.

In the following where the manufacturer is prefixed by "or equal" the make/model is illustrative, in all other cases it is mandatory.

SCOPE OF WORKS

The works shall include the provision (survey, design, delivery, supply, loading, site handling, construction, commissioning, testing, adjusting, leaving in situ, ordering and maintaining during the Defects Liability Period) to the satisfaction of the Contract Administrator. The Contractor shall re-certify and issue all annual MEP certification prior to the end of the Defects Liability period, as follows:

- Strip out works in line with the phasing plan

- New main Chillers, controls and ancillaries.
- All testing, commissioning, proving & demonstration
- Provision of spares & tools
- Operation & Maintenance Manual, Log Book and Record Drawings
- Repair of defects & faults during 12 month defects period
- 12 months maintenance of new installations

It is important that the Contractor completes all aspects of the Form of Tender.

SCHEDULE OF DRAWINGS

Refer to the latest Drawing Issue Register for further information.

INSTALLATION DESIGN STANDARDS

The MEP installation shall comply with all relevant and current statutory standards and regulations and approved best practices in line with the manufacturers recommendations at the time of placing the order.

This will include any Client specifications that may be more onerous than this specification and shall be considered to overrule this document. These include:

- International Standards (ISO)
- European Standards (IEC/EN)
- British Standards (BS)
- British Standard Codes of Practice
- British Standard Specifications
- Local Authority Bye Laws and Building Regulations
- The Licensing Justices Requirements
- All Building Bulletins
- HMG Non-Domestic Building Services Compliance Guide 2013
- The Clean Air Act
- Control of Pollution Act
- Any Act of Parliament
- British Board of Agreement Documents
- All Enforcing Authority Requirements
- The Disabled Authorities for Facilities for the Disabled
- Energy Conservation Act
- The Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH) Regulations
- Control of Asbestos at Work Regulations
- Electricity at Work Regulations
- Construction (Design and Management) Regulations
- Any Other Statutory Requirement
- Standard Specifications, Layouts and Dimensions for Lighting Systems in Schools
- Regulations under the Offices, Shops and Railway Premises Acts
- CIBSE Energy Codes

- CIBSE Current Codes of Practice and Design Guides
- CIBSE Commissioning Codes
- CIBSE Technical Memoranda
- National Joint Utilities Group Recommendations
- Institution of Engineers and Technology BS7671 Requirements for Electrical Installation (17th Edition) and Associated Guidance Notes
- Electricity Supply Regulations and Electrical (Factories Act) Special Regulations.
- BAFE for Installation, Commissioning of Emergency Lighting & Fire Alarms Systems
- British Approval Service for Electrical Cables
- Electricity Board Requirements and Recommendations
- Lightning Protection (BS EN 62305:2006)
- CIBSE Lighting Guide LG6: 1992 The Outdoor Environment
- CIBSE Code for Interior Lighting
- CIBSE Code: Areas for Visual Display Terminals.
- British Gas and Gas Safe Regulations and Recommendations
- The Gas Supply (Installation and Use) Regulations
- The Fluorinated Gas Regulations
- The European Union Ozone Regulation
- Guidance and Recommendations of the Oil Firing Technical Association (OFTEC)
- The Control of Pollution (Oil storage) Regulations
- The Water (Supply and Fittings) Regulations
- Water Board Requirements and Recommendations and Bye Laws.
- Recommendations of the Employers Insurers

~~Generally all MEP services shall be concealed within voids or builders work boxing.~~

DESIGN STANDARDS

The works shall comply with the following:

- Recommendations of the Chartered Institution of Building Services Engineers (CIBSE) as stated in: Current Guides, Energy Codes, Application Manuals, Commissioning Codes, Guidance Notes, Technical Memoranda, Sundry Papers
- International Standards (ISO), European Standards (IEC/EN), British Standards (BS)
- All statutory requirements including Building Regulations
- Health & Safety at Work Act and associated regulations including the Electricity at Work Regulations, COSHH and the Prevention of Legionella
- The CIBSE and BSRIA Commissioning Codes
- Water Regulations
- CDM Construction (Design & Management) Regulations
- Institute of Plumbing Engineering Services Design Guides
- Disability & Discrimination Act
- BS 5440 Ventilation for Gas Appliances Rated at Less Than 70kW

- BS 6173 Installation and Maintenance of Domestic Gas Cooking Appliances
- Local Environmental Health offices, Fire Offices and Building Control Officer
- IET Regulations (BS 7671)
- All Requirements of Local Utility Companies
- The Heat Network (Metering and Billing) Regulations

CDM REGULATIONS

The Contractor shall comply with the Health, Safety and Welfare Legislation relating to the Health and Safety at Work Act and current Construction (Design & Management) Regulations.

The Contractor will contribute to the main Contractors Construction Phase Health and Safety Plan.

The Contractor shall provide details of the Welfare provision to the Principal Designer and maintained throughout the contract.

DELIVERY OF MATERIALS & EQUIPMENT

The Contractor upon receipt of the order for the work of this specification shall ensure materials and goods are placed on order to allow sufficient delivery time to avoid delay in the proposed works inline with the Contract programme.

Contractor shall ensure all equipment and associated ancillaries can maintain sufficient access for maintenance and repair as required by the CDM regulations and British Standards. The Contractor shall allow coordination of the works with other trades and installations.

The Contractor shall obtain from the various manufacturers/suppliers written confirmation of actual delivery dates for equipment. In the event of any materials at that particular time being considered to be on extended delivery such that the progress of the works could be affected then The Contractor shall immediately notify the Contract Administrator so that the matter may be considered further and an alternative solution provided if found necessary.

The Contractor shall ensure that all items of equipment are off-loaded and positioned whilst sufficient access to the area(s) is available. Any costs incurred in abortive builder's work, dismantling/re-erection of equipment due to late arrival of the equipment shall be borne by The Contractor.

ASBESTOS

The Contractor shall familiarise themselves with the Site Asbestos Log prior to commencing works on site.

If any asbestos is encountered, works should stop immediately and notify the Principal Contractor, Contract Administrator, Client and Building Facilities Manager.

SECURITY/SAFETY/PROTECTION

The Contractor shall be responsible for leaving all works in progress in a safe condition at the end of each day to protect from interference, damage and injury to any other user accessing the live site.

BUILDERS WORKS

Openings through floors, walls and roofs etc and through structure / steelwork for MEP services up to and including 50mm in diameter shall be undertaken by the Contractor. Service penetrations may only be grouped together in areas already agreed with the Structural Engineer.

The Contractor is responsible for providing the Principal Contractor with all necessary information to enable them to undertake this work, including fully dimensioned working drawings and marking out on site.

The method of construction of the floors of the building and structure / steelwork requires hole locations and sizes to be accurately determined at an early stage of the contract works.

All proposed structural penetrations must be approved by the Structural Engineer before the Principal Contractor undertakes the work.

PROVISION OF DRAWINGS

The Contractor shall be responsible for the development and issue of all 'Working Drawings' in line with BSRIA BG 6 design framework. These drawings shall be submitted at least two weeks before the works commence on site.

FINISHING

The Contractor shall ensure that all plant, equipment, pipe work, trunking, conduit, fittings, brackets, supports etc shall be protected against corrosion and oxidation, and if in the opinion of the Contract Administrator the condition of the surfaces is deteriorating The Contractor shall wire brush and paint all surfaces at his own cost.

Surfaces inaccessible after installation shall be painted by The Contractor during installation.

Surfaces inadequately primed when arriving on site shall be re-primed by The Contractor.

The Contractor shall ensure that where painting is called for it is carried out by experienced tradesmen employing paint of approved quality and colour and is applied in accordance with the manufacturer instructions.

Ensure all paints used are of quality and type to suit application and primers have good adhesion, covering power, rust-inhibiting and grain filling properties; gloss finishing paints are of machine finish giving high adhesion and high resistance to solvents, mineral oils, cutting oils, detergents, chipping and impact damage.

Labels shall be removed before painting and reaffixed after the paint is dry.

All fittings, plant, supports and any other items of equipment shall have a primer and finishing coats shall be fit for purpose intended, without detriment to the covering, fitting or appliance coat and applied by The Contractor. All compressed air, pipework, conduits and trunking within plant rooms shall be painted in accordance with BS1710.

LABELS & CHARTS

The Contractor shall be responsible for the provision of all plant, valve and system identification, as detailed below:

- Plant and Equipment: Identify each item of plant and equipment (including all potable mains cold water draw offs as drinking points) by name and where appropriate by agreed reference characters each shall be cross-referenced with the plant identification chart and control panel markings.
- Valve Identification: Each valve, cock, stop valve, air vent, drain valve etc. shall be identified by a circular disc engraved with a numerical reference corresponding to the system schematic chart and control panel markings.
- Air Volume Control Damper: Each volume control damper shall be identified as by a circular disc engraved with a numerical reference corresponding to the system schematic chart clearly indicating the commissioning set point.
- Gas Installation: Schematic layouts to the requirements of The Gas Safety Regulations and Institute of Gas Engineers current publications.
- Services identification on the distribution

All labels shall be Traffolyte white with black letters and fixed to the wall adjacent to the plant and equipment. Valve discs shall be securely attached, minimum diameter 35mm with permanent characters of 6mm height.

The Contractor shall supply and fix a schematic diagram of all systems installed including equipment and ancillary schedules to the plantroom wall, inside Distribution Boards covers within a Perspex frame.

Duties, manufacturer's references and positions shall be tabulated within the Construction (Design and Management) Regulations Health and Safety file Operating and Maintenance instructions.

SIZING OF SERVICES & DEMONSTRATION OF COMPLIANCE

MEP services sizes indicated on the Contract drawings will remain at the size indicated. The Contractor shall verify performance of the specified equipment and plant items prior to order to ensure the design parameters are met.

Commissioning results shall demonstrate compliance of the installation and submitted to the Contract Administrator, along with supporting calculations.

FIRE SAFETY

The design, storage of materials and arrangement shall ensure fire risk is minimised. This includes proposed hot works and other processes uncounted as part of the installation and comply with the Health and Safety at Work Act.

The Contractor shall comply with all HSE Guidance Notes particular reference being drawn to Control of Substances Hazardous to Health (COSHH) Regulations & HSE Guidance Note.

The Contractor shall be responsible for reinstating the integrity of all fire barriers penetrated during the MEP installation.

Ductwork shall be installed complete with fire dampers when transitioning a fire compartmentation.

Generally where a fire barrier is penetrated by pipework, cables etc that passes through a wall, ceiling, floor, the fire barrier shall be of the intumescent type or fire resistant 'pillow' bags.

NOISE

Noise levels shall not exceed the recommended figures by CIBSE. The noise levels shall not exceed NR35 (NR25 in bedrooms) in occupied spaces. Transmission of vibrations from plant items shall be prevented.

EXTERNAL SERVICES UNDERGROUND

Services shall be installed in accordance with the recommendations of 'Guidelines on the Installation and Colour Coding of Utility Apparatus', inline with the National Joint Utilities Group.

Services shall be identified and traceable inline with BS EN 12613:2001.

PART E BUILDING REGULATIONS COMPLIANCE

The Contractor shall ascertain via the Contract Administrator prior to tendering if the construction elements comply with the requirements of Robust Details Ltd. If they haven't been designed to comply with Robust Details Ltd, any services that run within or penetrate voids, compartment floors, ceilings and walls shall be verified by the sound testing engineer to ensure compliance with Part E of the Building Regulations.

COORDINATION OF SERVICES

The Contractor shall carryout all coordination of the MEP Installations with the building fabric, existing services and other specialist services and associated sub-Contractors to full detail positions, dimensions, heights and locations of all other services, FF&E and building elements, to ensure no clashes. This shall take the form of:

Regular coordination meetings

Issuing working drawings to specialist sub-Contractors for review.

Reviewing the Specialist sub-Contractors proposals to ensure satisfactory layout and routing.

In the event of a clash the Contactor shall inform the Contract Administrator before carrying out the installation works to allow an alternative solution to be implemented.

STRUCTURAL LIMITATIONS & SUPPORTS

The Contractor is to allow for all necessary materials and labour to securely and neatly support equipment, ductwork and pipework, etc. and in accordance with manufacturers requirements and recommendations. All fixings shall be suitable for the proposed building construction and fit for purpose intended.

Unless specifically designed no holes are to be made in steelwork or welding to steelwork carried out. If fixing by other means is impractical, specific permission must be obtained from the Contract Administrator/ Structural Engineer.

The Contractor shall be responsible for the detail and design of supports and fixings, and prior to delivery and installation of equipment the Contractor shall submit full working drawings or written details giving all fixing and supporting details to the Structural Engineer for comment. Information on loadings must be provided to ensure the roof, etc. structure is designed to support the imposed load.

The Contractor shall allow for supplying and installing all necessary 'steelwork' required for the support of plant, equipment and services installations generally.

The Contractor shall provide and install suitable support systems for the external ASHP units and associated interconnecting external refrigerant pipework.

The Contractor shall provide manufacturers proposed working drawing for comment prior to order and installation.

All supports shall allow the correct installation of insulation.

The pipework insulation shall pass through the pipe support in a continuous fashion. The use of cable ties will not be permitted. Copper pipework shall be supported in accordance with the manufacturer's recommended distances. The supports shall not allow any vibration to be transmitted to the structure. Pipework shall be supported and secured at regular intervals, not exceeding 1.5m. Due care and attention shall be taken at all times to allow pipework to freely expand and contract naturally.

Generally supports and fixings shall be of type as designed, detailed and manufactured by Industrial Hangers Ltd., Lindapter, B.S.S. Boss Flamco, Unistrut Ltd., or equivalent.

CONTRACT DRAWINGS & SPECIFICATION

The specification shall be read in connection with the tender drawings.

The Contractor shall not scale from the drawings provided.

The drawings issued by the Contract Administrator show generally the arrangement of the proposed works as a guide to the Contractor. They may not cover the works in every detail and are diagrammatic. The Contractor shall allow for supply, delivery and installation of all necessary bends etc to permit the proposed routes of MEP services to

suite the building contours and coordination with existing services, to the approval and satisfaction of the Contract Administrator.

If there are any discrepancies between the drawings and the specification discovered by the tenderer, they shall inform the Contract Administrator in writing at least 4 days before the tender return. Otherwise they shall be deemed true to the design and claims for additional costs will not be considered.

CONTRACT PROGRAMME

New incoming utility supplies such as gas, water and electrical supplies will be programmed by the Contractor. Allowing for coordination and liaison to suit the contract programme.

Specialist sub-Contractor work elements shall be agreed and coordinated with the Contractors programme and have reasonable precautions to avoid causing excessive nuisance to the building occupants. The Contractor shall agree (7 days notice required) with the Building Administrator when work is to be carried out to an occupied room or when existing services are to be isolated.

Contractor shall make allowance for carrying out the service installation outside of a normal working day i.e. during the weekends or statutory holidays.

FUEL AND POWER

Until acceptance of the services installation, the cost of gas, electrical and water for testing, commissioning and providing of the works shall be provided by the Contractor.

Read and record all water, gas and electricity meters at practical completion of the works.

ALTERATIONS, MODIFICATION & REMOVAL OF EXISTING SERVICES

At a time to suit the contract programme The Contractor shall allow for all costs associated with the decommissioning, disconnection, careful dismantling, removal and disposal of all redundant mechanical and electrical services. (This requirement will exclude items, which are deemed inaccessible).

In order to carry out the new and modify/ replace the existing services installations (as detailed within the drawings, contract preliminaries and technical specifications) The Contractor shall include all costs and associated works for installing any additional and temporary isolation valves (and bypass where applicable) necessary to maintain the new and/ or existing services during the progress of the phased works to the contract programme.

Where there are a number of services requiring either abandonment/removal or diverting at different times during the contract. It will be necessary for EACH section to be carried out only when the installation of new plant can facilitate the diversion/replacement coming on-line by maintaining services to other areas of the building(s). These buildings will invariably be in use when these works are required to be undertaken. The Contractor must allow for each service to be operated upon totally outside of normal working hours, in accordance with a programme agreed with the

Building Facilities Manager or Administrator and The Contractor, such that the service is not interrupted during the hours of normal building operation (including evenings). Clearly allowances must be made to such abnormal working to be carried out on a number of occasions.

Where new or temporary connections are made to or removed from the existing services, allowances shall be made for re-balancing, commissioning, complete draining, all air venting, cleaning, flushing out and all purging necessary for each system to revert back to normal working and correct operation. These works may be required to be carried out outside of normal working hours.

MAINTENANCE & ROUTING TESTING

Testing and commissioning of the Building Services Installation will be carried out towards the end of the various phases and in strict accordance with the Contract preliminaries and programme.

If it is necessary to shut the plant (or parts of the plant) down before the installation is handed over, The Contractor shall take any steps necessary to prevent damage during the period the plant must remain out of use.

Thereafter, The Contractor shall service, maintain and undertake routine testing of all mechanical and electrical equipment and plant for a period of 52 weeks after the completion of the installation. These works shall be carried out in accordance with the various manufacturers' instructions and/or SFG20 for the appropriate service. During this period The Contractor shall allow for the following:

- The answering of all breakdown calls at any time of day or night by sending a competent Engineer to the site by the quickest available transport (this shall not exceed 24 hours or the following working day). Category of call outs and response times to be agreed with client:
- Failure affecting the client's business operation of safety, phone call within one hour giving advice, on site within 4 hours.
- Failure not affecting the clients business operation, Phone call within one hour giving advice, on site within 8 hours.
- Failure of duty plant causing standby plant to operate, Phone call within one hour giving advice, on site in 24 hours.
- The replacement of damaged or defective materials, equipment or parts, showing undue wear.
- The carrying out of two comprehensive examinations (6 month and 12 months) to check the operation of all equipment making any necessary adjustments, and replacing as necessary any damaged or defective parts (see also ii), checking and clearing away all building dust which has accumulated in the equipment.
- Undertaking further balancing during the period corresponding to maximum design condition in order to check and rectify any local difficulties.
- The servicing and maintenance shall be carried out by the Manufacturer or Specialist as appropriate and shall be at intervals recommended by the Manufacturer, Specialist or as defined in British Standards where available.
- Before any servicing or maintenance is undertaken, The Contractor, Manufacturer or Specialist shall arrange a suitable date for the works by agreement with the Building Administrator.
- A copy of all service sheets shall be retained with the Buildings Administrator with a copy forwarded to the CA.

- At time of Practical Completion (inc. Phased works) should there be any Outstanding Works listed on the Certificate of Practical Completion then The Contractor shall ensure that these are completed within the 2 weeks, unless of a Health and Safety nature which shall be attended to immediately.

Following each comprehensive examination The Contractor shall submit to the Contract Administrator details of the examinations, items found and remedial action taken. The Buildings Administrator will sign a declaration provided by The Contractor, stating that the above has been undertaken to their satisfaction.

TESTING & COMMISSIONING

Full testing and commissioning of the installation shall be carried out in the presence of the Contract Administrator and, on a separate occasion, a representative of the user.

The cost of all tests, instruments, plant, supervision and labour shall be included for, both on and off site. All instruments shall have current calibration certificates and be available for inspection upon request.

The accuracy of the test instruments and the method shall be demonstrated if so requested.

Any defects of workmanship, materials and performance, adjustments or other irregularities which become apparent during testing or commissioning shall be rectified by The Contractor and the relevant part of the testing and commissioning procedure shall be repeated, all at The Contractor's expense.

The entire commissioning procedure shall be undertaken by specialist staff or by a competent independent commissioning specialist nominated by and acting for The Contractor and approved by the Contract Administrator.

The electrical installation shall in particular be tested in accordance with Part 6 of the IET Regulations (17th Edition) BS 7671:2008 and appropriate Certificates of Completion and Inspection shall be completed and signed.

The Fire Alarm installation shall be tested in accordance with Appendix B of BS 5839 Part 1 and the certificate completed and signed on completion of testing, including the relevant Fire & Rescue Service Certificate.

An Approved Contractor who is competent to BAFE and LPCB standards shall undertake all final design verification and installation works in liaison and co-ordination with alarm systems

Before installations are handed over or subjected to the inspection and test, the entire installation shall be thoroughly cleaned, both internally and externally.

The Contractor shall provide all labour and equipment required for carrying out the testing of all services. Test certificates shall include the project title, details and date of test, signature of those witnessing test, The Contractor's name and the specific location of the item in the Works.

Submit schedules showing those parts of the Works for which inspections and tests are required in the Specifications, to substantiate conformity with the Specification and for which records are required to be maintained.

Should any alternative item be proposed which does not carry appropriate certification, ensure independent testing is carried out at no expense to confirm compliance.

Three day's notice of all tests shall be given to the Contract Administrator to enable their authorised representatives to be present. Where a test indicates, non compliance with the Specification The Contractor shall immediately submit details of the non compliance and proposals for corrective action.

Arrange access for the Contract Administrator's personnel, who require being in attendance, to manufacturer's or other off site premises when any inspections and tests are carried out.

Attendance or otherwise of the Contract Administrator during specified inspections or tests shall not reduce the obligations or restrictions of The Contractor.

Maintain records of all specified inspections and tests performed including third party and works test certificates. Include in records, as appropriate, details of the element, item, batch or lot, the nature, number and date of the inspections and tests, the number and type of deficiencies found, any corrective action taken and other relevant particulars.

Maintain all records on site for inspection. On completion of the Works, include copies in the operating and maintenance manuals.

Submit copies of records within the period agreed with the Contract Administrator.

Agree with the Contract Administrator a programme for system cleaning and flushing, pre commissioning checks, setting to work and regulating, commissioning and performance testing. All works shall be in accordance with recommendations and guidelines referred above and/ or referenced within the respective work sections.

The Contractor is to programme the commissioning works to be complete by the penultimate week prior to the issue of contract practical completion.

All commissioning of MEP systems as a whole shall be undertaken by an independent certified commissioning engineer preferably a member of the Commissioning Specialists Association (CSA).

Give the period of notice agreed with the Contract Administrator and state any requirements for the attendance and co operation of others.

Performance tests of all systems. Do not start performance testing, including system demonstration, system proving or environmental and capacity testing, until commissioning of the system is completed to the satisfaction of the Contract Administrator. Provide all necessary instruments and recorders to monitor systems during commissioning and performance testing.

Maintain on site, full records of all commissioning and performance testing, cross referenced to system components, and on completion of the Works include a copy in each Operating and Maintenance Manual.

Carry out environmental and capacity tests as specified for each work section.

Performance testing of the Mechanical and Electrical systems shall demonstrate, but not limited to the following:

Full, partial and minimum loads

Response to load change

Efficiency and air leakage

Noise levels

Noise level measurements shall be taken in all areas with fully operational plant and in conditions of insignificant background levels (such as night time).

All testing and commissioning shall be in accordance with all current and relevant Commissioning Codes, CIBSE and BSRIA commissioning guidelines.

The Contractor shall allow the Client and Contract Administrator to witness, with a minimum 3 working days notice, the verification, commissioning and setting to work of the Engineering Systems. The Contractor shall allow for the following:

Provision of copies of installation drawings for comment by the CA on the facilities included for commissioning (i.e., a commission review for flushing, balancing of flow measurement).

Liaison with the CA regarding commissioning activities and programme issues. The Contractor will prepare a co-ordinated commissioning programme comprising testing, pre-commissioning, commissioning and performance testing, as-built documentation and client training. This programme will be agreed between The Contractor, Specialist Contractors, CA and Client.

Submission of detailed Method Statements and Pro-Forma results sheets for comment/acceptance by the CA in accordance with the agreed programme.

Liaison with the CA regarding the witnessing of offsite tests of major plant items and equipment.

Liaison with the CA regarding the witnessing of all site testing and the management of the dynamic balancing of E & HVAC systems.

Liaison with the CA regarding specialist supplier/manufacturer site commissioning.

Submission of Method Statements regarding training sessions for the staff.

Liaison with the CA regarding the preparation of the 'As Built' Drawings and O&M manuals. The CA prior to issue shall approve the manuals and drawings.

The cost of the above items shall be shown separately.

BREEAM

BREEAM has not been included for within the contract.

OPERATIONS & MAINTENANCE MANUALS

The Contractor shall allow for provision of all Operation & Maintenance manuals, together with record drawings, operating instructions, manufacturers literature, plant

maintenance, as outlined later on in this specification. The Operating and Maintenance Manual shall be supplied with the building Log Book and copies of the 'As Installed' drawings in accordance with CIBSE TM31.

Contractor shall allow for one electronic copy and a master hard copy.

The contractor shall complete all relevant tabs of the attached contract completion form and submit to the mechanical surveyor for sign off. Please note that practical completion and handover will NOT be achieved until the form has been returned and signed off.

MAINTENANCE AGREEMENT

The Contractor shall allow to provide inspection and routing maintenance to the completed contract works for a period of 12 months or detailed otherwise in the project preliminaries. This shall be at no additional cost to the Client.

BIM MODELLING

This has not been included for within the contract.

PART B – MECHANICAL & PUBLIC HEALTH PARTICULARS

GENERAL MECHANICAL SERVICES

The works shall include the provision (survey, design, supply, delivery, on and off-loading, site-handling, construction, commissioning, testing, adjusting, leaving in complete working order and maintaining during the defects liability period), of the complete mechanical installation and associated works as detailed in this specification and on the attached drawings to the complete satisfaction of the Contract Administrator.

All works shall meet or exceed the requirements of this specification.

The term Contractor within this Section shall mean Contractor.

STRIP OUT WORKS

The Contractor shall complete the Contract Completion PPM Form to include information about removed and new services.

~~Following consultation with the specialist Asbestos Contractor, Main Contractor and the Refurbishment & Demolition Survey documentation the Contractor shall remove all existing redundant services as required to facilitate the works.~~

The Contractor shall submit a detailed report to the Contract Administrator highlighting any defects in the existing retained installation. The report shall detail the condition and suitability of all the proposed retained services and be complete with a priced schedule for any remedial works required to enable instruction of the works within the proposed contract programme.

In areas where the proposal currently indicates the use of existing services the Contractor shall allow to modify / adapt the existing installation at the point of connection as indicated on the contract drawings as required to facilitate the works.

All redundant materials and plant shall be disposed of strictly in accordance with the Environmental Agency requirements and all Waste Management Environmental Protection Regulations with copies of the waste transfer notes to be provided to the Contract Administrator.

Any key plant items to be removed i.e. boilers, pumps etc shall be offered to the Client prior to being removed from site.

The Contractor shall ensure that all debris is cleared away at the end of each working day. Skips must be cleared from site frequently and must be located within the designated compound. The site must be left safe and secure at the end of each working day and at any time when the works area is left unattended

MECHANICAL SERVICES DESIGN

The Contractor shall be responsible for producing working and co-ordination drawings in line with the Preliminaries. The positions and arrangement of all equipment shall be identified on working drawings and agreed with the C.A. and or Engineer prior to installation.

The Contractor shall visit site during the tender period to inspect the site and ensure they are fully aware of all the works required to complete the contract. They shall establish the extent of the existing services that have to be disconnected, retained for re-use, cleaned, refitted and re-commissioned to enable the contract works to be undertaken, and the extent of any diversions of existing services necessary to accommodate the new mechanical and electrical services.

The Contractor shall also undertake all necessary site investigation works to determine accurately what all services serve, and to ensure correct reconnection of all remaining existing services into new systems. The Contractors shall make themselves familiar with the asbestos register prior to undertaking any survey works.

CHILLED WATER SYSTEM

Provide 2No. new main chillers to provide chilled water to the existing distribution system to ensure continuity of the existing system.

Upon system refill, ensure that the chilled water system is dosed with 10% Glycol to prevent freezing.

Provide full and detailed commissioning method statement and programme in good time to allow comment.

Provide pipework connections from the chiller onto the existing 150Ø CHW F&R primary pipework.

Provide couplings, commissioning components, safety equipment and ancillaries to ensure proper safe and efficient commissioning, operation and maintenance of the system, including:

- Anti-vibration mounts and couplings
- New isolation valves (2No.) adjacent to strainer 1&2
- Ancillaries
- Control devices

New chillers to take the place of the existing units.

2No.Scroll, air to water chillers – heating only

Type – CIAT AQUACIAT power LD 1750R

Brazed plate heat exchangers.

Refrigerant – R32

Maximum dims: 2.4mW x 7mL

Minimum cooling unit at full load EER 2.93

Sound power 88.5dB(A)

PSG

Sound Pressure at 10m 56dB(A)

Chillers Primary Circuit 6°C/12°C flow and return

Operate at 35°C external design condition

No hydronic pump requirement – existing primary pumps

ERP 2021 Compliant

Come complete with:

- Bacnet over IP
- Protection grilles
- Circuit soft starter
- MCHE anti-corrosion protection protect 2
- Water exchanger frost protection
- Exchangers flexible connection
- Exchanges water filter
- Flanged evaporator water connection kit

This could be supplied by Cool Designs Ltd (cbeech@cooldesignsltd.co.uk, mob: 07506 738 712) equal and approved.

Permit to work

Prior to commencement of work and where appropriate (eg where an existing system has to be disconnected temporarily for joining to a new system), arrange for the issue of a permit to work.

Isolation Valves

These shall be butterfly type. Cast iron semi lugged wafer type generally to BS EN 593. EPDM lining, nickel plated disc, lever operated. Use stud bolts and nuts to securely attach the wafer valve to the flange holding back water pressure during maintenance during maintenance. Padlock valves required for regulation, as follows:

- Crane F714
- Hattersley 950

AUTOMATIC CONTROLS & BUILDING ENERGY MANAGEMENT SYSTEM

The existing BEMS is a Trend IQ View.

Controls shall provide the most efficient combined mode of operation with duty share, lag lead operation via a sequence controller.

Start/stop and fault.

This can be carried out by ABEC Controls (customerservices@abec.co.uk, Tel: 01684 853 780)

Unit controller:

IP54 protective cabinet
Connect Touch microprocessor controlled module
High & low pressure sensors
Safety valves on refrigerant circuit
Water temperature control sensors
Evaporator antifreeze protection sensor
Factory fitted evaporator water flow controller

Test automatic changeover of duty/standby pumps on duty pump trip.

Test pressurisation set high/low pressure alarm interaction with chillers/pumps.

Check all pressure/temperature gauges are reading correct values/calibrated and that pointers are set.

Test the operation of all control valves.

The extent of the BEMS will need to be agreed with the Shropshire Councils Specialist/Facilities Manager, in order to conclude the scope / level of controls.

The whole of the Contract installation works will be carried out strictly in accordance with British Standards (particularly BS 7671) and the latest edition of the I.E.T Regulations for the Electrical Equipment to Buildings issued by the Institution of Electrical Engineers and the Standards laid down by the National Inspection Council for the Electrical Contracting Industry and will also comply with the following EC Directives and guidelines:

- Low Voltage Directive 73/23/EEC and amendment 93/68/EEC
- Electromagnetic Compatibility (EMC) Directive 89/336/EEC
- BS EN 61000-6.3:2001 – Standard Specifications for BEMS
- CIBSE Commissioning Code C – Automatic Controls
- CIBSE Application Manual Guide H – Building Control Systems.
- Construction Products Directive 89/106/EEC
- General Product Safety Directive 92/59/EEC

The Specialist Contractor shall allow for the design, supply, delivery, off loading, installation, fixing, connection, wiring and containment for each and every item of equipment, testing and commissioning including witness testing and setting to work of the entire control system, in accordance with the tender drawings and this specification.

Handover

Following satisfactory commissioning and testing, demonstrate and handover the system in accordance with BSRIA AG 9/2001, Part C3.

Ensure the following are completed at hand-over:

PSG

- Any snagging to be documented and agreed date determined for clearance.
- All passwords/PIN numbers, levels and operators recorded.
- Disk copies of all system and data files supplied.
- Proprietary software manuals & disks.
- All equipment access keys handed over.
- Complete sets of O&M manuals left with system, any agreed amendments/additions required to be documented and a target date for completion agreed.
- Training of engineers and operators to be complete or program for completion agreed.

Post handover attendance

The purpose of these visits is to allow for fine tuning/adjustments/recommissioning due to differences in dynamic thermal performance due to:

- Occupation of people and equipment.
- Seasonal variations from those at initial commissioning stage.
- Changes in the control system load conditions.
- "Bedding-in" of plant.

At the end of the 12 months defects liability period, allow for the controls specialist to update the operating and maintenance documentation, schematic drawings etc. to include any adjustments made in this period.

BEMS Specialist to allow for a minimum of 3No. site visits.

FIELD WIRING

The Contractor shall allow for all power and controls wiring as required to form a complete and fully functional system. All wiring shall be in strict accordance with current wiring regulations and manufactures instructions. They shall allow for all interfaces, interlock, relays and subsidiary equipment as necessary to achieve the required level of control to all plant and equipment. Allowances shall be made for any modifications\adaptations to new and or existing mechanical and electrical equipment as required to complete the installation.

The Contractor shall ensure that all works are to be carried out in accordance with this specification and BS 7671 The IEE Wiring Regulations.

The Contractor shall allow to provide wiring connections to all items of mechanical and electrical plant within designated plant spaces, circulation spaces, accommodation spaces, WC/welfare facilities and general office spaces and controls to and from any control panels and or BEMS systems as required.

The contractor shall liaise with the electrical contractor to ensure that electrical supplies and all associated controls wiring is installed to all items of mechanical and electrical plant that require an electrical supply.

NOISE & VIBRATION CONTROL

The Contractor shall include all measures available to isolate the transmission of noise and vibration from mechanical plant to the structure. The Contractor shall be responsible for the selection and performance of all anti-vibration isolation material for all items of mechanical plant to satisfy the design requirements.

BUILDERS WORK IN CONNECTION WITH MECHANICAL SERVICES

The Main Contractor shall allow for all builders work and making good required to complete the mechanical installation. Builders work is to include, but is not limited to, all breaking out of existing structures, internal and external cutting, chasing, core drilling, holes, fixings, provision of temporary access, and alterations to the building fabric as required.

The Mechanical Contractor shall be expected to produce builders work holes up to 50mm diameter.

The Contractor is to allow to carry out repairs and make good all disturbed surfaces including where existing equipment is removed, infilling holes and chases. All repairs shall match the existing finishes.

The Contractor shall include for fire stopping all service penetrations with intumescent foam to provide a minimum of 60 minutes fire resistance. The Contractor shall allow for sleeving all services as necessary to provide a sufficient fire barrier.

Allow for weatherproofing all penetrations to the external building fabric to comprise infilling external brickwork or blockwork to seal holes, making good internal surfaces and preparing to receive decoration, application of mastic sealant, installation of weather louvres, cowls or other service termination devices.

The Contractor shall allow to form all new plinths for mechanical services as detailed on the contract drawings. Plinths for mechanical plant shall be raised 100mm from the finished floor level and shall be cast in-situ using a concrete mix suitable for supporting the weight of the mechanical plant. Once fully cured the Contractor shall allow to paint the plinths in either Traffic Red (RAL 3020), Yellow (RAL 1018) or a colour of the client's preference.

TESTING & COMMISSIONING

The new mechanical services installations are to be fully tested, regulated and commissioned and left in full working order to the satisfaction of the Consulting Engineers; as previously detailed within the Preliminaries.

All services shall be thoroughly pre-commissioned, mechanically and electrically, balanced and regulated then commissioned and set to work in accordance with all the relevant C.I.B.S.E. commissioning codes and equipment manufacturer's requirements. Full use shall be made of manufacturer's specialist commissioning engineers.

Full commissioning of and documentation for all services will be required including: water flow rates, control sensor and controller set points, time zones etc. overload settings, fan speeds, manufacturer's equipment test sheets and commissioning, etc.

The Mechanical Contractor shall upon satisfactory setting to work of the installation provide the following documentation within the O&M Manual: Commissioning results, Test certificates. Electrical completion certificates, Record drawing, Manufacturers O&M manuals.

RECORD DOCUMENTATION

The contractor shall include for the provision of all information, as installed/record drawings, test certification, product literature, etc. to be included in the Operation and Maintenance Manual as detailed earlier in the Preliminaries, upon handover.

MAINTENANCE AGREEMENT

The contractor shall include for twelve months maintenance, as detailed earlier in the Preliminaries, starting from the date of the handover of all phases.

PART B – ELECTRICAL PARTICULARS

SITE VISITS

The Contractor shall be entirely responsible for verifying and investigating on site information given regarding the proposed works, since no claim will be entertained for additional work due to inadequacy of site information.

The Contractor shall make all provision after the completion of final fixing for 6 no. return visits to site for safety connections and adjustments of equipment over and above that already to be provided for in other sections of this specification.

MAINTENANCE

The Contractor shall, at his own expense, rectify any faulty workmanship, carry out repairs etc. and maintain the installation to the recommendations of the original equipment suppliers to maintain their warranty for a period of 12 months from the date of handing over the installation as complete.

BUILDERS WORK

All cutting of chases, pockets, etc for switch and socket boxes and other items requiring to be sunk and made flush with the particular type of construction etc will be carried out by the Main Contractor to the requirements of the Electrical Contractor. All sundry and minor cutting and plugging, etc for rawlplugs or other fixing shall be carried out by the Electrical Contractor. The Electrical Contractor shall be fully responsible for the accurate marking out for the Main Contractor, together with accurate dimensions of boxes, brackets etc required to be 'built in'.

The Electrical Contractor must fully co-operate at all times with the Main Contractor in all aspects of his contract.

ELECTRICAL INSTALLATION PARTICULARS

The new chillers require a lower current than the current installation so it should be able to reuse the existing 150mm supply cables. The cables are isolated from the main switch room at the front of the building and when isolated the cables should have a temporary circuit earth provided to avoid any induced voltages being generated in the cables due to their long and unknown route with other cables. Carefully disconnect the cables and then reinstall them into the new chiller control cabinets. As the existing cables come up through the concrete plinths if due to new site conditions reuse is not possible the cables are to be cut on the wall where they leave the plant room and a Schneider Safepact 2 250A MCCB installed with a new 95mm SWA XPLE 4 core cable mounted on a cable tray installation to the new chiller control panels and the MCCB adjusted accordingly to the current requirements of the new chillers. If the existing installation is being used then the existing MCCB's within the mains room are to either be changed or adjusted accordingly to the new current rating of the installed units.

PART C – MECHANICAL & PUBLIC HEALTH GENERIC SPECIFICATION

To be read in conjunction with other contract documents and drawings to provide detailed explanations of requirements for the materials and workmanship to be employed on Shropshire Council Projects.

Specification notes on drawings and in the Scope of the Works take precedence where they differ from the standard clauses herein.

Not all clauses may be relevant to this project.

In the following where the manufacturer is prefixed by “as by” the make/model is illustrative, in all other cases it is mandatory

GENERAL

Mechanical Installation shall not be commenced in any building until such time as the building, or respective building parts, have been made weather proof and water tight in a permanent manner.

This section shall be read in conjunction with the specification and drawings prepared for the Contract. The following clauses may not apply to all the services of the Contract, therefore only relevant parts should be considered where applicable.

INSTALLATION OF PIPEWORK

All pipework shall be installed in a first-class workmanlike manner in accordance with best modern practice with full provision for venting and draining, expansion and contraction, maintenance, renewal and appearance.

Unless otherwise stated on the drawing, or instructed on site, all pipes shall have a minimum clearance of 100 mm. from floors, 75 mm. from ceilings and 25 mm. from the finished faces of walls or other surfaces. Additional allowance is to be made where pipes are to be insulated, particularly in plant rooms where allowance is also to be made for electrical trunking, running at the rear of pipework.

All pipework shall be fixed mutually parallel where adjacent and all vertical pipes shall be parallel to adjacent vertical walls, and in 'plumb'.

Care is to be taken in setting out mains and branches of the various services generally throughout the buildings to facilitate subsequent maintenance, enable insulated mains to be covered to the specified thickness and to provide accommodation for the Electrical Contractor and other trades, with whom the Mechanical Contractor shall work in close collaboration. Overall co-ordination of services shall be the responsibility of the main contractor.

No hot water, cold water or gas main shall be run in contact with any electrical cable or conduit and shall maintain a clearance of 150 mm from any electrical service.

All sets or pulled bends on steel or copper pipes shall be free from flattening and distortion, ridging and rippling.

Open ends of pipe when left unattended shall be properly capped or plugged off, the use of paper, rag, cotton waste, or similar materials will not be permitted.

All steel and copper pipes laid underground shall be wrapped with two layers of Denso tape, or equal approved, with an minimum of 12 mm. overlap per turn, unless stated otherwise in particular specification or on drawing.

Burred ends of pipes are to be reamed or filed to ensure that the full bore of the pipe is maintained. All pipes shall be fitted clean and free from rust internally and externally, and from corrosion or obstruction.

External Steel Pipework, For Gas. Steel pipes crossing open flat roof surfaces to be supported at not less than 1800mm centres of 400mm long Bigfoot "Fix-it" pads to which are bolted Crane 501 pipe-brackets. On completion the whole system should be primed and painted yellow. Other services to be weatherproof insulated or painted silver.

At all times when the Mechanical Contractor finds difficulty on site in complying with the foregoing paragraphs, he shall obtain a ruling from the Engineer.

The tender shall cover for the opening up of completed pipework in three positions, and its replacement where so required, for inspection by the Engineer. In the event of the inspection revealing faulty workmanship or material, the Engineer reserves the right to require further openings up of completed pipework at the Mechanical Contractor's expense.

If further faulty workmanship is found, i.e. pipe burrs, etc, then the Mechanical Contractor shall dismantle and remove part or whole of the installation as directed by the mechanical engineer and replace all at his own expense.

Provision For Expansion.

Provision for accommodating expansion shall be included on all straight metal pipe runs where significant cycles of temperature may occur, such as domestic hot water and space heating circuits. Because the requirement is dependent on the final installed routes, unless they are shown individually on drawings it is left to the installer to use industry good practice to select the appropriate type, eg bellows, ball, pipe loop etc, and location. If the installer is in any doubt he shall raise the matter with Shropshire Council's mechanical engineer for guidance.

STEEL TUBE AND FITTINGS APPLICATIONS:

- LTHW Heating
- Gas Carcassing (Distribution)

Shall be in accordance with current B.S. 'Heavy' quality and shall be used for all oil, gas and heating mains, coils, etc, unless otherwise definitely indicated to the contrary. Galvanised 'heavy' quality tube shall be used for vent pipes (other than those specified to be copper), overflow pipes, feed and expansion pipes, drain pipes, drip and discharge pipes, compressed air lines and where specifically detailed for hot water service connections to galvanised cylinders.

Galvanised fittings, unions, nipples, brackets, etc; shall be used with galvanised pipework.

Pipes shall be screwed and socketed where used with fittings, with plain ends when welded and with site welded or factory fitted flanges when required flanged. See also paragraphs regarding flanged joints and welding below.

Steel pipes in the Boiler House shall be flanged for sizes 65 mm. and greater, otherwise steel pipes shall be screwed and socketed or welded where required. (See later paragraph.)

Oil pipework from storage tanks to burners shall be steel to BS 1387, 'Heavy' quality, with seamless butt-welding fittings to BS 1965, 'Heavy' grade. Welding shall be by the

oxy-acetylene process and the installation shall be finished with micaceous anticorrosive paint. Buried oil lines shall, in addition, receive two layers of 'Denso' tape, spiral wound, in opposing directions. Provisions shall be made for the regular pressure testing of oil pipework to verify its continued serviceability.

Screwed fittings on steel pipework shall be malleable iron in accordance current B.S.

All fittings shall be of Crane or George Fischer manufacture and of single manufacture throughout each installation.

Tees shall be of sweep pattern on pipe circuits. Square tees shall be used for vent, drain and thermometer positions and also on gas pipework.

Bends and easy sweep fittings shall be used on all circulating services, except where visible within rooms, when elbows shall be used. On two-pipe systems, the returns from radiators shall pass the top (flow) pipe by means of crossover bends in the top pipe, in true vertical alignment.

Reduction in diameter of pipes shall be made by the use of:

1. Eccentric reducing sockets on horizontal pipe, concentric on vertical.
2. Reducing bends.
3. Reducing tees.

Reducing bushes will not be permitted except for radiator tappings or with the express permission of the Engineer.

Unions shall be malleable iron navy pattern, with bronze to bronze seats, unless otherwise indicated.

Long screw connectors and back-nuts will not be allowed.

Flanged fittings shall be fitted to pipes by screwing, welding or, where this is done by the tube manufacturer, the face of the flanges to be flush with the ends of the pipes.

Flanges where welded shall be welded internally and externally.

Flanges forming a joint must be flush with one another all round when in position with all bolt holes in correct alignment with washers under each nut and with three threads showing on the bolt, beyond the nut.

Screwed joints shall be made with P.T.F.E. tape or best quality approved jointing compound and hemp. Excess material is to be removed from joints after making in and prior to painting by others.

Flanged joints shall be made with corrugated brass rings and an approved jointing compound, or with rubber packings and approved oil free jointing compound.

When flanged joints are made on expansion loops, bellows or bends, the correct amount of cold draw shall be made, which shall be checked and approved by the Engineer before the joint is made.

Welded joints on mild steel mains where specified to be oxyacetylene welded are to be in accordance with current B.S.

No screwed, capillary or manipulating fittings of any type on any service shall be embedded in the thickness of walls, floors or ceilings, or in any inaccessible position, including dips into floors to cross doorways, in which case changes in direction shall be made by setting the pipes.

On all mains and branches an adequate number of connectors shall be provided for ease of erection and subsequent maintenance. Hot water, gas, oil, cold water, waste and vent pipes of 65 mm. diameter and over, connectors shall be flanged to B.S. Table 'D'. Sizes 54 mm. and under they shall be unions as specified later. No major item of equipment shall be so installed that it cannot be readily removed from the service pipes.

On heating flow and return pipework and incoming gas main in boiler room, earthing clamps shall be installed, long enough to clear insulation. These shall be welded to steel pipework accessible positions for main bonding by the Electrical Contractor.

All pipework within floor ducts, inaccessible ceilings and wall ducts shall be welded. Any doubts the Mechanical Contractor may have regarding the requirement for welding, are to be dispelled by telephoning the Engineer, prior to tendering.

The type of jointing compound for use with all pipework containing oil shall be suitable for use with fuel oil and guaranteed to remain oil tight under all conditions eg 'Hermetite', manufactured by Kenilworth Engineering Co., West Drayton. Flanged connections to storage tanks shall be made with suitable oil tight packings as manufactured by Richard Klinger Ltd. No rubber or rubberised packing will be permitted with oil lines.

Joints on gas pipework shall be made with a jointing compound conforming to BS EN 751, such as Hawk White, Gastite (Boss) or Hermetite Gas Jointing Compound. P.T.F.E. tape shall not be used on pipe sizes 20 mm, and above, except on manufacturer's assembled threads.

Pipeline Repair Only, water, heating and gas.

Where due to restricted access to an existing pipe it is impossible to cut a thread or weld, the exterior of the pipe shall be thoroughly cleaned for a distance of 100mm and a connection made using a connector incorporating a metal-to-metal mechanical axial restraint as below:

Nominal diameters DN15 to DN50: GF Primofit, obtainable from Messrs Wrekin Pipeline Supplies Ltd.

Nominal diameters DN65 and larger: Viking Johnson.

COPPER PIPES AND FITTINGS APPLICATIONS:

- Cold and Hot Water Systems • Refrigerant.
- Small bore gas final connection pipework.
- Individual connections to radiators not exceeding 22mm nominal diameter.
- Condensate lines from boilers and heaters.
- Discharge pipework from pressure/temperature relief valves.

All copper pipes for above ground systems shall be solid drawn in accordance with BS EN 1057, R250 Half Hard, as manufactured by Messrs Yorkshire Tube Ltd or equal approved, and Kite marked.

Copper pipework and all associated fittings and bracketry to be chromium plated where exposed within habitable rooms, unless stated otherwise on drawings.

General fittings for use on copper pipes of light gauge shall, except where noted hereunder, be capillary integral solder ring jointed pattern employing lead free solder, dezincification resistant, of potable quality to BS EN 1254 and shall be of single manufacture throughout the installation.

End feed capillary or crimp fit fittings will not be accepted.

Compression type fittings of current B.S. shall be used on appliance servicing valves, isolating valves, preset thermostatic blenders, in ducts and accessible trenches and voids. Any fittings used on underground copper pipes shall be manipulative type to the same British Standard and shall after testing be wrapped with two layers of Denso tape or when used with polythene coated or polythene tube, shall be wrapped with two layers of Denso PVC self-adhesive tape, applied after testing.

Joints on copper pipes shall be made strictly in accordance with the instructions of the fitting manufacturer and with the proper tools. Capillary type fittings shall be made with the manufacturer's recommended flux and with both tube and fitting cleaned with steel wool. Heat resistant mats shall be used to prevent damage to the building fabric.

Compression joints shall be made without distortion of the tube and shall be of Yorkshire Fittings or Conex manufacture only.

Where copper pipes are specified to be brazed, this shall be carried out in accordance with the current B.S. Brazed joints to be made with brazing rods as listed in current B.S., with melting temperatures from 645°C to 800°C, type C.P.1., together with suitable fluxes, as recommended by the rod manufacturers.

Surplus solder and flux shall be cleaned off at the time the joints are made.

No screwed capillary or manipulative fittings of any type on any service shall be embedded in the thickness of walls, floors or ceilings, or in any inaccessible position, including dips into floors to cross doorways, in which case changes in direction shall be made by setting the pipes.

On all mains and branches an adequate number of connectors shall be provided for ease of erection and subsequent maintenance. Connectors for pipes of 67 mm. diameter and over, shall be flanges to B.S. Table 'D'. Sizes 54 mm. and under they shall be unions, as specified in a later clause. No major item of equipment shall be so installed that it cannot be readily removed from the service pipes.

The whole of the hot and cold water supply installations shall be carried out in accordance with The Water Regulations, as interpreted by Severn Trent Water.

PLASTICS PIPES AND FITTINGS APPLICATIONS Soil, Waste & Ventilation

The system as a whole shall be designed and installed in full compliance with the current Building Regulations Approved Documents B - Fire Precautions, E - Passage of Sound, H - Drainage and Waste Disposal and BS EN 12056 part 2.

Anti-siphon and ventilation pipes shall be provided as necessary to prevent loss of water traps throughout the system. Where such pipes pass through roof surface in locations agreed with the architect provide suitable weathering apron and terminate 300mm above roof surface with a proprietary vent cowl.

Access shall be provided generally at branches, changes of direction and at all connections to the existing systems, eg using access tees on waste pipework and access bends and access pipes on soil pipework. Accesses shall be provided on each floor of every new soil vent pipe, regardless of whether any branches connect at that level, at a height of 1050mm to lower edge of access hole when cover is removed, above FFL.

Falls on soil waste and vent pipes shall not fall below the minimum stated in BS EN 12056-2 Gravity Drainage systems inside Buildings. Anti-siphon pipework and vent pipes must be installed in such a manner as to not create a trap.

Where plastics pipework larger than 40mm nominal diameter passes through fire compartment floors and walls, intumescent fire sleeves described in BS 476 'Fire tests on building materials and structures' shall be fitted.

Above ground waste and ventilation pipework, ie up to and including 50mm nominal diameter, shall be of muPVC to BS EN 1566 & 1329 and soil pipework of 82mm nominal diameter and above shall be of PVCu to BS EN 1329, all employing solvent welded joints, and kitemarked.

Connection of lateral branches to stacks shall be by fittings fitted with seal ring (push-fit) adaptor rings. Saddle type bosses for connecting new waste branches up to 50mm nominal diameter to existing stacks will be permitted if installed precisely to manufacturer's recommendations. Due allowance shall be made for the effects of expansion by installing joints incorporating seal ring adaptors.

Solvent welding solution for muPVC and PVCu pipework shall be of low odour type, as Terrain Pevicol or equal.

Transitions from muPVC or PVCu to other materials or systems shall be made using only proprietary transitional fittings made by the manufacturers of one of the pipe systems involved for the specific purpose.

LIQUEFIED PETROLEUM GAS SYSTEM

The whole installation shall fully comply with the requirements of BCGA Code of Practice Nr.4, Rev.3, 2005, BS1306, BS 6891, and the Gas Safety (Installation and Use) Regulations 1998.

Gas to be stored and distributed from an external secure bottle store with 100mm high concrete plinth constructed to falls below a monopitch roof and surrounded by a wire

cage with outward opening lockable doors. Size of cage to allow 300mm minimum gap between it and any manifold, fittings or bottles within.

Store to be provided with wall mounted manifold with ports for 6 bottles each with flexible hose, isolation and non-return valves. Manifold to have master isolation valve, in-line filter, purge valve, emergency shut-off valve, high pressure gauge, pressure reducer, low pressure gauge, pressure relief valve on low pressure main.

The external and internal main distribution shall be in heavyweight MI pipe with screwed fittings as described above, and local distribution to points of use shall be in capillary jointed copper. End feed capillary or crimp-fit fittings will not be accepted.

LPG pipes shall be fixed not less than 25mm from any other service and not less than 50mm from electrical services.

Each zone shall be protected by a Firewatch Mk2 unit linked to a motorised shut-off valve at the entry point to that zone.

PLASTICS PIPES AND FITTINGS FOR CONDENSATE APPLICATIONS:

Condensate from air conditioning cassettes and ventilation heat exchangers

Pipework to convey condensate from air conditioning cassettes shall be of 19mm solvent welded muPVC as Terrain 500 system or 25 and 32mm OD fusion welded HDPE PE80 as by Messrs Durapipe or equal approved.

Falls on condensate pipes shall be not less than 1 : 100 and they shall be installed and supported in such a manner as to not create a trap caused by local sagging.

Where new air conditioning cassettes are installed or existing units relocated the condensate connections from them shall be routed to join the existing main condensate collection runs.

Discharge of condensate collection drains shall be through an external wall via a suitable terminal fitting or into an internal SVP via a Hepworth HepVO waterless trap.

PIPE SLEEVES AND FLOOR PLATES

All pipes passing through walls, floors, ceilings, beams, into and out of ducts, valve chambers, etc shall be provided with sleeves of the same material as the pipe. Sleeves shall be cut to size so as to project 6 mm. above normal finished floor levels, 25 mm. above floor level in toilets and 150 mm. either side in ducts, valve chambers and expansion pits, etc. Sleeves through walls shall finish flush with the finished wall surface. See also paragraph on fire precautions for plastics pipes.

All pipes passing through walls or floors shall be provided with aluminium or plastic clip-on end or floor plates, except in cupboards, roof spaces, basements, where the pipes are not visible.

Where plastics pipes such as waste disposal pipework with a diameter greater than 40mm pass through fire compartment structures, intumescent pipe-wrap shall be used to manufacturer's recommendations. Where plastics pipes with a diameter greater than

75mm pass through fire compartment structures, proprietary metal cased intumescent fire sleeves, such as Terrain Firebrake or equally certified and approved, shall be used; horizontal penetrations shall have a sleeve both sides and vertical penetrations on the underside only. Approved intumescent pipe wrap may be used in unavoidable circumstances but only after consultation with SC engineers and the application approved. Where smaller plastics pipes pass through fire compartment structures, intumescent sealant shall be used.

PIPE SUPPORTS AND BRACKETS

Surface mounted pipework and horizontal pipework in voids, partitions and ducts shall be supported using pipe manufacturer's all metal pipe clips. In hollow stud partitions the clips shall be fixed to purpose made noggins spanning between studs to the correct falls.

Lateral pipework of all materials suspended from structural soffits or steelwork/framework shall be suspended on sherardised steel threaded rod to pipe manufacturer's threaded metal pipe clips. Fixing drop rods to structural concrete soffits shall employ all metal female threaded expanding anchors, and steel cleats shall be used where rods are suspended from steelwork/framework. Hanger rods shall be truly vertical at all times. Centres of support shall be at not more than the distances prescribed in BS EN 12056 part 2 for the relevant pipe material and diameter.

Where enlarged diameter steel heating pipe is used directly as an emitter, eg at skirting level, return above flow it shall be supported with cast malleable iron pedestal floor brackets, eg Crane/Bolivar type 84 on lower, type 83 on upper at regular 750mm centres, with secondary brackets from the upper pipe to the wall at 1500mm centres.

Exposed copper pipes shall be supported by cast brass hospital type brackets; elsewhere cast brass pipe-ring and backplate brackets shall be employed. Pipe clips to be chromium plated where pipework is CP. The use of plastics or pressed brass clips will not be allowed.

Pipework shall be supported so as to allow free movement for expansion and contraction and shall be supported at intervals not exceeding the following:

<u>Copper Pipework Nominal Diameter</u>	<u>Uncovered</u>	<u>Insulated</u>
15 mm.	1.200 m.	1.200 m.
22 mm.	1.800 m.	1.500 m.
28 mm.	2.400 m.	1.800 m.
35 mm.	2.400 m.	1.800 m.
42 mm.	3.000 m.	2.400 m.
54 mm.	3.000 m.	3.000 m.
76 mm.	3.600 m.	3.600 m.

In addition to the above all vertical pipes shall be supported at not less than two points where pipes rise or fall from floor to ceiling, or vice versa.

Care shall be taken to ensure that the axis of the pipe is parallel with the axis of the bracket or clip.

All brackets and supports shall be in position and fixed before any test is carried out.

Supports in Horizontal Ducts - Where numbers of pipes are installed in internal ducts or trenches they shall be supported by hanging from angle brackets or tubes built into the sides of the duct, spanning the full width, and the pipes secured below by means of munzen rings and drop rods. The munzen rings to be malleable iron for mild steel pipes and brass for copper pipes; drop rods to be plain rod, screwed each end.

VALVES

All valves employed on water and heating shall be WRAS as below, approved and stamped accordingly. Proposals for other manufacturers meeting the same standards will be considered by SC.

Control and isolating valves shall be fitted on the system where indicated on the drawings. On the heating system isolating and control valves shall be fullway pattern, Crane / Hattersley manufacture.

Hattersley Ltd
Delta Road, St.Helen's, Lancashire WA9-2ED Tel.
01744 458670

Where lockshield valves are fitted they shall be provided with dust caps. All gunmetal bodied valves shall be with a polished finish, unless otherwise specified.

Draw-off cocks shall be lockshield pattern with hose tail and union complete with cap, chain and operating key. Drain taps shall be fitted at all low points on systems; these are generally not shown on the drawing, but must be fitted.

Unless otherwise indicated in a particular specification or on drawings, fan convectors, radiators, pipe coils and towel rails shall be fitted each with two valves, lockshield and hand-wheel which shall be Hattersley 'Delflo' with polished finish, to current B.S.

Isolating valves up to 50 mm. Hattersley Fig. 33X, 33XLS.

Isolating valves 65 mm. and above Hattersley M549PN6.

Wheel valves on all circuit flows, LSV's on all circuit returns for regulation.

Non return valves up to 50 mm. Hattersley Fig 42.

Non return valves 65 mm. and above Hattersley 45E.

Double regulating valves Hattersley Fig. CV1332 on return, or as stated in Particular Specification or drawings.

Drain cocks 15 mm, Hattersley Fig. 371. Where exposed in rooms, other than stores, drain cocks may be Broen Ballofix, type 5095.

Drain cocks 20 mm. and above, Hattersley Fig. 81 HU.

PSG

Draw-off cocks shall be fitted in such positions as are necessary to drain the whole of the installations.

Where necessary, bends shall be provided to fix the draw-off cock in line with the pipework, on the installation side of each main circulation valve, which may be used as a section isolating valve.

STOPCOCKS, BALL ISOLATING VALVES, DRAIN COCKS AND CHECK VALVES

Servicing (isolating) valves shall be fitted to isolate each individual terminal fitting on any basin, sink, shower, bath, bidet, automatic flushing cistern and float valve serving a tank, and shall be adjacent to the fitting being supplied. Servicing valves shall be chromium plated, easy clean ball type isolating valves operated by Allen key, as Ballofix DZR manufactured by:-

Broen Valves Ltd
Ballofix Division
Unit 7 Cleton Street Business Park
Tipton
West Midlands DY4 7TR
Tel. 0121 522 4515

Note that similar valves of alternative manufacture must be WRAS certified and subject to approval by PSG to be acceptable.

Within kitchens, boiler houses, tank rooms and on incoming mains, stopcocks shall be Yorkshire Fig. No. YP514DZR up to 28 mm, and Fig. no. YP514GM above 28 mm.

Stopcocks shall be fitted on outflow pipes from tanks immediately adjacent to the tank.

Where two or more stopcocks are installed on vertical pipes adjacent to each other they shall each be fixed at the same centres to the floor.

Draw-off cocks shall be fitted at all low points of the installation and shall be of Ballofix type 5095 on Hot and Cold water service.

Where single or double check valves are required to avoid back siphonage, they shall comply with current water regulations and B.S. and shall be as manufactured by :

Danfoss Socla UK,
Capswood,
Oxford Road,
Denham,
Buckinghamshire UB9 4LM.
Tel: 0870 241 7060,
Reference: SOCLA 2231, or

Yorkshire Fittings Ltd,
PO Box 166,
Leeds,
West Yorkshire,
LS10 1NA Tel: 0113 270 7104, Reference Yorkshire 4421, 4423.

TEMPERATURE REGULATING VALVES (TRVs) ON RADIATORS

Unless otherwise stated on drawings TRVs mounted directly onto radiators shall be of the same nominal manufacture as the radiator, eg Myson valves on Myson radiators. TRVs on low surface temperature radiators shall be accessible for user adjustment without dismantling. Where remote-sensor TRVs are called-for they shall be capillary types, as by Messrs Danfoss Randall and the capillary tube shall be concealed wherever possible, for example in voids behind plasterboard or in a boxing already provided for another purpose. Exceptionally, and only with the agreement of the architect it may be concealed in a surface mounted plastics mini-cable-trunking.

TEMPERATURE REGULATING VALVES ON HEATED CEILING PANELS

Unless otherwise stated on drawings TRVs shall be capillary types, as by Messrs Danfoss Randall type AB-QM or equal approved controlled by thermostatic wall mounted controls as Danfoss type FEV-Z and the capillary tube shall be concealed wherever possible, for example in voids behind plasterboard or in a boxing already provided for another purpose. The contractor shall take care to order valves with the appropriate length of pre-fitted capillary tube, ie short (2 metres) or long (6 metres) allowing for controls at 1500mm AFFL unless otherwise noted. Exceptionally, and only with the agreement of the architect it may be concealed in a surface mounted plastics mini-cable-trunking.

All panels in any one habitable space shall be controlled by a single valve sized accordingly.

AUTO AIR VENTS

Air cocks shall be fitted to all coils and where indicated on the drawings, and automatic air eliminators shall be provided as instructed on the site for venting parts of the system otherwise without means of clearance. Each air eliminator shall incorporate or be fitted with an isolating valve and a 12 mm. discharge pipe shall be taken to discharge externally or in the boiler house clear of lagging and shall be Winns type C complete with integral isolating and non return valves.

Where indicated on drawings, however, air bottles may be used, comprising equal square tree with 200 mm min. of straight pipe either capped, with fitted air tap (where easily accessible), or 8 mm copper pipe taken to a suitable position, flush with ceiling and air tap fitted.

SPACE HEATING CIRCULATION PUMPS

Primary Circulators, Boiler Shunt and Secondary Circulators.

These shall be single or double headed (as described on drawings) self sensing, self controlling glandless types with inverter drive manufactured by:-

Armstrong Integrated Ltd
Manchester M12 5JL

Telephone: 08444 145145

Biral AG.

Telephone 01275 847787

Grundfos Ltd
Leighton Buzzard

Telephone 01525 850000

Wilo

Telephone 01283 523000

Sizes, duties and controls as specified on drawings and Scope of Works.

Double headed types shall have automatic alternate start, and all types shall be set for 15 minutes minimum run-on after boiler shut down or flame-out.

DOMESTIC HOT WATER CIRCULATION PUMPS

Self-sensing and adjusting programmable pump, nominal size to match diameter of DHWS return pipework.

Manufacturer and reference: as project drawings or Scope of Works

DUCTWORK

All rigid ventilation ductwork used on Shropshire Council projects, unless specifically stated otherwise on the drawings, shall be of steel.

All ductwork shall be manufactured from strip mill cold reduced steel continuously hot dipped galvanised to current B.S. Construction for ductwork shall be to the H.V.C.A. specification DW 144 for low pressure low velocity systems which covers cross joints, stiffening, hangers and supports, dampers, fire dampers, access openings, flexible ducts, joints, sealants, gaskets and connection to builders work.

Flat (low profile) ductwork where specified shall be 76mm deep steel in widths as specified on drawings with all necessary accessories, transformation pieces, branches, support cradles, etc as manufactured by:

Wells Spiral Tubes Ltd, Airedale Road, Keighley, West Yorkshire.
BD21-4LW Tel. 01535 644231

All raw edges of ductwork shall be treated with 'Galvanite' paint. M.S. stiffeners, hangers and supports shall be painted two coats of red oxide or zinc chromate primer.

Galvanised steel shall be used for flange joints with sheradised nuts, bolts, washers and screws between all major items of plant. Elsewhere ductwork lengths shall be joined by riveted spigot and socket joints properly waged to give a smooth external surface and lapped in the direction of airflow.

All joints shall be rendered airtight by application of mastic compounds, P.V.C. duct-tape or gasket materials.

Access doors shall be provided where shown being completely removable. Doors shall be secured by wedge type fasteners on durable airtight seals and located where accessible in the completed building.

Where thermostats, airflow switches, etc, are fitted in ductwork they shall be mounted on a stiffening plate with an adjacent hand-hole access cover secured by self-tapping screws.

Sufficient test holes shall be provided with detachable covers with at least one point between each major item of plant and where control dampers are located.

Insulated foil-faced flexible duct for final connections to grilles and diffusers as Aluflex, manufactured by:

Manufacturer as Wells Spiral Tubes Ltd, Airedale Road,
Keighley, West Yorkshire.
BD21-4LW Tel. 01535 644231.

Flexible connections between fan assemblies, etc, shall be secured by 'Zest Coronation Clips'. Where flexible ductwork is specified it shall comply with current B.S. and HVCA Specification DW154 and all the necessary universal fixing clips and jointing connectors shall be included, the whole assembled in accordance with the manufacturer's recommendations.

Where flexible circular ductwork is adapted to rectangular grilles suitable size back-boxes with rear or side entry spigots shall be fabricated in galvanised sheet steel.

Where circular ductwork is adapted to rectangular flat duct suitable transformation pieces shall be fabricated in galvanised sheet steel. Where circular ductwork branches off or into flat duct, suitable branch fittings shall be fabricated in galvanised sheet steel.

All dimensions and positions of plant shall be checked on site and the Mechanical Contractor shall be responsible for ensuring that ductwork conforms with the equipment installed, and also with the building details and structure.

Penetrations of ductwork through fire compartment walls shall be protected so as to comply with Building Regulations Approved Document B, Fire Safety and BS5588, 2004, as, for example by fusible link fire dampers. Note that because the fire strategy may develop after the ductwork has been designed, the drawing may not show all fire dampers finally required and the contractor shall be deemed to have made reasonable allowance for additional fusible link dampers that may ultimately be required.

During erection all open ends of ducting shall have a suitable covering tied in position to prevent entry of dust, dirt and other debris present during building operations.

Before final fixing of grilles the ducting shall be blown through by running the fans for a period of at least one hour and the interior of all ducts, as far as accessible, thoroughly cleaned by means of an industrial type vacuum cleaner.

Other grades of specialist ductwork will be referred to separately.

Air leakage testing, as HVCA Specification DW143, and commissioning as CIBSE Commissioning Code A, shall be undertaken by the Mechanical Contractor on completion of the ductwork installation.

AIR TERMINALS, DIFFUSERS and GRILLES

Unless otherwise stated on drawings, in schedule or the Scope of Works, ventilation system diffusers, extract grilles, transfer grilles and louvres shall be as manufactured by:

Swegon Air Diffusion Ltd Stourbridge
Road, Bridgnorth,
Shropshire
WV15-5BB Tel. 01746 761921

Transfer grilles, in non-sensitive areas mounted centrally above doorways shall be 315 x 205mm effective size narrow pattern in white (RAL 9010), type NTG, one each side.

Transfer grilles, in non-sensitive areas mounted above false ceiling height shall be 200 x 200mm effective pattern in white (RAL 9010), as Air Diffusion Type MVG-MF manufactured

Transfer grilles, mounted at low level in kitchenette doors shall be 400 x 200mm double flanged pattern for through door mounting in self-colour anodised aluminium with horizontal bars at 15mm centres and intumescent core.

Respiration air grilles, mounted at low and high level in plantroom doors shall be 300 x 250mm 45° fixed angle blades with 25mm flanges for through door mounting in self-colour anodised aluminium with horizontal bars at 50mm centres and insect screen..

High performance acoustic transfer grilles, if required, shall be as "Quiet Vent", manufactured by: Messrs IAC,
IAC House,
Moorside Road, Winchester.
SO23-7US Tel. 01962 873111
The precise pattern being as specified on the drawings.

FANS FOR DUCTWORK

In-line air extract fans for circular ductwork shall be as specified on drawings or Scope of Works and manufactured by Systemair Ltd, Aston, Birmingham B7-5EJ Tel. 0121 322 0850 or equal approved.

Each complete with speed controller and timeswitch, plus PIR control for 100mm toilet extract applications or other control as specified on drawings, and switched fused spur unit supplied by mechanical installer for installation by electrical installer.

VENTILATION DUCTED HEAT EXCHANGERS

Heat exchangers for ducted ventilation systems shall be balanced supply-extract models as specified on drawings or project Scope of Works designed for ceiling void installation.

Summer bypass is a preferred option.

Unless otherwise stated on drawings the multi-speed models shall be controlled by the manufacturer's wall switch selecting between normal and boost. The normal setting is preset at the main unit to a low setting to provide background ventilation, ie speed 2 or 3 on a 6 speed unit or 1 or 2 on a 4 speed unit, while purge is full speed.

Care shall be taken when installing to allow for subsequent access for filter changes.

EXTRACT FANS

Window mounted extract fans with shutters to be as specified on drawings or in Scope of Works, complete with controller, including humidistat control with manual override for kitchenette extract applications and PIR control for 100mm toilet extract applications, and switched fused spur unit supplied by mechanical installer for installation by electrical installer.

Toilet and WC extract fans: 100mm nom.dia axial pattern in white with automatic shutters and with activation by room lighting circuit and built-in adjustable overrun timer preset on installation to 6 minutes. In suspended ceilings they shall be centred on tiles with 100mm duct.

Extract grilles in WCs to have minimum core size of 200mm square: see Section 18.

Discharge shall be by 100mm dia flexible duct to common metal extract duct or through roof via weathering slate with 150mm high dressed upstand to mushroom roof terminal as scheduled.

THROUGH-WALL HEAT RECOVERY VENTILATORS

Heat exchangers for through wall applications shall be as manufactured by: Ventaxia Ltd and itemised in drawings and Scope of Works.

Model range: HR25, HR30W, HR100, HR200, HR300 and HR500 as detailed with wall mounted manual speed controllers. The contractor shall allow in his price for any extra make-up accessories for thick walls or for framing around units in thinner than normal external walls.

HEATING AND COOLING CASSETTES : SPLIT AND VRF SYSTEMS

Systems shall be as the project specific system type and manufacturer and shown on drawings and project specification. Installers must be certified by the manufacturer of the system selected to provide a 5 or 7 year manufacturer's parts and labour warranty as appropriate.

Where an existing system of discrete heating and cooling cassette units is to be modified or extended, all new components shall be of the same manufacture as the originals so as to be wholly compatible with the original system, and using the same refrigerant as the original system.

Where new small heating-cooling cassette systems, up to 3 emitters, are installed they shall be of split or multi-split pattern and provided with infra-red remote control handsets, as detailed on the drawings and in the Scope of Works.

Where more than one cassette is installed in the same room or activity space they shall all be controllable by the same handset.

Outdoor units shall be located as shown on drawings, viz roof mounted, wall mounted or ground mounted on an in-situ cast concrete base.

External condenser units, if free standing, shall stand on an in-situ concrete base, 150 mm overall thickness and 300 mm larger in both direction than the plan of the condenser, with the top 50mm above the surrounding ground level and contained within a purpose made galvanised wire protective cage with an opening and lockable front panel for maintenance. There shall be a minimum of 100 mm clear on all sides, and top between the cage and the condenser casing.

If roof or wall mounted then resilient mountings shall be used to minimise sound conduction –“drumming”.

Procedures for handling refrigerants during system draining, filling and commissioning shall be carried out in a responsible way in accordance with BS EN 378-4: 2008 Refrigeration and Heat Pumps: Safety and Environmental Requirements.

SUPPORT OF DUCTWORK AND DUCTED HEAT-EXCHANGER CASSETTES

The ductwork shall be supported in such a manner to avoid distortion, sagging or twisting, and in compliance with BS EN 12236-2002, HVCA Document DW144 for metal duct and DW154 for plastics ductwork.

Ductwork support shall be similar to the method adopted for the mechanical services pipework, ie. suspended from structural soffits or steelwork/framework on sheradised steel threaded rod to cradles. Hanger rods may be suspended from Unistrut lengths attached to structural soffits by all metal expanding anchors, and steel cleats attached to steelwork shall be used where rods are suspended from structural steelwork/framework. Hanger rods shall be truly vertical at all times and wire will not be accepted as a means of support or bracing. Centres of support shall be at not more than the distances prescribed in DW 144 / 154.

Diffusers and grilles set in suspended ceilings shall be independently supported from the structural soffit or other structural members above in the manner described in the preceding clause, and no load shall be transmitted to the ceiling grid. Significant lengths of flexible duct too long to be self supporting from their ends shall be provided with support from hangers or trays to ensure no load is applied from them to the ceiling structure.

The Mechanical Contractor shall submit details of brackets to the Engineer for approval. Anti-vibration pads shall be installed between the ductwork and brackets throughout the system. TEST POINTS Air flow test points shall be provided in the air ducting at all branches and regulating dampers, adjacent to each plant item and control item, in all fan inlet and discharge ductwork connections, and elsewhere as indicated on the design drawing(s).

INSULATION OF MECHANICAL SERVICES

This section shall be read in conjunction with the Specification and drawings prepared for the Contract. The following clauses may not apply to all the services of the Contract, therefore only relevant parts should be considered where applicable. The supply, delivery and installation of thermal insulation work shall be to the requirements of the Contract documents and to the satisfaction of the Engineer or his representative.

The relevant requirements contained within the Health and Safety at Work Act, Building Regulations, Asbestos Regulations and Fire Precautions Act and current IEE Regulations shall be complied with by the Mechanical Contractor and Insulation Sub-Contractor.

This specification covers the thermal insulation of pipes, ductwork and equipment generally in the temperature range 2°C to 250°C. The insulation shall be of a noncombustible nature and shall comply with all relevant current British Standards including BS5422 and BS3958-5.

Insulation shall be continuous through the bracket, where this is possible.

Note that extract ductwork shall be uninsulated.

On completion of the hydraulic tests, to the satisfaction of the Engineer, all pipework in ducts, trenches, roof spaces, false ceilings, wall chases, etc, including the cold water services, and all pipework not required as heating surfaces shall be thermally insulated in accordance with the following specification.

All pipework and ductwork insulation shall have a thermal conductivity of 0.045 W/mK (or lower) at a mean temperature of 20 deg. centigrade.

Phenolic Foam will NOT be accepted on any service.

Unless otherwise specified, all insulation in tube form shall be 'ROCKLAP' 800 H & V pipe sections, with factory applied foil, as manufactured by:--

Rockwool Ltd
Pencoed
Bridgend
Mid Glamorgan
CF35 6NY
Tel. 01656 862621

An alternative manufacturer, supplying insulation to the required standards, may be considered for approval, prior to ordering materials.

Insulation thicknesses shall be:-

Heating and hot water services up to 20 mm/22 mm- 30 mm thick.

Heating and hot water services 25 mm/28 mm upwards - 40 mm thick. Cold water services, all sizes - 40 mm thick.

Where two or more pipes run horizontally or vertically in close proximity the covering shall not be bonded, but there shall be a clear space between the pipes.

All pipework within false ceilings, voids, chases, roof spaces and floor ducts, including heating, hot water services, cold water services, feed and vent shall be insulated with 'Rocklap' as above. Seams shall be lapped with integral self-adhesive foil lap.

Care should be taken that insulation does not foul or impede access to any drain, control valve, float switch gear or thermostats, pressure switches etc, fitted to tank or adjacent pipework.

All terminations of insulation to be fitted with aluminium cap ending.

Unless an alternative is specified all insulated pipework in positions exposed to the weather shall be covered with 2 no. layers of roofing felt, secured by galvanised wire ties, sealed with hot bitumastic, bonded with 25 mm. galvanised wire mesh and painted overall with one coat of bitumastic paint. Similar weatherproofing shall be applied in expansion loop chambers and to external underground pipework.

For chilled and cold water services attention to be paid to taping to maintain the vapour barrier, particularly at termination points where exposed insulation membrane to be over taped and returned to piping surface. Furthermore, where insulation on cold and chilled water services abuts pipe support inserts the insulation should be taped to all inserts to continue the vapour barrier.

Where specified, ductwork within false ceilings, voids, chases and roof spaces shall be insulated with Rockwool 'Ductwrap', 40 mm thick. All seams and joints to be close butted and lapped.

All services within plant rooms, inclusive of feed and vent pipes, shall be insulated with 'Rocklap' covering as previously described and further covered with Isogenopak sheeting, 350 microns thick.

The Isogenopak shall be complete with pre-made bends, tees, and caps, rivets, etc, and shall be installed strictly in accordance with the manufacturer's specification, with all seams taped, all as available from:-

Sheffield Insulations
Apollo Park Rounds
Green Road Oldbury
West Midlands
B69 2DF
Tel. 0121 665 3050

PAINTING

Cast iron valves, exposed flanges, unions, pipework and support systems shall be painted two coats of heat resistant black paint.

PIPEWORK IDENTIFICATION BANDS

Where insulation is enclosed in cladding, it is to be left thoroughly clean and in natural finish; under no circumstances should the cladding be painted; PVC identification colour bands only to be provided at 2 m. intervals and applicable to colour chart code. PVC flow direction arrows at 3 m. intervals to be fitted

All pipework, whatever the finish, which is not immediately identifiable, must have identity colour bands fitted in accordance with colour code indicated on chart.

The Isogenopak cladding must be securely fixed in a neat and approved manner so that bolts may be easily withdrawn from flanged joints. Care must be taken that all glands, valves, unions, flange joints, thermostats and other pipe immersion accessories, etc, are not fouled in any way and that easy access is maintained at all times to facilitate maintenance or repairs without recourse to dismantling or disturbing in any way the finished insulation.

PIPEWORK IDENTIFICATION CHART

FOR ENGINEERING SERVICES

<u>Pipe Contents</u>	<u>Base Colour</u>	<u>Colour Code Indication</u>
Drinking Water	Green	Blue
Domestic cold water service	Green	White/Blue/White
Domestic hot water service	Green	White/Crimson/White
LTHW Heating	Green	Blue/Crimson/Blue
Chilled Water	Green	White/Green/White
Condensate	Green	Crimson/Green/Crimson
Boiler Feed	Green	Crimson/White/Crimson
Natural Fuel Gas	Ochre	Yellow
Liquefied Petroleum Gas	Ochre	Ochre

All pipework above duct level, and within the building, which is not insulated, will be finished by the General Contractor to match decorations.

VALVE LABELS & CHART

The Mechanical Contractor shall, on completion of the works, provide and attach to each main control and regulating valve cock or plug cock throughout each service system, a traffolyte disc 40 mm. diameter clearly engraved with an identifying valve number.

The Mechanical Contractor shall prepare and install a "Valve Schedule" of all the above numbered valves indicating the location, service and duty of each valve. The schedule

shall be mounted and fitted in a suitable glazed frame, to be hung in a prominent position in the plantroom / boiler house.

CHLORINATION OF THE HOT & COLD WATER SERVICES

After completion of the water services installation the system shall be thoroughly flushed out, and the storage tanks inspected for cleanliness. Chlorination in accordance with BS6700 shall then commence.

The time of re-sampling each outlet and the free chlorine level shall be noted on the test results sheet.

Having tested an outlet, the tap shall be left running to purge the system prior to re-filling and flushing to remove the excess chlorine.

On successful completion of tests, the mains shall be well flushed with clean water and left filled.

See particular specification and drawings for details of tanks and numbers of hot, mains and tank cold water draw-off points.

COMMISSIONING & TESTING

The mechanical engineering services shall be commissioned and tested to provide the environmental standards as set out in the Commissioning Code Series A, B, C, M, R and W as published by the Chartered Institute of Building Services Engineers, (CIBSE).

Commissioning shall include:

The final checking of the installation for errors or deficiencies and their subsequent correction.

Setting to work - the process of setting a static system into operation.

Regulation - adjusting the flow rates/system to within specified tolerances. Before regulation of an air distribution system can commence the building shall be complete of all finishing trades and that windows and doors are open or shut consistent with their normal state.

Calibration - the adjustment of the various elements of a system to ensure that the installation as a whole is regulated, balanced and controlled within specified tolerances.

Safety Functions Testing:

All 'fail safe' operating functions shall be demonstrated during the commissioning phase. The settings and operation of all normal control devices shall be checked individually in relation to their respective safety devices. The operation of all limit/safety devices shall be proved, by temporarily overriding the operating of the normal control, so that the critical condition is reached. All malfunctions should be thoroughly investigated and reported. The functioning of all fail safe and automatic change-over systems should be proved.

It is necessary to check that control wiring does not remain live when apparently isolated and that dangerous back-feeds do not occur. When it is impossible to prevent back-feeds, suitable warning labels must be fitted in a permanent position.

For the purpose of commissioning and in order that all adjustments and calibration is properly carried out the Authority shall allow the Mechanical Contractor the reasonable use of the installation or parts thereof. After commissioning of the installation (or parts thereof) has been carried out, the Mechanical Contractor shall submit a report for checking and approval, including copies or results of tests and/or installation trials on each component plant or equipment item. Arrangements will then be made for the Engineer to visit the site together with representatives of the Authority in order that the Mechanical Contractor may demonstrate satisfactory operation of the installations.

Where portions of the work are commissioned and tested separately, the Mechanical Contractor shall, upon final completion, demonstrate that all the several portions are capable of proper simultaneous operation in accordance with the requirements of the Contract. In cases where the overall construction programme is such that the Mechanical Contractor will need to return to the portions of the building taken over and occupied by the Authority, for the purposes of later testings, balancings, adjustment, etc, the Mechanical Contractor shall take all necessary precautions against causing damage when working in such areas.

Fuel, electricity and water reasonably required by the Mechanical Contractor in connection with the commissioning, adjusting and testing, will be provided by the General Contractor, unless stipulated otherwise in Particular Specification.

Should the tests fail to demonstrate that the plant and equipment is properly installed and/or functioning, the Mechanical Contractor shall forthwith carry out, at his own expense, such remedial measures and/or re-commissioning and adjustments as may be required.

The Mechanical Contractor shall then again report to the Engineer, for further demonstrations to be witnessed. The Engineer's decision as to what constitutes a satisfactory performance demonstration shall be final.

All installations, plants and equipment shall be tested to satisfy the requirements of the current Factories and Gas Acts, the Health and Safety at Work Act and the requirements of all other interested authorities, and all safety devices as required by such Acts or Authorities shall be provided by the Mechanical Contractor.

TESTS ON SITE

Site testing of all systems and components shall be carried out, witnessed and approved after installation by the Engineer.

All hydraulic tests on the pipework installations shall be carried out by the Mechanical Contractor in sections as the work proceeds to suit the general construction programme. All mains isolation and other temporary works that may be necessary to facilitate such tests shall be carried out by the Mechanical Contractor at no extra cost.

Notice shall be given to the Engineer 48 hours prior to any portion of the installation being tested. Duplicate certified copies of the results obtained shall then be submitted to the Engineer.

Certificates of all tests made on site shall be forwarded to the Engineer for his approval, and such approval must be obtained before any paint or non-conducting composition is applied to the tested work.

All test certificates shall be signed by the Mechanical Contractor and by the Engineer or his representative who witnesses the test. All test certificates shall have the following particulars thereon:-

Apparatus or section under test. Maker's number if any.

Nature, duration and conditions of tests.

Result of test.

All test certificates are to be included in the project maintenance manuals as detailed in Clause 26.

TESTING PIPED SERVICES

Upon completion of each section of the work and by arrangement with the Engineer and/or Engineering Clerk of Works, the Mechanical Contractor shall subject the section to a water pressure test and demonstrate to the satisfaction of the Engineer and/or Engineering Clerk of Works that the section is sound and watertight.

The tests shall be applied by filling the section to be tested with water and raising its pressure to the figure specified below, the whole of the testing gear required including all plugs, caps, tees and drain fittings, shall be supplied by the Mechanical Contractor.

The section shall then be left and all joints must remain tight for a period of at least two hours.

Care should be taken to isolate, prior to tests, these items of equipment requiring lower test pressure.

The Mechanical Contractor shall be held responsible for any damage by frost prior to the issue of a Certificate of Acceptance for any relevant section.

All L.P.H.W., H.W.S. and cold water services shall be tested hydraulically to a pressure equal to twice the working pressure maintained for a period of at least two hours.

All cold water direct mains shall be tested hydraulically to a pressure of 6.9 Bar or such as shall be required by the local water authority, maintained for a period of at least two hours.

TESTING VESSELS

All pressure vessels shall be tested to the requirements of the relevant insuring bodies and certificates of compliance furnished to the Architect. All calorifiers, closed vessels, heat exchangers, heating and cooling coils shall be tested to a pressure equal to not less than twice the maximum working pressure. Calorifiers are to be tested to current B.S.

HOT WATER TESTS

The heating and hot water services shall, after hydraulic test and prior to insulation, be subjected to a heat test under operating conditions in the presence of the Engineer or Engineering Clerk of Works.

The period of these tests shall be two hours, during which time all cylinders, pipework, plant and pumps shall be subjected to test under actual operating conditions.

After the initial heat test, the systems shall be allowed to cool and the heat test repeated a second time.

No leaks should appear and the service shall be examined to ensure that correct expansion and contraction takes place.

Domestic hot water temperature with hot water cylinder fully heated shall be verified as achieving 50°C minimum at every unblended terminal fitting, or blending valve inlet, within 60 seconds from cold.

TESTING VENTILATION & AIR CONDITIONING

Tests on the ventilation and air conditioning systems shall be carried out to design requirements. Ductwork shall be thoroughly tested for air tightness as laid down in HVCA Specification DW143.

Upon completion, ventilation systems shall be tested and balanced and the correct air volumes and temperatures obtained. Tests shall be carried out for ascertaining air velocity and distribution by means of pilot tubes at Test Points and at grilles by means of anemometers or velometers. Full records of such tests shall be recorded on approved forms.

Commissioning shall be in accordance with CIBSE commissioning Code 'A'.

TESTING AUTOMATIC CONTROLS AND INSTRUMENTS

All automatic control apparatus and systems shall be tested to demonstrate that they are capable of meeting the demands specified and shall be adjusted to suit the characteristics of the building and their particular system.

All valves, switches, controls and the like shall be regulated and capable of proper adjustments to conform with the design conditions.

All instruments shall be correctly calibrated and read accurately. Where an instrument remains connected to the system, the normal operating position of the needle or indicator shall be clearly marked.

In addition, the Mechanical Contractor shall allow for the thermostatic control manufacturers to make two further visits to the site, once two months after the installations have been working, and again just before expiration of the maintenance period, to inspect and make any necessary adjustments to the controls.

OPERATING THE INSTALLATION

During the Commissioning and Testing period the Mechanical Contractor shall be responsible for the proper lubrication and routine maintenance of all moving machinery.

The services of sufficient skilled mechanics shall be provided to stand by, operate and maintain the various installations for the entire period of instructing the Authority's staff, as required in the conditions of contract. This operating period shall follow the completion, commissioning approval and all essential rectifications on the installations.

During this period any final adjustments and other rectifications essential to the satisfactory operating of the system shall be completed.

TRAINING OF OPERATOR

The Mechanical Contractor shall at a time to be agreed and prior to handover instruct the employer's staff in the use and correct operation of the installation and shall satisfy himself that such staff are competent to take over the installation on completion. During such periods of instruction the Mechanical Contractor shall be responsible for the correct operation and maintenance of the installation.

OPERATING AND MAINTENANCE MANUALS AND RECORD DRAWINGS

At the time of the handover of the installation, the Mechanical Contractor shall provide two sets of fully detailed 'as installed' record drawings of the whole of the works, together with full working, operating and maintenance manuals.

The drawings are to comprise:-

General Arrangement Drawings of all installations to an appropriate scale.

Detailed Drawings of Plant Rooms, Scale 1:20.

Line Diagrams of Control Systems (not to scale).

The record drawings are to be specially prepared and must not be modified working drawings. The preparation of the drawings is to proceed during the installation of the works as each section is completed.

The working, operating and maintenance manuals are to describe the layout and function of the systems, with schedules of components comprising each and every item of equipment, including manufacturer's name, reference and serial number and operating and maintenance instructions based on the manufacturer's standard instructions amplified where necessary. Also to be included are manufacturer's commissioning certificates for all items of plant, including controls systems

The above is to be encased in suitable A4 size loose-leaf multi-ring binders.

These instructions shall be recorded clearly on a suitable permanent notice in a visible position in the mezzanine plant area.

The Mechanical Contractor is to include for the preparation and supply of 2 (two) copies of the above manuals which will be subject to approval by the Supervising Engineer.

The manuals shall be provided by the Mechanical Contractor at, or before, the hand-over of the building. One copy of the manuals shall be supplied directly to the Supervising Engineer for his retention, and the other copy supplied directly to the Main Contractor for his inclusion in the official Health and Safety File for the project.

DEFECTS LIABILITY PERIOD

The Mechanical Contractor shall be held responsible for and shall maintain and uphold in good and substantial condition, fair wear and tear excepted, all and every part of the works for a period of twelve months from the date of completion of the contract as certified by the Head of Property Services.

Note that, as stated in Clause 22, the Mechanical Contractor shall include in his costings, for an additional visit to site by the boiler/water heater manufacturer to service the plant.

DRYING OUT OF BUILDINGS

Any usage of the plant for drying out and protection of the building, prior to the completion of the contract, will only be at the discretion of the Engineer and will be a private agreement between the General Contractor and the Mechanical Contractor. The General Contractor will be fully responsible for provision of fuel and attendance upon the plant and will indemnify the Authority against any breakdowns during such usage.

Operation of the plant prior to completion of the contract will not affect the date of commencement of the Mechanical Contractor's maintenance period which is defined above.

FILTERS.

The Mechanical Contractor shall provide for any equipment or systems provided as part of this contract:-

one complete set of spare filters for use as working spares.

KEYS AND TOOLS

The Mechanical Contractor shall provide two keys to fit every installed size of lockshield pattern valve, stopcock, tamper-proof sensor, thermostatic radiator valve, and key operated air cock installed as part of this contract.

Similarly he shall provide two appropriate Allen keys for any ball pattern isolating valves fitted.

PART C – ELECTRICAL GENERIC SPECIFICATION

To be read in conjunction with other contract documents and drawings to provide detailed explanations of requirements for the materials and workmanship to be employed on Shropshire Council Projects.

Specification notes on drawings and in the Scope of the Works take precedence where they differ from the standard clauses herein.

Not all clauses may be relevant to this project.

In the following where the manufacturer is prefixed by “as by” the make/model is illustrative, in all other cases it is mandatory

GENERAL

The specification must be understood generally to cover everything required to make, supply and erect an installation of the highest class and it must be clearly understood that should there be any details not included in the specification but which are necessary to make a thoroughly satisfactory installation according to the general intent and meaning of the specification, then same shall be provided and installed by the contractor without extra charge.

The new electrical installation shall be carried out and tested in accordance with the latest edition of B.S.7671, Requirement for Electrical Installation, hereafter referred to as the 'Wiring Regulations', to the satisfaction of the council's surveyor/engineer.

Electrical Installation shall not be commenced in any building until such time as the building, or respective building parts, have been made weather proof and water tight in a permanent manner.

MAINTENANCE OF SERVICES

The Contractor shall allow for the provisions, erection, connection and subsequent removal of any cables or fittings necessary or required to maintain existing services at the site, in the event of disconnection being made necessary, due to or by means of the works. In areas where stripping out, remodelling or removal of equipment is called for, the Contractor shall ensure that all existing points and equipment served from that area are maintained in permanent safe working condition. All points that are affected by such modifications shall, where necessary, be rewired and the Contractor shall allow for this contingency, including for temporary connections where necessary until the permanent installation is carried out. All such rewiring shall be carried out in materials and manner specified for the new work in that area. In connection with the installation of new switchgear, and alteration to existing supplies and services, the Contractor must allow for any working out of normal hours which may become necessary.

STRIPPING OUT, MAKING SAFE AND REDUNDANT MATERIALS

The contractor shall disconnect, take down and place on one side, all items of equipment including lighting fittings, switch accessories, heating and distribution equipment, cable, etc., from all areas shown to be stripped out or remodelled, in whole or in part. In all such areas all wiring shall be disconnected and insofar as it is practical, be removed. Where it is not practical to remove the wiring, it shall be cut back and left in situ and identified in relation to its feed point, and what it originally supplied. All such wiring shall be disconnected from any source of supply and shall be "dead" throughout its entire length. All surface conduit and accessories shall be removed with all redundant cabling.

All equipment, apparatus, fittings and accessories so removed shall become the property of the council's engineer/surveyor and shall be carefully set on one side, suitably protected from all weathers and potential damage, and allowance made for all items to be returned to the Shirehall, Shrewsbury, on the receipt of instructions from the council's engineer/surveyor. No item whatsoever shall be removed from site until such instruction has been given. All materials for which no further use is envisaged shall be removed from site, and disposed of, all at the Contractor's expense.

The Contractor shall be responsible for ensuring correct phasing of all supplies in all areas due to be re-wired, remodelled and/or affected alterations and where temporary connections may be necessary to maintain systems, and for fixing permanent labels indicating the presence of medium voltage where deemed necessary by the councils engineer/surveyor.

DRAWING AND POSITIONS OF POINTS

All particulars given on the drawing are intended to be as accurate as possible, but the Contractor shall be responsible for the verification thereof and for taking off and calculating all and any other requirements which he may require.

Everything is to be done which is usual and necessary for the proper execution of the works comprehending what may be reasonably implied from the drawings and specification although same may not be specifically mentioned or detailed.

The drawings accompanying this specification are intended to show only as diagrams, the general arrangement of various items of works specified and installed in this contract and do not necessarily show the exact bends and routes of cables, etc. but the Contractor shall include for any and every appliance and fitting necessary for the proper execution of the works.

It should be noted that symbols representing the installation equipment (i.e. sockets, switches, etc) are, for practical drawing purposes, not to scale. The Contractor shall, therefore, obtain confirmation of all installation equipment prior to commencement of any work. It shall be the Contractor's responsibility to inspect the General Building Contractor's detail and working drawings to enable him to finally position all equipment in the correct juxta relationship with the building elements of furniture, walls, windows, worktops, etc., and all other items of equipment supplied and/or installed by others.

All, or any part, of the installation carried out without prior agreement on site with the council's engineer/surveyor, and the main Contractor, shall be liable to rejection and the whole shall be re-executed all at the Contractor's expense.

The Contractor shall, inform the councils surveyor/engineer of any changes required to the drawings to provide detailed working drawings for the use of his own work people if required. If the surveyor/engineer deems it then the construction drawings will be amended and reissued as required by the council's surveyor/engineer.

SWITCH AND DISTRIBUTION EQUIPMENT

Sizes of sub-main cables, switches, isolators, circuit breakers and distribution boards shall be as set out in the Schedules, on the drawings and in the relevant clauses of this Specification.

All equipment will normally be wall mounted at heights to be agreed on site.

Cable rising or dropping to ceiling or floor cavities shall be contained in trunking which in all cases shall enter the voids to a depth of at least 50mm.

Where cubicle type panel switchboards are positioned they shall be securely fixed to the floor by means of rawlbolts and where deemed necessary shall be tied back to the wall in an approved manner.

The arrangement of wiring to all ways, earth and neutral bars of distribution boards etc shall be such that all connections for all circuits are in the correct sequence. The correct size of circuit breaker or fuses corresponding to the size of sub-circuit conductors and/or apparatus to be controlled shall be fitted to each way.

If installed three spare HRC fuse cartridges of every size and type used on the installation shall be supplied by the Contractor at the completion of the works.

Where on a distribution board spare ways are indicated on the Schedules, these spare ways shall be blanked off with the manufacturer's purpose-made blanking-off plate, and the distribution chart left blank for that circuit.

The Contractor shall include for all gland, termination and spreader boxes, necessary for the proper installation of the cables, to be supplied and fitted to all equipment. All such termination equipment shall be manufactured by the specified switchgear manufacturer.

Where it is impractical to run conductors direct to switches, etc - within panels or distribution boards, then copper "tails" connected to the cable cores electrically and mechanically in an adaptable box in an approved manner, may be substituted at the discretion of the council's surveyor/engineer. Prior approval to this method shall be obtained before carrying out such work and the Contractor shall include for all costs associated with such alternative.

All single pole switches shall be connected in the phase conductor only.

FIXING OF CONDUIT AND ACCESSORY BOXES

The Contractor shall pay particular attention to the method of fixing switch, socket, conduit and accessory boxes so that when completed they are in the exact position relative to the finished wall surface and are perfectly square in all directions. Boxes shall be fixed by at least two screws such that the heads do not protrude into the box. In cavity partition walls, all boxes shall be screwed to timber battens within the cavity.

Where accessories are "grouped" they shall be arranged in a neat and symmetrical layout. Where sockets, switches, thermostats, controls, bells, indicators or other accessory are shown to be mounted adjacent, they shall be installed in such a manner as to be vertically in-line.

All equipment supplied under the Contract, and by others, specified to be surface mounted shall be fixed in totally plain boxes, i.e. not equipped and knock-outs or any other form of entry position. All boxes shall be drilled on site to provide the necessary numbers of conduits/cable entries required.

All boxes irrespective of being steel or plastic, surface fixed, flush fixed or in dado trunking, shall be of a minimum depth of 35mm.

ALIGNMENT OF ACCESSORIES AND FIXING HEIGHTS

The Contractor shall pay very particular attention to the method of fixing switch boxes and socket outlet boxes so that they shall, when completed, be level and in an exact position to permit the cover plate to be fixed accurately.

When the wiring is concealed the Contractor shall take full responsibility for the alignment of all such boxes and shall ascertain a definite datum line, from which all measurements can be taken, and also the thickness of walls, depths of finished plaster and final finish of all wall surfaces.

The following heights above floor level **shall be assumed unless specified differently elsewhere**, all positions to be agreed on site.

- (a) Light switches, control switches, push buttons 1m. to the centre of the box.
- (b) Wall mounted socket outlets 0.85m to centre of box.
- (c) Cooker Control switches 1.2m to the centre of the box.
- (d) Fire Alarm System control panels 1.8m to the top of the panel.
- (e) Fire Alarm System manual call points 1.4m to the centre of the box.
- (f) Clocks, Fire Alarm System bells and other sounders 2.2m to centre.
- (g) Wall fixed lighting points 1.9m to the centre of the back plate.
- (h) Distribution Boards 2.1m. to the top of the boards.
- (i) Any accessories fitted above worktops, fitted desking, benching etc. should be fitted 75mm above the top of the furniture and align with other accessories along the bottom edge

The Contractor shall obtain confirmation from the design engineer of these dimensions and positions before installation.

CABLE INSTALLATION CONDITIONS

- a) General

All cabling runs both internal and external shall be approved by the council's engineer/surveyor on site before the installation commences.

Joints or connector boxes will not normally be permitted in any cable run, and cables shall be installed in one continuous length between accessories, equipment, plant or buildings, unless agreement is obtained from the council's engineer/surveyor.

Joints will only be permitted in runs of mains cables due to the limitation of maximum possible manufactured lengths. In the event of this situation arising, the Contractor shall notify the Supervising Officer in writing prior to any installation commencing in order that the location and type of any through joints may be approved. The Contractor shall allow for the councils engineer/surveyor requiring the joint elsewhere than at the end of the longest length of cable available, in order that such joints may be, at all times, accessible for inspection.

All cables shall be installed in such a manner as to prevent damage to the sheathing and/or armouring, or any displacement of the conductors. Any cable length so damaged shall be removed from site and replaced by a completely new length.

All main and sub-main cables, where run vertical on the outside of the buildings, shall be protected by rolled, galvanised steel channel to a height of 2100 mm. above the finished ground level.

Where cables pass through walls, floors, etc. they shall be protected within a length of galvanised steel tube, the end of which shall be sealed. The tube shall be of a diameter at least 25 mm greater than the overall diameter of the cable.

In all instances, where cables enter buildings or ducts, they shall be drawn into 150 mm. diameter glazed earthenware self-aligning pipes, or PVC ducts. These pipes/ducts shall run from an agreed position inside the buildings to a point at least 900 mm. clear of the building line and its foundations, and at a depth of not less than 200 mm. The ends of the pipes shall be sealed. In the buildings the pipes shall rise to floor level with a slow bend.

Where mains cables are installed within ducts, or along the surface of walls, they shall be supported by approved cleats of a size to suit the overall diameter of the cables. The cleats shall be securely and adequately fixed to the walls and shall be spaced in accordance with the requirements of the Regulations and the cable manufacturer's recommendations.

Where the cables are buried directly in the ground, they shall be at a depth of not less than 750 mm. laid on a bed of 75 mm of sand and covered with a further 75 mm. of sand. The cables shall be adequately protected by means of coloured heavy gauge polyethylene detectable tape. The Contractor shall supply and lay the tape 200 mm. below finished ground level. The tape shall be yellow in colour with the legend 'ELECTRIC CABLE BELOW'.

Where cables or cable ducts are installed in a common service trench with other services, a minimum distance of 250mm shall be maintained between the cable and any other service.

Where cables pass under roads, they shall be at a depth of not less than 900mm and drawn into separate 100 mm earthenware pipes or PVC ducts with a 75 mm covering of concrete.

Where cables are run on cable tray they shall be arranged such that all single core cables comprising a circuit shall be adjacent or "tiered" on one another, and all the larger sizes of cables are run, where practical, together. All the cables shall be laid wherever practical in such a manner that where they leave the trays, they do not cross or interweave with the cables remaining on the tray. The larger sizes of cables shall, as far as possible, be run on the outside of the trays, and where these cables have to cross runs of the smaller ones, they shall cross beneath the other cables to prevent damage to the smaller ones.

All armoured cables shall be terminated in accordance with the manufacturer's recommendations. Armouring may be used as earth continuity conductors, and at each termination the cable sheath and armouring and joint box shall be effectively bonded to the associated equipment.

All cables shall be kept at least 150 mm clear of any pipes carrying hot water.

b) Armoured and Sheathed Copper Cables.

These shall be 600/1000 volt grade, and of the type detailed in the particular specification, and shall be installed as the manufacturer's recommendations.

Every cable shall be manufactured to the appropriate British Standard.

Cables shall be terminated in approved CW terminating and sealing glands complete with a shroud to cover the gland. These glands shall, in all circumstances, be securely clamped to the control panel, item of switchgear etc., by the appropriate size of brass locknuts and washers. Each gland shall be fitted with a watertight sealing attachment to provide a watertight seal on the inner sheath.

All glands shall be made-off in strict accordance with the manufacturer's instructions for Fixing.

c) Aluminium Armoured PVC Insulated Cables with Aluminium Conductors

These shall be 600/1000 volt grade and shall comprise shaped conductors of equal sectional area composed of solid drawn aluminium, insulated with polyvinyl chloride compound. The cores shall be laid up and covered with clear PVC tape and armoured with a layer of hard drawn aluminium strip, and the whole covered with an extruded polyvinyl chloride sheath.

The cables shall be terminated in approved gland fitted with a tapered cone, which firmly clamps the armour strip securely to the apparatus, and earth ring.

Conductors of up to 100 amp capacity may be fitted with the purpose made swage terminals made off in accordance with the manufacturer's instructions. All other conductors shall be fitted with the correct size of crimped lug and terminated as described in (c),

Connections or contact areas between aluminium and other metals shall be coated to prevent electrolytic action taking place.

(d) Mineral Insulated Copper Sheathed Cables

These shall be single or multi-core as required, and shall be installed only with the tools recommended by, and in accordance with, the instructions and recommendations of the manufacturer.

Only tradesmen skilled in the use of MICS cables shall be used on the installation, and at the council's engineer/surveyor's request, the tradesmen shall demonstrate their skill, on site, by "making-off" a trial seal or seals to their satisfaction.

All joints shall be made at main switches, distribution boards, switches, lighting point boxes, socket outlets and fixed apparatus only. No joints shall be made in cables at any other points.

All cable ends shall be sealed using the purpose made item manufactured and supplied by the cable manufacturer, of the correct size and type, for that particular cable.

Where seals are used without a gland, the seal shall be that supplied by the manufacturer, with a permanently fixed copper earth tail, which shall be connected to an earth terminal inside the accessory of apparatus.

All tails shall be marked with self-adhesive identification sleeves.

The universal ring type gland shall normally be used and on no occasion shall any other termination be used for mains and sub-main cables.

Where the entry to the equipment is already tapped, the gland shall be screwed direct into the equipment utilising, where necessary, brass reducing sockets.

Where entry to equipment is a clearance hole, the gland shall be fixed with solid brass locknuts.

Internally all cables shall, wherever possible, be concealed behind the plaster finish of walls, in partition cavities, ceiling spaces, cast in situ concrete roofs, etc. and where provided floor, vertical and ceiling ducts.

All runs shall be straight and parallel with the sides of the building and all rises and drops shall be vertical.

Only on fairfaced brickwork and on the underside of roofs having no ceiling cavity shall the cables be run on the surface.

Cables shall be fixed in various locations, as follows:

- (i) On the surface of unplastered walls and ceilings and in damp situations - heavy gauge fixing spacing saddles.
- (ii) On finished surfaces - heavy gauge copper saddles or 'P' clips.
- (iii) Concealed cables - standard copper clip and saddles.

- (iv) Ceiling voids - on catenaries or cable tray.

Cables shall be fixed at spacings not exceeding the following:-

In floor screeds and in situ concrete - 1500 mm.

In other concealed positions - 900 mm.

On surface work - 250 mm.

Where cables are laid in screed, they shall be tested whilst the finish is still "green".

- (e) PVC Insulated Cables Drawn Into Heavy Gauge Conduit

The wiring shall be carried out on the looping-in principle. All joints shall be made at main switches, distribution boards, ceiling boxes, socket outlet boxes and fixed apparatus only. The wiring shall be run in the conduits so as not to exceed the capacities as set out in the relevant tables of the Wiring Regulations.

Conduits

Only heavy gauge welded mild steel conduit shall be used throughout the works and shall be screwed, enamelled or galvanised as required, made in full conformity with the current B.S. and of a size not less than 20 mm.

The inside surfaces and ends of the erected conduit and all fittings shall be smooth and free from burs or other defects.

Provision shall be made for counteracting condensation as directed by the council's engineer/surveyor.

All conduit fittings and accessories including screwed couplers, ordinary clips, saddles, pipe hooks, screwed reducers, stopping plugs, locknuts and male and female bushes shall be manufactured in accordance with the current relevant B.S.

All screwed couplers, screwed reducers and locknuts shall be made of malleable iron and all stopping plugs, male and female bushes made of brass. Round locknuts only shall be used on surface work.

Conduits, when fixed direct to the steelwork, shall be fixed to the rods of open web horizontal beams, tees or angle, by tie rod saddles.

Conduits fixed on the surface of walls or ceilings shall be fixed by saddles fixed not more than 900 mm apart.

Where bends and sets occur the conduit is to be securely fixed at a distance of 230 mm. either side of such diversion.

Conduits down angle iron stanchions and other similar places shall be fixed by spacer bar saddles clipped to special fabricated mild steel clips of 25 mm x 2 mm. strips not more than 900 mm apart. Stanchions must not be drilled unless the special permission of the council's engineer/surveyor is first obtained.

Conduits in all other concealed positions shall be fixed by corrugated mild steel saddles.

All conduits, conduits fittings and equipment shall be erected prior to any cables being drawn in.

Where two or more lines of conduit run parallel with each other, the distance between them shall not be less than 12 mm and where conduits cross, a space of 25 mm shall be left at the crossing. All conduits must be run vertically; diagonal runs will not be permitted on walls or in accessible ceiling voids.

Conduits shall be fixed to adaptor boxes, fuseboards, switches, etc by means of smooth bore male brass bushes and couplers.

Circular Inspection Boxes

Small standard circular malleable iron conduit boxes shall be provided and fixed at all junctions and the necessary angles and bends of conduit.

Solid or inspection elbows, bends or tees must not be used.

Corners shall be turned by easy sets or bends made cold without altering the section or opening the seams of the conduit. No bend shall have an inside radius of less than three times the external diameter of the conduit. All bends must be machine made.

No more than two right angle bends, or equivalent sets, must be made in conduit runs between inspection boxes and on straight runs; inspection boxes must be inserted after each second conduit length.

Ceiling Boxes

Circular boxes, or the equivalent B.S. looping boxes, shall be provided and securely fixed for all ceiling points in non accessible ceilings and in all situations where a conduit installation is specified. Where boxes finish behind surface level, the necessary extension rings shall be fitted.

General

All external conduit and exposed conduit and fittings in kitchens, laundries, boiler houses, fuel stores and other damp situations shall be galvanised and equivalent to the details specified above. Where it is required to run conduit in wall cavities, floor ducts, etc., only galvanised conduit shall be used.

In all situations, box lids must be fitted with rubber gaskets.

All spare ways in junction boxes, etc shall be fitted with brass stopping plugs.

Female brass bushes shall be screwed on to all free ends of conduit.

All conduit shall terminate in switchgear, distribution boards, trunking, conduit boxes, appliances or accessory boxes, so that the fixed wiring is completely enclosed in earthed metal. The termination shall be made in either a standard "long spout" or by means of a screwed coupler and hexagon headed brass bush.

All tool burrs shall be removed and any damage to the enamelling of Black enamelled conduit shall be repainted when erected.

(f) PVC Insulated, PVC Sheathed Cables

The cables shall be purpose specified and manufactured in accordance with the current relevant B.S.

All wiring shall be carried out on the looping-in principle and shall be arranged that joints in the cables are made only at switches, light points and sockets, etc.

All cables shall be run directly off reels and not taken from loose coils. No bends in a cable shall have an inside radius of less than four times the width of the cable.

Fixing

Cables to be fixed on timber shall, where run parallel with joists, etc., be fixed to the side of such timber by means of approved clips; and where run at right angles to such joists shall be fixed, by the above method, to supporting wooden battens.

In accessible ceiling voids, the cables shall either be supported from catenary wires or if indicated elsewhere on cable trays/trunking installations.

Protection

Where cables pass through walls, floors, ceilings, etc., or may be subject to damage or abuse, they shall be protected throughout their exposed length, by means of steel conduit. All cables on the surface shall be protected by a conduit to a height of 2100 mm above finished floor level. Conduits acting as pathways through floors, walls, etc. shall be of sufficient length to project at least 30 mm either side of the building material.

Where cables are sunk in floor screeds, they shall be protected by steel conduit, the free ends of which shall be fitted with brass bushes and the ends of metal accessory boxes, or other metal items, shall terminate direct into the box or item and shall be fitted with a suitable brass bush.

Where cables are sunk in plastered walls, they shall be protected throughout their buried length using oval PVC tube or round PVC/galvanised steel conduits as determined by the installation conditions and cable capacity and shall be run in chases, the depth of which shall be sufficient to give at least 12 mm. of cover over the conduit

Where cables are dropped vertically in studded or cavity type wall constructions, they shall be protected along the whole of their vertical length using oval PVC tube, or round PVC/galvanised steel conduit as determined by the installation conditions and cable capacity required.

All cables shall be prevented by spacing, insulation or other means from coming into contact with water and gas pipes, telephone and communication system cables and shall preferably be installed below hot water pipes.

Metal Clad Accessories and Earth Continuity

Where no earth terminal is provided in any accessory by the manufacturer, the box shall be drilled and tapped to receive a 2BA brass screw. The earth continuity conductors shall be fixed by this screw, with washers placed above and below the cable loop.

All earth wires within accessories or fittings shall be insulated with green/yellow PVC sleeving.

(g) FP200 Cable

When stripping the cable care shall be exercised to avoid damaging the silicon rubber insulation.

Before splaying out the cores for termination the Contractor shall fit the correct size of plastic ferrule slid over the cores and fitted to the end of the sheath. Conducts shall NOT be as 'set' as they leave the ferrule but shall be run straight and gently set so that pressure is not exerted on the cores as they leave the cable termination.

All cables shall be run direct from the reel which shall be mounted on a spindle device to prevent the cable from kinking. Cables shall only be dressed by hand and ALL bends shall be radiused such that the bend is not less than 6 times the cable.

Cables shall be fixed using PVC coated single hole fixing P clips and such fixings shall be provided every 300 mm for horizontal runs and 400 mm for vertical runs. Where multiple runs of cables occur they shall be fixed in total by means of white coated perforated metal strip forming a common fixing band. The strip shall be securely fixed at each end and spacings shall not exceed those given for single cables.

Where the cables are concealed within the building fabric, e.g. wall chases, floor screeds, etc., they shall be protected throughout their buried length by steel conduit. Where deemed necessary, surface runs shall be protected against mechanical damage by means of steel conduit or rolled steel channel.

No attempt shall be made to separately earth the PVC/Aluminium sheath of the cable. Full earthing facilities will automatically exist with the proper connection and termination of the bare copper earth core within the cable.

Terminations

Entry into all accessory boxes and other equipment shall be by means of nylon compression gland and shrouded entry adaptors for circular boxes. In damp or external situations an appropriate gland with seals shall be used to prevent ingress of moisture. Care shall be taken to ensure that sheath and ferrule does not enter accessory boxes, but stops immediately at the end of the gland. This will ensure unnecessary bending and cramping of cable will be avoided.

TRUNKING

Trunking shall be installed as detailed in the specification and on the drawings and shall be in accordance with the capacity as laid down in the Wiring Regulations and to the manufacturer's recommendations.

The trunking shall be complete with all accessories, fittings, earthing straps, insulated pin racks, cable retaining clips, etc. and removable front cover lid arranged in convenient sections.

All trunking accessories shall be of the radius type. All open ends shall be fitted with purpose made blanking-off plates.

All trunking shall be securely fixed. In damp situations the trunking shall be spaced from the wall by means of short tube collars.

Where trunking runs across tie bars, beams, etc., long sleeve couplings shall be used. Where passing through ceilings and walls, it shall be fitted with a suitable fire barrier and protected from water and mechanical damage by an outer steel sleeve.

All conduits shall be connected to trunking by means of couplings and male bushes.

All joints and accessories shall be bonded together by means of purpose made copper strips. (Steel trunking only).

The Contractor shall not alter the section, area or form of the trunking in any manner other than to cut to the length required. Bends, sets, changes of direction, coupling to differing sizes or equipment shall be carried out solely by the use of the purpose made trunking accessories obtained from the trunking manufacturer.

CABLE TRAYS

The Contractor shall supply and install cable tray at all positions indicated on the drawings and in this specification, and to provide support for sub-main and other cables in voids and at places where other forms of non-combustible supports cannot be utilised, and wherever deemed necessary by the Councils engineer/surveyor. He shall allow for the fabrication, supply and installation of all and any, supports, brackets, joining pieces and special fabrications that may be necessary to hold the cable tray to its proper routes and positions, and for all necessary fixings.

All cable trays shall be of sufficient width to accommodate all cables necessary to be run thereon whilst maintaining adequate separation of cables to prevent electronic interference, and bends and changes of direction shall be so formed that the recommended bending radii of cables is not exceeded by the cable tray, and the cables are at all times supported by the tray.

The supports and fixings for the tray shall not exceed the maximum spacing recommended by the manufacturer; consistent with the weight of cabling that the tray is to carry, and at all times a margin of 25% shall be maintained below the maximum carrying capacity.

At changes of direction and where various runs of cable tray merge, the Contractor shall only use the purpose made adaptor accessories provided by the manufacturer. At all such changes of direction, intersections etc. additional support and/or fixing shall be provided.

Wherever cable tray may run vertically "on edge" the tray shall be spaced from the wall surface by the use of tube collars for a minimum distance of 40 mm.

All lengths of metallic cable tray shall be securely bonded together with copper strip links and nuts, bolts and washers. The earth bond from the tray shall be run back to the nearest distribution position and shall be connected to the earth bar at the distribution equipment.

All cables run on trays shall be installed to provide electrical separation if required by the installation and fixed to the tray to prevent them being moved by the use of a suitable metallic cable tie or metallic fixing

NON-METALLIC CONDUIT AND TRUNKING

1. Non-Metallic Conduits

Standards

All non-metallic conduits shall be high impact PVC complying with the current relevant B.S. The minimum size to be used is 20 mm external diameter.

(a) Light gauge conduit may be used for protected pre-cast and in situ concrete work where builder's traffic is minimal, or protected surface wiring.

(b) Heavy gauge conduit should be used where a danger of physical maltreatment exists.

Joints

Conduits will be jointed and terminated utilising the appropriate rigid PVC components.

Bends

Bends and sets in conduit will be made in accordance with the manufacturer's instructions. The radius of the bend shall not be less than 2.5 times the outside diameter of the conduit, or such greater radius which will facilitate easy drawing-in of cables.

Temperatures

PVC conduits may not be used in situations where ambient temperatures are likely to exceed 70°C (158°F), or where the normal working temperature of conduits and fittings will exceed 60°C (140°F). Conduits should not be installed adjacent to steam or hot water pipes.

Expansion

Adequate allowance shall be made for longitudinal expansion and contraction of the conduits under normal working temperature variations as follows:-

- (a) Expansion couplers should be used on straight runs exceeding 6.0m. with a loose or flexible type joint at the long spout end of the coupler.
- (b) Saddles as supplied by the manufacturers shall include a sliding support tolerance for longitudinal expansion.

Support

Conduits should be saddled at not more than 900 mm. intervals. Where working temperatures tend to be high this should be reduced to 600 mm.

2. Conduit Boxes and Fittings

Standards

All conduit boxes shall be circular pattern of rigid PVC with push fit or screwed spouts. Boxes not supporting a fitting or accessory shall be fitted with a PVC lid.

Support

Circular boxes shall be provided at all outlet points, unless otherwise specified and lighting fittings, ceilings switches and other accessories will be screwed to the two internal lugs of the boxes. Care must always be taken when considering the use of totally enclosed fittings with PVC circular boxes where the temperature within the box is likely to rise above 60°C (140°F).

Looping-In

Looping-in boxes of circular PVC pattern may be used in such work, as dictated by the structure of the building. Conduit entry shall be made by means of PVC socket adaptors and PVC bushes.

3. Non-Metallic Trunking

Standards

All non-metallic trunking shall be high impact pvc complying with BS 4678 Part 4, and of either the mini or maxi trunking variety.

Joints and Bends

Trunking runs shall use only manufacturer's pre-formed joint pieces, bend's, T's, stop ends all accessory boxes are to be fitted with the correct accessory connection adaptors. On no account shall on-site cut, mitred or fashioned joints be made.

Temperatures

PVC trunking may not be used in situations where ambient temperatures are likely to exceed 50°C (122°F) or where the normal working temperature of the trunking and fittings will exceed 50°C (122°F). PVC trunking should not be installed adjacent to steam, hot water pipes or in boiler houses.

Expansion

Adequate allowance shall be made for longitudinal expansion and contraction of the trunking under normal working temperature variations. Expansion should be allowed for on all straight runs exceeding 6.0 m with a loose or flexible type joint.

Support

Trunking should be screw fixed of not more than 500 mm intervals or as recommended by the trunking manufacturer. This spacing to be adjusted to suit larger sizes of trunking as required. Similarly where working temperatures tend to be high, this should be reduced to 300 mm.

4. Adaptable Boxes and Switchgear

Adaptable Boxes

These shall be of moulded or fabricated PVC of square or oblong shape complete with PVC lids. No adaptable box smaller than 75 mm. x 50 mm. shall be employed. Boxes shall be of adequate depth in relation to the size of the conduit entering them.

Terminations

Conduit shall be terminated at adaptable boxes, fuseboard switches, socket or other equipment not possessing push-in or threaded spout, by means of the appropriate size adaptors. All cemented joints to be made to a depth of the conduit being used.

5. Earth Continuity

Earth continuity shall be provided by a separate insulated conductor contained within the conduit and rated in accordance with circuit loadings and appropriate regulations.

An earthing terminal shall be provided at every switch and outlet position for connection of earth continuity conductors as required.

FLEXIBLE CONDUITS

Unless specifically detailed otherwise, all flexible conduits used throughout the installation shall be high temperature polypropylene. In boiler houses it should be of the metal spiral wound type.

The conduit shall be terminated only by the use of the manufacturer's purpose made glands.

A separate earth continuity conductor shall be installed through all flexible conduits and be terminated generally as detailed previously.

CATENARY WIRES

All catenary wires shall comprise galvanised standard wire with a total cross sectional area not less than 6 mm. Each catenary shall be stretched tight between beams, or anchor eye bolts, and terminated with line vices. At each end, the catenaries shall be wound twice around its fixing and the end bound back along the catenary for a minimum distance of 30 mm.

Catenaries shall be run to support all cables in roof voids and shall run parallel to and at right angles to walls. Diagonal runs will not be permitted.

REQUIREMENTS FOR CABLES

All cables and flexible cords shall be of the type, grade and capacity as specified and shall comply fully with the current relevant British Standards.

Connections between flexible cords and other cables shall be made by means of connectors fixed in a B.S. conduit box, or via flex outlet, or fused spurs.

Cable Termination Marking

Control cables shall be identified with PVC cable markers carrying the control panel terminal reference numbers, at both ends of the cable.

SEGREGATION OF SERVICES

Services shall be segregated in accordance with the Wiring Regulations.

All communication system wiring, signal cable wiring, speaker cable wiring and telecoms/IT wiring shall be kept clear and separate from all other forms of wiring, and shall be spaced at a minimum distance of 200 mm from any adjacent wiring.

All conduits and trunking used for telecommunication and data communication systems shall be entirely separate to all others and separately earthed.

THREE PHASE SERVICES

The Contractor shall ensure that all machines and equipment are connected to the correct phase arrangement to ensure the correct rotation of all equipment.

The correct rotation of the equipment and phasing out to existing supplies is to be tested and shown to be correct in the presence of the Head of Building Services Officer's Electrical Inspector of Works.

Under no circumstances shall single PVC/PVC insulated, twin and earth PVC/PVC insulated or multi-core tough rubber or PVC cables be used.

EQUIPMENT ISOLATION & CONTROL SWITCHING

All items of electrical equipment supplied under this Contract, and by others, shall have ready means of isolation provided for it, immediately adjacent to the equipment. Isolators so provided are to have screw or glue fixed rigid Identification labels fitted to clearly identify their function. Self adhesive labelling will not be deemed acceptable to satisfy this requirement.

Any switches providing "control" functions, excluding lighting switches and isolators which are covered elsewhere, are to be labelled and have the switching functions clearly defined. The method of lettering is to be as Section 24, Labels & Charts, Accessories.

EARTHING

The whole of the Electrical Installation, and all other associated equipment, shall be bonded in accordance with the Wiring Regulations, and all necessary Earth connections provided.

On new installations and existing installations where called for, a proprietary and appropriately sized earth bar shall be provided adjacent to the incoming supply cut-out for termination of main earthing conductors and main bonding conductors. It shall be complete with a disconnectable link to enable testing of the external earthing system. Main earthing and bonding conductors from the same shall be individually identified using cable tie fixed engraved Traffolyte labels.

Main Bonding connections to steel pipe work for Gas and Heating Flow & Return shall use lugs or shell clamps welded to the pipe work by the Mechanical Contractor at the positions denoted by the Electrical Contractor.

Equipotential / Cross bonding connections to pipe work for Gas, Heating Flow & Return, Cold water and Hot water shall use earth cabling run in one complete length, stripped back as necessary to allow for connections, and shall, on steel pipe work, use welded lugs or shell clamps as described above.

Bonding on to 22mm or 15mm copper pipework or localised equipotential bonding shall use "Ezybond" pipe earthing clamps as manufactured by Eaton MEM Ltd. The clamps to be selected to suit the cable/pipe size combination as required and be complete with the necessary "DO NOT REMOVE" labelling. Where bonding to a series of adjacent pipes, one continuous piece of cable shall be used.

The installation shall be installed to comply with the Earthing arrangements as specified in the relevant sections of BS 6701: 2010 - Code of Practice for the Installation of apparatus intended for the connection to certain telecommunication systems.

LIGHTING INSTALLATION

At every lighting point shall be supplied and fixed, the necessary lighting fittings complete with all necessary glassware, galleries, suspensions, lampholders, control gear, etc., as detailed on the drawings and in the schedules, and shall be complete with the number and size of lamps specified, to the applicable voltage.

Unless indicated otherwise on the contract drawings every recessed lighting fitting and surface mounted lighting fitting including those in continuous end-to-end formation, the sub-circuit wiring shall either terminate adjacent to each fitting in a suitable LSC, (Luminaire Supporting Coupler), ceiling assembly equipped with a heat resisting flexible cable for final connections. Or use a Klik or Flex 7 marshalling box with the proprietary flexible cables to the fittings being supported by the installed catenary or tray system. If the ceiling is inaccessible this will be removed post contract.

To allow cables to enter fluorescent fittings mounted from 'T' bars of the ceilings, an additional 20 mm. hole shall be punched in the back of the fitting and fitted with PVC edge sheathing or a rubber grommet clear of the 'T' bar.

Where surface mounted luminaires do not follow a length of 'T' and it is not possible to use purpose made suspension clips, the fittings shall be screwed to "noggings" placed behind the ceiling.

Where a steel conduit installation is provided, then the conduit boxes shall be sufficient to support the lighting fittings in themselves.

Unless specified otherwise elsewhere in this specification, in accessible ceiling areas, all modular recessed lighting fittings shall be suspended by either at least four conduit or threaded rod suspensions or 2 Y Gripple hangers sized to the weight of the fitting, and ordinary fluorescent fittings by two conduit or threaded rod suspensions OR 2 inline Gripple hangers. No fabricated hangers will be permitted. Safety chains may also be required and should be provided where necessary.

Where fluorescent lamps are indicated to be used, they shall be T8, T5 Tri-phosphor Polylux 3500 white, unless stated otherwise.

Switches

All switches shall be multi-gang where grouped and unless specified otherwise, wall switches shall be 1000 mm above finished floor level, 150 mm in from any door frame and 350mm in from any corner to which they are adjacent.

Every switch must be located in relation to fixed furniture and equipment, and sited with the prior approval of the council's engineer/surveyor.

All switch boxes shall be fitted with a fixed earth terminal to which the earth continuity conductor shall be terminated.

All single pole switches shall be connected in the phase conductor only.

CONNECTIONS TO HOT POINTS

Connections to lighting points shall be as indicated above and as may be further detailed in the particular specification.

At all other connections to hot points (circulating pumps, fan convectors, cooking equipment, etc) shall be effected via heat resistant cables, either within, or without, appropriate flexible conduits and as may be further detailed in the Particular Specification.

INSPECTION, TESTING, PROVING, DEMONSTRATION AND PUTTING TO WORK

All work, systems, circuits, apparatus and appliances installed under this Contract, both by the Contractor and other nominated Sub-Contractors or specialist suppliers, shall be tested, proved and put to work as required hereunder before the Contract works shall be deemed to be complete.

The Contractor shall give fourteen working days clear notice of all procedures and intended actions called for to comply with these conditions and requirements and should obtain from the General Contractor similar period of notice with respect to attendance on all other items and systems.

The contractor shall be solely responsible for all expenses associated with the provision of labour, materials and equipment both initially and for any subsequent repeats of all or any part of the procedures called for.

All defects, errors and omissions revealed by these procedures shall be made good and all tests repeated until the installations are proved satisfactory.

Demonstration, putting to work and instructions shall be carried out in the presence of the council's engineer/surveyor and the Client's representative responsible for the particular section of the work. It should be noted that some demonstration and instruction may be required to be given after completion of the works and that such instruction may be required to be given on separate days and due allowance shall be made for this.

The Contractor shall provide all materials, labour, apparatus and instruments for all sections of this work, free of charge on site. The Contractor may be required to demonstrate the accuracy and reliability of any apparatus and instruments used and shall provide current certificates of calibration for all such equipment.

Testing facilities shall be provided at any time during the progress of the works and allowance shall be made to allow any sections or parts of the installation to be tested and re-tested for compliance with the following requirements.

All tests shall be recorded on purpose designed forms provided by the Contractor and approved by the council's engineer/surveyor, which shall then be type-entered and submitted.

The Contractor shall be responsible for obtaining and ensuring the attendance of, specialist Company Engineers to test, provide, put to work and demonstrate all specialist items supplied and/or installed under this Contract. Re-testing and proving shall be carried out as necessary.

All materials, plant and equipment supplied by manufacturers shall be deemed to have been tested for compliance with all Regulations and Standards by the manufacturer. The council's engineer/surveyor shall, if he so desires, be present at any or all tests so made. The Contractor shall supply, if requested, copies of manufacturers' test certificates for all or any items. Any defects or imperfections which may become evident after installation shall be the responsibility of the supplying Contractor to correct at his own expense.

Specific Requirements

a) General

The Contractor shall attend all meetings and procedures called for, providing full labour and test equipment facilities as may be necessary.

He shall be prepared to verify the state of all electrical supplies, installation and equipment throughout the installation up to the points of connections for specialist suppliers' and installers' equipment.

b) Fixed Installation

The following tests shall be carried out in accordance with the current Edition of the Wiring Regulations and the current on-site guide together with any further tests required by the same.

- 1.1 Visual
- 1.2 Continuity of final ring circuit conductors
- 1.3 Continuity of protective conductors and equipotential bonding
- 1.4 Earth electrode resistance
- 1.5 Insulation of site built assemblies
- 1.6 Electrical separation of circuits
- 1.7 Protection against direct contact by on-site erected barriers/enclosures
- 1.8 Insulation of non-conducting floors and walls

- 1.9 Polarity
- 1.10 Earth fault loop impedance
- 1.11 Insulation Resistance
- 1.12 Functional testing of RCD's RCBO's and switchgear
- 1.13 Determination of PSSC and PEFC

c) Ancillary Systems

All specialist installations supplied, installed and connected under this Contract (e.g. fire alarm, security systems, communication systems, space and water heating equipment, ventilation plant, emergency/safety lighting, etc) shall be tested and proved by the suppliers'/manufacturers' representative to show full working correctness, and suitability, to the relevant British Standard where applicable, prior to handing over to the Client, with full test certificates completed and submitted as called for in those British Standards.

d) Associated Systems

The Contractor shall be in attendance at the testing, proving, putting to work and demonstration of all associated systems (lifts, heating, air handling and treatment, pumping, catering, computing) to which he has provided supplies, connection or attendance during their installation.

e) Instruction and Health and Safety File

The Contractor shall include for providing full, detailed instruction and demonstration to the Client's representative of the complete electrical installation installed under this Contract, including all correct operating and maintenance instructions.

He shall be responsible for similar instructions to be provided by specialist suppliers'/installers' representatives of all systems and equipment supplied under this contract.

The Contractor shall compile and supply a Manual for inclusion in the Project Health and Safety File which shall include the following:-

- i) Servicing schedules and manuals covering full details of all equipment supplied to site (whether supplied by the Contractor or not). The Contractor to liaise with all other Contractors and suppliers in provision of these.
- ii) Special instructions of the operation, calibration, setting up and maintenance of all parts of the installation.
- iii) Complete set of As Fitted Drawings.
- iv) Summary of the tests and inspections, including copies of all test/record data.
- v) Any other relevant documentation which may be considered necessary, or require to be provided by the council's engineer/surveyor.

Documentation - General Power and Lighting

Upon completion of the works the Contractor shall complete Forms of Completion and Inspection, to verify installation tests. These forms are to be fully completed prior to inclusion in the Health and Safety Manual.

Documentation - Emergency Lighting

Upon completion the Contractor shall submit Installation and Commissioning Certificates for Emergency Lighting Installations. The Contractor shall be responsible for both system installation and verification. These forms to be fully completed prior to inclusion in the Health and Safety Manual.

Documentation - Fire Alarm

Upon completion the Contractor shall submit Installation and Commissioning Certificates for Fire Alarms. The Contractor shall be responsible for the system installation and commissioning. These forms to be fully completed prior to inclusion in the Health and Safety Manual.

COMMISSIONING

The Contractor shall attend all commissioning meetings and procedures both for the electrical engineering services and for specialist systems that may be supplied and installed by others under the General Contract, e.g. lifts, security and communication systems, heating and ventilating installations. Full labour and test equipment shall be provided such that the condition and state of all electrical supplies and equipment throughout the installation, and up to the point of termination on specialist suppliers and installers sections, may be proved. The Contractor shall be responsible for obtaining the attendance of the manufacturer's representative and/or engineer to commission and put into operation all items of specialist equipment supplied and/or installed under this Contract. The Contractor shall include fully for all such attendance as part of the provision of the electrical engineering services.

E.M.C. REGULATIONS

The electrical installation and all equipment supplied and fitted under this Contract shall comply with the current Electromagnetic Compatibility (EMC) Regulations.

Cables and connectors shall be installed in accordance with the requirements of EMC Directive 204/108/EEC.

LABELS AND CHARTS

All distribution boards, switchgear, control equipment, control switches, etc., shall be fully labelled for identification.

At the main distribution or intake position a distribution diagram shall be fixed showing connections installed complete with switch and fuse ratings and sizes and types of cables to each area served.

Labelling shall correspond with the schematic diagram, details given on the relevant drawings, in this Specification and/or as instructed on site.

All switching and distribution equipment shall be provided with white/black/white laminated "Traffolyte" labels engraved to show black lettering on white background, adequately describing the function of the unit and indicating the origin of the supply, the size of the feeding cable and protective device at the origin. For items connected to one or more phases of the supply, the label shall indicate the phase or phases to which the items is connected.

All D.P. & N and T.P. & N. distribution boards and multi-phase bus-bar chambers shall in addition be labelled "DANGER - 400 VOLTS" (or line to line voltage applicable) in RED lettering on white ground.

Precise details of circuits controlled by each MCB/RCBO or fuseway shall be provided on a typed circuit chart, covered and screw fixed to the wall immediately adjacent to the equipment.

In addition the chart supplied by the distribution board manufacturer will be completed in indelible ink.

Accessories

- (a) All lighting switches that are fixed out of sight of the luminaires they control shall be engraved with lettering, filled in with black enamel indicating the position of, or otherwise, describing the luminaires.
- (b) All equipment having cover plates of the "grid switch" pattern and indicated to be engraved, shall be engraved as described with black lettering.
- (c) All other equipment indicated "to be engraved" shall have their cover plates engraved as described with black lettering, or shall be provided with laminated white/black/white "Traffolyte" labels, engraved as described with black lettering on white background.

Labels shall be fixed to equipment by gluing or at least two brass screws; the equipment being drilled and tapped as required. Self-adhesive labelling will not be deemed acceptable to satisfy this requirement.

Layout approval for all labels shall be obtained before ordering.

The Contractor shall provide and fit in the switchroom one laminated copy of the Treatment for electric shock information sheet.

SPARE FUSES: SPARE GLASSES, ETC.

The Contractor shall be responsible for fitting the correct size BS1362 fuse to each piece of equipment supplied under this contract, by himself, or others.

At "hand-over" date the Contractor shall pass to the Supervising Officer spare HRC fuse cartridges in accordance with Clause 5.

Where new Fire Alarm systems are fitted as part of the contract the following shall be provided: six spare fire alarm call point glasses, test keys as necessary for the call points and two spare automatic fire detectors of each type used on the contract.

Where emergency lighting test switches are installed 2 off test keys are to be provided. The Contractor shall similarly provide any test keys required or special access tools for any other installed equipment, etc provided as a consequence of the contract.

TELECOMMUNICATION & DATA COMMUNICATIONS.

The Contractor shall ensure that the installation is provided to comply with the following standards whether provided directly, by himself, or on his behalf by others.

BS 6701:2010 Code of Practice for the Installation of apparatus intended for the connection to certain telecommunication systems.

BS EN 50174 – 2 2009: Information Technology – Cabling Installation - Part 2: Installation planning and practices inside buildings.

BS EN 50174 – 3 2013: Information Technology – Cabling Installation - Part 3: Installation planning and practices outside buildings.

PART D – PRICING SCHEDULE

The tenderer is required to complete the range of deliverables for each tender submission, by providing itemised schedule of costs, tender qualifications and additional works.

- 1. Preliminaries
- 2. Mechanical & Public Health Particulars
 - Chiller Installation
 - BEMS Installation
- 3. Electrical Particulars
 - Electrical Services
- 4. Builders Works
- 5. Inspection, Testing and Commissioning Installations
- 6. Provision of record and O&M information
- 7. Project Provisional Sums – Unforeseen works
- 8. Tender Qualifications & Additional Works

Sub Total: £

Contingencies (5% of Sub Total)

Total Tendered Figure*: £

We, having read the General Technical Specification and Conditions of Contract and Preliminaries, together with the Particular Specification and Drawing(s) delivered to me/us, do hereby offer to execute and complete in accordance with the Conditions of Contract the whole of the work described for the sum of:

_____pounds_____pence*

£p*

***THESE AMOUNTS SHOULD BE IDENTICAL**

Day Work Rates

Labour £...../hr	
Materials (Nett cost) plus % addition
Plant (Nett cost) plus% addition
Sub-Contractor (Nett cost) plus% addition

END OF SPECIFICATION

**SCHEDULE OF AMENDMENTS TO JCT INTERMEDIATE BUILDING CONTRACT, 2016
EDITION**

RELATING TO A PROJECT KNOWN AS

**THEATRE SEVERN CHILLERS, ASSOCIATED CONTROLS AND ANCILLARY
REPLACEMENT WORKS**

NB: A new sentence as follows must be added in manuscript to the end of Article 1 in the JCT contract booklet and this must be initialled:

“The Contract Documents are amended by the Schedule of Amendments which forms part of them and overrides clause 1.3 of the Conditions”.

The following amendments shall be made to the JCT Intermediate Building Contract, 2016 Edition

Part 1 Recitals

1. Third Recital

Delete the following:

["the Bills of Quantities"]

["the Work Schedules"]

[From "particulars of the Intermediate Named Sub-Contract..." to "...and the Tender Documents referred to in them);" (inclusive)]]

2. Fourth Recital

[Delete from "and has provided the Employer with the priced schedule of Activities..." to the end of that paragraph (inclusive).]

3. Sixth Recital

Delete the whole of the Sixth Recital and replace with:

"Number not used".

4. Eighth Recital

Delete the whole of the Eighth Recital and replace with:

"Number not used"

Part 2 Conditions

1. Clause 1.1

1.1 Amend these definitions:

(a) Agreement: add to the end of the definition, before the full stop:

", each as amended by the **Schedule of Amendments**".

(b) Article: add to the end of the definition, before the full stop:

", as amended by **Error! Bookmark not defined.Error! Reference source not found.** of the **Schedule of Amendments**".

(c) Conditions: add to the end of the definition, before the full stop:

", each as amended by Part **Schedule 1Part 2** of the **Schedule of Amendments**".

(d) Contract Particulars: add to the end of the definition, before the full stop:

", all as amended (if applicable) by **Error! Bookmark not defined.Error! Reference source not found.** of the **Schedule of Amendments**".

"Construction Products Regulations: Regulation (EU) No 305/2011 and the Construction Products Regulations 2013 (SI 2013/1387)."

"Delay Event: any event (whether or not a breach of contract by the Contractor) which is not a Relevant Event and which delays any item of work which is on the critical path for the Works (or which would be on the critical path but for any Relevant Event effects which are concurrent with its effects"

"Deleterious: materials, equipment, products or kits that are generally accepted, or generally suspected, in the construction industry at the relevant time as posing a threat to the health and safety of any person; or posing a threat to the structural stability, performance or physical integrity of the Works or any part or component of the Works; or reducing, or possibly reducing, the normal life expectancy of the Works or any part or component of the Works; or not being in accordance with any relevant British Standard, relevant code of practice, good building practice or any applicable agrément certificate issued by the British Board of Agrément; or having been supplied or placed on the market in breach of the Construction Products Regulations."

"Material: all designs, drawings, models, plans, specifications, design details, photographs, brochures, reports, notes of meetings, CAD materials, calculations, data, databases, schedules, programmes, bills of quantities, budgets and any other materials provided in connection with the Works (and completed Works) and all updates, amendments, additions and revisions to them and any works, designs, or inventions incorporated or referred to in them for any purpose relating to the Works (and completed Works)."

"Permitted Uses: the design, construction, completion, reconstruction, modification, refurbishment, development, maintenance, facilities management, funding, disposal, letting, fitting-out, advertisement, decommissioning, demolition, reinstatement[, extension], building information modelling and repair of the Works (and the completed Works)."

1.2 Delete these definitions:

(a) [Activity Schedule;]

(b) Consultants;

- (c) Employer Rights;
- (d) Fluctuation Provision;
- (e) Funder Rights;
- (f) [Information Release Schedule;]
- (g) P&T Rights;
- (h) Rights Particulars;

2. Clause 1.3

- 2.1 In clause 1.3, after "override or modify", add:

"the Schedule of Amendments, "

3. Clause 1.4

- 3.1 Insert a new clause 1.4.6:

"1.4.6 Unless the context otherwise requires, any reference to European Union law that was directly applicable or directly effective in the UK at any time is a reference to it as it applies in England and Wales from time to time including as retained, amended, extended, re-enacted, consolidated, with or without modification, or otherwise given effect on or after 11pm on 31 December 2020."

- 3.2 Renumber existing clause 1.4.6 as clause 1.4.7.

4. Clause 1.6

- 4.1 Delete clause 1.6, but not its heading, and replace with:

"Other than any rights that take effect pursuant to section 7 of these Conditions, nothing in this Contract confers or is intended to confer any right to enforce any of its terms on any person who is not a Party to it."

5. Clause 1.9

- 5.1 Add to the end of clause 1.9.3:

"If neither Party commences arbitration or legal proceedings within the period referred to in clause 1.9.2.2 the Parties agree that any Adjudicator's decision referred to in that clause shall be conclusive on the matters with which it deals and finally binding on them."

6. Clause 1.11

6.1 Delete from the end of clause 1.11.2:

"and either Party's consent under clause 7.1".

6.2 Add a new clause 1.11.3:

"Notwithstanding any other provision of this Contract, the term **approval**, when used in the context of any approval to be given by the Employer or the Architect/Contract Administrator, shall have the meaning 'acceptance of general principles only', and no such approval or any consent given by the Employer or the Architect/Contract Administrator nor any inspection of, or failure to inspect, the Works shall diminish or relieve the Contractor from any of his obligations or liabilities under this Contract."

7. New clause 1.13

7.1 Add a new clause 1.13:

" This Contract may be signed in any number of separate counterparts, each of which when signed and dated shall be an original, and such counterparts taken together shall constitute one and the same agreement

8. Clause 2.1

Add a new clause 2.1A

"The Works include the obtaining by the Contractor of applying and obtaining all those approvals, permissions and consents necessary for carrying out the Works and including without limitation all those matters necessary to ensure compliance with Building Regulations and the Contractor shall engage a local authority building control officer, and not any alternative inspector"

Add a new clause 2.1B

"The Contractor shall comply with the provisions of Annex A"

9. Clause 2.2

Delete existing clause 2.2.1 and replace with:

"All materials and goods for the Works shall be of satisfactory quality and comply with standards, quality and requirements set out in the Contract Documents."

- 9.1 Renumber existing clause 2.2.2 as clause 2.2.5 and add new clause 2.2.2:

"The workmanship for the Works shall be of the standards described in the Contract Documents."

- 9.2 Add a new clause 2.2.3:

"Without affecting clause 2.2.1, insofar as the quality of materials or goods or standards of workmanship are stated to be a matter for the Architect/Contract Administrator's approval, such quality and standards shall be to his reasonable satisfaction."

- 9.3 Add a new clause 2.2.4:

"Without affecting clause 2.2.1, insofar as the quality of materials and goods or standards of workmanship are neither described in the Contract Documents nor stated to be a matter for the Architect/Contract Administrator's approval, they shall be of a standard appropriate to the Works."

- 9.4 Add a new clause 2.2.6 (after renumbered clause 2.2.5):

"Number not used."

- 9.5 Add a new clause 2.2.7:

"The Contractor shall not knowingly suffer or permit the use in the Works of anything, which, at the time of use, is Deleterious. The Contractor shall immediately notify the Architect/Contract Administrator if he becomes aware of any such use."

10. Clause 2.8

- 10.1 At the start of clause 2.8.1, delete "The" and replace with:

"Unless the Employer has supplied the Contractor with one original executed and completed part of this Contract (incorporating the Schedule of Amendments and the Contract Documents), the"

- 10.2 At the start of clause 2.8.2.1 add:

"one original executed and completed part of this Contract (incorporating the Schedule of Amendments and the Contract Documents) or"

11. Clause 2.10

- 11.1 Delete the whole of clause 2.10.

12. Clause 2.11

12.1 Delete, from the start of clause 2.11.1:

"Where not included in the Information Release Schedule, the"

and replace with:

"The".

13. Clause 2.15

13.1 In clause 2.15.2.1, after "change in the Statutory Requirements" add:

"that was not foreseen by the Contractor at the Base Date and that could not reasonably have been foreseen by a competent contractor at the Base Date and"

13.2 Delete clause 2.15.3 and replace with:

"Number not used."

14. Clause 2.19

14.1 At the end of clause 2.19.1, after the full stop, add:

"Save where the Relevant Event is as defined in clause 2.20.9 and provided, in that case, that the Contractor has complied fully with any obligation upon it to maintain insurance against Specified Perils under this Contract, the Contractor shall not be entitled to any extension of time on account of any circumstance arising by reason of any error, omission, negligence or default of the Contractor or the Contractor's Persons."

Add new clause 2.19.6 as follows:

"It shall be a condition precedent to the Contractor's entitlement to claim an extension of time that the Contractor has notified the Employer in writing within 28 days of the occurrence of a Relevant Event that such a claim may be made in respect of that Relevant Event (but for the avoidance of doubt this does not require the Contractor to notify the length of extension to be claimed but only that a claim may be made)".

Add new clause 2.19.7 as follows:

"no extension of time shall be granted where and to the extent that the progress of the Works is concurrently delayed due to a Delay Event".

15. Clause 2.20

15.1 Add to the end of clause 2.20.7, before the semicolon:

"provided that the Contractor has given reasonable notice to the Statutory Undertaker of the dates on which the work the Statutory Undertaker is to undertake is required to commence and be completed and has used all reasonable endeavours to secure the agreement of the Statutory Undertaker to such dates".

15.2 Add to the end of clause 2.20.11, before the semicolon:

"provided that such strike, lockout or local combination of workmen is of a national or regional nature, does not affect the site of the Works alone and is not restricted to the employees of the Contractor or any sub-contractor".

16. Clause 2.27

16.1 Add to the end of clause 2.27 before the full stop:

", provided that the Architect/Contract Administrator shall not be required to issue that certificate earlier than the expiry of the Rectification Period for the Relevant Part"

15.2 The specific criteria to be satisfied as preconditions to practical completion are as follows:

- Provision of the health and safety file under the CDM Regulations (or where the Contractor is not the Principal Designer all information likely to be needed under the CDM Regulations for inclusion in the Health and safety file)
- Provision of all operation and maintenance manuals required in relation to the Works (containing as a minimum the information specified in the Contract Documents as to be included in operation and maintenance manuals)

16. Clause 2.30

Add the following paragraph at the end of clause 30:

"The Contractor shall

- (1) make good any such defects shrinkages or other faults which the Employer reasonably considers need making good as a matter of urgency within 24 hours (or such shorter period as the Employer may reasonably specify in the case of defects endangering health or safety) of receiving the Employer's instruction ("the

Emergency Defects") and for the avoidance of doubt such Emergency Defects shall include but not be limited to defects shrinkages or other faults relating to plumbing, mechanical engineering and electrical installations, and;

- (2) make good any such defects shrinkages or other faults which the Employer reasonably considers to be serious defects or faults within 7 days of receiving the Employer's instruction ("the Serious Defects") and for the avoidance of doubt such Serious Defects shall include but not be limited to defects shrinkages or other faults paving and fencing; and
- (3) make good all other such defects, shrinkages and other faults notified to the Contractor within 4 weeks of receipt of the Employer's instructions ("the Routine Defects").

17. Clause 2.31

- 17.1 Add to the end of clause 2.31 before the full stop:

", provided that the Architect/Contract Administrator shall not be required to issue that certificate earlier than the expiry of the Rectification Period"

18. New clause 2.31A

- 18.1 Add a new clause 2.31A after clause 2.31:

"Snagging list and defects, shrinkages or other faults remaining at practical completion

Clauses 2.30 and 2.31 shall apply, all other things being equal, to:

.1 any items identified on any snagging list issued by the Architect/Contract Administrator at or around practical completion or attached to a Practical Completion Certificate or Section Completion Certificate;

.2 any defects, shrinkages or other faults in the Works at practical completion; and

.3 any incomplete work, forming part of the Works, remaining at practical completion."

19. Clause 2.32

- 19.1 Add new clause 2.32 under a new heading "**Copyright and use**":

".1 The Contractor grants to the Employer, with immediate effect, an irrevocable, non-exclusive, non-terminable, royalty-free licence to copy and make full use of any Material prepared by or on behalf of the Contractor for any purpose relating to the Works (and the completed Works) including any of the Permitted Uses.

.2 This licence allows the Employer to use the Material in connection with any extension of the Project, but not to reproduce the designs contained in the Material in any such extension.

.3 This licence carries the right to grant sub-licences and is transferable to the owner of part or all of the Works from time-to-time and to third parties without the Contractor's consent.

.4 The Contractor shall have no liability for use of the Material for any purpose other than that for which it was prepared and/or provided.

20. Clause 3.4

- 20.1 In clause 3.4.1, delete from "Except where the Employer is a Local or Public Authority" to the end of the clause (inclusive).

21. Clause 3.6

- 21.1 In clause 3.6, after "JCT Intermediate Building Sub-Contract." add:

"The Contractor shall notify the Employer and the Architect/Contract Administrator if it appoints a Sub-Contractor using a different form of sub-contract and shall, on request, provide a full copy of that different form of sub-contract to the Architect/Contract Administrator."

- 21.2 In clause 3.6.2.5, delete "the Rights Particulars provide" and replace with:

"this Contract provides".

- 21.3 In clause 3.6.2.5.2, delete "14 days" and replace with:

"10 Business Days"

- 21.4 In clause 3.6.2.5.3, delete from "clause 2.18" to the end of the clause (inclusive) and replace with:

"the requirements for any sub-contractor collateral warranty or third party rights set out in this Contract."

22. Clause 3.18

22.1 Delete clause 3.18.1 and replace with:

"Number not used."

22.2 Replace the full stop at the end of clause 3.18.4 with a semi-colon and add new clause 3.18.5:

"where the Contractor is not the Principal Designer but is the Principal Contractor and the Principal Designer's appointment concludes before practical completion of the Works, the Contractor shall review, update and revise the health and safety file in accordance with regulations 12(8) to (10) of the CDM Regulations at no cost to the Employer and which shall not entitle the Contractor to an extension of time."

23. New clause 3.19

23.1 Add new clause 3.19:

"Project meetings

The Contractor shall attend project meetings convened by the Architect/Contract Administrator upon reasonable notice and at reasonable intervals and representatives of the Employer and the Employer's professional consultants and any other persons authorised by the Architect/Contract Administrator shall be permitted to attend such meetings."

24. Clause 4.3

24.1 Delete clause 4.3.2 and replace with:

"Number not used."

25. Clause 4.4

25.1 Delete clause 4.4 and replace with:

"Number not used."

26. Clause 4.9

- 26.1 In clause 4.9.1, in the paragraph after clause 4.9.1.3, delete: "those values shall be adjusted, where appropriate, in accordance with any applicable Fluctuations Provision and, "
- 26.2 In clause 4.9.2 delete: "Fluctuations – Named Sub-Contractors (clause 4.4)" and delete "Fluctuations under any applicable Fluctuations Provision, other than by means of an adjustment under clause 4.9.1;".
- 26.3 In clause 4.9.3, delete "4.4 (*Fluctuations – Named Sub-Contractors*)," and from "or any amount under any applicable Fluctuations Provision" to the end of the clause (inclusive).

27. Clause 4.12.1

Replace "14" with "28". Add to the end the following:

"unless prior to payment, the Contractor has been requested by the Employer to satisfy him that any amount due to a sub-contractor or a supplier of materials or goods for incorporation in the Works which has been included in any previous Interim Payment Application has (net of any proper deductions which the Contractor is entitled to make) been paid and the Contractor has failed to provide reasonable evidence of this in which case the final date for payment of the Interim Payment shall be the later of the date which is 28 days from its due date and the date which is 7 days from the date on which the Employer receives reasonable evidence that the amount due to the sub-contractor or supplier in question has been paid".

28. Clause 4.13

- 28.1 Delete clause 4.13.3 and replace with:

"The Employer's interest in the percentage of the total value not included in the amounts of the interim payments to be certified under clause 4.8.2 shall be:

.1 without fiduciary obligation to the Contractor or any third party;

.2 without obligation to set aside any amount representing that percentage in a separate bank account; and

.3 a full beneficial interest, including a full beneficial interest in any interest accruing on that percentage without obligation to account to the Contractor for any such interest."

29. Clause 4.14

- 29.1 In clause 4.14.1 after "7 days after the Contractor has given notice to the Employer, with a copy to the Architect/Contract Administrator, of his intention to suspend the performance of" add:

"any or all of".

- 29.2 In clause 4.14.3, delete "or on request" and, at the end of the clause, add a new sentence:

"The Contractor shall, on request, submit such further details as are reasonably requested by the Architect/Contract Administrator or the Quantity Surveyor."

30. Clause 4.15

- 30.1 Delete "If" from the start of the clause and replace with:

"Subject to clause 4.15A, if"

31. New clause 4.15A

- 31.1 Add new clause 4.15A:

"Disturbance of regular progress due to Contractor default"

The Contractor shall not be entitled to the addition of any amount to the Contract Sum or to any other payment (other than any amount that is recoverable by the Employer under a policy of insurance maintained in accordance with Insurance Option B or Insurance Option C, if applicable) in respect of any cost or loss and/or expense arising by reason of any error, omission, negligence or default of the Contractor or the Contractor's Persons."

32. Clause 5.5

- 32.1 At the end of clause 5.5, before the full stop, add:

", provided always that the substantial change in the conditions does not arise by reason of any error, omission, negligence or default of the Contractor or the Contractor's Persons"

33. Clause 6.1

- 33.1 In clause 6.1, after "caused by the carrying out of the Works" add:

"or of any other obligation pursuant to Section 2 or Section 3 of the Conditions".

34. Clause 6.2

34.1 In clause 6.2, after "by reason of the carrying out of the Works" add:

"or of any other obligation pursuant to Section 2 or Section 3 of the Conditions".

35. New clause 6.2A

35.1 Add new clause 6.2A after clause 6.2:

"Contractor to prevent nuisance and indemnify Employer

The Contractor shall prevent any unlawful nuisance (including any unlawful noisy working operations) or other unlawful interference with the rights of any nearby owner, tenant or occupier or any Statutory Undertaker, of which the Contractor is or ought reasonably to have been aware, arising out of the carrying out of the Works or out of any other obligation pursuant to Section 2 or Section 3 of the Conditions. The Contractor shall assist the Employer in defending any action or proceedings in relation to any such nuisance or interference. The Contractor shall be responsible for and shall indemnify the Employer from and against any and all expenses, liabilities, losses, claims and proceedings resulting from any failure or default by the Contractor in performing its obligations under this clause 6.2A."

36. Clause 6.2B

36.1 Add new clause 6.2B after new clause 6.2A:

"Contractor to prevent trespass to neighbours

Without prejudice to clauses 6.1, 6.2 and 6.2A, the Contractor shall ensure that there is no trespass by the Contractor or the Contractor's Persons (including the oversailing of a tower crane jib or the erection of a scaffold or hoarding) on or over any nearby property arising out of the Works or out of any other obligation pursuant to Section 2 or Section 3 of the Conditions and shall take all reasonable safety and other measures to prevent damage or injury to any persons including the occupiers of nearby property and members of the public. If carrying out the Works or any other obligation pursuant to Section 2 or Section 3 of the Conditions would otherwise be an act of trespass, the Contractor shall, at no cost to the Employer, obtain the prior written agreement of the owners or occupiers of any nearby property to that act. That agreement shall be subject to the Employer's approval before its completion. The Contractor shall comply with any condition or obligation contained in that agreement, at no cost to the Employer, and shall not be entitled to any extension of time as a result of any condition or obligation contained in that agreement."

37. Clause 6.4

37.1 In clause 6.4.1, after "effect and maintain insurance", add:

"(with the name of the Employer shown as additional insureds)"

38. Clause 6.8

38.1 In the definition of "Joint Names Policy" after "policy of insurance" in line 1 insert "from a reputable insurance company carrying on business in the United Kingdom". Also in line 1 delete "the Employer and the Contractor" and replace with:

"the Employer, any person acquiring the Employer's interest in the whole or part of the Works, the Contractor and the Fund"

39. Clause 6.17

Add, at the end of the first sentence of clause 6.17.1.2, before the full stop:

"provided always that, if the Remedial Measures were specified by reason of any error, omission, negligence or default of the Contractor or the Contractor's Persons, then the Contractor shall not be entitled to any addition to the Contract Sum or any other payment in connection with those instructions and shall not be entitled to any extension of time fixing a later date as the Completion Date for the Works"

and, in the final sentence of the clause, at the start of that sentence, delete "The" and add:

"Provided that the Remedial Measures were not specified by reason of any error, omission, negligence or default of the Contractor or the Contractor's Persons, the"

40. New clause 6.19

Add new clause 6.19:

"Contractor to co-operate with Employer's reasonable insurance requirements

The Contractor shall fully co-operate with any measures reasonably required by the Employer, including:

.1 completing any proposals for insurance and associated documents; or

.2 maintaining insurance at rates above commercially reasonable rates, if the Employer reimburses the Contractor for the net cost of that insurance above commercially reasonable rates."

41. Clause 7.1

41.1 Delete clause 7.1 and replace with:

"General right to assign

.1 The Employer may assign or otherwise transfer the benefit of this Contract to any person taking an interest in the Works or the completed Works. In this Contract, the term "Employer" shall be construed accordingly.

.2 Without prejudice to clause 7.1.1, the Employer may charge, or assign by way of security, the benefit of this Contract to any Funder (and the Funder may reassign the benefit of this Contract to the Employer on redemption of that security).

.3 The Employer shall notify the Contractor of any assignment within 10 Business Days. If the Employer fails to do this, the assignment shall still be valid.

.4 The Contractor shall not contend that any person to whom the benefit of this agreement is assigned under this clause 7.1 may not recover any sum under this Contract because that person is an assignee and not a named Party to this Contract.

.5 The Contractor shall not assign or charge the benefit of this Contract or any right arising under it without the Employer's prior consent, which the Employer may withhold at its absolute discretion."

42. Clause 7.2

In the penultimate line after "unless otherwise agreed by the Employer" insert "in his absolute discretion" add the following to the end of the clause:

"Notwithstanding any other terms of this Contract the Contractor shall not be entitled to payment of any sum (or as the case may be any further sum) whilst he is in breach of any of his obligations under this clause 7.2"

43. Section 8 Termination

44. Clause 8.1

- 44.1 In sub-clause 8.1.4.1 delete "he enters into an arrangement, compromise or composition in satisfaction of its debts" and replace with:

"it commences negotiations with all or any class of its creditors with a view to rescheduling any of its debts, or makes a proposal for or enters into any compromise or arrangement with any of its creditors".

- 44.2 At the end of sub-clause 8.1.4.2, delete the full stop and replace with ";or".

- 44.3 Insert a new sub-clause 8.1.4.3:

"it applies to court for, or obtains, a moratorium under Part A1 of the Insolvency Act 1986."

45. Clause 8.4

- 45.1 In clause 8.4.1.3 after "requiring him to remove" add:

"or rectify"

46. Clause 8.5

- 46.1 In clause 8.5.3.3 at the start of the clause, after "the Employer may", add:

", at the Contractor's expense,"

47. Clause 8.6

- 47.1 In clause 8.6, after "acting or his behalf", add:

"or associated with him",

and, at the end of the clause, after the full stop, add:

"For the purpose of this clause 8.6, whether a person is associated with another person shall be determined in accordance with section 8 of the Bribery Act 2010 and a person associated with the Contractor includes, but is not limited to, any of the Contractor's Persons."

48. Clause 8.7

- 48.1 In clause 8.7.2 after "the Contractor shall" and before the colon, add:

", at the Contractor's expense"

48.2 In clause 8.7.4, after "as referred to in clause 2.30)", add:

"and at the Contractor's expense"

49. Clause 8.12

49.1 Delete clause 8.12.3.5.

49.2 Delete clause 8.12.4 and replace with:

"Number not used."

Schedule 5 Supplemental Provisions

3.4 In the Second line after "with it" insert:

"unless the Employer can produce reasonable evidence that the proposal in question was already under discussion or being developed by the Employer or the Employer's other consultants, contractors or advisers at the time the Contractor made it".

Annex A

Additional Clauses

ADDITIONAL CLAUSES TO STANDARD FORM CONTRACTS

DEFINITIONS

In these Additional clauses, the following words shall have the following meanings:

"Council"	means Shropshire Council
"Commercially Sensitive Information"	comprises the information of a commercially sensitive nature relating to the Contractor, its Intellectual Property Rights or its business which the Contractor has indicated to the Council in writing that, if disclosed by the Council, would cause the Contractor significant commercial disadvantage or material financial loss;
"Confidential Information"	any information, which has been designated as confidential by either Party in writing or that ought reasonably to be considered as confidential however it is conveyed, including information that relates

	to the business, affairs, developments, trade secrets, know-how, personnel and suppliers of the Council or the Contractor, including Intellectual Property Rights, together with all information derived from the above, and any other information clearly designated as being confidential (whether or not it is marked as "confidential") ;
"Contractor"	means the person, firm or company or any other organisation specified in the Contract as contracting with the Council.
"Contractor Personnel"	all employees, agents, consultants and contractors of the Contractor and/or of any Sub-contractor;
"Data Protection Legislation"	The Data Protection Act 1998, the EU Data Protection Directive 95/46/EC, the Regulation of Investigatory Powers Act 2000, the Telecommunications (Lawful Business Practice) (Interception of Communications) Regulations 2000 (SI 2000/2699), the Electronic Communications Data Protection Directive 2002/58/EC, the Privacy and Electronic Communications (EC Directive) Regulations 2003 including if applicable legally binding guidance and codes of practice issued by the Information Commissioner; and iii) to the extent that it relates to processing of personal data and privacy, any Laws that come into force which amend, supersede or replace existing Laws including the General Data Protection Regulation 2016/679, the (LED Law Enforcement Directive (Directive (EU) 2016/680) and any applicable national implementing Laws as amended from time to time including the Data Protection Act 2018
"EIR"	means the Environmental Information Regulations 2004 (as may be amended from time to time.)
"Exempt Information"	means any information or class of information (including but not limited to any document, report, Contract or other material containing information) relating to this Contract or otherwise relating to the parties to this Contract which potentially falls within an exemption to FOIA (as set out therein)
"FOIA"	means the Freedom of Information Act 2000 and all subsequent regulations made under this or any superseding or amending enactment and regulations; any words and expressions defined in the FOIA shall have the same meaning in this clause
"FOIA notice"	means a decision notice, enforcement notice and/or an information notice issued by the Information Commissioner
"Information"	has the meaning given under section 84 of the Freedom of Information Act 2000;
"Law"	any applicable law, statute, bye-law, regulation, order, regulatory policy, guidance or industry code, rule of court or directives or requirements of any Regulatory Body, delegated or subordinate legislation or notice of any Regulatory Body;
"Personal Data"	shall have the same meaning as set out in the Data Protection Act 1998;
"Public body"	as defined in the FOIA 2000
"Receiving Party"	means a party to this Contract to whom a Request for Information is made under FOIA, and who thereafter has overall conduct of the

	request and any response
“Request for Information”	means a written request for information pursuant to the FOIA as defined by Section 8 of the FOIA
“Works”	means all civil engineering and building works of whatever nature to be provided by the Contractor to the Council

(1) CONFIDENTIALITY AND DATA PROTECTION

- 1.1 All plans, drawings, designs or specifications supplied by the Council to the Contractor shall remain the exclusive property of the Council and no information relating to the Works or the Services shall be disclosed to any third party, except as required for this Contract.
- 1.2 No photographs of any of the Council's equipment, installations or property shall be taken without the Council's prior consent in writing. The Contractor shall keep secret and shall not divulge to any third party (except sub-contractors accepting a like obligation of secrecy, and then only to the extent necessary for the performance of the sub-agreement) all information given by the Council in connection with the Contract or which becomes known to the Contractor through his performance of the Contract or use the same other than for the purpose of executing the Contract.
- 1.3 The Contractor will keep confidential any information it becomes aware of by reason of the operation of this Contract.
- 1.4 Except to the extent set out in this clause or where disclosure is expressly permitted elsewhere in this Contract, each party shall:
 - 1.4.1 treat the other party's Confidential Information as confidential; and
 - 1.4.2 not disclose the other party's Confidential Information to any other person without the owner's prior written consent
- 1.5 Clause 1.4 shall not apply to the extent that:
 - 1.5.1 such disclosure is a requirement of Law placed upon the party making the disclosure, including any requirements for disclosure under the Audit Commission Act 1998 or under the FOIA or the Environmental Information Regulations pursuant to the above clause regarding Freedom of Information;
 - 1.5.2 such information was in the possession of the party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;
 - 1.5.3 such information was obtained from a third party without obligation of confidentiality;
 - 1.5.4 such information was already in the public domain at the time of disclosure otherwise than by a breach of this Contract; or
 - 1.5.5 it is independently developed without access to the other party's Confidential Information
- 1.6 The Contractor may only disclose the Council's Confidential Information to the Contractor Personnel who are directly involved in the provision of the Works and who need to know the information, and shall ensure that such Contractor Personnel are aware of and shall comply with these obligations as to confidentiality.

- 1.7 The Contractor shall not, and shall procure that the Contractor Personnel do not, use any of the Council's Confidential Information received otherwise than for the purposes of this Contract
- 1.8 Nothing in this Contract shall prevent the Council from disclosing the Contractor's Confidential Information:
- 1.8.1 to any consultant, contractor or other person engaged by the Council;
 - 1.8.2 for the purpose of the examination and certification of the Council's accounts or any other form of audit of the Council;
- 1.9 The Council shall use all reasonable endeavours to ensure that any government department, employee, third party or Sub-contractor to whom the Contractor's Confidential Information is disclosed pursuant to this Contract is made aware of the Council's obligations of confidentiality.
- 1.10 Nothing in this clause shall prevent either party from using any techniques, ideas or know-how gained during the performance of the Contract in the course of its normal business to the extent that this use does not result in a disclosure of the other party's Confidential Information or an infringement of Intellectual Property Rights.
- 1.11 The Contractor shall implement appropriate organisational and technical measures to ensure the integrity and security of Personal Data obtained pursuant to this Contract and shall at all times comply with the provisions of the Data Protection Legislation and shall provide the Council with evidence of such measures upon request. The Contractor shall use its reasonable endeavours to prevent the unauthorised publication or disclosure of any such information or documents. The Contractor shall ensure that its employees and agents are aware of and comply with this clause and shall indemnify the Council against any loss or damage sustained or incurred as a result of any breach of confidence by such persons mentioned above.
- 1.12 The provisions of this Clause shall survive the expiration or termination of this Contract.

(2) PUBLIC INTEREST DISCLOSURE ('WHISTLE BLOWING')

The Contractor will ensure that his employees and agents are made aware of the Council's policy "Speaking Up About Wrongdoing" and that the details of this policy are fully explained to them and shall provide the Council with evidence of doing so upon request.

(3) ANTI-BRIBERY AND CORRUPTION

The Council may cancel the Contract by way of a written notice with immediate effect and recover from the Contractor the amount of any loss resulting from the cancellation if at any time it becomes known to the Council that the Contractor or any person employed by the Contractor or acting on his behalf whether with or without the knowledge of the Contractor has:

- a) offered, paid or given or agreed to give directly or indirectly any gift in money or any other form or any financial or other advantage to any member employee or agent of the Council as an inducement or reward in relation to the obtaining or execution of the Contract or any other Contract with the Council; or
- b) favoured or discriminated against any person in relation to this or any other Contract with the Council; or
- c) committed an offence in relation to any Contract with the Council under the Prevention of Corruption Acts 1906 to 1916 or the Bribery Act 2010 or Section 117(2) Local Government Act 1972 (as amended).

(4) EQUALITIES

- 4.1 The Contractor and any Sub-Contractor employed by the Contractor shall not unlawfully discriminate either directly or indirectly on such grounds as race or ethnic origin, disability, gender, sexual orientation, religion or belief, or age in the supply and provision of Goods, Services or Works under this Contract, or in its employment practices.
- 4.2 Without prejudice to the generality of the foregoing, the Contractor and any Sub-Contractor employed by the Contractor shall not unlawfully discriminate within the meaning and scope of the Equalities Act 2010 or other relevant legislation, or any statutory modification or re-enactment thereof.
- 4.3 In addition, the Contractor and any Sub-Contractor employed by the Contractor in providing services to the Council will comply with the following general duties imposed on local authorities by Section 71 of the Race Relations Act 1976 to eliminate unlawful racial discrimination and promote equality of opportunity and good relations between persons of different racial groups; Section 49A of the Disability Discrimination Act 1995 to eliminate unlawful discrimination and harassment of disabled persons that is related to their disabilities; to promote equality of opportunity between disabled persons and other persons; to take steps to take account of disabled persons' disabilities, to promote positive attitudes towards disabled persons; and by Section 76A of the Sex Discrimination Act 1975 to eliminate unlawful discrimination and harassment and promote equality of opportunity between men and women.
- 4.4 The Contractor and any Sub-Contractor employed by the Contractor will take all reasonable steps to observe as far as possible the Codes of Practice produced by the Commission for Racial Equality and the Disability Rights Commission, which give practical guidance to employers on the elimination of discrimination.
- 4.5 In the event of any finding of unlawful discrimination being made against the Contractor or any Sub-Contractor employed by the Contractor during the contract period, by any court or employment tribunal, or any adverse finding or formal investigation by the Commission for Racial Equality, Equal Opportunities Commission or Disability Rights Commission over the same period, the Contractor shall inform the Council of this finding and shall take appropriate steps to prevent repetition of the unlawful discrimination.

- 4.6 The Contractor and any Sub-Contractor employed by the Contractor will provide a copy of its policies to the Council at any time upon request. In addition, the Council may reasonably request other information from time to time for the purpose of assessing the Contractor's compliance with the above conditions.

(5) SAFEGUARDING

- 5.1 Where the work being undertaken in this Contract allows access to premises locations or activities where there is a likelihood of coming into contact with children or vulnerable adults the Contractor must ensure that it follows the guidance of the Independent Safeguarding Council and the regulations relating to the Vetting and Barring Scheme to determine whether a Criminal Record Bureau check is required for employees or any person sub-contracted to carry out the work on behalf of the Contractor. If in any doubt the Contractor should discuss the matter further with the officer of the Council awarding the Contract and raise any concerns arising from disclosures.
- 5.2 Where the service requirement, specification or Preliminaries determines that a CRB check should be carried out the Contractor shall undertake CRB checks prior to the relevant employees or persons commencing work on the Works under the Contract.

(6) HUMAN RIGHTS

The Contractor where appropriate take account of the Human Rights Act 1998 and shall not do anything in breach of it.

(7) FREEDOM OF INFORMATION

- 7.1 The Contractor acknowledges that the Council is subject to the requirements of the FOIA and the Environmental Information Regulations and shall assist and cooperate with the Council to enable the Council to comply with its Information disclosure obligations.
- 7.2 The Contractor shall notify the Council of any Commercially Sensitive Information provided to the Council together with details of the reasons for its sensitivity and the Contractor acknowledges that any lists or schedules of Commercially Sensitive Information so provided are of indicative value only and that the Council may be obliged to disclose such information.
- 7.2.1 The Contractor shall and shall procure that its Sub-contractors shall:
- 7.2.2 transfer to the Council all Requests for Information that it receives as soon as practicable and in any event within two Working Days of receiving a Request for Information;
- 7.2.3 provide the Council, at the Contractor's expense, with a copy of all Information in its possession, or power in the form that the Council requires within five Working Days (or such other period as the Council may specify) of the Council's request; and
- 7.2.4 provide, at the Contractor's expense, all necessary assistance as reasonably requested by the Council to enable the Council to respond to the Request for Information within the time for compliance set out in section 10 of the FOIA or regulation 5 of the Environmental Information Regulations.

- 7.3 The Council shall be responsible for determining in its absolute discretion and notwithstanding any other provision in this Contract or any other agreement whether the Commercially Sensitive Information and/or any other Information is exempt from disclosure in accordance with the provisions of the FOIA or the Environmental Information Regulations and in considering any response to a Request for Information the Council may consult with the Contractor prior to making any decision or considering any exemption.
- 7.4 In no event shall the Contractor respond directly to a Request for Information unless expressly authorised to do so by the Council.
- 7.5 The Contractor acknowledges that (notwithstanding the provisions of this Freedom of Information clause) the Council may, acting in accordance with the Department of Constitutional Affairs' Code of Practice on the Discharge of the Functions of Public Authorities under Part 1 of the Freedom of Information Act 2000 ("the Code"), be obliged under the FOIA, or the Environmental Information Regulations to disclose information concerning the Contractor or the Services:
- 7.5.1 in certain circumstances without consulting the Contractor; or
- 7.5.2 following consultation with the Contractor and having taken their views into account; provided always that where sub-clause 7.6.1 above applies the Council shall, in accordance with any recommendations of the Code, take reasonable steps, where appropriate, to give the Contractor advanced notice, or failing that, to draw the disclosure to the Contractor's attention after any such disclosure.
- 7.5.3 The Contractor shall ensure that all Information required to be produced or maintained under the terms of this Contract, or by Law or professional practice or in relation to the Contract is retained for disclosure for at least the duration of the Contract plus one year together with such other time period as required by the Contract, law or practice and shall permit the Council to inspect such records as requested from time to time.
- 7.6 The Council shall in no event be liable for any loss, damage, harm, or detriment, howsoever caused, arising from or in connection with the reasonable disclosure under FOIA, or any other Law, of any information (including Exempt Information) whether relating to this Contract or otherwise relating to any other party.

(8) AUDIT AND MONITORING

The Contractor will allow access for the Council's officers to all relevant information for the purposes of audit and the monitoring of the Contract.

(9) GOVERNING LAW AND JURISDICTION

- 9.1 It is the responsibility of the Contractor to comply with all relevant European and English legislation. This Contract shall be governed by and construed in accordance with English Law and the parties agree to submit to the exclusive jurisdiction of the English and Welsh Courts

(10) COMPLAINTS PROCEDURE

- 10.1 The Contactor shall operate a complaints procedure in respect of any goods, services or works provided under these terms & conditions, to the entire satisfaction of the Council, and comply with the requirements of any regulatory body to which the Contractor is subject (including any change in such requirements) and ensure that its complaints procedure meets the following minimum standards:
- 41.1.1 is easy to access and understand
 - 41.1.2 clearly sets out time limits for responding to complaints and keeping the complainant and the Council informed of progress;
 - 41.1.3 provides confidential record keeping to protect employees under this contract and the complainant
 - 41.1.4 provides information to management so that services can be improved
 - 41.1.5 provides effective and suitable remedies
 - 41.1.6 is regularly monitored and audited and which takes account of complainant and Council feedback
- 10.2 The Contactor shall ensure that:
- 10.2.1 under no circumstances is a complaint investigated by a member of its staff employed under this contract who may be part of the complaint.
 - 10.2.2 someone who is independent of the matter complained of carries out the investigation
 - 10.2.3 the complainant is made aware that they are entitled to have the complaint investigated by the Council if they are not satisfied with either the process of investigation or finding of the Contactor's investigations
 - 10.2.4 the Contactor will ensure that it responds to the complainant within a max of 10 days of receiving the complaint
- 10.3 The Contactor will make its complaints procedure available on request
- 10.4 The Contactor shall ensure that all its employees and persons employed under this contract are made aware of its complaints procedure and shall designate one employee (who shall be identified to the Council) to whom a complaint may be referred should the complainant not be satisfied with the initial response to their complaint.
- 10.5 The Contactor shall keep accurate and complete written records of all complaints received and the responses to them and shall make these records available to the Council on request or at 12 monthly intervals in any event.
- 10.6 Where the Council is investigating a complaint, the Contactor is required to participate fully in all investigations within the timescales requested by the Council
- 10.7 The Contractor should note that if a complaint is made to the Council by a third party relating to the goods, services or works provided, the Local Government Ombudsman has the power to investigate such a complaint and the Council requires the Contractor to fully co-operate in such investigation. If the Council is found guilty of maladministration or injustice by the Local Government Ombudsman because of the act or default of the Contractor, the Contractor shall indemnify the Council in respect of the costs arising from such maladministration or injustice.

11 CONTRACT STATUS AND TRANSPARENCY

- 11.1 The parties acknowledge that, except for any information which is exempt from disclosure in accordance with the provisions of the FOIA, the content of this Contract and any associated tender documentation provided by the Contractor (the Tender Submission) is not Confidential Information. The Council shall be responsible for determining in its absolute discretion whether any of the content of the Contract or the Tender Submission is exempt from disclosure in accordance with the provisions of the FOIA.
- 11.2 Notwithstanding any other term of this Contract, the Contractor hereby gives his consent for the Council to publish this Contract and the Tender Submission in its entirety, including from time to time agreed changes to the Contract, to the general public.
- 11.3 The Council may consult with the Contractor to inform its decision regarding any exemptions, but the Council shall have the final decision in its absolute discretion.
- 11.4 The Contractor shall assist and cooperate with the Council to enable the Council to publish this Contract and the Tender Submission.



Shropshire Council
Shirehall
Abbey Foregate
Shrewsbury
Shropshire SY2 6ND

Date: 7th June 2022
My Ref: RMNB 034
Your Ref: RMNB 034

Dear Bidder

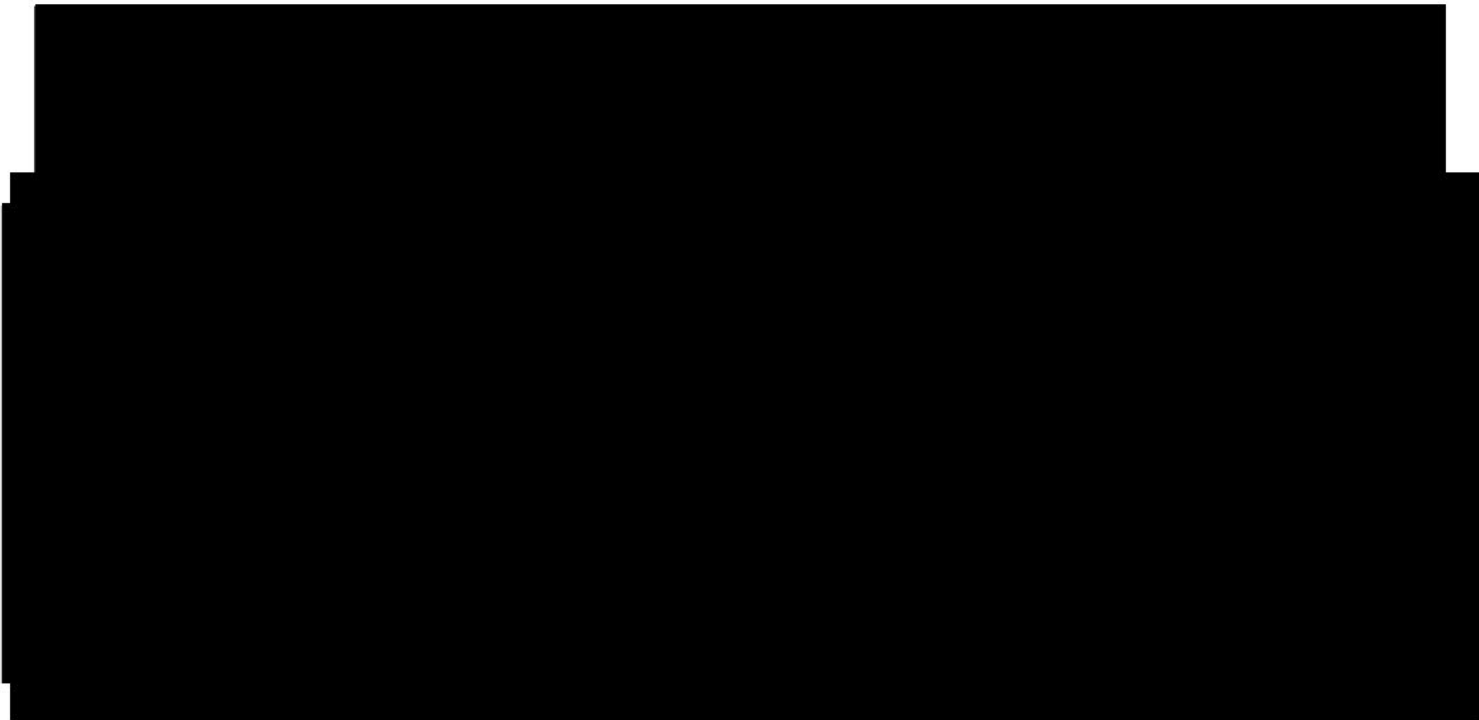
RMNB 034 – THEATRE SEVERN – REPLACEMENT OF CHILLERS

SHROPSHIRE COUNCIL

SUBJECT TO CONTRACT

This is an Award Decision Notice pursuant to The Public Contracts Regulations 2015 (the "Regulations").

We are pleased to inform you that, following the evaluation process, Shropshire Council proposes to accept your offer in relation to the above Contract.



[Redacted content]

Social Value

[Redacted content]

[Redacted content]

[REDACTED]

[REDACTED]

[REDACTED]