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Tottenham Commercial Park – Plot H

261035

Sustainability Statement for Planning

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Sustainability Statement for Planning

1.0 Introduction

In accordance with the requirements of the Haringey Local Plan (2017) and the London Plan (2021), Couch Perry Wilkes (CPW) has produced a Sustainability Statement to support a full planning application for the development of a substation at Plot H, Tottenham Commercial Park.

The proposal seeks approval for the demolition of a terrace of industrial units (H1, H2 and H3) and the erection of a fully enclosed substation of up to 4,100m^2 Gross Internal Area (GIA), arranged over two floors. Dedicated vehicle parking is not required as the facility would be unmanned. The intention is to retain the existing soft landscaping and fencing to the northern boundary.

The proposed site layout is shown below:

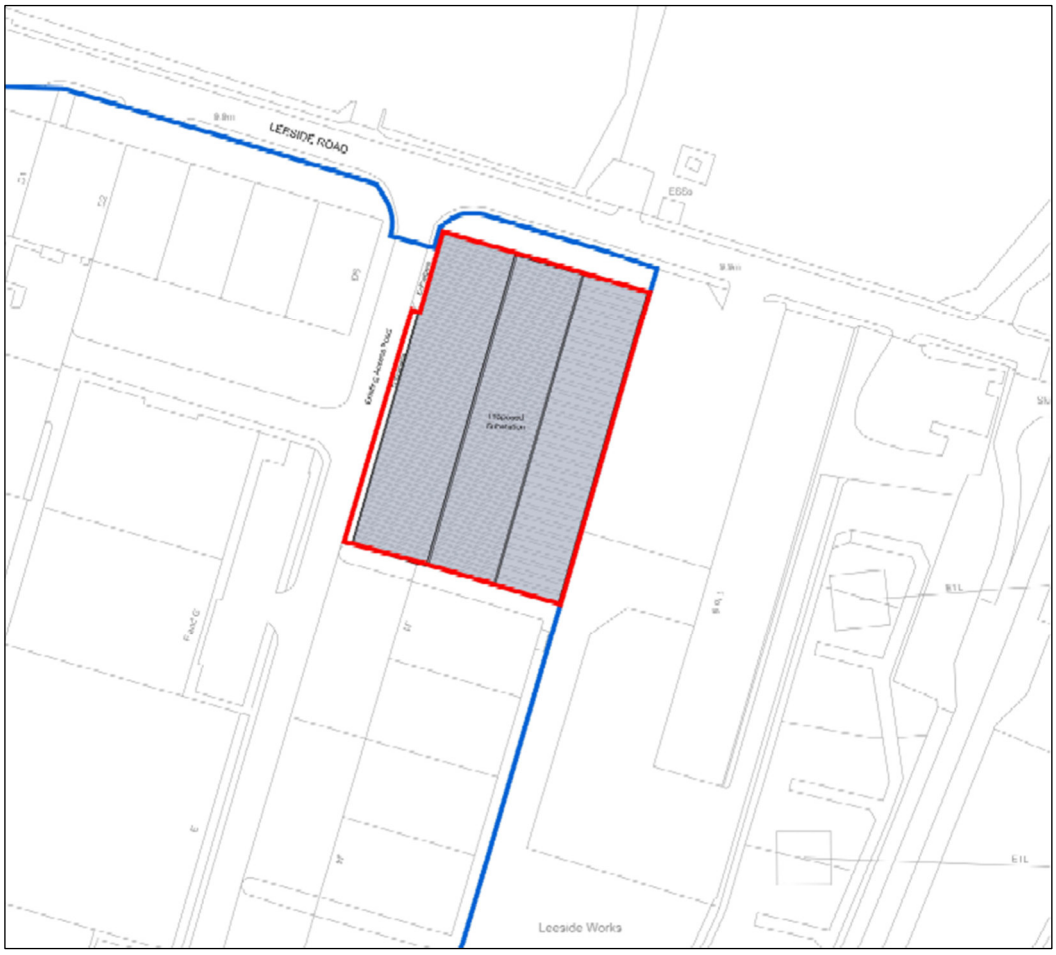


Figure 1. Proposed Site Layout

The substation would provide an improved power supply for the business occupiers that is secure, resilient and efficient, and support long term digital infrastructure growth in the area.

With the current emphasis placed on energy conservation and climate change, the applicant is also keen to enhance the development's sustainability credentials both from an estate and public perspective, by delivering an environmentally responsible building.

To this end, the proposed design shall promote reduced carbon dioxide (CO_2) emissions from delivered energy consumption by minimising operational energy demand through passive and best-practice measures and mitigating embodied carbon emissions through the choice of construction materials. In this case, given the nature of the development, it is unlikely that Low and Zero Carbon (LZC) technology solutions will form part of the design.

1.1 Legislation and Planning Policy

Relevant local (London Borough of Haringey) and national planning policy pertaining to sustainability have been considered in the preparation of this report.

The National Planning Policy Framework (NPPF) document, revised in August 2026, sets out the overarching policies for development in England. At the heart of the NPPF is a presumption in favour of sustainable development encompassing three interdependent areas of planning policy: social, economic and environmental.

The NPPF seeks to facilitate the transition to net zero by 2050 and help to shape places in ways which are more resilient to the effects of climate change. It does this by setting out policies to influence spatial development in ways that contribute to radical reductions in greenhouse gas emissions and adapt to the full range of current and potential impacts of climate change, by minimising vulnerability and improving resilience.

At a local level, the Haringey Local Plan (2017) within Section 04, states that an Environmentally Sustainable Future is one of the priorities of Haringey's Sustainable Community Strategy and identifies the need to reduce carbon emissions from new and existing buildings.

At a regional level, The London Plan (2021) within Chapter 9 addresses sustainability in detail, covering a broad range of topics including greenhouse gas emissions, air quality, energy, water and digital infrastructure, waste and circular economy principles. These are set against the challenges of an ever-changing climate.

1.2 Approach to Addressing Planning Policy Requirements

With reference to the key requirements of the Haringey Local Plan (2017) and the London Plan (2021), this Sustainability Statement serves to demonstrate how the proposed scheme will:

- Achieve high levels of sustainable design and construction.
- Incorporate energy efficiency measures and best practice design to reduce the inherent energy demand and carbon dioxide (CO_2) emissions of the development where technically viable.
- Adopt circular economy principles to reduce the impact on resources and explore opportunities to reduce the embodied carbon of materials of construction.

- Minimise the impact on local and wider climate and environment.
- Address the needs to be adaptable and flexible for future infrastructure requirements.

Given that the facility would remain unmanned, a BREEAM New Construction V7 assessment will not be pursued in this case as the framework is specifically designed to evaluate the environmental performance of buildings intended for human occupation.

It is not the intention for this Sustainability Statement to duplicate the work of the technical reports prepared in support of the application. It has been compiled to address the requirements of the Haringey Local Plan (2017) and the London Plan (2021) in terms of the overall context of sustainability for the proposed development.

2.0 Energy Benchmarking

2.1 Estimated Energy Demands and CO_2 Emissions

At this stage, it would be normal to benchmark the proposed new development to estimate the energy demands and CO_2 emissions associated with the design proposals as a starting point to assess how best practice energy efficiency measures and/or LZC technology solutions could be employed to reduce consumption and emissions.

In this case, the substation development would be unmanned, so the internal environment would not be a conditioned space i.e. no fixed heating or cooling systems. The only energy use would be from internal lighting required periodically to read the meters (once a month) and for annual equipment inspection. Limited external lighting would also be provided for security purposes.

With reference to Part L of the Building Regulations (2021), this building is exempt from energy efficiency requirements on the basis that there will be no fixed space heating and/or cooling to condition the indoor climate.

Consequently, as an unoccupied infrastructure asset with no regulated heating and/or cooling energy demand, the development falls outside the scope of the London Plan Energy Hierarchy (Be Lean, Be Clean, Be Green, Be Seen).

3.0 Energy and Resource Efficiency

In order to deliver environmentally responsible building stock, both operational carbon and embodied carbon must be taken into account over the life-cycle of the development. The diagram below shows how carbon is released to the atmosphere over the course of a typical buildings' life.



Figure 2. Operational and Embodied Carbon

3.1 Building Design – Energy Efficiency

Long term energy benefits are best realised by reducing the inherent energy demand of the building in the first instance before incorporating any LZC technologies to decarbonise the energy supply. It is the case that there will be no fixed heating, cooling, ventilation or domestic hot water systems present is this development, so focus will be on the internal and external lighting systems only.

Within the building, energy efficient LED lighting with an efficacy of 120 lumens per circuit Watt will be deployed. The lighting arrangement, although limited in scope, will be appropriately zoned to allow control of luminaires via switches/absence detection. Output performance or Light Output Ratios (LORs) will exceed 85%.

The substation will require low energy external lighting, which will be mounted on the building and steel columns/bollards, as appropriate, to provide functional, amenity and security lighting across the development.

The minimum recommended level targeted is 5 lux average for the building perimeter and pedestrian walkways. To ensure energy efficient operation, all external lighting will be controlled with a photocell and time clock such that the lighting will be energised at low ambient light levels and will switch off during daylight hours. For the purposes of this application assume all external lighting will come on at dusk and remain on until dawn.

The lighting scheme will be based around a low pollution, low energy and low maintenance strategy, using high-quality products which have excellent optics for maximum control over light distribution.

3.2 Building Design – Embodied Carbon and Circular Economy Principles

The embodied carbon component associated with the vast majority of new build projects, especially those with low energy requirements, tends to be much greater that the operational carbon component across the life-cycle of the development if the use of entirely new materials is the preferred option.

This project involves the demolition of existing infrastructure, so a pre-demolition audit will be undertaken with the aim to promote resource efficiency and minimise the environmental impact by reducing construction waste and diverting waste away from landfill as part of a Circular Economy approach.

The main focus will be on retaining, reusing, or recycling materials prior to demolition and exploring opportunities to reuse material on-site; reducing the embodied carbon of the development. Concrete can be separated from the steel rebar elements and crushed on site using a mobile crusher which can screen and separate into different classifications for re-use as e.g. structural fill. Metals, structural steel framing, panels etc., will be separated and sent for recycling.

It is envisaged that a minimum of 95% of non-hazardous construction waste will be recycled or reused and 100% of timber used on site, including timber used in the construction phase, will be sourced from sustainable forestry sources (e.g. PEFC and FSC).

To account for the growing effects of climate change on the built environment, the materials for construction will be chosen to offer structural and fabric resilience to the ever more extreme weather conditions expected over the lifespan of the development. Given the nature of the substation enclosure, this should be straightforward to achieve with a clean built form and durable grey cladding offering a low maintenance solution.

To ensure future adaptability/flexibility and disassembly, the elevations will incorporate removeable panels; in part to facilitate replacement of the transformer equipment as technology and infrastructure requirements evolve over time.

3.3 Building Design – Water Conservation

The development will have no environmental impact on water resources during its operation, as it is a dry building with no plumbing, water supply lines or taps.

4.0 Substation Equipment and Global Warming Potential (GWP)

The substation will receive two independent 275kV supplies from the National Grid, which will be transformed to 132kV and distributed through Gas Insulated Switchgear (GIS). Due to its compact footprint, GIS is the preferred technology for the proposed development.

To support the project's sustainability objectives, the proposed design will seek to utilise SF_6-free GIS technology rather than conventional SF_6-insulated equipment. Traditional SF_6 gas has a Global Warming Potential (GWP) of approximately 24,000, whereas modern alternative insulation technologies have a GWP close to 1. The adoption of SF_6-free GIS would, therefore, significantly reduce the environmental impact of the substation while maintaining the required operational performance and reliability.

5.0 Appraisal of Renewable and Low Carbon Technology Energy Options

The technical feasibility and economic viability of installing LZC technology solutions at the Tottenham Commercial Park Substation development have been assessed. A summary of the feasibility process is tabulated below; albeit with limited options as the building does not feature any fixed heating, cooling, ventilation or domestic hot water systems for the LZC solutions to serve.

Technology	Brief Description	Benefits	Issues/Limitations	Feasible for site
Solar Photovoltaic	Solar photovoltaic panels convert solar radiation into electrical energy through semiconductor cells. They are not to be confused with solar panels which use the sun's energy to heat water (or air) for water and space heating.	Low maintenance/no moving parts Easily integrated into building design	Any overshadowing reduces panel performance Panels ideally inclined at 30° to the horizontal facing a southerly direction Needs a sufficient and reliable base electrical demand, especially during summer months	No, insufficient base electrical demand in the building
Wind Turbine *(Stand-alone column mounted)*	Wind generation equipment operates on the basis of wind turning a propeller, which is used to drive an alternator to generate electricity. A wide range of scalable solutions are available.	Low maintenance/ongoing costs Minimum wind speed available Excess electricity can be exported to the grid	Planning issues Aesthetic impact and background noise Space limitations on site Wind survey to be undertaken to verify 'local' viability	No, not suitable on this site due to space limitations

Table 1. Summary of Renewable and Low Carbon Technology Energy Options

It has been shown that none of the LZC technology solutions are viable for inclusion of this project, so will not be pursued further.

6.0 Summary and Conclusions

A Sustainability Statement has been produced at detailed planning stage for the construction of a substation at Plot H, Tottenham Commercial Park to address the requirements of the Haringey Local Plan (2017) and the London Plan (2021) in terms of the overall context of sustainability relating to the proposed development.

In order to deliver an environmentally responsible scheme, the approach being adopted is based on low energy design principles. The building itself is functional and inherently low energy from a services perspective as it requires no fixed heating, cooling, ventilation or domestic hot water systems. Focus has therefore been afforded to the internal and external lighting solutions which will consist of energy efficient LEDs with appropriate zoning and controls.

For the purposes of completeness, the feasibility of installing LZC technology solutions on the scheme has been reviewed. It is the case that these LZC solutions are not viable for this building's energy profile and will not be considered further.

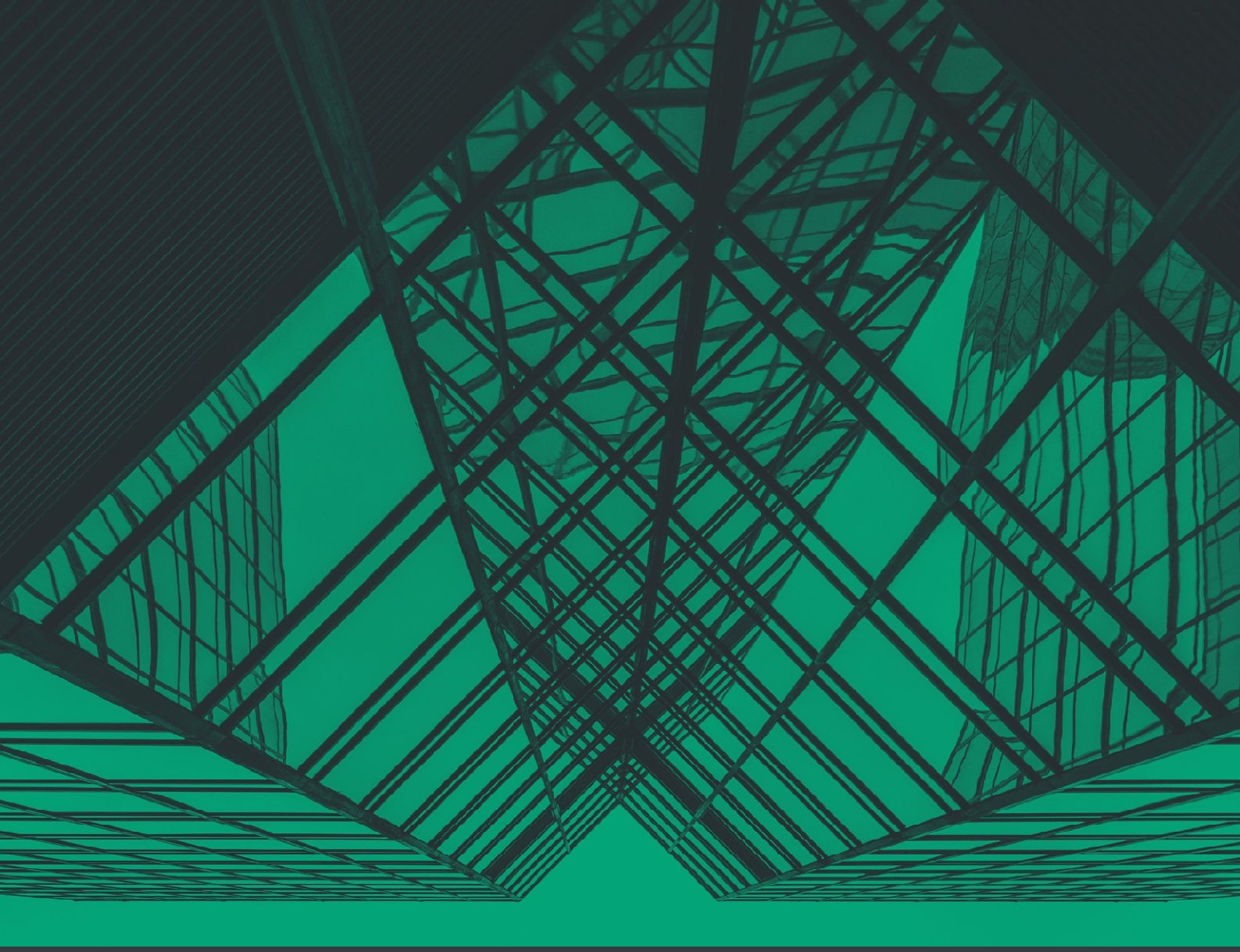
As the project involves the demolition of existing infrastructure, circular economy principles will be adopted with the aim to promote resource efficiency and minimise the environmental impact by reducing construction waste and diverting waste away from landfill.

Where feasible, and to reduce the embodied carbon impact of the development over its life-cycle, opportunities to reuse material on-site will be explored.

The proposed scheme has the potential to be impacted upon by a changing climate and, in particular, more frequent severe weather events, in the medium to longer-term. With this in mind, the substation enclosure will provide structural and fabric resilience with a clean built form and durable grey cladding offering a low maintenance solution.

To ensure future adaptability/flexibility and disassembly, the elevations will incorporate removeable panels; in part to facilitate replacement of the transformer equipment as technology and infrastructure requirements evolve over time.

It is noted that the 132kV switchgear will be of GIS type to reduce the space requirements for the kit and hence the size of the enclosure. Typically, with these solutions, SF_6 gas is used for system protection which has a 100-year GWP of c. 24,000, making it the most potent greenhouse gas in industrial use. As such, on this scheme, alternative synthetic gas mixtures will be pursued (where technically and financially viable) as these pose much lower environmental risks during leaks or end-of-life disposal.



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