TRAIN AND KEMP
ENGINEERING BUSINESS SOLUTIONS

STRUCTURAL STABILITY REPORT

FOR

40 FROGNAL LANE LONDON NW3

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Report Status:	Draft	Date of Issue:
	Name	Signature
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Approved	Terry Roberts	
Revisions		
	23 February 2011	

FOREWORD

1. This Report has been prepared by Train & Kemp with all reasonable skill, care and diligence within the terms of the contract with the Client, Mr A Matuzny

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3. The results and contents of this Report are based upon the available information obtained during the] investigation period. Although every reasonable effort has been made to obtain all relevant information and data and in their interpolation and integration, not all the condition of the structure and ground conditions may have been revealed.

4. This Report shall not be used for engineering or contractual purposes unless signed above by the author and the approver, and unless the report status is 'Final'.

5. It should be recognised that new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its publication

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1.0 BRIEF

1.1 Train and Kemp have been instructed to prepare a Structural Stability report for 40 Frognal Lane NW3. This is to support the planning application that has been submitted by TGN Architects Ltd for the new basement that is to be constructed with the rear garden of the property. The report has been requested by London Borough of Camden.

2.0 SCOPE OF WORKS

2.1 The report is to provide evidence that the structural stability of adjoining or adjacent buildings will not be put at risk with the construction of the basement. Comment is also to be made on the effects the new basement will have on any groundwater flows under and around the new basement.

3.0 BRIEF DESCRIPTION OF PROPERTIES

3.1 The main house at No 40 is a large 3 storey detached Victorian property traditionally constructed for the period. It has a lower ground floor which is approximately half a storey below the surrounding ground levels. The external walls are solid load-bearing masonry with suspended timber internal floors.

3.2 Frognal Lanes runs North East to South West and No 40 is on the South East side of the road.

3.3 The road slopes down from the North East to South West and also down to the south east. The gardens slope away from the road.

3.4 There are a number of large mature trees within the rear gardens that must be protected and retained during the basement works.

4.0 PROPOSED WORKS

4.1 The extent and depth of the new basement swimming pool and gym are shown on TGN Architects drawing 0802/P1. The new basement will be constructed within the garden of the property.

4.2 Train and Kemp drawings 10998/01 and 02 show the proposed construction of the basement and works required to the existing building. An outline scheme is also indicated showing the network of land drains to deal with any ground water that may be flowing across the site in the subsoil.

4.3 Access from No 40 will be via new internal stair from the lower ground floor.

4.4 The new basement construction will be located under the existing gardens and will not require any excavation works under the properties.

5.0 STRUCUTURAL METHOD STATEMENT

5.1 The new basement will be constructed a sufficient distance from neighbouring properties for the risk to their stability to be discounted.

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5.2 Before any excavation work are undertaken a contiguous piled wall will be constructed from existing ground level. The piled wall will be designed to act as a vertical cantilever and allow the soil to be excavated without any additional propping. The piles will be 450mm diameter and installed at 600mm centres.

5.3 Due to the size of the piling rig it is unlikely that any piles will be able to be installed closer than 900mm form the face of the existing houses.

5.4 Where the link are to be made between the new basement and existing house it will be necessary to carry out local underpinning to the walls and possibly some internal walls. The underpinning is to be carried out to prevent the existing foundations being undermined during the excavation of the basement.

5.5 The basement will be constructed using traditional reinforced concrete walls and slab. The basement slab will designed to act a raft foundation.

5.6 The basement walls will be designed to resist the lateral earth pressures and in accordance with the British Standards for basement, an assumed head of water up to 1m below ground level.

5.7 The house is relatively high level and the new basement will not be of such a depth that it will encounter the water table either during construction or when it is completed.

5.8 Although the basement walls will be designed to support the theoretical earth pressures, they will not be impervious and if water is present within the ground it will be possible for it to pass through the wall.

5.9 The habitable basement space will be protected from any ground water by an internal drained cavity. Any water will be collected in a lateral gully within the basement slab and then discharged into the surface water system.

6.0 GEOLOGY

6.1 The geological maps for the area have been studied and it the underlying sub soil is indentified as close to the boundary of the Claygate Beds and Bagshot Sands which comprise respectively of silt and fine grained sand and sand.

7.0 BOUNDARY WALLS

7.1 The new basement will be constructed close to the boundary walls of the neighbouring properties. The existing walls do not form part of any building and therefore it is anticipated that an agreement to take the walls down and rebuild will be made. This will eliminate the need for complex temporary works to support low level garden walls.

8.0 HYDROLOGY

8.1 The new basement is shallow in depth and due to the position of the house on the Frognal Lane slope the natural water table will be at some depth below the basement. This will be confirmed with bore holes before the basement is constructed.

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8.2 The 'hit and miss' contiguous piled wall will terminate at least 4 to 5m below the basement excavation. The gaps between the piles will be approximately 150mm and will allow any water peculating through the sub soil to be uninterrupted.

8.3 The new basement will be relatively impervious. However any ground water caught behind the basement walls to the high side will be channelled into land drains and disbursed evenly into the ground around the basement. The presence of the basement will not significantly affect the flow of any ground water across the site. See drawing 10998/01

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9.0 NEIGBOURING PROPERTIES

9.1 Neighbouring properties are a sufficient distance from the proposed basement and they will therefore not be at any risk due the excavation works.

9.2 Any ground water currently flowing across the site will be disbursed into the subsoil around the basement using a network of land drain and will to be diverting any water flows to neighbouring properties.

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10.0 SUMMARY

10.1 The design and construction of the basement to No 40 Frognal Lane will not compromise the structural stability of any neighbouring properties. Local underpinning of No 40 may have to be carried out if, as expected, the foundations are at a higher level than the new basement.

10.2 The water table is at depth and will not be compromised by the new basement. Any ground water flowing across the site will be disbursed around the basement using land drains.

10.3 The construction of the proposed basement will not therefore have a detrimental impact on No 40 or the neighbouring properties.

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11.0 Appendix

Drawing Numbers

10998/01 – Basement Plan to Proposed Swimming Pool & Gym
10998/02 – Sections & Details – Sht 1 of 2
10998/03 – Sections & Details – Sht 2 of 2

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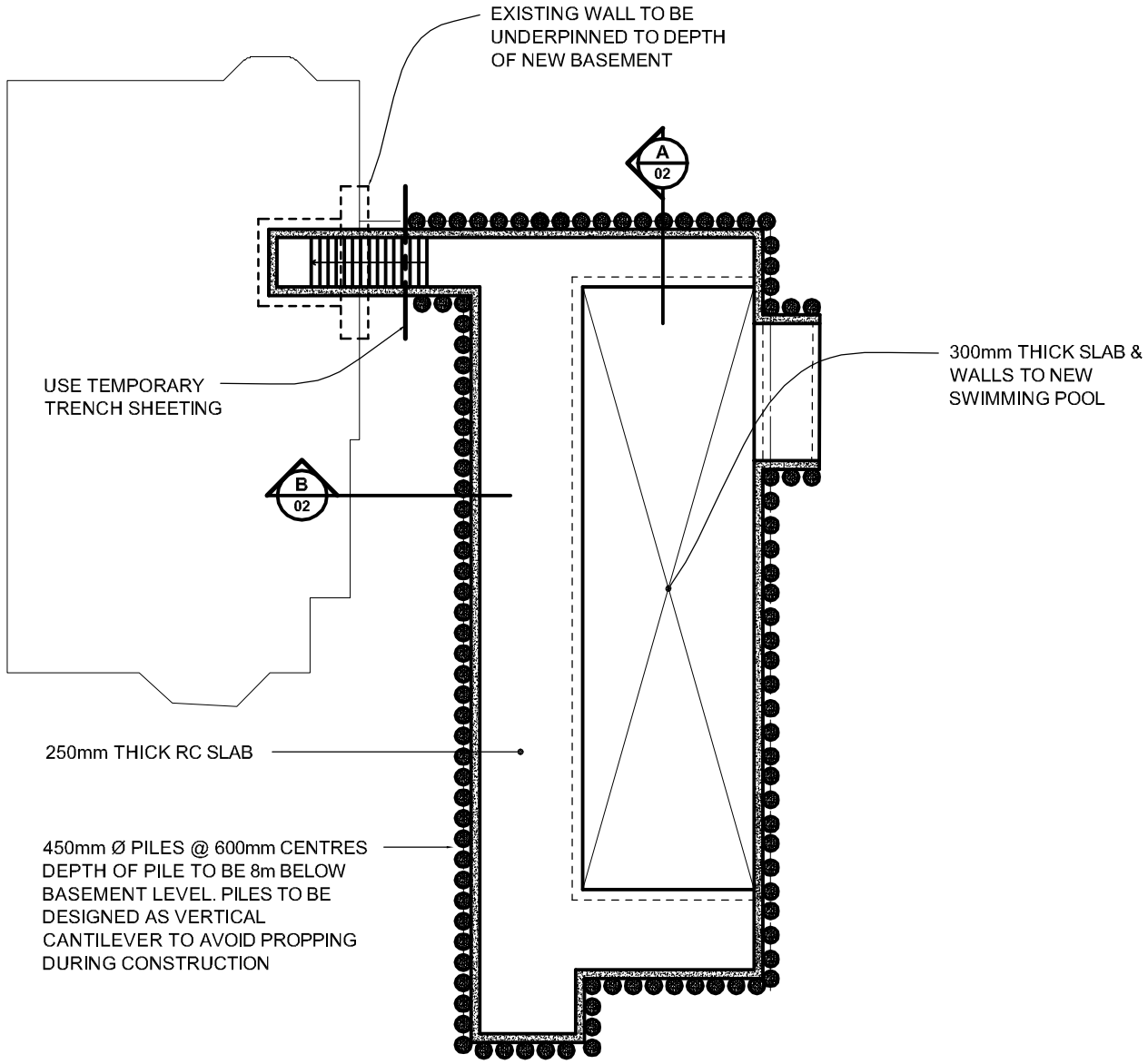

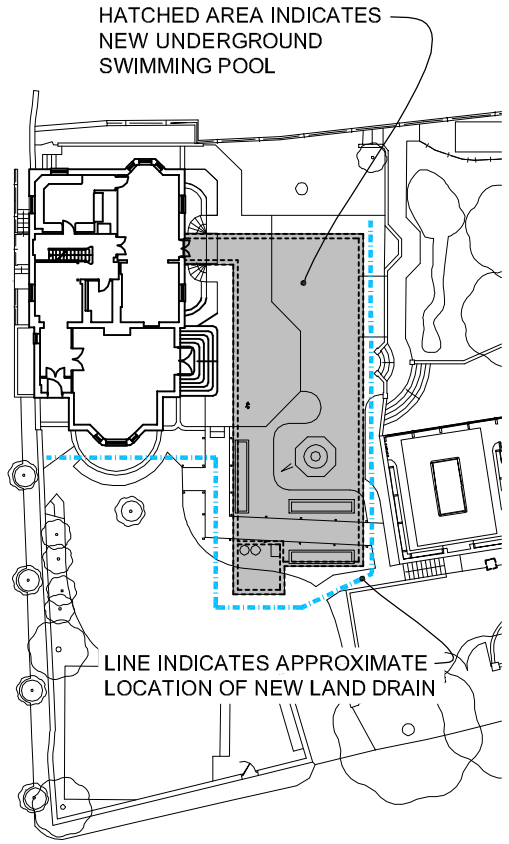

SITE PLAN
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Rev.	Description	By	Chkd.	Date

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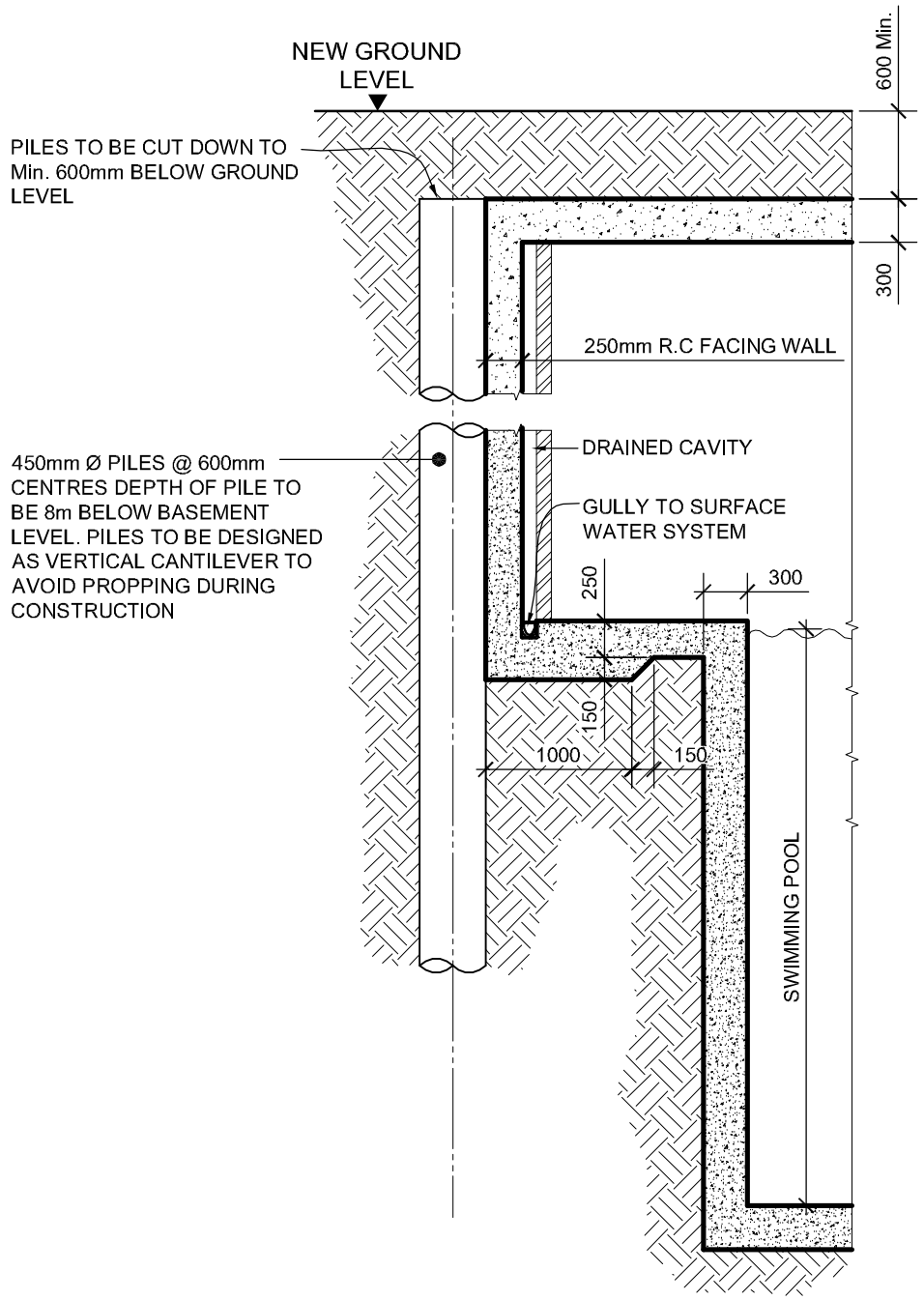
Client: Mr. A. Matuzny

Project: 38-40 Frognal Lane, London, NW3

Title: BASEMENT PLAN TO PROPOSED SWIMMING POOL & GYM

Drawing Status: PRELIMINARY

Date:	Feb' 11	Drawing No.	Rev.
Scale:	1:200/500	10998/01	P1
Drawn:	NPM		
Chkd:	MS		



SECTION A-A
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Client: Mr. A. Matuzny

Project: 38-40 Frognal Lane, London, NW3

Title: SECTIONS & DETAILS
SHT 1 of 2

Drawing Status: PRELIMINARY

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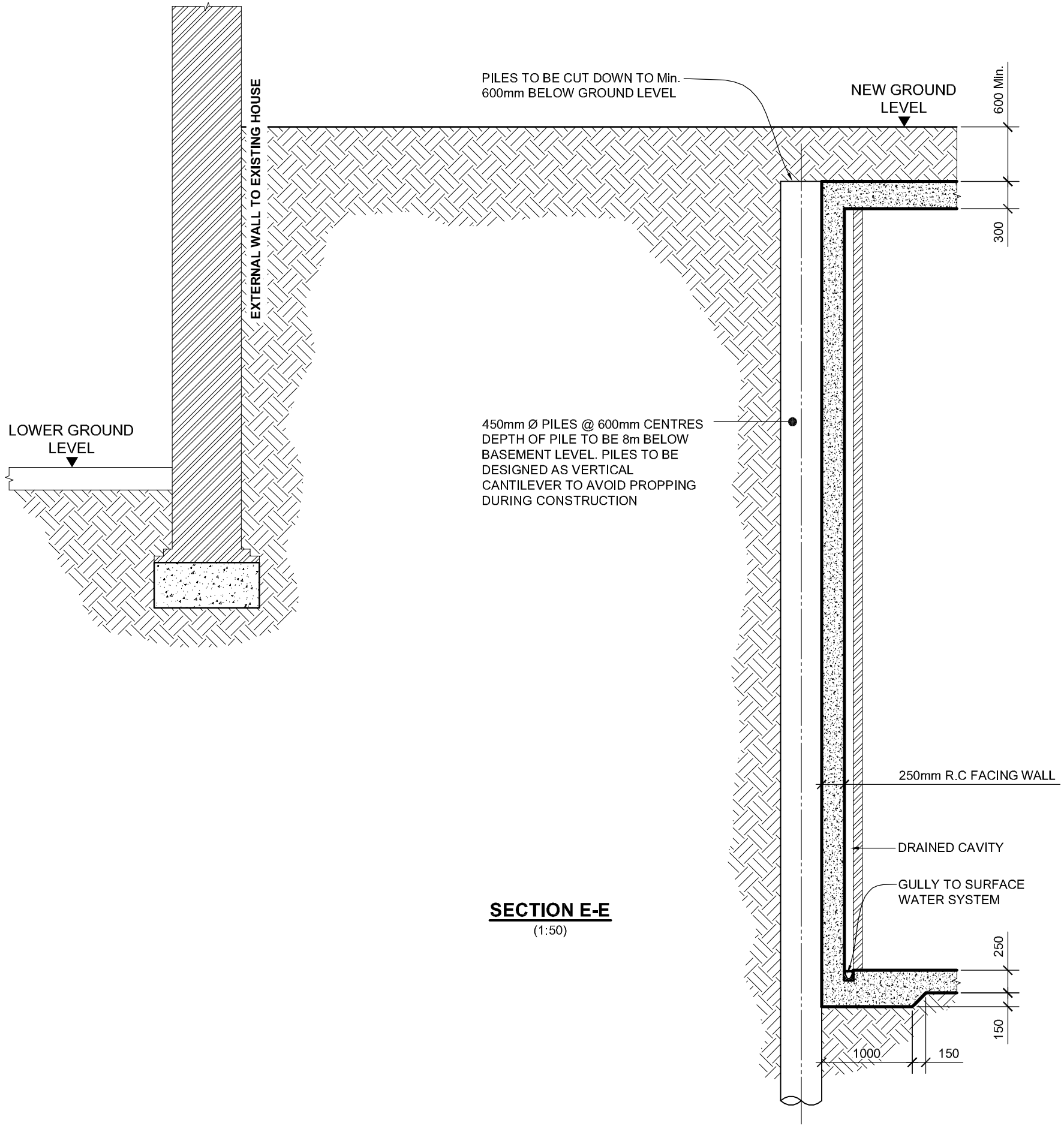
Chkd:	MS		



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Client: Mr. A. Matuzny

Project: 38-40 Frognal Lane, London, NW3

Title: SECTIONS & DETAILS
SHT 2 of 2

Drawing Status: PRELIMINARY

Date:	Feb' 11	Drawing No.	Rev.
Scale:	1:50	10998/03	P1
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Chkd:	MS		