8. Infrastructure

8.1 Strategic Policy S7: Infrastructure and Utilities

1. To coordinate and facilitate infrastructure planning and delivery and the transition towards a zero carbon and climate resilient City, all development should:

    - Minimise the demand for power, water and utility services;
    - Incorporate sustainable building design and demand management measures;
    - Connect to existing pipe subways where feasible, particularly where there is pipe and cable congestion under the streets;
    - Seek to provide the latest and best quality utility infrastructure and connections to serve the development.

2. Developers must engage with infrastructure providers at an early stage of design to ensure that the infrastructure needs arising from the construction and operation of new development are addressed and required utility networks and connections are in place in time to serve the development.

3. Existing essential utilities and telecommunications infrastructure will be protected from development unless it is no longer required or will be adequately relocated.

4. The improvement and extension of utilities infrastructure should be designed and sited to minimise adverse impacts on the visual amenity, character and appearance of the City and its heritage assets.

Reason for the policy

8.1.0 Infrastructure is a vital component of modern cities. Maintaining high quality and sustainable utilities provision in the Square Mile is crucial for the City to remain competitive and address climate challenges.

8.1.1 There are specific challenges to providing the infrastructure needed to support existing activity in the City and the development set out in this Plan:

- The dense concentration of business activity in the City means that high demand is concentrated in a small geographical area.
- There is a legacy of congested cable routes under the City's streets.
- Delivery of new infrastructure and improvements to existing networks may result in temporary disruption to businesses, residents and visitors.

- Energy and telecoms demands are increasing and there is a need to continually improve and upgrade networks to meet this changing demand in a sustainable way, which does not compromise the City's trajectory towards zero carbon.

How the policy works

8.1.2 The City Corporation has established strong links with the various infrastructure providers that service the City, including Thames Water, UK Power Networks, Cadent Gas, Citigen and telecoms providers. The City Corporation will seek to retain and strengthen these links, working with all providers and regulators, where appropriate. The City Corporation are developing a Utility Infrastructure Strategy, which sets out the steps that will be taken, including through partnership working, to ensure the City's utilities infrastructure remains fit for purpose and future proofed.

8.1.3 Developers will be required to demonstrate liaison with infrastructure providers at an early stage of building design, ensuring that future needs are planned and delivered in a timely fashion with minimal disturbance to City streets, businesses and residents.

8.1.4 Utilities infrastructure comprises the provision of electricity, gas, water, sewerage, sustainable drainage (SuDS), telecommunications, including wired and wireless infrastructure, decentralised energy networks and the pipe subway networks that accommodate such infrastructure.

8.2 Policy IN1: Infrastructure provision and connection

1. Utility infrastructure and connections must be designed into and integrated with the development. The following infrastructure requirements should be planned for:

- Electricity, gas and water supply necessary for the operation of the intended use and during the construction period. Account should be taken of the need to conserve resources and deliver energy and water efficient buildings to minimise future demands. Temporary building supply for the construction phase should be identified in conjunction with electricity providers including the estimated load capacity, substations and route for supply;
- Heating and cooling demand and viability of provision. Designs should incorporate connections to existing decentralised energy networks where feasible;
- Digital and telecommunications network demand, including full fibre wired and wireless infrastructure in line with the Mayor of London's 'Wired Score' connectivity rating or equivalent, planning for dual entry through communal entry chambers and flexibility to address future technological improvements;
- Separate surface and foul water drainage requirements within the proposed building or site, including provision of Sustainable Drainage Systems (SuDS), rainwater harvesting and grey-water recycling, minimising discharge to the combined sewer network.

Where it is not possible to provide detail at application stage, planning conditions and/or obligations will be used to secure the provision of such detail.

2. To avoid delays to prospective tenants, developers should consider pre-installing telco communal chambers or other innovative solutions to help facilitate communications networks, into the new development.

3. Developers should conduct mobile signal tests within the development and consider the need for provider neutral in-building mobile solutions where coverage is poor.

4. Development should aim to avoid reducing mobile connectivity in surrounding areas, and if that is not possible suitable mitigation measures will be required. Provision should be made on buildings or in the public realm to accommodate well-designed and located mobile digital infrastructure.

Reason for the policy

8.2.0 The dense concentration of businesses means that high demand is focused in a restricted geographical area. Electricity, telecommunications, water, gas and district heating and cooling networks are of particular importance. Congested cable routes traverse the City under its streets. Energy demands are increasing, particularly to provide air conditioning to counter increased warming and the delivery of upgraded ICT networks required by financial and business services. The impact of Covid-19 has highlighted the importance of digital connectivity and the transition to an increasingly digital-reliant economy.

8.2.1 The City Corporation's Utilities Infrastructure Strategy sets out in more detail the infrastructure projects that are under construction or required.

How this policy works

8.2.2 Developers must liaise with utility providers and adopt best practice in assessing and improving connectivity within developments. Connection layouts and future proofing should be considered in the design of the development.

8.2.3 Addressing air pollution is a fundamental concern for the City Corporation. Developers should engage with energy providers prior to commencement of development works to ensure the availability of temporary building supplies, avoiding the need for diesel generators to provide electricity.

8.2.4 Delivery of new infrastructure and improvements to existing networks could result in temporary disruption to businesses, residents and visitors. Developers must co-operate with infrastructure providers to minimise disruption to highways and businesses during major infrastructure upgrades and pipe subway construction.

8.2.5 It is essential for the City to be digitally connected and responsive to the changing requirements of business, equipping businesses to benefit from the digital transformation stimulated by the Covid-19 pandemic. Buildings must be

equipped to meet the digital needs of current and future occupiers. Developers will be expected to undertake an assessment of the connectivity of major new office buildings or refurbishments, using a wired certification such as WiredScore. Development should result in an improvement in the City's digital connectivity.

8.2.6 Mobile connectivity within and around buildings is critical to the City of London. Developers will need to ensure that their buildings do not worsen existing signal strength in the area and consider the provision of in-building solutions where signal strength is poor. The roll out of 5G across the City will require additional mobile infrastructure and suitably located cells. Where feasible, provision for new cells should be incorporated into new development. Where this is not feasible, provision should be made for additional cells to be located in the public realm, on existing street furniture or elsewhere as appropriate.

8.2.7 The City Corporation will encourage the improvement and extension of utilities networks to ensure that the City uses the latest technology and continues to provide good quality services for businesses, residents, students and visitors. The City Corporation's City Developer Guidelines for Incoming Utility Services provides guidance on best practice.

8.3 Policy IN2: Infrastructure Capacity

1. Development must not lead to capacity or reliability issues in the surrounding area and capacity projections must take into account the impacts of climate change which will influence future infrastructure demand.

2. Where potential capacity problems are identified, and no improvements are programmed by the utility company, the City Corporation will require developers to facilitate appropriate improvements, which may require the provision of space within new developments for on-site infrastructure or off-site infrastructure upgrades.

2. Developers are required to demonstrate, through effective engagement with providers, that adequate utility infrastructure will be provided, both on and off the site, to serve the development during construction and operation.

Reason for the policy

8.3.0 Early engagement with infrastructure providers is essential to ensure that there is adequate capacity to serve the development during its construction and operational phases.

How this policy works

8.3.1 The Sustainability or Energy Statement submitted as part of the planning application should set out the demand management measures incorporated into the scheme and should include evidence of engagement with providers.

8.3.2 Infrastructure provision must be completed prior to the occupation of the development. The City Corporation will expect development to promote and contribute towards a zero carbon-economy, through smart buildings and incorporating alternative solutions into the design. It will be necessary for developers to establish if the proposal would lead to overloading of the existing infrastructure, which may involve studies being undertaken by utility providers. Adequate time should be allowed to consider the supply options and to enable utility providers to collate an informed response.

8.3.3 Projections of infrastructure demand should be realistic. Over specification should be avoided as it could result in underutilisation of infrastructure. The cumulative impacts should be considered through discussion with providers and pre-application meetings with the City Corporation. The co-ordination of infrastructure works is essential to minimise disruption and the impact on existing services.

8.3.4 Developers will be required to submit written evidence from utility providers that effective engagement has been carried out. This could include a joint statement of intent endorsed by the relevant providers. S106 agreements may be used to ensure continuous engagement regarding route planning and confirmation of load demands.

8.3.5 Redundant plant should be removed where possible to facilitate future infrastructure connections. Redundant infrastructure within the public realm, such as telephone boxes, should be removed unless it is of heritage interest.

8.4 Policy IN3: Pipe Subways

Developers and utility providers must provide entry and connection points within the development which relate to the City's established utility infrastructure networks, utilising pipe subway routes where these are available. Sharing of routes with other nearby developments and the provision of new pipe subway facilities adjacent to buildings will be encouraged.

Reason for the policy

8.4.0 Expansion and integration of pipe subway and decentralised energy networks is a long-term aspiration of the City Corporation. The provision of additional pipe subways would provide greater capacity for pipes and cables, reducing the need for street works which often cause disruption. Pipe subways accommodate gas and watermains and electricity more effectively with easier access for maintenance, rather than burying pipes which are then not easily accessible.

How the policy works

8.4.1 The City Corporation will seek the expansion and integration of development into the pipe subway network where there is sufficient evidence to demonstrate that services to development would be better integrated within an established pipe subway. Given the cost of installing new pipe subways, it is especially important to make efficient use of the existing network. Developments which are located adjacent to existing pipe subways will normally be expected to install connections.