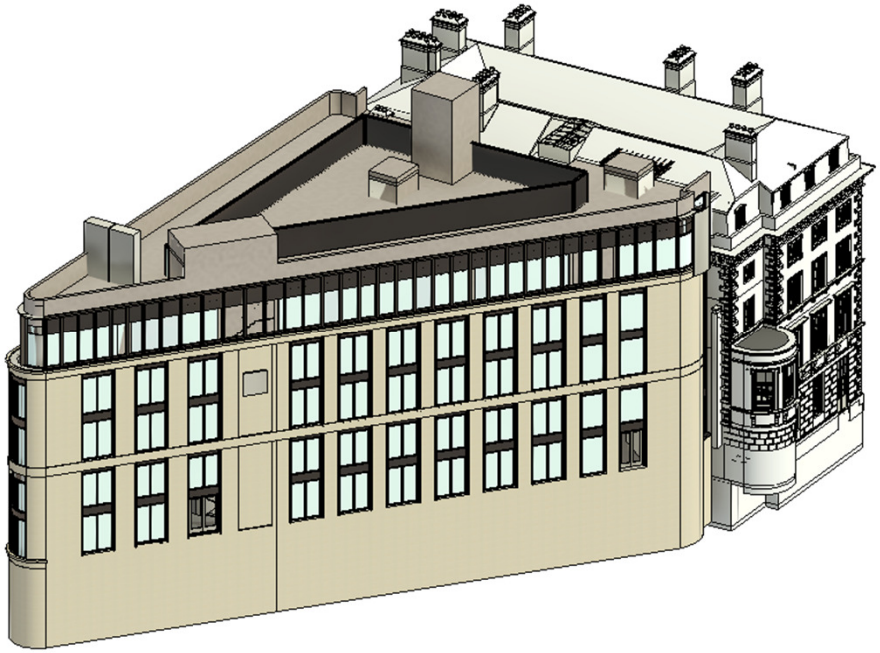
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CIVIL AND STRUCTURAL CONSULTING ENGINEERS

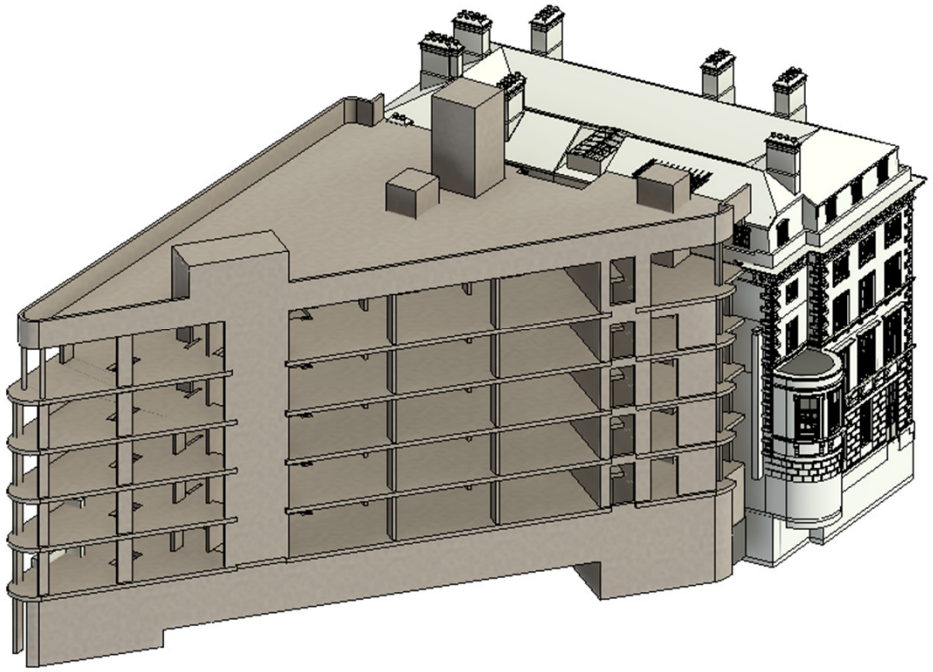
George Hotel, Huddersfield – Planning Report (Structures)
Proposed New Concrete Frame Extension



George Hotel, Huddersfield – Planning Report (Structures)
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Architectural Model

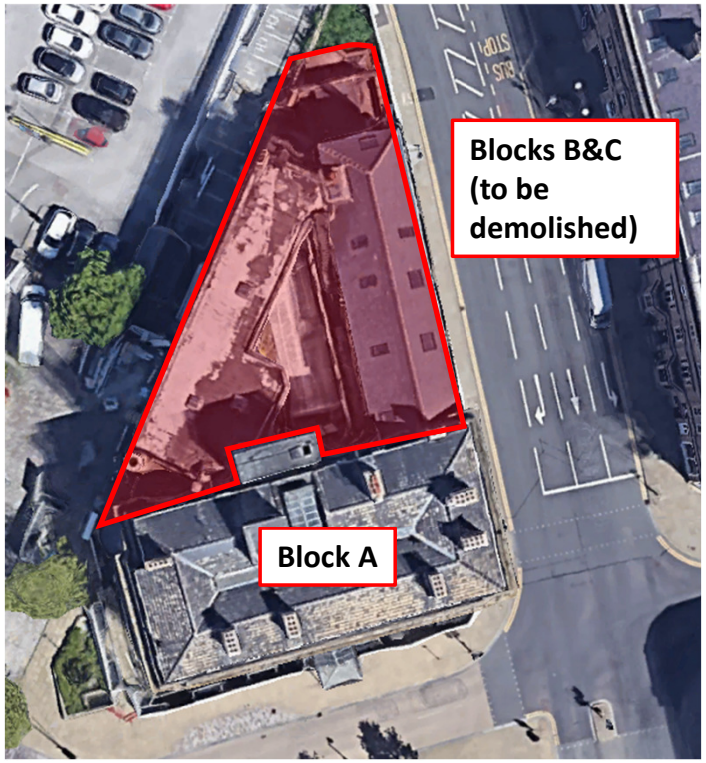


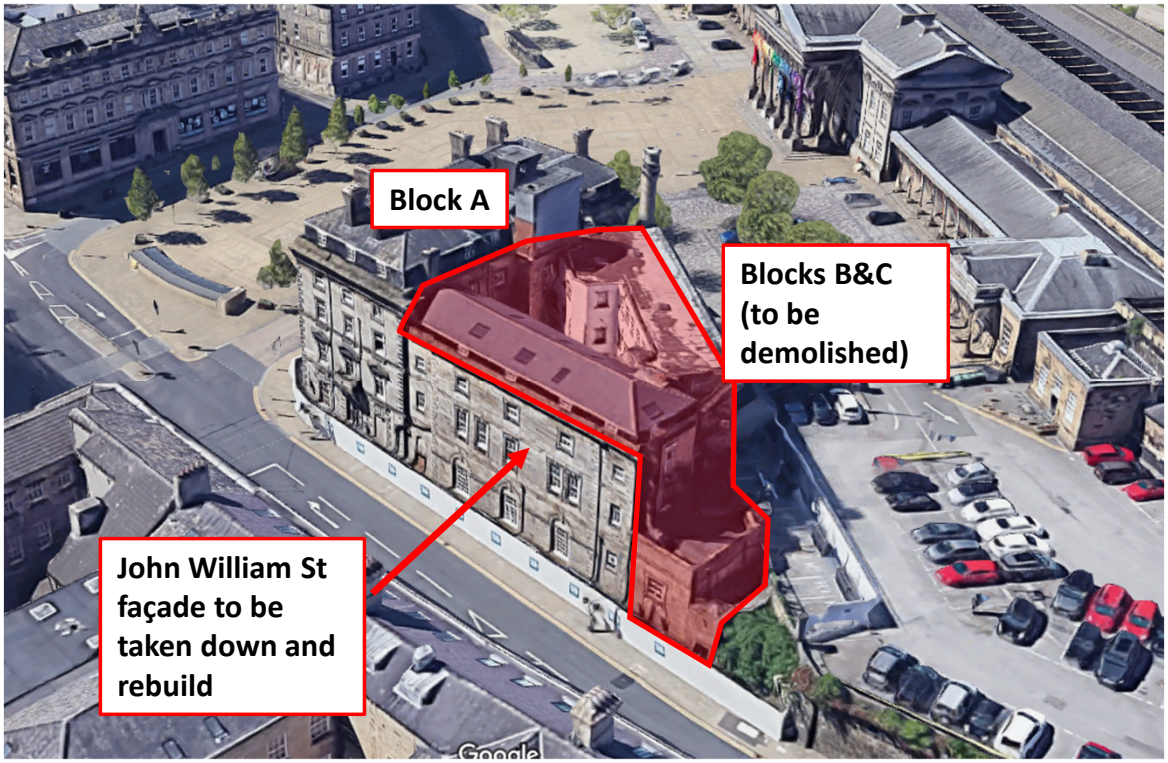
Structural Model

George Hotel, Huddersfield – Planning Report (Structures)
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Site Introduction & Proposed Demolition Works

- The existing building is located in Huddersfield, between John William Street, St George's Square, and Network Rail car park
- The proposal involves the retention and redevelopment of Block A as part of a new hotel development, while Blocks B and C are to be demolished to accommodate a new concrete-frame extension
- Given the concerns regarding the condition of the existing historical façade on John Williams Street, and the considerable risks involved in retaining it during construction, it has been decided that the façade will be carefully dismantled and subsequently reconstructed by a specialist historic stonework contractor

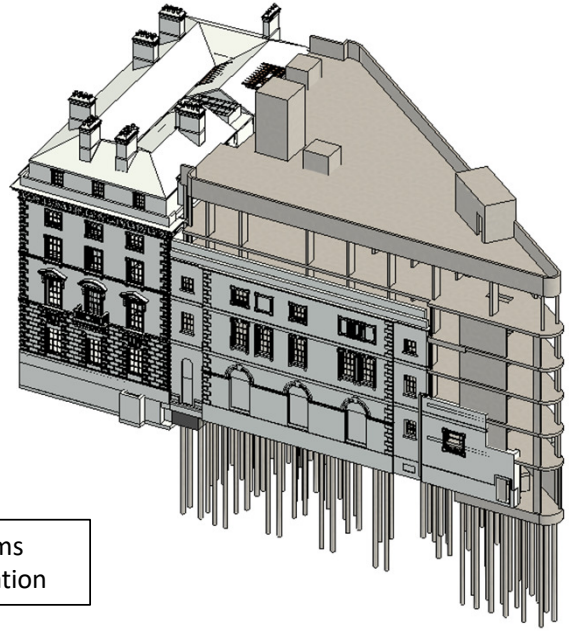




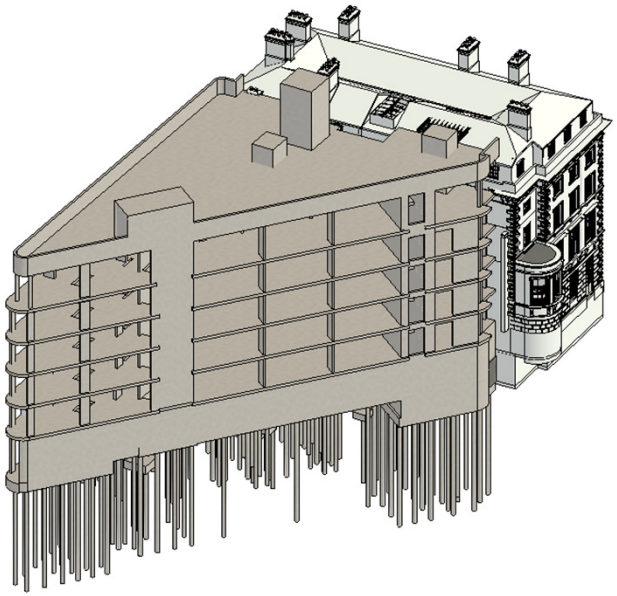
George Hotel, Huddersfield – Planning Report (Structures)
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Proposed New Build Extension

- The new building is to be constructed on the footprint of the previously demolished Blocks B and C, above the existing basement structure, which may remain partially in place below ground, despite being functionally redundant
- A new concrete extension will be constructed adjacent to Block A, enabling seamless access between the historical and newly built parts of the building
- Due to the ground conditions and the size of the building, the new extension will be placed on piled foundations with pile caps on top
- Part of the basement structure may need to be removed to ensure sufficient space for the installation of foundations and supporting piles.
- The room layouts will differ between floors, making it necessary to stagger the concrete columns between floors. To accommodate this, additional structural elements known as transfer slabs and transfer beams will be installed



John Williams
Street Elevation

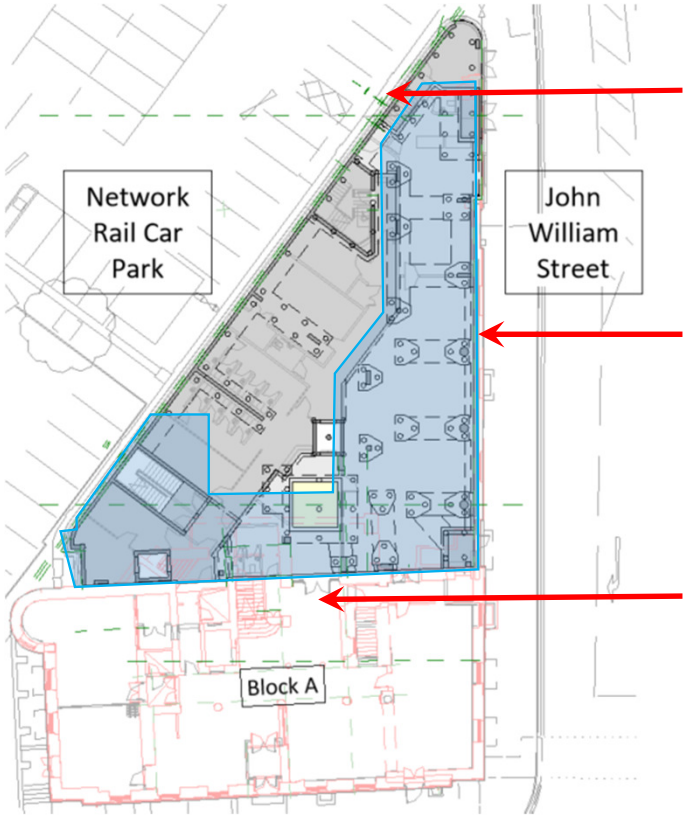


Network Rail Car
Park Elevation

George Hotel, Huddersfield – Planning Report (Structures)
Proposed New Concrete Frame Extension

Proposed New Build Extension – Interaction with adjacent structures

- Various aspects related to the interconnection of the new frame with Block A and the external structures/ground have been considered during the design. These are detailed on the plan below and in the drawing sections that follow on the next pages

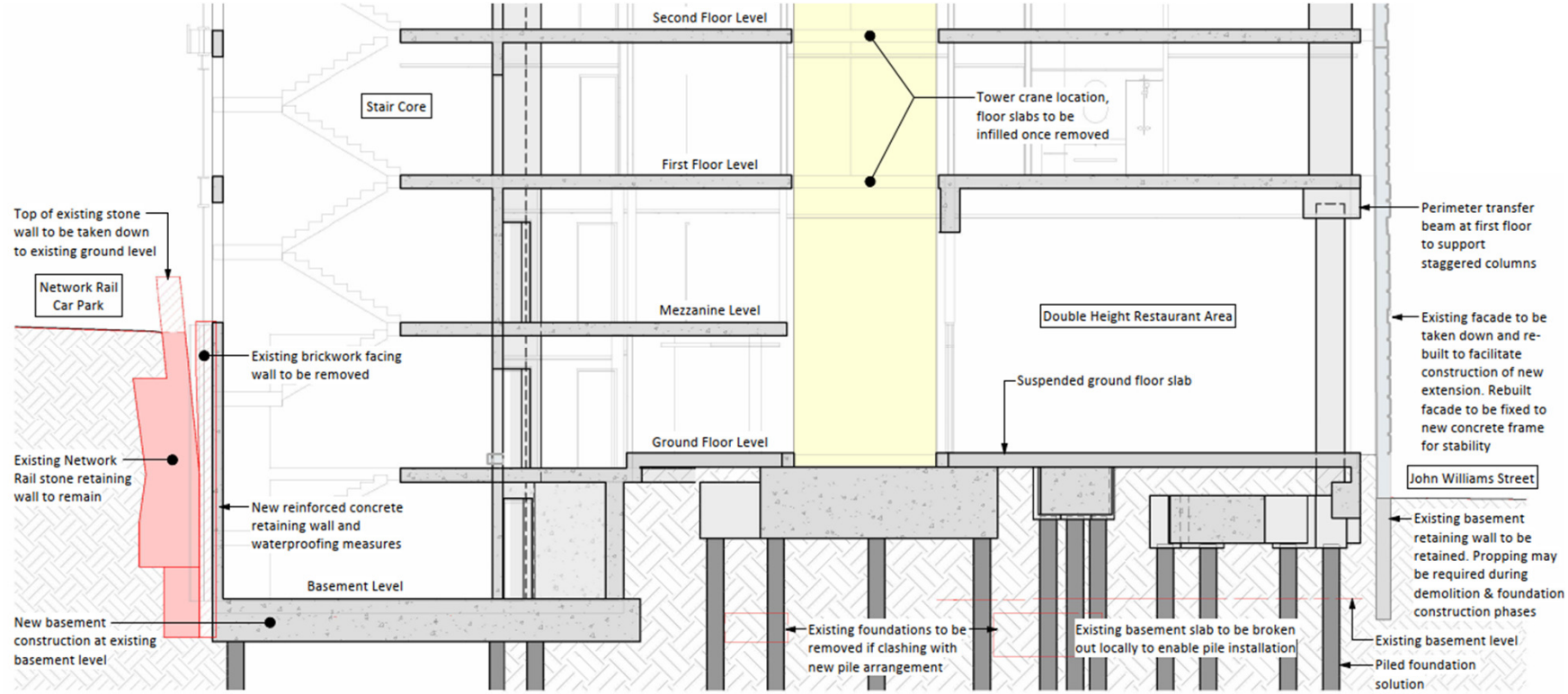


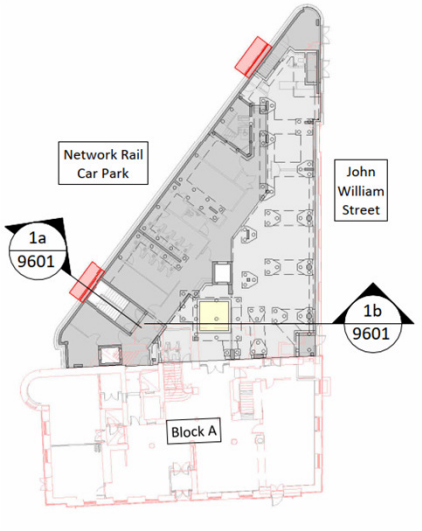
West Elevation:
An existing stone retaining wall, forming part of the Network Rail car park, is located along the perimeter of the proposed ground floor extension. The condition of this wall is currently unknown due to limited access, and it is also unclear whether it is supported by the adjacent existing building wall. To mitigate potential risks during construction, it is proposed that the earth pressure on the existing wall be temporarily removed by excavating the backfill and creating a battered slope behind the wall. A new reinforced concrete retaining wall will then be constructed to enhance the overall stability of the retention structure. This new wall will be integrated into the design and include appropriate waterproofing measures.
Foundation piles associated with the new retaining wall will be installed with an offset to avoid interference with the existing structure. Upon completion of the new retaining wall and concrete frame, the area behind the original retaining wall will be backfilled again.

East Elevation:
An existing Blocks B&C basement, located approximately 1m to 2.5m below John Williams Street level, exists beneath the current building (outlined in blue on the plan). Once the existing façade is removed and the ground floor is taken down, the basement wall along John Williams Street may become unstable. Temporary propping of this wall is currently under review with the temporary works designer.
The existing basement area is intended to be backfilled as part of the final construction stage, which will eliminate any long-term stability concerns. After completion of the new concrete frame, the historic façade will be reconstructed.
Subject to investigation of the existing basement wall along John Williams Street and depending on its condition, the rebuilt historic façade will either be supported on the existing wall (as is currently the case), or on a new foundation forming part of the proposed concrete frame structure.

South Elevation:
A new concrete extension will be constructed adjacent to existing Block A, providing seamless access between the historic and newly built sections of the building. The concrete slabs at each floor level will vary in extent and will be shaped to align with the floor outlines of Block A.
To prevent any risk of undermining the Block A basement, the foundation piles for the new extension will be positioned with an offset from the existing walls of Block A. Additionally, a 'foam' concrete block is planned to be cast adjacent to Block A prior to piling works, to prevent surcharge on the existing masonry wall from the piling mat build-up.

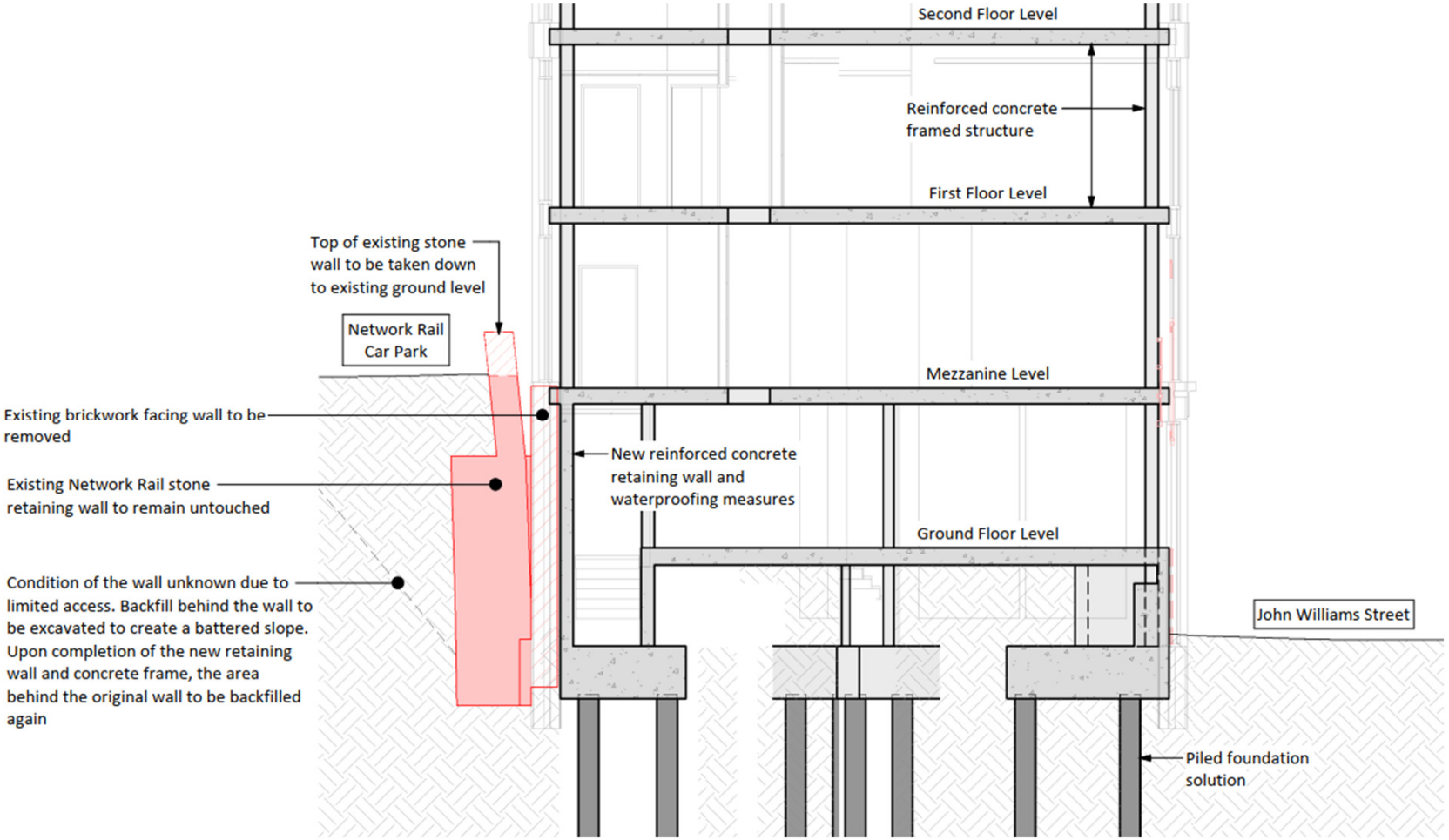
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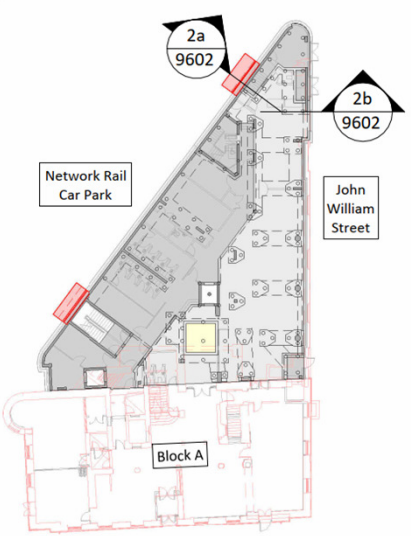




Cross Section Through New Extension

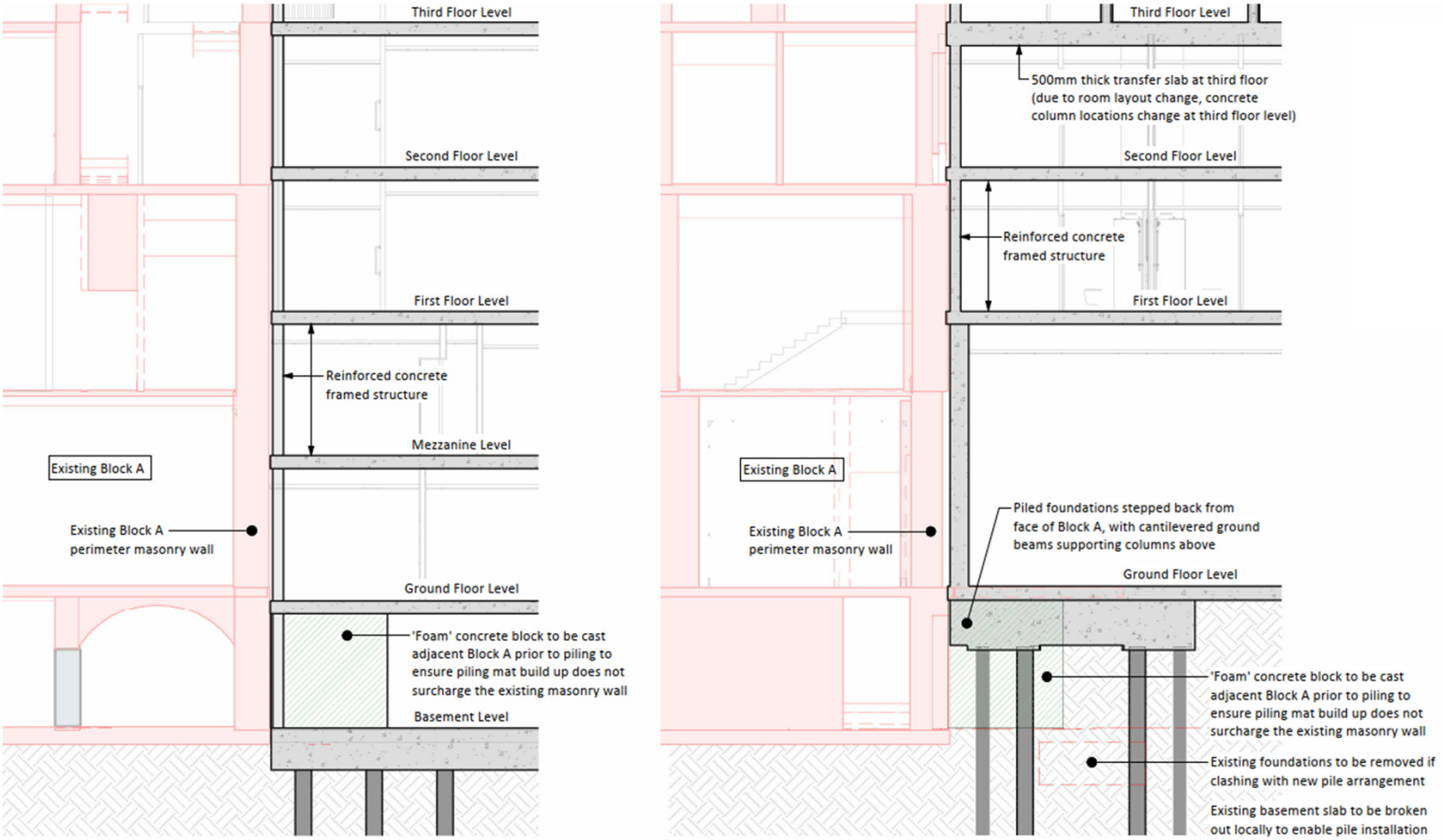
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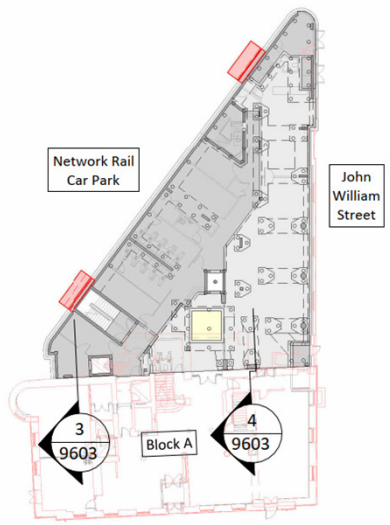




Cross Section Through New Extension

George Hotel, Huddersfield – Planning Report (Structures)
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Cross Section Through Block A/New Extension joint