

CAPITA SYMONDS

Appendix B

**Peter Deer & Associates Outline Services Specification
dated 29 February 2012 .**

The Elephant House

3526

Outline Services Specification

29 February 2012

The building services will be designed and installed to comply with current Building Regulations, British Standards, CIBSE guidelines, Commissioning codes, Current wiring regulations and other relevant regulations.

Plant locations

Principal plant locations are as follows:-

VRF plant	Roof level within valley and other areas subject to structural verification
Fresh air AHU	Roof
Electrical and mains	Basement
Main DB and meter	Basement
Distribution	Per floor

Plant Interconnection and general distribution is through services riser ducts (TBC) but generally located adjacent to core areas and in a vertical location above the existing basement boiler room. (All subject to design development)

Riser routes to M&E and data is to be provided between the roof, basement and interconnecting floors.

Floor/floor services distribution

Basement	Galvanised tray and perimeter/column trunking – surface
G – 1 st	Raised access floor
2 nd	Raised access floor

Where raised floor is impractical provide tray and or data trunking to agreed locations.
Other services are to be surface.

MECHANICAL SERVICES**1.1 Heating / Cooling**

The proposed installation utilises system of VRF heat pumps that can provide heating and/or cooling with heat recovery:-

Design/performance

Winter External condition	-3 ⁰ C,
Winter Internal condition	23 ⁰ C (resultant)
Summer External condition	32 ⁰ C db 21 ⁰ C wb for estimation of gains
	System to operate up to an external temperature of 38 ⁰ C to allow for future increase in city temperatures
Summer Internal condition	24 ⁰ C ± 1.5 ⁰ C no specific control of RH.
Fabric gain	- as CIBSE Guide
Solar gain	- as CIBSE Guide
People	- 1 person per 10m ² , 90W sensible, 50W latent,
Infiltration	- 1 air change per hour (summer and winter)
Fresh air	- Ducted fresh air, Minimum of 12 l/s/person
Business Equipment	- 25W/m ²
Lighting	- 11W/m ²
Miscellaneous	- 4W/m ²

Limitation on off coil temperature

FCU and other indoor units shall be selected using high sensible outputs and be over indexed with excess airflow relative to cooling capacity and have effective limitation to prevent off coil temperatures on FCU falling below 12°C. Where ceiling discharge is used the air distribution is to be via high induction (rapid mixing) diffusers to reduce off coil temperature in the occupied zone.

Fresh air distribution

To be by galvanized surface distribution arrange to co-ordinate with the lighting and other high level services.

Fan coil locations (all subject to design detail)

1. Basement low level floor standing
2. Ground-1st Ceiling horiz FCU with induction grille
3. 2nd Arrangement to be confirmed (as 1 or 2 above to suit the timbered frame)

1.2 Ventilation

Offices	-	Mechanical as above 1.1
Plant areas	-	Natural ventilation via windows
Common parts	-	Natural ventilation
WC	-	Mechanical extract 6 a/c/hr (minimum)

1.3 Controls

A manufacturer's control system will provide digital control of the air conditioning. The system will be time-controlled with a master controller and individual controller per floor. No BMS to be provided but system control to be capable of interconnection to the tenants BMS via a suitable interface (not supplied)

Common plant to be time switch controlled.

1.4 Sanitary & Plumbing

Existing mains water supply to be reused. Mains supply to be taken to agreed location and sized for tenant fit out of showers etc.

Mains fed systems throughout

General HWS generation by electric water heaters on each floor within the WC core and individual electric showers.

All drainage inspection, repaired as needed and reused.

Underground drainage to have a CCTV inspection, be cleaned by jet washing and reused.

1.5 Tea points

Service capacity for tea point facilities to be provided on each floor of tenant demise. Services comprise water connection and waste connection for connection and extension by tenant.

ELECTRICAL SERVICES

Power

Existing main UKPN head retained, existing meters retained and reused. 400amp head – availability to be confirmed.

New main board and distribution boards.

A/C to be fed from the floor served – one or more system per floor

Each floor is to be served from a sub-metered supply. Local Sub metering shall be provided to separate lighting and power and A/C use.

Distribution boards shall be surface mounted painted metal enclosures, painted finish. Manufactured to comply with BS 5486

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All electrical services on finished areas shall be installed exposed in surface mounted galvanised steel trunking and/or conduit.

Accessories shall be surface mounted as MK Metalclad Plus. Minimal small power shall be provided with potential for future extension to suit the tenants fit out.

Design power allowances on LV distribution.
25W/m² business machines.
11W/m² lighting.

Lighting

Office lighting shall comprise ceiling suspended (or direct mounted) linear direct/indirect fluorescent fittings arranged to provide lighting in compliance with Part L (2006).

Notional lighting level (within the lighting array) shall be 300lux average

Emergency escape lighting and exit signage is provided as required to comply with BS5266, relevant regulations and building control requirements.

Lighting is to be PIR controlled with both whole floor and master (whole building) off facility. Each local circuit to have switched and unswitched live to permit cellularisation.

External lighting to final exit points and entrance yard.

Fire Alarm and Detection System

Analogue Addressable Fire Detection and Alarm system shall be provided to all areas to comply with BS5839 with L1 arrangement in open plan configuration.

Sufficient capacity will be allowed to permit cellularisation, but initial installation shall be to open plan

Door Entry System

Ground floor main reception entrance is provided with an audio/visual access control/door entry system. System to link to site access gate and front door.

Audio/visual hand set linked to main reception entrance and provided on each floor.

Data link

A route for tray, ducts (other other agreed containment) is to be provided to link this building with 17 Hawley Crescent.

Data installation

Tenant supply – containment system to be provided to an agreed level in basement and 2nd floor