Service:	MEP – Residential Led Scheme	**Date:**	26/01/2023
Subject:	MEP Strategy Statement	**Issue No.:**	02
Project:	Greggs Bakery	**Status:**	For Information

The services strategy for the site has been developed to meet the both the requirements of Greater London Authorities, London Plan 2021 targets and compliance with all current Building Regulations.

The key overall targets focus on energy efficiency, CO2 emissions, water conservation and sustainable drainage.

In summary, the proposed development incorporates a number of improvements which combine to demonstrate a high degree of sustainability and an improvement in reducing the site wide carbon emissions by at least 35% more than the building regulations compliance target as detailed in the Energy Strategy Report.

Heating and hot water generation to the residential apartment blocks shall be provided through the use of Low Zero Carbon Technologies (LZC). A centralised reversible air source heat pump and dry air coolers shall provide a condenser water loop distributed to each apartment. The centralised plant comprises reversible air source heat pumps, a dry air cooler, thermal store, pressurisation unit and circulation pumps.

The condenser loop system shall incorporate valved and capped pipework connections to allow for a future plate heat exchanger and connection into a district heating network. This this shall include space allocation for the future plant and equipment within the plant room and pipework routes through the structure to ensure this can be easily implemented. The details of the provision of future connections and plant shall be incorporated within the plant replacement strategy for the project during the design phase.

Individual heat pumps connected to the condenser water loop in each apartment, provide hot water generation via hot water storage cylinders and heating via fan assisted radiators. The heat pumps shall have both a heating and cooling facility, the latter being utilised to reduce the risk of overheating.

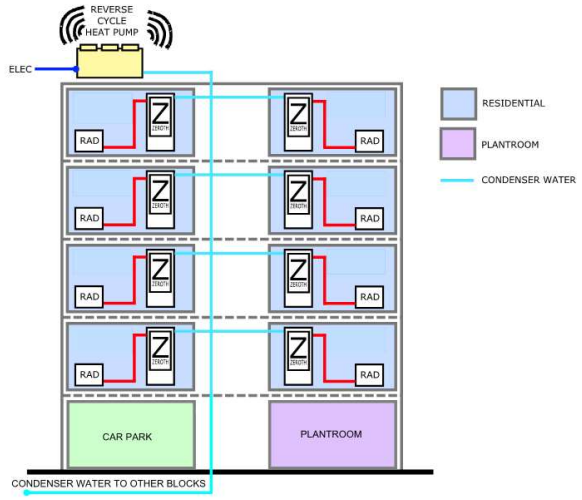

Figure 1 - Apartment block system illustration

Figure 2 – CGI of Utility Cupboard Layout with heat pump

The townhouses will be served by standalone split air source heat pump system, provide hot water generation via hot water storage cylinder and both heating and tempered cooling, the latter being utilised to reduce the risk of overheating.

The LTHW pipework side of the ASHP systems serving the townhouses shall incorporate valved and capped pipework connections and the ASHP's shall be replace with plate heat exchangers connected into a future district heating network. The commercial office will require the envisaged VRF simultaneous heating and cooling system to be replaced as part of a refurbishment to utilise a district heating system which shall be dependant on the proposed office use and cooling requirements.

All the apartments and townhouses are mechanically ventilated building due to window opening restrictions as a result of acoustic implications across all blocks resulting in a requirement to not rely on openable windows to overcome any overheating risks. As the proposed systems to both the apartments and town houses have the capability to also provide cooling this shall be utilised as well. As part of the TM59 assessment window areas were reduced and other measures reviewed to comply with the overheating criteria as detailed in the Overheating report.

Mechanical Ventilation to both the apartments and townhouses, will utilise System 4 Mechanical Ventilation with Heat Recovery (MVHR). As detailed in the overheating report, the MVHR units will provide elevated air change rates/summertime boost in the townhouses, to prevent the risk of overheating occurring within all habitable rooms. During periods outside of high external ambient temperatures the ventilation systems will operate using trickle/boost facilities in order to meet the ventilation criteria set out in Approved Document Part F.

Potable water will be supplied to each apartment via a central storage tank and cold water booster set, to ensure adequate water pressures at each outlet.

Potable water to each of the townhouses, will be fed directly from the new mains water supply from Thames Water.

The water services and selection of sanitary fitting and white goods together with the incorporation of water saving products shall be designed in line with Approved Document Part G to ensure they are water efficient to meet the minimum 125 litres per-person-per-day with aspirations to achieve 110 litres per-person-per-day of potable water to be developed during the design phase.

Landlord's water supplies will be provided to bin stores and irrigation points.

From a fire and life safety perspective, it is envisaged category 2 sprinklers will be installed in all open plan apartments, utilising combined potable water tank/pumps. However, this is to be confirmed following issue of the fire strategy.

Smoke extract ventilation shall be provided to the apartment block corridors as defined in fire report.

Dry risers will be installed in each core of each apartment block.

All buildings shall be served with gravity fed above ground foul drainage and rainwater drainage.

Smoke/Heat detection will be installed throughout each dwelling. A standby generator or secondary Electrical supply for fire fighting and smoke vent equipment will be installed, to be confirmed by fire strategy.

Metered mains Low Voltage (LV) electrical distribution and containment will distribute to all landlord services and apartments. The Landlord LV distribution will serve common area lighting, small power, lifts, mechanical services, door and main gate entry, Satellite/TV/DAB distribution systems. The common area lighting will comprise LED lighting and escape lighting. The common area small power will distribute to cleaners sockets and equipment. In the apartment blocks Satellite/TV/DAB outlets will be installed, there will also be a Video/audio door and main gate entry system installed in each apartment.

Individual LV electrical supplies shall be provided to each of the town houses, with meters installed in line with the local DNO's requirements. Like the apartment blocks Satellite/TV/DAB outlets will be installed in the houses.

In both the townhouses and apartments, distributing from the dedicated electrical consumer unit for the dwelling, small power circuits serving socket outlets, kitchen equipment, MVHR and heat pumps, fan assisted radiators will be provided. LED downlights will be installed throughout the dwellings. A BT and or other supplier, fibre network will be provided to serve all apartments and townhouses, with fibre termination points installed in all dwellings.

Site wide, a CCTV system shall be installed at main points of entry to the site and each apartment block. External lighting shall be installed throughout the site as set out in the external lighting report. Lightning Protection shall be installed to all required buildings in the development, to be confirmed by the developer's insurer.

The commercial office facing onto Edwin Road will be built as a shell and core build, with capped off incoming services and below ground drainage connections.

It is envisaged that the commercial office when fitted out will be served by a VRF simultaneous heating and cooling system, with mechanical ventilation with heat recovery to provide the fresh air requirements to the building. Hot water for wash hand basins will

be generated through electric point of use water heaters and electric showers where required. LED lighting will be installed throughout the building, with adequate provision for small power and data throughout.

As detailed in the site wide Energy Strategy report, it is proposed Photovoltaic cells will be installed to the roof of each townhouse and the commercial office building identified on the site plan below. The provision of photovoltaic cells shown is to ensure the site wide carbon emissions improvement is maximised and the carbon offset payment is limited, whilst ensuring the GLA target is met.

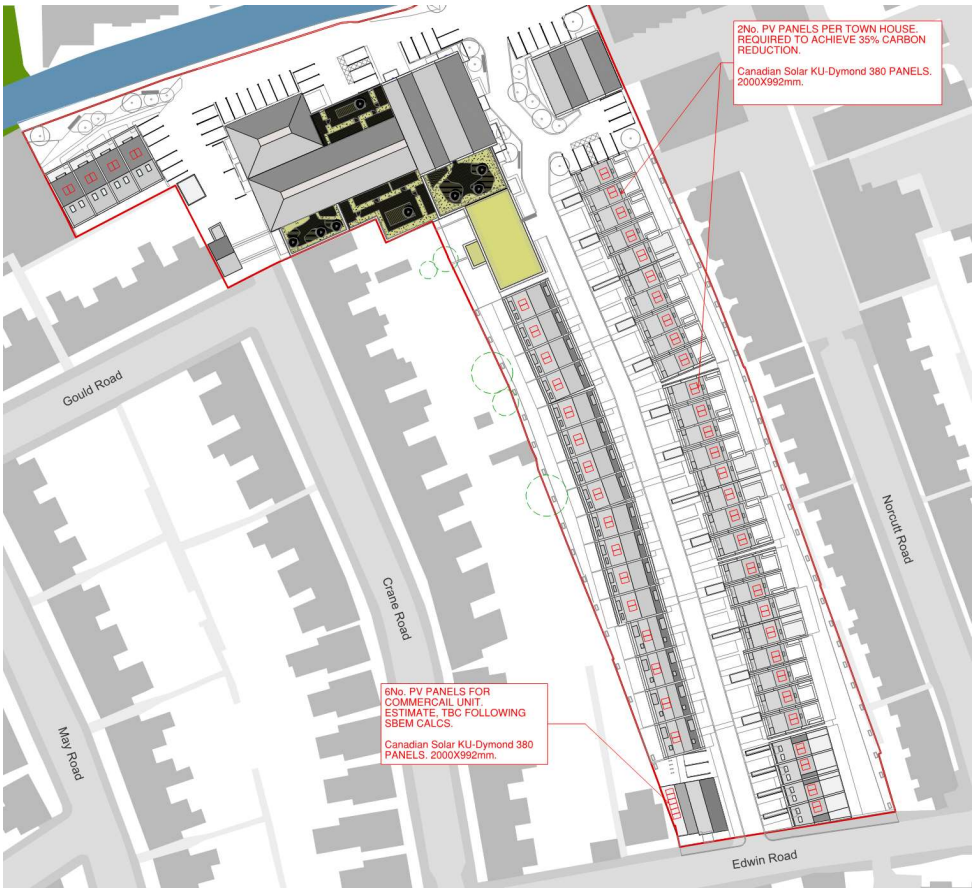

Figure 4 – Photovoltaic cells across the site