



East Havering Data Centre Campus

Digital Reef Project Update



0.0 Executive Summary

The Digital Reef team are delighted to have the opportunity to present a project update to Members of the London Borough of Havering Strategic Planning Committee (SPC).

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Concept visual



Digital Reef are excited by the progress the East Havering Data Centre Campus project has made over the last 6 months.

The project will see the delivery of a uniquely sustainable Data Centre Campus that delivers significant benefits for its community for generations to come and is a project we can all be extremely proud of.





1.0 Project Progress Update

Over the last 12 months The Digital Reef team have continued to work closely providing information to the London Borough of Havering (LBH) Local Planning Authority (LPA) team as they progress the required documentation for the Local Development Order (LDO) process.

The LBH LPA team have appointed consultants to support it through the LDO process and are working on key project work-streams including drafting the LDO, submitting the Environmental Impact Assessment screening and scoping documentation, and progressing the information required for formal consultation. Digital Reef and our wider team have continued to support both through providing evidence to support the evolution of a LDO documents, and the environment impact assessment process providing input data, design information and technical support.

The Digital Reef team have also appointed Martha Grekos KC as a key member of the project team who is on hand to assist the project team with any legal queries that arise as the project document being collated by all parties to ensure all legal points are being addressed promptly and that all potential legal challenges have been considered.

Since we last presented to Members the details of the proposals for the site have been progressed and a full update is provided below along with responses to a number of queries raised by Members over the last 12 months, both at the SPC meeting in April 2023, and the SPC site visit in March 2024 attended by SPC Members and Officers.

The Digital Reef team have commenced a community Engagement programme to ensure our near neighbours and key local stakeholders are informed about our proposals. The Digital Reef Team look forward to continuing to work closely with LBH officers to support the LPA in its consideration of the planning case for the development, and progression towards approval to consult on the LDO currently scheduled for summer 2024 and ultimately the consent which we hope will be in place during the Autumn 2024.

2019
Digital Reef first approached LBH re the project

2023
April
Developers Presentation to Members at SPC

2024
May
Developers Presentation to Members

2019
Digital Reef Team Project Development and Due Diligence process completed.

2020
Digital Reef & LBH Team worked closely together to determine the appropriate next steps for the project, including the appropriate planning route.

2024
Digital Reef & LBH Team continue to work closely to produce the evidence & information required by the LDO process.

2022
November
Project presented to Cabinet

2023 Q2/3
LPA appoint EIA consultants late summer 23



Aerial Site Concept visual



2.0 Project Summary

The East Havering Data Centre Campus project provides a unique opportunity to create a sustainable Data Centre Campus of the future that contributes positively to its local community, delivers the infrastructure for a number of on and off-site renewable energy project and creates significant numbers of jobs both locally and nationally.

The proposals include an extensive 113-hectare Ecology Park, created in partnership with the local community which will be open to the public and fully accessible through new footpath and cycling routes. Once complete the project will become a global exemplar and test bed for the co-location of data, low carbon energy, green tech, innovative horticulture and nature.

The proposed development will provide a range of economic benefits to the Havering economy throughout the construction phase and during operation. The proposed development represents a £5.30 billion investment to improve London and the UK's digital infrastructure, of which £2.72 billion will be spent in the UK, including £2.0 billion in Havering, during the five-year construction phase.

The construction phase is estimated to support an average of £204 million of GVA, 2,800 jobs, and £86 million in wages, across the Havering economy per year. Once fully operational, the proposed development will directly generate a net increase of £391 million of GVA, 1,240 jobs, and £65 million in wages, across the Havering economy.

As supply chain (indirect) and wage consumption (induced) spending leaks outside of the Havering economy, the first full year of operations could generate a £736 million GVA contribution to UK GDP, supporting 7,130 jobs across the workforce, and £245 million in wages nationally. 2,410 of these jobs would be within Havering when the direct, indirect and induced jobs are all factored into the calculations.

The number of on-site employees during operational phase would total 300 however these are split over three shift patterns with some employees only attending site once a week, no more than 30-60 people would be anticipated to be on site at any point during the average working day. (Please note LBH are currently reviewing these figures, in respect to the construction phase, and they are expected to increase greatly once revised costings are reviewed by Oxford Economics).



“ The new Ecology Park will occupy over **50%** of the site area creating a publicly accessible and ecologically rich new public space for the people of Havering to enjoy. ”



2.1 - Detailed Project Description & Key Metrics

The proposed development is for a minimum 279,400 square meters and up to 400,000 square metres of gross external floor area comprising data centres plus associated external plant and security (Sui Generis use), indoor horticulture facilities, green energy initiatives (including hydrogen fuel cell energy generation, battery storage and district heating energy centres), visitor centre and electrical substations and distribution infrastructure. In addition, the proposals include new access roads, civil engineering works, hard and soft landscaping, and formation of associated parkland/enhanced biodiversity habitat at North Ockendon, Havering, Greater London.

If the project is being delivered as an LDO the consent will allow a maximum and minimum floor area rather than a fixed floor area. The consent will also create a set of parameters including maximum building heights across a number of build zones.

Noting the on-going design and engagement processes, the nature and scale of the development proposals are anticipated to comprise the following:

“ The new Ecology Park will be the size of **174** football pitches. ”

Maximum develop-able area floorspace of 400,000 m2 (with a minimum committed delivery of 279,400 m2) (GEA);

- Up to 340,000 m2 (with a minimum committed delivery of 250,000 m2) GEA of data centre floorspace plus associated external plant and security.
- Up to a maximum of 60,000 m2 (with a minimum committed delivery of 26,000 m2) (GEA) of indoor floorspace for heated horticulture facilities.

Green energy initiatives comprising:

- up to a maximum of 6,000 m2 (GEA) of hydrogen fuel cell energy generation floorspace;
- up to a maximum of 10 ha (with a minimum committed delivery of 2 ha) of battery storage floorspace;
- up to a maximum of 2,800 m2 (with a minimum committed delivery of 200 m2) (GEA) of district heating energy centre floorspace;
- Up to a maximum of 600 m2 (with a minimum committed delivery of 200 m2) (GEA) visitor centre floor space, including ecology park management and maintenance facilities;
- Up to a maximum of 20,000 m2 (with a minimum committed delivery of 3,000 m2) (GEA) electrical substation and distribution infrastructure floorspace; and
- A minimum of 113 ha (280 acres) of new green / nature reserve space (ecology park), accessible to the public.



2.2 - The Indicative Masterplan

The Indicative site masterplan layout shown here on the left illustrates how the site could be developed given the use criteria set out above and the technical constraints of the site.

The site's build zones have been thoughtfully arranged across the site allowing the natural levels and steep gradient of the site, that falls away sharply to the east (see drawing on this page), to help minimise the visual impact of the buildings by naturally screening them from the surrounding green belt farmland, country roads and dwellings. This screening is further complimented by the 'cutting' of the build plots into this gradient and creation of densely planted bunding to the perimeter of the site using this cut soil. Build Zone I & J are the most visible due to the existing site levels and as such have height restrictions making them more suitable for battery storage use.

The technical constrains of the site including the flood zone to the east of the site and the location of the power infrastructure, Warley Grid Supply point, to the west also drove the design principles of the masterplan resulting in the data and energy building uses, that require proximity to the power infrastructure, and cannot be located in a flood zone, being located to the west of the site. The sites existing overhead power lines and gas main also further defined the plots with data buildings now being able to be located beneath or on top of these utilities. The sites red line boundary extends beyond the physical boundary of the site to include the underground cabling required to connect Warley to the site.

The UKPN substation shown at the heart of the masterplan has been located here to allow each of the data centre building plot's own on site sub stations to simply connect into

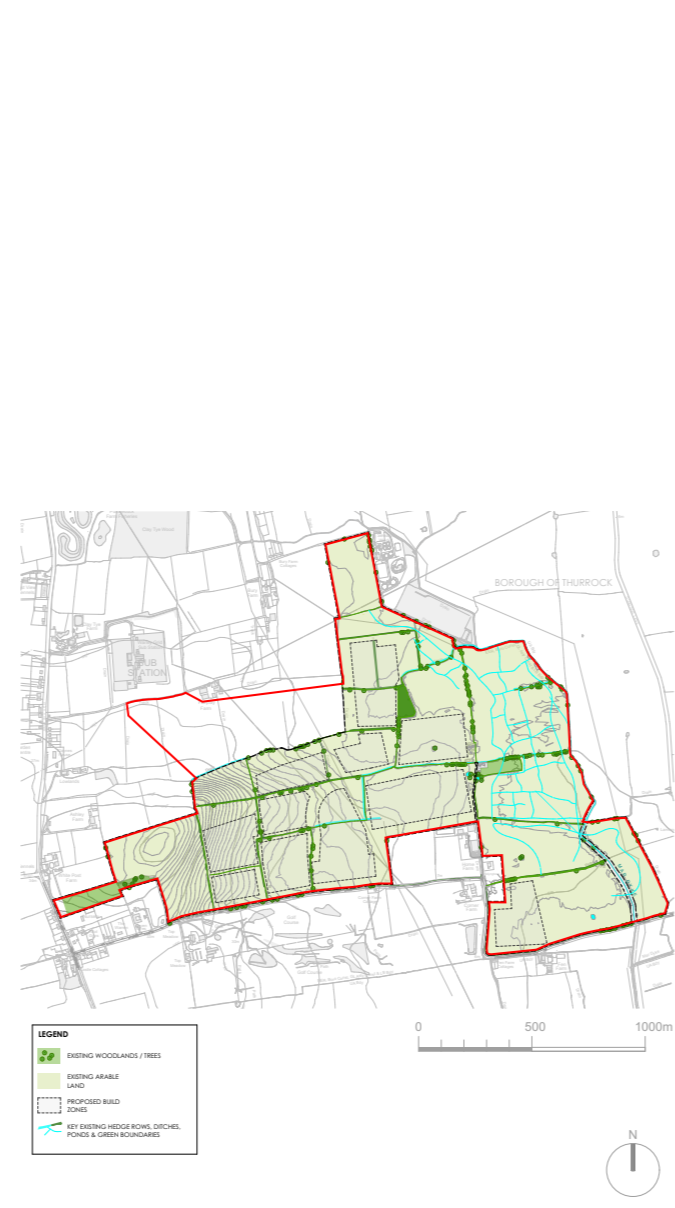
this central plot without the requirement for long convoluted power cable routes.

The landscape design for the Ecology Park and the perimeter landscaping around the site is driven by the ambition to create an ecologically diverse patchwork of habitats that knit the proposals into the wider ecological landscape that surrounds the site. The requirement for these habitats to be interconnected has seen the creation of a network of biodiversity corridors that dissect the eastern side of the site into smaller build zones.

The horticultural buildings are shown in two different potential locations, one to the west where the connection to the waste heat from the data centre buildings could easily be made, and one to the east where the proposed buildings could sit adjacent to the existing cluster of agricultural buildings.

The discovery centre is located adjacent to the Ecology Park to the south east of the site. Located off Fen lane the build zone is easily accessible and will be the location of all of the sites publicly accessible facilities.

Given the flexibility allowed for, the build zones within the proposed development could accommodate single (large) or multiple (smaller) footprint buildings. It is intended that there would be some flexibility in the design and construction of the proposed development but that a range of design criteria will be established prior to obtaining consent. These design criteria would be informed by undertaking the various technical assessments as part of making the LDO (i.e. landscape and visual) and are likely to include; scale, mass, height, materials, colour pallet and landscape design.



DIGITAL REEF		Project		Drawing title		Revision	
11 Watkiss Street, London, W10 3HE T: 020 7637 6601 E: mail@redgroup.co.uk W: www.redgroup.co.uk		Foundry London, Havering North Oxendon, Upminster		EB1		Existing Site Conditions	
		A4		13/05/2024		1:50000	
		LDO					
		REPORT OBSERVANCES DO NOT SCALE FROM THIS DRAWING. CHECK ALL DIMENSIONS AGAINST THE CORRESPONDING REPORT		USE LATEST REVISED DRAWINGS CHECK ALL DIMENSIONS AGAINST THE CORRESPONDING REPORT			
Rev	Date	Comments					



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Rev	Date	Comments					

FOR INFORMATION

URBANR

11 Watkiss Street, London, W10 3HE
T: 020 7637 6601
E: mail@urbanr.co.uk
W: www.urbanr.co.uk

Project: Foundry London, Havering, North Oxendon, Upminster, North Oxendon

MP: INDICATIVE MASTERPLAN

Scale: 1:50000

Date: 13/05/2024

Author: [Name]

Check: [Name]

Drawn: [Name]

Approved: [Name]



2.2 - The Indicative Masterplan

2.2.1 - Landscape Design - An amenity for the People of Havering

The landscape design plays a critical role in the project, creating a network of interconnecting green biodiverse ecology corridors that weave in-between the projects develop-able build zones, connecting the sites extensive new woodlands, wetlands and meadows.

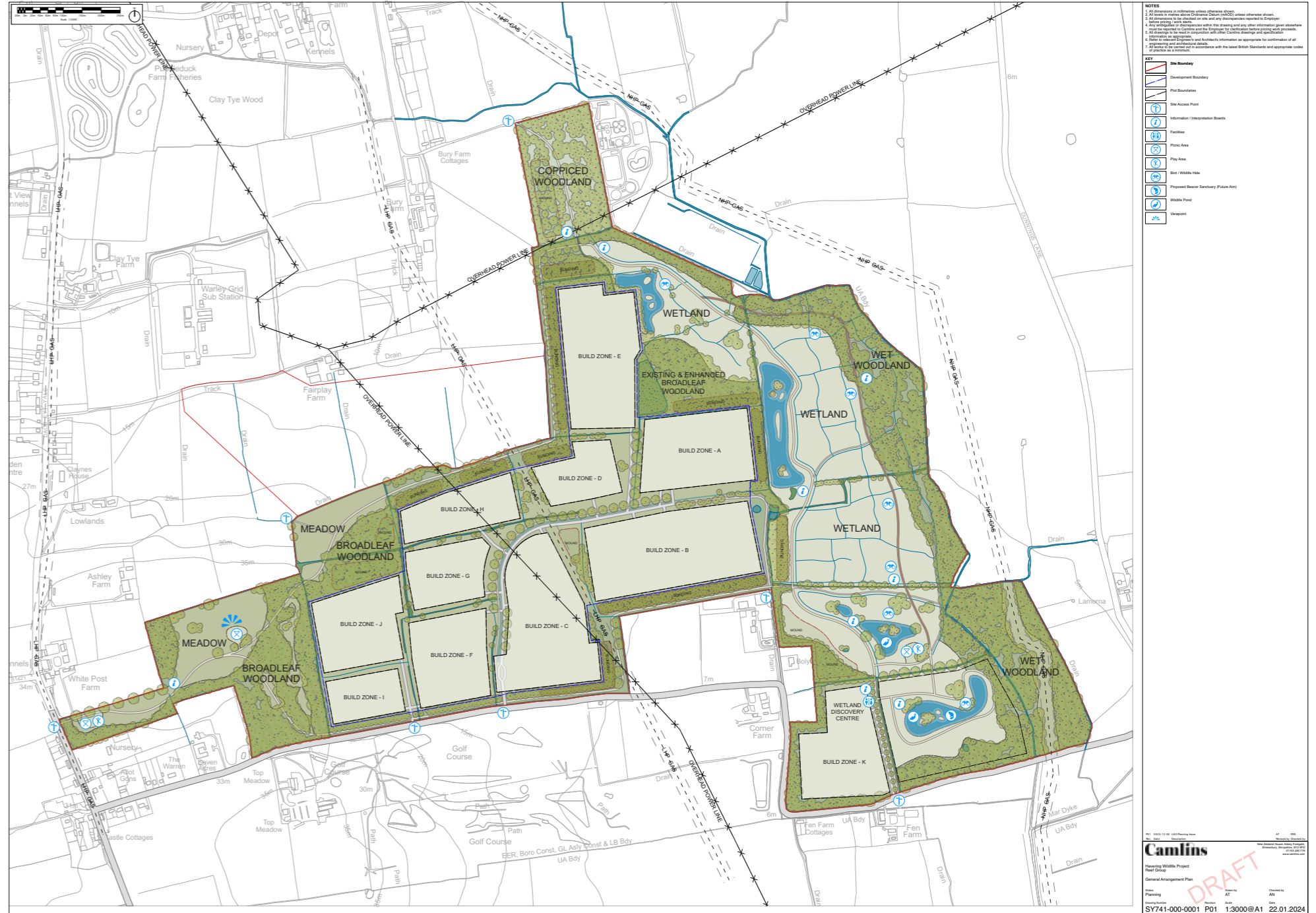
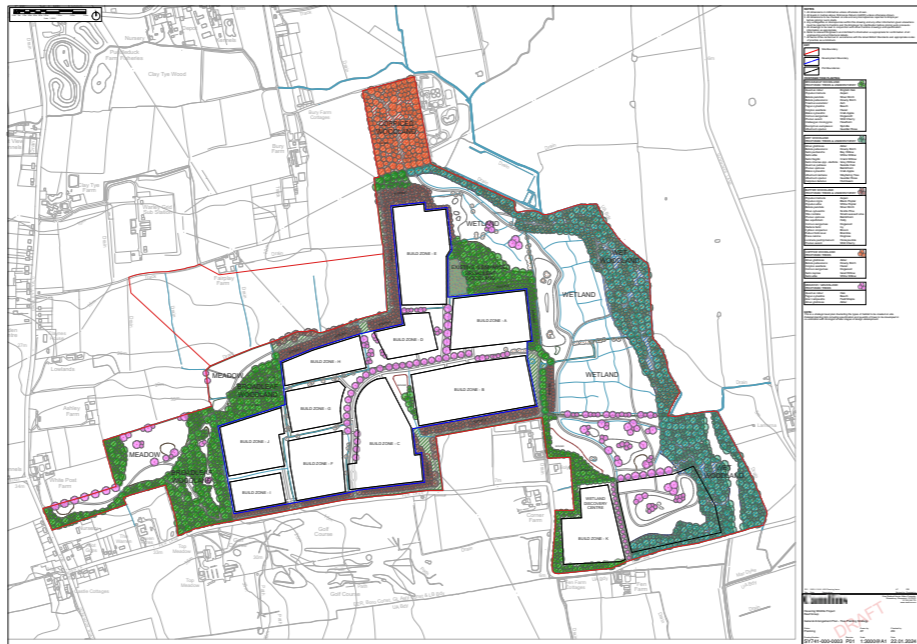
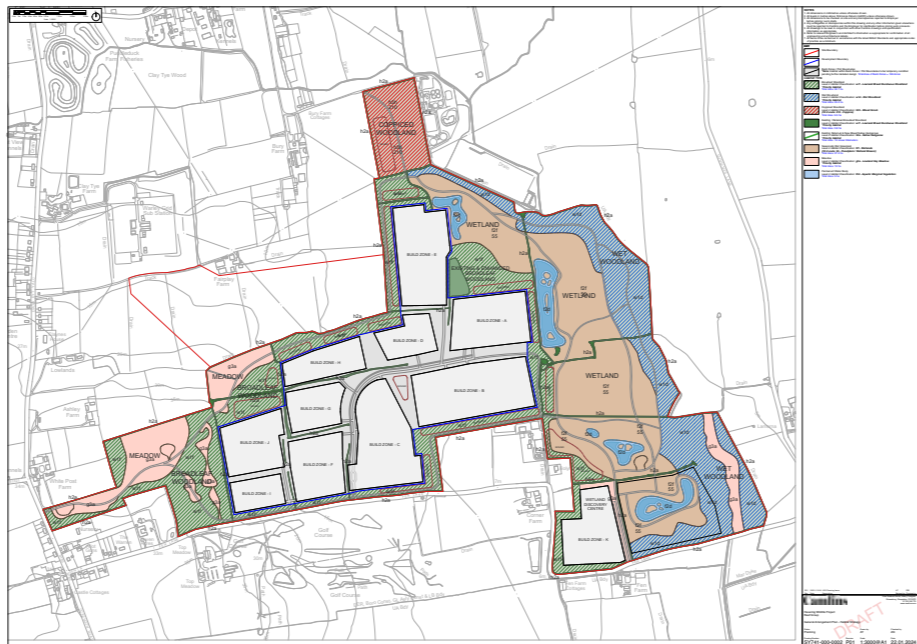
The key focus of the landscape is to create a mosaic of habitat typologies that boost local biodiversity and encourage human engagement with the newly created accessible green spaces. The landscape design also plays a critical role in managing water sustainably on site and enhancing carbon sequestration through improving soil quality on site.

The proposed design will create this biodiverse mosaic through the creation of new woodland and grassland typologies that connect and enhance existing and hedgerow and ditch corridors, please see drawings on the right.

The eastern area of the site (The Ecology Park) will feature wetlands within the existing flood plain with extensive ditch networks that will help to manage flooding through water retention. A woodland corridor will be established along the eastern boundary further enhancing water management whilst improving soil quality and creating a buffer to the site.

To the south-west corner of the site, deer fencing is proposed to protect an area of 9 ha in order to allow the landscape to mature undisturbed from the local deer herds. The long-term is ambition is for this area of landscape to mature in order to create suitable Beaver habitat so that it may be considered for future reintroduction of Beaver's to the local landscape, which has the potential for significant positive impacts upon the local biodiversity.

Extensive broad leaf woodland will wrap around the development zone, aiding to screen the site from the surrounding area whilst also stabilising steep banks to the West of the site, reducing water run off and improving soil quality. Meadows and glades will also break up areas of the woodland to the west which will add another layer of diversity to the habitat types.



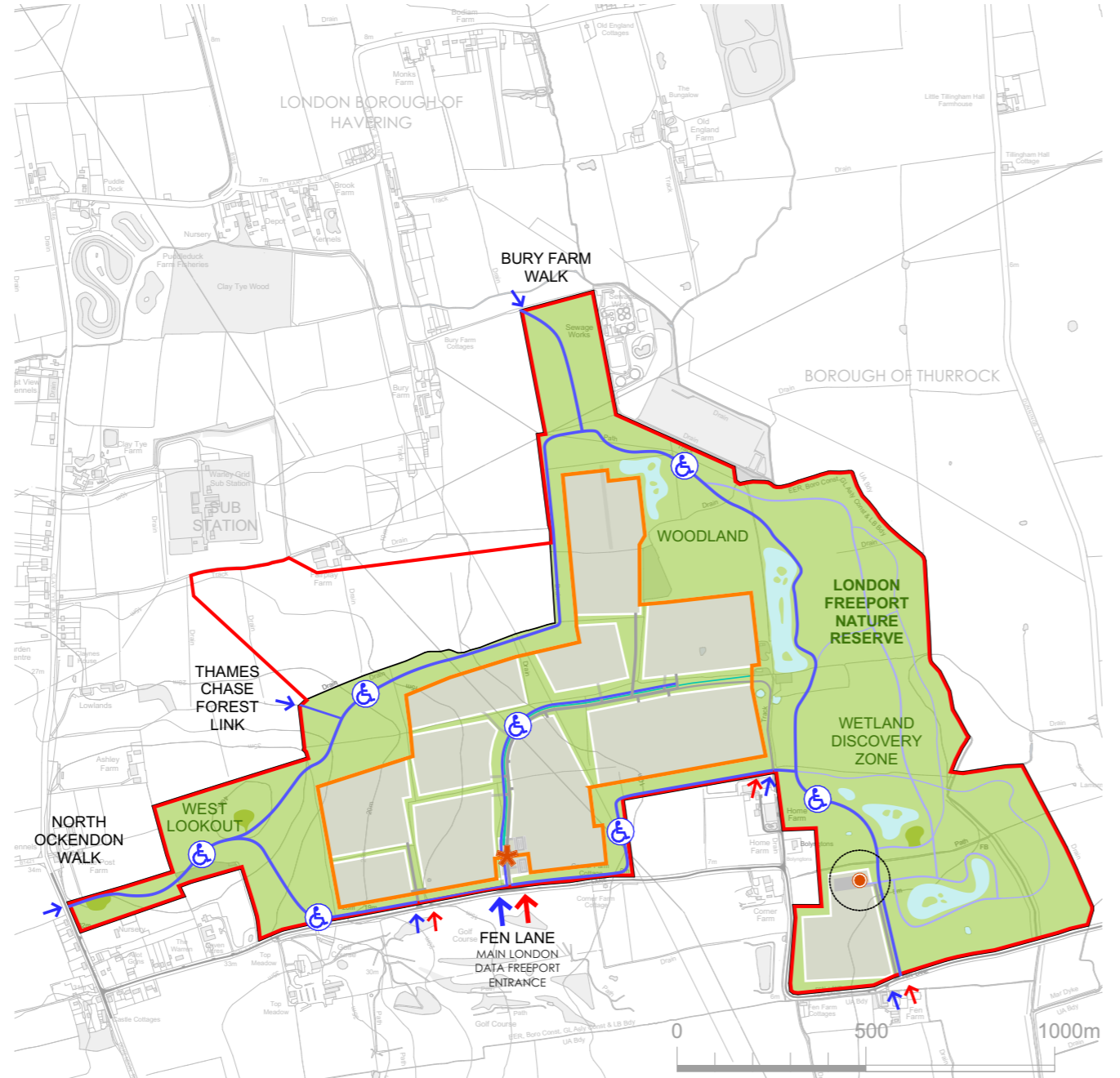
2.2 - The Indicative Masterplan

2.2.2 - Site Access and Connectivity

The sites access strategy has been carefully considered to ensure the site is both fully accessible to the public, via a network of cycle and pedestrian routes but also careful considered to ensure the sites neighbours are not adversely impacted by journeys to and from the site.

The drawing on this page shows how these routes across the site connect into the wider landscape and across the site.

The main entrance to the proposed development would be via a new site access road from Fen Lane and would include management and security accommodation together with security check point and gates. The main entrance area will also include a personnel and visitor car park and cycle parking provision.



LEGEND

Strategic Landscaping Zones	Pedestrian / Cycle Access	Wheelchair Accessible Pedestrian Routes
Build Zones	Vehicle Access	Main London Data Freeport Entrance and Security Checkpoint with Car Parking
Ponds (Existing and Proposed)	Proposed Strategic Access Roads	Location for Wetland Discovery Centre with Indicated Walking Distance (1 Min)
Proposed Swales (Indicative)	Secondary Access Roads (Indicative Locations)	
Proposed Security Fence Line	Primary Strategic Footway / Cyclepath (2M + 3M Wide)	
	Secondary Pedestrian Access (Indicative Locations)	

2.2 - The Indicative Masterplan

2.2.3 - Site Land Use

As noted above the LDO process creates a flexible set of parameter plans and land use drawings consenting different uses on different build zones. The site is divided into a number of different build zones that will be controlled by a number of different parameters and design constraints that will be concluded once the Environmental Impact Assessment work is progressed further.

The indicative masterplan as shown divides the existing 215 Hectares, 532.7 acres site into 11 build zones with a range of different uses as noted below. Over half of the site will be new green landscaping and remain undeveloped as shown on the drawing here.

Development Area - 69.8 Hectares / 172.6 Acres

Landscape Area - 121 Hectares / 300.1 Acres

LEGEND

Development Area	Battery Storage (Ref 4b)	Data Centres (Ref 2)	Hydrogen Fuel Cell Energy Generation (Ref 4a)
Strategic Landscape Target Area	Electrical Infrastructure (Ref 4c)	Hydrogen Fuel Cell Energy Generation (Ref 4a)	Battery Storage (Ref 4b)
	Data Centres (Ref 2)	Indoor Horticulture (Ref 3)	District Heating Energy Centre (Ref 4c)
	Battery Storage (Ref 4b)	Hydrogen Fuel Cell Energy Generation (Ref 4a)	Electrical Infrastructure (Ref 4c)
	Electrical Infrastructure (Ref 4c)	District Heating Energy Centre (Ref 4c)	Visitor Centre (Ref 5)
		Electrical Infrastructure (Ref 4c)	Electrical Infrastructure (Ref 4c)



LEGEND

Development Area	Battery Storage (Ref 4b)	Data Centres (Ref 2)	Hydrogen Fuel Cell Energy Generation (Ref 4a)
Strategic Landscape Target Area	Electrical Infrastructure (Ref 4c)	Hydrogen Fuel Cell Energy Generation (Ref 4a)	Battery Storage (Ref 4b)
	Data Centres (Ref 2)	Indoor Horticulture (Ref 3)	District Heating Energy Centre (Ref 4c)
	Battery Storage (Ref 4b)	Hydrogen Fuel Cell Energy Generation (Ref 4a)	Electrical Infrastructure (Ref 4c)
	Electrical Infrastructure (Ref 4c)	District Heating Energy Centre (Ref 4c)	Visitor Centre (Ref 5)
		Electrical Infrastructure (Ref 4c)	Electrical Infrastructure (Ref 4c)

2.2 - The Indicative Masterplan

2.2.4 - Building Heights

The build zones are all controlled by a number of constraints to mitigate impact on the surrounding Environment. The impact of the development on local visual amenity has been a key design consideration and resulted in a stepped maximum building height strategy that uses the sites existing topography to help screen the development from its surrounding context.

As shown in the drawing on this page the build zone heights are reduced in the areas where the sites existing topography make them more visible. The most exposed, visible portion of the site has the lowest restricted maximum building height of 8m with this increasing in the heart of the site to 21m where the sites natural topography and the proposed bunding allows for higher buildings to be screened from the surrounding context.

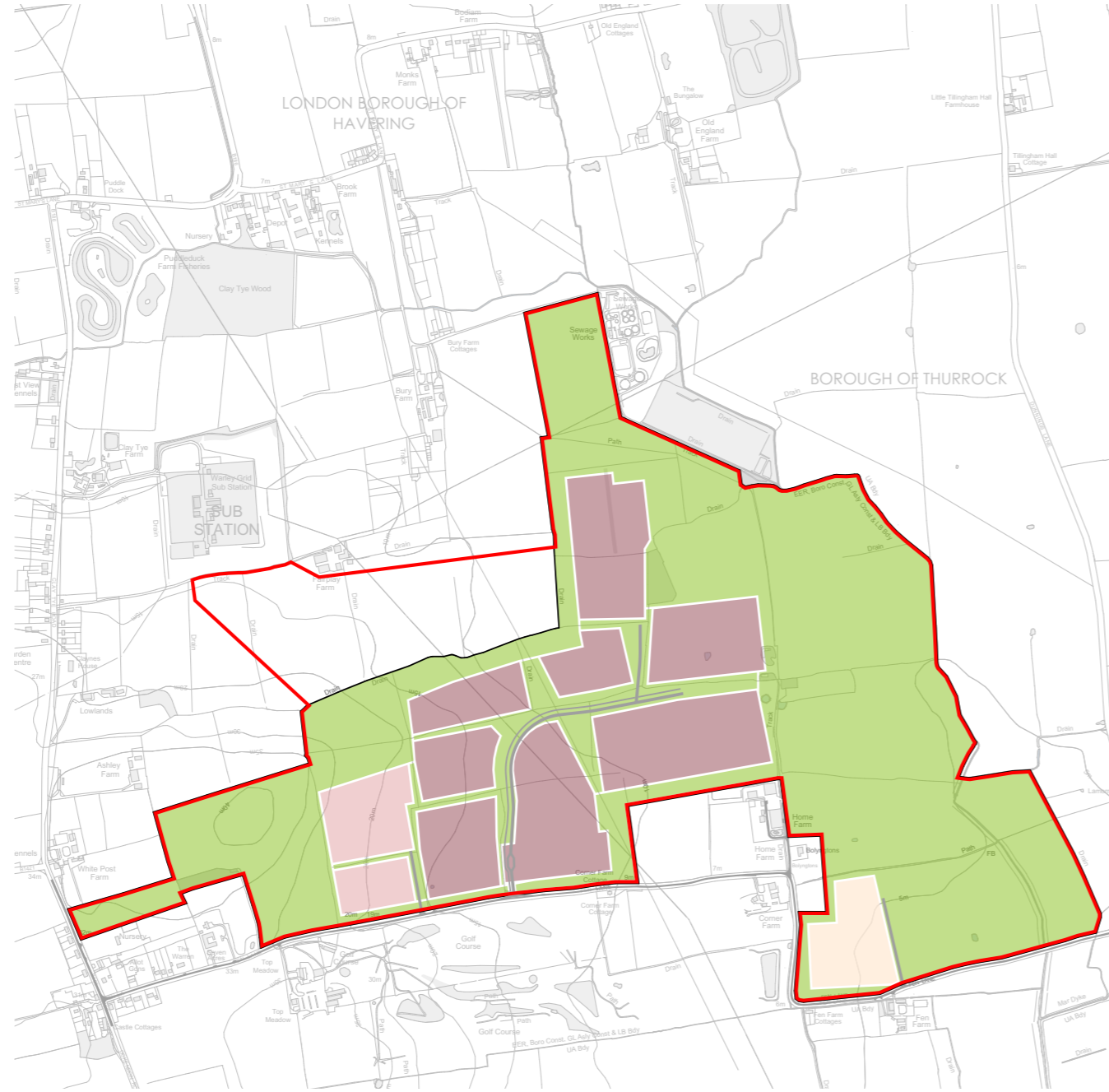
This strategy is also supplemented by the use of woodland planting and bunding to screen the buildings further. The ongoing Landscape Visual Impact Assessment work being carried out as part of the Environmental Impact Assessment may shape, carve and reduce these building heights further resulting in additional variation within the build zones and across the masterplan.

LEGEND **

- HEIGHT RESTRICTION ZONE 0 (MAX 8M)
- HEIGHT RESTRICTION ZONE 1 (MAX 15M)
- HEIGHT RESTRICTION ZONE 2 (MAX 21M)

** HEIGHTS ARE MEASURED FROM GROUND FLOOR ENTRY LEVEL

* HEIGHT RESTRICTION ZONES INCLUDE ROOF PLANT EXCLUDE ROOF TOP PROTRUSION, THE FINISH MANUFACTURING SYSTEMS AND ROOF FLUES WHICH WILL EXTEND NO MORE THAN 5 METRES ABOVE THE RESTRICTED BUILDING HEIGHT



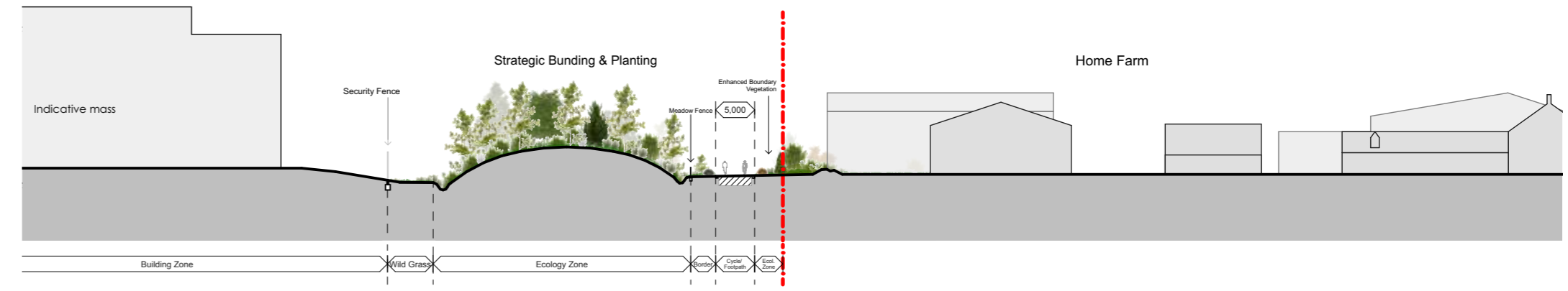
2.2 - The Indicative Masterplan

2.2.4 - Building Heights

This indicative site section further illustrates how the topography and landscape levels strategy work hand in hand to help screen the development from the surrounding landscape.

The proposed maximum building roof height would be 21 m above the finished floor level excluding roof top plant and exhaust flues which would extend no more than 5 m above the 21 m maximum building height.

The section drawing below illustrates the levels in a flatter part of the site where the existing topography is less forgiving so the bunding appears lower than it will elsewhere. Further section drawings are being prepared for the LDO documentation and verified views are being undertaken as part of the EIA work.





2.3 - Indicative Building Typologies

2.3.1 - Data Centre Buildings

The proposed development will include up to 340,000 m2 GEA of data centre floorspace plus associated external plant and security infrastructure which is considered as a Sui Generis use. In addition, the data centres will include roof top and external heating, cooling, ventilation and back-up power plant mounted on gantry or similar supports along with Photovoltaic (PV) panels, rainwater harvesting systems and storage tanks. The primary function of the proposed development would be to support public cloud computing services and the storage of data as part of the potential LDO beneficiary's long-term commercial plan and provision of services.

The specification of the design and quality of the proposed development will be very high. The data centre buildings will be sensitively designed to integrate softly into the new landscaping that will surround the buildings. The visuals used in this document are indicative visuals that illustrate the quality of the architecture that will be required by the LDO.

In addition to the roof top PV's the data centres sustainability credentials are further increased by the use a number of innovate sustainable solutions, such as the re-purposing of data centre heat to warm intensive indoor horticultural facilities. The use of renewable energy sources will also be key to achieving carbon neutrality, whilst also harnessing the natural energy potential of the site as far as possible. The proposed development would operate on a Carbon Neutral basis with Carbon Negative infrastructure designed and installed to feed into the grid in the future as green

technology advances. It is intended to be an exemplar for the future of data centre design.

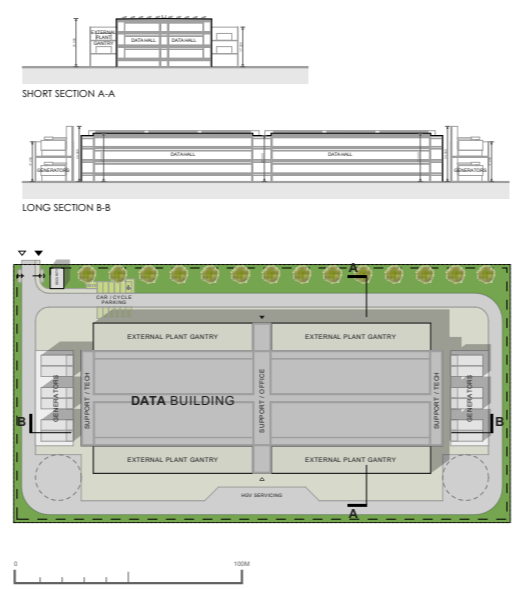
Typically, each build zone would accommodate between one to six data centre buildings with a variety of building numbers and in sizes between approximately 8,000 m2 and 60,000 m2 GEA depending on plot size and building data capacity requirements.

Data buildings would be a mix of three and four storeys in height with external plant. External plant would generally be located on gantry support systems both on the roof and external to the building with screening for aesthetics and noise mitigation.

Hydro-treated Vegetable Oil (HVO) fuel-fired standby generators are planned for installation on all data centre buildings, serving as emergency power sources in the rare event of a grid failure. In addition, please note that certain facilities including horticulture and security management may necessitate localised standby power through HVO generators, contingent upon design specifications. However, these requirements are anticipated to be negligible in comparison to the standby power needs of the data centre buildings.

The drawing on the right hand side shows an indicative plan and section for a Data Centre building that would comply to the LDO parameters as currently understood.

INDICATIVE DATA CENTRE LANDSCAPING GUIDE PLOT



2.3 - Indicative Building Typologies

2.3.2 - Battery Storage & Fuel Cells

The proposed development will provide for a variety of green energy technology initiatives to support the wider National Grid via grid balancing and compliment the proposed data use on site by supporting on-site renewable energy storage and by providing a zero-emissions energy source for on-site back up power supply.

Fuel Cells are generally made off-site in modules to be lifted onto site with associated plant such as Hydrogen storage tanks, Electrolysers, UPS (uninterrupted power source that provides automated backup electrical power to a load when the electrical power input fails), and is connected to renewable energy power supply. Energy generated from the fuel cells would connect to an on-site micro grid with substations, switch rooms and associated network equipment to supply the data campus with renewable energy as either a primary or backup power source. Fuel Cell sizes would vary and could be stacked for efficiency with suitable space between modules for maintenance access provision. The height of the proposed Fuel Cells is proposed to be between 4 m and a maximum of 14 m.

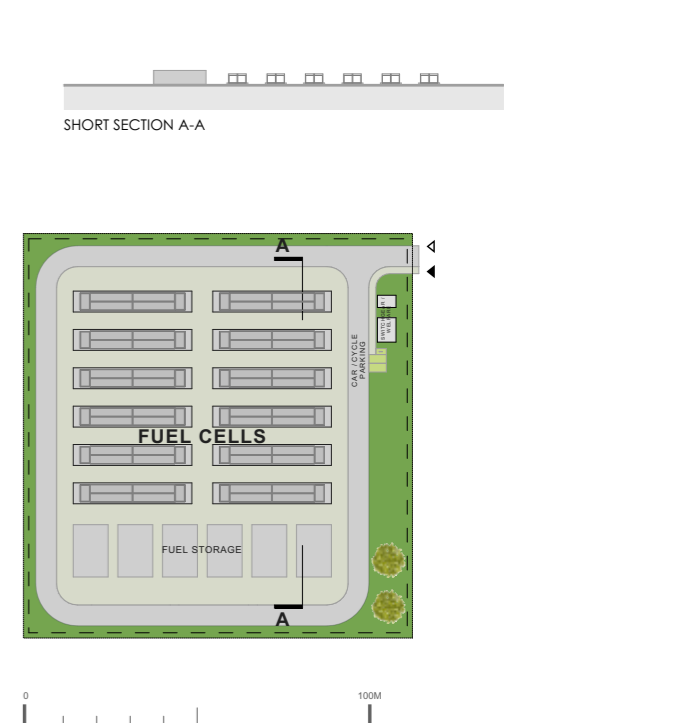
A minimum of 2 ha and maximum of 10 ha of site area for Battery Storage or grid balancing infrastructure use across the site to support Greater London and UK's electrical network at peak periods, support renewable energy technology on and off-site together with the achieving the proposed development's future Zero carbon targets.

Battery storage units are generally made off-site in modules

INDICATIVE BATTERY STORAGE LANDSCAPING GUIDE PLOT



INDICATIVE FUEL CELL LANDSCAPING GUIDE PLOT



to be lifted onto site and connected to local electrical infrastructure and substation to assist with grid balancing during peak times and support renewable energy low generation periods. Battery plant module sizes would vary and could be stacked for efficiency with suitable space between modules for maintenance access provision. The height of the proposed battery use would be between 4 m and a maximum of 14 m.

The drawings above show an indicative plan and section for a Battery storage and Fuel cell plot arrangement that would comply to the LDO parameters as currently understood.



2.3 - Indicative Building Typologies

2.3.3 - Electrical Substation & Energy Centre

Given the primary data centre use on the site Digital Reef were keen to ensure the waste heat from these buildings and associated electrical infrastructure was not wasted. To allow the benefits of this waste heat to be harnessed a district heating energy centre, a minimum of 200 m2 and maximum of 2,800 m2 GEA, is proposed for the site.

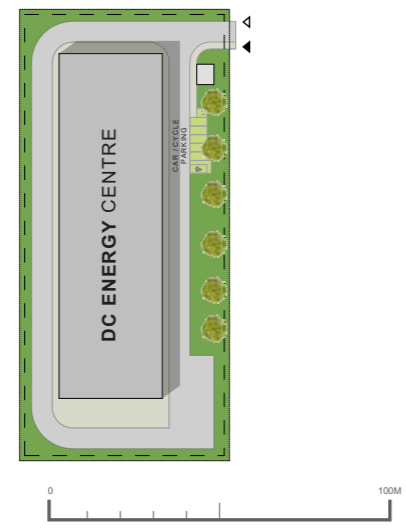
The proposed Energy centre use would provide plant equipment to allow the surplus heat to be reused on-site in the heated indoor horticulture, Discovery centre and other accommodation requiring heating. The proposed Energy Centres can be deployed with a modular solution to allow further expansion of a district heating network off-site in the future when required, and feasible for another party to deliver. The potential District heating opportunities off-site could include any future new developments or retrofitting existing homes, schools, hospitals, and other buildings in the surrounding towns such as Upminster, Hornchurch and further afield to achieve zero carbon targets.

Due to the substantial electrical supply connection proposed from Warley substation north of the site, new electrical infrastructure would be required on-site including high and low voltage substations, switch rooms and other network distribution equipment. This electrical distribution equipment would be located within separate compounds on proposed build zones with cable network below ground, each compound would have a mixture of external equipment and buildings with switch rooms and other indoor equipment.

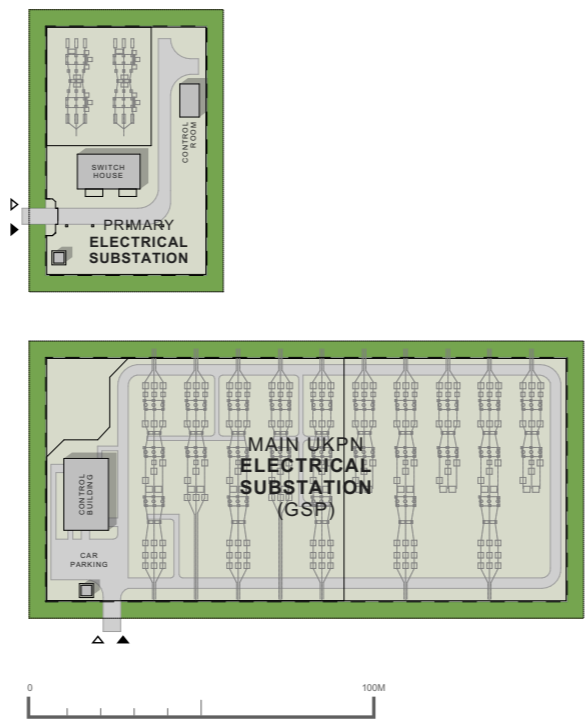
Build zone D will house the UKPN Main Primary Sub Station for the site that steps the power down from the Grid Supply point before stepping it down further across a six smaller substations across the site.

The drawings above show an indicative plan and section for an Electrical Substation and an Energy Centre arrangement that would comply to the LDO parameters as currently understood.

INDICATIVE DC ENERGY CENTRE LANDSCAPING GUIDE PLOT



INDICATIVE ELECTRICAL SUBSTATION LANDSCAPING GUIDE PLOT



2.3 - Indicative Building Typologies

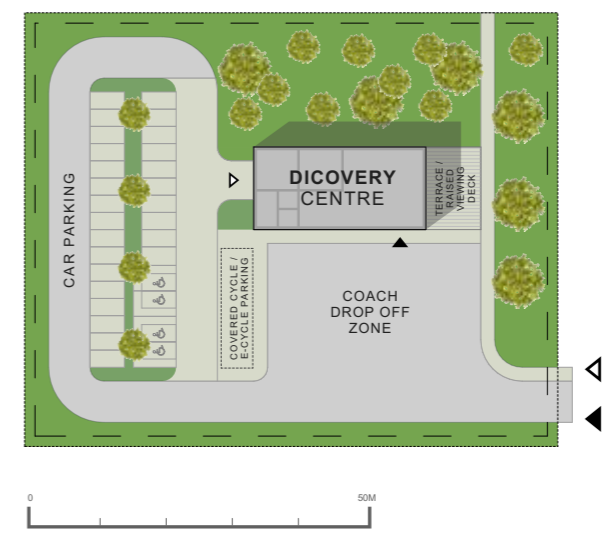
2.3.4 - Horticulture & Discovery Centre

Continuing the agricultural legacy of the site and supporting future food security the proposed development would include a minimum of 26,000 m2 and maximum of 60,000 m2 GEA of heated horticultural facilities. The proposed indoor horticulture facilities will replace and intensify the historic use of the site with year-round produce and an opportunity to trial the use of excess heat from the data centres as a net-Zero Carbon food growing initiative. New glass house structures, and support warehouse to accommodate management office, welfare, packaging and storage facilities together with associated heat network plant and water storage and treatment plant are proposed to be between 6 m and a maximum of 12 m high allowing a diverse range of produce to be grown.

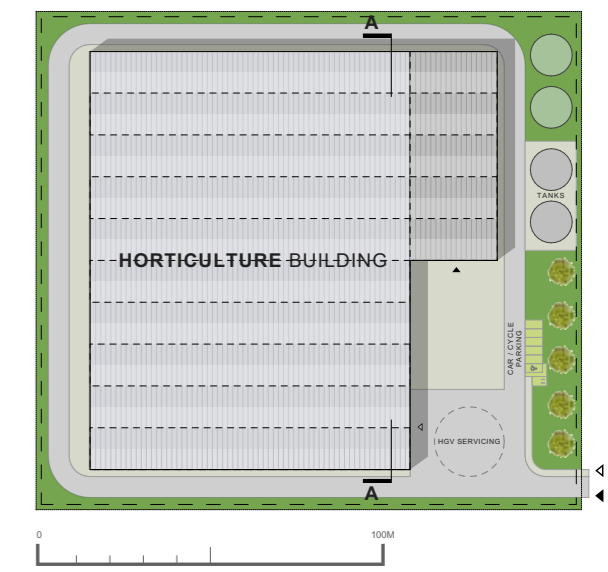
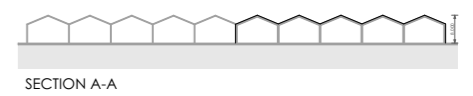
The facility would require a small service yard for movement of goods together with a minimal provision employee car and cycle parking bays and site landscaping.

Given the innovative uses on the site and the potential opportunity for local people to engage with the green energy and data campus for years to come the Digital Reef team felt it was important to deliver a space for the people of Havering to come and learn more about the various on site initiatives and engage with the project. Considering this a Visitor Centre, a minimum of 200 m2 and maximum of 600 m2 GEA, with dedicated floor space for learning, discovery and teaching is proposed within build zone K to the south of the site, sharing access off Fen Lane with the proposed Horticulture use. The visitor centre will also include nature reserve management

INDICATIVE DISCOVERY CENTRE LANDSCAPING GUIDE PLOT



INDICATIVE HORTICULTURE LANDSCAPING GUIDE PLOT



welfare and storage facilities and building height of up to 8 m together with external amenity areas and landscaping.

The visitor centre will have shared use of the proposed nature reserve car park which would include a provision of visitor car parking spaces, cycle parking bays and coach parking bays.

The drawings above show an indicative plan and section for a Horticultural Building and Discovery Centre arrangement that would comply to the LDO parameters as currently understood.



2.4 - The Masterplan Vision

The team at Digital Reef are very pleased that the afore mentioned detailed design work carried out over the last 6 months, has allowed us to refine the masterplan vision for the site and create a flexible framework for the delivery of this uniquely sustainable and innovative project that will deliver benefits to the people of Havering for generations to come.

A number of the projects key elements and benefits are summarised below.

- Low Carbon Digital Infrastructure
- 600MVA Data Centre Capacity
- 215 Hectare Site
- 113 Hectare Ecology Park
- Up to 400,000m² built floor area divided into 11 Flexible Build Zones
- Innovative Green Energy Infrastructure
- Uniquely sustainable Data Centres
- District Heating & Horticultural waste heat infrastructure
- Carbon Sync Ecology Park
- Electrical Infrastructure that facilitates 445MVA of Renewable Energy



Indicative Concept visual



Indicative Masterplan Concept visual



3.0 - The Project Programme Update

Once planning for the project has been secured the project will move from the current pre planning stage into the pre - contract phase. During this period the detailed drawn information required to deliver the site wider infrastructure works and ready each of the build zones for development will be developed with the relevant technical teams to allow the infrastructure works to be tendered to a Contractor to deliver them

East Havering data centre campus on site Infrastructure works includes the following:

- All site access estate roads (3no.) entering the site from Fen Lane, including 7.8m wide access road, pedestrian and cycle path and associated below ground utilities infrastructure, surface water swales, estate soft landscaping and ecology enhancements.
- Development Build zone parameter fencing, security gate house and management suite, security gates, visitor car parks and level build zones with capped services ready for building construction phase.
- UKPN power infrastructure work including on site Primary substation and secondary primary substation network.

The proposed development also includes a package of off-site Highway improvements still being refined with Ramboll who are preparing the Transport Assessment, that will also form part of these early infrastructure works. . Initial known enhancements to date include isolated, up to 500mm widening and the new estate road access junctions along Fen Lane, improvements to Fen Lane/Ockendon Road (B186) junction and pedestrian and cycle lane access improvements on Ockendon Road (B186) north of Fenlands Nursery. Any further highway enhancements are still to be confirmed by Ramboll on conclusion of their survey and assessment work.

Once the base infrastructure works have been partially completed the build plot and Ecology

Park works will be able to be undertaken. The Ecology Park works, detailed below, will be complete prior to first occupancy of any of the data centre buildings.

- 113 hectare ecology park including new surface water balancing ponds, ecology ponds, new wetland, grassland and woodland habitats, site boundary treatments formed with timber post and rail meadow fence and/or hedgerows.
- New on site ecology park pedestrian and cycle paths running east to west and north to south around the development building zone, together with other seasonal trails and wetland walkways, picnic area, ecology engagement features such as bird hides, education and play features.

The timescale for the delivery of the Discovery Centre will be determined imminently along with the other project benefits that form the S106 works.

As part of the work carried out over the last 6 months the LBH LPA team and Digital Reef have carried out project programme scenario testing to establish two distinct programmes for the projects delivery; a likely quickest delivery programme and a likely slowest delivery programme

These programmes then directly inform how the EIA assesses the impact of the scheme and what term of LDO is ultimately adopted. The development programme would comprise a phased delivery over approximately 12 – 20 years, anticipated to commence in 2025 and complete in 2037-2045. The development of build plots would be phased in line with power on dates.

Given the ever increasing need in the market for data centre floor space the Digital Reef team believe the project is more likely to be delivered in accordance with the quickest programme scenario but the prolongation programme has also been drafted and used for the EIA work to ensure the projects impact is understood across a longer duration.

The prolonged programme allows for longer construction periods for certain plots to address potentially unforeseen disruptions to the projects delivery allowing for events such as the Covid 19 pandemic or the war in Ukraine that disrupt construction supply chains but also for delays due to long lead ins on certain items such as electrical transformers that can take up to 24 months to procure.

Both programmes allow for the staggered delivery of the build plots in accordance with the power on programme dates Digital Reef have contracted with UKPN on.





4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members at Strategic Planning Committee on the 20th of April 2023.

Q - Better understanding and information around the financial and financial advantage and proposal in this area.

The full detail of the projects financial benefits are still being refined by the project teams. The S106 agreement for example will include the details of the Havering Community Reef proposals that will provide a 20 year financial commitment to be invested in digital and green tech skills training locally. Once the full scope of the projects financial benefits are understood these will be included within the LDO documentation.

Digital Reef appointed Oxford Economics to generate a report into the financial (economic) benefits of the proposals at East Havering in September 2022.

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 250 industrial sectors, and 8,000 cities and regions. Their best-in-class global economic and industry models and analytical tools gives them an unparalleled ability to forecast external market trends and assess their economic, social, and business impact. Oxford Economics (OE) is a key adviser to corporate, financial

and government decision-makers and thought leaders. With a worldwide client base of over 2,000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

Calculating the economic impact of something typically involves analysing its effects on various aspects of an economy, such as production, employment, income, and spending. There are different methods for calculating economic impact, but a commonly used approach is input-output analysis, the approach used in the Oxford Economics Report.

Here's a simplified explanation of how this works:

- The first step is to identify the direct effects of the activity or event you're examining. For example, if you're analysing the economic impact of a new factory, the direct effects might include the initial investment in construction, the ongoing operation of the factory, and the products it produces.
- Next, you consider the indirect effects. These are the secondary impacts that result from the direct effects. For instance, the new factory might create demand for goods

and services from other businesses in the area, such as suppliers of raw materials or providers of transportation services.

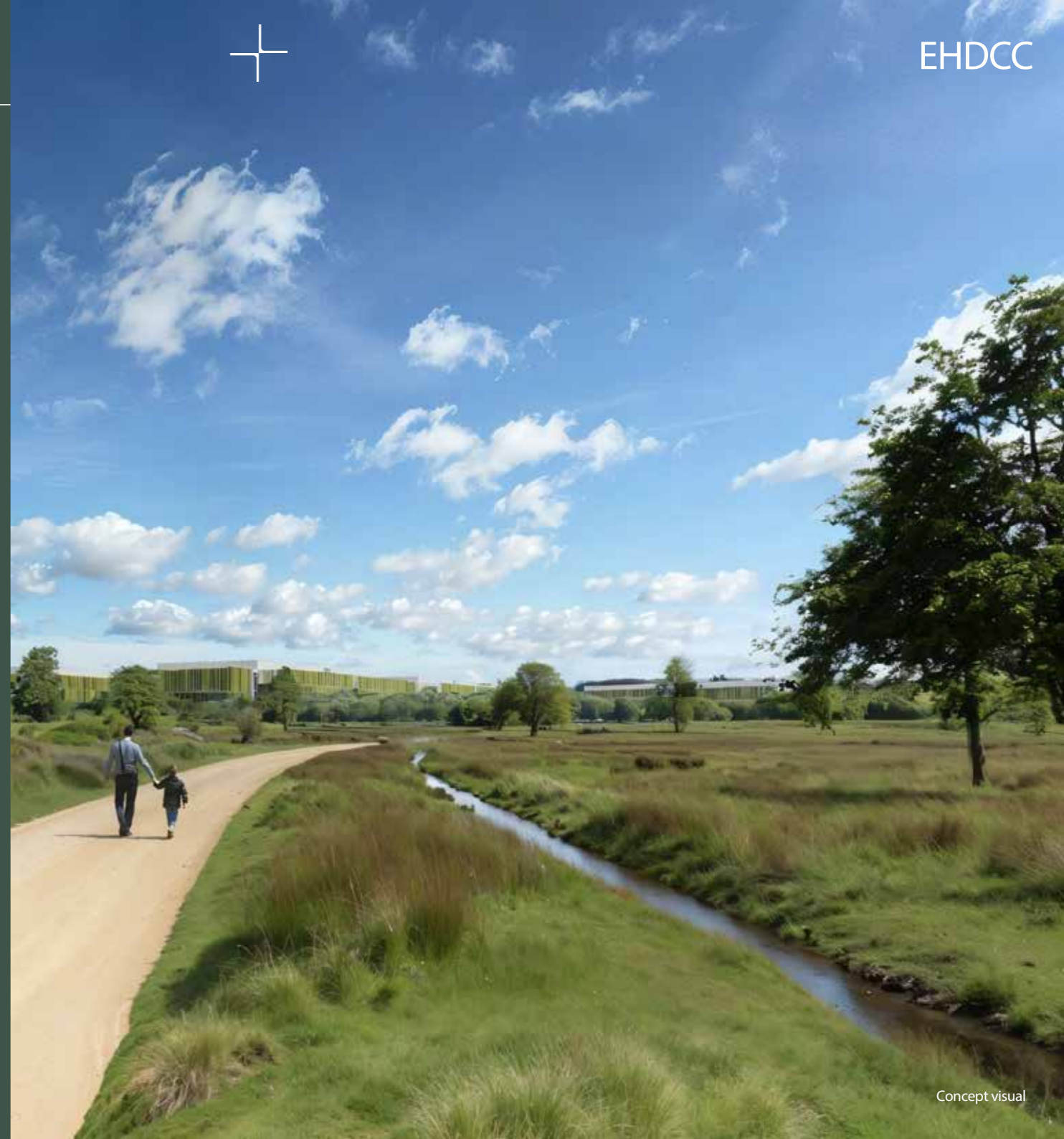
- Finally, you account for the induced effects. These are the tertiary impacts that result from increased household spending as a result of the direct and indirect effects. For example, employees of the new factory may spend their wages on housing, groceries, and other goods and services, generating additional economic activity.
- Throughout this process, economists use multipliers to estimate the total economic impact. Multipliers represent the additional economic activity generated by each unit of initial spending. For example, a multiplier of 2 indicates that for every £1 of initial spending, £2 of total economic activity is generated.
- To quantify these effects, economists collect data on various economic indicators, such as employment levels, wages, production outputs, and consumer spending patterns. This data is then analysed using economic models and software to estimate the overall economic impact.
- It's important to conduct sensitivity analysis to assess the robustness of the results. This involves testing the impact of different assumptions and variables to see how sensitive the economic impact estimates are to changes

in these factors.

Overall, calculating the economic impact of something involves a combination of economic theory, data analysis, and modelling techniques to assess how an activity or event affects the overall economy, both directly and indirectly.

The DR & LBH LPA team are currently reviewing all of the financial input data provided by DR (including the project cost plan that includes all of the investment during Construction) using Gardiner Theobald Cost Consultancy to independently review the data provided. LBH have asked that DR include all of the Data Centre's fit out within these costs (DR previously excluded) which will greatly increase the initial investment figures during construction and will in turn increase the economic impact of the project.

Once the LBH's Consultant have finished their review their revised figures will be passed to the team at Oxford Economics to refresh their report. This report will be made available to Members and the public.





4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members at Strategic Planning Committee on the 20th of April 2023.

Q - What happens if there wasn't a need for that facility in the future and how resilient is the development (legacy plan)?.

Data Centres are widely acknowledged to be critical national infrastructure whose importance and significance is growing. As such Digital Reef believe the development at East Havering will be used in the proposed format for generations to come with the internal specialist kit within the buildings replaced over time in much the same way the railway infrastructure across the UK has evolved over time based on a consistent and enduring need.

The Government's National Data Strategy 2020 highlights the fact that the data market in the UK is the largest in Europe and the infrastructure on which it relies is a 'vital national asset'. The Strategy states :

"We are currently in the middle of a fourth industrial revolution. Technological innovation has transformed our lives, changing the way we live, work and play. At the same time, this innovation has brought with it an exponential growth in data: in its generation and use, and in the world's increasing reliance upon it. By embracing data and the benefits its use brings, the UK now faces tangible opportunities to improve our society and grow our economy. If we get this right, data and data-driven technologies like AI could provide a significant boost to the entire economy. Data can improve productivity and provide better-quality jobs.

But it can also transform our public services and dramatically improve health outcomes nationally. It can keep us safe and assist the reduction of crime, speed the journey to de-carbonisation, and, used well, drive efforts to create a more inclusive, less biased society."

This demonstrates a clear general need for additional data capacity in the UK as a matter of principle. This need is being acknowledged in appeal decisions in relation to individual data centre proposals. The recent Link Park appeal accepted that there is a "notable need' for data centres 'in the country as a whole".

More recently in the case of the Woodlands Park appeal decision, the Secretary of State has concluded that "the provision of data centres would make a significant contribution to the UK economy, and that significant weight should be given to the need for additional data centre capacity within the UK" (emphasis added).

The UK government recognises the importance of data centres in supporting various aspects of the economy, including digital infrastructure, innovation, and the growth of the digital economy. Data centres are critical for storing and processing vast amounts of digital information, which

is increasingly central to modern business operations, research, government services, and everyday life. Several government initiatives and policies reflect the recognition of the significance of data centres:

- The UK government has made investments in digital infrastructure, including data centres, as part of broader efforts to support economic growth and competitiveness. This includes funding for the expansion of high-speed broadband networks and improvements to digital connectivity across the country.
- The UK government has developed a Digital Strategy aimed at ensuring that the UK remains at the forefront of the global digital economy. This strategy includes initiatives to support digital infrastructure, innovation, and skills development, all of which are relevant to the role of data centres.
- The government has implemented regulations and standards to ensure the security and protection of data stored and processed in data centres. This includes compliance with the General Data Protection Regulation (GDPR) and other relevant data protection laws to safeguard individuals' privacy and data security.
- There is also a growing emphasis on the environmental sustainability of data centres. The UK government has set targets for reducing carbon emissions and

promoting energy efficiency, which includes encouraging the adoption of renewable energy sources and more sustainable practices in data centre operations.

It is also important to remember that data centres are critical infrastructure and integral to not only our everyday lives eg: WhatsApp, Facebook, Google, e commerce but also for essential services eg: Covid response, working from home, health appointments etc. The requirement for digital infrastructure, including Data Centres, is only going to increase as the data economy and digital transformation continues to accelerate as does our reliance on digital infrastructure.

The availability of the power at Warley and location within London's established Data centre Availability Zone is driving the data centre demand on this site specifically which in turn provides comfort on the long-term potential of this site. Over and above the capital Digital Reef invest further capital investment will be made by companies like Microsoft, AWS , Google etc totalling in excess of £15Bn at this location.

These investment decisions are made on the basis of a long term investment and pay back by industry experts who have the knowledge that the requirement for their products and

the revenues will last a long time and in turn the legacy.

With this in mind we can say with certainty for at least another 50 -100 years that the demand exists. Should we be wrong and the site no longer be required only 110 acres is being developed for data centre and given that the LDO expires after 20 years the land would have to secure a new LDO for a new use class if data centres were no longer relevant.





4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members at Strategic Planning Committee on the 20th of April 2023.

Q - More clarity of phasing and timescales when the data centre would up and running.

Based on the indicative programmes detailed above we imagine the first data centre buildings would be operational at the end of 2029. The Ecology Park would also be completed and become operational to coincide with this milestone. With the Discovery Centre becoming operational shortly afterwards. The exact detail of these publicly accessible elements of the scheme becoming operational is being developed currently with the LBH team.

We then imagine the remaining Data Centre plots will be delivered over an 12 year period linked to the Power on dates however we are mindful this period may be longer based on occupational factors.

Please refer to section 3.0 above for further detail.

Q - Relationship with the Freeport and explaining that.

Digital Reef London sits within the Thames Freeport being within London Borough of Havering but is outside of the customs and tax zones.

The East Havering Data Centre Campus is the biggest infrastructure project by value within the Freeport. Both digital and clean energy capability is critical to the Freeports smart port and clean energy ambitions. This gives London Borough of Havering an influential role within the Freeport in terms of the digital and energy strategy as well as the inward investment.

The impact will be determined further once a consent is in place and the role of the Thames Freeport can be explored further.

Q - Giving information around the construction phase and modular units and where they would be manufactured.

The construction is phased over 12 -20 years and is well suited to modular construction given the technology nature of the use. Modular is more sustainable and allows the end users to build off site and assemble on site with a shortened build period.

Digital Reef's ambition would be to locate an advanced manufacturing facility for modular sustainable data centres in the South of the Borough on land to be made available by LBH. This would not only support the site but also provide an export capability and skilled workforce in the Thames Freeport. This is an ambition however which will need the support of the Data Centre building occupiers and can not be determined until planning consent is achieved and occupier conversations can be advanced.

Q - Transport to the site, around the site and cycling for those who would be working at the site and linking with local cycling group

As part of the proposals cycle routes to the site and within (which obviously don't currently exist as it's not yet public land) are to be implemented within the first phase of works for construction and for completion including visitors to the ecology park and discovery centre.

Please see drawing opposite.

The LPA will provide further detail on how they intend to consult with local cycle groups including, but not limited to Havering Cyclists and Better Streets for Havering.



LEGEND

STRATEGIC LANDSCAPING ZONES	PEDESTRIAN / CYCLE ACCESS	WHEELCHAIR ACCESSIBLE PEDESTRIAN ROUTES
BUILD ZONES	VEHICLE ACCESS	MAIN LONDON DATA FREEPORT ENTRANCE AND SECURITY CHECKPOINT WITH CAR PARKING
PONDS (EXISTING AND PROPOSED)	PROPOSED STRATEGIC ACCESS ROADS	LOCATION FOR WETLAND DISCOVERY CENTRE WITH INDICATED WALKING DISTANCE (1 MIN)
PROPOSED SWALES (INDICATIVE)	SECONDARY ACCESS ROADS (INDICATIVE LOCATIONS)	
PROPOSED SECURITY FENCE LINE	PRIMARY STRATEGIC FOOTWAY / CYCLEPATH (2M + 3M WIDE)	
	SECONDARY PEDESTRIAN ACCESS (INDICATIVE LOCATIONS)	





4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members at Strategic Planning Committee on the 20th of April 2023.

Q - Clarity on the use of renewable energy but not available onsite but to connect up to the grid.

The data centre project and required grid upgrade works at Warley Primary grid supply point, funded by Digital Reef London, has been the catalyst (first comer works) for a significant upgrade for works to the grid which enables (second comers) a number of renewable energy sources to connect into the grid at Warley. These renewable energy projects amount to 440MVA of solar and battery storage projects from the wider region. Digital Reef London (classed as First Comer) are funding the UKPNL reinforcement works which will be used for other customers connections (Classed as Second Comers).

In accordance with The Electricity (Connections Charges) Regulations 2017 in cases where other persons have paid for all or part of the cost of the first connection, the Regulations require the relevant electricity distributor to recover an amount from the second comer/s and to apply that amount, less administrative expenses, to reimburse the persons who paid for the first connection. The extent of these reimbursements is currently unknown but Digital Reef repair the first comer and catalyst to the infrastructure upgrade works in any case.

These projects are coming forwards as a direct result of the project funding the UKPNL reinforcement works would not

be viable without the upgrade works. The team are also exploring the possibility of direct wire connections to these renewable projects.

On site the project will benefit from solar and photovoltaic on the data halls and large scale battery storage.

Q - Further information on embodied carbon and the environmental impact of battery storage etc.

The construction of the project has significant embodied and operational carbon and Digital Reef has committed to creating an exemplar sustainable data and clean energy campus by limiting the carbon consumption of the project at every stage. The DR and LBH LPA team are currently reviewing and assessing the requirements of the project to offset operational and a proportion of its embodied carbon and more detail will be made available in due course.

Batteries offer the benefit of taking energy off the grid at off peak times (including renewables) and re-selling it at peak times and for use by the data centres. Whilst batteries have a carbon footprint the surplus energy they store provides a sustainable solution. Furthermore battery technology is changing in terms of the materials and precious resource content with research being carried out to replace metals such as lithium with the more sustainable sodium-ion.

The flexibility within the LDO consent will allow for emerging technology with improved green credentials to be used on the site as long as it complies with the parameters for land use set within the LDO documentation. Providing details of the embodied carbon prior to construction of these elements of the project will be conditioned in the consent.

Q - Jobs available on site and then taking into account the circular economy and the off-site benefits to the economy are?

The proposed development will provide a range of economic benefits to the Havering economy throughout the construction phase and during operation. The proposed development represents a £5.30 billion investment to improve London and the UK's digital infrastructure, of which £2.72 billion will be spent in the UK, including £2.0 billion in Havering, during the five-year construction phase.

The construction phase is estimated to support an average of £204 million of GVA, 2,800 jobs, and £86 million in wages, across the Havering economy per year. Once fully operational, the proposed development will directly generate a net increase of £391 million of GVA, 1,240 jobs, and £65 million in wages, across the Havering economy.

As supply chain (indirect) and wage consumption (induced) spending leaks outside of the Havering economy, the first full year of operations could generate a £736 million GVA contribution to UK GDP, supporting 7,130 jobs across the workforce, and £245 million in wages nationally. 2,410 of these jobs would be within Havering when the direct, indirect and induced jobs are all factored into the calculations.

The number of onsite employees would total 300, during operational phase, however these are split over three shift

patterns with some employees only attending site once a week, no more than 30-60 people would be anticipated to be on site at any point during the average working day.

(Please note these figures are currently being reviewed and they are expected to increase greatly once revised costings are reviewed by Oxford Economics). terms of the digital and energy strategy as well as the inward investment.

The impact will be determined further once a consent is in place and the role of the Thames Freeport can be explored further.

Q - Linking into existing local community groups those with local ecology interests.

Digital Reef are currently undertaking a programme of public engagement on the project and would welcome the opportunity to meet with and local ecology groups who may wish to engage.

Digital Reef have reached out to a number of local groups including Thames Chase Community Forest who we hope will continue to engage with us and help us shape our proposals.

The LPA will provide further detail on how they intend to consult with local ecological interest groups as part of the formal consultation process.



4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members at Strategic Planning Committee on the 20th of April 2023.

Q - Expanding the site if reached capacity in the future.

Digital Reef have no intention to expand the site.

The site as shown currently is the full extent of the site and any future application would require a revised consent. The site layout and capacity for the data centre, clean energy and horticulture has been designed by the architect and engineering team based on the power secured by Digital Reef London and clean energy requirements for the campus.

The co-location ecosystem for clean energy, data centre, innovative horticulture, district heating system and ecology will not require any further land in the future.

Q - Set out what consultation with community will take place and feedback and encouraging businesses into Havering.

The LPA will undertake formal statutory consultation on the proposals with communities and businesses, Digital Reef are undertaking an engagement programme that will reach out to local businesses, schools and residents to keep them informed of the proposals as they emerge.

Once the planning process has been concluded Digital Reef are extremely keen to consult and engage with local businesses to ensure the benefit from the project and have the opportunity to engage positively with the project at as many different levels as possible. We will look to hold project meet the buyer days, open days, skills and training events and ensure our tenants and contractors are embedded in this process.

Q - Wider issue around the advantage of having data capacity in this country rather than relying on elsewhere.

The digital economy which includes knowledge and high value sectors such as fintech, financial services, life science, creatives, climate tech, space, medtech, healthcare, artificial intelligence, machine learning etc is a high growth sector offering economic growth, high value jobs and opportunity.

Data centres are critical infrastructure and data is a new asset class of sovereign value. It is in the UK's interest from a sovereign, geopolitical security and economic perspective to ensure our data is held on UK soil to ensure the value and benefit derived is of value to the UK citizens. The English legal system, universities and service economy also provides a safe haven for data and digital activities.

From a sustainability perspective given the computing power required it is also not only cost effective but better for the planet to have a domestic capability as less energy is required to transfer data locally.

Q - Further information on security and on what was required and how it affects the appearance of the site

Digital Reef have consulted with the London Metropolitan Police during the design development for the site to ensure the proposals are robust and sufficient given the use of the buildings on the site. The Metropolitan police have also been consulted on the EIA scoping report which may influence design, and may have further inputs when the LPA consults on the LDO and EIA. As the design stands currently the site will have two lines of security. One at the outer site boundary and one around each of the site's development zones. The specification of these security measures are as follows:

- Outer site boundary and ecology park:
 - Access to the site via official entrance points will be restricted with gates. Public thoroughfare of ecology park will be limited to operation or daylight hours for public safety.
 - The site outer perimeter will be restricted with post and rail fences, ditches, bunds and defensive planting i.e. hawthorn or hedges and prevent vehicles unlawfully entering the site

- Development zones including Data Centre Campus:
 - The Development zone perimeter fence will be rated to LPS 1175 Issue 7 SR1 or higher and a minimum height of

- 2.4m and have video surveillance with 2 way camera to negate the need to illuminate the perimeter fence.
- All fences should have a 2m minimum standoff between the fence and any trees and tree canopies.
- Individual build plots or data buildings will have its own security fence between 2.4-3m high, inside the development zone perimeter fence.
- Site entrance will include a full height automated vehicle gate and pedestrian and cycle gate together with a visitor reception gate house.
- Visitors will be required to park outside the campus fence and report to the reception building for sign in. Once signed in and provided with access control credentials, visitors will be able to enter site either by the pedestrian gate, or by driving their vehicle in.

Q - Lead and link the plans project and into the heritage around that area.

The on-site discovery centre creates a unique opportunity to link the project with the heritage of the surrounding area and celebrate a new era for the site. The programme of events and use of the Discovery Centre will be shaped by the people of Havering via an engagement process post adoption of the LDO.

The LDO will require this engagement process to be overseen by LBH and will ensure the centre is operated in a way that maximises its accessibility and a benefits for the people of Havering. The site, and its wider context has always been a productive landscape that has evolved over time from ancient woodland to live stock pasture, and then from the 1700s on wards to intensive arable farmland and the site of the infrastructure required to provide power to our homes, businesses and daily lives, be that the construction of Warley Substation in the 1950s or the solar parks at Cranham in 2016 the site and its context is an ever evolving productive landscape.



4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members during the site visit on 25th March 2024

Q - Are there any main sewers running across the site and if so, where are they?

No, there aren't any mains sewers running across the site.

Q - Are there any existing adopted public footpaths on the site and if so, will they be maintained or diverted?

No, but there are two existing public rights of way. There will be a number of new footpaths across the site in the finalised proposals, the landscape Masterplan shown earlier in this document is a work in progress but visualises how the site may look with a number of new cycle and pedestrian routes being created across the currently inaccessible site.

Q - What is the agricultural grading of the land and where it is farmed, what is grown or grazed?

The current land is arable farm land used for different arable crops. The Digital Reef team are seeking more detail on the type of crops and yield level currently.

Please see drawing on the left for detail of lands 3a and 3b grading.

Q - Are the existing pylons staying on the site?

Yes, these are the National Grid's pylons that Digital Reef have no ability to move or modify in any way and as such they will be being retained.

Q - Can we have some drawings of the data centre buildings?

Please refer to the drawings in this document.

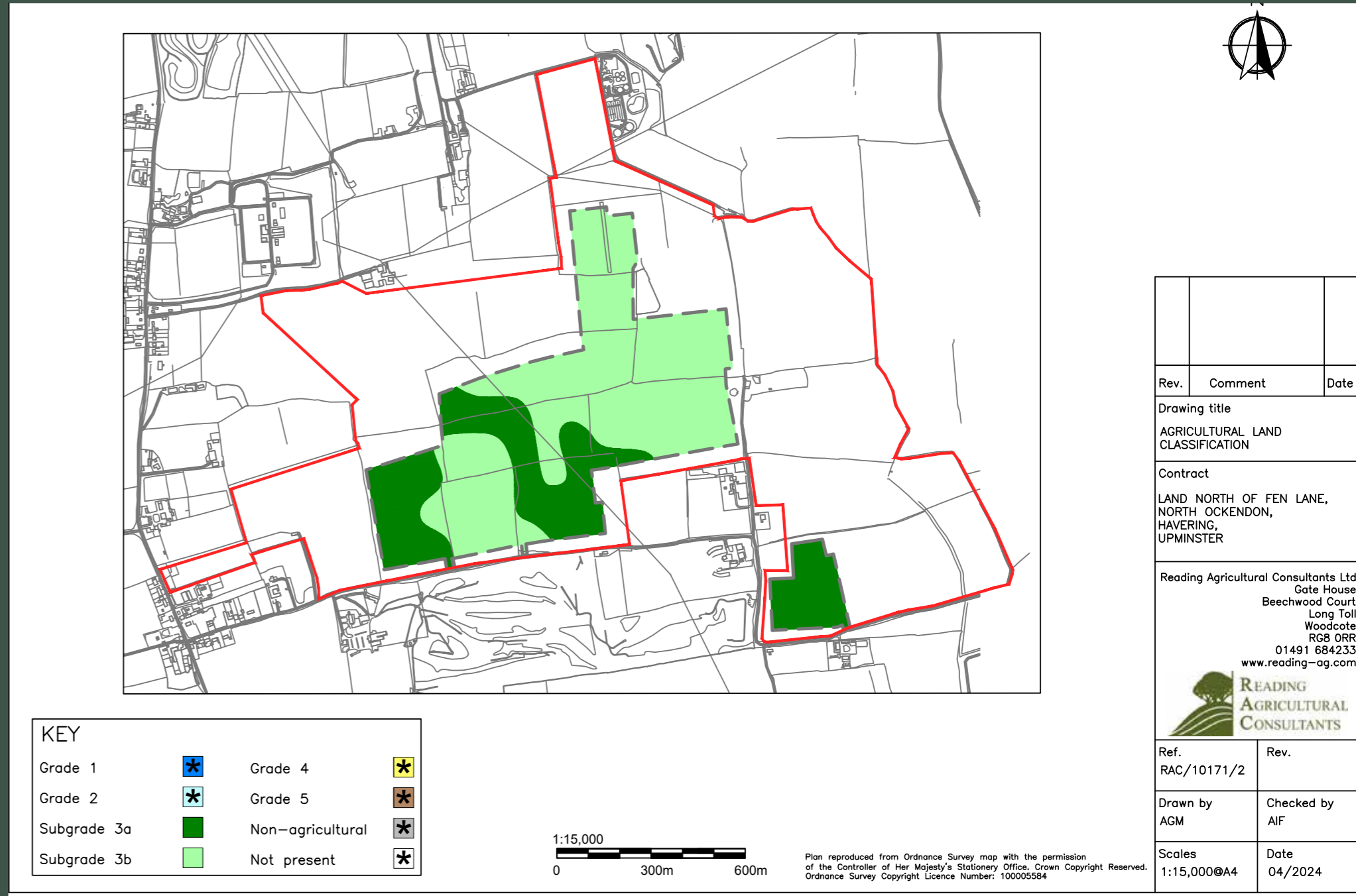
The Digital Reef project website also has a fully interactive map showing strategic views from around the site as they are currently and how they will look once the data centre has been built and the vegetation is 15 years old.

easthavingdatacentrecampus.com

Q - Why hasn't the opportunity been taken to locate the site closer to West Horndon rail station?

There are no alternative sites capable of delivering the East Havering Data Centre Campus due to the lack of power availability elsewhere.

Digital Reef have carried out a very detailed Alternative Sites Assessment process as part of the project works and are happy for these documents to be shared with Members once the LPA team have concluded their review.



Rev.	Comment	Date
Drawing title AGRICULTURAL LAND CLASSIFICATION		
Contract LAND NORTH OF FEN LANE, NORTH OCKENDON, HAVERING, UPMINSTER		
Reading Agricultural Consultants Ltd Gate House Beechwood Court Long Toll Woodcote RG8 ORR 01491 684233 www.reading-ag.com		
Ref. RAC/10171/2		Rev.
Drawn by AGM		Checked by AIF
Scales 1:15,000@A4		Date 04/2024



4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members during the site visit on 25th March 2024

Q - Why is the main access on Fen Lane?

The access is located on Fen Lane based on traffic modelling work and because it is accessible from both directions thus minimising the projects impact on the local network whilst still providing the accessibility that the Highways Authority require.

The EIA consultant Ramboll is currently carrying out further transport modelling work to stress test this and ensure there are no other routes into the site that we should be considering.

Q - Could any of the buildings be sunk into the ground?

General this is limited due to the nature of the site levels and adjacent flood zones, however build zones on slopped section of site will be levelled with cut and fill, therefore partially sunken into the ground on the uphill sides of the build zone.

Section 2 of this document provides further detail on this point and drawings of the site gradient.

Q - Within the red line boundary, how many landowners are there and what is the status of the land acquisition?

There are 7 Landowners who have all signed legal contracts to sell their land. All other information is commercially sensitive and highly confidential.

Q - How many operators will there be?

The campus and its scale will appeal to a number of UK and global companies with the likely number of end users to be 2-10 depending on the mix of hyperscaler and co-locator tenants.

Further detail can be confirmed once planning is secured and detailed commercial conversations are progressed.

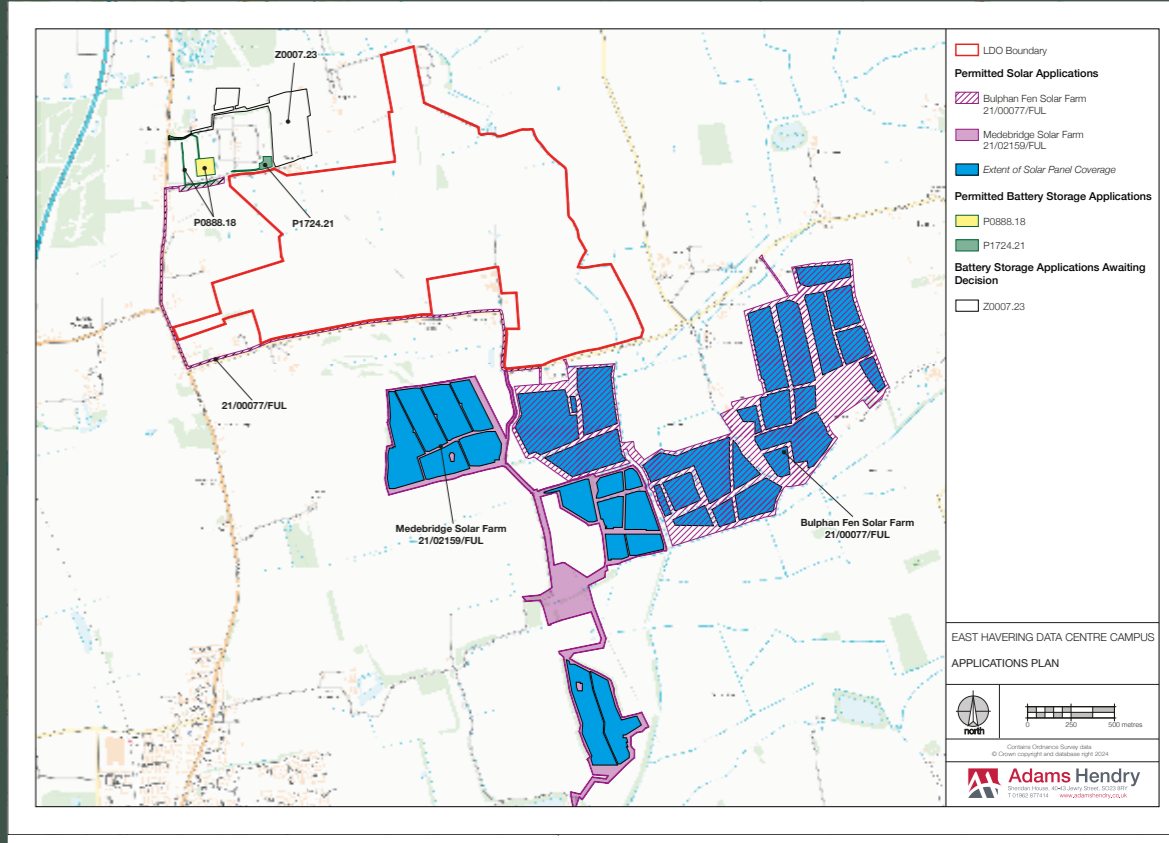
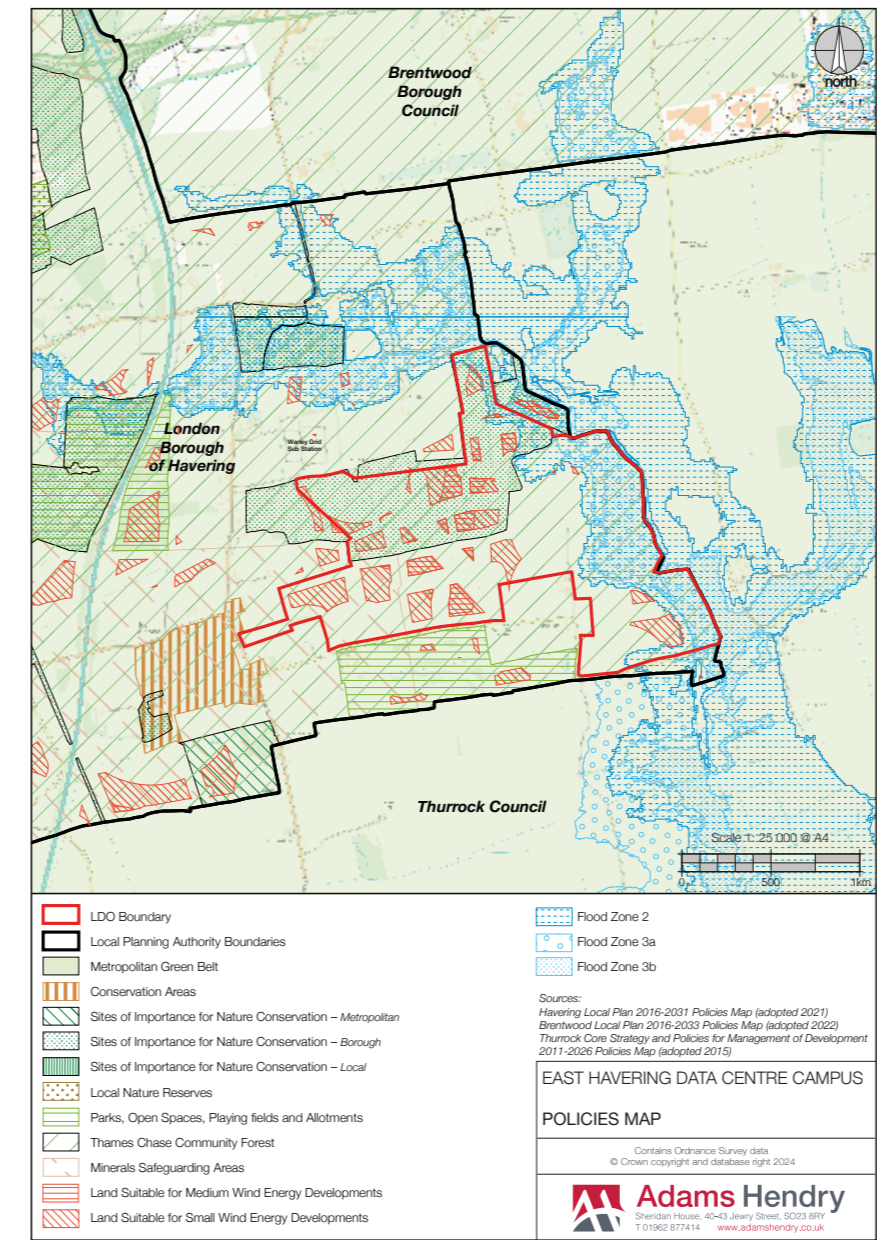
Q - What is happening to the Garden Centre and its car parking?

The garden centre and parking are staying.

Q - Can we have the Local Plan designations spatially mapped?

Please see map on the left showing these designations.

Please also see map illustrating the renewable/clean energy projects in the area that the team are currently aware of.





4.0 Project Q&A

The following are responses prepared by Digital Reef in relation to queries raised by Members during the site visit on 25th March 2024

Q - How does the power get transformed from 400kV to the necessary 132kV?

Transforming power from 400 kV (kilovolts) to 132 kV involves the use of transformers. Transformers are devices that can step up or step down the voltage level of an alternating current (AC) electrical system while maintaining the power (in an ideal scenario, disregarding losses).

Here’s a simplified explanation of how power is transformed from 400 kV to 132 kV: The first step is to use a step-down transformer. This transformer is designed to reduce the voltage level from 400 kV to 132 kV. A step-down transformer has more turns in its secondary coil than in its primary coil. When the high-voltage current flows through the primary coil, it induces a magnetic field, which in turn induces a lower voltage in the secondary coil.

According to Faraday’s law of electromagnetic induction, a changing magnetic field induces an electromotive force (EMF) in a nearby conductor. In a transformer, this principle is utilised to transfer energy from one circuit to another without direct electrical connection, by varying the magnetic flux through the coils.

It’s important to note that in an ideal transformer (which neglects losses due to resistance, hysteresis, and eddy currents), the power input to the transformer is equal to the power output. So, while the voltage is decreased from 400 kV

Q - How will the development be screened?

As detailed in the document above the development will be screened with bunding around the site and extensive planting. The applicant and LPA have carried out extensive work to ensure the views and visual impact is minimised.

The EIA work which is ongoing will further review this via a Landscape and Visual Impact Assessment. The interactive visual map on the project website accurately depicts the views from 15 view points surrounding the site when the vegetation is at 15 years of maturity.

easthaveringdatacentrecampus.com

Q - How bio-diverse is the agricultural land at present – how would that compare to the development? Do the farmers have obligations at present to meet bio-diversity standards/ targets?

A full response to this question is being prepared currently as part of the EIA work being undertaken by Ramboll.

Digital Reef understand that 25ha of the land is best and most versatile agricultural land but this will be clarified in the Ramboll EIA work once issued.

As Digital Reef understand it the agricultural land is low grade intensively farmed land with no specific biodiversity requirements. The proposed ecology park will achieve significantly more carbon sequestration and vastly increased biodiversity.

Q - Does the EIA compare heat emitted from the development with the average temperature for the site across the year?

Ramboll have advised that the EIA does not consider the temperature of the emissions as it is considered unlikely that the proposed development would generate significant environmental effects in this regard, and the understanding is that warm/hot air emissions would be unlikely impact ambient air temperatures within and around the site.

Q - Has the site been extracted previously? And are there minerals on site?

The site is located adjacent to a minerals safeguarding area, and as such Digital Reef arranged a consultant to carry our intrusive surveys across the site. During this process the samples taken from the site showed no evidence of any minerals of note and as such the technical reports concluded the site had not been extracted and that there are no minerals required for extraction on the site.

