
Design Review

Job number:	213839	Subject:	Design Review
Job name:	Hampstead Green, Rowland Hill Street	Date:	17/07/2015 and 11/01/2016

This design review by the Certifying Engineer will consist of attending and critiquing a formal presentation by the Basement Design engineer and a review of the submitted documents and reports.

The critique was held at Elliot Wood's Wimbledon office on 16th July 2015 and was attended by David Sivyer (Associate Director) BEng (Hons) CEng MIStructE (The Certifying Engineer) and Miroslav Antelj (Associate Director) BEng (Hons) CEng MIStructE (The Basement Design Engineer)

The following documents have been reviewed as part of the design review:-

- Basement Construction Plan Rev P1 13.07.15
- Structural Engineering Design Brief Rev T1 06.15
- Structural Monitoring Proposals- Movement Rev P1 10.07.15
- Site Investigation Interpretive Report by Card Geotechnics Ltd Feb 2015
- Updated sequence drawings produced by Mark Renshaw Jan 2016

The review will cover all aspects as outlined within the agreement relating to land known as BARTRAMS CONVENT HOSTEL, ROWLAND HILL STREET LONDON NW3 2AD pursuant to Section 106 of the Town and Country Planning Act 1990 (as amended) and Section 278 of the Highways Act 1980.

Findings

The Basement Design Engineer (Miroslav Antelj, Associate Director BEng (Hons) CEng MIStructE) was noted as being an experienced and competent engineer with sufficient experience in complex basement construction.

The plans and reports submitted sufficiently demonstrate, through good design practices and detailing, that the impact from the proposed basement construction on Neighbouring Properties and the water environment have been minimised. The use of a combination of secant piling and underpinning is the correct solution taking into consideration the ground and water conditions. The geotechnical report as prepared by Card Geotechnics sufficiently demonstrates that the impact to surrounding buildings is low with a Very slight category designated for the Rosary Primary School.

The reports provide adequate details of the proposed mitigation measures including surveys and monitoring strategies. The settlement triggers are acceptable and the frequency is daily which could be reduced to a weekly or fortnightly depending on the contractors programme. The number of triggers could be reduced to cover only specific areas of concern including the Rosary Primary School wall and the Hospital boundary buildings on the eastern edge of the site. It was noted that the boundary wall some 4m away from the site is considered being at the greatest risk and therefore additional monitoring stations should be position to cover this risk.

Vibration triggers have been set with a low threshold (suitable for weak buildings) for the amber trigger and a more standard value (suitable for more substantial framed building) for the Red trigger to reflect the unknown nature of the buildings. This is the correct approach to minimise the risk. It was suggested that the client request, from the hospital, details of any sensitive areas within their site that could be considered outside of the normal parameters outlines in BS5228 part 4.

The information used in the assessment and design was noted as being sufficiently conservative to ensure that the impact from the proposed construction of the basement on Neighbouring Properties and the water environment have been minimised.

The drawings and reports clearly and adequately present the proposed method of construction and temporary works thus ensuring the safety and stability of Neighbouring Properties throughout the Construction Phase including temporary works sequence drawings. The responsibility of the various parties has been established ensuring that no aspect of the integrated solution is overlooked.

It was noted that the water strikes encountered in the geotechnical survey were all located within the area of the initial reduced dig and would therefore have no impact on the basement construction.

The basement has been designed for the effects of heave and buoyancy. With a suitable void former used alongside an upward force applied for buoyancy. The effects in the temporary case of short term heave and buoyancy during construction will be dealt with by the contractor. It was noted that the Basement Design Engineer should state in the report the point at which the load from the sub and super structure will overcome the effects of buoyancy so they can make allowances within the temporary works programme. This short term heave was found to pose no risk to adjoining buildings.

The underpinning is considered the correct solution given ground conditions and spatial requirements. The approx. depth of the underpinning is in the region of 4m therefore the contractor will need to either split the pins into two staggered vertical phases, as outlined in the report, or use a suitable trenching shield to reach the required depth. Both methods are considered acceptable to achieve the anticipated settlement and required damage criteria. The Basement Design Engineer will review the contractor's proposals against the Basement Construction Plan when submitted.

I hereby certify that I have undertaken the review as outlined above



David Sivyer

For Elliott Wood Partnership