

SECTION 1

Contract Preliminaries

31/07/2019

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00-05-10 Project Definition

101 Project description

- **Project reference:** 6406
- **Project title:** Sea Galleries Permanent Gallery
- **Project description:** Fit out of the Sea Galleries Exhibition including new exhibition networks, wall structures and housing for existing cases, new case vitrines, external open display plinths, electrics, light installation and tactile interactives

150 Asbestos survey report

- **Details:** Building Management Plan
- **Format:** Electronic.
- **Provision:** Provided.

Design information

165 Drawings

- **Details:** As detailed in the Invitation to Tender Drawing list
- **Format:** Electronic.
- **Provision:** Provided.
- **Contract drawings:**
 - **Generally:** The same as the tender drawings.

170 Preconstruction information

- **Scope:** Integral with the project specification, including but not restricted to the following:
Description of project.
Client's consideration and management requirements.
Environmental restrictions and on-site risks.
Significant design and construction hazards.
The Health and Safety File.

00-05-15 Works Terminology

110 Terminology

- **Meaning:** Terms, derived terms and synonyms used are as defined in this section or in the appropriate referenced document.

210 Description terminology

- **Attendance:** Includes
The use of the Main Contractor's temporary roads, pavings and paths, standing scaffolding, standing power operated hoisting plant,
The provision of temporary lighting of an equivalent brightness to the finished lighting brightness,
The provision of water,
The clearing away of rubbish and paying all charges in connection with its disposal, the provision of secure hard standing space for the sub-contractor's own offices, plant and material storage,
The use of standing mess rooms, sanitary accommodation and welfare facilities and
The provision of all Health and Safety facilities and all Fire Safety precautions, services, equipment, signage, facilities, Marshalls and the like necessary to comply with the relevant parts of the Joint Fire Code.
Additional requirements should be described as 'Special attendance'.
- **Building Manual:** A document containing information of use to subsequent building owners, occupiers and users about the requirements and procedures for effective operation, maintenance, decommissioning and demolition of the building.
- **Construction Work:** Permanent work together with temporary work.
- **Contractor:** The party who undertakes to perform the services, supply goods or carry out work defined in a contract. Includes Main Contractor, Prime Contractor, Supplier, Service provider, Builder, Subcontractor, etc. as the context dictates, which may be defined terms in certain standard contract forms.
- **Contractor's choice:** Selection delegated to the Contractor, but liability to remain with the specifier.
- **Contractor's design:** Design to be carried out or completed by the Contractor, supported by appropriate contractual arrangements, to correspond with specified requirements.
- **Cost:** The amount paid or given by one party to another in exchange for goods, work or services.
- **Designer:** A person carrying out design on a project.
- **Deviation:** Difference between a specified dimension or position and the actual dimension or position.
- **Employer:** The party to the Contract for whom the goods, work or services are provided. Includes Client (in consultancy contracts and CDM Regulations), the Employer, Building owner or Purchaser (in construction contracts), the Developer (in development agreements and funding agreements), or the 'Main' contractor in contractor/ subcontractor agreements - which may be defined terms in certain standard contract forms
- **Estimate:** An approximate evaluation of either time or cost of part or the whole of a project.
- **Execute:** To complete a task fully and put into effect. To fix, apply, install or lay products securely, accurately, plumb and in alignment.
- **Existing:** Items retained in place to receive new work.
- **Fastener:** Device for mechanically attaching something to something else.
- **Manufacturer and Product reference:** Manufacturer - the body under whose name the particular product, component or system is marketed.
Product reference - the proprietary brand name and/ or reference by which the particular product, component or system is identified.

References are as specified in the manufacturer's technical literature current on the date specified.

- **Manufacturer's standard:** Where used in conjunction with a specified proprietary product, accessories to be those recommended by the product manufacturer.
- **Permanent Work:** Work to be constructed and completed in accordance with the Contract.
- **Price:** An indication of the amount required to be paid by one party to another in exchange for goods, work or services.
- **Product:** Material, both manufactured and naturally occurring, goods and accessories for permanent incorporation into the Works.
- **Requirements:** A description in outline or detailed form of the development, or a part of it, which one party requires another to design and/or build.
- **Schedule of rates:** The subdivision of product and execution prices by a pre-determined unit basis.
- **Schedule of Work:** The subdivision of work items by a pre-determined classification. Can form the basis of a pricing document where Bills of Quantities are not used.
- **Schematic:** A drawing of a system showing components, products, systems and their interconnections.
- **Site equipment:** The Contractor's apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works and the remedying of defects.
Includes Appliances, vehicles, consumables, tools, temporary work, scaffolding, cabins and other site facilities.
Excludes: Temporary work, Employer's products and equipment or anything intended to form or forming part of the permanent Works.
- **Specification:** Written description of requirements.
- **System:** Products, components, equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.
- **Temporary work:** Incidental work to undertaken during construction but not intended to form part of the completed work.

310 Activity terminology

- **Advise:** See 'Communicate'.
- **Agree:** See 'Communicate'.
- **Approve:** Record conformance of work to specified criteria by giving formal or official sanction.
- **Communicate:** Includes advise, inform, agree, confirm, notify, seek or obtain information, consent or instructions, or make arrangements.
- **Confirm:** See 'Communicate'.
- **Ease:** Adjust moving parts of designated products, systems or work to achieve free movement and good fit in open and closed positions.
- **Fix:** Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging; to include labour, materials and site equipment for that purpose.
- **Give notice:** Communicate in writing to the person administering the Contract at the address listed therein.
- **Inform:** See 'Communicate'.
- **Keep for recycling:** As 'keep for use' but relates to a naturally occurring material rather than a manufactured product.
- **Keep for reuse:** Do not damage designated products, systems or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer or Purchaser, or for use in the Works as instructed.

- **Make good:** Execute local remedial work to designated work. Make secure, sound and neat.
- **Match existing:** Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- **Notify:** See 'Communicate'.
- **Quote:** Use 'Estimate'.
- **Recycle:** Collect, sort, process and convert discarded or recovered components into raw materials for use in the creation of new products.
- **Refix:** Fix previously removed products.
- **Remove:** Disconnect, dismantle as necessary and take out the designated products or work, together with associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials.
Removal of a system includes this work.
- **Remediate:** Action or measures taken to lessen, clean-up, remove or mitigate the existence of hazardous materials existing on a property; in accordance with standards, specifications or requirements as may be required by statutes, rules, regulations or specification.
- **Repair:** Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and replacement.
- **Replace:** Supply and fix new products matching those removed. Execute work to match the original new state of that removed.
- **Reuse:** Recover components to be fixed or used in the project or other buildings without the requirement for recycling.
- **Submit:** Deliver an item in a specified format to a specified person within a specified timeframe.
- **Submit proposals:** Submit information in response to specified requirements.
- **Supply and fix:** Supply of products, components or systems to be fixed, together with their fixing.

00-05-20 Project Participants

Management and delivery roles

120 Client

- **Name:** The Board of Trustees of the National Museums and Galleries on Merseyside
- **Address:** 127 Dale Street, Liverpool L2 2JH
- **Contact:** Jenny Green
- **Telephone:** 0151 478 4968

130 Contract Administrator

- **Name:** NML Estates Department
- **Address:** 127 Dale Street, Liverpool, L2 2JH
- **Contact:** Jenny Green
- **Telephone:** 0151 478 4968
- **Email address:** JennyGreen@liverpoolmuseums.org.uk

145 B Services Engineer

- **Name:** KGA.
- **Address:** Trinity Chambers, 10 Ivy Street, Birkenhead, Merseyside, CH41 5EF.
- **Contact:** Mike Davies
- **Telephone:** 0151 647 5021.

Statutory roles

205 Principal Designer

- **Name:** NML Design Team
- **Address:** 127 Dale Street, Liverpool, L2 2JH

210 Principal Contractor

- **Name:** To be confirmed.

Design roles

260 Architect

- **Name:** NML Design Team
- **Address:** 127 Dale Street, Liverpool, L2 2JH

00-05-70 Project Location

110 Project location

- **Details:** Merseyside Maritime Museum
- **Address:**
 - **Number/ Street:** Albert Dock
 - **Town/ City:** Liverpool.
 - **Post code:** L3 4AQ

130 Existing buildings on, or adjacent to the site

- **Details:** Mixture of, two, three and four storey buildings and dockland

150 Surrounding land and building uses

- **Surrounding land uses or activities:** Residential Area and commercial

170 Access

- **Details:** Refer to Site compound/access drawings
- **Limitations:** All roads and access routes are to be left unobstructed at all times.

00-10-70 Works Contract Content

120 The Works

- **Details:** Seall Galleries Permanent Gallery Space

130 Work by others concurrent with the Contract

- **Details:** NML's dedicated contractors will also be carrying out works packages to be overseen and incorporated within the main works package. All as detailed in the schedule of works.
- **Timescale:** TBC

140 Completion work by others

- **Details:** On completion of the setworks NML team will be installing artefacts into the gallery space. On completion of this the contractor will need to return to site to install the glass fronts to the vitrines. All as detailed in the schedule of works
- **Timescale:** TBC

160 Products provided by, or on behalf of employer

- **General:** Details of products to be fixed by the Contractor are given in the work sections. Use for no other purpose than the Works.
- **Handling:** Accept delivery, check against receipts and take into appropriate storage.
- **Surplus products:** Keep safe and obtain instructions.

300 Provisional sum for defined work

- **Details:** Fire Stopping Works
- **Provisional Sum:** £5,000.00 (Five Thousand Pounds)
- **General attendance:** Provide.

300 A Provisional sum for defined work

- **Details:** Interior Case Plinths
- **Provisional Sum:** £10,000.00 (Ten Thousand Pounds)
- **General attendance:** Provide.

300 B Provisional sum for defined work

- **Details:** Light Fittings
- **Provisional Sum:** £20,000.00 (Twenty Thousand Pounds)
- **General attendance:** Provide.

300 C Provisional sum for defined work

- **Details:** Additional Electrical Items (As per the electrical tender summary page item B)
- **Provisional Sum:** £7,000.00 (Seven Thousand Pounds)
- **General attendance:** Provide.

00-20-70 Works contract

JCT Intermediate Building Contract with contractor's design (ICD)

- **The Contract:** JCT Intermediate Building Contract with contractor's design, 2016 Edition.
- **Requirement:** Allow for the obligations, liabilities and services described.

The Recitals

The Works (First Recital)

- **The Works comprise:** Sea Galleries Permanent Gallery Space
- **Location of the works:** Merseyside Maritime Museum, Albert Dock, Liverpool, L3 4AQ

Contractor's designed portion (Second Recital)

- **The Works include the design and construction of:** Fit out of the Sea Galleries Exhibition including new exhibition networks, wall structures and housing for existing cases, new case vitrines, external open display plinths, electrics, light installation and tactile interactives.

Contract drawings (Third Recital)

- **Contract drawings:** See drawing list included in the tender package

Other documents supplied by the Employer (Fourth Recital)

- **Documents:** The Specification and The Work Schedules.
- **Named person:** The whole of the text referring to a named person as a subcontractor will be deleted.

Pricing by the Contractor (Fifth Recital - (A))

- **Pricing by the Contractor:** Option A will apply and option B will be deleted.
- **Priced document:** Specification and Work Schedules.
- **Priced Activity Schedule:** The words 'and has provided the Employer with a priced schedule of activities annexed to this Contract (the Activity Schedule)' will be deleted.

Information release schedule (Ninth Recital)

- **The Ninth Recital:** Will be deleted.

Division of the Works into sections (Eleventh Recital)

- **The Eleventh Recital:** Will be deleted.

Articles

Architect/ Contract Administrator (Article 3)

- **Architect/ Contract Administrator:** NML Estates Department - Refer to 00-05-20.

Principal Designer (Article 5)

- **Principal Designer:** is the Architect / CA.

Principal Contractor (Article 6)

- **Principal Contractor:** is the Contractor.

Legal proceedings (Article 9)

- **Amendments:** None.

Contract particulars**Employer's Requirements (Fourth Recital)**

- **Employer's Requirements:** As per tender documentation, specification and drawings

Contractor's Proposals (Sixth Recital)

- **Contractor's Proposals:** Required.
- **Specific Requirements:** As per the Employer's Requirements.

CDP Analysis (Sixth Recital)

- **CDP Analysis:** Required.
- **Specific Requirements:** The relevant parts of the pricing document

Construction industry scheme (CIS) (Eighth Recital and clause 4.6)

- **Employer at the Base Date:** Is not a 'contractor' for the purposes of the CIS.

CDM Regulations (Tenth Recital)

- **The project:** Is notifiable.

Supplemental provisions (Thirteenth Recital and Schedule 5)

- **Collaborative working:** Supplemental provision 1 applies.
- **Health and safety:** Supplemental provision 2 applies.
- **Cost savings and value improvements:** Supplemental provision 3 applies.
- **Sustainable development and environmental considerations:** Supplemental provision 4 applies.
- **Performance indicators and monitoring:** Supplemental provision 5 does not apply.
- **Notification and negotiation of disputes:** Supplemental provision 6 applies.
- **Where Supplemental Provision 6 applies:**
 - **Employer's nominee:** The Contract Administrator.
 - **Contractor's nominee:** Submit with tender.
 - **Replacement nominees:** As each party may notify to the other from time to time.

Arbitration (Article 8)

- **Article 8 and clauses 9.3 to 9.8:** Do not apply.

Base Date (Clause 1.1)

- **Base date:** 5 days before the date for return of tenders.

Date for completion of the Works (Clause 1.1)

- **Date for completion of the Works:** 18 February 2020

Addresses for service of notices (Clause 1.7)

- **Employer:**
 - **Address:** NML Estates Department, 127 Dale Street, Liverpool
- **Contractor:**
 - **Address:** to be confirmed.

Date of possession of the site (Clause 2.4)

- **Date of Possession of the site:** 23 September 2019

Deferment of possession of sections (Clause 2.5)

- **Clause 2.5:** Applies.
- **Deferment of possession of sections:**
 - **Section:** 6 weeks

Liquidated Damages (Clause 2.23.2)

- **Damages:**
 - **Rate:** £700.00
 - **Period:** per calendar day.

Rectification period (Clause 2.30)

- **Period:** Twelve months from the date of practical completion of the Works.

Contractor's designed portion (Clause 2.34.3)

- **Limit of Contractor's liability for loss of use:** £2,000,000.00.

Fluctuations provision (Clause 4.3 and 4.9)

- **Fluctuations Provision:** No Fluctuations Provision applies.

Advance payment and advance payment bond (Clause 4.7)

- **Advance payment:** does not apply.

Interim payments – Interim valuation dates (Clause 4.8.1)

- **The first Interim Valuation Date:** to be agreed but at the end of the month following the month of possession.
- **Subsequent dates:** The same date in each month or the nearest Business Day in that month.

Interim payments percentages of value (Clause 4.9.1)

- **Where the Works, or those works in a section, have not achieved practical completion, the percentage of total value in respect of the works that have not achieved practical completion is:** 95%.
- **Where the Works, or those works in a section, have achieved practical completion, the percentage in respect of the completed works is:** 97.5%.

Listed items – uniquely identified (Clause 4.10.4)

- **Listed items - uniquely identified:** This entry in the Contract Particulars will be deleted.

Listed items – not uniquely identified (Clause 4.10.5)

- **Listed items - not uniquely identified:** This entry in the Contract Particulars will be deleted.

Contractor's Public Liability insurance – injury to persons or property (Clause 6.4.1)

- **Insurance cover (for any one occurrence or series of occurrences arising out of one event):** Ten Million Pounds.

Insurance - liability of Employer (Clause 6.5.1)

- **Insurance:** Not required.

Works insurance – insurance options (Clause 6.7 and Schedule 1)

- **Schedule 1:** None of the insurance options A, B or C apply. Government policy of non-insurance as it applies to the employer. Any claim will be dealt with on its own merits and on a basis of strict liability
- **Percentage to cover professional fees:** 15%.

Joint Fire Code (Clause 6.15)

- **The Joint Fire Code:** Does not apply.

Contractor's Design Portion – Professional Indemnity Insurance (Clause 6.19)

- **Level of cover:**
 - **Indemnity required:** Relates to claims or series of claims arising out of one event.
 - **Amount:** Five Million Pounds.
- **Cover for pollution and contamination claims:**
- **CDP Professional Indemnity Insurance:**
 - **Expiry of required period:** 12 Years.

Collateral warranties (Clause 7.3)

- **Details:** See special conditions and separate collateral warranty documents appended

Period of suspension (termination by Contractor) (Clause 8.9.2)

- **Period of suspension:** 2 months.

Period of suspension (termination by either Party) (Clauses 8.11.1.1 to 8.11.1.5)

- **Period of suspension:** 2 months.

Adjudication (Clause 9.2.1)

- **The Adjudicator:** To Be Appointed By Nominating Body.
- **Nominating body - where no Adjudicator is named or where the named Adjudicator is unwilling or unable to act (whenever that is established):** The Royal Institution of Chartered Surveyors.

Conditions

Section 1 (Definitions and Interpretation)

Section 2 (Carrying out the Works)

Section 3 (Control of the Works)

Section 4 (Payment)

Contractor's Interim Applications and payment Notices

- **Value 1:** Clause 4.10.1: Amend first line of clause to say: "In relation to any interim payment the Contractor shall not less than"

Interim payments - final date and amount

- **Value 1:** Clause 4.11.1: Amend end of clause to say: ".... shall be 31 days from its due date."

Section 5 (Variations)

Section 6 (Injury, Damage and Insurance)

Section 7 (Assignment and Collateral Warranties)

Section 8 (Termination)

Section 9 (Settlement of Disputes)

Execution

- **The Contract:** Will be executed as a deed.

00-30-70 Works Contract Procurement

110 Compliance with Tender rules

- **Compliance:** Failure to comply may result in Tenders being rejected at the sole discretion of the Employer.
- **Costs:** No liability is accepted for costs incurred in the preparation of a Tender.

160 The Invitation to Tender

- **Form:** Tender Cover Letter.
- **Location of Tender documents:** Electronic format sent via e-mail OR web transfer download link.

165 Tender acceptance

- **Tender acceptance period:** Tenders must remain open for acceptance, unless previously withdrawn, for a minimum of 12 weeks from the date for return of Tender.
- **Assurance:** Nothing contained in this Document or its application should be inferred to guarantee that a Tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.

170 The Tender documents

- **The Tender documents:** As described in the Project Definition section.
- **Number of hardcopy documents provided:** Tender documents issued electronically.

180 Tender queries

- **Notification requirements:** Give notice in writing to the Issuing Authority as soon as possible and not less than ten working days before the date for return of Tenders.

190 Tender instructions

- **Qualifications:** Do not amend or alter documents without written instruction.
- **Confidentiality:** Do not reveal details of parts of the Tender or supporting documents (except for the necessary purposes of preparing that Tender) without the Employer's express written permission.

210 Pricing

- **Pricing:** Price and extend each item individually as instructed. Do not group items together.
- **Currency:** Pounds sterling.

220 Site visit

- **Nature of the site:** Ascertain before Tendering, including access thereto and local conditions and restrictions likely to affect the execution of the Work.
- **Arrangements for visit:** Contact the person named in the ITT documentation.

230 Return of Tender

- **Return of Tender:**
 - **Destination:** refer to details in the ITT documentation
- **Inability to tender:** Advise immediately if the work as defined in the Tender documents cannot

be tendered.

Define those parts, stating reasons for the inability to tender.

310 Assessment

- **Assessment of Tenders:**
 - **Number to be assessed in detail:** A full assessment criteria is explained in the ITT documentation
- **Alternative Tenders:**

320 Error resolution

- **Arithmetic and technical errors:** The Tenderer will be given an opportunity to confirm an offer or amend it to correct genuine errors. If correction means that the Tender is no longer eligible for acceptance under the selected assessment criteria, then it will be disqualified from that process.

340 Post-Tender negotiations

- **Negotiations:** May be required.
- **Details:** in the event that all tenders received are in excess of the available budget for the Works.

410 Notification to Tenderers

- **Notification method:** Contractors will be notified in writing following completion of the tender analysis.

00-40-70 Works Contract Establishment

ACCESS

110 Access to the site

- **Details:** The Contractor shall maintain access through the site at all times from all access points to the highway. Vehicular access for Deliveries, Skip Access/ Egress Route must be direct to the site compound/designated areas, which is to be agreed with the successful contractor prior to works commencing on site.
- **Limitations:** Avoid Peak times. Times to be confirmed at the pre-contract meeting.

120 Use of the site

- **General:** Do not use the site for any purpose other than carrying out the contract work.
- **Limitations:** Times for deliveries to be agreed with the school.

130 Working Hours

- **General:** Monday to Friday 8am - 6pm. Weekend working to be discussed and confirmed if deemed required
- **Limitations:** Normal working hours unless otherwise agreed with the CA and the Employer.

145 Traffic and vehicles

- **Limitations:** All roads and access routes are to be left unobstructed at all times.

150 Storage, accommodation, mechanical plant, temporary works and services

- **Position:** As per the site compund plan and detailed in the schedule of works
- **Maintenance:** Alter, adapt and move as necessary. Remove when no longer required and make good.

GENERAL INFORMATION

160 Cash flow forecast

- **Submission:** Before starting work on site, submit a forecast showing the gross valuation of the Works at the date of each Interim Certificate throughout the Contract period and based on the programme for the Works.

225 Freight Vehicle safety requirements

- **Vehicle equipment (minimum):** Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation. Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside. Properly adjusted class VI mirror/s or Fresnel lens to eliminate the near side blind spot. Side under run guards.
- **Drivers:** Trained on vulnerable road user safety through an approved course. Hold a current valid Certificate of Competence. Have a valid driving licence and be legally able to drive the vehicle.
- **Registration Scheme membership:** Submit evidence of registration with and accreditation to the Fleet Operator Recognition Scheme (FORS).

PROGRAMME

250 Programme

- **Master programme:** When requested and before starting work on site, submit in an approved form a master programme for the Works.
- **Include:**
 - **Information:** Design, production information and proposals provided by the Contractor, subcontractors or suppliers, including inspection and checking.
- **Planning:** Planning and mobilization by the Contractor.
- **Dates:** Earliest start and finish dates for each activity and identification of critical activities.
- **Engineering services:** Running in, adjustment, commissioning and testing of engineering services and installations.
 - **Instructions:** Work resulting from instructions issued in regard to the expenditure of provisional sums.
- **Concurrent work:** Work by or on behalf of the Employer and concurrent with the contract. The nature and scope of which, the relationship with preceding and following work and relevant limitations are suitably defined in the Contract Documents.
- **Exclusions:** Work that is not well defined: where and to the extent that the programme implications for this are impossible to assess, the Contractor should exclude it and confirm this when submitting the programme.
- **Number of copies:** Two copies.
- **Submittal date:** No later than 7 days after requested

280 Commencement of work

- **Notice:** Before the proposed date for commencement of work on site give minimum notice of two weeks.

HEALTH AND SAFETY INFORMATION

300 Health and Safety information

- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- **Include:** Construction Phase Health & Safety Plan.
- **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
 - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
 - **Training:** Records of training and training policy.
 - **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- **Submittal date:** Within one week of request.

320 Outline Construction Phase Health and Safety Plan

- **Content:**
 - **Risk assessment:** Method statements on how risk from hazards identified in the pre-

construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.

- **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
 - **Selection:** Proposed procedure for ensuring competency of other contractors, the self employed and designers.
 - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
 - **Emergency:** Procedures including those for fire prevention and escape.
 - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
 - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
 - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** Within one week of request.

330 Health and safety hazards

- **Hazards:** Refer to the Pre-Construction Information Pack included with the Tender Documents.
- **Limitations:** The nature and condition of the site and/ or buildings cannot be fully ascertained before they are opened up.
- **Information:** The accuracy and sufficiency of this information provided about existing hazards is not guaranteed by the Employer/Purchaser or their representative. Ascertain if additional information is required to ensure the safety of persons and the Works.
- **Training:** Ensure that all relevant personnel are aware of the hazards listed and have received appropriate training to deal with them.

340 Preconstruction information

- **Availability:** Integral with the project specification, including but not restricted to the following:
Description of project.
Client's consideration and management requirements.
Environmental restrictions and on-site risks.
Significant design and construction hazards.
The Health and Safety File.

360 Product hazards

- **Hazardous substances:** Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Guidance Notes: Environmental Hygiene (EH): Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended).
- **Common hazards:** Not listed. Control by good management and site practice.
- **Hazard:**

370 Construction phase health and safety plan

- **Delivery to the Client:** No later than one week before commencement on site.

- **Confirmation:** Do not start construction work until written confirmation is received that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by the CDM Regulations.
- **Content:** Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan and the Preconstruction information.

MANAGEMENT AND STAFF

400 Management and staff – Contract minimum requirement

- **Details:** Allow for compliance with contract obligations.

410 Management and Staff – Additional requirement

- **Dedicated staff role:** Site Foreman.

TEMPORARY ACCOMMODATION

430 Temporary accommodation – Contract minimum requirement

- **Details:** Allow for compliance with the Contract obligations.

480 Parking

- **Requirement:** Provide and maintain exclusively for use by Employer/ Purchaser and their representatives and consultants.
- **Details:** Restrictions on parking of the Contractor's and employees' vehicles: Parking for all operatives and contractors staff and visitors is restricted to any space afforded within the contractors site compound.
- **Details 2:** Any shortfall in vehicle parking that cannot be accommodated by the aforementioned must be parked off-site and suitable transport arrangements made by the contractor direct.
- **Details 3:** The site is currently operated by a Parking Eye automated parking management system, which uses camera equipment to record vehicles entering and leaving the hospital grounds.
- **Details 4:** The contractor is reminded that he must provide details of all vehicles visiting site in advance, with these vehicles registration numbers being logged on to the system. This applies to delivery vehicles and short term visitors to the site.
- **Details 5:** Full details will be discussed and agreed with the successful contractor. Any breach of the parking eye rules / system will result in a none refundable fine being levied against the vehicle in question, the cost of which will be borne by the contractor.

TEMPORARY SERVICES

500 Temporary Services – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

510 Water

- **Supply:** The contractor must provide their own source of water that is sufficient for the contract obligations. Temporary water bowser or similar to be located within the site compound.

540 Lighting and power

- **Supply:** The contractor must provide their own source of power that is sufficient for the contract obligations. Temporary generator or similar to be located within the site compound.
- **Frequency:** 50 Hz, Alternating.
- **Continuity:** No liability will be accepted for the consequences of failure or restriction in supply.

560 Employer's site telephones

- **Temporary on site telephone:** Provide as soon as practicable after the start on site for the sole use of those acting on behalf of the Employer.

570 Fax installation

- **General:** As soon as practicable after the start on site provide a suitable on site fax installation, with a separate dedicated telephone line, for use by the Contractor, Subcontractors and those acting on behalf of the Employer.
- **Employer's call charges:** Allow for the cost of a reasonable number of transmissions made by those acting on behalf of the Employer.

580 E-mail and internet facility

- **General:** As soon as practicable after the start on site provide a suitable e-mail facility on site, with a separate dedicated connection, for the use of the Contractor, Subcontractors and those acting on behalf of the Employer.
- **Use on behalf of Employer:** Allow for the cost of a reasonable number of transmissions made by those acting on behalf of the Employer.

590 Meter readings

- **Charges for service supplies:** Where to be apportioned ensure that:
Meter readings are taken by relevant authority at possession and/ or completion as appropriate.
Copies of readings are supplied to interested parties.

TEMPORARY SECURITY**600 Security – contract minimum requirement**

- **Details:** Allow for compliance with Contract obligations.

TEMPORARY SAFETY AND CONTROL**630 Safety and environmental protection – contract minimum requirement**

- **Details:** Allow for compliance with Contract obligations.

670 Control and protection – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

700 Use of permanent heating system

- **Permanent heating system:** May be used for drying out the Works and/ or services, and for controlling temperature and humidity levels.

- **Requirements:** Take responsibility for operation, maintenance and remedial work. Arrange supervision by and indemnification of the appropriate Subcontractors. Pay fuel and associated costs.

710 Beneficial use of installed systems

- **Permanent systems:** Do not use for any purpose other than running in, testing and commissioning.
- **Other uses:** If permission is given for any other use of a system before the Works are accepted as complete, enter into a separate written agreement recording details of the terms and conditions of use.

730 Mechanical plant – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

TEMPORARY WORKS

760 Temporary works – contract minimum requirement

- **Details:** Allow for compliance with Contract obligations.

790 Name boards and advertisements

820 Thermometers

- **General:** Provide on site and maintain in accurate condition a maximum and minimum thermometer. Measure atmospheric shade temperature in an approved location.

840 Personal protective equipment

- **General:** Provide for the sole use of those acting on behalf of the Employer, in sizes to be specified, the following:
- **Safety helmets:** Provide.
 - **Standard:** To BS EN 397, neither damaged nor time expired.
 - **Number required:** 3.
- **High visibility waistcoats:** Provide.
 - **Standard:** To BS EN ISO 20471, Class 2.
 - **Number required:** 3.
- **Safety boots:** Provide.
 - **Standard:** To BS EN ISO 20345, with steel insole and toecap.
 - **Number of pairs required:** 5 pairs various sizes.
- **Disposable respirators:** Provide.
 - **Standard:** To BS EN 149.FFP1S.
- **Eye protection:** Provide.
 - **Standard:** To BS EN 166.
- **Ear protection:** Provide.
 - **Standard:** Muffs to BS EN 352-1, plugs to BS EN 352-2.
- **Hand protection:** Provide.
 - **Standard:** To BS EN 388, 407, 420 or 511 as appropriate.

00-50-70 Works Contract Management

GENERALLY

SUPERVISION, COOPERATION AND COORDINATION

130 Supervision

- **Requirement:** The whole of the contract work and any significant parts must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality, progress and coordination.
- **Evidence:** Provide names, CV's, qualifications and any other documentary evidence.
- **Submittal date:** Within one week of request.
- **Replacement of supervisory personnel:** Give maximum possible notice before changing supervisory personnel.

140 Coordination of engineering services

- **Suitability:** Site organization staff must include one or more persons with appropriate knowledge and experience of mechanical and electrical engineering services to ensure compatibility between engineering and the Works generally.
- **Evidence:** Submit when requested CVs or other documentary evidence relating to the staff concerned.

PROGRESS

150 Monitoring

- **Progress:**
 - **Records:** Record on a copy of the programme kept on site.
 - **Delays:** Minimize. Take appropriate action to recover lost time.
 - **Corrective action:** Submit proposals.
 - **Submittal date:** As soon as possible.
 - **Completion forecast:** Submit on the last working day of each week.

160 Progress meetings

- **General:** Meetings will be held to review progress and other matters arising from administration of the Contract.
- **Frequency:** TBC at pre start meeting
- **Venue:** TBC
- **Accommodation:** Ensure availability at the time of such meetings.
- **Attendees:** Project Manager / Architect / Client / Contractor.
- **Chairperson:** Contract Administrator.

170 Progress report

- **Submittal date:** At least one business day before the site meeting.

- **Requirement:** Notwithstanding the Contractor's obligations under the Contract the report must include the following.
- **Content:** as below:.
- **Progress statement:** Detailing matters materially affecting the regular progress of the Works with reference to the master programme.
- **Progress reports:** Subcontractors and suppliers.
 - **Information:** Requirements for further drawings or details or instructions to fulfil obligations under the Conditions of Contract.

180 Contractor's progress meetings

- **General:** Hold meetings with appropriate subcontractors and suppliers shortly before main site meetings to facilitate accurate reporting of progress.

OPERATION

200 Employer's representatives inspections

- **Access:** Provide at reasonable times.
- **Inspections:** Agree dates and times several days in advance, to enable affected parties to be present.
- **Safety:** Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require compliance of the Employer and Employer's representatives when visiting the site.
- **Provide:** Protective clothing and/ or equipment site for the Employer, the Employer's representatives and other visitors to the site.

210 Removal or replacement of existing work

- **Extent and location:** Agree before commencement.
- **Execution:** Carry out in ways that minimize the extent of work.

220 Ownership of materials

- **Alteration or clearance work:** Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

230 Measurement

- **Covered work:** Give notice before covering work required to be measured.

240 Service runs

- **General:** Provide adequate space and support for services, including unobstructed routes and fixings.
- **Ducts, chases and holes:** Form during construction rather than cut in situ.
- **Coordination with other works:** Submit details of locations, types and methods of fixing of services to fabric and identification of runs and fittings.

260 Security

- **Protection:** Safeguard the site, the Works, products, materials, and existing buildings affected by the Works from damage and theft.
- **Access:** Take reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

- **Special requirements:** Ensure that all employees and subcontractors stay within the appropriate work areas and access routes

270 A Passes

- **Special requirements:** The Contractor must operate a name badge system. All Contractor's staff and his Sub-contractor's staff must wear name badges at all times whilst on or adjacent to the Site. Badges should indicate the name of the person, and the name of the company he works for. The Contractor shall also issue badges to all Employer's Representatives and those visiting the site.

In addition to name badges, contractors staff must wear numbered vests. The vest number should be assigned to operatives for the entire duration of their time working on site.

The main contractor is to ensure that the operative in charge of the site can be distinguished from the other operatives by way of wearing an alternative coloured hard hat.

280 Stability

- **Responsibility:** Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- **Design loads:** Obtain details, support as necessary and prevent overloading.

290 Occupied premises

- **Extent:** Existing buildings will be occupied and/ or used during the Contract.
- **Works:** Carry out without undue inconvenience and nuisance and without danger to occupants and users.
- **Overtime:** If compliance with this clause requires certain operations to be carried out during overtime, and such overtime is not required for any other reason, the extra cost will be paid to the Contractor, provided that such overtime is authorized in advance.

310 Occupier's rules and regulations

- **Occupier's rules and regulations:** The Contractor must comply with NML's rules for contractors which are available upon request.

370 Explosives

- **Use:** Not permitted.

380 Noise - consent by Local Authority

- **Consent:** Granted by the Local Authority under Part III of the Control of Pollution Act relating to the Works providing the following are met.

390 Noise and vibration

- **Noise control:** In accordance with BS: Code of practice for noise and vibration control on construction and open sites. Noise,
- **Equipment:** Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
- **Restrictions:** Obtain consent before using percussion tools and other noisy appliances. Do not use radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.

400 Pollution

- **Prevention:** Protect the site, the Works and the general environment including the atmosphere, land, and water courses against pollution.
- **Contamination:** If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

420 Pesticides

- **Use:** Not permitted.

430 Nuisance

- **Duty:** Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- **Surface water:** Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

440 Asbestos containing materials

- **Requirement:** Report immediately suspected materials discovered during execution of the Works. Do not disturb and agree methods for safe removal or encapsulation.

445 Antiquities

- **Requirement:** Report immediately fossils, antiquities and other objects of interest or value discovered during execution of the Works.
- **Preservation:** Keep objects in the exact position and condition in which they were found.

450 Fire prevention

- **Requirement:** Prevent personal injury or death, and damage to the Works or other property from fire.
- **Standard:** Comply with 'Fire prevention on construction sites' - the joint code of practice on the protection from fire of construction sites and buildings undergoing renovation.

460 Smoking on site

- **Smoking on site:** Not permitted.

470 Burning on site

- **Burning on site:** Not permitted.

480 Moisture

- **Wetness or dampness:** Prevent, where this may cause damage to the Works.
- **Drying out:** Control humidity and the application of heat to prevent:
Blistering and failure of adhesion.
Damage due to trapped moisture.
Excessive movement.

500 Infected timber and contaminated materials

- **Removal:** Where instructed to remove material affected by fungal and/or insect attack from the building, minimize the risk of infecting other parts of the building.
- **Testing:** Carry out and keep records of appropriate tests to demonstrate that hazards presented by concentrations of airborne particles, toxins and other micro-organisms are within acceptable levels.

510 Waste

- **Includes:** Rubbish, debris, spoil, containers and surplus material.
- **Requirement:** Keep the site and Works clean and tidy. Remove rubbish, dirt and residues before closing voids and cavities in the construction.
- **Waste:** Remove frequently and dispose off site in a safe and competent manner as approved and directed by the Waste Regulation Authority.
- **Recyclable material:** Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- **Documentation:** Retain waste transfer documentation on site.

520 Electromagnetic interference

- **Duty:** Prevent excessive electromagnetic disturbance to apparatus outside the site.

540 Powder actuated fixing systems

- **Use:** Not permitted.

550 Invasive species

- **General:** Prevent the introduction or spread of species (e.g. plants or animals) that may adversely affect the site and the Works economically, environmentally or ecologically.
- **Requirement:** Report immediately suspected invasive species discovered during execution of the Works. Do not disturb and agree methods for safe eradication or encapsulation.

580 Existing services

- **Confirmation:** Notify service authorities, statutory undertakers and/ or adjacent owners of proposed work not less than one week before commencing site operations.
- **Identification:** Before starting work, check and mark positions of mains and services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.
- **Work adjacent to services:** Comply with service authority's or statutory undertaker's recommendations.
Adequately protect, and prevent damage to services.
Do not interfere with their operation without consent of service authorities, statutory undertakers or other owners.
- **Identifying services:**
 - **Below ground:** Use signboards, giving type and depth.
- **Overhead:** Use headroom markers.
- **Damage to services:**
 - **Action:** Immediately give notice and notify appropriate service authority or statutory undertaker.
 - **Repair:** Make arrangements for making good without delay to the satisfaction of service authority, statutory undertaker or other owner as appropriate.
- **Liability:** Measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- **Marker tapes or protective covers:** Replace, if disturbed during site operations, to service authority's or statutory undertakers recommendations.

590 Roads and footpaths

- **Duty:** Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- **Damage:** Make good if caused by site traffic, or otherwise consequent upon the Works, to the satisfaction of the Employer, Local Authority or other owner.

600 Existing topsoil and subsoil

- **Duty:** Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works.
- **Protection:** Submit proposals.
- **Submittal date:** Before starting work.

610 Retained trees, shrubs and grassed areas

- **Protection:** Preserve and prevent damage.
- **Replacement:** Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense.

620 Retained trees

- **Protected area:** Unless agreed otherwise, do not dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk.
- **Roots:** Do not sever if exceeding 25mm in diameter. If unintentionally severed give notice and seek advice.
- **Ground levels:** Do not change within an area 3m beyond branch spread.

630 Existing features

- **Protection:** Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

640 Existing work

- **Protection:** Prevent damage to existing work, structures or other property during the execution of the Works.
- **Removal:** Minimum amount necessary.
- **Replacement work:** To match existing.

650 Building interiors

- **Protection:** Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the execution of the Works.

660 Existing furniture, fittings and equipment

- **Protection:** Prevent damage or move as necessary to enable the Works to be executed. Reinstall in original positions.
- **Removal by Employer:**
 - **Timing:** Before work starts in relevant areas.

680 Especially valuable or vulnerable items

- **Protection:** Ensure provision and maintenance of special protective measures to prevent damage.
- **Method statement:** Submit within one week of request describing special protection to be provided.

METHOD AND SEQUENCE

720 Method and sequence of work Restrictions

- **Specific limitations:** Works to be in accordance with the schedule of works and drawings

740 Adjoining property restrictions

- **Precautions:** Prevent trespass of workpeople and take precautions to prevent damage to adjoining property. Pay charges. Remove temporary protection and make good on completion or when directed.
- **Damage:** Bear cost of repairing damage arising from execution of the Works.

750 Existing structures

- **Duty:** Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
- **Supports:**
 - **Standards:** In accordance with BS 5975 and BS EN 12812.
 - **Requirements:** Provide and maintain incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, which may be endangered or affected by the Works.
Do not remove until new work is strong enough to support existing structure.
Prevent overstressing of completed work when removing supports.
- **Adjacent structures:** Monitor and immediately report excessive movement.

760 Materials for recycling or reuse

- **Duty:** Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants.
- **Storage:** Stack neatly and protect until required by the Employer or for use in the Works as instructed.

00-60-70 Works Contract Verification

STANDARDS OF PRODUCTS AND EXECUTIONS

110 Substitute products

- **Details:** If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions which have not been notified at tender stage may not be considered.
- **Compliance:** Substitutions accepted will be subject to verification requirements detailed in the specification.

120 Substitution of products

- **Products:** If an alternative product to that specified is proposed, obtain approval before ordering the product.
- **Reasons:** Submit reasons and relevant information for the proposed substitution.
- **Information to be submitted:** Manufacturer and product reference.
Cost.
Availability.
Relevant standards.
Performance.
Function.
Compatibility of accessories.
Proposed revisions to drawings and specification.
Compatibility with adjacent work.
Appearance.
Copy of warranty or guarantee.
- **Alterations to adjacent work:** If needed, advise scope, nature and cost.
- **Manufacturers' guarantees:** If substitution is accepted, submit before ordering products.

130 Equivalent products

- **Inadvertent omission:** Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

140 Substitution of standards

- **Specification:** To British Standard or European Standard.
- **Substitution:** May be proposed complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognized in the UK.
- **Ordering:** Submit notification of all such substitutions before ordering.
- **Documentary evidence:** Submit for verification when requested. Submitted foreign language documents must be accompanied by certified translations into English.

DOCUMENTS AND INFORMATION

150 Currency of documents

- **Currency:** References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

160 Incomplete documentation

- **Products and executions:** Where and to the extent that products or executions are not fully documented, they are to be as follows.
- **Requirements:**
 - **Standard:** Of a kind and quality appropriate to the nature and character of that part of the Works where they will be used.
 - **Suitability:** Suitable for the purposes stated or reasonably to be inferred from the project documents.
- **Contract documents:** Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from obligations or liabilities under the Contract.

220 Technical information

- **Retain:** Available on site for reference by supervisory personnel.
- **Information:** Manufacturer's current information and relevant British Standards, relating to products to be used in the Works.

230 Compliance

- **Compliance:** Retain on site evidence that the proprietary product specified has been supplied.
- **Submit:** Evidence of compliance with performance specifications, including test reports indicating properties tested, pass or fail criteria, test methods and procedures, test results, identity of testing agency, test dates and times, identities of witnesses and analysis of results.

PRODUCTS AND EXECUTION

240 Workmanship skills

- **Operatives:** Appropriately skilled and experienced for the type and quality of work.
- **Registration:** With Construction Skills Certification Scheme.
- **Evidence:** Operatives must produce evidence of skills and qualifications when requested.

250 Quality of products

- **Generally:** New.
- **Supply:** Each product from the same source or manufacturer.
- **Quantity:** Whole quantity of each product required to complete the Works of a consistent kind, size, quality and overall appearance.
- **Tolerances:** Where critical, measure a sufficient quantity to determine compliance.
- **Deterioration:** Prevent, order in suitable quantities to a programme and use in appropriate sequence.
- **Recycling:** Proposals for recycled products may be considered.

260 Quality of execution

- **Generally:** Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- **Colour batching:** Do not use different colour batches where they can be seen together.
- **Dimensions:** Check on-site.
- **Finished work:** Not defective damaged, disfigured, dirty, faulty, or out of tolerance.
- **Appearance:** Adjust joints open to view so they are even and regular.

270 Inspections

- **Standard:** Inspection, or other action, of products or executions must not be taken as approval unless confirmed in writing including the following:
Date of inspection.
Part of the work inspected.
Respects or characteristics which are approved.
Extent and purpose of the approval.
Associated conditions.

280 Related work

- **Details:** Provide trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is approximately complete, in accordance with the project documents, to a suitable standard and in a suitable condition to receive new work.
- **Preparatory work:** Ensure necessary preparatory work has been carried out.

290 Manufacturer's recommendations and instructions

- **General:** Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to Tender.
- **Submit:** Details of changes to recommendations or instructions.
- **Execution:** Use ancillary products and accessories supplied or recommended by main product manufacturer.
- **Products:** Comply with limitations, recommendations and requirements of relevant valid certificates.

300 Water for the Works

- **Mains supply:** Clean and uncontaminated.
- **Suitability:** Do not use until evidence is provided.

SAMPLES AND APPROVALS

330 Samples

- **Products or executions:** Comply with specification requirements and in respect of the stated or implied characteristics:
To an express approval.
To match a sample expressly approved as a standard for the purpose.

340 Approval of products

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- **Retain:** Complying sample in good, clean condition on site. Remove when no longer required.

350 Approval of execution

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.

- **Approval:** Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- **Retain:** Complying sample in good, clean condition on site. Remove when no longer required.

ACCURACY AND SETTING OUT GENERALLY

370 Accuracy of instruments

- **Measurement:** Use instruments and methods described in BS 5606, Appendix A.
- **Accuracy:** Maintain

380 Setting out

- **General:** Submit details of methods and equipment to be used in setting out the Works.
- **Levels and dimensions:** Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
- **Completion of setting out:** Give notice before commencing construction.

400 Critical dimensions

- **Critical dimensions:** Set out and construct the Works in accordance with the critical dimensions and tolerances stated.

410 Setting out records

- **Record drawings:** Include details of grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the Contract and hand over on completion.

SERVICES GENERALLY

430 Services regulations

- **Services:** New and existing services must comply with the Byelaws or Regulations of the relevant Statutory Authority.

440 Water regulations and byelaws notification

- **Requirements:** Notify Water Undertaker of work carried out to or which affects new or existing services. Submit required plans, diagrams and details.
- **Consent:** Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

450 Water regulations and byelaws Contractor's certificate

- **Content:**
 - **Installation:** Describe the new installation and/ or the work carried out to an existing installation, including the address.
- **Statement:** Confirm that the installation complies with the relevant Water Regulations or Bylaws.
 - **Inspection:** Provide the Contractor's name and address, the name and signature of the individual responsible for checking compliance and the date on which the installation was checked.
- **Submit:** Certificate on completion of the work, include a copy to the Water Undertaker.

460 Electrical installation certificate

- **Certification:** The original certificate is to be lodged in the Building Manual at the completion of relevant electrical work.

470 Gas, oil and solid fuel appliance installation certificate

- **Content:**
 - **Installation:** Describe the new installation and/ or the work carried out to an existing installation including the address.
 - **Safety:** Include special recommendations or instructions for the safe use and operation of appliances and flues.
- **Statement:** Confirm that the installation complies with the appropriate safety, installation and use regulations.
 - **Inspection:** Provide the Contractor's name and address, the date on which the installation was checked and the name, qualifications and signature of the competent person responsible for checking compliance.
- **Submit:** Before the completion date stated in the contract.

480 Mechanical and electrical services

- **Final tests and commissioning:** Carry out so that services are in full working order at completion of the Works.
- **Confirmation:** Provide a Building Regulations notice, signed by a suitably qualified person, to Building Control that systems have been commissioned in accordance with approved procedures.
- **Records:** A copy to be lodged in the Building Manual.

500 Continuity of thermal insulation

- **Record and report:** Confirm that work to new, renovated or upgraded thermal elements has been carried out to conform to the Specification.
 - **Content:** Address of premises, the Contractor's name and address, the name, qualification and signature of a competent person responsible for checking compliance and the date on which the installation was checked.
- **Submit:** Before completion of the Works.
- **Copy:** Include in the Building Manual.

QUALITY CONTROL

540 Proposals for rectification of non-compliant products and executions

- **Non-compliant items:**
 - **Opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution:** Submit proposals
 - **Submittal date:** So soon as possible after discovery of items which are or appear to be non-compliant.
- **Acceptability:** Such proposals may be unacceptable and contrary instructions may be issued.

550 Measures to establish acceptability

- **General:** Wherever inspection or testing shows that the work, materials or goods are not in accordance with the Contract and measures (e.g. testing, opening up, experimental making

good) are taken to help in establishing whether or not the work is acceptable, such measures will be at the expense of the Contractor and will not be considered as grounds for revision of the completion date.

560 Quality control

- **Procedures:** Establish and maintain to ensure that the Works, including the work of subcontractors, comply with specified requirements.
- **Records:** Maintain full records, keep copies on site for inspection, and submit copies on request.
- **Content of records:**
 - **Identification:** Of each element, item, batch or lot including location in the Works.
- **Inspections, tests and approvals:** Purpose and dates.
 - **Description:** Nature and extent of nonconforming work found.
 - **Corrective action:** Details of work carried out.

00-70-70 Works Contract Administration

USE OF DOCUMENTS

100 Freedom of information

- **Records:** Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
- **Received requests:** Obtain instruction before proceeding.
Do not supply information to those who are not project participants without express written permission.
- **Confidentiality:** Maintain at all times.

110 Drawings

- **Definitions:** Building Applications Guide: Design framework for building services. 4th edition A design framework for building services. Design activities and drawing definitions.
- **CAD data:** In accordance with BS 1192.

120 Cross references

- **Accuracy:** Check remainder of the annotation or item description against the terminology used in the cited section or clause.
- **Related terminology:** Where a numerical cross-reference is not given the relevant sections and clauses of the Specification will apply.
- **Relevant clauses:** Clauses in the cited specification section dealing with general matters, ancillary products and execution also apply.
- **Discrepancy or ambiguity:** Before proceeding, obtain clarification or instructions.

130 Referenced documents - conflicts

- **Precedence:** Specification prevails over referenced documents.

140 Dimensions

- **Dimensions:** Do not scale.

160 Measured quantities

- **Measured quantities:** When ordering products and constructing the Works, the accuracy and sufficiency of the measured quantities is not guaranteed.
- **Precedence:** The Specification and drawings shall override the measured quantities.

DOCUMENT AND DATA INTERCHANGE

DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER

230 Additional copies of drawings and documents

- **Additional copies:** Reasonable number of copies issued free of charge.

DOCUMENTS PROVIDED BY CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS

350 Programme

- **Programme of work:** Prepare a summary showing the sequence and timing of the principal parts of the Works and periods for planning and design. Itemize any work which is excluded.
- **Submittal date:** Within one week of request.

380 Method statements

- **Method statements:** Prepare describing how and when the following procedures are to be carried out.
- **Procedures:** Secure hoarding of the site and protection of the public and from the public
- **Procedures.:** Providing the continuous circulation of the main central staircase for the full duration of the works
- **Submittal date:** With the tender.

400 Alternative method proposals

- **General:** In addition to and at the same time as tendering for the Works as defined in the tender documents, alternative methods of construction and installation may be submitted for consideration. Alternatives, which would involve significant changes to other work, may not be considered.
- **Alternative method proposals:** Include a complete and precise statement of the effects on cost and programme.
- **Safety method statement:** Carry out a health and safety risk assessment for each alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan.
- **Full technical data:** Submit for each alternative together with details of any consequential amendments to the design and/ or construction of other parts of the Works.
- **Submittal date:** Within one week of request.

410 Alternative time proposals

- **General:** In addition to and at the same time as undertaking to complete the contract work by the date for completion or period specified in the Contract, an alternative proposal based upon a different date or period may be submitted.
- **Date for Completion:** If any such proposal is accepted, the date for completion or period inserted in the Contract will be the date stated in or determined from the alternative proposal.

420 Design documents

- **Scope:** Include the following in the Contractor's Proposals.
- **Design drawings:** For all Contractor Design elements.
- **Technical information:** Specifications and standards of proposed materials and equipment to be used for the contractor designed portion works.
- **Submittal date:** With the tender.

440 Quality control resource statement

- **Resources:** Describe the proposed organization and resources to control the quality of the Works, including the work of subcontractors.

- **QA staff:** Identify in the statement the number and type of staff responsible for quality control, with details of their qualifications and duties.
- **Submittal date:** Within one week of request.

450 Health and safety information

- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- **Include:**
 - **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
 - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
 - **Training:** Records of training and training policy.
 - **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- **Submittal date:** Within one week of request.

470 Outline construction phase health and safety plan

- **Content:**
 - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.
 - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
 - **Selection:** Proposed procedure for ensuring competency of other contractors, the self employed and designers.
 - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
 - **Emergency:** Procedures including those for fire prevention and escape.
 - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
 - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
 - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** Within one week of request.

SUBLETTING AND SUPPLY

600 Domestic subcontracts - list

- **Content:** Details of proposed subcontractors and the work for which they will be responsible.
- **Submittal date:** Within one week of request.

INFORMATION

740 Proposed instructions

- **Estimates:** If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.
- **Include:**
 - **Cost breakdown:** A detailed breakdown of cost, including allowance for direct loss and expense.
 - **Resources:** Details of additional resources required.
 - **Programme:** Details of adjustments to be made to the programme for the Works.
 - **Other:** Other information as is reasonably necessary to fully assess the implications of issuing such an instruction.
- **Inability to comply:** Inform immediately if it is not possible to comply with any of the above requirements.

750 Design and production information

- **Master programme:** Make reasonable allowance for completing design and production information, submission (including for CDM purposes), comment, inspection, amendment, resubmission and reinspection.
- **Design and production information:** Submit two copies, one could be returned with comments and this will be deemed to be a direction, notice or instruction under the Contract. Ensure that necessary amendments are made without delay and resubmit unless it is confirmed that it is not required.
- **Contractor's changes:** Support request for substitution or variation to the Employer's requirements with relevant information.
- **Final version of design and production information:**
 - **Format:** DWG and PDF.
 - **Submittal date:** Within one week of request.
- **Employer's amendments:** If considered to involve a variation to the Employer's requirements, which has not already been acknowledged as a variation, notify without delay (maximum period 7 days), and do not proceed until instructed. Claims for extra cost, if made after it has been carried out, may not be allowed.

780 Contractor's design information

- **General:** Complete the design and detailing of parts of the Works as specified.
- **Provide:**
 - **Production information:** Based on the drawings, specification and other information.
 - **Liaison:** Ensure coordination of the work with related building elements and services.
- **Master programme:** Make reasonable allowance for completing design and production information, submission (including for CDM purposes), comment, inspection, amendment, resubmission and reinspection.
- **Information required:** Proposals for all Contractor Design elements.
- **Format:** Autocad & PDF.
- **Submittal date:** Within one week of request.

800 Insurance

- **Documentary evidence:** Before starting work on site submit details and/ or policies and receipts for the insurances required by the Conditions of Contract.

820 Insurance claims

- **Notice:** If an event occurs which may give rise to a claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the person administering the contract on behalf of the Employer and the Insurers.
- **Failure to notify:** Indemnify the Employer against loss, which may be caused by failure to give such notice.

830 Climatic conditions - records

- **Climatic conditions:** Record accurately and retain.
- **Information:**
 - **Air temperatures:** Daily maximum and minimum, including overnight.
 - **Delay records:** Due to adverse weather, include description of the weather, types of work affected and number of hours lost.

840 Ownership of products

- **Ownership:** At the time of each valuation, supply details of those products not incorporated into the Works which are subject to reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
- **Evidence:** When requested, provide evidence of freedom of reservation of title.

850 Listed products stored off site

- **Evidence of title:** Submit reasonable proof that the property in 'listed items' is vested in the Contractor
- **Supplier:** For products purchased from a supplier include a copy of the contract of sale and a written statement from the supplier that conditions of the sale relating to the passing of property have been fulfilled and the products are not subject to encumbrance or charge.
- **Subcontractor:** For products purchased from a supplier by a subcontractor or manufactured or assembled by a subcontractor, copies of the subcontract with the Subcontractor and a written statement from the Subcontractor confirming that conditions relating to the passing property have been fulfilled and the products are not subject to encumbrance or charge.

860 Labour and equipment returns

- **Records:** Provide for verification at the beginning of each week in respect of each of the previous seven days.
- **Include:**
 - **Labour:** The number and description of craftsmen, labourers and other persons directly or indirectly employed on or in connection with the Works or services, including those employed by subcontractors.
 - **Equipment:** The number, type and capacity of mechanical, electrical and power operated equipment employed in connection with the Works or service.

880 Defects in existing work report

- **Undocumented defects:** When discovered, immediately give notice. Do not proceed with affected related work until response has been received.

- **Documented remedial work:** Do not execute work which may hinder access to defective products or executions, or be rendered abortive by the remedial work.

890 Tests and inspection schedule

- **Timing:** Agree and record dates and times of tests and inspections to enable affected parties to be represented.
- **Confirmation:** Provide one working day prior to each test or inspection. If sample or test is not ready, agree a new date and time.
- **Records:** Submit a copy of test certificates and retain copies on site.

900 Commissioning programme

- **Submittal date:** Two weeks (minimum) before commissioning commences.
- **Format:** Electronic.
- **Commissioning manager:** Submit proposals.

920 Maintenance instructions and guarantees

- **Components and equipment:** Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.
- **Information location:** In Building Manual.
- **Emergency call out services:**
 - **Telephone numbers:** Provide for use after completion.
 - **Extent of cover:** Office hours only.

00-80-70 Works Contract Completion

NOTIFICATION

100 Notice of completion

- **Requirement:** Give notice of the anticipated dates of completion of the whole or parts of the Works.
- **Associated work:** Ensure necessary access, services and facilities are complete.
- **Period of notice (minimum):** Two weeks.

140 Partial possession by Employer

- **General:** If clauses 2.25 to 2.29 of the Condition of Contract are applied ensure necessary access, services and other associated facilities are also complete.

150 Completion in sections or in parts

- **General:** Where it is proposed to take possession of a Section or part of the Works and such Section or part will, after its practical completion, depend for its adequate functioning on work located elsewhere on the site, complete that other work in time to permit such possession to take place.
- **Remainder of the Works:** During execution, ensure that completed Sections or parts of the Works have continuous and adequate provision of services, fire precautions, means of escape and safe access.

COMPLETION WORK

170 Work before completion

- **General:** Make good damage consequent upon the Works. Remove temporary markings, coverings and protective wrappings unless otherwise instructed.
- **Cleaning:** Clean the Works thoroughly inside and out, including accessible ducts and voids. Remove splashes, deposits, efflorescence, rubbish and surplus materials.
- **Cleaning materials and methods:** As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- **COSHH dated data sheets:** Obtain for materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- **Minor faults:** Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.
- **Moving parts of new work:** Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

180 Security at completion

- **General:** Leave the Works secure with, where appropriate, accesses closed and locked.
- **Keys:** Account for and adequately label keys. Hand over to the duly authorized person with an itemized schedule. Retain a duplicate schedule signed by that person as a receipt.

190 Rectification and defects

- **Notice:** Give reasonable notice for access to the various parts of the Works.

- **Access arrangements:** Arrange with Employer.
- **Completion:** Give notice when remedial works have been completed.

INFORMATION

240 The Building Manual

- **Purpose:** The Building Manual is to be a comprehensive information source and guide for owners and users of the completed Works. It must provide an overview of the main design principles and describe key components and systems within the finished Works to enable proper understanding, efficient and safe operation and maintenance.
- **Scope:**
 - **Part 1:** General.
 - **Part 2:** Fabric.
 - **Part 3:** Services.
 - **Part 4:** The Health and Safety File
 - **Part 5:** Building User Guide.
- **Responsibility for production:** The Contractor.
- **Date required:** Prior to Practical Completion.
- **Compilation:** Prepare all information for Contractor designed or performance specified work including as-built drawings. Obtain or prepare all other information to be included in the Manual.
- **Reviewing the Manual:** Prepare and circulate a complete draft. Amend in the light of any comments and recirculate. Do not proceed with production of the final copies until authorized.
- **Final copies of the Manual:**
 - **Number of copies:** Two.
 - **Format:** Electronic (PDF) and Paper folded to A4.
 - **Latest date for submission:** Two weeks before the date for completion stated in the contract.
- **As-built/ record drawings and schedules:**
 - **Number of copies:** Two.
 - **Format:** Electronic (PDF) and Paper folded to A4.

260 Content of the Building Manual part 1: General

- **Content:** Obtain and provide the following, including all relevant details not included in other parts of the Manual:
- **Index:** List the constituent parts of the Manual, together with their location in the document.
- **The Works:** Description of the buildings and facilities.
Ownership and tenancy, where relevant.
Health and Safety information – other than that specifically required by the Construction (design and management) regulations
- **The Contract:** Names and addresses and contact details of all significant consultants, contractors, subcontractors, suppliers and manufacturers.
Overall design criteria.
Environmental performance requirements.
Relevant authorities, consents and approvals.
Third party certification, such as those made by 'competent' persons in accordance with the Building Regulations.
- **Operational requirements and constraints of a general nature:** Maintenance contracts and contractors.

Fire safety strategy for the buildings and the site. Include drawings showing emergency escape and fire appliance routes, fire resisting doors, location of emergency alarm and fire fighting systems, services, shut off valves switches, etc.
Emergency procedures and contact details in case of emergency.
Other specific requirements.

- **Timescale for completion:** One week before Practical Completion.

270 Content of the Building Manual Part 2: Building fabric

- **Content:** Obtain and Provide the following, including all relevant details not included in other parts of the Manual:
 - **Detailed design criteria:** Including:
 - Floor and roof loadings
 - Durability of individual components and elements
 - Loading restrictions
 - Insulation values
 - Fire ratings
 - Other relevant performance requirements
 - **Construction of the building:** A detailed description of methods and materials used. As-built drawings recording the construction, together with an index. Information and guidance concerning repair, renovation or demolition/ deconstruction.
 - **Periodic building maintenance guide chart:** Provide for all significant items of work
 - **Manufacturer's instructions index,:** Include relevant COSHH data sheets and recommendations for cleaning, repair and maintenance of components.
 - **Guarantees, warranties and maintenance agreements – obtain from manufacturers, suppliers and subcontractors:** Obtain from manufacturers, suppliers and subcontractors.
 - **Test certificates and reports required in the specification:** Obtain, including:
 - Air permeability.
 - Resistance to passage of sound.
 - Continuity of insulation.
 - Electricity and Gas safety.
- **Timescale for completion:** One week before Practical Completion.

280 Content of the Building Manual Part 3: Building services

- **Content:** Obtain and Provide the following, including all relevant details not included in other parts of the Manual:
 - **Detailed design criteria and description of the systems, including:** Including:
 - Services capacity, loadings and restrictions.
 - Services instructions.
 - Services log sheets.
 - Manufacturers' instruction manuals and leaflets index.
 - Fixtures, fittings and component schedule index.
 - **As-built/ record drawings:** For each system recording the construction, together with an index, including:
 - Diagrammatic drawings indicating principal items of plant, equipment and fittings.
 - Record drawings showing overall installation.
 - Schedules of plant, equipment, valves, etc. describing location, design performance and unique identification cross referenced to the record drawings.
 - Identification of services – a legend for colour coded services.
 - **Product details:** Including for each item of plant and equipment:
 - Name, address and contact details of the manufacturer.
 - Catalogue number or reference.
 - Manufacturer's technical literature, including detailed operating and maintenance

- instructions.
- Information and guidance concerning dismantling, repair, renovation or decommissioning.
- **Operation:** A description of the operation of each system, including:
 - Starting up, operation and shutting down.
 - Control sequences.
 - Procedures for seasonal changeover.
 - Procedures for diagnostics, troubleshooting and faultfinding.
- **Guarantees, warranties and maintenance agreements – obtain from manufacturers, suppliers and subcontractors:** Obtain from manufacturers, suppliers and subcontractors.
- **Commissioning records and test certificates list for each item of plant, equipment, valves, etc. used in the installations – including:** List for each item of plant, equipment, valves, etc. used in the installations, including:
 - Electrical circuit tests.
 - Corrosion tests.
 - Type tests.
 - Work tests.
 - Start and commissioning tests.
- **Equipment settings:** Schedules of fixed and variable equipment settings established during commissioning.
- **Preventative maintenance:** Recommendations for frequency and procedures to be adopted to ensure efficient operation of the systems.
- **Lubrication:** Schedules of all lubricated items.
- **Consumables:** A list of all consumable items and their source.
- **Spares:** A list of recommended spares to be kept in stock, being those items subject to wear and tear or deterioration and which may involve an extended delivery time when replacements are required.
- **Emergency procedures:** For all systems, significant items of plant and equipment.
- **Timescale for completion:** One week before Practical Completion.

290 Content of the Building Manual Part 4: the Health and Safety File

- **Content:** Obtain and provide the following, including all relevant details not included in other parts of the Manual, including:
 - Residual hazards and how they have been dealt with.
 - Hazardous materials used.
 - Information regarding the removal or dismantling of installed plant and equipment.
 - Health and safety information about equipment provided for cleaning or maintaining the structure.
 - The nature, location and markings of significant services.
 - Information and as-built drawings of the structure, its plant and equipment.
- **Timescale for completion:** One week before Practical Completion.
- **Submit to:** The Principal Designer.

300 Content of the Building Manual Part 5: the Building User Guide

- **Content:** Obtain and provide the following:
 - Building services information.
 - Emergency information.
 - Energy and environmental strategy.
 - Water use.
 - Transport facilities.
 - Materials and waste policy.
 - Re-fit/ re-arrangement considerations.
 - Reporting provision.
 - Training.
 - Links and references.

- **Timescale for completion:** One week before Practical Completion.

320 Presentation of Building Manual

- **Format:** A4 size, plastics covered, loose leaf, four ring binders with hard covers, each indexed, divided and appropriately cover titled
- **Selected drawings:** Where these are needed to illustrate or locate items mentioned in the Manual: if larger than A4, to be folded and accommodated in the binders so that they may be unfolded without being detached from the rings.
- **As-built/ record drawings:** The main sets may form annexes to the Manual.

340 Information for commissioning of services

- **General:** Submit relevant drawings and preliminary performance data to enable the building user's staff to familiarise themselves with the installation.
- **Submittal date:** At commencement of commissioning.

400 Schedule for spare parts

- **General:** Before Completion, submit a priced schedule of spare parts that the Contractor recommends should be obtained and kept in stock for maintenance of the services installations.
- **Content:** Include in the priced schedule for:
Manufacturers' current prices, including packaging and delivery to site.
Checking receipts, marking and numbering in accordance with the schedule of spare parts.
Referencing to the plant and equipment list in Part 3 of the Building Manual.
Painting, greasing, etc. and packing to prevent deterioration during storage.
- **Latest date for submission:** Two weeks before completion.

410 Tools and consumables

- **General:** Provide tools and portable indicating instruments for the operation and maintenance of all services plant and equipment (except any installed under Named Subcontracts) together with suitable means of identifying, storing and securing.
- **Quantity:** Two complete sets.
- **Consumables:** Supply a complete list of all consumables necessary for the operation.
- **Submittal date:** At completion.