CARDIFF EAST PARK AND RIDE, PENTWYN
DESIGN AND ACCESS STATEMENT

CONTENTS

1.0 SUMMARY OF THE PROPOSALS

1.1 SUMMARY AND SITE DESCRIPTION

This report has been prepared in support of the hybrid planning application being submitted by Curtis Hall ('the Applicant') to Cardiff Council ('the Council') for the redevelopment of Cardiff East Park and Ride, Llanrumney ('the site').

The proposals comprise of the demolition of existing structures and redevelopment of the site to provide a Data Centre, with associated Energy Centre and substation, access, parking, drainage, landscaping, and associated works; and provision of a bridge across the Rhymney River.

The Site comprises of approximately 23.4ha of land at the existing Cardiff Park and Ride East within the administrative boundary of Cardiff City Council. The existing Park and Ride contains a hard-surfaced area of 4.9 ha with approximately 900 car parking spaces, as well bus drop-off and pick-up points, an office/amenity building and various compounds. The site is accessed from the A48, Eastern Avenue.

In addition to the Park and Ride, the Site features areas of woodland and scrub land with public rights of way and informal footpaths. The total developed site area would comprise 7.4 ha (including the park and ride). The Rhymney River runs along the southern boundary of the Site, with the Rhymney Trail running parallel to the river. The Rhymney Trail crosses the river via an existing footbridge to the south of the Site.

The Site is not shown on the Council's adopted proposals map to be allocated for any specific use. However, in terms of other planning designations, the Site features an area of ancient woodland to the north and a small area to the south, in addition to a number of TPO trees. The north of the Site and a corridor along the river Rhymney lies in an area of high flood risk from rivers and the rest of the Site lies in a low flood risk area. The Site lies within the River Rhymney river corridor.

Immediately to the north-west lies the dual carriageway (A48) which extends to the south towards Cardiff City centre. Beyond this lies the residential area of Pentwyn, while to the east lies the residential area of Llanrumney. To the south, on the opposing side of the river, planning permission for a residential scheme of 98 residential units was permitted under application ref:18/02594/MJR. Construction on that site has been largely completed.

Figure 1.01 – Photograph of the existing footbridge

1.2 TABLE OF PROJECT TEAM

ROLE	COMPANY
CLIENT	CURTIS HALL CARDIFF
PLANNING CONSULTANT	ICENI PROJECTS
ARCHITECT	HENRY MEIN PARTNERSHIP LTD
LANDSCAPE ARCHITECT	BCA DESIGN
STRUCTURAL & CIVIL ENGINEERS (DEVELOPMENT SITE)	PINNACLE CONSULTING ENGINEERS
STRUCTURAL & CIVIL ENGINEERS (HIGHWAYS & BRIDGE)	WSP
FLOOD & HYDROLOGY CONSULTANT	WSP
TRANSPORT CONSULTANTS	SLR
ECOLOGIST	WSP
ARBORICULTURALIST	AT COOMBES
ENVIRONMENTAL CONSULTANT	TETRA TECH
NOISE CONSULTANT	KR ASSOCIATES
ENERGY CONSULTANT	HASLID SERVICES
GEOTECHNICAL CONSULTANT	ARP ASSOCIATES

1.0 SUMMARY OF THE PROPOSALS

1.3 THE SCHEME

This report has been prepared in support of the hybrid planning application being submitted by Curtis Hall ('the Applicant') to Cardiff Council ('the Council') for the redevelopment of Cardiff East Park and Ride, Llanrumney ('the site').

The hybrid planning application seeks planning permission for the following description of development:

"Hybrid planning application (part full/part outline) for the demolition of existing structures and redevelopment of the site to provide a data centre and associated buildings and structures, associated car parking and access roads, a bridge across the Rhymney River, site wide landscaping and associated works."

The 'Full' planning application component refers to the following aspects, as previously approved under planning application ref 22/02673/FUL - and within the area tinted in green on figure 1.02):-

- Site-wide landscaping and ecological/habitat improvements.
- New vehicular access bridge.
- New traffic island and associated access road through the site, except for the access road link between Plot 4 and Plots 5/6 which has been narrowed and incorporates a pedestrian underpass.

The 'Outline' planning application component refers to the development of the areas of the site tinted blue on figure 1.02. The outline part of the application calls for all matters reserved (appearance, access, landscaping, layout and scale) with development constrained within the parameters illustrated on the parameter plans submitted with this application.

The proposed development has evolved through extensive pre-application consultation with the Council and other key stakeholders.

The proposed development provides the opportunity to provide for critical national digital and economic infrastructure and related employment. The proposed development would also facilitate a new bridge connecting the site with Llanrumney.

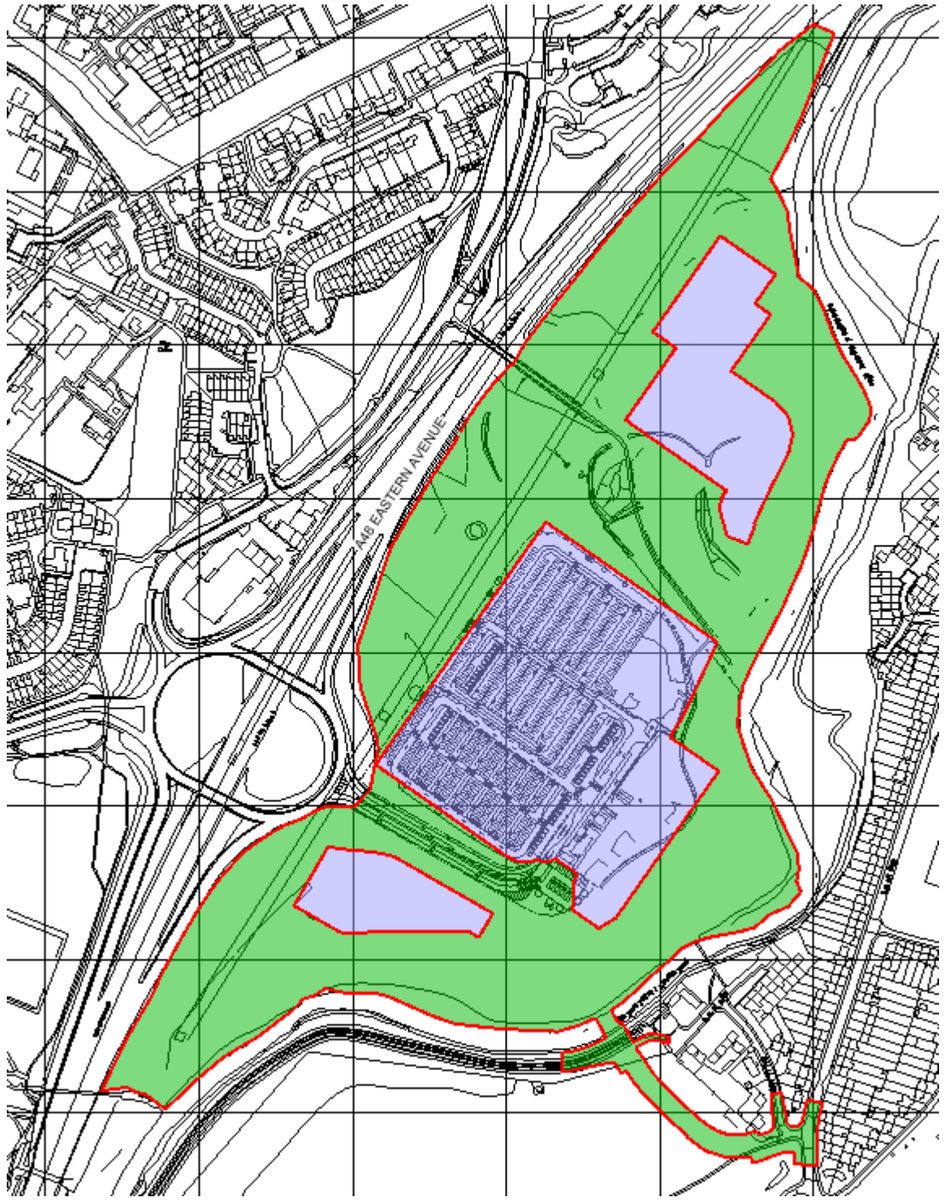


Figure 1.02 – Application Reference Plan

Green Tint - Full Application
Blue Tint – Outline Application

2.1 THE BRIEF AND PROJECT HISTORY

The site was originally marketed by Cardiff City Council as a strategic development opportunity with a gross area stated as 56.45 acres. Developable area was estimated at 24.71 acres approximately. The particulars stated that the illustrated masterplan was indicative only and the successful developer would be adopting their own designs. A mix of uses was envisaged including drive through operations, a petrol filling station, supermarket, retail warehousing and warehousing/logistics accommodation.

Curtis Hall was identified as the preferred bidder for the site in 2020, with the terms of sale including a commitment from Curtis Hall to deliver the new bridge and road link in lieu of a land receipt to the Council, as discussed at the Council Cabinet Meeting, 20 May 2021.

Application number 22/02673/FUL received approval of full planning permission in June 2024 for the Demolition of existing structures and redevelopment of the site to provide commercial floorspace (Use Classes B1, B2, B8, A3) and/or ancillary Class A1), associated drive-thru and car parking; the re-provision of the park and ride; a bridge across the Rhymney River; site wide landscaping and associated works.

This application follows extensive marketing for an end user of the various available units, which lead to enquiries from Data Centre providers looking to take on the development plots as a whole.

The development brief therefore comprised the following objectives: -

1. Design and construction of the new link road and vehicular bridge, connecting the site into Llanrumney in accordance with the extant planning permission.

2. Provision of a development, of sufficient scale to finance the cost of the additional infrastructure and bridge link to Llanrumney

3. Maintenance and enhancement of the landscape, arboricultural and ecological features both on and off site in accordance with the extant planning permission.

4. Enhanced public access on the site and improved sustainable / active transport solutions.

5. Incorporating the principles of sustainable development as outlined in the sustainability documents accompanying the application.

Figure 2.01 – Photograph of the existing river

Figure 2.02 – Photograph of the existing park and ride

2.2 THE VISION FOR THE DEVELOPMENT

The vision for the site is seen in the wider context of improved links through East Cardiff, as identified by Cardiff City Council and the requirement for the bridge over the Rhymney River including the Council's stated ambition to use the site for commercial development as a means of funding the new infrastructure works.

The site was identified as a transport hub for the city, providing park and ride facilities for commuters into the city in support of Council ambitions for sustainable travel links for Cardiff. However, following further consultation, the public bus service for the park and ride site was withdrawn in January 2023 due to low demand and budgeting restrictions. It has since been used a free park and ride service solely for staff, patients and visitors attending the University Hospital, for which an alternative site has been identified to continue this use.

Any works to the site will address the protected species habitats identified, and habitats will be enhanced where possible. New planting and woodland management regimes will seek to enhance biodiversity on the site as well.

Additional benefits have also been identified through the design development process for the general improvement of the public realm within the site, for pedestrians and cyclists. This includes the enhancement and management of the landscape features generally – the site demonstrates little evidence of positive landscape management over recent years - and the improvement of pedestrian routes through the site. Improved lighting will enhance security and safety, and wayfinding and signage will also improve the environment for visitors.

The site currently lies within flood plain and the majority of the site has the capacity to flood. The project is seen as an opportunity to remove much of the site from the risk of flooding, and careful modelling of the site will demonstrate that modest interventions into the site levels will lift the development plateau above general flood levels, meaning that the buildings and the park and ride will remain dry, safe and functioning in flood events.

Figure 2.03 – Photograph of the existing trail and river

3.0 SITE AND CONTEXT ANALYSIS

3.1 SITE LOCATION

Figure 3.01 – Site boundary shown in red on Cardiff aerial image (Google Earth Imagery)

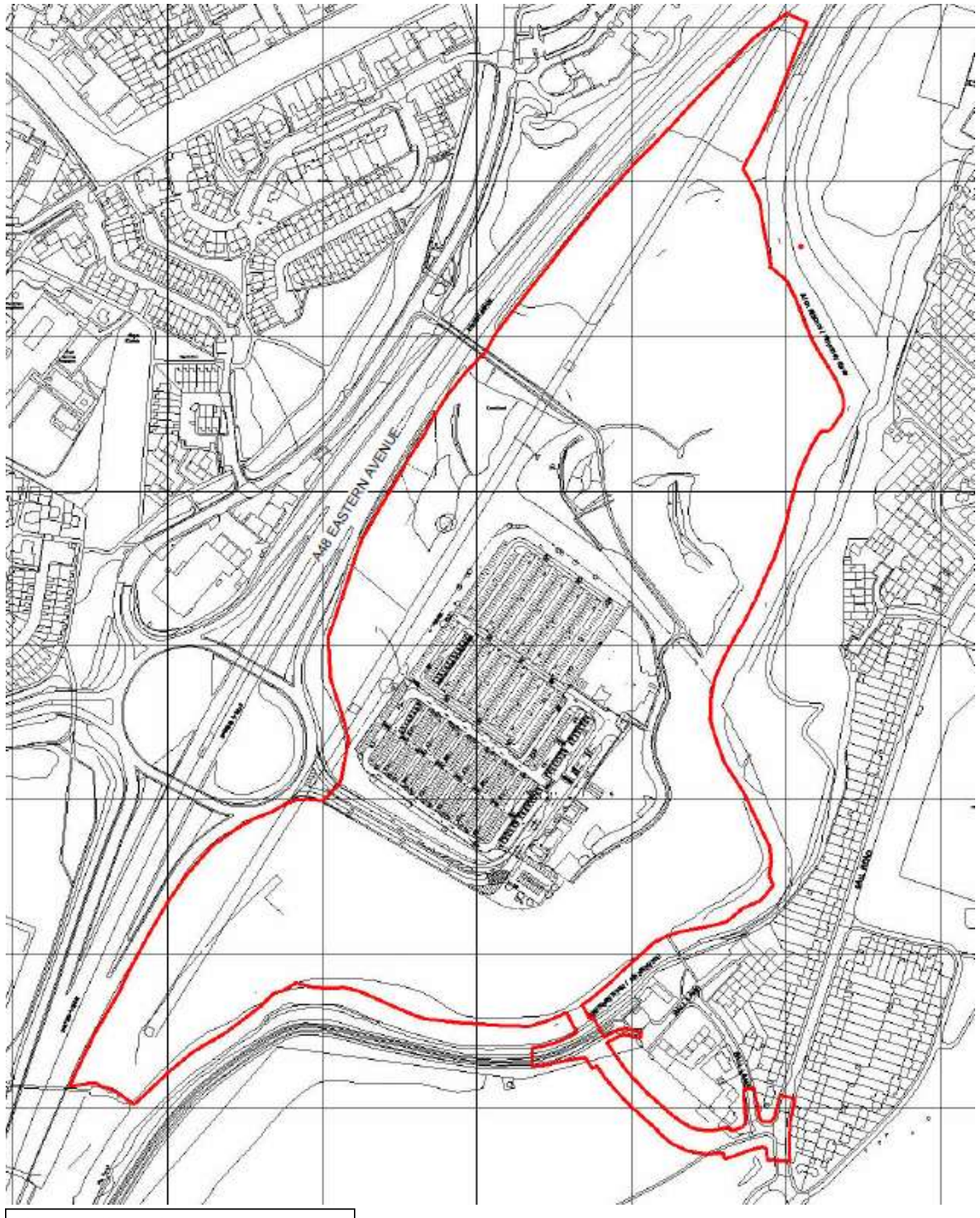


Figure 3.02 – Site Location Plan (for reference only)

Figure 3.03 – Aerial photograph of the site

3.2 PLANNING DESIGNATIONS

The site is located within the administrative boundary of Cardiff City Council where the statutory development plan consists of the Cardiff Local Development Plan and supporting supplementary documents and guidance. Cardiff Council are preparing a new Replacement Local Development Plan (LDP) for Cardiff which will include a new strategy and policies to guide and manage growth in Cardiff up to 2036. The evidence base is timetabled for preparation up until March 2024. Consultation on the Draft Vision, Issues and Objectives and Draft Integrated Sustainability Appraisal Scoping Report took place from 28 May to the 23 July 2021. Consultation on the strategic options paper ran from Tuesday 30 November to Tuesday 8 February 2022. Consultation of the Preferred Strategy and Candidate Sites took place from the 27 July to the 5 October 2023. Consultation on the Deposit Replacement LDP took place from 18 February 2025 to 15 April 2025. Submission of the Replacement LDP is expected Autumn 2025 with adoption expected April 2026.

The adopted Local Plan does not allocate the site for any specific uses. In terms of other planning designations, the site features an area of ancient woodland to the north and a small area to the south, in addition to a number of TPO trees. The north of the site and a corridor along the river Rhymney lies in an area of high flood risk from rivers and the rest of the site lies in low flood risk. The site lies within the River Rhymney river corridor.

Figure 3.04 – Cardiff Council proposals map. (*Cardiff Local Development Plan 2006-2026)

3.3 EXISTING USES AND FEATURES

The existing site comprises some 56.45 acres of land, bounded by the A48 Eastern Avenue to the West, with the River Rhymney flowing adjacent to the site, effectively forming the north, east and western boundaries.

The main feature of the site is the existing park and ride car park, which has parking areas, bus drop-off and pick-up points, an office/amenity building and various compounds. The park and ride site is securely fenced from the remainder of the site. Access to the park and ride is via a slip road off the A48 elevated traffic island which serves Pentwyn.

The site currently has a hard-surfaced area of 9.46 acres.

The remainder of the site comprises a mixture of woodland and grassland/scrub areas, with a variety of publicly accessible formal and informal footpaths (fig. 3-07).

There are two areas of designated Ancient Woodland within the site boundary, and a number of trees also have tree preservation order (TPO) protection.

There is a footbridge link across the A48 into the site from the west, and a footbridge to the east of the site leading to Ball Lane and Llanrumney.

The footpath network links to underpasses to the north and the south, where the footpaths cross below the A48.

The Rhymney Trail (fig. 3-06) also passes through the site from the north and runs over the eastern foot bridge into Ball Lane.

A number of protected species are found on the site, namely Hazel Dormouse and a variety of bat species.

Figure 3.05 – Photographs of the existing Park and Ride

Figure 3.06 – Rhymney Trail

Figure 3.07 – Photographs of the existing public footpaths

3.0 SITE AND CONTEXT ANALYSIS

3.4 EXISTING PHOTOGRAPHS

Figure 3.08 – Aerial photograph of the site

Figure 3.09 – Photographs of the existing site

3.5 CONSTRAINTS - FLOODING

The site is identified on NRW Development Advice Maps as being largely in an area designated C2 which is an area without significant flood defences (figure 3-10). The access road from the A48 traffic island is classed as Zone B, which is classified as an area that has been known to flood in the past based on sedimentary deposits. The site has a significant area that lies in Flood Zone 3, which is defined as an area considered to be at risk of greater than or equal to 1% AEP of flooding from fluvial sources. A further significant portion of the site lies within Flood Zone 2, which is defined as an area considered to be at a risk of greater than or equal to 0.1%AEP of flooding from fluvial sources.

Flooding from tidal sources is assessed as being a low risk.

Surface water flood risk, ground water flood risk, and reservoir and infrastructure flood risks have also been considered by WSP in their assessment and hydrological modelling of the site.

Given the extent of potential flooding across the site, and the significant influence of the River Rhymney on this site, the strategy for development was to:-

- Position any new buildings away from the river (i.e. to the west of the site, towards the A48 where possible,
- Elevate the central spine road, to mitigate flooding to both the development and the existing park and ride
- Ensure the new bridge was designed to minimise reduction in conveyance in a flood event.
- Ensure off-site, third-party impact was minimised/avoided within acceptable parameters
- Assess the suitability and efficacy of a number of mitigative measures

WSP advise that a Flood Consequence Assessment is recommended, along with extensive hydraulic modelling of the River Rhymney. WSP do state that with appropriate flood mitigation and with consideration of the vulnerability classes of development and associated master planning, the site would be appropriate for re-development.

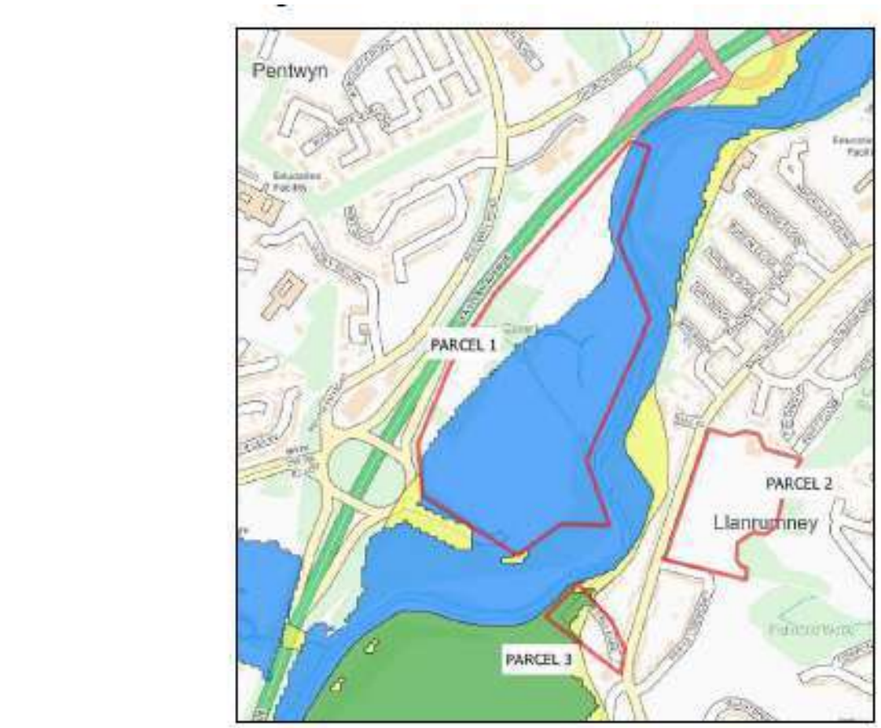


Figure 2-2: NRW Development Advice Map

Figure 3.10 – NRW Development Advice Map

3.0 SITE AND CONTEXT ANALYSIS

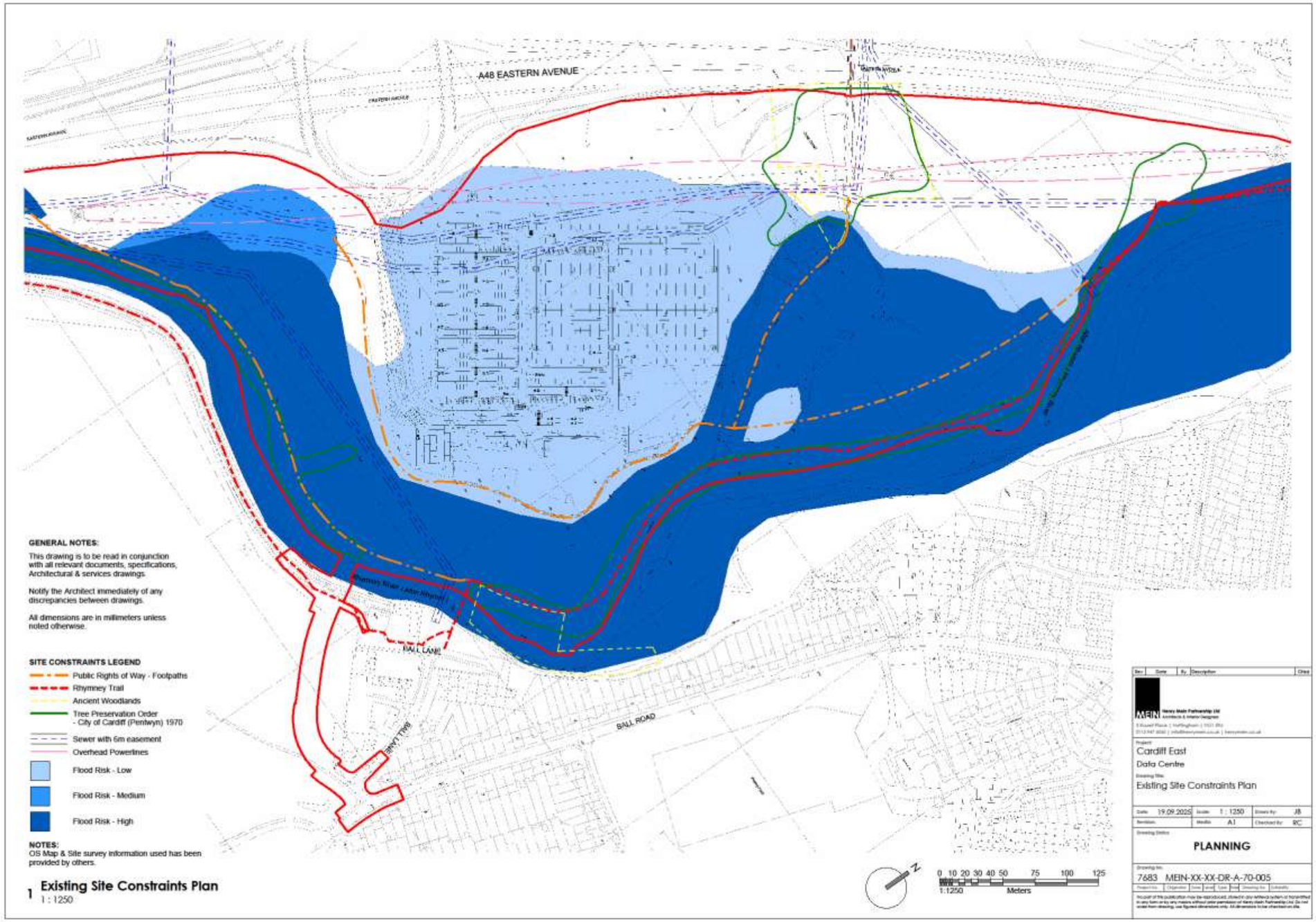


Figure 3.11 – Existing Constraints Plan (for reference only)

3.6 CONSTRAINTS ECOLOGY & INVASIVE SPECIES

The site has a variety of features, comprising broadleaf semi-natural woodland, dense scrub, poor semi-improved grassland, bracken, hardstanding, buildings and the river, and various scattered broadleaf trees and scattered scrub.

The site provides habitats for protected species like Hazel Dormice and a number of bat species.

The park and ride car park facility was constructed in 2008, and extensive mitigation works were required at the time to protect the dormice, including the construction of a new dormice habitation area involving the coppicing and transplanting over 200 mature hazel stools into an area adjacent the new car park. This past project illustrates that the dormice habitat can be suitably managed around significant construction projects.

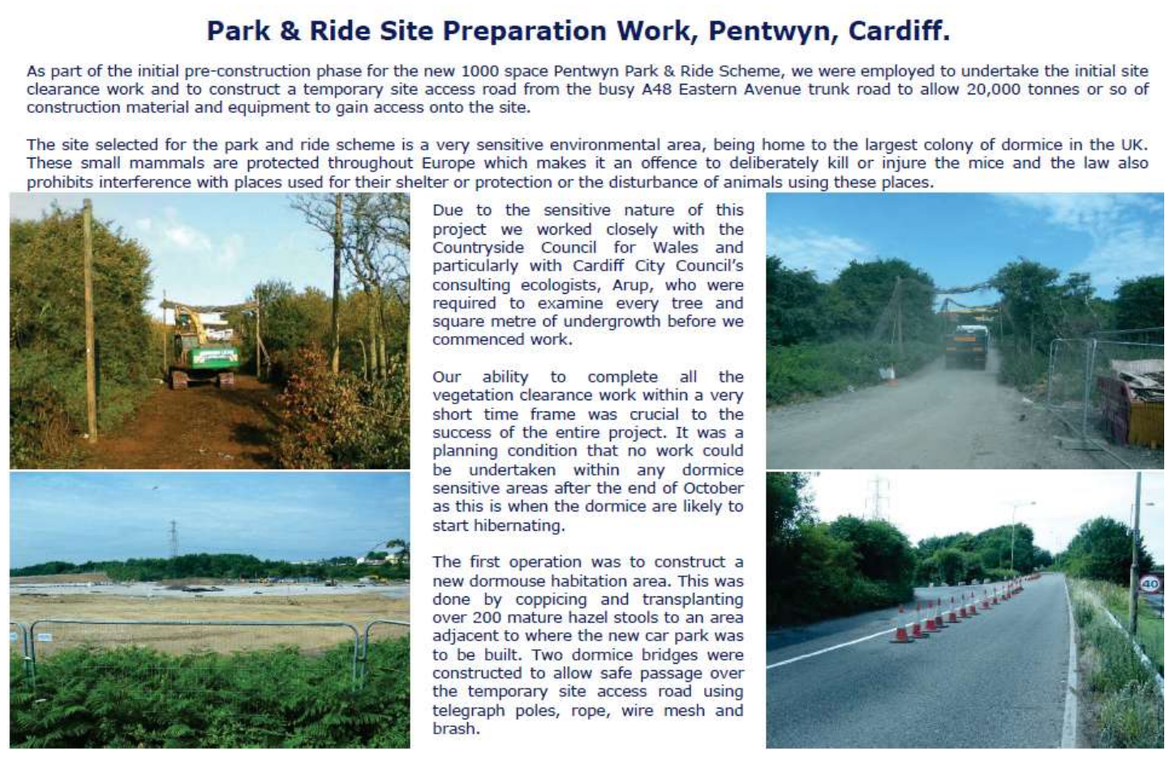
Existing habitats have been surveyed and locations identified on site, and retention, management and enhancement of the habitats is an integral aspect of the new development.

The bat colonies commute and forage along the river corridor and around the woodland edges, and up to 12 different species have been identified with the monthly transects. There is also potential for nesting birds in the scrub and woodland.

Light pollution is a major consideration for the bat population, and a lighting scheme has been developed to address the issue.

A 5m buffer to the riverbank is proposed to protect the bats foraging habitat.

The site has extensive coverage of invasive species – Himalayan Balsam and Japanese Knotweed, for example. The plants are very widespread and will need to be dealt with as part of the development and construction strategy for the site.



Park & Ride Site Preparation Work, Pentwyn, Cardiff.

As part of the initial pre-construction phase for the new 1000 space Pentwyn Park & Ride Scheme, we were employed to undertake the initial site clearance work and to construct a temporary site access road from the busy A48 Eastern Avenue trunk road to allow 20,000 tonnes or so of construction material and equipment to gain access onto the site.

The site selected for the park and ride scheme is a very sensitive environmental area, being home to the largest colony of dormice in the UK. These small mammals are protected throughout Europe which makes it an offence to deliberately kill or injure the mice and the law also prohibits interference with places used for their shelter or protection or the disturbance of animals using these places.

Due to the sensitive nature of this project we worked closely with the Countryside Council for Wales and particularly with Cardiff City Council's consulting ecologists, Arup, who were required to examine every tree and square metre of undergrowth before we commenced work.

Our ability to complete all the vegetation clearance work within a very short time frame was crucial to the success of the entire project. It was a planning condition that no work could be undertaken within any dormice sensitive areas after the end of October as this is when the dormice are likely to start hibernating.

The first operation was to construct a new dormouse habitation area. This was done by coppicing and transplanting over 200 mature hazel stools to an area adjacent to where the new car park was to be built. Two dormice bridges were constructed to allow safe passage over the temporary site access road using telegraph poles, rope, wire mesh and brash.

Figure 3.12 – Landcraft Project Sheet (Prepared in relation to the previous permission).

3.7 CONSTRAINTS - TREES

A tree survey has been undertaken by Delta Simons, identifying a variety of category B and category C trees (fig. 3-13). There is a large area of ancient woodland (AW) identified centrally on site, leading to the A48 footbridge, and a smaller area of AW to the north of the River Rhymney foot bridge to Ball Lane (Fig. 3-14). There are also areas of trees where tree preservation orders (TPOs) have been applied (along the riverbank and surrounding the area of ancient woodland).

Preliminary advice from the arboriculturist was for a 15m buffer to the ancient woodland, to protect the unique habitat and soil make-up. The proposals must also ensure that there are no adverse effects on ground water and natural drainage to the ancient woodland. Through consultation with the Local Planning Authority via the extant permission, a 20m buffer was agreed around the ancient woodland to further protect the area from the impacts of development.

It is clear on site that the woodland has not been well maintained, and there is significant opportunity for a thorough woodland management plan to be designed and implemented. This would result in an improvement for habitat and biodiversity.

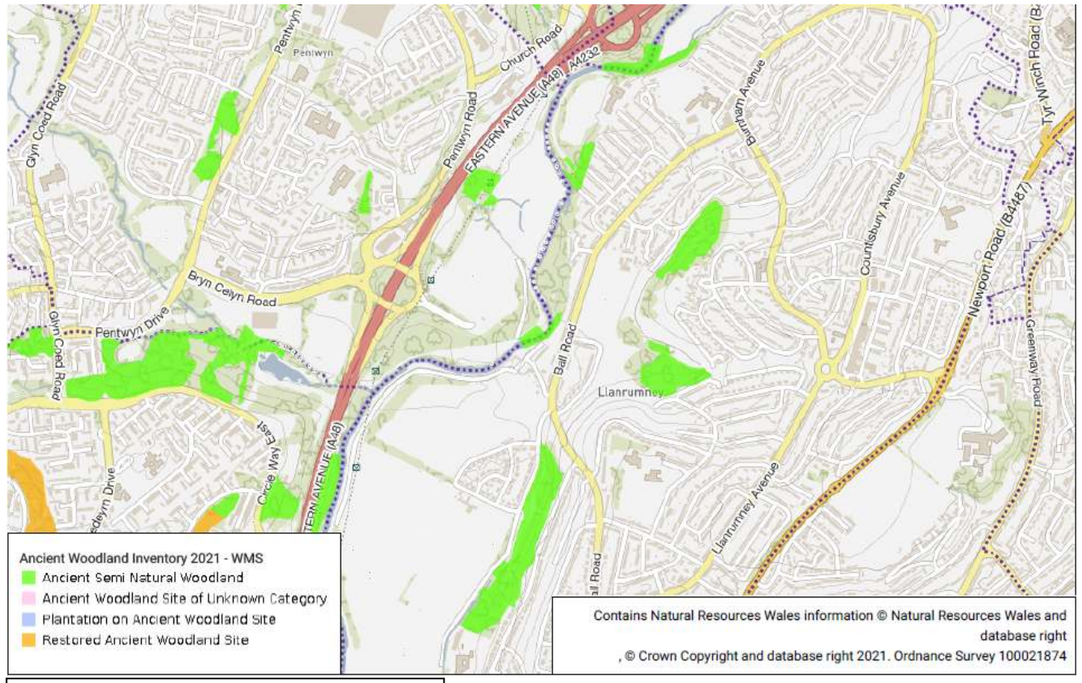


Figure 3.13 – Ancient Woodland Inventory 2021 - WMS

3.0 SITE AND CONTEXT ANALYSIS

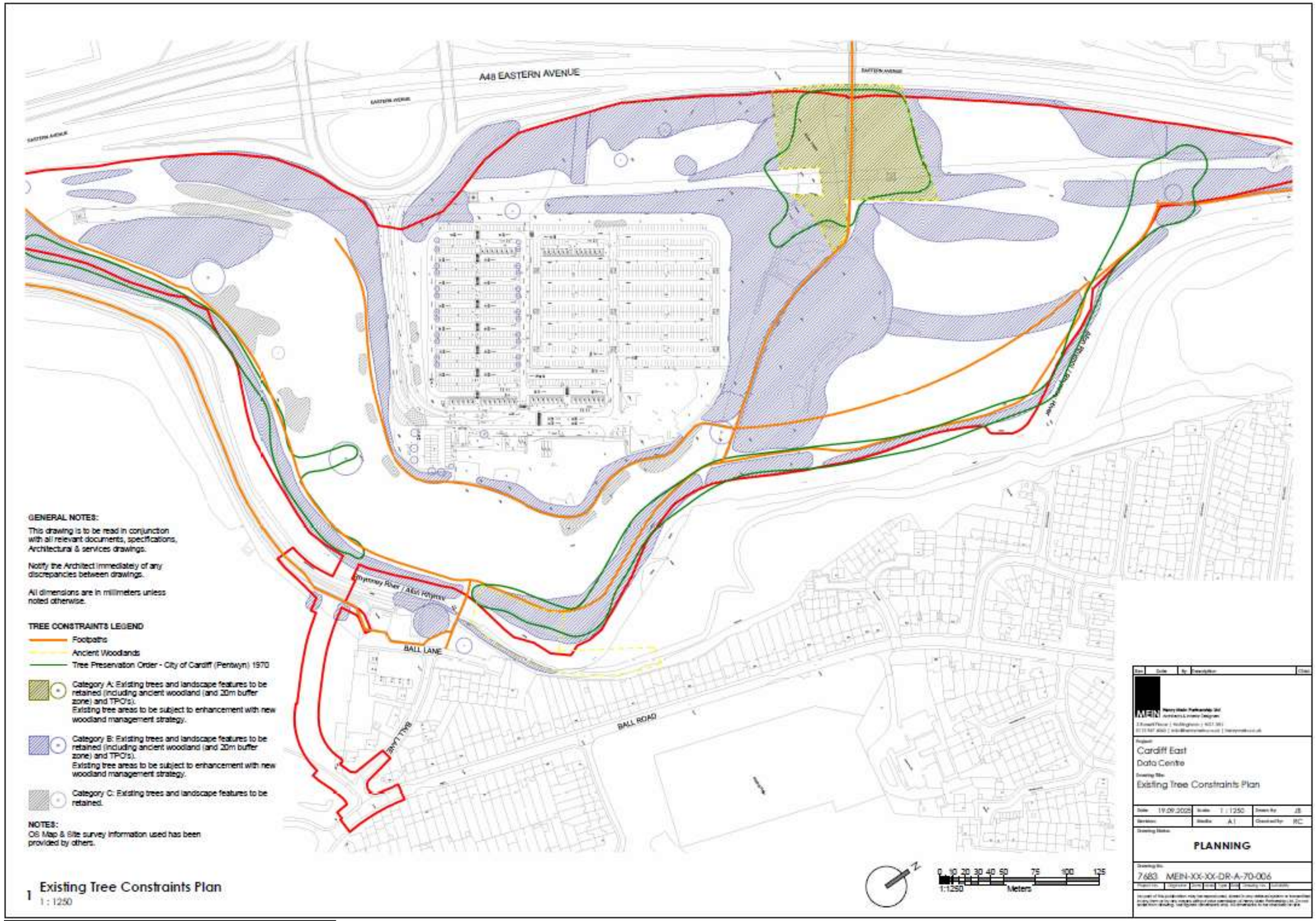


Figure 3.14 – Existing Tree Constraints Plan (for reference only)

3.8 CONSTRAINTS – PUBLIC RIGHTS OF WAY

There are a number of footpaths on the site some of which are formal public rights of way (PROWs) with a number being informal paths that often run parallel between the same location. In addition, some paths on site are surfaced with tarmac or concrete; others are formed are simply worn routes on bare ground (Fig. 3-15).

The Rhymney Trail passes through the site, primarily along the line of the river, and crosses the foot bridge at Ball Lane, where it continues south.

There are no dedicated cycle routes across the site, but both cycles and motorcycles enter the site, and anti-social behaviour is noted on occasion.

The footbridge across the A48 has barriers at the western end to deter motorbikes and other motor vehicles.

As part of the proposed scheme, it will be necessary to divert some PROWs across the site this will be in the wider context of using this as an opportunity to enhance public access for recreational and amenity uses through more formalised routes including the provision of active travel routes across the site. There will be routes both east-west and north-south through the site.

Figure 3.15 – Photographs of an existing footpath onsite.

3.9 CONSTRAINTS – POWER CABLES

Overhead high voltage power cables cross the site, running parallel to the A48.

The power lines restrict possible development below them and any use around the base of the pylon is restricted, (fig.3-16).

Overhead electrical cables also can generate significant electric-fields (EMF) around them, which must be considered when constructing buildings nearby. The overhead power lines on the site have been tested and measured for EMF levels and the development as currently proposed is confirmed as acceptable.

Figure 3.16 – Existing pylons and planting onsite.

4.1 INTERPRETATION

The site analysis demonstrates that the site has many natural and man-made features that are to be retained and enhanced as part of the project – protected tree groups, ancient woodland, wildlife habitats, river environments, and public rights of way.

The site also affords significant opportunities for environmental improvements to balance the introduction of the new buildings on the site. Public routes across the site will be enhanced and clearly defined, which will improve accessibility, encourage greater use, and discourage antisocial behaviour.

The greatest improvement to the area will be the introduction of the new bridge which will allow quicker, more efficient and more sustainable travel routes across the River Rhymney. The bridge will open up Llanrumney to the surrounding area, encouraging the community to engage in active travel and sustainable modes of transport into the city.

Tree groups are on the whole retained, but some trees are inevitably lost to the development. Where possible, these have been limited to poorer quality specimens, and tree loss generally has been addressed with significant off-site planting to compensate. Enhancement of the on-site planting and supplementary off site planting as part of a wider habitat management has been detailed in landscape proposals and Woodland Management Plan which form part of the application.

The proposed treatment, management and enhancement of these features were fully supported in the originally approved application 22/02673/FUL and the environmental benefits will be further realised through this application.

5.1 DATA CENTRE TYPOLOGY

Key Features of Data Centre Development

Data centres are an essential part of the national infrastructure, supporting cloud computing, AI, digital services and secure data storage. The building types proposed for this site will reflect modern data centre design: resilient, energy-efficient, continuously operating, and highly secure. Each operator will have different requirements, so the outline application approach allows for flexibility within the thresholds of the submitted parameter plans. Further details will be confirmed through a future reserved matters application.

Building Form and Construction

Modern data centres use modular, scalable construction to allow phased delivery and future expansion. Steel-framed buildings create large, clear-span data halls, with prefabricated elements used to improve quality and reduce construction time. External envelopes are highly insulated, airtight and acoustically controlled, with muted cladding colours chosen to reduce visual impact within the landscape.

Internal Zones

The buildings are arranged into secure operational zones, including:

- **Data halls** with raised access floors for cooling and cabling;
- **Power and cooling plant** for UPS systems, generators and battery storage;
- **Control and support areas** for 24-hour monitoring and maintenance.

Cooling is a defining requirement, delivered through efficient air or liquid systems, with opportunities for heat recovery where feasible.

Power and Energy Infrastructure

Reliability is critical. The development accommodates dedicated grid connections, dual feeds, on-site battery storage and space for renewable energy technologies. Modern data centres increasingly operate within local microgrid arrangements, improving resilience and energy efficiency for both the facility and the surrounding area.

Security, Connectivity and Resilience

Data centres require strict physical and cyber security. The design allows for secure perimeters, controlled access, continuous monitoring, fire suppression and flood-resilient construction. Connectivity is fundamental, with secure routes for high-capacity fibre links and the ability to support future digital technologies.

Sustainability and Environmental Integration

High thermal performance, efficient cooling systems and long-life materials underpin the sustainability strategy. Landscape enhancements, green infrastructure and naturalised drainage features help soften the visual profile of the buildings and support biodiversity. With careful siting and detailing, modern data centres can integrate discreetly into their surroundings while delivering vital digital infrastructure.

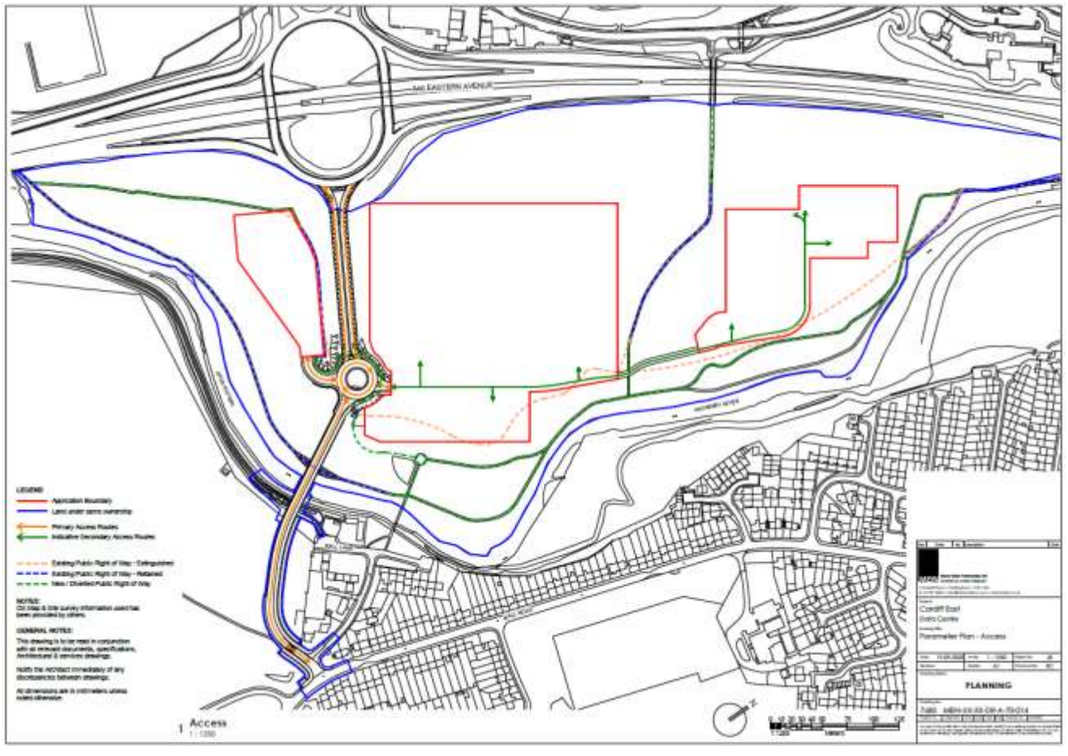
5.0 DESIGN DEVELOPMENT

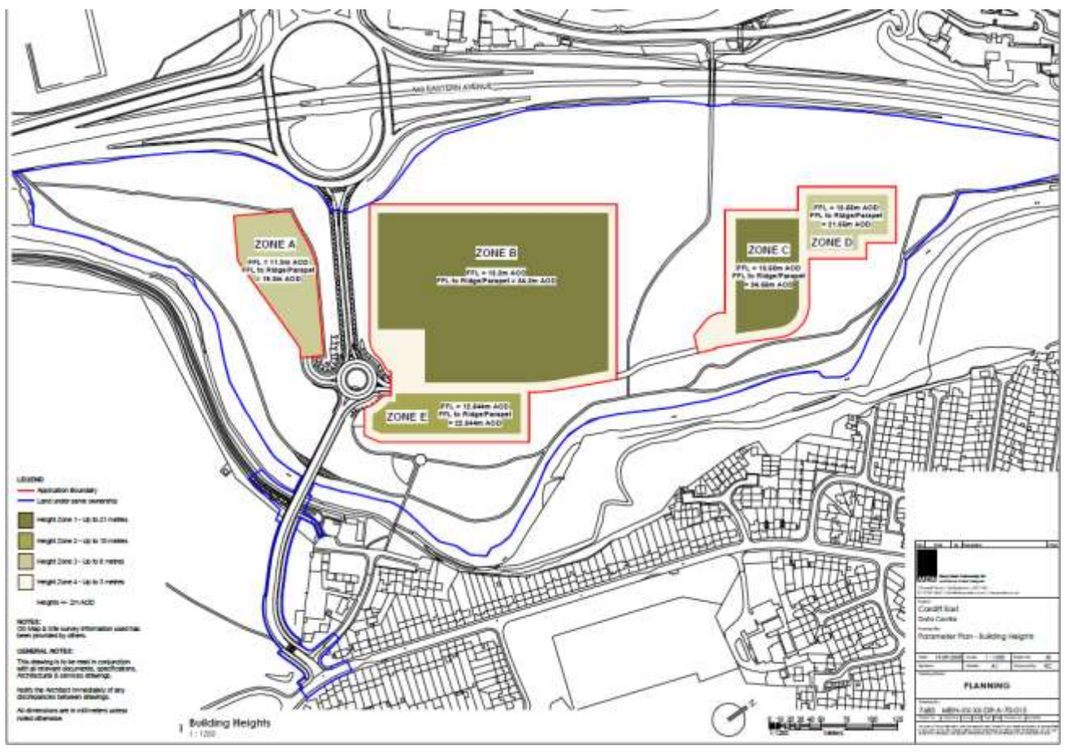
5.2 EVOLUTION OF THE DESIGN

The primary goal was to fit the Data Centre layouts within the confines of the development plot areas as per the extant planning permission, therefore replicating the agreed mitigation measures, landscape and biodiversity enhancements, PROW's, access road and bridge construction.

The setting of these parameters early in the design stage allowed for greater thought on the massing and layout, with the buildings being centred by internal perimeter access roads, whilst ensuring optimum developable space for operational efficiency.

Further layout enhancements and specific design details would be addressed with future detailed applications.





6.1 THE PROPOSED SITE PLAN AND PLOTS

The submitted option for the illustrative masterplan (Fig. 6-01) reflects the scheme development over the design period, and the integration of further and more detailed site investigation works, improved and more detailed cost planning, and the balanced environmental approach necessary to achieve a viable scheme that will deliver the significant infrastructure improvements desired, and inferred in the original Cardiff East Spatial Strategy Scoping Report of 2019, where the importance of the new bridge link over the River Rhymney was illustrated in the overall plan for the area.

The illustrative masterplan provides three separate data halls of varying sizes each with their own associated generator compound, pump houses, and water storage. A central 2-storey administration and storage building, an onsite substation and an Energy Centre.

The masterplan illustrates a notional design for the development plots that would be feasible within the confines of the parameters outlined and the existing constraints of the site described in this document.

The adjacent table indicates the potential achievable building areas for the proposed development.

BUILDING	GEA (m²)	(GIA m²)
LARGE DATA CENTRE PLOT 4	14,950	14,897.5
SMALL DATA CENTRE PLOT 4	5,548	5,435
LARGE ADMIN / STORAGE	2,062.5	3,982
SMALL ADMIN / STORAGE	470	880
DATA CENTRE PLOT 5	2,979	2,894
TOTAL (not including substations /etc)	26,009.5	28,088.5
SUBSTATION	2,152	2,080
SUBSTATION ANCILLARY BUILDINGS	260	224
ANCILLARY ENERGY CENTRE / GSP SUBSTATION	No buildings	
TOTAL (including substations /etc)	28,421.5	30,392.5

6.0 PROPOSALS

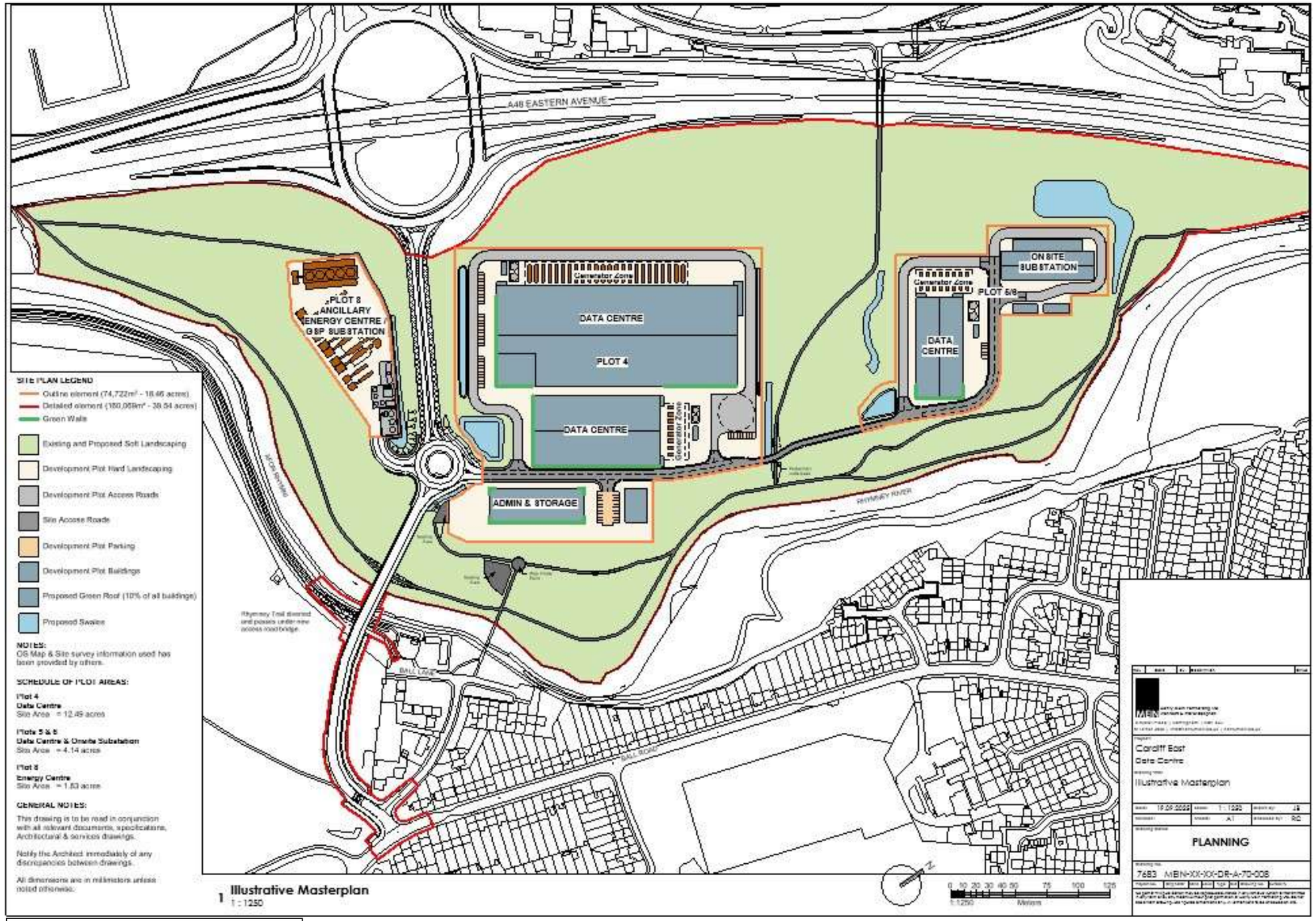


Figure 6.01 – Illustrative Masterplan (for reference only)

6.2 CHARACTER

The character of the site will inevitably change in order to accommodate development on the site to fund the new bridge, and this principle was supported by the approved application 22/02675/FUL.

Specific details will be agreed at reserved matters stage. However, there is latitude in the choices within the limited palette of building form and material types suitable for these developments. With this project, it is envisaged the design principles will be based on provision of a high-end development, using a mixture of higher quality wall panels, larger areas of glazing, and interesting roof/building forms.

The design stance taken with the scheme is to provide well detailed buildings against the backdrop of the natural, existing landscape. The landscape through the site is enhanced to soften the visual impact of the buildings from within the site and will provide a strong site character and visual cohesion, as the proposed development is unlikely to be completely hidden from every view. The suggestion for the buildings would be muted, dark/neutral colours which will have them visually recede within the setting. The introduction of a strong, primary colour in limited but key locations will draw the eye to these key features and again provide a visual coherence through the development.

Figure 6.02 – Precedent CGI of Binfield Data Centre, Bracknell

Figure 6.03 – Precedent CGI of Foyle Port Data Centre, Londonderry

6.3 BUILDING DESIGN AND APPEARANCE

Parameter plans provide an outline of the development, with the buildings subject to further detailed design at reserved matters stage.

Establishing the development plot, land use, building heights and access routes provides an overview of the design intent and have been derived from precedent sites, end user practical requirements and the existing site characteristics.

Building fenestration will be prioritised to minimise its visual impact on the locality, inclusion of architectural detailing such as living green walls, louvred panels to add interest and character to the buildings, creating aesthetically pleasing designs to suit the locality. Screening will be provided to external plant and substation equipment to further soften the visual impact of the development.

The introduction of green living walls will enhance the aesthetics of the building whilst also contributing to improving air quality and biodiversity.

Building heights – Data Centre main buildings up to 21m excluding generator flues, administration buildings up to 10m, on site substation buildings up to 8m with secure enclosures, transformer and GSP enclosures up to 8m. Perimeter site security enclosure up to 3m.

Figures 6.02 to 6.15 illustrate the wide variety of materials, colour palettes, and architectural detailing being proposed for Data Centre applications both in the UK and abroad to give interest and appeal to large buildings. Along with the use of soft landscaping and living walls to encourage enhanced biodiversity, reduced noise pollution, improved air quality and visual integration with nature. The proposed Data Centres envisaged for the development will be quite modest in comparison to the precedents shown.

Figure 6.04 – Precedent CGI of NTT London 1 Data Centre, Dagenham.

Figure 6.05 – Precedent CGI of Longcross Park Data Centre, Chertsey.

6.4 AMENTITY AREAS

The proposed amenity areas are located adjacent to main roundabout access for the site. The terrace area links to an additional area adjacent to the Admin and Storage buildings on Plot 04. Both seating areas connect to the public rights of way, which have been retained, redirected and created in continuation from the Rhymney trail. With the proposed bridge as a transport link to Llanrumney for bus, vehicles, pedestrians and cyclist these seating areas offer break out zones for users.

6.5 SCALE, HEIGHT AND MASSING

The site is 58 acres (23.4 ha), and the overall proposed surfaced area (buildings, carparks, service yards, roads, bridge and footpaths) is 20.05 acres (8.1 ha). The site as existing has approximately 12.2 acres (4.9 ha) of surfaced area, comprising of park and ride, and roads etc. The proposed plot scales are as follows and will be confirmed through a future reserved matters application: -

BUILDING	Ridge Height (m)	GEA (m²)
LARGE DATA CENTRE PLOT 4	21	14,950
SMALL DATA CENTRE PLOT 4	21	5,548
LARGE ADMIN / STORAGE	10	2,062.5
SMALL ADMIN / STORAGE	10	470
DATA CENTRE PLOT 5	21	2,979
SUBSTATION	8	2,152
SUBSTATION ANCILLARY BUILDINGS	8	260
ANCILLARY ENERGY CENTRE / GSP SUBSTATION	8	No buildings

The Landscape and Visual Impact Assessment (LVIA) accompanying the application does not anticipate significant impacts based on the scale and massing outlined on the parameter plans.

Figure 6.06 – Precedent photograph of Hemel Hemstead Data Centre.

Figure 6.07 – Precedent CGI of Slough Data Centre.

Figure 6.08 – Precedent CGI of Toronto Data Centre.

6.6 PEDESTRIANS, CYCLISTS AND VEHICLES

The new bridge link with shared cycle way and footpath is technically achievable with the scheme illustrated.

Public rights of way are maintained across the site and re-directed where necessary. Active travel routes through the site are clear and usable.

The Rhymney Trail riverside walk through the site will be retained and enhanced as part of the works, with better surfacing, amenity points, lighting, information points etc.

6.7 ACCESS

Overall, the site offers an enhancement of public access, with the introduction of a new vehicle bridge with both pedestrian footways and cycleway, transport links to and from the site are improved. Upgrading of existing site footpaths as part of the proposed development will improve access through the site connecting Pentwyn and Llanrumney for the benefits of local residents.

Individual buildings will be designed for accessibility for all users, with the provision of level access to front doors, accessible parking spaces adjacent entrances, lift access to upper floors, etc, all in accordance with best practice. These principles will form part of the detailed element though a future reserved maters application.

Amenity space is planned to adjacent the roundabout, which will have tables and seating, with views south over the open site towards the river.

Access to the development plots either side of the access road is be secured by a perimeter fence and gates. On site car parking and cycle storage will be secure within the perimeter fencing.

Figure 6.09 – Precedent CGI of South Mimms Data Centre, Hertfordshire.

Figure 6.10 – Precedent CGI of London 1 Data Centre.

6.8 MOVEMENT

From Pentwyn, access for pedestrians will be via the northern and southern crossings below the A48, the pedestrian bridge crossing over the A48 just north of the existing park and ride, with the use of the Rhymney trail to the north and the retained public right of way to the south.

Cyclists can cross the new bridge from Llanrumney into the heart of the site, from where the new units can be easily accessed. Pedestrian footpaths are provided through the site to take advantage of the river walk, the Rhymney Trail, and provide links to existing access points into the site (Rhymney Trail to the north, existing footbridge over the A48 and existing footbridge over the Rhymney river from Llanrumney).

Pedestrian movement towards the river from the park and ride is encouraged by site wayfinding and the feature terrace area adjacent the roundabout, which leads to the southern amenity area, with seating, tables and canopy shading.

The formation of a pedestrian underpass below the service road between the data centre plots provides continuity of footpaths across the site whilst enabling security for the data centres to be maintained with perimeter fencing.

Figure 6.11 – Precedent CGI of Microsoft Park Royal Data Centre, Ealing.

Figure 6.12 – Precedent CGI of Concept Docklands Data Centre, London.

6.9 INTEGRATION WITH EXISTING SITE FEATURES

The proposed development has been designed to sit comfortably within the existing characteristics of the Cardiff East site. Key natural and man-made features are retained and enhanced, while the buildings are positioned to respect ecological, landscape and floodplain constraints.

Ancient woodland and TPO tree groups are preserved, with a 20m buffer to the main woodland block and opportunities for long-term woodland and habitat improvement. Key foraging corridors along the river and woodland edges are protected, with lighting designed to avoid disruption to light-sensitive bat species. Invasive species will be removed as part of the wider site works.

The masterplan avoids development beneath overhead power lines, and EMF assessments confirm acceptable separation distances. Public rights of way, including the Rhymney Trail, are maintained and upgraded, with improved surfacing, amenity points and wayfinding. The new bridge and internal road layout provide a clear structure for movement across the site.

Flood risk has informed the layout from the outset. Buildings are located on an elevated plateau outside high-risk flood zones, with the new viaduct designed to maintain conveyance. Drainage swales and attenuation features integrate with the landscape and support the updated flood modelling.

The scale and form of the data centre buildings – subject to detailed design at Reserved Matters stage – can be balanced by careful siting, muted external finishes and the retention of strong landscape edges. The enhanced landscape strategy softens views, improves biodiversity, and allows the development to integrate effectively within the wider setting.

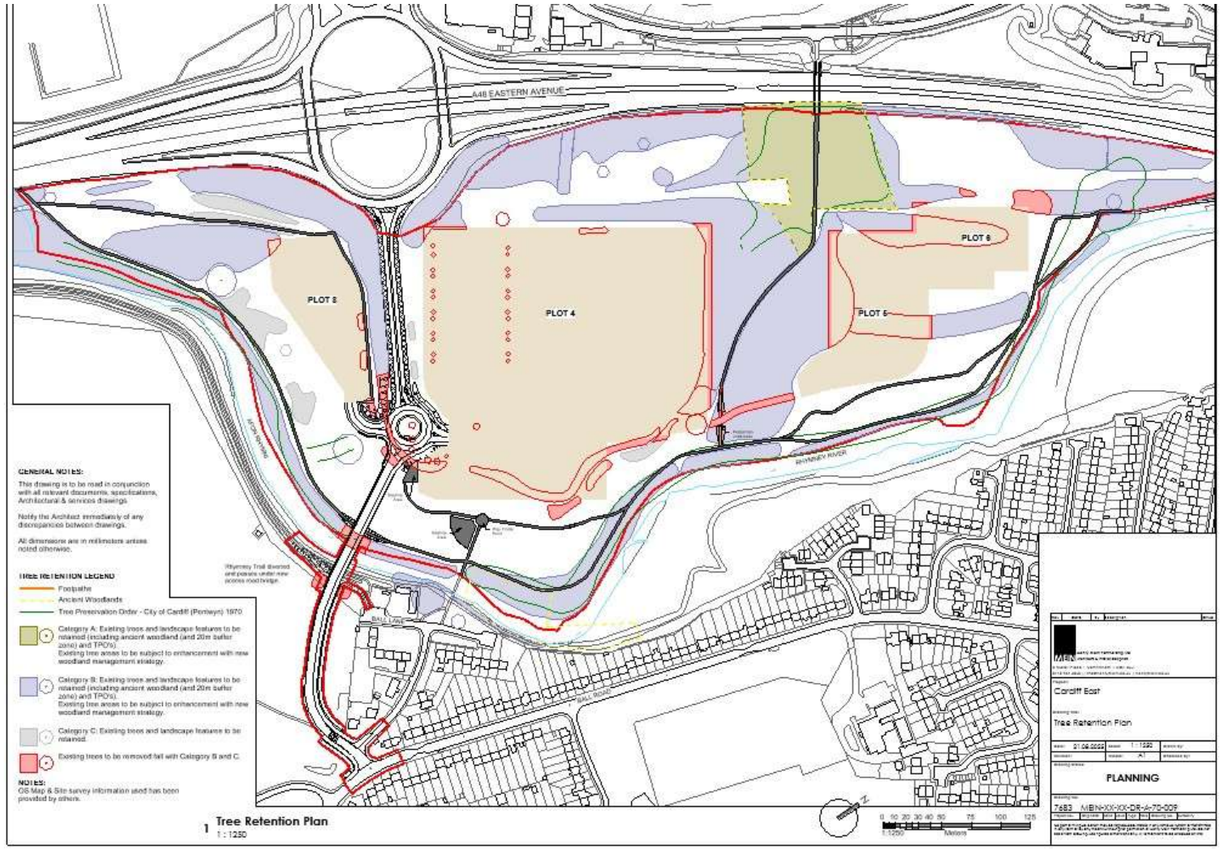


Figure 6.13 – Tree Retention Plan

6.10 ENVIRONMENTAL SUSTAINABILITY

Improvements to the existing landscape and an active woodland management plan will significantly enhance the biodiversity of the site and provide for its sustainable improvement over future years. Key habitats and foraging corridors are maintained/enhanced within the proposals to encourage growth within the wildlife population.

Main elements of the Woodland Management Plan are as follows:

- Manage the Ancient Semi Natural Woodland over the 25-year plan period by small scale thinning, coppicing and enrichment planting designed to optimize the dormice habitat.
- Plant native hedging to help buffer the development in the northern section of ancient woodland.
- Manage and maintain the existing matrix of habitats including ecotones in line with Cardiff Council recommendations (In order to achieve this 2 ha of remedial tree planting to replace tree losses will be carried out on a nearby sits to be identified by Cardiff Council).
- Clear rubbish deposited on riverside and other woodland areas.
- Deal with Ash dieback and any necessary replacement tree planting.
- Provide new paths for public access.
- As far as practicable ensure public safety by a programme of tree health and safety surveys.

In summary the plan seeks to preserve and improve the ancient woodland, maintain other woodland, and open space around the development to provide conservation, landscape and recreational benefits.

Site wide drainage incorporates sustainable design features aimed to improve the quality of surface water run-off and manage the capacity of run-off to acceptable levels in accordance with the flood modelling for the site.

6.0 PROPOSALS

High thermal performance, efficient cooling systems and long-life materials underpin the sustainability strategy. Landscape enhancements, green infrastructure and naturalised drainage features help soften the visual profile of the buildings and support biodiversity. With careful siting and detailing, modern data centres can integrate discreetly into their surroundings while delivering vital digital infrastructure.

The detailed design and specification of building materials is intended to comply with the highest standards compatible with industry requirements for low maintenance and longevity, with the provision of renewable energy sources within the design, tailored to the specific building and end user profile.

This helps to ensure the quality of the design endures for a long-life building.

6.11 COMMUNITY SAFETY

Community safety will be enhanced through a number of measures within the proposals: -

1. Clearly designated pedestrian routes through the site will encourage users and discourage antisocial behaviour.

2. Development plots will have security and gated access.

3. Site wide lighting will provide nighttime security and improve safety for users after dark. The lighting will be designed to not impact on protected species or woodland.

4. The units across the site will provide for passive surveillance of the area, thereby discouraging antisocial behaviour.

6.12 RESPONSE TO PLANNING POLICY

Refer to Iceni planning statement for greater detail.

6.0 PROPOSALS

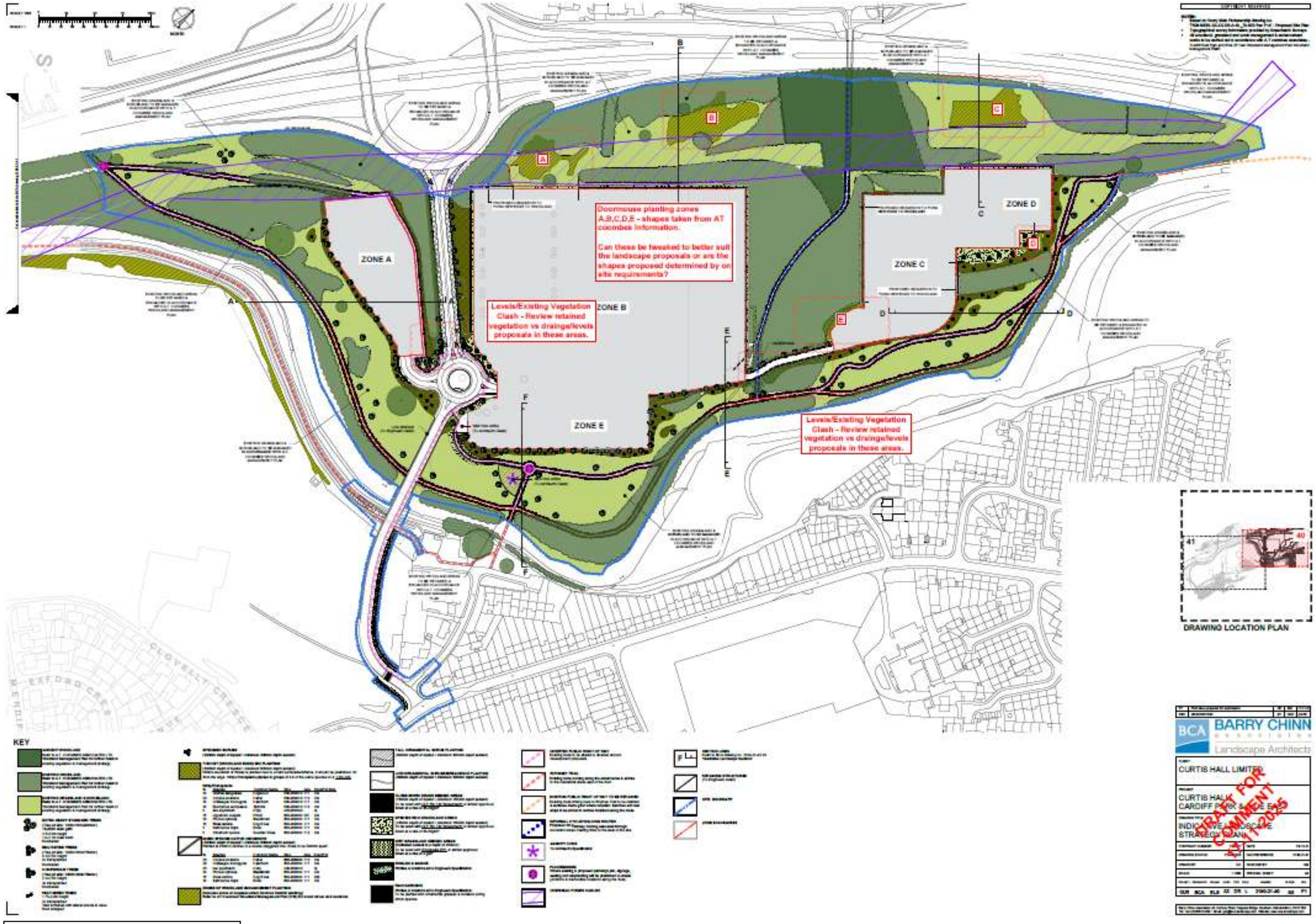


Figure 6.14 – BCA Landscape Strategy Plan

7.1 CONCLUSION

The proposals represent a logical and carefully considered next step for the Cardiff East site. This hybrid application combines a fully approved and established development platform—including the bridge, access road, landscape strategy and overall site arrangement—with a tightly controlled outline element that defines the form, scale and extent of the new data centre buildings. The principle of redevelopment has already been accepted by the Council through the previous planning permission. The current application refines that consent to accommodate a modern, nationally significant digital infrastructure use.

The outline component is guided by clear and robust parameter plans, ensuring that future Reserved Matters submissions remain firmly within the design envelope assessed through this application. These parameters give certainty on building heights, plot extents, landscape buffers, flood mitigation zones, and access arrangements, balancing flexibility for end-users with strong protections for the site's environmental and visual sensitivities.

Data centres are a well-established, sustainable and compatible use for sites of this nature. Comparable precedents across the UK demonstrate that they successfully deliver long-term economic investment, high levels of environmental management, low traffic generation, and a modest physical presence once operational. Their design is inherently controlled, resilient and discreet, with muted architecture, limited occupancy, and strong landscape integration.

This proposal enhances the site's biodiversity, strengthens active travel connections, improves flood resilience, and fulfils the long-standing ambition for a new bridge link to Llanrumney. It delivers modern infrastructure within a landscape-led framework that respects the river corridor, ancient woodland and public amenity routes.

Overall, the scheme offers a secure, future-proofed and environmentally responsible development that aligns with local and national objectives. It represents a significant opportunity for Cardiff to host critical digital infrastructure while delivering clear public, environmental and movement benefits.

On this basis, the proposals should be supported.