#### TREE CONSTRAINTS PLAN

Arboricultural Impact Assessment Report: 140 Hamilton Terrace, London, NW8 9UX Prepared for: Mr & Mrs Jafarian, 140 Hamilton Terrace, London, NW8 9UX Prepared by: Adam Hollis of Landmark Trees, 2 Sheraton Street, London W1F 8BH



#### NOTE:

AV AV

Lovel = 110.05

Plane **B**2

Earves Lavel = 106.08

Eine Level = 106.14

6

Ridge Level = 111.35

This survey is of a preliminary nature. The trees were inspected from the ground only on the basis of the Visual Tree Assessment method. No samples were taken for analysis. No decay detection equipment was employed. The survey does not cover the arrangements that may be required in connection with the laying or removal of underground services.

Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.

Root Protection Areas (RPA) are derived from stem diameter measured at 1.5 m above adjacent ground level (taken on sloping ground on the upslope side of the tree base) or immediately above the root flare for multi-stemmed trees.

# Landmark Trees

2 Clifford Gardens, London, NW10 5JD Tel: 0800 055 6912 Mobile: 07812 989928 e-mail: info@landmarktrees.co.uk Web: www.landmarktrees.co.uk



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#### **APPENDIX 5**

#### ARBORICULTURAL IMPACT ASSESSMENT PLAN

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#### NOTE:

13 Plum

> Plane B2

5m 10m

GARD

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Branch spread in metres is taken at the four cardinal points to derive an accurate representation of the crown.



#### TREE PROTECTION PLAN

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IStructE Supreme Award for Structural Engineering Excellence 2007

### 3 Wadham Gardens London, NW3 3DN

### **Method Statement for Planning**

### Contents

1.0 Introduction

2.0 Proposed Structure

- 3.0 Temporary Works
- 4.0 Method Statement / Sequence of Works

5.0 Conclusion

6.0 Site Investigation

#### 826 / February 2010

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### **METHOD STATEMENT FOR PLANNING**

#### Job Number: 826

The following planning feasibility report has been prepared on behalf of our client Mr K. Black and based on the scheme proposals by SHH Architects and should not be used for any other purpose. The report should be read in conjunction with the Structural drawings 826/GA/001 & 826/SE/010-011, 826/ CS/ 030 and 826/SI/Plan

#### 1.0 Introduction;

The property was constructed between 1896 and 1911 and is situated within the Elsworthy Conservatory Area in the North London. The existing site is flat and the original building is situated in a large garden with a significant number of mature trees.

The exterior of the house appears to be largely unaltered apart from a utilitarian flat roofed extension to the northeast of the property and a glass lean to roof partly enclosing the boundary wall with No 9 Harley Road.

- 1.1 Existing Structure; The exiting property is a three storey substantial detached building consisting of a ground floor, first floor and second floor in the roof space. The building is a load-bearing masonry structure with suspended timber floors and for its period appears to be well constructed. The internal load-bearing walls appear to be studwork at second floor level and masonry at first and ground floor levels. The walls bear onto strip foundations founded approximately 0.8m below ground level. The roof structure is constructed of timber rafters supported on internal load-bearing stud walls.
- 1.2 Ground Conditions; The British Geological Survey maps indicate a good uniform layer of London Clay beneath the site. A brief Site Investigation was undertaken by The Graham High Group Limited in September 2006 and confirmed a firm brown clay to a minimum depth of 3.0m below ground level (refer to attached report). A detailed Site Investigation is proposed (see drawing 826/SI/Plan) to determine the local build up of strata over the clay, confirm boundary conditions and provide sufficient geotechnical data for the design of the proposed contiguous piled wall. A detailed assessment of both short and long term ground movement / heave is also to be undertaken as part of the investigation. The suitably qualified site investigation consultant will also comment on hydrological issues, however as the impermeable clay is just below ground level there is unlikely to be any groundwater flows to consider.
- **1.3 Existing Foundations;** From the previous investigations noted above the building is founded at 0.8 to 1.0m below existing ground levels on stepped brick and rubble concrete foundations. The foundation width at its base is approximately 900mm.

The building has suffered from subsidence in the past, the previous owner first noted movement in 2004, and the movement became significantly worse in 2006 when a formal insurance claim was lodged. The subsidence caused damage to both the elevations on Harley Road and Wadham Gardens and the internal walls to the hall area. The building was monitored over a 12 month period and the movement was stabilized by reduction measures to the surrounding trees. During our recent visual inspection of the property some minor movement appears to be ongoing.

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#### 2.0 Proposed Structural Works;

- 2.1 Works involve the demolition of the brick extension and glass lean to roof and construction of a new extension, basement structure under part of the existing building and part of the rear garden and minor modifications in line with architect's proposals. It is also proposed to completely underpin the remainder of the building outside the basement area, this will improve the integrity of the foundation, comply with modern standards and protect the existing structure from future subsidence.
- 2.2 Basement Structure; The main temporary works structure at basement level will be the contiguous bored pile wall. The wall will be constructed using a mini pile rig, the proposed piles being 300mm diameter contiguous flight auger piles, where the concrete is pumped through the auger to fill the bore as the auger is removed. This system of temporary works has been proposed to suit the site conditions the construction of the pile causing practically no ground movement and also as this is a residential area the piling is vibrationless and very low noise compared to other options. The basement structure is to be a reinforced concrete box, the external walls and internal columns and walls supporting the RC ground floor slab. The 350mm basement slab acts as a raft slab foundation bearing directly on to the London Clay. Beneath part of the proposed wine room a proprietary spiral stair wine cellar is proposed. The depth of the basement raft slab is below the zone of influence of the surrounding trees and it is assumed from previous experience that movement due to elastic heave will be small and insignificant, a detailed Site Investigation is yet to be undertaken and the geotechnical consultant will be asked to confirm this.
- 2.3 Water Resistance / Proofing; The concrete structure will be designed to BS8110 with full top and bottom reinforcement to all sections. The concrete in itself is not a watertight construction and the final waterproofing system is yet to be agreed with the architect.
- 2.4 Underpinning: The basement works involve construction of a mass concrete underpins to the existing external and internal load-bearing walls and reinforced concrete pins to internal wall (GL C), which acts as a retaining wall to the new basement structure. Underpinning is a traditional proven construction method and the works will be carefully sequenced and undertaken. The rear masonry wall is to be supported on temporary works piles and a steelwork needle frame during the basement construction, final support will be on the new reinforced concrete ground floor slab.
- 2.5 Retaining Walls; In the permanent condition the external retaining walls are designed as fixed top and bottom and therefore have full continuity reinforcement at both basement and ground floor slab level, with the slabs designed for the transferred moments. In the temporary condition the walls have been designed to cantilever, the temporary works must be retained in place until the walls have been cast to underside of whaling level and cured to achieve full design strength.
- **2.6 Ground Floor Slab;** The ground floor slab is generally a 250mm reinforced concrete flat slab construction, the slab beneath the garden area to the rear is 300mm. The slab steps down to the rear of the site, steps are either on wall lines or designed as downstand beams.

#### 3.0 Temporary Works;

- **3.1 Temporary Works;** The contractor is responsible for the design, erection and maintenance of all temporary works in accordance with all relevant British Standards. The contractor is to provide adequate temporary works and supervision to ensure that the stability of the existing structure, excavations and surrounding structures are maintained at all times.
- 3.2 Submissions; Outline construction sequence and temporary works assumed in the design are detailed on drawing number 826/CS/003, this information will be superseded by the contractor's proposals. The contractor will be required to submit full proposals, method statements and

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calculations to the engineer for approval prior to the start of any works on site.

The contractor will also be required to appoint a Temporary Works Co-ordinator for the duration of the contract in accordance with the specification.

3.4 Notes on Temporary Works; Lateral deflection of the piles adjacent to the adjoining property at number 9 Harley Road is to be kept to a minimum and in no case should be greater than 1% of the pile diameter. In these locations the temporary works will need be a propped design, a cantilevered solution will not be acceptable. The piling and associated temporary works are to be designed and detailed so that any potential movement to the adjoining structures is no worse than Category 1 as defined by Table 1 BRE Digest 251.

#### 4.0 Method statement / Sequence of Works;

This method statement is to be read in conjunction with drawings 826/GA/001 & 826/SE/010-011.

- **4.1** The rear/side one story extension is to be carefully demolished, with the existing brickwork stored for possible reuse.
- **4.2** The external and internal load-bearing walls are to be underpinned prior to basement works with mass concrete pins. The internal brick wall (grid line C) is to be underpinned with reinforced concrete pins taken down to the underside of the proposed new basement slab.
- **4.3** While underpinning works are progressing the temporary works at the rear for the new basement will be constructed using a mini pile rig. The rig will construct a contiguous piled wall to the perimeter of the basement installing 300mm diameter contiguous flight auger piles. The piles are designed as temporary works only and not used in permanent design of the basement structure.
- **4.4** When underpinning of the internal wall (GL C) is completed the front bay window spandrel is to be demolished to allow access for the demountable mini-rig to install internal temporary piles along the rear external wall (grid line D). When all temporary piles are completed, the temporary steel needle beams are to be installed to provide support for the existing internal and external brick walls.
- **4.5** Ground across the proposed basement area is to be carefully reduced approximately 1.5m below existing ground level and main temporary propping members (props and whaling) to the pile walls are to be installed. Piles to be designed as propped cantilevers to limit ground movement.
- **4.6** When all temporary works are in place, the ground is to be excavated to the formation level and the RC basement raft slab and RC retaining walls cast to underside of the temporary works whaling.
- **4.7** When the RC retaining walls have reached the design strength, temporary whaling and propping are to be removed. RC retaining walls and ground floor slab are to be constructed.
- **4.8** Temporarily propped existing brick walls are to be solidly bricked up / drypacked of the new RC slab, temporary needles removed and brickwork made good.
- **4.9** Internal temporary piles are to be broken down to underside of the basement slab and RC basement & ground slab made good.

#### 5.0 Conclusion;

As noted above a detailed feasibility assessment of the proposed scheme has been undertaken, which will be further supplement by investigations prior to a site start. We are satisfied that the proposed scheme is feasible and that if carried out as proposed will not affect the structural stability

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of 3 Wadham Gardens or any adjacent properties or structures.

#### 6.0 Site Investigation

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Site Investigation report undertaken by The Graham High Group Limited at September 2006.

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CONCRETE	400
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ROOTS: YES SOIL: ERM BROWN	
WATER: NO	-47
SAMPLES: 4 AND	
LOCATION: FRONT LEFT	CORNER
	Horizon House, 22024 Station Hill
	Southampton Road, Eastleigh Hampshire, SO50 9XB
	Tel: (02380) 622622 Fax: (02380) 622623
ILE NAME: Mrs M J Pinto ILE ADDRESS: 3 Wadham Gardens.	INSURER: Towry Law Insurance / Canopius BRANCH: Leeds
ondon, NW3 3DN	DEE DOOGOOD
ONTACT TELEPHONE: 0207 722 3214	KEF: 2005992.7
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#### OEDIEDAL NOTES

1. THIS DRIVING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALIST DRIVINGS

2. THIS DRAWING INDICATES OUTLINE SEQUENCE OF CONSTRUCTION AND TELEFORMAY WORKS ASSUMED IN THE DESIMIN THE CONTINUCTORS METHOD STATEMENT, TELEFORMAY WORKS DETAILS AND PROGRAMME WILL SUPERSED THS

WORKS DETAILS AND PROGRAMME WILL SUPPRISED THS WORMSTORE WILL BE TOTALLY RESPONSIBLE FOR ALL TEMPONIEY WORKS DESIGN AND SHALL SUBJET TO DEMORESE HORSING ROMMEND AND WEERS A METHOD STATEMENT A MINIMAN OF & WEERS PRICE TO A SITE STATE AND A FULL DESIGN AND DEVIALS A MINIMAN OF 4 WEERS FROM TO WORK IN ORDER TO AGREE FRML PARTY WILL DEDALS.

3. THE CONTRACTOR IS TO PROVIDE ADEQUATE TELEPORARY WORKS AND SUPERMISION TO ENGLINE THAT THE STUBLITY OF THE EDSTING STITUCTURE EXCANNION AND SUMPOUNDING BUILDINGS ARE IMMITTAINED AT ALL TIMES.

4. ALL ITEMS OF TEMPORARY WORKS AND SUMPOLADING STRUCTURES TO BE ADMITCRED IN A MANNER AND FREQUENCY COMMUNICATION WITH THE CONSTRUCTION ACTIVITY, ALSO SEE SPECIFICATION.

#### CONCRETE NOTES

1. **Independent Slag** — 330mm Theok RWT Slab Cast on Somm Concrete Blundwis. The concrete Blundwis to be cost minimum variate and the concrete the state of the beam of states at formation to level dry at all times.

#### PLINE NOTES

1. THE PILLING SHORIN ON THIS DIMUNIC FORM PART OF THE TEMPOINTY WORDS FOR THE SCHEME, NO ARE THE DETAILS ASSUMED IN THE DESIGN THE CONTRACTOR ON SUBMIT ALTERNATIVE PROPOSALS AND IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND PERFORMANCE OF ALL TEMPORARY WORDS.

2. ALL PILES ARE TO BE DESIGNED BY THE CONTRACTOR 2. ALL PLUS ANE TO BE DESIRED BY THE CONTINUETOR PALMA CONTINUETOR FOR THE MOST OVEROUS COMEMONION OF VERTICAL & LATERAL LOADS IMPOSED BY SITE CONDITIONS CONSTRUCTION SECLENCE AND AS INDICATED ON THE ORIMINES, IT HAS BEEN ASSINGE TWAT A CONTINUOUS FLIGHT AURENED SYSTEM WILL BE USED. SURCHARGE LOADS THE TRAC

3. THE PLE DESIGN SHOULD ALLOW FOR THE FOLLOWING POINTS REGNOING LEVELS:-- The levels of pling platform; wether a reduced or elevented level. Reduced dig levels prior to propping.

4. THE CONTINUCTOR IS TO PROMOE A METHOD STATEMENT FOR THE INSTALLATION OF PLES MINICH INCLUDES THE PROPOSED SEALINES OF CONSTRUCTION, PROPOSED PROBINAME AND MAMBER OF VISITS

5. THE CONTINUETOR MAY CHOOSE TO INSTALL AND PRELIMINARY TEST A PILE FOR USE IN HIS DESIGN IF A MORE ECONOMIC F.O.S CAN BE ACHEMED. THE PRELIMINARY TEST PILE SMOULD BE INSTALLED AT A LOCATION TO BE CRETE

6. SEE STRUCTURAL DESIGN STATEMENT FOR TEMPORARY WORKS NOTES. INCLUDING LIMITATIONS ON LATERAL MOVEMENT OF PILES.

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engineers
Hacking Rohingon Waters
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Project:
3 Wadham Gardens
London
Drawing title:
Proposed Section A-A
Date 09.02.10 Scale: 1:50 Drawn by: DB
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