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## **REPORT ON THE STRUCTURAL CONDITION OF THAT PART OF THE BOUNDARY WALL TO THE GROUNDS OF LA SAINTE UNION SCHOOL, HIGHGATE ROAD, LONDON NW5 1RP FACING CROFTDOWN ROAD**

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### **1. Location**

The section of boundary wall in question is located at the south of the site of La Sainte Union School facing Croftdown Road, extending from the boundary with Croft Lodge up to the steel, double gates all as indicated in red on the attached site plan.

### **2. Construction**

The wall is built in solid brickwork 225mm thick with brick piers and to an average height of 1.8m all as indicated on the attached drawing 4470/11 and 12.

The wall was constructed originally approximately 150 years ago in stock brickwork with a brick-on-edge coping but it is evident that in more modern times, sections of the wall have been rebuilt using miss-matched, silicate bricks with further sections in, also miss-matched, second-hand stock bricks. The wall is approximately 40m long and ground levels are generally higher on the land of La Sainte Union School than the adjacent public pavement as indicated on the drawings.

A large Plane tree grows adjacent to the centre of the wall in the public pavement. There are no movement or expansion joints included within the construction of the wall.

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3. **Condition**

Visual inspection of the structure of the wall indicates that there are a number of vertical cracks extending from the damp-proof course level up to the top of the wall in five locations and that the wall leans outwards by approximately 25mm over its height and has evidently moved on the damp-proof course again by approximately 25mm.

4. **Discussion and Recommendation**

The subject wall is approximately 40m long without any provision for thermal movement and expansion within its length. In addition patch repairs have been undertaken to the brickwork using silicate bricks which are prone to thermal movement and the large tree growing at the centre of the site has been shown by trial hole excavation, to have roots which extend beneath the wall.

It is considered that the vertical cracking and general movement of the wall as indicated above is related to both thermal movement and the lack of any adequate means of coping with this and also the action of the roots of the adjacent tree. The brickwork is obviously sliding and moving on the damp-proof course which provides a natural slip plane and weakness within the wall structure.

Given the cracking and movement which is evident within the wall and its height, there must be concern that it will be susceptible to further movement and sliding on its damp-proof course when confronted with high winds and the further action of the adjacent tree. The safety of the wall cannot be guaranteed.

In view of the possible danger to the public associated with the brick wall, it is recommended that it should be demolished and rebuilt without a damp-proof course, with expansion joints incorporated in the construction to cope with thermal movement in the structure and also a reinforced concrete beam to bridge over the roots of the adjacent large tree in order to minimise the influence of the tree on the structure. All of these works are detailed in the attached Specification of Works and as shown on the drawing 4470/13 and 14.

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