

MECHANICAL AND ELECTRICAL SERVICES

TRADE PRELIMINARIES AND PREAMBLES

Revision F. Date 21/09/11

1 Introduction

- 1.1 This document is for the Mechanical and Electrical Contractor's (hereinafter referred to as the Contractor) guidance in pricing and should be read in conjunction with the other tender documents including the General Preliminaries and Preambles and specification and drawings relating to the Mechanical and Electrical Services Installations. These documents are not intended to be a definitive list of works and the Contractor is to allow for items normally be expected to be supplied and/or fitted by a Contractor, or for items, which could reasonably have been foreseen at tender stage.
- 1.2 Barratt Homes, David Wilson Homes and Ward Homes are all trading names of BDW Trading Limited hereafter known as "the Company".

2 The Works

The Contractor is to provide all the necessary design, labour, plant and materials for the proper execution of the contract works in accordance with the contract documentation.

3 Design

- 3.1 The Contractor is to be responsible for the design as indicated within the contract documentation. If there is any ambiguity in regard to the extent of the contract design the Contractor is to seek written confirmation from the Project Surveyor prior to returning their tender or entering into a contract. Failure to do so is confirmation from the Contractor that they are fully compliant with the requirements of the contract.
- 3.2 The Contractor is responsible for producing all necessary installation drawings. These drawings are to be issued to the Technical Co-Ordinator prior to the commencement of the installation, leaving sufficient time for comment/approval. The Contractor must not commence works prior to receipt of comment/approval of their drawings. No claims for delay due to poor or late issue of drawings will be entertained.
- 3.3 The Contractor is responsible for producing as-built drawings for inclusion within the O&M manuals. The Contractor is to note the statement regarding the production of this information and its relationship to payment as covered under the 'Preliminaries and Preambles' document.
- 3.4 The Contractor is responsible for the design and installation of all necessary secondary support required for services including all detailing of fixings back to the primary structure. The Contractor is to liaise with the Structural Engineer to ensure that supports and fixings are correctly co-ordinated.

- 3.5 The Contractor shall be responsible for the full co-ordination of services with other elements of the project. Where practical, the Contractor shall ensure that holes, openings and fixings are cast-in the structure. The Contractor should ensure that all cast in fixings have tolerance to suit the structural tolerances of the building.
- 3.6 The Contractor shall produce drawings / mark up other trades drawings to identify the location and extent of openings, holes, noggins, patresses and the like such that they can be incorporated into the manufacturing and construction process as the works proceed. Return / additional visit costs, including post cutting in lieu of forming, caused by late or incomplete information will be the responsibility of the Contractor.
- 3.7 The Contractor shall be responsible for providing all structural builder's work information in sufficient time and details to allow incorporation into the works by others
- 3.8 The Contractor shall complete and return a Design/Working Drawing Production Schedule. The Contractor shall then update these schedules on a weekly basis.
- 3.9 The Contractor shall complete and return an Information Required Schedule detailing all outstanding information required to proceed with the works.
- 3.10 The Contractor shall provide a programme of works covering all aspects of the works including design, installation and commissioning in conjunction with the Company's Construction Programme, which will then be used for monitoring purposes.
- 3.11 All drawings are to be prepared and submitted to the Company in sufficient time to enable them to be commented on by others. Such comments, if made, are to be incorporated onto the drawings, which shall then be used as "construction drawings". In addition to the number of drawings defined in the contract documents, the Contractor shall provide a reduced A3 copy of each drawing on which the comments can be marked and returned.
- 3.12 The Contractor is responsible for reviewing the DocElite web portal on a regular basis to ensure the Contractor is working to the correct drawing revision and information.
- 3.13 Prior to commencement on site the Contractor shall complete and return a Commissioning Programme.
- 3.14 The Contractor shall be responsible for ensuring that, in providing the above drawings, all relevant information relating to dimensions has been obtained via a site inspection.
- 3.15 Unless otherwise specified within the contract documents, the Contractor shall provide a draft copy of both the record drawings and operating and maintenance manuals six working weeks prior to first handovers

4 Construction

- 4.1 Any labour, plant, materials required for the proper execution of the contract works that the Contractor through experience, the undertaking of similar works, recognition of good building practice, Building Regulations, Statutory Requirements, British Standards, if applicable or Agrément Certificates, and NHBC requirements would deem as being necessary to facilitate the contract being fulfilled to the entire satisfaction of the Construction Manager. No claim arising for compliance with this requirement will be entertained if not identified by the Contractor prior to the award of contract.
- 4.2 The Contractor is to allow for working in accordance with the manufacturers recommended details except where expressly instructed in writing to deviate from the same.
- 4.3 The Contractor is to allow for all post drilling of all holes of 52mm diameter or less for the installations of their works.
- 4.4 The Contractor shall be responsible for marking-out and carrying out all builder's work requirements with the exception of structural builders work.
- 4.5 The Contractor is to include for fixing / drilling into all surface types / building fabric as necessary. The Contractor shall be responsible for making good wherever they drill or carry out other works which affect the building fabric including filling / sleeving holes for acoustic and / or fire purposes and making good any finishes / decorations disturbed.
- 4.6 As and where the Contractor is deemed to have included for providing and applying finishes in accordance with the Company's Requirements, they shall provide finishes that are compatible with other trades works.
- 4.7 The Contractor shall take account of all existing services located on or adjacent to the site whilst carrying out their works and must include for all necessary liaison with utilities companies.
- 4.8 The Contractor is to allow for connection to the proposed service supplies and underground drainage systems for the project.
- 4.9 The Contractor is to include for any service sleeves required for incoming services including ducts and pipes where required to feed the services to the required intake location or point of use as necessary.
- 4.10 The Contractor is responsible for the full cost of fuel provision for all testing and commissioning of the works.
- 4.11 The Contractor is responsible for all templates and mock-ups as required.
- 4.12 The Contractor must wear clean gloves when undertaking any works in areas where decoration or finished items have been installed.
- 4.13 The Contractor is responsible for ensuring that any items fixed to part of the building can be so supported. Where additional / independent support is required then the Contractor shall have allowed for provision of the same.



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- 4.14 The Contractor is to pre-fabricate off site as much of the work as possible to minimise on-site activities.
- 4.15 The Contractor shall allow for all spreader beams including all mountings etc. as required for the support of plant off of the building structure and as required to achieve support tolerances, which would not be provided by the building structure.
- 4.16 All sleeves required to be built-in are to be provided by the Contractor.
- 4.17 The Contractor is to provide all control panel cabinets and desks to suit the equipment and location including bespoke units where panels are displayed in general access areas rather than utility areas.
- 4.18 The Contractor is required to undertake all works necessary to service the lifts / lift shafts (all work within shaft, e.g. shaft lighting etc. will be by lift installer) including provision of power, venting of lift shaft etc.
- 4.19 Unless specifically excluded elsewhere in the contract documents, the Contractor shall design, supply and install all necessary earth bonding to IEE Regulations, including, but not limited to, sinks, pile work, ceilings, raised floors, lift guide rail bonding, extraneous metalwork (including gas metres), etc.
- 4.20 The Contractor shall provide all connectors for use in utilising the structural reinforcement as down conductors and shall be responsible for checking reinforcement prior to casting-in to ensure the required continuity is achieved.
- 4.21 The Contractor is to allow for all builder's work associated with earthing of lightning protection and the buildings power supply / metal components including the installation of proprietary earthing pits and the driving of earth rods including drilling obstructions where necessary.
- 4.22 The Contractor is to allow for the installation of plant to the required locations. The Contractor is to note the limitations regarding access and is to allow for lifting / moving equipment /assemblies and for stripping plant down into manageable components as necessary.
- 4.23 The Contractor is to allow for sectional testing and operation of the building services as necessary to facilitate handovers as required by the Company.
- 4.24 The Contractor is to allow for checking details and physical works to ensure that the requirements necessary for any pressure testing are met. The Contractor shall be responsible for any required pressure testing including re-testing where required. Any temporary sealing of vents, openings, doorways etc. required as part of the pressure test will be the responsibility of the Contractor.
- 4.25 The Contractor shall be responsible for all temporary service provisions required to suit the progress and sequence of the project, e.g. temporary rainwater installations / connections, where the permanent connections are not available.
- 4.26 Where suppliers / equipment types and models are not specified then the Contractor shall be deemed to have allowed for the same to meet the Company's approval and all items shall be of a type and standard commensurate with that of the development.

- 4.27 The Contractor shall complete and return a Material Procurement Schedule. The Contractor shall then update the schedules on a weekly basis. The Contractor should note manufacturer's delivery periods and drawing preparation/approval periods if applicable. Orders shall be placed in ample time to meet the programme requirements.
- 4.28 The Contractor shall, prior to commencement on site, provide a full set of working drawings on disk, in AutoCAD® format, in addition to those required in paper format.
- 4.29 The Contractor shall liaise and co-ordinate with other relevant contractors involved in the development to ensure that service clashes are avoided.
- 4.30 The Contractor shall liaise and co-ordinate with other contractors in relation to the execution of his works on site, to ensure that related trades are not unduly disrupted during the execution of the works.
- 4.31 The Contractor shall ensure that sufficient access is available to carry out routine service/maintenance and replacement of all sections of the installation.
- 4.32 It shall be the Contractor's responsibility to inspect all plant and equipment prior to its installation to ensure its compliance with relevant Standards and Specification and that it is not defective. Should this prove not to be the case, all costs incurred in the removal of the said item/items, together with costs incurred by other trades, shall be the responsibility of the Contractor.
- 4.33 The Contractor shall provide all plant and equipment weights and point loading in sufficient time and detail to allow the information to be incorporated into the structural design.
- 4.34 The Contractor shall provide all necessary information in sufficient time and detail to allow the forming of openings in roofs and associated curb up-stands and weathering by others.
- 4.35 The installation(s) shall comply with the standards of good practice and workmanship generally acknowledged in the relevant industry, only labour qualified by trade test (where applicable) or of accepted grade for the particular works shall be employed.
- 4.36 The Contractor shall keep on site throughout the contract a competent person who shall act on their behalf as representative and receive such instructions as are necessary for the execution and completion of the works. The Contractor shall ensure that they are represented at all site meetings or meetings called during the contract period. This shall be a person with the necessary authority to action relevant matters associated with the execution of the contract.
- 4.37 Having regard to the normal operation of the site, the Contractor's attention is drawn to the need to exercise the greatest care in observing Safety Rules for the protection of all concerned and that any temporary work or work outside normal working hours must be included. No claim for extra cost in this regard will be considered.
- 4.38 In accordance with the requirements laid down in the contract documents, all concealed services including pipe-work, conduits, etc., shall be offered for inspection and testing in accordance with industry recognised standards. The Site Manager shall carry out witnessing. Approval shall be sought and provided in writing before any form of permanent cover is applied.



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- 4.39 The Contractor shall be responsible for inspecting and offering the works for acceptance by the Site Manager. The Contractor will also be responsible for ensuring that any snags arising from such inspections are cleared and recover the works for inspection. Should the re-inspection be aborted as a result of any snags not being cleared, the Contractor will be held liable for any abortive costs including fees from the Company for administration costs.
- 4.40 The Contractor shall establish the fire compartmentation of the building(s) and, where services leave or enter these compartments, shall arrange to fire stop the penetrations. In all cases, fire stopping applied shall be suitable for maintaining the fire rated barrier's integrity. This will apply to both wall and floor penetrations. Certification of fire stopping material's suitability shall be provided.
- 4.41 The Contractor shall forward their Health & Safety proposals as a document and method statement for carrying out the works set out in accordance with the contract documents and the CDM Co-ordinator's requirements.
- 4.42 The Contractor shall keep on site a set of working drawings for the purpose of regularly marking/recording changes to the installation. For use in the preparation of "as fitted" drawings. The Company reserves the right to inspect the marked up set of drawings at any stage throughout the duration of the contract.
- 4.43 The Contractor shall be responsible for ensuring that the works conform to the relevant Standards and Specification and, as such, has been tested and commissioned in accordance with the prevailing British Standards and Codes of Practice.
- 4.44 The Contractor shall be responsible for liaison with all relevant statutory and local authorities where these are applicable to the Contract order.
- 4.45 The Contractor shall comply with the Company's hot work permit schemes. In particular, suitable provision and protection shall be afforded surrounding areas to prevent heat damage. The Contractor shall ensure that a fire extinguisher is located adjacent to the works wherever a naked flame is being used.
- 4.46 All gas bottles must be stored on a proprietary bottle trolley and stored in an agreed locked storage area outside the building when not in use.
- 4.47 The competent persons carrying out the testing and commissioning shall tabulate the results on an approved document and, where needed, obtain the necessary witness signature.
- 4.48 The results, in the form of completed certificates, are to be handed over on the completion of works. They shall also form part of the Operation and Maintenance documentation.
- 4.49 In the absence of specified criteria and format for the operating and maintenance manuals, the Contractor shall adopt BSRIA Application Guide 1/87.1 for the format and content of the manuals.
- 4.50 The Contractor shall allow for liaison with the Site Manager and the specialist ceiling contractor for reasonable removal of ceiling tiles/access panels for commissioning purposes by means of a marked up drawing – where applicable.



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- 4.51 Should the need arise to return to the project after practical completion, the Contractor shall arrange, via the Company, to carry out the works and shall notify in writing within twenty-four hours of the visit details of the work carried out and any items outstanding.
- 4.52 The Contractor will be required to provide the Company with equipment data of plant for issue to the consultant for approval prior to order of the plant.
- 4.53 All works must also comply with the current I.E.E. wiring regulations including subsequent amendments, the regulations of the Local Electricity Supply Authority and any local bylaws. Any amendments or revisions to these regulations, effective at the time of installation, must be complied with and incorporated.
- 4.54 The Contractor shall allow for the removal and re-fixing of equipment/fittings for decorations and or flooring, if required.
- 4.55 The Contractor shall allow three monthly inspections of electrical equipment to site offices/compounds.
- 4.56 The Contractor is to allow for 'push-fit' back boxes to suit drywall construction.
- 4.57 Telephone installations are to include for conduit and cable to run from outlet point to BT connection point.
- 4.58 The Contractor shall allow for smoke detectors to be mains operated with battery backup.
- 4.59 The Contractor shall provide all consumer Units with 'locking brackets' to allow the units to be locked-off during the construction phase of the installation. Following which, the hole should be replaced by a bung to close the hole at handover stage. Refer to the Schedule of Materials for the part specification for the locking device.
- 4.60 The Contractor is to allow for Apartment ventilation extract system; including all necessary adaptors, acoustic attenuation and external vents / grills.
- 4.61 Where Boilers are to be installed in Apartments, the Contractor must position these as close to the external wall as possible to reduce flue run and risk of flue failure.
- 4.62 The Contractor is to allow for dry and wet risers including outlet boxes.
- 4.63 Where under pelmet lighting is specified, the Contractor shall allow for wiring and connection.
- 4.64 The Contractor shall allow for the installation of Carbon Monoxide Alarms where a gas-heating boiler is installed, in accordance with the Company's specification.
- 4.65 The Contractor shall allow for meters and meter boxes.
- 4.66 The Contractor shall allow for tank stands and bases.
- 4.67 Burst pipes through negligence on the part of the Contractor are the Contractors' responsibility and damage caused will be recovered through contra charge.

- 4.68 The Contractor is responsible for the provision and fixing of all sanitary ware including kitchen sinks.
- 4.69 The Contractor is responsible for the provision and fixing of all bath panels, shower doors and bath screens.
- 4.70 The Contractor shall allow for the supply and fix of hot and cold supplies and waste for washing machines and dishwashers to meet the requirements of the local water authorities.
- 4.71 The Contractor is to allow for return visits to make good any snags, defects or damage as necessary including providing replacement materials where repairs are not possible / acceptable to the Company.

5 Materials & Workmanship

- 5.1 The Contractor is responsible for the provision of all plant and materials required for the proper execution and completion of the sub-contract works. All materials and plant are to be in accordance with those specified within the contract documentation and are to be installed in the correct manner in compliance with the same and the relevant codes of practice.
- 5.2 The Contractor is to ensure that as far as can be ascertained by visual inspection, all materials incorporated into the works conform to the requirements of the specification and are fit for their intended purpose.
- 5.3 The Contractor is to purchase all materials in accordance with the Company's Group Suppliers Procurement Agreements.

6 Protection

- 6.1 The Contractor will be required to provide protection to the adjacent works/structures as required and to the finished installations (notwithstanding remaining responsible for their materials if permitted to be stored on site). The Contractor remains responsible for all materials until incorporated into their final position and the Company accepts the unit or phase as complete.
- 6.2 The Contractor shall ensure that all fixed and unfixed materials and plant are fully protected from physical damage, the elements and the ingress of foreign bodies, particularly pipes and ducts which must have end caps fitted. It should be noted that equipment damaged or showing any signs of corrosion, rust or have any flux present will be rejected, removed and replaced by the Contractor at his expense.

7 Setting Out

- 7.1 The Contractor is to be responsible for setting out the works and must be included for in the tender. The Site Manager will provide a datum and reference point. It is the Contractor's responsibility to verify the accuracy of any given reference and datum points.

8 Clearing Waste / Surplus Materials

- 8.1 Work environment must be kept clean and clear at all times. The Site Manager has the authority to arrange for the removal of any materials left lying about the site or for cleaning out materials left by the Contractor (at the Contractor's expense).
- 8.2 The Contractor is deemed to include for clearing all surplus materials to a central waste segregation area and loaded into skips on a daily basis or as directed by the Site Manager.
- 8.3 The Contractor is deemed to include for clearing all waste materials to a central position on site, loaded into skips or as directed by the Site Manager for removal by the Contractor at the end of each day.

9 Craneage and Hoisting

- 9.1 The Company will provide a crane and/or hoists. However, due to use by other trades, inclement weather and downtime, continuity of work cannot be guaranteed, and therefore liability for costs incurred due to unproductive / inconsequential work will not be accepted. The Contractor must make due allowance for this in their tender.
- 9.2 The Company will provide a banksman at point of delivery (1 banksman per crane only). It is the subcontractor's responsibility to provide slingers at the point of off-load

10 Plant

- 10.1 The Contractor is to allow for the provision of all plant necessary for the proper execution and completion of the works.
- 10.2 No daywork will be paid for standing time due to the breakdown of any equipment provided by the Contractor or the Company.

11 Tools

- 11.1 The Contractor is to allow for the provision of all tools necessary for the proper execution and completion of the sub-contract works.
- 11.2 No daywork will be paid for standing time due to the breakdown of any equipment provided by the Contractor or the Company.

12 Loading Out/Unloading

- 12.1 The Contractor is required to carry out all necessary unloading of deliveries to a storage area (if permitted by the Company within their scope document) and/or directly distribute to where they are to be finally incorporated into the scheme.
- 12.2 The Contractor is responsible to ensure in a timely manner that the correct materials are available before work commences.

- 12.3 The Contractor shall coordinate the delivery of and storage of all materials and equipment with the Site Manager.
- 12.4 The Contractor shall remain responsible for all materials and the Company accepts no liability for any loss or damage however occurred.
- 12.5 Any double handling of materials on site is deemed to be included in the Contract.

13 Scaffold

- 13.1 The Contractor is to refer to the schedule of attendances within the tender documentation to determine the extent of scaffold that they are to provide (labour and plant) and remain responsible for the erection, maintenance, dismantling and removal from site.
- 13.2 Where required the contractor should include, within the tender, for the collection, erection and dismantling of internal proprietary fall protection.
- 13.3 Where any scaffold or fall protection is required as part of the works, the BDW Trading Ltd Scaffolding trade specification must be complied with, including the provision of appropriate training for those to erect or dismantle the structures.
- 13.4 Trestles must only be used internally up to a height of 1 metre on firm level ground. The use of trestles externally is **STRICTLY PROHIBITED**. The trestles, which are to be used, must conform to the Working at Height Regulations and shall include handrails and toe boards.
- 13.5 The Contractor is to include for all making good to the entire satisfaction of the Site Manager following dismantle of any scaffold or fall protection.
- 13.6 The Contractor shall be responsible for provision of all suitable safe access equipment required to execute the subcontract works.
- 13.7 Only accredited-trained personnel shall operate mobile elevated work platforms.

14 Power and Lighting

- 14.1 The Contractor is to include for all necessary power leads/cables etc. to carry out the works. In addition the Contractor is to provide all necessary task lighting for the execution of the works.

15 Contract Sum

- 15.1 The Contractor will be deemed to have priced all items within these trade preliminaries and preambles whether indicated on the Tender Summary or not.
- 15.2 The pricing document should be submitted fully completed, each item being priced individually. Where applicable Bills of Quantities and/or Schedules of Rates are to be submitted.



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- 15.3 The Contractor is to allow within his tender for all necessary investigations and notifications. All specified tests are to be allowed for in the Contractor's tender.



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MECHANICAL AND ELECTRICAL SERVICES

TRADE PRELIMINARIES AND PREAMBLES AGREEMENT

Revision F. Date 21/09/11

This Trade Preliminaries and Preambles Agreement relates specifically to the Company's development at

I confirm that I have read and understood the foregoing Preliminaries and Preambles and that my prices include for all items contained therein and will "remain fixed" for a period of:..... as outlined in the Enquiry letter.

SIGNED:

FOR AND ON BEHALF OF:

.....

DATE:

N.B. The contractor is to sign this Agreement and return it with his Quotation. Any prices received without this Agreement will be excluded from consideration.

- Revised: Rev A – 3 January 2008
- Rev B – 1 May 2008
- Rev C – 13 May 2008
- Rev D – 30 September 2008
- Rev E – 1 August 2010
- Rev F – 21 September 2011