

# Specification

## 1.0 Structure

### 1.1 Loadings

The following indicate the imposed floor loading allowances:

Location	Live Load Allowances (KN/m²)
Office floors	3.5 (+1.0 partitions)
Dealer floors	4.5

Note: 5% of office floor area is designed to accommodate enhanced loadings of 7.5 KN/m².

### 1.2 Below Ground Structure

The basement levels of the existing building are substantially retained allowing re-use of the existing foundations, improving speed of construction.

These are supplemented by new piles and pile caps outside the existing basement line to the south west of the site. The whole building is being developed on a plinth 5.2m above sea level thereby negating flood risk.

### 1.3 Structural Grid

The structural grid is typically 15.0m x 7.5m and 7.5m x 7.5m.

### 1.4 Frame

Structural steel columns and beams with composite slab construction. Beams have web openings for services distribution.

### 1.5 Raised Floors

Typically 150mm overall, with levels 2 and 3 enhanced to 350mm.

### 1.6 Floor to Ceiling Heights

Generally 2.75m with 3.075m on levels 2 and 3.

## 2.0 Mechanical Services

### 2.1 Occupancy Density

Typically 1 person per 10m², with 1 person per 7m² to designated areas on levels 2 and 3.

### 2.2 Air Conditioning

4-pipe fan coil units (2-pipe internal zone) fed by centralised low pressure hot water and chilled systems.

### 2.3 Office Outside Air Ventilation

Outside air ventilation and extract air to the office areas are being provided from central air handling plant at basement level. Outside supplied at a rate of 12 l/s/person, based upon occupational densities above.

### 2.4 Chilled Water System

Chilled water will be provided by packaged air cooled water chillers located externally at roof level and will serve a common chilled water system feeding the tenants' offices and landlords' plant. 10W/m² upgrade capacity will be included in the plant and risers.

The main branches onto the floor will consequently be sized to include for 35W/m² small power load allowance with Cat A fit-out based upon 25W/m².

The designated trading zones (located on levels 2 and 3) will have chilled water branches onto the floor sized based upon 120W/m² small power cooling load allowance for 2500m² on level 2 and 3000m² on level 3 (the remainder being as for the standard office allowance).

### Condensed Water System

A separate condensed water system is being provided with branch connections onto the office floors for use by tenants for IT equipment cooling. Dry cooler provided at level 7 for heat rejection.

### 2.5 Atria Environmental Control

The atria spaces are provided with tempered and cooled air to moderate the climate in the occupied zones at the base of the atria. Where appropriate this is supplemented by underfloor heating.

Outside air make-up to the base of the atria for extract air make-up in smoke extract operation by automatic opening doors at low level in the atria.

### 2.6 Mixed Mode Operation

The south east office space incorporates opening vents to the inner skin of the double skin façade to facilitate natural ventilation, if so required. This will be supplemented by an underfloor displacement ventilation system for mixed mode operation.

The facility will exist for a conventional fan coil system to be installed on level 4 (levels 2 and 3 finished to shell and core) if desired in the future by an incoming tenant.

### 2.7 Building Management System and Controls

The building services plant is provided with DDC automatic control. The BMS controllers associated with the plant are intelligent and addressable and are connected via a communication network to a central network controller.

### 2.8 Vertical Transportation

#### 2.8.1 Escalators

Escalators are provided as follows:

- Level 1 to level 2 (north of the main core) with structural provision for future escalators between levels 2 and 3.

- For the floor level change between the entrance (level 1) and atrium base.

#### 2.8.2 Passenger Lifts

These comprise of a group of eight, 24 person destination hall call passenger lifts travelling at 2.5m/s rated at 1800kg, serving levels 1 to 11.

A separate group of three 24 person destination hall call passenger lifts are provided at the southeast end of the building travelling at 2.0m/s also rated at 1800kg.

The lifts have been designed on an occupancy density of 1 person per 12m² (with 10% absenteeism). An average waiting time of less than 30 seconds will be achieved with a handling capacity of 14% of the predicted population in a five-minute period.

#### 2.8.3 Fire Fighting Lifts

There are three fire fighting lifts:

- Lift car size: 8 person, 630kg  
- Lift speed: 1.0 to 1.6m/s

#### 2.8.4 Goods Lifts

Two goods lifts located in the central core serving the office floors and operating between level -2 and level 11:

- Lift capacity: 2000kg  
- Lift speed: 1.6m/s

#### 2.8.5 Car Park Transfer Lift

Secure access provided between the parking areas in the basement and lobby level 1 by means of a 16 person, 1200kg passenger lift @ 1.0m/s.

A separate lift is provided for cycle access to the car park area by means of a 21 person, 1600kg passenger/goods lift @ 0.5m/s.

## 3.0 Electrical Services

### 3.1 Electrical Distribution

The tenants' and landlords' areas are supplied via a dedicated HV supply. The retail units have a sub-metered supply from the landlord switchboard.

The 11KV supply serves the office and landlord areas from the EDF switchgear located in the basement via multiple landlord transformers and switchgear.

### 3.2 Standby Power

An 800 KVa landlord's standby diesel generator is being provided at basement level to serve life safety systems.

Space is being provided within the basement for the future installation of two further tenants' standby diesel generators (see also 4.2 below).

Space provision available for the future installation of a tenant UPS system by converting tenant storage space at basement level.

### 3.3 Lighting

Cat A floors provided with recessed T5 luminaires supplements with perimeter downlights (or an equivalent capital contribution to the tenant).

Cat A lighting is to be controlled via a combination of ceiling-mounted presence detection and daylight sensors.

### 3.4 Telecommunications Services

Telecommunications (telecom) riser cupboards separate from the tenants' and landlord's power risers and cupboards provided for tenants use.

Two incoming telecoms frame rooms provided with multiple duct entries into each from Upper Thames Street.

### 3.5 Security and CCTV

A landlord CCTV system is to be provided to cover roof areas, ground floor, lower ground and basement areas, including car park entry locations for CCTV surveillance and door entry system.

The entrance hall is designed to incorporate a bag screening system to be installed by the tenant(s), if desired. The level of security cover and detailed logistical arrangements are to be agreed.

### 3.6 Satellite Master Antenna TV System (SMATV)

Space provided on the roof for the future installation of a SMATV system. Space also provided for future installation in the tenant electrical riser or comms cupboards for cabling in connection with the SMATV system.

## 4.0 Services Provisions For Office Tenant

### 4.1 Mechanical Services

Capped and valve chilled water connections at each office floor, providing an additional 10W/m² cooling capacity for extension by the tenant if additional cooling is required (non-trading).

Space at roof level above the fire station for future tenant condensers.

Space for kitchen supply and exhaust ducts and associated plant.

Spare gas connection(s) within meter room for future tenants' kitchens.

Provision for the following plumbing services will be provided for future extension by the tenant at designated positions on each level and for each notional tenancy split.

Water Services: 22mm drinking water connection, valved and capped within the service risers at high level within ceiling void at three locations on each level.

Drainage Piping: Capped connections at three locations on each level.

Ventilation Piping: Capped connections at high level within ceiling void at three locations on each level.

### 4.2 Electrical Services

Circa 20% spare outgoing ways on the main 400 volt switchgear for future connection of outgoing ways.

Provision in tenants' electrical risers for additional sub-mains cabling.

Separate intake rooms and cable tray to tenants' telecommunications risers for telecommunications cabling.

Storage space suitable for installation of centralised UPS systems.

Space for two 2.3MVA (prime) tenants' standby generators in addition to installed landlords life safety generator plant based upon CAT3516BTA sets.

Cable containment system (conduit / trunking / draw-wire) for future security and CCTV systems shall be provided.

Provision for future installation of SMATV system.

## 5.0 Energy Efficiency Measures

The building services include the following energy efficiency measures:–

- Photovoltaic cells at roof level.
- Heat recovery on main office air handling plant.
- Condensing operation on the heating system.
- Variable speed drives to designated plant for capacity control.
- DC motor technology on fan coil units.
- BMS Control with out of setpoint and energy monitoring facilities.

The building fabric includes the following energy efficiency measures:–

- Double skin façade with motorised interstitial blinds to the upper levels of the main buildings south facing elevation.
- External solar shading structure to the south elevation of the south west building element.
- High performance interlayer coatings to the east and west façades with supplementary fritting for enhanced solar gain control.
- Optimised building fabric thermal insulation values to reduce heating loads in winter.
- If required by the ingoing occupiers mixed mode displacement ventilation operation to south east space and sun tracking louvres.
- Greywater and rainwater harvesting.
- 20% improvement over Building Regulations Part L2 requirements.
- BREEAM "Excellent" expected.