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1-7 MILL LANE, LONDON NW6

PLANNING CONSENT APPLICATION

STRUCTURAL ENGINEERING ASPECTS

1. INTRODUCTION

This report has been prepared to present the structural information relating to the Planning Application by Smith Lance Larcade & Bechtol Architects Ltd for the construction of a new block of flats at the above site.

2. EXISTING BUILDINGS

A vacant three storey house is situated at the southern corner of the site. This building is suffering from subsidence and is to be demolished.

There is a history of other buildings having occupied the site all of which have been removed in the past.

3. RAILWAY CUTTING

The railway runs adjacent to the north-eastern boundary of the site and there is brick faced retaining wall along the boundary. The boundary wall retains a maximum height of earth of approximately 9.5 metres at the Mill Lane end. Further into the site the ground is sloped steeply down towards the wall. The railway appears to be an upward gradient as it travels the length of the site.

4. INVESTIGATIONS

4.1 A desk top environmental assessment of the site was carried out by URS Corporation Ltd in August 2007. This concluded that the potential significant soil and groundwater contamination from current and historical site activities was low.

4.2 A ground investigation has been carried out by Ground Engineering Ltd in April 2008 and their report is dated June 2008.

4.2.1 Ground Conditions

The ground investigation has shown a variable thickness of made ground ranging in depth generally between 0.3m and 2.2m with one reading of 3.2m (possibly 5.7m) in the borehole closest to the railway retaining wall. The made ground overlies the London Clay.

The depth of made ground in one borehole suggests that the railway retaining wall may have been, at least in part, constructed within an open excavation.

4.2.2 Ground Water

Trial holes were excavated by mechanical digger to depths of 2.2 to 3.8 metres. All remained dry throughout excavation and on completion.

Ground water seepage in the boreholes occurred through concretionary limestone encountered within the London Clay at depths in excess of 5.7 metres.

The ground water in the standpipe stood at a depth of approximately 4.25m when monitored four weeks after installation.

4.2.3 Ground Contamination

Elevated concentrations of contaminants were identified within the made ground; the risk to future site users was considered as medium in communal gardens or landscaped areas; the report recommends as a precautionary measure the introduction of 600mm of clean soil in these areas.

4.2.4 Gas Monitoring

The report states that the gas monitoring indicates that no precautionary measures are required to protect the development from soil gases.

5. PROPOSED STRUCTURE

- 5.1 A reinforced concrete frame is envisaged for robustness and in order to satisfy Disproportionate Collapse Regulations. A transition structure will be introduced at ground floor level in order to achieve the requisite layout of columns in the basement.
- 5.2 Piled foundations are to be used in order to transfer the loads into the London Clay at depth and to avoid surcharge on the railway boundary retaining wall.
- 5.3 The piled basement raft will be constructed on a compressible layer so as to avoid transfer of load into the ground and consequent surcharge of the railway wall.

6. ADJOINING PROPERTIES

- 6.1 The proposed basement is situated at a distance in excess of 20 metres from the houses in Fordwych Road to the south west of the site.

The proposed excavation for the basement is of the order of 4 metres in depth and would be contained within the London Clay and made ground overlying the London Clay. Since London Clay has a very low permeability and no ground water was observed in the top 5.7 metres of soil the construction of the proposed basement should have no impact on the ground water regime on the site.

The construction of the proposed basement in these ground conditions and given the distance involved would not have any significant effect on these buildings.

6.2 Railway Retaining Wall

The basement is to be situated at a distance of approximately 4.5 metres from the railway retaining wall. The earth pressure against the wall would be reduced by the removal of the soil against it down to the formation level of the new foundations.

Restrictions placed on the contractor would avoid additional surcharge on the wall from plant, equipment and materials.

G PELENTRIDES