Construction Sequence

and

Method Statement

for

Merton House

Merton Lane

London N6

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6th May 2013

Construction Sequence Method Statement

for

Merton House
Merton Lane
London
N6 6NA

for

Mr & Mrs Auterac
Merton House
Merton lane
London
N6 6NA

Job No 718

Rev	Date	Notes
-	06.05.13	Issued for Planning as part of BIA and Geotechnical Site investigation.

The proposed method statement and sequence of works presented below has been developed to ensure stability and maintain integrity of the existing building and adjacent structures during the construction of the proposed basement and extension to Merton House, and is to be read in conjunction with the Basement Impact Study, completed in July 2010, and Geotechnical Survey, completed in March 2013, by Geotechnical and Environmental Associates (GEA). These documents are included in this submission and are summarised below.

Site History

The earliest map studied, dated 1896, indicated the site to be occupied by a detached house, positioned in the centre of the existing rear garden.

The house was labelled as Highgate Lodge and an additional building, possibly another house, had been developed on the southern boundary of the site.

At some time between 1915 and 1935 Highgate Lodge was demolished, although the house in the south of the site remained, but by 1952 the site had been redeveloped with the existing house.

No landfills or potentially contaminative land uses have been identified in close vicinity to the site.

Ground Conditions

The geotechnical investigation by GEA in March 2013, has encountered a moderate and locally relatively significant thickness of made ground underlain by the Claygate Member of the London Clay Formation, which was proved to the maximum depth investigated.

The made ground extended to depths of between 0.70 m and 2.50 m and generally consisted of reworked Claygate Member comprising of brown mottled orange-brown and grey silty sandy clay with roots, gravel, occasional ash, brick and concrete fragments.

The underlying Claygate Member comprised an initial horizon of firm medium strength brown mottled orange-brown and grey silty sandy clay with occasional pockets of orange-brown silty fine sand and fine claystones and extended to depths of 5.70 m and 5.80 m.

The initial horizon was found to be underlain by stiff high strength grey silty slightly sandy clay with traces of selenite, which was proved to the maximum depth investigated of 15.00 m. Groundwater was encountered in the Claygate Member at depths of between 4.00 m and 6.20 m, with a deeper inflow encountered in Borehole No 1, at a depth of 8.30 m. Two monitoring visits carried out over a period of one month recorded groundwater at depths of between 3.33 m and 5.41 m.

Recommendations of the Geotechnical Engineers

Formation level for the new basement will be in the firm clay of the Claygate Member and significant groundwater inflows are not expected to be encountered. Therefore the use of a contiguous bored piled wall, combined with localised underpinning, is likely to be the most appropriate method for forming the basement retaining walls.

Spread foundations bearing within the firm clay below basement level may be designed to apply a net allowable bearing pressure of 100kN/m^2.

It is recommended that further analysis is carried out on the likely heave movements once the proposals have been finalised.

On the basis of the groundwater observations made to date, the setting of the site and the underlying geology, the proposed basement structure will not have an effect on the local hydrogeology, particularly as it is proposed to incorporate a drainage layer into the basement wall design.

Proposed Construction Sequence

1. Enabling Works and access for Construction

1.1. Provide tree protection to trees identified in the Abroculturalist's report.

1.2. Provide protection along boundary line and entrances to the property to ensure safe access to the site.

1.3. Provide protection to existing building, Merton House, and adjacent properties.

1.4. Demolish the existing garage and existing patio, to allow access for piling rig.

2. Piling

2.1. Install secant piling, as indicated on the plans, in accordance with the piling contractor's design, along the rear wall of the proposed play room/cinema room, shower, and gym, and, along the side of the proposed gym and garage adjacent to the boundary wall.

2.2. Cast capping beam to form lateral restraint to the top of the piles, with the top of the capping beam being below the proposed finishes/landscaping.

3. Underpinning and Additional Enabling Works

3.1. On completion of the piling remove the piling mat and commence the underpinning of the existing building and adjacent to the existing boundary wall.

3.2. Underpinning to be completed in lengths of no more than one metre, except at internal and external corners where the length of the underpinning is to be restricted to 500mm lengths, to reduce the unsupported lengths of brickwork in the corners.

3.3. The underpinning is to be designed as a retaining wall in accordance with the current codes of practice for reinforced concrete and retaining structures.

3.4. A drainage layer of 100mm no-fines concrete to be cast against the soil prior to the construction of the underpinning retaining walls.

3.5. Concrete for the underpinning to have a proprietary waterproof additive such as Everdue Caltite by Cementaid Limited or similar approved, in accordance with the manufacturer's specification, and reinforced in accordance with the minimum requirements of the waterproof additive manufacturer, with hydrophilic sealants along all construction joints.

3.6. The wall to the adjacent building and the side and rear of Merton House to be underpinned incrementally, with no two pins opposite being excavated immediately afterwards. The sequence of the underpinning to be submitted by the contractor and agreed with the Engineer and Party Wall Surveyor, in the case of the underpinning to the adjacent building, prior to the commencement of the underpinning.

3.7. As underpinning progresses the top of the underpinning, just below underside of ground floor slab level to be laterally propped against the capping beam to the piles.

3.8. On completion of the underpinning, including transition underpinning, and the installation of lateral restraint and waling beams excavate to approximately 300mm above raft slab level.

3.9. Install a second level of lateral restraint props and waling beams propping off the secant piles.

3.10. Excavate to formation level of the raft slab.

4. Raft Slab and retaining walls

4.1. Cast drainage mat consisting of a layer of no-fine concrete at formation level and against the face of the secant piling. This will allow natural flow of ground water across the site without impedance from the proposed basement.

4.2. Place blinding, damp proof membrane and reinforcement, and cast raft slab, with waterproof additive between secant piles and underpinning, allowing for local recesses in the lightwells adjacent to the gym and the play room/cinema room. Provide starter bars for lapping with retaining wall reinforcement.

4.3. Once raft slab has gained full design strength remove low level lateral restraint props and waling beams.

4.4. Cast perimeter retaining walls, with a proprietary waterproof additive such as Everdue Caltite by Cementaid Limited or similar approved, in accordance with the manufacturer's specification, to underside of upper level lateral restraint props and waling beams, with lap reinforcement to allow continuity in the reinforcement in the retaining walls.

4.5. The retaining walls are to be cast in accordance with the recommendations of the waterproofing additive manufacturer, with hydrophilic seals along all construction joints.

5. Retaining Walls and Ground Floor Slab

5.1. Lower lateral restraint propping and waling beams incrementally to top of cast retaining walls.

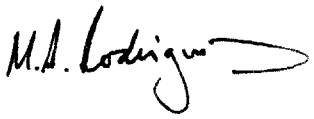
5.2. Erect formwork for remaining retaining walls and ground floor slab, place reinforcement and cast ground floor slab and top of retaining walls using a proprietary waterproof additive such as Everdue Caltite by Cementaid Limited or similar approved, in accordance with the manufacturer's specification.

5.3. Once concrete has gained full design strength strip formwork and lateral restraint propping and the waling beams, and re-prop the concrete slab for the duration of the construction.

6. Superstructure

6.1. Once ground floor slab has been re-propped commence construction of the superstructure.

6.2. Jack load into the transfer beams thereby releasing the loads from the blockwork underpinning.



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