3 Proposed Development

3.1 Introduction

3.1.1 This chapter provides the definitive description of the Proposed Development for the purposes of the EIA.

3.1.2 The chapter identifies the demolition, construction and operational design features of the Proposed Development that might affect the environment or contribute to the overall environmental effects of the scheme.

3.1.3 As the Proposed Development is intended to constitute a permanent installation with no foreseeable end-of-life phase, the EIA has not assessed a decommissioning phase. However, Chapter 8 – Climate Change and Greenhouse Gases assesses a scenario in which the data centre building operates for a 60-year period. This is to enable a temporal scope to be given to the assessment of greenhouse gases, this does *not* constitute the decommissioning of the building.

3.2 Development Description

3.2.1 The Proposed Development is being progressed via an outline planning application (all matters reserved). The Proposed Development will comprise the erection of a data centre facility, including associated energy infrastructure, security measures, and access arrangements.

3.2.2 The development applied for covered by this ES is:

> *'Outline planning application (with all matters reserved except for access) for the redevelopment of the former Sipson Garden Centre site to provide a data centre facility, including associated energy infrastructure, security measures, landscaping, and access arrangements.'*

3.2.3 The EIA has assessed the quantum and type development set out below:

- Demolition of existing structures on the Site (c. 1,265 m^2);
- Data Centre (DC) building (54MW Capacity) (2 storeys of up to 26,000 m^2) and Office / Administration block (2 storeys of up to 6,500 m^2), External Plant (3 storeys of up to 17,500 m^2); for a total of up to 50,000 m^2 (GFA);
- Ancillary Buildings (including substation, pumphouse and water tanks) (1 storey up to 4,000 m^2);
- Landscaping area (approximately 34,195 m^2) – of which proposed as Public Amenity Space (approximately 1,760 m^2);
- Electricity grid connection;
- Car Parking provision of 84 spaces (including, 8no. accessible spaces and 4no. Electric Vehicle spaces); and
- Maximum building height up to 20m.

3.2.4 The EIA has assessed the quantum of development set out above alongside the spatial parameters set out within the parameter plans.

3.2.5 The Proposed Development is defined by the parameter plans. The parameters define the maximum extent of the Proposed Development in terms of scale, mass, quantum of development etc., and allow the likely significant environmental effects to be identified. These parameters allow for a degree of flexibility, ensuring that the Proposed Development can respond to changes in demand or building requirements. For example, maximum heights are defined, which allows the maximum effect in terms of landscape/townscape and visual impact to be assessed, but does not prevent the developer from constructing a building of a lower height.

3.2.6 The parameter plans submitted as part of this outline planning application establish the maximum envelope of development applied for and are set out in Table 3.4 at the end of this chapter. The drawings accompanying this Chapter are provided in Volume 1b.

3.2.7 The Parameter Plans are submitted for approval by the LBH. Unlike the Illustrative Masterplan (Figure 3.8), the Parameter Plans are not illustrative. If planning permission is granted for the Proposed Development, it would include a planning condition to ensure that the Proposed Development takes place in accordance with the Parameter Plans. The detailed design of the elements for which outline permission is sought can subsequently therefore evolve within these parameters to the extent that they do not give rise to any significant un-assessed effects.

3.2.8 Following a grant of outline planning for the Proposed Development, subsequent applications for the approval of reserved matters would be examined by LBH to ensure that the details fall within the parameters assessed at the time of the original planning decision. At this subsequent stage, it is open for a local authority to request further environmental information to be submitted by the Applicant if this is necessary to ensure that the likely significant effects on the environment are considered in relation to the specific details. However, in accordance with standard practice, the aim of the ES is to assess the likely significant effects of the Proposed Development at the initial outline stage such that further EIA information at the time of reserved matters submissions is typically not required.

Figure 3.1 – Demolitions Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051500 Rev P1)

3.2.9 The Site is proposed to be cleared with the existing buildings on Site to be demolished in order to make way for the Proposed Development. These buildings equate to approximately 1,265m^2 and are located to the north of the Site.

Figure 3.2 – Development Parcels Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051501 Rev P3)

3.2.10 The main Data Centre building is proposed to be located within the centre of the Site. The administration block is situated along the western side of the building, connecting the two data halls and two external plant areas (containing the emergency backup generators). A separate ancillary building (proposed to locate the substation, pump house and water tanks) is located to the north of the Data Centre building. The Site will be accessed from the existing access on Sipson Road and will be secured by a security fence line.

3.2.11 An allowance has been made within the plan for projecting building elements, such as stair cores and external plant, the specific layout and design of which will be secured through the detailed design stage.

Figure 3.3 – Building Heights Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051502 Rev P3)

3.2.12 There are four different height zones for the Proposed Development. The two data halls, external plant and ancillary buildings will have a height of up to 20m (+49m AOD).

3.2.13 The administrative block will be stepped at different heights. The central area, connecting the two data halls, will be up to 15m (+44m AOD). This area then steps down to a height of up to 10m (+39m AOD). The ancillary building to the north of the Site will also have a maximum height of up to 20m (+49m AOD) due to the height necessary for the substation building however, other buildings in this area are likely to be under 7m (+36m AOD) however, for maximum flexibility and to represent a worst-case scenario, this area has been shown with the maximum possible height.

3.2.14 For the rest of the Site, a maximum height of up to 5m (+34m AOD) is permitted. This area will not contain any buildings and will consist of perimeter landscape, roads, carparks, service yards, cycle parking, fencing and signage.

Figure 3.4 – Land Use Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051503 Rev P3)

3.2.15 The Use Class of the Site will be B8 (Storage and Distribution), as a physical warehouse storing electronic data.

3.2.16 The delineation in the land use plan is to identify which elements of the proposals are intended for their respective uses. The building is split into two data halls, each with its own external plant. This also denotes the office / administration block to the west. The ancillary buildings are then located to the north.

Figure 3.5 – Access and Movement Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051504 Rev P3)

3.2.17 Access to the Site will remain from the A408 (Sipson Road) at the western boundary. No other vehicular entrances are proposed. This vehicular access will be used for light vehicles (e.g. cars), goods vehicles, car and cycle access. Pedestrian access will be from Sipson Road at the vehicular access point.

3.2.18 Goods vehicles will enter the Site and use the perimeter road around the main building to access the ancillary and plant areas. Light vehicles will utilise the southern area of the perimeter road and the parking and buildings.

3.2.19 Three areas of car parking are proposed along the western elevations of the administration block and the ancillary buildings. One cycle parking area is proposed near the western elevation of the administration block, between the two car parking areas.

Figure 3.6 – Landscape and Green Infrastructure Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051505 Rev P2)

3.2.20 The main built form will be in the centre of the Site, with a separate ancillary building to the north. Around the buildings there will be hard and soft landscaping, with hard landscaping to include roads, service yards and car parks. The pedestrian access off Sipson Road will also have hard surfacing.

3.2.21 A security fence line will encircle the data centre and ancillary buildings. The security fence will have a minimum offset zone of 3m from areas of high-level planting. Inside the security fencing,

there are areas of soft landscaping which include low-level native hedging, shrub and bulb planting. Soft landscaping is predominantly located immediately adjacent to the proposed buildings and hard landscaping. No soft landscaping is proposed outside the security fencing.

3.2.22 It is proposed that there will be a Green Buffer Zone, measuring a minimum of 12.5m from the Site's boundaries around the periphery of the Site. The Green Buffer Zone will be located outside the security fence but within the Site's boundaries. This area will include dense, high-level planting and trees, species-rich grassland and wildflowers. Trees will be located near the entrance (western boundary) and along the northern boundary. The existing trees and planting to be retained elsewhere remain to be confirmed.

3.2.23 Attenuation ponds are proposed along the western side of the proposed car parking area, near the western boundary but outside the 'Green Buffer Zone'. Attenuation ponds will also be located south of the main building.

Figure 3.7 – Public and Private Realm Parameter Plan (Ref. PGF-ACM-00-XX-DR-AR-051506 Rev P1)

3.2.24 The private and controlled realm is within the security fencing area, around the data halls; administration block; external plants; ancillary building; and car parking/cycle parking area. Only data centre personnel can access this area and access would be restricted.

3.2.25 Private land is predominantly located around the outside of the security fencing and going up to the Site boundaries. The access road is a private road owned by the applicant but will be publicly accessible.

3.2.26 There is an area of proposed public amenity space. The primary public open space is located towards the northwestern side of the Site nearest the site entrance. This area of proposed public open space is approximately 1760 m^2.

Figure 3.8 – Illustrative Masterplan (Ref. PGF-ACM-00-XX-DR-AR-051100 Rev P1)

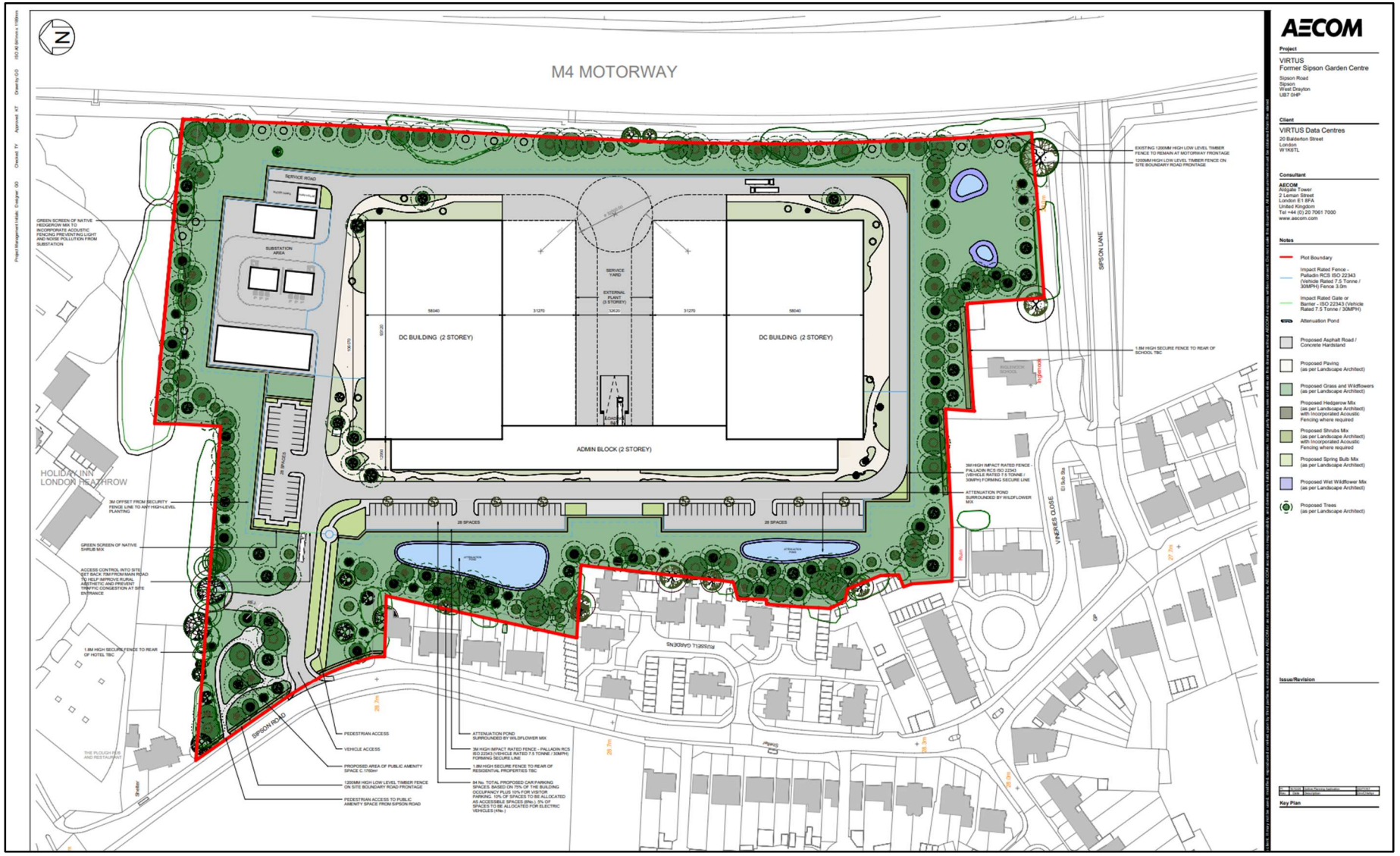
3.2.27 The illustrative masterplan shows the Data Centre building in the centre of the Site with hard standing and perimeter roads around the outside of the main building. There are a few buildings proposed within the perimeter security fencing to the north of the Site, within the proposed perimeter fencing which are for the substation, service road, water tanks and pump house.

3.2.28 A mixture of proposed paving and soft landscaping is also shown to be located adjacent to the data halls and administration block. To the rear of the administration block, between the two external plants, there is a designated loading bay and service yard.

3.2.29 The Illustrative Masterplan for the Proposed Development is shown in Figure 3.8 (a full size drawing is provided alongside the parameter plans). The plan sets out a proposed layout for the development of the Site within the redline boundary.

3.2.30 The Illustrative Masterplan has been iteratively refined following consultation with LBH. It provides an illustrative overview of one way in which the proposal could come forward within the Parameter Plans submitted. Whilst this has been provided for information, the EIA has principally assessed the Parameter Plans.

Figure 3.8 Illustrative Masterplan (see Figure 3.8 for full size version (Ref. PGF-ACM-00-XX-DR-AR-051100 Rev. P1))



Land Use

3.2.31 As shown illustratively in Figure 3.8, the main DC Building is located within the centre of the Site, with the office space and Back of House (BOH) operations situated to the north and west of the main DC building.

3.2.32 The ancillary buildings to the north of the Site are anticipated to comprise a substation; pumphouse and water tanks. These will be enclosed by an impact-rated fence up to 3m in height.

3.2.33 External plant (including the backup generators) is proposed to the east of the main DC building between the data halls. An access road is proposed around the Site and with car parking provision (including EV and disabled provision) along the northern and western side of the building.

3.2.34 The maximum height of the buildings on Site will be up to 20m.

3.2.35 Where necessary for the purposes of assessment, topic chapters have utilised the aforementioned maximum floorspaces at 3.2.3. However, for the purposes of the illustrative masterplan demonstrating one way in which the Proposed Development could come forward, the following illustrative footprint is set out in Table 3.1.

Table 3.1 Illustrative Footprint

Building Area	Footprint (m^2)
DC Building Footprint Area, comprising: - Data Halls: 10,805 m^2 - Office/Administration Block: 3,000 m^2 - External Plant: 5,465 m^2	19,270 m^2
Deviation allowance for stair cores and external plant which overlaps landscaped area (not included in final total below)	*2,545 m^2*
Ancillary Buildings Area (including substation, pump house and water tanks)	3,145 m^2
Roads and Car Parking Area	13,290 m^2
Landscaping Area	32,435 m^2
Public Amenity Area	1,760 m^2
Total Site Area	**69,900 m^2**

Access and Parking

3.2.36 Access to the Site will remain from the A408 (Sipson Road) to the west and be secured by an impact-rated gate or barrier.

Internal access and car parking

3.2.37 The proposals incorporate a perimeter service road around the DC building, providing access to the rear of the building to the external plant. This will allow for a 32m wide turning area which allows for HGV access to the plant area. Access to the substation, will be gated from the main site.

3.2.38 Car parking is located to the west and northwest of the Site. The illustrative masterplan sets out 84 car parking spaces provided across the Site; 8 of these spaces would be accessible disabled spaces and 4 spaces would be for electric vehicle charging for employees and visitors to the Site. These areas would also contain a cycle store and parking to encourage sustainable travel to the Site.

Servicing and Refuse

3.2.39 The safe delivery, collection, servicing and refuse and recycling arrangements will be provided across the Site. These measures will be incorporated into the design of the proposals at the Reserved Matters stage.

3.2.40 A servicing strategy will be developed (via planning condition) to ensure that delivery and refuse collection activity can be accommodated safely and efficiently. It is anticipated that servicing will be highly managed and conducted in dedicated areas to minimise impact on the public realm and operational efficiencies.

Drainage and Flood Risk

3.2.41 A Drainage Strategy and Flood Risk Assessment has been produced by AECOM and is submitted as part of the planning application pack. Given the application is being submitted in Outline, the drainage strategy sets out the drainage design parameters that are proposed to inform the future drainage design and approvals for the Site.

3.2.42 The proposed drainage network has been designed to comply with relevant local and national standards, specifically the hierarchy of discharge, runoff rate and volume criteria in accordance with principles set out within the National Planning Policy Framework (NPPF) and local policies.

Surface Water Drainage Strategy

3.2.43 In order to effectively manage drainage across the Site, the proposals incorporate a range of measures.

3.2.44 ACO channels to service yard areas and gullies for access roads will manage surface water outfall from the building and hard surfaces. The proposals will also contain oil separation for areas where HGVs are likely to manoeuvre.

3.2.45 Two attenuation ponds and buried storage tanks will provide attenuation for surface water runoff. These will be taken and designed within the landscaped areas to manage any surface water runoff across the Site.

Foul Water Drainage Strategy

3.2.46 Foul water will be managed through buried foul drainage to connect foul flows to the Thames Water foul sewer in Sipson Road.

Ecology Mitigation and Enhancement

3.2.47 The Proposed Development will minimise the loss of vegetation and retain as many trees as possible. Indirect impacts may result during construction on retained habitats due to the installation of new cables, removal of vegetation, increases in noise, air and dust pollution and the potential for non-invasive species to spread however, these measures will be controlled through a CEMP.

3.2.48 In terms of species-specific mitigation:

- For bats, sensitive lighting design should be considered to avoid light spill onto suitable roosting, foraging and commuting habitats e.g. warm white LEDs, downlighting, external lights to be on a motion sensor with a short timer;
- For breeding birds, the retention of boundary habitat and new planting including a mix of native species as well as undertaking any demolition or clearing works outside of bird nesting season (March to September, inclusive) unless accompanied by a suitably qualified ecologist;
- For reptiles & Great Crested Newts, clearance of tall vegetation to be undertaken in two phases under supervision of an ecologist;
- For badgers, as badgers are a highly mobile species and readily excavate new setts, it is recommend that a check for badger is carried out prior to construction as well as utilising measures in a CEMP as best practice of precautionary measures
- For other notable species, any excavations are recommended to be covered at night, or have an access ramp created or fitted to allow wildlife to escape, with a daily morning check of the excavations by a nominated site worker prior to works commencing to ensure that no animals are trapped on Site. Any hedgehog found should be allowed to make their way to retained vegetation or, if hibernating, be taken to a local hedgehog charity.
- For the invasive and non-native species (Buddleia), it is recommend that, although not listed in relevant legislation and therefore, no specific action is required, that the species could colonise the Site, disrupting landscape management, reduce biodiversity by outcompeting native species and/or altering the chemistry of the soils. It is recommended that the species is specifically assessed and targeted as part of standard vegetation management plans for the Proposed Development as well as using typical mechanical and hand cutting means, with excavation of the root ball or the application of herbicide to prevent regrowth. These measures should be included within the CEMP.

3.2.49 For enhancement measures on Site, the Preliminary Ecological Appraisal (PEA) suggests some ecological enhancements, to be developed and secured post-consent subject to planning conditions:

- Native and near native planting should be included in soft landscaping plans, in line with the following:
  - Invasive species should not be planted;
  - Species could include flowers that have high pollen and nectar yields for pollinating insects to be benefit birds;
  - Due to the proximity of Heathrow Airport, no larger numbers of fruit/berry trees or shrubs should be incorporated into the plant seceded to avoid encouraging the presence of flock birds that can create bird strikes in airport environments;
  - Soft landscaping could also include species to benefit bats such as those providing night scented native plans beneficial for moths;
  - Any tree planting should link with other areas of woodland on the Site, where possible.
- Log/vegetation piles could be implemented within retained habitat, outside any areas prone to flooding, to the benefit of invertebrates;
- At least 4no. bat boxes will be installed onto the retained woodland and newly planted trees, once at a sufficient maturity, along the edges of the Site away from lighting spills;
- At least 6no. bird boxes will be mounted on mature/semi-mature trees and should be located in shaded areas/northern or eastern elevations.

3.2.50 See Preliminary Ecological Appraisal submitted with the for further details.

Landscaping and Boundary Treatment

3.2.51 Landscaping will be provided around the boundaries of the Site in the form of species rich grass and wildflowers and wet wildflower mixes around attenuation ponds. There will also be a large number of trees to screen the development for residents along Sipson Road, Russell Gardens, Vineries Close and Sipson Lane indicatively in the form of Black Alder (*alnus glutinosa),* Euorpean Hornbeam *(carpinus betulus),* Scots Pine *(pinus sylvestris)*, West Himalayan Birch *(betula utilis jacquemontii),* Common Whitebeam *(sorbus aria),* English Yew *(taxus baccata),* and Small-leaved Lime *(tilia cordata).* Most of which are tall and voluptuous trees which will help shield the proposals once matured.

3.2.52 The balance between soft and hard landscaping in the service areas and around the DC building will be in the form of native bulb planting, shrub planting and native hedge mix. This will be combined with an extensive green roof atop the administrative buildings to the west of the site as well as semi-intensive green roofs in smaller areas around the building.

3.2.53 A Public Amenity Space will be located to the northwest of the Site. This area will provide amenity space both for employees and for the wider public in Sipson.

3.2.54 These measures will provide habitat compensation on Site to obtain biodiversity net gains. A Biodiversity Net Gain assessment has been submitted with the planning application.

Safety and Security

3.2.55 Due to the nature of the proposals, it is vital that the Site is secure from members of the public both for public safety and to protect against hostile interference or terrorist acts. As such, the proposals will be demarcated by a 3m high impact rated fence[1] forming a secure line around the Data Centre.

Energy and Sustainability

3.2.56 An Energy and Sustainability Statement (ESS) has been prepared by AECOM and is submitted as part of the planning application pack.

Energy

3.2.57 The ESS follows the energy hierarchy approach to assess opportunities to reduce operational carbon emissions for the Proposed Development through reducing energy demand through energy efficient design and specification; considering connection to nearby networks to supply low carbon heat, where feasible; and, seeking to maximise opportunities for low and zero carbon energy.

3.2.58 The regulated baseline carbon emissions were calculated to be 2,179.8 tCO_2/year, as stated in the ESS.

3.2.59 The most suitable low and zero carbon technologies were considered to be air source VRF heat pumps to heat administration spaces and solar PV panels to the roofs of the administration space to provide low-carbon heating and electricity.

3.2.60 This is alongside an energy strategy incorporating energy efficient fabric and building services design to reduce energy demand, efficient air-cooled chillers in combination with free cooling in the data halls, and point-of-use electric heaters to provide hot water.

3.2.61 The energy strategy will achieve a 41% reduction in regulated CO_2 emissions compared to 2021 Part L Building Regulations which exceeds the target of a 35% reduction in emissions under the London Plan requirements. However, as there are still residual regulated carbon emissions associated with the development, these emissions are anticipated to be offset through a contribution to the Carbon Offset Fund.

Sustainability

3.2.62 The ESS states that the Proposed Development incorporates measures relating to sustainable drainage, water efficiency, sustainable transport and landscape infrastructure. Proposed SuDS measures include green roofs, permeable paving, rain gardens and tree pits, supported by below-ground attenuation.

3.2.63 The sustainability strategy also incorporates measures relating to pollution control, flood resilience, efficient use of water, materials and waste, and urban greening and biodiversity, with a number of these elements to be refined as the detailed design and supporting technical assessments progress.

[1] Paladin RCS ISO 22343 (Vehicle rated 7.5 tonne / 30mph)

External Lighting

3.2.64 An External Lighting Planning Report has been prepared by AECOM is submitted as part of the planning application pack. The Proposed Development has been assessed using industry-standard modelling tools under standard operation conditions.

3.2.65 The Proposed Development is located adjacent to light-emitting sources such as the M4 Spur Road and is adjacent to existing dwellings and the Holiday Inn hotel and therefore, has an elevated ambient brightness. Equally, however, it is important that these receptors could be sensitive to obtrusive light due to potential glare and visual distraction to road users. Luminosity levels remain well within the applicable limits, with a minor localised exception near the Site entrance, however, this can be sufficiently reduced at detailed design stage.

3.2.66 The lighting scheme has been designed to contain illumination within the Site boundary. Lighting is primarily provided by carefully selected column-mounted luminaries and dark-sky-friendly building-mounted lighting, incorporating appropriate optical control to direct light only where required thereby limiting unnecessary upward light and light spill beyond operational areas.

3.2.67 In terms of ecology, the Proposed Development is located within an established urban environment characterised by moderate to high levels of existing artificial lighting and ambient brightness. Significant ecological effects arising from the proposed lighting are therefore, not anticipated. The tree belts along the boundaries of the Site will provide habitat connectivity and potential commuting routes for light-sensitive species. Vertical luminance generally indicates low light levels within these corridors and the overall lighting scheme is considered to be compatible with the ecological context of the Site and the extension of vegetated corridors.

3.2.68 As such, the preliminary lighting design is considered appropriate for the Site and satisfies operational requirements whilst maintaining compliance with recognised obtrusive lighting criteria thereby minimising effects on amenity, traffic, and ecological receptors.

Utilities

3.2.69 A Utilities Statement has been produced by AECOM and is submitted as part of the planning application pack. The Site contains some utility infrastructure already present on Site.

Power

3.2.70 Scottish and Southern Electricity Network (SSEN) have indicated that the Site has a low voltage and service cable in Sipson Road together with a 22kV network. This low voltage cable enters the Site serving the former garden centre. It is proposed that the existing low voltage connections to the former garden centre will be removed. There is also the potential that the SSEN network within Sipson Road may need to be protected and / or diverted to allow for the proposed main entrance into the Site. The Applicant will work with SSEN during the detailed design stage to ensure continuity of services to local residents.

<u>On-Site Energy Generation</u>

3.2.71 For on-site energy generation, the Proposed Development will provide 132 kV Gas Insulated Switchgear and 2no, Stepdown Power Transformers, which will be owned and operated by the applicant.

Electricity Grid Connection

3.2.72 It is currently understood that a new electricity connection will be made to Laleham Substation, which is approximately 8km south of the Site. This connection would not be available until 2030. It is understood that the new electricity connection is expected to comprise 2no. HV circuits rated to 95 MVA at 132kV each, that will be routed from the National Grid Laleham Substation.

3.2.73 Whilst the grid connection would be delivered separately by the statutory undertakers and under a separate consenting regime, the EIA is required to assess the full extent of the project, including any associated infrastructure required for its operations. This is consistent with received pre-application advice (reference: 67666/PRC/2025/58) which noted that the cable route between the Site and Laleham Substation should be considered within the EIA.

3.2.74 The anticipated grid connection is therefore considered to form part of the assessed development in this ES.

3.2.75 At present, details of the cable route and its delivery are unknown. However, it is assumed that this would be routed under existing road/transport routes. Given the current uncertainty around the cable, consideration is necessarily high level and proportionate to the information available.

Backup Electricity Generation and Diesel Generator Testing Regime

3.2.76 Electrical power will be provided to the data centre from the National Grid. In the event of a failure of electrical supply from the National Grid, the operator would utilise backup generators to maintain power to the data centre. These backup generators will be used solely for the purpose of providing a back-up power supply, with no electricity being exported from the generators. As such, it is proposed that up to 32 emergency backup generators are installed. This would be a mix of CAT (caterpillar) generators and AVK generators.

3.2.77 The backup generators will operate as follows:

- Routine testing and maintenance will be undertaken periodically throughout the year to ensure the generators remain in working condition. It is currently anticipated that the testing and maintenance regime will include:
  - 15 minute off-load tests at 0% load, once per month for 11 months per year, with one generator running at any one time
  - One 2-hour full-load test at 100% load, once per year, with one generator running at any one time
  - One 2-hour emergency test at 100% load, with all generators operating in unison

3.2.78 Emergency operation is expected to be infrequent but may involve multiple generators operating simultaneously during a single extended grid outage event. The duration of an emergency event cannot be foreseen.

Gas

3.2.79 No existing gas pipelines are within the Site. However, there is the potential that the gas main within Sipson Road may need to be protected and/or diverted to allow for the proposed Site entrance.

3.2.80 The Applicant has no plans to utilise gas within the Proposed Development. Therefore, no new gas infrastructure is incorporated into the Proposed Development.

Water Supply

Potable Water

3.2.81 A 12-inch distribution water main is located within the Site, which runs in a north/south direction and is on the eastern side of the Site. It is anticipated that the former garden centre would be connected to this water main; however, the exact location is currently unknown. There is a 7.3m wide centred easement on the pipe, which has been considered within the parameter plans. The anticipated water mains connecting to the former Garden Centre require investigation at the next design stage. If found, it will need to be disconnected unless it is suitable for the Proposed Development.

3.2.82 There is the potential that the distribution water main within Sipson Road needs to be protected and/or diverted to allow for the proposed main entrance to the development site.

3.2.83 The preliminary potable water demand assessment for the proposed Development carried out by AECOM estimated peak clean water flow at 3.7 l/s, this comprised 2.3 l/s of potable water and 1.4 l/s for the firefighting water system. The fire fighter water demand assumes infill to onsite fire water storage tanks at 24-hour refill rate. Further details such as the direct fire mains supply for the fire hydrant system are to be proposed at the next design stage.

3.2.84 The Proposed Development will include water meters to electronically monitor water consumption in accordance with the LEED water conservation measures (see Utilities Statement). The Proposed Development will utilise air-cooled chillers to provide cooling to the IT infrastructure which minimises the potable water demand of the Proposed Development.

3.2.85 A range of water saving measures are expected to be incorporated into the Proposed Development including dual flush WCs served by rainwater collection and reuse systems and hand wash basin taps with restricted flows (5L/min).

Foul Water

3.2.86 With the exception of the short section of foul sewer adjacent to Sipson Road to the west of the Site, no foul sewer connections are identified on the Site. However, it is likely that there is a connection from the Site to the foul sewer network associated with the former Garden Centre. This will require further investigation during the reserved matters stage and, if found, will require disconnection from the network unless it can be proved to be suitable for the Proposed Development.

3.2.87 New privately owned and maintained underground foul drainage networks will be constructed as part of the Proposed Development. These are anticipated to be connected to the existing Thames Water foul sewer in Sipson Road using a gravity connection, subject to further discussions.

3.2.88 The daily domestic wastewater volumes and flowrates for a population of 102 staff with no canteen is estimated as 102 x 50L/head/day (5.1m^3 peak daily volume). With an 18-hour working day, this gives an average flow of 0.08L/s a peak flowrate of 0.5L/s.

Telecommunications

3.2.89 There are several telecommunications operators with existing telecommunications infrastructure within the public highway adjacent to the Proposed Development. Through the development, there is potential that the telecom networks in Sipson Road may need to be protected and/or diverted to allow for the proposed main entrance into the development site.

3.2.90 It is anticipated that four diverse Outside Plant (OSP) pathways provided by two independent service providers are required. This is in line with best practice for supporting a facility of this nature. These pathways will be provided as close to north, east, south and west directions as feasible.

3.2.91 Details on service and infrastructure availability, including the condition and capacity of their Outside Plant (OSP) networks and any divisionary works required will be obtained at the detailed design stage.

3.3 Construction and implementation

3.3.1 This section describes the anticipated programme of demolition and construction works and the key activities that will be undertaken prior to completion and operation of the Proposed Development.

Construction Duration

3.3.2 The approximate duration of the demolition and construction phase is outlined below:

- Demolition to commence in 2027
- Construction to commence in December 2027
- Construction to complete over a 24-month period to November 2029
- Operation to commence in January 2030

Construction Environmental Management Plan (CEMP)

3.3.3 Details of measures to protect the environment during the construction of the Proposed Development will be set out in a CEMP, which will be secured by a suitably worded planning condition. An Outline CEMP (OCEMP) has been prepared and is appended to the ES at Appendix 3.1.

3.3.4 The OCEMP has been prepared to communicate the construction delivery strategy and methodology for the construction of the Proposed Development. The purpose of the OCEMP is to ensure the delivery of a high quality project in line with safe methods, sustainable initiatives and to develop a strong relationship with the local community and relevant stakeholders.

3.3.5 The OCEMP will be confirmed on appointment of the Principal Contractor and is anticipated to be secured by planning condition.

Demolition

3.3.6 Demolition activity will commence with an asbestos survey and removal followed by a soft strip and the erection of protective scaffolding prior to the start of demolition. The demolition of the former garden centre and current servicing buildings will be undertaken first and then the removal of any slabs and old foundations from the previous garden nursery (to the south of the Site) will be undertaken.

Construction

3.3.7 Construction will follow the following four key logistics principles:

1) One delivery process and one central traffic control system
2) There will be a team who will monitor planned and actual road movements and intervene when necessary to ensure compliance
3) There will be one point of contact for the emergency services in relation to material movement planning and implementation
4) All material requirements and deliveries will be controlled within the constraints of available delivery times.

3.3.8 Measures will address hours of working, noise, vibration, dust, light spill, wheel washing and control of runoff. It is anticipated that the implementation of a CEMP in accordance with the OCEMP will be a condition of the planning permission and that it will be regularly monitored.

3.3.9 The OCEMP sets out the anticipated construction and demolition mitigation and measures. Further detail and measures specific to the technical scope and assessments of the EIA are outlined within the relevant topic chapters.

3.3.10 Once finalised and approved by the Local Planning Authority, the CEMP would be held on-site. All site personnel would be made aware of its existence and undertake to adhere to the guidance.

Plant and Equipment

3.3.11 An indication of the typical types of plant and equipment likely to be used during the Site clearance and construction works are provided in Table 3.2.

Table 3.2 Indicative Plant and Equipment

Plant/Equipment	Demolition	Groundwork	Superstructure
Dozer	✕	✓	✕
Backhoe with breaker	✓	✓	✕
Tracked excavator	✓	✓	✕
Dumptruck	✓	✓	✕
Hydraulic vibratory compactor	✕	✓	✕
Generator	✓	✓	✓
Grinder	✕	✕	✓
Concrete mixer	✕	✕	✓
Tower crane	✕	✕	✓
Piling rig	✕	✓	✓

Methods of Working

3.3.12 The construction compound is expected to be centrally located within the Site. Final confirmation on compound location will be agreed with the Council through the CEMP.

3.3.13 The working hours are anticipated to be:

- 08:00 – 18:00 hours Monday to Friday inclusive
- 09:00 - 13:00 hours on Saturday; and
- No Sunday, Bank or Public Holiday working unless by prior approval for specific works

3.3.14 In order to maintain these working hours, the contractor(s) may require a period of up to half an hour before and up to one hour after normal working hours for start-up and close down of activities. This does not include operation of plant or machinery giving rise to noise with the potential to disturb nearby residents or the arrival of any HGV at site before 07:30 hours.

Construction Traffic

3.3.15 Construction traffic movements consider the following sources of traffic:

- Workforce movements to and from the Site;
- Deliveries made to the Site;
- Removal/ import of material from the Site; and
- Trips made by associated trades.

Safe storage of fuel/oil

3.3.16 The safe storage and use of fuels for the plant will be a priority in site management. Drainage within the temporary, secure site compound where construction vehicles will park and where any diesel fuel will be stored, will be directed to an oil interceptor to prevent pollution should any spillage occur. Diesel storage and refuelling will be within a designated area or a self-bunded tank in accordance with the Government's Oil Storage Regulations. All oil storage tanks are proprietary self-bunded to equal quantities of oil held. This is regarded as industry standard practice and also includes mandatory legal requirements which are considered as integral to the development. Spill kits and mandatory spillage reporting is standard procedure.

Health and Safety

3.3.17 All work will be undertaken to relevant Health and Safety legislation. The construction of the Proposed Development will be supervised in accordance with the CDM Regulations 2015. Risk assessment will be undertaken for each work package prior to activities taking place.

3.4 Waste

3.4.1 The principal contractor for demolition and construction will be required to implement the waste hierarchy of prevention, preparing for re-use, recycling, other recovery and disposal, to ensure the maximum efficiency of waste resources.

Demolition and Construction Waste

3.4.2 The Proposed Development involves the demolition of existing buildings to the north of the Site, shown on Figure 3.1 – Demolitions Parameter Plan. A Circular Economy Statement has been submitted to support the planning application and is appended at Appendix 3.2.

3.4.3 The management of deconstruction waste focuses on controlling all materials generated during deconstruction activities. This process involves carefully sorting materials for reuse or recycling, either on or off-site, as well as ensuring that hazardous waste is appropriately disposed of. Materials such as wood, metal, concrete and both hazardous and non-hazardous substances are to be segregated at Site. All handling of any hazardous waste will follow safety regulations.

3.4.4 The area of structures to be demolished is approximately 1,265sqm. The overall waste during the demolition phase has been estimated at 16,386 tonnes. A large majority of this waste should be suitable for reuse or recycle off-Site.

3.4.5 In terms of construction waste, Table 3.3 shows the estimated construction waste arisings for the Proposed Development. As above, the Proposed Development should be able to reuse almost all (95%) of the excavation waste on-Site. Any other construction waste will then either be recycled off-Site or sent to other disposal means.

Table 3.3 Construction Waste Arisings

Development Type	Overall Waste (tonnes)
Excavation waste	3,351
Construction waste	2,077
TOTAL	**5,428 tonnes**

3.4.6 All construction waste will be separated on site with as much as possible being recycled. The mixed waste which is not suitable for onsite separation will be sent to a waste separation centre where it is further separated and any material that can be recycled is removed. A very small percentage of overall construction waste is then sent to landfill if it is not suitable for recycling.

3.4.7 In order to minimise the volume of waste generated, a Site Waste Management Plan (SWMP), forming part of the CEMP, would be prepared. The Site Waste and Resource Management Plan (SWMP) will be prepared and implemented by the appointed contractor (and secured by planning condition), including procedures and commitments to sort and divert waste from landfill. The CEMP (which should be prepared in discussion with the appointed contractor) would be agreed with the Council prior to commencement of works at the Site and the appointed contractor(s) would be required to comply with the requirements of the CEMP. Such adherence would ensure that significant adverse effects from the management of waste would be unlikely.

3.4.8 In total, approximately 21,814 tonnes of waste may arise from the demolition and construction phases of the Proposed Development.

Operational Waste

3.4.9 Once operational, the Proposed Development would generate commercial waste. This waste would likely arise from a result of the associated office space or through the day-to-day operation and administration of the data centres and would be collected from the Site via private waste contractors.

3.4.10 An estimate of operational waste has been made as part of the Circular Economy Statement.

3.4.11 During the use stage of the project, it is anticipated that 172 tonnes of waste would be generated per annum. An estimated 65% of this waste could be recycled off-Site with the other 35% sent to another means of disposal.

3.4.12 Further details of operational waste management would be established at the detailed design stage. However, it is anticipated that waste storage would be provided of sufficient capacity to manage expected arisings. This would include waste storage areas to aid segregation of waste.

3.4.13 Any confidential waste would be collected in secure bins. To be fully compliant with the Data Protection Act, a written contract with a certified confidential waste company is required. This waste stream would be collected by a specialist contractor and shredded and disposed of off-site.

3.4.14 Waste streams such as fluorescent tubes, batteries, asbestos and chemicals will be required to be collected by a licensed specialist contractor as they are designated as hazardous waste. The facilities management team will be required to register the site for a Hazardous Waste Licence to permit this waste to be collected safely and reprocessed.

3.4.15 Sanitary waste from washrooms would be collected and disposed of by the cleaning contractor and be dealt with separately from the other waste generated through the operation of the building. Similarly to all other types of waste collected from the Site, a waste transfer note will be kept for audit purposes.

3.4.16 Once components involved in the day to day running of the centre reach the end of their life, they would need to be disposed of and replaced. This waste would largely comprise electronic components such as server racks and other IT equipment. This equipment is largely recyclable, and many components can be salvaged for re-use through specialist disposal organisations. Any harmful or hazardous waste products would also be disposed of through specialist third party disposal contractors.

3.4.17 Waste arising from landscaping maintenance, is anticipated to be disposed of by the landscape contractors and would not be stored on Site.

Table 3.4 Parameter Plans

Drawing Name	Drawing Number
Figure 3.1 – Demolitions Parameter Plan	PGF-ACM-00-XX-DR-AR-051500 Rev P1
Figure 3.2 – Development Parcels Parameter Plan	PGF-ACM-00-XX-DR-AR-051501 Rev P3
Figure 3.3 – Building Heights Parameter Plan	PGF-ACM-00-XX-DR-AR-051502 Rev P3
Figure 3.4 – Land Use Parameter Plan	PGF-ACM-00-XX-DR-AR-051503 Rev P3
Figure 3.5 – Access and Movement Parameter Plan	PGF-ACM-00-XX-DR-AR-051504 Rev P3
Figure 3.6 - Landscape and Green Infrastructure Parameter Plan	PGF-ACM-00-XX-DR-AR-051505 Rev P2
Figure 3.7 - Public and Private Realm Parameter Plan	PGF-ACM-00-XX-DR-AR-051506 Rev P1