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Camden Goods Yard Phase 2A

Block A and F Basement realignment

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1. Introduction

Design Note

The scope of this design note is to briefly summarise the changes to the block A basement and the items that influenced the changes.

2. Block A basement walls

In the previous structural scheme the piled retaining wall is offset from the building perimeter columns above. This meant that the columns were partially supported on the secant wall, and partially on a pile cap at B1 level.





To transfer the column loads between the retaining wall piles and the low-level piles would require extensive post-fixed dowel bars into the piled retaining wall. This has several disadvantages:

- The post fixed dowel bars are required to transfer high forces through shear action. This is not an efficient structural method of transferring load and it is common practice to look to avoid transferring loads in shear alone.
- A high degree of workmanship would be required on site to ensure the drill and resin bars are correctly installed. If not, the load sharing capacity would be greatly reduced and there would not be sufficient capacity.
- Extensive drilling would be required on site into the piles to install the dowels. From a CDM perspective, the HSE recommends that wherever possible exposure to vibration at work should be avoided to reduce the risk to operatives of Hand Arm vibration Syndrome.
- The additional excavation to construct the low-level pilecap would result in an increase in the retained height in the temporary condition, when the piled wall is acting as unpropped cantilever. Thus, the additional excavation results in increased forces in the retaining wall design requiring longer piles and more reinforcement; from a sustainability point of view this is more material and more embodied carbon.

A more efficient arrangement would be to fully utilize the retaining wall piles to support the superstructure columns. To facilitate this, the line of the basement walls would need to be realigned to suit the column positions, resulting in three sides being adjusted.



As well as considerable CDM benefits in avoiding the need to post fix rebar, the arrangement also has sustainability benefits in removing over twenty bearing piles as well as an entire section of embedded retaining piles by constructing via open cut.



3. Block A double storey basement

The Stage 3 scheme had a localised double storey basement area under Block A that was predominantly for plant associated with the swimming pool. The double storey area is shown on yellow on the part plan below.

To form this additional basement level, a full perimeter of embedded piled retaining wall had been shown, approximately eighty piles and 850m³ of additional bulk dig to provide a gross internal space of circa 160m².

The stairs and lift cores were taken down to this space for access along with superstructure columns. This resulted in an inefficient net useable space.



It was proposed to remove this double storey level by relocating the swimming pool plant to underneath the carpark ramp. This results in considerable sustainability benefits in significantly reducing both embodied carbon and waste removal from the site.





4. Block F wall alignment

The Block F north wall alignment was stepped on plan with isolated pilecaps supporting Block F columns, items shown shaded blue in the part plan and 3D views below.



It was proposed to straighten the piled retaining wall and to use this to support the block F columns directly avoiding the need for additional pilecaps, similar to the block A basement wall alignment strategy.



Simplifying the wall profile removed seventeen bearing piles and five retaining wall piles as well as making it easier to construct the retaining wall piles.





Item removed

New wall position

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Camden Goods Yard Phase 2A - Perimeter Piling, capping beam and bulk dig – Addendum Summary Ref: P:\Projects\5359\Documents\Reports\Design Notes\210510 Block A basement changes\CGY00-WAL-ZZZ-ZZ-DN-ST-0101.docx

