SPECIFICATION

for

RELOCATION OF MECHANICAL & ELECTRICAL SERVICES FROM BUILDING "B" FAÇADE FRONT & REAR IN LINE WITH PLANNING REQUIREMENTS

at

CAMDEN STABLES
CAMDEN HIGH STREET
LONDON
NW1 8NH

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REF: AP297/Spec/M&E/T3 -Tender Issue

DATE: January 2015

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SECTION ONE

ADMINISTRATION AND PRELIMINARIES

1.1 DEFINITIONS AND ABBREVIATIONS

1.1.1. DEFINITIONS

The following definitions which are used within this specification shall have the meanings hereby assigned to them except where the context otherwise requires:

The Client - Stanley Sidings Ltd
12 Castlehaven Road
London
NW1 8QW
Tel: 02074289996

The Architect - The Architect appointed by the Client for the project namely;

Heritage Architecture Ltd
The Banking Hall
62 Chiswick Road
London
W4 2NL
Tel: 0208 748 5501

Structural Engineer - The Structural Engineer appointed by the Client for the project namely;

To be confirmed

The Engineer - The Engineer appointed for Engineering Services by the Client for the project namely;

OPTIMA *BES* Ltd.
Highclere
34 Abbots Rd.
Abbots Langley
Herts.
WD5 0AZ
Tel: 01923 267 107

1.1.1. DEFINITIONS continued ….

The Contract Administrator - The person or persons appointed by the Client; who shall make such visits to site as necessary to ensure that the works are executed generally according to the designs and specifications and otherwise in accordance with good engineering practice.

The Project - The Project with which the Client is proceeding and of which the Works forms a part.

The Engineering Services - The mechanical, electrical and public health services and, other building services, installations, plant and equipment comprising the Works.

The Works - The Engineering Services in connection with which the Client has engaged the Consulting Engineer to perform professional duties.

The Main Contractor - Company or persons appointed, and under contract to the client to execute the main contract works.

The Sub-Contract - Sub-contract to be arranged between the Main Contractor and Services Contractor.

The Services Contractor - The company, firm or person appointed to execute the subcontract works and is also defined as the ***Services Contractor***.

Sketch Drawings - Line diagrams and layouts indicating basic proposals, location of main items of plant, routes of main pipes, air ducts and cable runs in such detail as to illustrate the incorporation of the Engineering Services within the Project as a whole.

Tender Drawings - Drawings prepared in such detail as may be necessary to enable those tendering to carry out the detail design for the Works and to submit competitive tenders for the execution of the Works.

Co-ordination Drawings - Drawings showing the interrelationship of two or more Engineering Services and their relation to the structural and architectural details. Such drawings shall be provided to a scale of not less than 1 to 50 unless otherwise agreed and be prepared in such detail as to demonstrate that the Engineering Services will be properly separated from one another and can be satisfactorily installed and maintained.

Builders Work Drawings and/or schedules - Information prepared to show requirements for architectural or structural provisions necessary to facilitate the execution of the Works and allow their integration into the Project. Such drawings should include requirements for foundations, bases and supporting structures for plant or equipment and be prepared to scales appropriate to the stage of design development to which they relate.

Installation Drawings based on the Tender Drawings - Drawings and/or Co-ordination Drawings showing details of the Services Contractors and/or their Services Contractors proposals for the execution of the Works. The drawings will be in such detail as to enable the Works to be installed.

Shop Drawings - Drawings produced for the purpose of explaining how the components of the designs are to be fabricated.

1.1.1. DEFINITIONS continued ….

Record Drawings - Drawings normally prepared by the Services Contractor or a Specialist Installer in order to provide the Client with a record of the Works as installed.

Approved - Approval in writing by the Consultant unless otherwise stated. The approval of a design or piece of equipment shall be without prejudice to the site tests required after installation. Unless deviations are detailed in full all things offered in the tender shall be deemed to comply with the Specification(s) and/or Drawing(s).

1.1.2. ABBREVIATIONS

The following abbreviations and definitions are used in this specification.

MICC	Mineral Insulated Copper Cable
BS	British Standard
DoE	Department of the Environment
HVCA	Heating and Ventilating Contractors Association
IEE	Institution of Electrical Engineers
PVC	Polyvinylchloride
CA	Contract Administrator

1.2 CONDITIONS AND ADMINISTRATION

1.2.1 GENERAL

This section with certain contractors design portions shall be read in conjunction with all other sections, documents and drawings. The Services Contractor referred to herein is deemed to be the Services Contractor for the Engineering Services installations.

The contract conditions shall be the JCT Standard Form of Building Contract, with Contractor's design. 2005 Rev 1 Edition incorporating Amendments all as scheduled. The Sub-Contract shall be with Contractors Design for the Engineering Services. There shall be a 12 month defects period for the Works from handover at which time there shall be an inspection and any defects identified to be remedied before for the final release of retention.

The Services Contractor shall in particular be aware of the following conditions:

1.2.2 VISITING SITE

The Services Contractor shall be deemed to have visited the site before quoting for the works and to be satisfied as to local conditions, accessibility of the site, full extent and nature of the works, CDM requirements, the supply and the conditions affecting labour, carriage and unloading, craneage scaffolding and ladders or any other factor required for the execution of the works. No claim on the grounds of lack of knowledge shall be accepted. Prior to any visits to site 48hours notice shall be given to the Client otherwise access to the site may be denied

1.2.3 BUILDERS WORK

All necessary builders work including cutting and forming chases/ducts, forming holes and making good, cutting and forming holes over 50mm in diameter through the structural slab foundations, cladded walls and roofs, bases and primary supporting structures for plant or equipment and making good shall be carried out by the others. All secondary supports including the spanning of purlins with slotted deep section channel shall be carried out by the services contractor.

The Services Contractor shall, however, be held responsible for supplying all necessary information required for marking out the position of holes, chases, etc., to be cut or formed by others and for the accuracy of such information supplied.

The Services Contractor shall include for drilling, supplying and fixing all necessary equipment for the completion of the works.

The Services Contractor shall allow for craneage to lift equipment onto roofs or areas of limited access and provide and supply all scaffold necessary for carrying out the Works internally and externally.

1.2.4 STORAGE AND PLANT

The Services Contractor shall be responsible for providing independent secure storage facilities and shall agree with the CA regarding the location of such storage.

All tools, electric drills, etc., necessary for the proper execution of the work shall be provided by the Services Contractor.

1.2.5 PROTECTION

All plant, equipment, materials and parts shall be delivered to site in a new condition and protected against damage due to handling or due to adverse weather or other circumstances and so far as is practicable shall be kept in the packing cases or under protective covers until required for use.

Any materials damaged in transit or onsite shall be rejected and replaced without extra cost to the Client.

The Services Contractor shall suitably protect, cover over or encase as may be appropriate all plant and equipment, pipework, insulation etc. installed by him against damage due to building operations or adverse weather or other causes up to the Date of Practical Completion (PC) and shall make good any damage and hand over the entire installation in a new and undamaged condition.

During the progress of the Works all open ends of pipes, ducts, conduits, etc. shall be suitably capped to prevent the ingress of foreign matter.

1.2.6 CONTROL OF NOISE

The Services Contractor shall allow for and ensure that all measures to control the noise levels produced by the Engineering Services on site, required under or by virtue of any enactment or regulation or by the working rules of any industry, are strictly complied with. The Contractor's attention is drawn in particular to the Noise Abatement Act 1960 and The Noise at Work Regulations 1989 including all amendments thereto. Guidance on measures which can be taken to control noise levels is given in the Health and Safety Executive publications, Sound Solutions HS(G)138, Noise in Construction IND(G)127L, Dust and Noise In Construction CCR73, Guidance on the Noise at Work regulations 1989 L108, and Introducing The Noise at Work Regulations IND(G)75.

The contractors shall also work to the requirements of BS 5228 Noise and Vibration Control on Construction and Open sites

Specifically the Services Contractor shall arrange for the following in respect of all work done under the engineering services contract:-

a) That all compressors used on the site are silenced either by using only fully silenced models or models fitted with effective exhaust silencers and properly lined and sealed acoustic covers, all to the designs of the manufacturers of the compressors.

b) That ancillary pneumatic percussive tools and other machinery used on site are fitted with silencers of a type recommended by the manufactures thereof.

c) That every such compressor, silencer or other contrivance is maintained in good and efficient working order and shall not have been altered in such a way that the noise caused in operation is not made greater by the alterations.

The hours of working for the site for the duration of the project will be as stated in the main contract document.

1.2.7 PROGRAMME REQUIREMENTS

The Services Contractor shall prepare a detailed programme of works within 21 days of an appointment, ensuring that adequate provision is made for the preparation of installation details and information, and to properly and logically install the engineering services in conjunction with the building activities. Ensure adequate allowance is made both for completion of the installation, testing and commissioning of the whole works.

All holes required in reinforced concrete walls, ring beams and load bearing brick walls shall to be precisely located by the Services Contractor on to builderswork drawings at an early stage of the contract for approval by the structural engineer.

Generally the Services Contractor shall ensure that the Main Contractor/Client has agreed to and is fully aware of the time required for the Contractor to properly and logically install the Engineering Services by insisting upon detailed consideration to these matters given from the earliest stages.
The sequencing/programming and timing of the installation works be carried out in the knowledge that the stables market will be open for business most if not all of the time that the services installation work shall be undertaken. The services contractor shall give notice to the client of any works and period of time that could prevent the merchants from trading safely.

1.2.8 PRICED SCHEDULES OF QUANTITIES

Upon being advised that the tender is receiving consideration the Services Contractor shall prepare, and submit in duplicate a priced schedule of quantities as the summary of tender to provide a rate for each item. Not more than two tenderers will be requested to produce these schedules. These rates shall be used for pricing variations.

1.2.9 MEMBERSHIP OF RECOGNISED TRADE BODIES

It is a requirement that the Services Contractor belong to a recognised trade association, as a minimum ECA, NICEIC, HVCA, NAPSC and CORGI before consideration of this tender return.

The tenderers may be required to provide proof of membership at the discretion of the C.A.

1.3 GENERAL REQUIREMENTS

1.3.1 SCOPE

This specification relates to the design, supply and installation of the Engineering Services.

The scope of work covered by this specification shall include the partial design, co-ordination, drawing and detailing, procurement and delivery of all plant and equipment and materials, installation of all services to form a ‘complete installation’ including balancing, setting to work, testing and commissioning as are prescribed in subsequent clauses and elsewhere in the documentation and as may be required to give effective and safe working installation(s) to the satisfaction of the client.

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

It is the Services Contractor responsibility to check the documents provided and to satisfy themselves that they can be incorporated into the works in the manner described, having particular regard to the sizing, routing and fixing of all service runs.

The Services Contractor shall include all responsibilities under CDM as the designer and Services Contractor and shall supply all health and safety documentation including Heath and Safety File for the Project as required to the CA.

1.3.2 DESIGN RESPONSIBILITY

The Services Contractor shall be solely responsible for the verification and completion of design of the installation to the Client with regards to the scope of works described in the attached specification and drawings.

The specification inter alia the drawings listed in Appendices comprise the concept and performance demands relating to the tenders functional design and engineers scheme. For the purposes of interpretation the Performance Specification takes precedence over the drawings.

1.3.2 DESIGN RESPONSIBILITY Cont'd ….

The specification and drawings provide an indication of a number of capacities and sizes for certain aspects of the services installations. **The tenderer should note that the specification and drawing information is indicative of design concept only and that this in no way relieves them of their full responsibility for aspects of the design and the satisfactory provision of a 'complete installation' that should include the quantity, layout and sizes of equipment that shall perform in accordance with the stated design criteria**. Claims for additional cost, as a result of the tenderer failing to comply with this requirement, shall not be accepted.

1.3.3 SUB-LETTING

The Services Contractor shall not assign or sub-let this Contract or any portion of the work except with the written consent of the CA or Engineer.

1.3.4 RELATED DOCUMENTS

This specification shall be read in conjunction with the conditions of contract and any schedules, supplementary specifications, drawings and other documents issued with it and enumerated in the invitation to tender.

1.3.5 REGULATIONS

The installation(s) shall comply with all relevant statutory instruments and regulations and in particular with the following:-

a) BS7671:1992 IEE Regulations for the Electrical Equipment of Buildings.

b) The Electricity Supply Regulations 1988.

c) The Electricity at Work Regulations 1990.

d) The Building Regulations.

e) Local Authority Regulations and Bye-laws.

f) Local Authority Fire Officer.

g) The London Petroleum Act.

h) The Gas Safety 1994 (Installation and Use) Regulations: 1994 and amendments.

i) The Health and Safety at Work Act 1974.

j) The Workplace (Health, Safety and Welfare) Regulations 1992.

k) Construction (Design and Management) Regulations 2007

l) The Clean Air Acts.

m) Any special regulations issued by the local Electricity, Gas or Water undertaking.

n) The Control of Pollution Act.

1.3.5 REGULATIONS Cont'd ….

o) The Noise at Work Regulations 1989.

p) The Control of Asbestos at Work Regulations 1987.

q) COSHH Regulations 1988.

r) The Offices, Shops and Railway Premises Act 1963.

s) The Local Building Control Officer.

The tender shall be based on the regulations current on the date for return of tenders. If these regulations are amended or new regulations enacted after the return tender date the consultant shall be informed immediately.

1.3.6 REMOVAL OF EXISTING SERVICES

The services contractor shall as a portion of their works remove the existing services as described within this specification and replace re-route with new installation works. Any temporary works or making safe existing shall be undertaken by the services contractor shall be reported to the architect/client for review.

1.3.7 BRITISH STANDARDS

The equipment and/or installation(s) shall comply with relevant British Standards and Codes of Practice current three months before the date for return of tenders, except where a specific date of issue is stated. A certificate of compliance with the relevant British Standards shall be provided to the consultants at their request. In the event of a contradiction between this specification and any BS or CP this specification shall be followed and the consultant informed. All fees for testing and stamping shall be included in the tender.

1.3.8 ELECTRICITY SUPPLY

Unless otherwise indicated all apparatus and wiring shall be suitable for use with a 240 volt 1 phase 50 Hz, or 415 volt, 3 phase 50 Hz, earthed neutral system.

1.3.9 FUEL FOR TESTING

The client shall allowance for the cost for electricity, water and gas consumed during the process of change over, testing, commissioning and setting to work the new infrastructure services, up to handover to the client.

1.3.10 SPACE FOR PLANT

The Services Contractor shall ensure that all plant to be supplied by them can be installed in the available space and that there is adequate access to admit all plant to its position, and for maintenance. Unless otherwise stated all plant shall be delivered broken down for assembly on site and ease of installation through existing access points.

1.3.11 COMMENTS BY THE TENDERER

Any comments by the tenderer on the efficacy of the design, the availability of plant, materials and labour and the time required for the completion of the work shall be made when the tender is returned.

1.3.12 DRAWINGS - GENERAL

Unless otherwise indicated, the Services Contractor shall provide the following sets of drawings to the CA for approval and subsequently the number of sets of final issue drawings that will be required by the Client for distribution including those copies required by the design team. The Services Contractor shall be responsible for any discrepancies, errors or omissions therein:

In addition to paper prints, electronic versions of all drawings shall be provided and produced in AutoCad Release 2010 or later format. Each drawing shall be a stand alone drawing file and be able to be viewed as an individual drawing.

a) Three sets of "Builder's Work" drawings.

b) Three sets of detailed 'design to a scale that can clearly identify the design intent and co-ordination with the building and other services.

c) Three sets of detailed 'Installation Drawings' to a scale that can clearly identify the requirements of the Works and co-ordination with the building and other services.

d) Three sets of manufacturers' 'shop' drawings where required by this specification detailing dimensioned drawings of such items as air handling equipment, switchgear, electrical generator equipment, control panels, water storage/booster sets, pumping stations, ductwork and large items of equipment.

e) Three sets of "Record" drawings to a scale that can clearly identify the installation of all services. The "Record" drawings shall also be provided in digital CAD format with a separate file for each drawing along with a digital copy of all the information within the manual.

The first set of drawings as detailed in a) to d) above shall be sent to the CA and Engineer in such time as to meet the contract programme, allowing the Engineer reasonable time with a minimum of four weeks for examination and approval of the drawings.

1.3.13 BUILDER'S WORK DRAWINGS

Fully dimensioned builder's work drawings shall show all holes, foundations, bases, plinths, structures, sumps and holes required and the overall sizes and masses of the plant concerned. With the agreement of the consultant, holes, fixings, etc., other than in plant areas, may be marked out on site instead of on drawings.

1.3.14 INSTALLATION DRAWINGS

Fully detailed installation drawings shall be based on the tender drawings.

The drawings shall be to a scale not less than 1:50 unless otherwise agreed and be prepared in such detail as to enable the works to be installed. The pipework and electrical connections together with the setting out of all equipment shall be based on manufacturers "shop" or certified drawings.

1.3.15 VARIATION DRAWINGS

During the course of the works the services contractor shall maintain fully detailed records of all changes from their approved installation drawings or revised issue drawings to facilitate easy and accurate preparation of the "As Installed" drawings and to ensure that these drawings are in all respects a true record of the installation.

1.3.16 INSTALLATION MAINTENANCE

The Services Contractor shall allow for the first 12 months maintenance of the installation and systems installed in accordance with current British Standards and the manufactures instructions.

The 12 months maintenance period shall not commence until all Operating and Maintenance Manuals (O&M) have been completed and approved by the CA.

Upon completion of the first 12 months maintenance period the contractor shall carry a full service of the installations and systems as prescribed and detailed in the O&M manuals.

1.4 DESIGN CRITERIA

The tender and design and construct Services Contractor shall be solely responsible for the verification and completion of the design of the installation to the Client.

The specification and the drawings listed in Appendices comprise the concept and performance demands relating to the tenders functional design and engineers scheme. For the purposes of interpretation the Specification takes precedence over the drawings

The specification and drawings provide an indication of a number of capacities and sizes for certain aspects of the electrical installations. **The tenderer should note that the specification and drawing information is indicative of design concept only and that this in no way relieves them of their responsibility for the aspects of design and the satisfactory provision of a 'complete installation' that should include the number and sizes of equipment that will perform in accordance with the stated criteria**. Claims for additional cost, as a result of the tenderer failing to comply with this requirement, shall not be accepted.

1.4.1 ENVIROMENTAL CONDITIONS

1.4.2 DESIGN PARAMETERS

1.4.3 MECAHNICAL & ELECTRICAL

The electrical design and Installation by the services contractor shall comply this specification, drawings BS7671 current IET wiring regulations and current amendments.

Works in association with the fire alarm system shall be compliant with BS 5839 and current amendments.

Works in association with the CCTV system shall be compliant with BS 8418 and current amendments.

Works in association with the cold water service stall be compliant with BS 8418 and current amendments.BS EN 29453

1.5.1 HANDOVER PROCEDURE

1.5.1 OPERATING AND MAINTENANCE MANUALS

The Services Contractor shall:
Produce 3 complete copies of the O&M manuals for the House. The O&M manual for each discipline, i.e. electrical, mechanical, etc. shall comprise twelve sections prepared by the Services Contractor.

Submit the whole of the information to the C.A. correlated and indexed in relevant sections for his comments prior to the anticipated handover.

Discuss with the C.A presentation, script and content before preparation of the draft manuals.

Ensure that the whole of the O&M manual is available for use throughout the final commissioning period. It is appreciated that Section 11 for each manual will not be finalised until the commissioning period is completed since it is used to record data taken during that period. Provide this section complete to the C.A. prior to handover. Make available Section 11 complete with the results of pre-commissioning tests for verification by the C.A. at final commissioning.

Include the following sections in the O&M manuals for each discipline, i.e. electrical, mechanical, etc. shall comprise the following sections:

Section No.	**Title**
One	Introduction
Two	System Descriptions
Three	Operating Instruction
Four	Safety Information
Five	Plant/Equipment Inventory
Six	Lubricating Instructions
Seven	Repair and Maintenance Instructions
Eight	Spare Parts and Stores
Nine	General Information
Ten	Training and Demonstration Log
Eleven	Test and Commissioning Results
Twelve	Record Drawings

Prepare all sections in A4 size loose-leaf ring binders, with full content pages and front cover.

The O&M Manual and Record Drawings shall also be provided in digital format for the House as described in Section 1.3.12.

1.5.2 TESTING, COMMISSIONING, PROVING & DEMONSTRATION

The Services Contractor shall:

Fully commission and test all aspects of the services installations. Commissioning shall be in accordance with the Chartered Institution of Building Services and/or BSRIA Commissioning Codes.

Notify the CA in writing via the Main Contractor when, the works or parts thereof are ready for commissioning and testing.

Issue the CA, via the Main Contractor with list of remedial items to be completed. Make all specified tests to the satisfaction of the CA.

Should the tests fail to demonstrate that the plant and equipment are properly installed and functioning correctly, investigate the cause of the failure. Should this be due to incorrect or faulty work by the Services Contractor, or his suppliers, then without delay carry out such remedial measure and adjustments as may be necessary and repeat the commissioning and testing procedure to the satisfaction of the CA.

In the event of commissioning tests and inspections failing to meet the required standards, pay all abortive costs so arising incurred by the CA, or other parties. These shall be in accordance with the appropriate Professional Fee Scale.

Where portions of the work are commissioned and tested separately, upon final completion demonstrate to the CA that all the several portions are capable of proper simultaneous operation in accordance with the requirements of the Contract.

For the purposes of commissioning and testing of the installation provide all necessary skilled and unskilled labour and all necessary instruments and testing equipment.

1.5.3 INSTRUCTION & DEMONSTRATION.

The Services Contractor shall:

Allow for all necessary visits to site by equipment manufacturers representatives to ensure satisfactory completion and handover of the works.

Include for all necessary visits to carry out the following separate functions:

a) The initial setting to work and witnessing by the Services Contractors Commissioning Engineers (Pre-Commissioning).

b) The commissioning tests and examinations.

c) Special separate visits as necessary to train and instruct the client on the maintenance of equipment.

d) Special separate visits as necessary to train and instruct the client on the operation of the equipment.

No additional payment shall be given to the Services Contractor for any abortive visits that may be caused due to any failure in the programme.

SECTION TWO

MECHANICAL & ELECTRICAL SERVICES

PARTICULAR SPECIFICATION

AND

WORKMANSHIP & MATERIALS

2.0 INTRODUCTION

The project at Camden Stables is the relocation of the existing mechanical & electrical services from building B façade front and rear in line with planning requirement as described within this specification. There are three levels, ground, first & second floor.

Block "B" services have been designed as an extension to the works being carried out in Block "D" and as such will follow the same format, the existing externally mounted services are to be removed and run within the building fabric, however for the purposes of this tender, we have assumed that the existing non electrical services installed by the tenants of the 1st and 2nd floors, presently closed due to fire/smoke damage will be re addressed by them, from services points left under this contract, The service points and options shown on our drawings are indicative and final positions to be confirmed

There will be areas, due to planning constraints were it will not be possible to match existing services, this is especially prevalent with regards to surface run Foul Drainage, at present run in an "adhoc" installation.

The existing externally run gas main is to be rerun internally, and we have shown the optimum route and containment, however this is for discussion

The contractor is to allow for the stripping out of all redundant materials associated with their works and there correct disposal

It must also be borne in mind that the routing of said works will be within occupied areas and walkways and as such it will be necessary to work in close liaison with the Stables Management

This specification shall be read in conjunction with the Architect's and specialist's drawings showing electrical services and the mechanical services drawings, all listed in Appendix 1.

Listed below are the particular works to the mechanical & electrical services to be included within the scope of the tender. The mechanical & electrical works shall comprise of the continued design, procurement, and installation, setting to work and testing/commissioning of services including the following:

Building B : Install new mains distribution system, LV & ELV containment, & water distribution system as per Optima drawing AP297/E/200 T5.

Install new landlord's service distribution cupboard within retail unit 19a incorporating new 12way TPN MCCB distribution board MD1, wilt electrical sure protection ESP & landlords 12way TPN MCB distribution boards DBL supplying external lighting, concession retail floor boxes and landlords ancillary services.

MD1 supply shall emanate from block D rear "Pit" distribution board. The services contractor, for tender purposes, shall allow for a new 200amp MCCB within the existing distribution board and a new 95mm 4Core XLPE/SWA & 50mm 6491B single earth from the Pit" distribution board, run on new MRF cable tray internal within building D, through retails units on the new

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Block D containment and across the underside of the bridge into building b to the new containment system and terminate into the new distribution board MD1.

MD1 shall supply existing and new distribution boards as indicated on Optima drawing AP297/E/50-T mains distribution.

Sub main cable shall run on the new ground floor containment system and service risers to the first & second floor.

The services contractor shall install small landlord's distribution cupboards within retail units 16 & 22 for ELV Services.

To minimise shut down time, install all LV and ELV cabling within the new distribution system shall be ready for change over from existing system to new. This will require the assistance of specialist contactors for BT, Data, CCTV, Intruder and fire alarm. Also any other LV & ELV services found.

The services contractor shall systematically remove and re-connect each existing LV & ELV circuit, one at a time or in group in an agreed sequence with the client and retailers from the old system and connect to the new system of LV & ELV distribution.

The water supply supplies Building B from Its entry point via the existing beam linking building "D" to "B". The services contractor s install an ABS cold water main run at high level utilising the horizontal containment provided by the electrical engineer, on the Ground floor as indicated on Drawing No Optima drawing AP297/E/200 T5.

The existing copper gas main runs externally up the outside walling to the 2nd floor high level plantroom. It enters the build and is connected to 2no Secondary meters; each meter serving a wall mounted "Combi boiler"

At the point where the existing steel piped gas main stops, adjacent to the external walkway, a new arrangement as detailed on the drawing is to be provided,

A new suitably sized gas main is to be run internally within the building to pick up said secondary meters as indicated on Drawing No Optima drawing AP297/M/201-T1.

The cafeteria on the 2nd floor has an air conditioning system comprising, a split air conditioning unit whose condenser unit is located on the walling beneath the external structural steel staircase that provides access to the to the public toilets in Building "C"

The other condensers serving this unit are located on the external walling of Block"C" and will have to be removed, together with adjacent units that appear to serve Block "C" Cuban Bar, the latter being part of proposed later works

The contractor is to submit a price for Block "B" condenser unit and pipework relocation separately, as it has to be agreed as to who's responsibility it falls under

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The Services Contractor shall be responsible for all aspects of the mechanical & electrical works associated with the services, including the verification & completion of design, installation, testing, commissioning and setting to work the new installations as detailed within this specification, on any relevant architect's drawings and to the latest I.E.E Wiring and Building Regulations.

Note: - If not indicated on the contract drawings, it shall be the responsibility of the Services Contractor to notify the client & architect of all the positions of service routes, building chases, fabrication of voids and trenching, service access cupboards and making good required carrying out the installation. The information shall be provided by drawings showing all builders works and thus be included in the contractor's scope of works. This shall also be sent to the client & architect to aid in the total co-ordination of all services and work schedules.

2.1 EXISTING MAINS DISTRIBUTION BOARD PIT PLANT ROOM

The existing form 4 Main distribution board shall have a new 200amp triple pole MCCB installed to supply the new landlord's MCCB distribution board within the pit plant room.

The services contractor shall employ the services of the panel manufacturer to undertake this work:

Byrant Electrical Ltd

Unit 3-4
Shamel Business Centre
Commissioners Road
Rochester
Kent
ME2 4HQ

Tel: 01634 297211

2.2 ELECTRICAL DISTRIBUTION

MD1 supply shall emanate from building D Pit plant room existing form 4 distribution board. The services contractor, for tender purposes, shall allow for a new 200amp MCCB within the existing distribution board and a new 95mm 4Core XLPE/SWA & 50mm 6491B single earth from the existing distribution board, run on new MRF cable tray internal within building D, through retails units and across the underside of the bridge into building B to the new containment system and terminate into the new distribution board MD1.

MD1 shall supply all the electrical services within the building B and external electrical services as indicated on Optima BES Ltd drawings: mains schematic AP297-E50. T.

Adjacent MD1 the contactor shall install electrical surge protection. Furse ESP 415 D1 Mains protector, 3 phase, VRMS 346-484V or equal

2.2.1 CABLE SIZING

The Services Contractor shall install cabling generally as indicated on the mains schematic drawing.AP297-E50. T. All cable sizes are indicative only. It is the responsibility of the electrical Services Contractor that all cabling is compliant and designed within the current I.E.T wiring regulations.

2.2.2 CIRCUIT LOADINGS

The design is based on a 3phase balanced load as far as reasonably practical. It is the responsibility of the electrical Services Contractor that all loads are calculated and a balance load is maintained, including any variations during the contract.

2.2.3 CIRCUIT PROTECTIVE DEVICES

Circuit protective devices shall be installed within distribution boards and shall consist of MCB's, RCBO's or RCD's as required by the current I.E.T. wiring regulations.

2.3 SMALL POWER

The Services Contractor shall allow for the supply and installation of the external concession sockets and other service outlets as shown on the tender layout drawings.

Generally the external concessions small power shall be run in XLPE/SWA/LSF cable. The cable runs shall be straight with "slow" bends (as far as reasonable practical) within the proposed containment system as per Optima drawing AP297/E/200-T5.

The position and types outlets are as indicated on the tender layout drawings,

2.4 LIGHTING INSTALLATION

2.4.1 GENERAL

The Services Contractor shall be responsible for the installation, wiring and commissioning of the external lighting to Block B front & rear.

2.4.2 LUMINAIRES BLOCK B EXTERNAL

For tender purposes the contactor shall include within their tender for the front & rear elevation an Iguzzini City Woody extended wall bracket mounted 39w LED fitting, with street optic, Code BB30 and extended wall bracket 5994. The contactor shall liaise with Iguzzini to ensure fittings are supplied with the correct drivers. The external lighting shall be supplied from the landlords distribution board within the new services cupboard DBL in 2.5mm 6491B single cables run in galvanised metal trunking and conduit, final connection from an individual klick plug and LSF flexible cable to the luminaire.

LUMINAIRES BLOCK B EXTERNAL Cont/

As detailed on Optima drawing E300 Links to web pages as follows:

http://products.iguzzini.com/citywoody_wall_mounted

http://products.iguzzini.com/5994

For tender purposes the contactor shall include within their tender for the front & rear elevation at low level Iguzzini Trick 3w LED. The external lighting shall be supplied from the landlords distribution board within the new services cupboard DBL in 1.5mm 6491B single cables run in galvanised metal trunking and conduit, final connection from an individual klick plug and LSF flexible cable to the luminaire. As detailed on Optima drawing E300 Links to web page as follows:

http://products.iguzzini.com/trick_washer

Note the Trick – Washer shall require an internal driver supplied separately.

The emergency luminaire to the front & rear elevation indicated on Optima drawings E300 and shall be Ansell 2x10w LED Owl – IP65 Finished in silver

LIGHTING CONTROL AND SWITCHES FOR EXTERNAL LIGHTING

The lighting shall operate from dusk to dawn photo cell (front elevation) and contactor arrangement within service cupboard within retail unit 19A adjacent distribution board DBL.

2.5 SERVICE CUPBOARDS

2.5.1 GENERAL

The Services Contractor shall procure and install the external water (details below) LV & ELV containment system, and service cupboards as indicated on Optima BES Ltd drawings AP297-E-200-T5.

The services contractor shall be required to supply fully detailed installation drawings these shall be based on the tender drawings. The drawings shall be to a scale not less than 1:50 general layouts and 1:20 for details such as the new services cupboards.

2.5.2 SERVICE CUPBOARDS REQUIREMENTS

The Services Contractor shall procure and install the external water (details below) LV & ELV containment system and service cupboards as a part of their contract.

The work within the main walkways shall be undertaken between 5am to 11am due to the vast crowds at lunch time. No work within the retail units shall commence before 11am unless prior agreement with the retail company.

All LV & ELV cables & water distribution to bock B shall enter straight into building. There shall be no surface installation of services on the façade of the building.

The construction of the service cupboards shall be of wood enclose with vented opening door or doors as applicable. Details shall be forwarded to the client/architect.

For tender purposes the service cupboards only, shall be covered by provisional sum.

2.6 LV & ELV CABLING

To minimise shut down time, install all LV and ELV cabling within the new containment system to completion ready for change over from existing system to new. This will require the assistance of specialist contactors for BT, Data, CCTV, Intruder and fire alarm. Also any other LV & ELV services found.

Distribution MD1 shall be energised and the sub-main tested. All connection boxes for BT, CCTV, and Fire Alarm & ELV cabling shall be in place within the service cupboards within building B retails units 16, 19a & 22.

2.6.1 REMOVE & CONNECT

The Services Contractor shall systematically remove and re-connect each existing LV & ELV circuit, one at a time or in group in an agreed sequence with the client and retailers from the old system and connect all existing functional services to the new system of LV & ELV distribution. The strategy & procedure shall be provided in a method statement that is to minimise the shutdown of the electrical supplies to be terminated.

2.7 MECHANICAL SERVICES BUILDING B

2.7.1 GENERAL

The project at Camden Stables is the relocation of the existing mechanical & electrical services from building B façade front and rear in line with planning requirement as described within this specification. There are three levels, ground, first & second floor.

2.7.2 COLD WATER INSTALLATION

From Its entry point via the existing beam linking building “D” to “B”, the contractor shall install an ABS cold water main run at high level utilising the horizontal containment provided by the electrical engineer, on the Ground floor as indicated on Drawing No AP297-M-201-T

COLD WATER INSTALLATION Cont/

At the locations indicated, suitably sized valved connections are to be taken off to provide a water supply to appliances located on the 1st and 2nd floors, the mechanical contractor shall provide the necessary containment and supporting system when not using containment provided by others so ensuring that said water main is installed and supported according to the manufactures recommendations, It is assumed that for the purposes of this tender the tenant will carry out his own works from the valved cold water points left

The water main installation shall be compatible with the new system being installed within Block"D" namely ABS piping, utilising solved welded fittings, and insulated with "Armourflex" insulation to prevent freezing

This installation is designed to link into Building "C" at a later date, the new water main however needs to be temporary joined to the existing installation as indicated on the drawing, this link being removed , when building "C" comes on line, this should allow some of the water mains traversing the railway arches to be decommissioned,

All new and existing pipework that will be temporary joined into to is to be flushed out and fully chlorinated

It is intended that the water main shall be extended under this contract to the undercroft of building "C" walkway, to terminate with an capped isolating valve, this section of pipework shall be hung from the underside of the walkway gantry linking "C" to "B "within the supporting steelwork, on a suitably agreed form of containment

This section of main is to be insulated, and trace heated to prevent freezing, the power supply shall be from within building "B"

It is anticipated that the new water installation for Block"B" shall eventually join into to a further works proposed for Blocks "A" and "C" so completing the link back to the main site incoming water point,

If the latter works dont for some reason follow on to maintain continuity, the services contractor should include as a PC sum,

1. To check the suitability of the existing Coldwater main at present on the walling of the railway arches to meet the new demand for water, should this not be the case the contractor shall allow for running a temporary insulated main to supplement the existing main, this intern will be redundant upon completion,

The contractor shall allow within this price for stripping out, and disposal of these temporary main materials,

All works related to the proposed the cold water installation shall conform to all relevant codes of practice

2.7.3 GAS SERVICES DISTRIBUTION

The existing copper gas main runs externally up the outside walling to the 2nd floor high level plantroom.

The gas pipe enters the build and is connected to 2 no Secondary meters; each meter serves a wall mounted “Combi boiler”

At the point where the existing steel piped gas main stops, adjacent to the external walkway, a new arrangement as detailed on Optima drawing No AP297-M-201-T1 shall be provided,

A new suitably sized gas main shall be run internally within the building to supply the secondary meters.

To reduce the possibility of gas leakage it is recommended that the number of pipe joints/fittings be kept to a minimum, to that end we propose a system” Tracpipe” or similar system to be used within the building, should the services contractor consider that the gas main requires further mechanical protection they shall submit their proposals together with a budget price for consideration.

The preferred location for the rising gas main would be tight to the internal corner however 1st and 2nd floor tenant’s enclosures to toilets will need to be adapted to carry this work out therefore an alternative riser positions shall be considered.

Upon completion of the works the installation shall be tested then purged, and left ready for use by the tenant

The gas installation shall be carried out to the relevant natural gas Codes of Practice, with the works being carried out by registered competent person/persons

2.7.4 SECOND FLOOR AIR CONDITIONING SYSTEM

The cafeteria on the 2nd floor has an air conditioning system comprising, a split air conditioning unit whose condenser unit is located on the walling beneath the external structural steel staircase that provides access to the to the public toilets in Building “C”

The unit’s refrigeration pipework drops from the unit within the cafeteria and exits the Building Bt high level 1st floor to run within the supporting steelwork of the access bridge that links building “B” to Building “C” staircase

The condenser serving this unit are located on the external walling of Block”C” and will have to be removed, together with adjacent units that appear to serve Block “C” Cuban Bar, the latter being part of proposed later works

The contractor is to submit a price for Block “B” relocation separately as it has to be decided, as to whether this is a landlord or tenant responsibility

SECOND FLOOR AIR CONDITIONING SYSTEM Cont/

It is proposed for discussion that said condenser unit be relocated on the walling of the railway arches with the refrigeration pipework running internally to exit the Building Bt high level ground floor, across a suitability approved pipe gantry, across the passageway to the railway walling,

The electrical contractor should also be made aware of the external power requirements for this unit.

All works are to be carried out to the relevant Electrical and Refrigeration Codes of Practice

2.7.5 SOIL & VENT PIPE INSTALLATION

The present foul drainage installation has been run at will, with numerous PVC stacks dropping down the face of the building

It would appear that the original foul installation was installed on the railway face of the Building Bs there is evidence of 4 no Low level cast iron stub stacks, from these stacks others have run foul pipework as befits their requirements,

On the face of the building opposite building “C” a foul stack drops then cross over the passage way via the access bridge to join the foul system of Block “C”, also certain, 2nd floor Wash Hand Basins appear to be linked into the rain water system

It would therefore appear that the re instatement of the soil and vent installation will be out of necessity on the railway face of the building

The contractor shall supply and install 3 no Cast iron soil/vent stacks with branches on the railway face of the building for both pans and other fitments, at each floor connected into the existing stub stacks at low level, swan necks at roof level and ballooned terminations, connections shall penetrate the external walling and then change to PVC and be capped for connection by others

It is important that the contractor allows for and establishes that the 3No mentioned existing stacks are in fact connected into the foul underground drainage system and not the surface water system, and shall also allow for the jet cleaning of the external below ground drainage that links said stacks

All the above works are indicated on Drawing Optima drawing No AP297-M-201-T

2.7.6 SECOND FLOOR TOILET AND RESTAURANT SOIL & VENT INSTALLATION

It is proposed that the toilet discharge pipework will be part run internally with a vented system discharging through the roof, the section of soil pipe above the roof will be cast iron with a suitably fabricated lead slate/cravat to weather it, the remainder of the internal system would be PVC and would drop to high level in the unit below where it will exit the Building Bnd traverse

SECOND FLOOR TOILET AND RESTAURANT SOIL & VENT INSTALLATION Cont/

the underside of the walkway within its supporting steelwork, into the adjoining unit "C" foul system

Note! All penetration of floors with PVC pipework must have suitable fire collars fitted

This is a proposal that the planners may not accept, so other alternative ways for picking up the toilet and sink are to be considered, the wastes could be pumped to stack designate Stack 3, With agreement from the landlord it might be possible to route a high level foul main on the 1st floor picking up appliances from the 2nd floor to discharge into stack 3 this will require acoustic wrapping and fire collars on all penetrations, This option to be investigated and priced as a PC sum Suggested value £

One option for the toilet and wash hand basin is to relocate the toilet to opposite side of the building where a ready stack is available, that will still mean that the restaurant sinks will still need to be pumped. Or rerouted

2.7.7 SECOND FLOOR TOILETS AND SHOWERS

It is proposed that the drainage installation for the above fitments shall be run internally, in PVC with change point to cast iron on building exit points, with wastes dropping to the floor below to be connected into the main stack see drawing Optima drawing No AP297-M-201-T.

It is proposed that connections to internal appliances/ sanitaryware shall terminate with a capped connection, which the tenant's contractor will pick up from this point, no connections to be made by others until works have been proven sound.

A separate PC SUMS shall be allowed for

1. The contractor to connect all appliances having surveyed what is required
2. The contractor to Run Wastes off the WHB on the Cuban bar walling at present run into the rain water installation, in a new run of pipework located at high level on the 1st floor again this will need acoustic wrapping and fire collars on all penetrations
3. The existing CI gutters are to be surveyed cleaned out and restored to water tight, with any damaged sections being replaced by the contractor,
4. The contractor shall expose all rain water down pipes check for soundness and replace any damaged or missing sections or new sections added in PVC with the correct pattern CI pipework and fittings

All drainage works shall meet the requirements of the appropriate authorities and the relevant codes of practice, special attention being given to fire barriers were services pass through existing floors

The connection on to the existing 4 no stub stacks at ground floor level shall be yarned and lead caulked.

2.8 TESTING AND COMMISSIONING

The systems shall be fully tested and commissioned by the system supplier and certified for compliance with all relevant standards. The commissioning certification shall also include detailed test verification in writing of the system programmed operational functions, together with a demonstration to the client's representative.

APPENDIX A1

DRAWINGS

A1.1 CONTRACT DRAWINGS

A1.2 RELATED DRAWINGS

APPENDIX A1: DRAWINGS

A1.1 SCHEDULE OF TENDER DRAWINGS

DRG NO	DRAWING TITLE	Rev	SCALE
	Optima CAD Drawings with Electrical Service Equipment Positions and Principle Service Routes.		
AP297-E-50	*Building B Electrical Services Schematic*	T	NTS
AP297-E-100	*Building B Existing Services on Elevation Survey*	T	1:100
AP297-E-200	*Building B Electrical Services*	T5	1:100
AP297-M-201	*Building B Mechanical Services*	T1	1:100
AP267-E-300	*Buildings B Proposed Services on Elevation*	T5	1:100

All above issued as Rev T, T1 or T2 as noted for tender issue C is contract issue

A 1.2 LIST OF RELATED DRAWINGS

Architect: As 'Heritage Architects' drawings with Main Contract Documents.

APPENDIX B

TENDER FORM

B.1 TENDER SUMMARY

In order to assist in evaluation of your tender please provide a detailed breakdown of the costs for Camden Stables as follows:-

B.1.1

MECHANICAL SERVICES

(a)	Preliminary Matters	£
(b)	Meeting Requirements of the Health and Safety Plan (CDM)	£
(c)	As Fitted Drawings and Manuals	£
(d)	Builders Work in Connection	£
(e)	Building A Cold Water Main	£
(f)	Building A Gas Survives Distribution	£
(g)	Second Floor Air Conditioning	£
(h)	Soil & Vent Pipe Installations	£
(i)	Second Floor Toilet & Restaurant Soil & Vent Installation	£
(l)	Sterilisation of New Water Services	£
(m)	Testing & Commissioning	£
(n)	Contingency	£ 10,000.00

SUB TOTAL ----------

ELECTICAL SERVICES

(a)	Preliminary Matters	£
(b)	Meeting Requirements of the Health and Safety Plan (CDM)	£
(c)	As Fitted Drawings and Manuals	£
(d)	Electrical Main Distribution & Electrical Sub Main Distribution Block B	£
(e)	Small Power Installation Block B	£
(f)	External Lighting & Emergency Lighting Block B	£
(g)	Containment Block B	£
(h)	Service Cupboards See Provisional Sums Below	
(i)	LV & ELV Cabling & BT,CCTV, Intruder Fire & Data Block B	£
(k)	Removal of Redundant Services Building B	£
(l)	Testing & Commissioning LV & ELV, BT,CCTV, Intruder Fire & Data Block B	£
(m)	Contingency	£ 10,000.00

SUB TOTAL ----------

B.1.2 PROVISIONAL SUMS

Service Cupboards Block B – Builders Work	£2,500.00

TOTAL FOR MECHANICAL & ELECTRICAL SERVICES £_____

Signed : .....

Position .....

Company : .....

Date : .....

B.2 DAYWORK DETAILS

State percentage additions to be added to the net cost of variations carried out under daywork instructions inclusive of profit, overhead charges, insurance's, supervision, employers liability, provision of tools, plant and scaffolding and all other incidental expenses and "on costs" including all taxes and discounts, including that to the Main Contractor where appropriate:

(i) Labour

For which the net cost will be the actual net sums paid to work people inclusive of guaranteed overtime, travelling, holidays with pay and employers contributions for National Insurance, always provided that all such do not exceed the sums generally payable in the district concerned .....%

(ii) Materials

For which the net cost will be the actual net sum paid to suppliers after deducting discounts other than that for early cash settlement .....%

(iii) Fares and Allowances

For which the net cost will be the actual net sums paid to work people .....%

(iv) Sub-contractors

For which the net cost will be the actual net sum paid to approved Sub-Contractors after deducting all discounts.....%

Note: Work people means all site and/or shop workers but excludes supervision, draughting, store, secretarial and similar personnel who are to be included in the overhead charges.

Signed : .....

Position .....

Company : .....

Date : .....

B.3 TRADESMEN, RATES AND HOURS

The tenderer is to state the various categories of tradesmen they would employ, the actual hourly rates payable and as would be applicable for net daywork costs, the actual net hours the trades people would be engaged on the works unless specifically working outside normal hours and the rates and hours applicable to authorised overtime. It will not be sufficient to state "in accordance with national agreements", etc., unless a full copy of such agreement is submitted with the Tender Documents.

The tradesmen are to include foremen, charge-hands, fitters, welders, electricians, jointers, mates, apprentices, labourers, etc.

I/We would employ the tradesmen for whom the current actual hourly rates are:

	Tradesmen	**Hourly Rate (£)**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

My/our tradesmen would normally be engaged on the works and would require additional payment for any authorised overtime I/we are instructed to work as follows:

Day	**Monday to Thursday**	**Friday**	**Saturday**	**Sunday**	**Bank Holiday**

Normal Hours - as included in tender

From					
To					

Overtime Hours at:

Time + ¼					
Time + ½					
Double Time					

Note: Insert 24 hour clock times to give full 168 hours per week

Signed : .....

Position .....

Company .....

Date : .....

B.4 ALTERNATIVES

The tenderer is to state any alternative material they would wish to put forward, with the cost offset on his tender, particularly for any items mentioned in this section or elsewhere but is invited to mention any item that would lead to mutual advantage.

The alternatives I/we propose are:

Item	**Increase/Decrease (£)**

Signed : .....

Position .....

Company .....

Date :.....

B.5 DETAILS

The tenderer is to state in this section:

Reservations

In the preparation of my/our tender the following is my/our interpretation of the information submitted to me/us and/or the reservations I/we have are:

.....

.....

.....

.....

.....

Sub-Letting

The specialist firms that I/we propose to employ are:

.....

.....

.....

.....

.....

Site Electricity

The electricity supply that I/we would wish to have made available to us is:

Number of phases .....

Capacity - amps per phase .....

Signed : .....

Position .....

Company .....

Date :----------