

Project: **Union Park, Block 4** Date: **30 July 2025**
Prepared By: **HDR / Savills** Edited: **JH, TP**
Status: **Issue for Planning** Issue: **01 @ 13 March 2026**
Reference: **10274713**
Design Note: **Decision Tree Approach Justification**

This Design Note has been jointly prepared by HDR and Savills on behalf of the applicant, Ark UP4 Ltd, to provide supplementary information to explain the decision to demolish the previously existing building and therefore adopt 'Approach #4 - Demolish and Recycle'. It is intended to address the planning comments issued by the Greater London Authority (GLA) (GLA review date of 13/05/2025) in relation to the proposed development at Union Park, Bulls Bridge Industrial Estate.

The development proposal entails the redevelopment of the site to deliver an extension to the existing Union Park data centre campus consisting of (a) free standing data centre building (b) energy, power, and water infrastructure (c) site access and internal roads (d) site security arrangements (e) hard and soft, green landscaping and (f) other ancillary and auxiliary forms of development.

This design note seeks to address the following comments:

<p>GLA Comment #1 (Design Approach)</p>	<p>The Applicant has begun to explore the design approach in Table 2 of the written report, which is welcomed. The Applicant should ensure that responses to the decision tree prompts in the template are provided in full in order to define the strategic approaches for the development proposals. Where there is an existing building on the site, the strategic approach should be one of the following: retain and retrofit, partial retention and refurbishment, disassemble and reuse, demolish and recycle. Per the comment in Row 30, the Applicant should provide additional evidence to demonstrate that retention is not possible. Where demolition is proposed, disassembly and reuse should be prioritised in the first instance. Per the comment in Row 20 above, the Applicant should provide the completed GLA CE template, including Circular Economy Design Approaches table.</p>
<p>GLA Comment #2 (Pre-Redevelopment Audit)</p>	<p>The Applicant has provided a Condition Report with respect to the existing building. It is noted from the condition report that there are no significant restraints with respect to technical feasibility to retain. The Applicant notes that the existing building is not suited to the requirements of the site to deliver upon the development brief. The Applicant should provide supporting evidence to illustrate the Applicants responses to the decision tree prompts, as referenced in Row 27 above.</p>

The proposed development has followed the Decision Tree below. The resulting design approach is Approach #4 - Demolish and Recycle' as explained in subsequent sections.

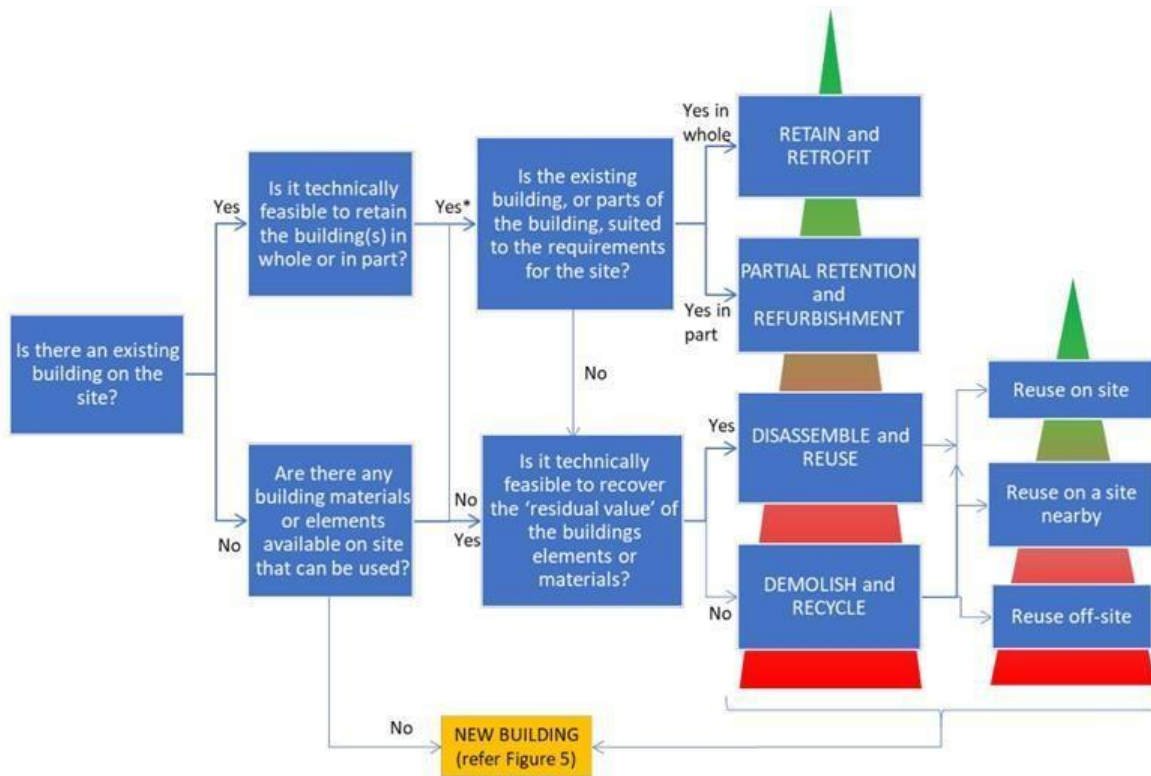


Figure 1: Decision tree for design approaches for existing structures/buildings

CE Design Approach #1 Retain and Retrofit

GLA Definition: The vast majority of the building’s fabric is retained, with the building refurbished for the same or new uses through restoring, refinishing and future-proofing. This also encompasses retrofitting, where new technology or features are added to existing buildings to make them more efficient and to reduce their environmental impacts.

- The UP4 development will not retain or retrofit the existing building due to structural and service-related issues. Structurally, the existing ancillary and office block are unsuitable in size and load capacity for the new building that is to house the data centre. The warehouse’s foundation size and bearing capacity are also inadequate. The existing buildings have no external amenity areas, thereby reducing the opportunity to increase the biodiversity of the site, or to provide amenity areas for the benefit of future building users. The lack of external space would also impact on the provision of a new substation on the site, which would be required to provide the electrical loadings for the building users. This cannot be accommodated within the existing building envelope. The existing building sizes would provide limited useable floor areas which is below the area desired by the client in order to optimise the site.
- The MEP services of the existing building will produce a greater carbon footprint compared to the modern systems proposed. The proposed data centre buildings would also require enhanced performance levels. These requirements cannot be met through the retention of existing building services.

CE Design Approach #2 Partial Retention and Refurbishment

GLA Definition: Significant quantities of carbon-heavy aspects of the building are retained in place, such as the floors and substructure, with replacement of some elements of the building, such as walls or roofing. More significant refurbishment can involve adding floors or extensions.

- HDR Structures received the original record drawings for the building in question from the original structural designer, PTA Consulting, in order to undertake a study of whether the existing building can be partly or entirely retained for the future development of the planned data centre building. The existing building was a purpose-built facility used initially as a flight training centre for British Airways. The building comprised a single storey double height training area zone (with partial mezzanine) along with an additional two storey office area extending to the south. Upon review of the drawings, it was quickly apparent that the existing structure would not be suitable for the planned development of the new Data Centre building. The planned development requires a 4/5 storey steel frame data centre with heavy floor loading allowances to support the electrical and mechanical equipment and services. The existing steel columns and foundations would not have the capacity to support the required loading.
- In addition, the planned development is taller / bigger than the original building and would generate much higher lateral loading from wind. The stability system and subsequent foundation system would need to be purpose built to accommodate these high forces, all of which would not be able to be taken by the existing stability / foundation system. Furthermore, due to the congested nature of the planned buildings and surrounding services / infrastructure (above and below ground), the existing placement of the superstructure / substructure would not coincide with the required placement of the proposed structural elements, which need to be intricately positioned for the space planning of the buildings internally and on the plot. With all things considered it was deemed impossible to utilise the existing structure for the planned development both partially and entirely.

CE Design Approach #3 Disassemble and Reuse

GLA Definition: Disassemble sections of a building and enable their direct reuse ideally on the site or, where this is not possible, off site (with nearby sites preferred). This approach also includes careful selective deconstruction of the building and material types i.e. taking apart each layer and material type as much as possible, minimising damage to parts and maintaining their value, and then reusing those elements and materials. If reuse is not possible, materials may be carefully and selectively separated for processing and recycling into new elements, materials and objects

- The existing building services systems are not suitable for re-use within the new development due to their age, limited size, and capacity.
- Most existing materials currently on site are unsalvageable due to deterioration, demolition, and replacement by modern, energy-efficient materials.

- The Pre-Demolition Audit (Toureen, November 2024) considers various options for reuse of existing building materials.
 - Structural steel: The structural steel columns and beams of the building frame have a possible high recovery potential.
 - Metal sheeting: The sheeting on the façade and stair handrails could be recovered for resale.
 - Handrails: It may be possible to unbolt these during the soft strip phase.
 - Carpet tiles: Up to an estimated 40% of the carpet tiles may be in good condition for reuse following removal.
 - Sanitaryware: If in good condition once removed, sanitaryware installations may also be reused.
 - Internal fire doors could also be removed and reused or donated to a local charity.

The Demolition Waste Summary (Toureen, April 2025 – June 2025) states that 41.24 % was direct Recycled and 33.67 % was Recovered, and 100 % diversion from landfill was achieved.

- From a structural perspective, it is not deemed feasible to recover the residual value of the building elements / materials entirely, however, it has been noted that there are many opportunities to reuse and recycle materials to retain value for the proposed construction works on site. The implementation of a Site Waste Management Plan is encouraged for good practice with regards to waste minimisation and waste management to generate both environmental and financial savings throughout the project.

CE Design Approach #4 Demolish and Recycle

GLA Definition: Traditional demolition, with elements and materials processed into new elements, materials and objects for use on the site or on another site.

- The demolition of the building and construction of the new building will decrease its long-term carbon footprint with the use of 100% renewable energy, eliminating use of diesel & gas generators.
- The existing services generally date back to the original construction of the building and, as such, they are likely to become life expired or in need of significant overhauling in the coming years.
- In summary, the building as it stood was inferior to the three data centre buildings that are being constructed, based on several points:
 - **Energy/Biodiversity Related Issues:** The building's current EPC rating is likely to be a rated as a C or lower. Government targets state that currently commercial properties need to be at least an E rating or higher. However, this will change to a C by 1 April 2027 and to a B by 1 April 2030. The great

increases in energy saving will effectively be achieved by upgrading of the building's services, including photovoltaic panels, ground source heat pumps, reverting away from gas and going completing electric. Effectively replacing the dated services with modern more efficient systems. In addition, the three data centres being constructed have energy and biodiversity improvements, which are in line with the governments Net Zero policy. Such improvements include HVO back-up generators cutting emissions by up to 90% providing a low impact footprint, 100% renewable power, rainwater harvesting, onsite solar, advanced air cooling, consideration of green/brown roofs.

- **Building Fabric:** The external fabric of the building would need to be upgraded and possibly windows replaced to significantly reduce air leakage rates.
- **Layout:** The existing footprint of the building would need to be radically altered and adapted to the meet the required grid area (space between columns) to facilitate the layout and use of the property.

Supplementary Information

The original building on the site was made up of 2 distinct elements

A high sided single level warehouse construct from concrete floor slab, steel frame and light weight rain screen cladding panels. The warehouse is a predominantly steel structure with blockwork elements at the low level. It is clad with steel sheeting and has a corrugated roof.

A two level office/ administration block. a two-storey brick building with a small plant room located on the roof. There is a party wall which connects the warehouse segment to the offices.

The Gross internal area is estimated at 3493m², broken down as below:

Office Ground floor:438m²
Office first floor:438m²
Plant room: 77m²
Warehous2540m²

Permission was sought and granted by Hillingdon Council to demolish the Addison Lee building on the 27 February 2025.

Demolition of the warehouse super structure commenced in June 2025. There was a conscious decision was taken to retain the office / administration section of the building for a further 2 years in order to house the project team working on the Union Park development.

The current plan is to commence dismantling and removing the remaining office / administration block Q3 2026`

Union Park, Bulls Bridge Industrial Estate
Decision Tree Justification

