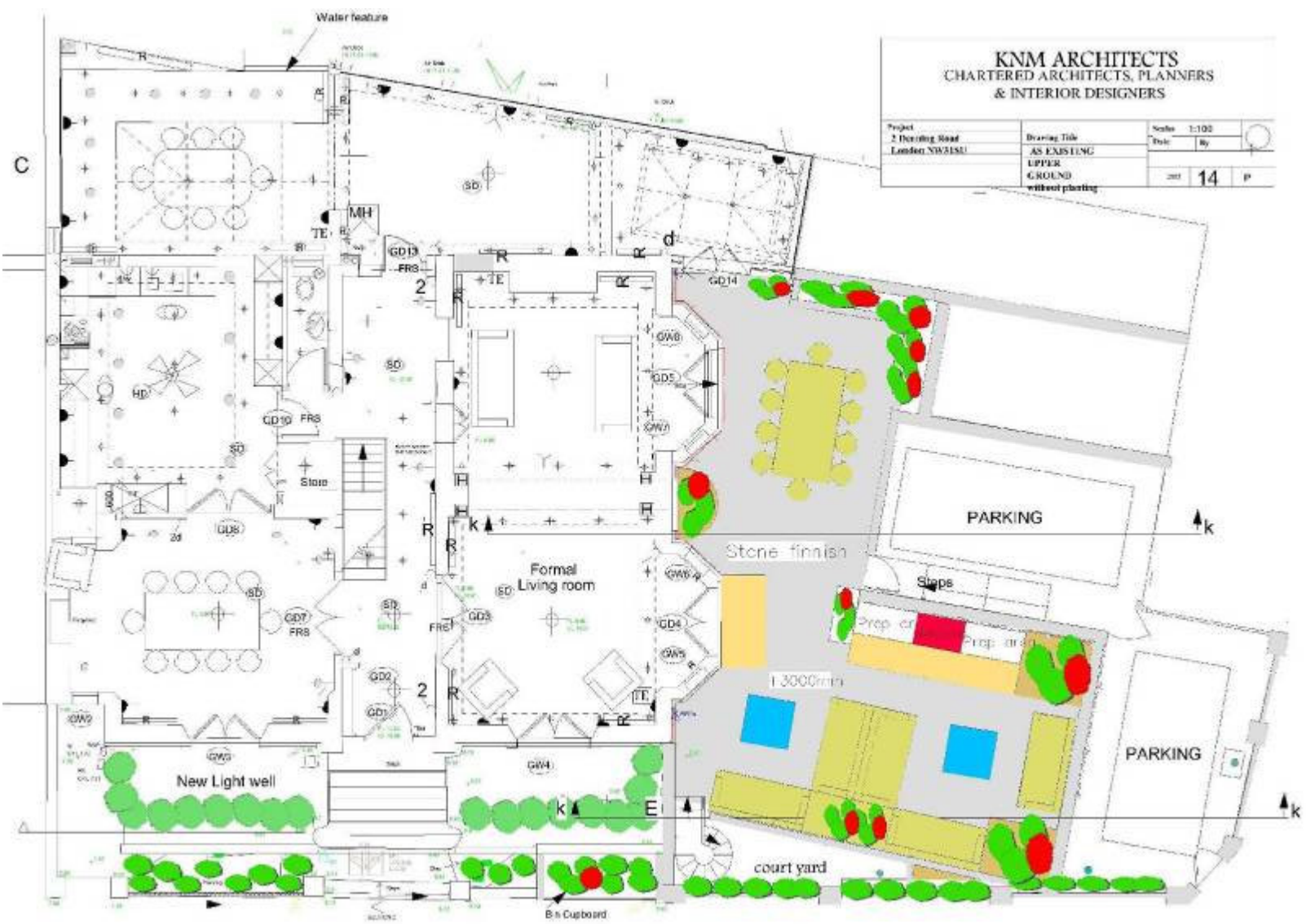


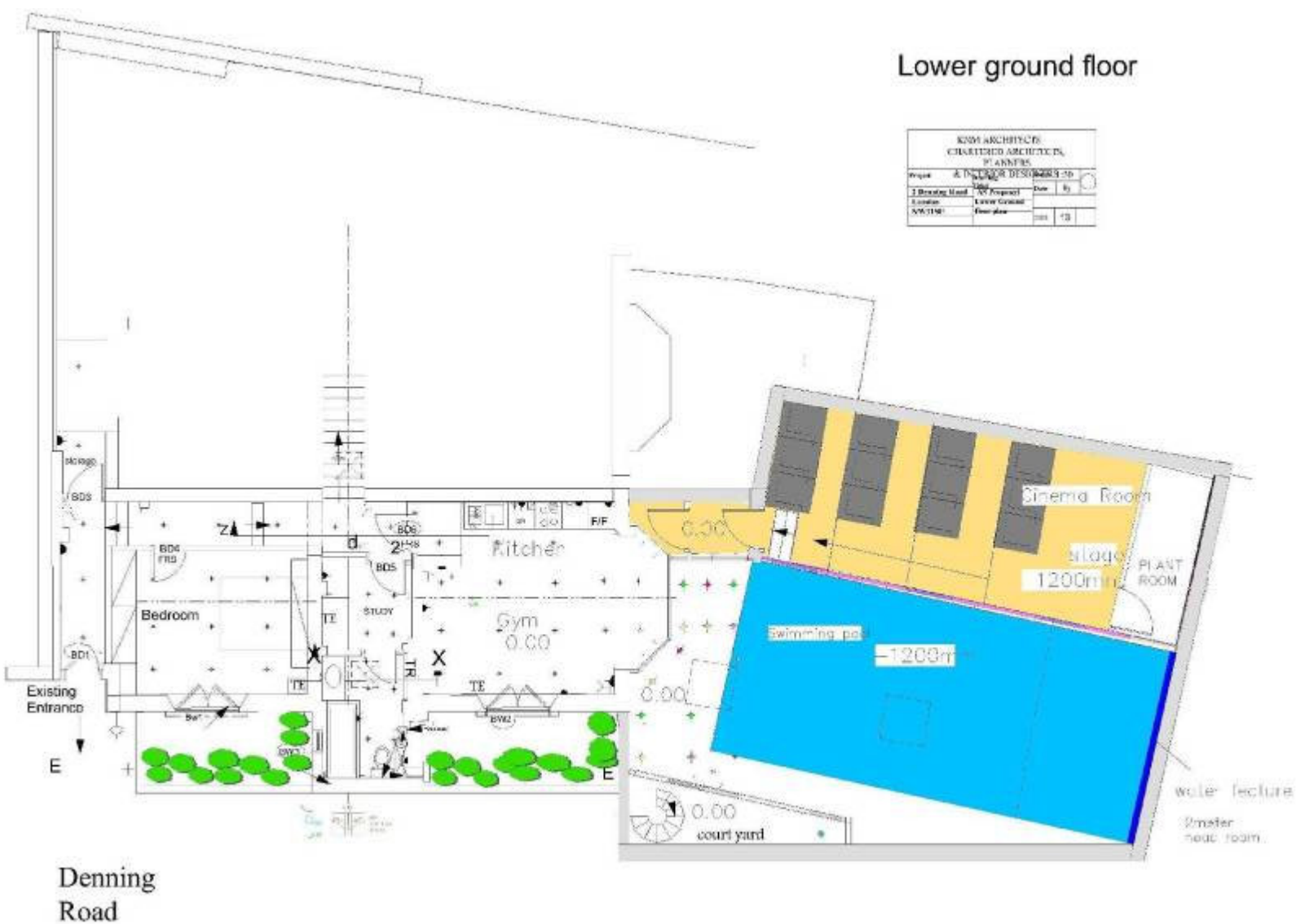
APPENDIX 1

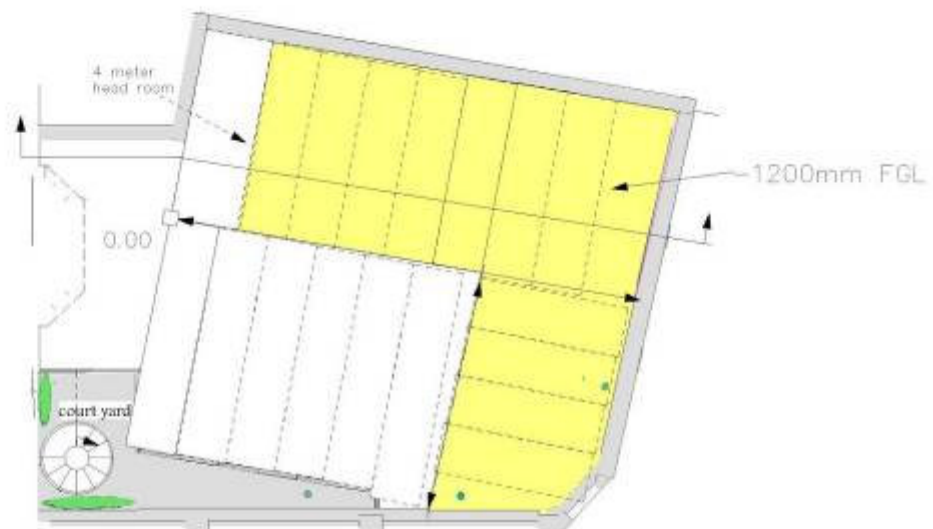
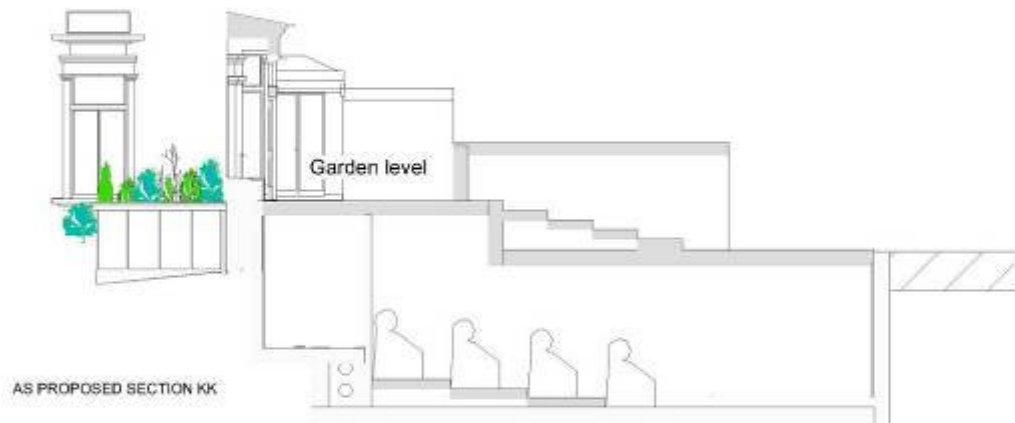
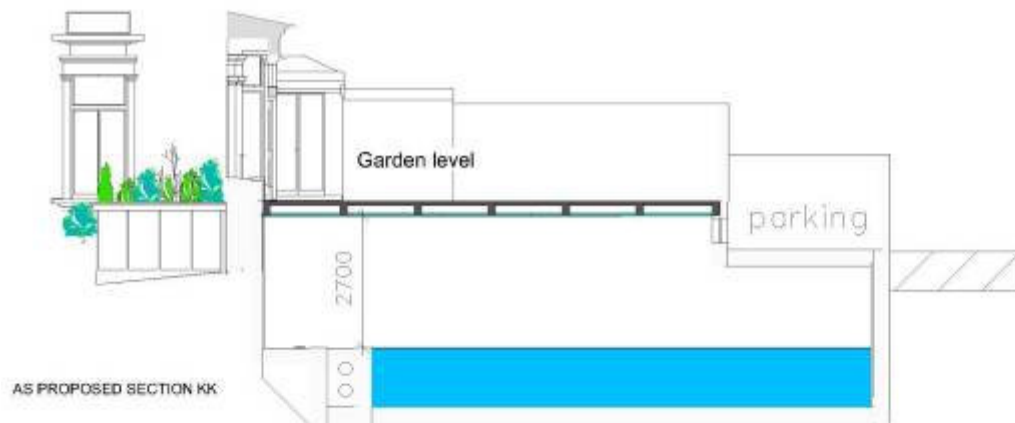
ARCHITECTS BASEMENT PLAN (REDUCED)



Lower ground floor

| K204 ARCHITECTS CHARITABLE ARCHITECTS, PLANNERS | | | |
|---|-------------------|---------------|------------------|
| Project | A1111111111111111 | Date | 11/11/11 |
| 1. Drawing No. | 1111111111111111 | 2. Project | 1111111111111111 |
| 3. Location | 1111111111111111 | 4. Level | 1111111111111111 |
| 5. Scale | 1111111111111111 | 6. Floor plan | 1111111111111111 |





APPENDIX 2

PHOTOGRAPHS



| | | | |
|---------------------|--|--------------|----------------|
| Photo No. | 1 | Date: | September 2009 |
| Description: | Street view of the property (garden entrance door) | | |



| | | | |
|---------------------|---------------------------------------|--------------|----------------|
| Photo No. | 2 | Date: | September 2009 |
| Description: | Street view of the main entrance door | | |



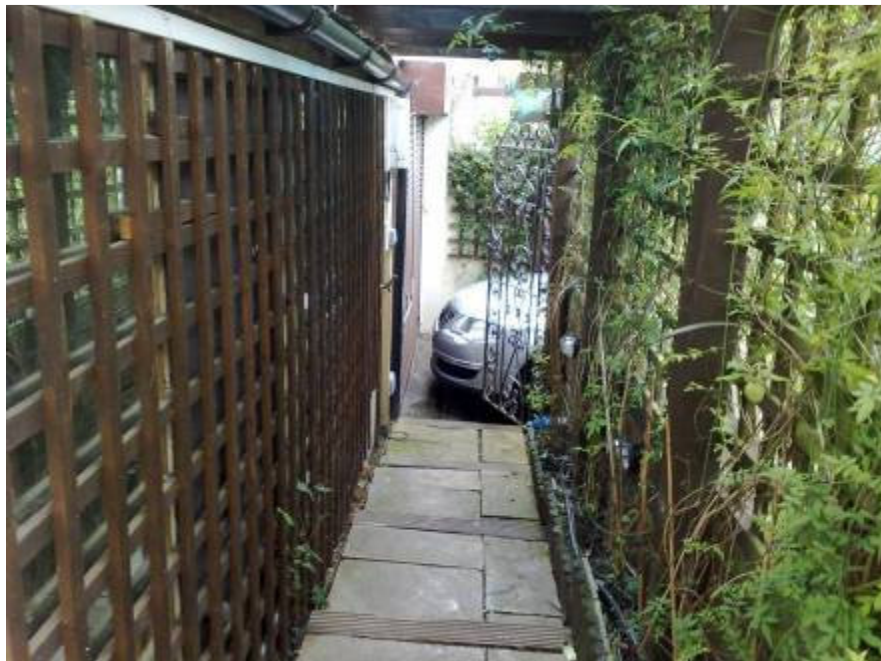
| | | | |
|---------------------|--|--------------|----------------|
| Photo No. | 3 | Date: | September 2009 |
| Description: | Street view of the property – Garages Facing Willoughby Road | | |



| | | | |
|---------------------|-------------------------|--------------|----------------|
| Photo No. | 4 | Date: | September 2009 |
| Description: | A view of the courtyard | | |



| | | | |
|---------------------|-------------------------|--------------|----------------|
| Photo No. | 5 | Date: | September 2009 |
| Description: | A view of the courtyard | | |



| | | | |
|---------------------|---|--------------|----------------|
| Photo No. | 6 | Date: | September 2009 |
| Description: | Access to the parking space from the garden | | |



| | | | |
|---------------------|---|--------------|----------------|
| Photo No. | 7 | Date: | September 2009 |
| Description: | Main entrance as seen from the raised courtyard | | |



| | | | |
|---------------------|---|--------------|----------------|
| Photo No. | 8 | Date: | September 2009 |
| Description: | Street (Derrinton Road) as seen from the raised courtyard | | |



| | | | |
|---------------------|--|--------------|----------------|
| Photo No. | 9 | Date: | September 2009 |
| Description: | Roof/Trellis over the fourth parking space | | |



| | | | |
|---------------------|--------------------|--------------|----------------|
| Photo No. | 10 | Date: | September 2009 |
| Description: | Existing Courtyard | | |

**Photo No.**

9

Date:

September 2009

Description:

Existing Raised Courtyard

**Photo No.**

10

Date:

September 2009

Description:

Existing Raised Courtyard



| | | | |
|---------------------|-----------------------------|--------------|----------------|
| Photo No. | 11 | Date: | September 2009 |
| Description: | Photograph of Elvaston Mews | | |



| | | | |
|---------------------|---|--------------|----------------|
| Photo No. | 12 | Date: | September 2009 |
| Description: | Photograph of the lightwell facing Denning Road | | |



| | | | |
|---------------------|--|--------------|----------------|
| Photo No. | 13 | Date: | September 2009 |
| Description: | Existing boundary wall facing Denning Road | | |



| | | | |
|---------------------|-------------------------------|--------------|----------------|
| Photo No. | 14 | Date: | September 2009 |
| Description: | Aerial photograph of the site | | |

APPENDIX 3

SITE INVESTIGATION AND UNDERPINNING DESIGN BY K F GEOTECHNICAL AND PRICE MYERS

| | |
|---|--|
| <div style="text-align: right;"> PRICE & MYERS 26 MAR 2004 JOB No. <u>13198</u> <u>P. Goe</u> <u>9</u> </div> | |
| REPORT ON GROUND INVESTIGATION AT 2 DENNING ROAD LONDON NW3 | |
| CLIENT: MR J KHAVARI – KNM ARCHITECTS | |
| | |
| DATE: 19 FEBRUARY 2004 | REF: G/020405/001 |
| | |
| K F GEOTECHNICAL CONSULTING GEOTECHNICAL ENGINEERS <hr/> W. J. C. WALLACE B.Eng (Hons.) | 85 Alexandra Road Farnborough Hants GU14 6BN Tel: Farnborough (01252) 518821 Fax: Farnborough (01252) 370394 Email: kfgroup@fbro.demon.co.uk Consultant G. L. Martin B.Sc., M.Sc., C.Eng., M.I.C.E. |
| | |

GROUND INVESTIGATION AT 2 DENNING ROAD, LONDON NW3

CONTENTS

| | | |
|-----------|---|-----------------|
| Section 1 | - | Introduction |
| Section 2 | - | The Site |
| Section 3 | - | Site Work |
| Section 4 | - | Laboratory Work |
| Section 5 | - | Discussion |

APPENDICES

Site Plan

Borehole Logs

Laboratory Test Results

GROUND INVESTIGATION AT 2 DENNING ROAD, LONDON NW3

1. INTRODUCTION

- 1.1 We were instructed by Joseph Khavari of KNM Architects via Price & Myers, Consulting Engineers, to carry out a ground investigation by means of hand excavated/augered trial pits and boreholes at 2 Denning Road, London NW3
- 1.2 An investigation had been carried out previously at the site in May/June 2001. The purpose of that investigation was to determine ground conditions and the form of existing foundations to assist in the design of underpinning to the rear of the existing property in conjunction with the building of an extension.
- 1.3 As advised in a letter from Price & Myers dated 29 January 2004, the scheme had been altered and that further information might be required. They also instructed us to prepare an interpretive report on the previous investigation as well as a discussion on our further investigations.
- 1.4 We carried out our further site work on 5 February 2004.

2. THE SITE

- 2.1 No. 2 Denning Road is a large semi-detached house and to the right of this is an area of 'L' shaped garden, together with a block of three garages towards the rear right corner. The garden lies slightly below ground floor level put above lower ground floor level and there are trees and other vegetation along the front and right boundaries of the garden. The remainder is laid mainly to lawn.
- 2.2 The Geological Survey Sheet for the area, Sheet No 256 (North London), indicates that the naturally occurring subsoil is London Clay overlain nearby by Claygate Beds.

GROUND INVESTIGATION AT 2 DENNING ROAD, LONDON NW3

3. SITE WORK

- 3.1 The layout of the site and the location of our two boreholes, boreholes A and B, and our trial pit, trial pit C, are indicated on our Location Plan G/020405/101. The boreholes and trial pits are logged on Sheets G/020405/A, B & C respectively.
- 3.2 Our borehole A was put down close to the previous trial pit/borehole 1 and revealed turf over fill material to 500mm over a firm brown sandy clay with occasional gravel, changing at 1.0m to a sandy clay which was proved to the base of the borehole at 3.0m. Live roots were encountered to a depth of 2.0m.
- 3.3 Borehole B was put down close to the earlier trial pit/borehole 2 and this revealed fill material to 330mm over a sandy clay to 800mm over a firm brown sandy clay becoming stiffer below 1.4m and this was proved to the base of the borehole at 3.0m.
- 3.4 Both the boreholes were dry and the sides were stable on completion. In-situ vane tests were carried out at regular depths and the results are indicated on the log. Disturbed samples were also taken at regular depths and these are also indicated on the logs.
- 3.5 Trial pit C was put down within the lower ground floor level against the left party wall and revealed a 400mm thick concrete strip footing supporting three courses of corbelled brickwork and founded at an overall depth of 700mm below ground level within a firm to stiff sandy clay. Water was flowing into this trial pit from a higher level and this prevented us from obtaining a sample.
- 3.6 Samples from the boreholes were bagged and labelled and sent to our laboratories for appropriate testing.

GROUND INVESTIGATION AT 2 DENNING ROAD, LONDON NW3

4. LABORATORY WORK

- 4.1 Moisture contents were determined on all samples with liquid and plastic limits being determined on the samples taken from 1.0m, 2.0m and 3.0m in each borehole. The clay at 1.0m in borehole A, and at 1.0m and 2.0m in borehole B is of intermediate plasticity and of medium shrink/swell potential. The samples at 2.0m and 3.0m in borehole A, and at 3.0m in borehole B, are all of high plasticity but still only of medium shrink/swell potential. The moisture contents are high relative to both the liquid limit and the plastic limit and there is no indication of any significant desiccation. Nor is there any sign that the clay, where the roots were found in the borehole, is significantly drier than in borehole B.
- 4.2 The results from the previous investigation are not significantly different from our own findings, although the clay appears to be slightly more plastic. At that time they did an assessment of unconfined compressive strength by penetrometer and produced a chart of these readings with an upper and lower bound envelope for equilibrium in London Clay. We are not particularly familiar with this relationship other than the fact that there is a correlation between shear strength and desiccation of clay. In-situ shear strengths are measured in boreholes by vane tests and are measuring the undisturbed clay. The penetrometer that we are familiar with tests a disturbed sample already removed from the ground and is also on a very small area. There nothing is from the laboratory soil testing that seems to be consistent with their high penetrometer readings and we therefore do not consider that this is an accurate indication of any desiccation.
- 4.3 The original investigation was carried out in 2001, which was not following a particularly dry period. Our investigation in February 2004 does follow an exceptionally dry summer of 2003. However, there is nothing from our investigation that indicates that the clay has dried out significantly due to that summer. It had, then it is fully recovered.

GROUND INVESTIGATION AT 2 DENNING ROAD, LONDON NW3

5. DISCUSSION

- 5.1 Our ground investigation revealed the anticipated geology, which is London Clay, although it does appear to be somewhat more sandy than undisturbed London Clay and we suspect that this is as a result of the nearby overlying Claygate Beds and Bagshot Beds. This sand content has had the effect of reducing the plasticity of the clay, which is only of medium shrink/swell potential.
- 5.2 We encountered roots in borehole A down to 2.0m but no roots in borehole B. Dewhurst Macfarlane and Partners prepared a section of the proposed underpinning taken to 3.0m. If this is to guard against the effects of any nearby vegetation then we feel that it is excessively deep. However, if it is in order to provide a basement then this would be the required depth. There is nothing from our investigation nor from the previous investigation which would indicate any need for the foundations to be deeper and in the absence of any significant desiccation to the clay, there is no need in our opinion for anti-heave precautions.
- 5.3 The only condition to this is that any trees on the site must not be allowed to get any bigger and preferably those nearest to the house and extension should be removed completely.
- 5.4 Our trial pit C encountered water. There is no water in our boreholes and it is likely therefore that the water in this trial pit is due to surface water run off possibly being trapped by the basement walls. Unless there is a leaking water main or drain, any water in the ground at this location should readily be removed by baling or short term pumping.
- 5.5 The sides of our borehole were stable and therefore there should be no difficulty with the excavation of foundation or drainage trenches, the sides of which should remain stable long enough to carry out construction work.
- 5.6 Bearing capacities in the ground are: at 1.0m – 200kN/m², and at 2.0m – 250kN/m².


W J C Wallace