

Technical Specification

Overview

- 3 x 13 Person passenger lifts
- BREEAM-Excellent
- Wired Score- Gold targeted
- Automatic dimmable suspended LED lighting for office space
- Electric charge points

Mechanical services

Utility Supplies – Incoming Services

The existing services to the site will not be suitable for retention with the new scheme and will need disconnection and renewal.

Electrical Supply

The building is provided with two electrical supplies of 400 kVa each capacity. Each office floor will be provided with 2 no 100A TP&N distribution boards located in the risers via busbars.

Gas Service

The existing gas service to the site is disconnected. A future gas supply has not been considered therefore reduces the NOx emissions from the building.

Water Supply

The building has two existing incoming mains water metered supplies entering at basement level from the west side of the building. One serves the landlords systems and other serves the offices.

Drainage Services

The existing drainage services to the site will need renewal and replacement with Rainwater attenuation required to meet planning requirements (refer to structural engineers for details)

Telecoms and Fibre

New telecoms and fibre infrastructure will be required to the site in accordance with the Wired Score aspirations of the development. Diverse routes into the building will be required.

M&E Design Summary

Design standards

The M&E services proposed have been assessed on the following basis to obtain the conditions specified.

External Conditions

Winter	-4°C/saturated
Summer	30°C db/20°Cwb

External heat rejection plant (VRF condensers) to be selected against 35°C ambient conditions to allow for plant enclosure effects

Internal conditions

Winter	21°C ± 2°C
Summer	24°C ± 2°C
Shower areas	21°C (heated only)
Circulation Areas	18°C (heated only)
Toilet Areas	18°C (heated only)

Occupancy

The occupancy density for calculations of thermal loads shall be based upon one person per 8m² (NIA). Heat output per person shall be assumed as being 80 Watts (sensible) and 60 Watts (latent) during summer peak. Occupancy for public health and lift provisions shall be based on one person per 8m².

Infiltration

Allowances for heat gains and losses due to natural air infiltration shall be based on the following air change rate:-

Summer	0.5 air changes per hour
Winter	0.5 air change per hour

Noise Criterion

The mechanical services shall be designed and equipment selected to achieve a noise rating not exceeding the following:-

Open plan office	NR38
Reception	NR40
Toilets	NR45
Lift lobbies/ corridors	NR40
Changin Rooms/ Showers	NR45

External site boundaryIn compliance with the acoustic consultant report based on 24 hour operation

Fresh Air

Fresh air allowance of 14 l/s per person will be provided for office areas at 1 person per 8 m² inline with latest BCO guidelines.

Basement shower / changing areas:

Mechanical ventilation fresh air supply - 6 ac/h.

Basement car park is naturally ventilated via façade louvres and openings to ground floor.

Reception

10 l/s per person

Environmental Control

The offices will be comfort cooled and heated by a Variable Refrigerant Volume (VRV) heat recovery system.

The Ground Floor Office Reception area will be comfort cooled and heated by a dedicated (VRV) heat pump system.

Heating System

Stairwells and ancillary spaces will be heated by electric radiators with built in programmable temperature

and time clock controls.

Soil & Waste Water System

A fully vented soil system will be provided to remove the effluent from the various sanitary appliances throughout the offices demise. Dedicated soil and vent pipes with branch connections will be provided in the Cores to serve Tenant's Tea Stations.

Rainwater System

The rainwater system will carry rainwater from roof levels via gravity. Using the minimum of pipe work and fittings necessary, the individual stack will connect to the existing below slab drainage drainage system at basement level.

Potable Cold Water Supply System

The office boosted potable cold water mains supply will be provided and distributed through dedicated landlord's risers to provide water to the toilet core. Valved and capped drinking water connections will be provided within each office floor for future tenants needs.

Domestic Hot Water Service

Hot water will be provided to the office toilet core and shower area in the basement via a centralised roof top mounted electric calorifier. The hot water will be distributed through the dedicated landlord's risers.

Building Management System

A BEMS controls system will be provided to give fully automatic control of the HVAC systems.

Dry Riser

One dry riser/falling mains will be provided in the building within the firefighting core to serve all floors

apart from the ground floor. The dry riser inlet will be located in the façade of the building on the elevation.

Lighting Heat Gain

The design of the air-conditioning system shall allow for a heat gain, due to artificial lighting, of 8 W/m².

Small Power Gain

The design of the air-conditioning system shall allow for heat gain, due to small office equipment of 20W/m².

Electrical Services

The electrical installation shall be designed to the following criteria:-

General Lighting

Lighting will be designed generally in accordance with the CIBSE lighting guide and BCO guide 2019 for interior lighting to allow tenants to comply with the CIBSE lighting guide for office lighting and BS EN 12464-1-2011 office lighting.

Lighting controls will include daylight management to perimeter offices and occupancy control to all spaces. Lighting shall be direct/indirect with hard worded lighting control modules.

Lighting

Office Lighting	400 lux
Core / WC Lighting	200 lux

Power

Small Power Tenants	20 W/m ² +
Additional 10 W/m ² capacity at the	
Lighting Tenants	8 W/m ²

Emergency Lighting

1 lux along defined escape routes in accordance with BSEN 1838 (BS 5266).

Fire Alarms

An analogue addressable Type L2 system protection of all escape routes from the building. Protection of life in accordance with BS 5839 part 1, with single stage evacuation.

Life Safety Systems

Smoke automatic opening vents (AOVs) will be provided at the head fire protected stair cores.

BREEAM

The building services systems have been designed to meet the building BREEAM target of "Excellent" (2014).

Be Lean

- An air permeability rate of 15 m²/ (h.m2) at 50 Pa
- Energy efficient lighting and heating and controls
- Appropriate energy metering and monitoring
- Provision of energy efficient appliances

Be Clean

Highly efficient Air Source Heat Pumps powered by renewably sourced electricity from the grid resulting in minimum carbon emissions being produced.

Be Green

Highly efficient Air Source Heat Pumps considered as renewable technology are to provide heating and cooling.

BREEAM

BREEAM refurbishment 'Excellent' Rated targeted

CIBSE TM52

Dynamic Simulation Model (DSM) to ensure thermal comfort to users