6a North End
North End
London, NW3 7HL

Basement Engineering Method Statement

Construction Method Statement

Document details:

Project number:	2173
Issue date:	19th December 2013
Written by:	Dan Vickerstaff
Reviewed by:	Richard Horwitz – RH Horwitz Associates
Revisions:	

Contents:

Appendices:

1.00 Introduction

1.01 This Method Statement has been prepared for Mr & Mrs B Calcraft in connection with the construction of a proposed Basement at 6a North End, London NW3 7HL.

1.02 This Method Statement is based upon drawings submitted for Planning approval to The London Borough of Camden (LBC) Council produced by Cranbrook Basements for the Client, references:

2173/100/101/102/103 and 2173/200/201/202/251/252.

1.03 A copy of the Structural Engineering Design philosophy is attached to this report.

2.00 Project Overview

2.01 The subject Property is located within a quiet London street with access for vehicular traffic.

2.02 Parking bay restrictions exist outside the property by way of designated parking bays, accessible by 'Permit Badge' holders only. An appropriate application for Suspension will be made to LBC Council.

2.03 The Property has been constructed with Ground and First levels. External wall construction is assumed to brick with decorated render finish with tiled pitched roof construction over.

2.04 An application will be required to LBC Council for Storage of materials and appropriate Enclosure Licenses to execute the works.

2.05 Party Wall Notice's will be served upon relevant parties.

2.06 There are no obvious structural defects visible upon initial inspection. The Property is in a good general condition as would be expected given its age and construction.

3.00 Site Investigation

3.01 A detailed site specific soil investigation has been carried out be Chelmer Site Investigations.

3.02 from 0.3m – 0.9m made ground was found, including mid brown very sandy clay with brick fragments.

3.03 From 0.9m – 3.2m stiff brown veined silty clay with partings of orange and brown silt and sands were found.

3.04 From 3.2m – 3.8m as above with fine crystals.

3.05 From 3.8m – 4.7m stiff dense silty fine sand was found.

3.06 Hole was damp on completion, therefore a potential dewatering technique maybe required – Detailed in section 7.0.

3.07 For full details of report refer to report within appendix.

4.00 Site Preparation & Enabling Works

4.01 The property is to be occupied during the construction period. Applications will be made to LBC Council for permission to site a builders hoarding to the front of the property.

4.02 The hoarding is to have an overall height of 2.4m and to be painted white.

4.03 Electrically operated lights are to be fitted to the perimeter of the hoarding together with chevron highway reflectors so that it is clearly visible during the hours of darkness.

4.04 A metal skip container is to be located within the hoarding structure for temporary storage of waste material pending its removal and clearance from site. 80% of waste material removed from site is to be recycled, with the remaining 20% being disposed of via landfill.

4.05 Temporary water supply and electrical services are to be provided to the hoarding zone and will be retained in a safe condition for the duration of the contract period.

4.06 Form temporary access via front garden for the location of electrical conveyor system.

4.07 Install electrically operated 450mm wide conveyor belt to provide mechanised removal of spoil from proposed basement zone. Initially the conveyor is to be located at floor level and inclined not exceeding 40° to the appropriate discharge height located directly over a metal waste container / skip.

4.08 Provide proprietary 110 volt power supplier complete with associated cut out fuse and the like to the conveyor belt.

4.09 Provide flexible dust sheet protection to the discharge point on the proposed conveyor.

4.10 As the work extends to the deeper sections of the basement provide elongated conveyor sections suitably restrained to provide mechanised spoil removal from the deepening excavation.

5.00 Demolition and Strip Out

5.01 Provide twin layer dust resistant screening at first floor level to reduce the impact of site works on the unaffected areas of the first floor.

5.02 Isolate existing gas, electrical and water mains which may be running through ground floor structure.

6.00 Underpinning

6.01 Excavate for underpin bases. Individual bases are not to exceed 1.2m in width and no two adjacent sections are to be excavated simultaneously. Excavation sequence to pin's = 1,4,2,5,3.

6.02 At the prescribed level form the toe section to the proposed underpin installing fabric and general reinforcement as specified on Structural Engineers details. Minimum concrete cover to reinforcement to be 50mm.

6.03 To the exposed face of the excavation provide temporary propping which is to be propped back directly to the face of the retained unexcavated central soil mound.

6.04 In circumstances where the excavated face of the vertical pin section is deemed unstable provide temporary propping back to central soil mound.

6.05 Commence dry packing to top of vertical pin sections a minimum of 48 hours after concreting. Dry packing shall not exceed 75mm thick and shall only be placed after the underside of the existing foundation has been cleaned and regularised.

6.06 The central spoil mound is to be retained during excavation to provide suitable resistance against lateral movement in underpin wall sections.

6.07 Following completion of all underpin bays excavate remainder of central soil mound whilst introducing temporary lateral propping to concrete wall sections.

a) underpin bases and vertical sections are to be connected via steel reinforcement starter bars which are to be chemically anchored using proprietary fixing resin to the adjacent concrete underpin at 300mm centres.

6.08 Lay fabric mesh reinforcement to form basement slab all strictly in accordance with Engineers Designs with a minimum of 50mm concrete cover to steel work. Pour concrete slab forming basement concrete floor.

6.09 Introduce structural steel framework at ground floor level complete with column sections located over thickened slab areas.

7.00 Dewatering / Hydrology

7.01 Cranbrook Basements has commissioned a separate Hydrogeological Review. The report dated January 2012, and prepared by Card Geotechnics (CGL) is included in the Planning Application documents.

7.02 The above report states that while the construction of the proposed basement at 6a North End is likely to be within the Bagshot formation, no ancient rivers seem to be present directly under the area of the site. Additionally, spring lines that surround the site are at a distance greater than 100 meters.

7.03 In the event that ground water is encountered during the course of excavation a localised excavated sump of size 1m x 1m x 1m is to be formed at a level lower than the progressive base of excavation being carried out.

7.04 A timber perforated plywood shell is to be constructed to support the perimeter of the temporary working sump and placed within the excavated zone.

7.05 Any ground water which is present will naturally pull within the sump area and at this point a 50mm diameter semi trash water pump unit is to be introduced with a 50mm diameter discharge hose.

7.06 Once located adjacent to the excavation level sump the solids pump hose is to be routed to the nearest adjacent manhole for discharge.

8.00 Below Ground Drainage

8.01 The basic waterproofing strategy is informed by the existing building and ground conditions. As previously noted ground water is not likely to be encountered within the basement construction zone. It is proposed that the concrete retaining walls and new floor slab will act as the primary barrier to possible water ingress. An internal drained cavity system will be installed to form a watertight enclosure.

8.02 The cavity drain system will include a cavity drain sump to collect any water which will then be pumped to the main private drainage system.

8.03 Record drawings indicate that existing foul and surface water sewers lie in North End. A survey of the existing drainage system on site will be carried out to assess its existing condition and the connection point to the public sewer. The connection to the public sewer will be retained and reused where possible.

8.04 As the basement is being constructed beneath the building, the existing drainage will potentially have to be repositioned as part of the works. The proposed basement level is likely to be lower than the level of the existing public sewer connection as such the foul effluent generated at basement level will require to be pumped to the main private drainage system. This will prevent any flooding from public sewers in case of backup.

8.05 The proposed Lightwells will be equipped with gullies for the rainwater drainage. If possible they will drain by gravity to the main private system with the protection of non-return valves; otherwise the water run-off will be pumped.

8.06 The proposed Basement scheme will not increase existing surface water areas on the site.

8.07 Product literature for Delta MS 500 and Delta PT waterproofing solutions and Delta pumps is appended to this Method Statement.

9.00 Construction Traffic Management Plan

9.01 All vehicles (demolition/excavation and construction vehicles) can approach the site in a south east direction along North End Way. Vehicles will then turn left into North End. As North End and the surrounding roads are no through roads, it will be necessary for vehicles to perform a 3-point turn in order to exit North End and re-join North End Way. This Manouveur will be carried out at the junction with North End Avenue and Wildwood Terrace.

9.02 The proposed working hours within which vehicles will arrive and depart are 10.00 a.m. – 4.00 p.m. Monday to Friday and 8.00 a.m. – 1.00 p.m. on Saturday's.

9.03 2no vehicle types are to be used during the proposed construction work – skip lorry (2600 wide x 7800 Length approx) and 3 ton tipper (Ford -1974 wide x 5200 Length approx). We anticipate an average of 3 deliveries per day/15 per week throughout the construction period.

9.04 The vehicle sizes proposed for the execution of the project have been selected to ensure safe navigation within the specified road network. The subject property is serviced by Local Authority waste and refuse collections whose vehicles are able to access the property without difficulty.

9.05 There are no other works required to facilitate the construction.

9.06 There is no contractors parking available at the site and public transport will be used for movement of staff to and from the property.

9.07 Unloading of vehicles will take place adjacent the hoarding enclosure which is situated within the boundary of the property. Similar comments will apply to delivery of any hired plant etc.

9.08 There is no proposal for any overhanging of the Public Highway either by scaffolding, crane or other construction related process.

9.09 A hoarding enclosure is to be constructed within the site boundary and will facilitate the requirement for materials and plant storage. A further hoarding enclosure located on North End is to be provided in order to house a metal skip – an application for parking suspension to LBC relating to which forms part of this submission.

9.10 All deliveries via vehicle to the site will be subject to the requirements of the Road Traffic Act and will provide due care and attention to the Health and Safety of members of the public.

9.11 A qualified banksman will be on site for the duration of the project and will manage any vehicle delivery related issues in so far as they might impact upon vehicular traffic or members of the public on foot. This would include manoeuvring to and from the subject property.

9.12 It is anticipated that an average of 2 deliveries per day to site will be required and, as such, there is no measurable impact upon the volume of traffic moving within the Hampstead area.

9.13 Measures will be taken to reduce the number of vehicle movements to site using recycling of existing material wherever possible and hydraulic compaction of bulky waste materials which may arise.

9.14 It is not anticipated that any significant amount of debris or dust will arise from the works which might spread upon the Public Highway notwithstanding this it will be the responsibility of the Project Manager to ensure that the highway is swept on a daily basis and that the wheels of all vehicles are checked and cleaned prior to departing the subject property.

9.15 The excavation of the proposed basement and the removal of excavated material is a relatively clean process and it is not anticipated that this will give rise to any debris collecting in any public area.

9.16 This is a modest construction project which has no measurable impact upon local businesses or any other associations, tenants or residents other than those who immediately occupy the site.

9.17 The occupiers of 4, 6a, 8 and 10 North End who are immediately adjacent to the site have been sent copies of this document with a request for a response. At the time of publication, no response to the contents of this document have been received. The CTMP will be flexible to address any comments that arise.

9.18 The construction proposed will not give rise to any measurable impact upon adjoining owners, resident or business operators other than the movement of an average of 2 vehicles per day and, in these circumstances, it is not proposed to establish a Construction Working Group.

9.19 The Project Manager will be appointed as Community Liaison for the Client as so far as any construction related issues might arise.

9.20 The Project Manager's name, address, e-mail and mobile telephone contact details will be printed and clearly displayed at the boundary of the property in line with the Considerate Contractor's Scheme recommendations – alternatively please contact Cranbrook Basements on 0208 551 5555.

9.21 The contractor will be a member of the Considerate Contractor's Scheme and will follow the general guidance set out within the Code of Conduct for that organisation.

9.22 The contractor will be required to follow the guidance set out in the document published by Camden Council entitled "Guide for Contractors Working in Camden" sometimes referred to as "Camden's Considerate Contractors Manual).

9.23 In view of the extremely limited nature of works on site, and an average of 2 vehicle movements per day, it is not anticipated that this construction project will add in any measurable way to the cumulative effects of local construction. There are no major construction projects within 500m of the subject property.

9.24 There is no other relevant information in connection with traffic and transport which might apply to this project.

9.25 The agreed contents of this Construction Management Plan must be complied with unless otherwise agreed with the Council. The Project Manager shall

work with the Council to review this Construction Management Plan if problems arise in relation to the construction of the development. Any future revised plan must be approved by the Council and complied with thereafter.

10.00 Conclusion

10.01 The proposed works will involve the construction of a new Basement over the full footprint of the existing dwelling and will be constructed with reinforced concrete underpinning

10.02 Given the depths to which this basement is being constructed it is essential that intermediate lateral propping is maintained until such time as the basement floor slab is constructed to ensure that movement in the underpinned sections does not occur.

10.03 The proposed works, if executed correctly and in accordance with the appointed Engineer's calculations, details and procedures will pose no significant threat to the structural stability of adjoining properties.

10.04 The proposed drainage scheme for the new basement includes a foul pumping chamber and a cavity drain sump. The proposals are relatively straightforward and have been successfully completed on a number of similar projects in London.

10.05 The impact of the new basement construction on the existing groundwater regime has been assessed. In this particular instance there is unlikely to be any noticeable effects on the hydrogeological environment in the area

10.06 The excavation of Basements below existing buildings is specialist work. RH Horwitz Associates Structural Engineer's have been appointed to prepare detailed designs and calculations, and will be consulted throughout the works in order to confirm compliance with their design is being adhered too.

Typical Elevation
(indicating hoarding)

No.	Date	Amendment	Initials

Client : Mrs P Lent

Project : Hogarth House
North End
London
NW3 7HL

Drawing : Hoarding Elevation - Typical

Scale : 1:50 @ A3

Date : 14 Jun 12

Status : PRELIMINARY

Rev : -

Dwg No : 2102-TD 03

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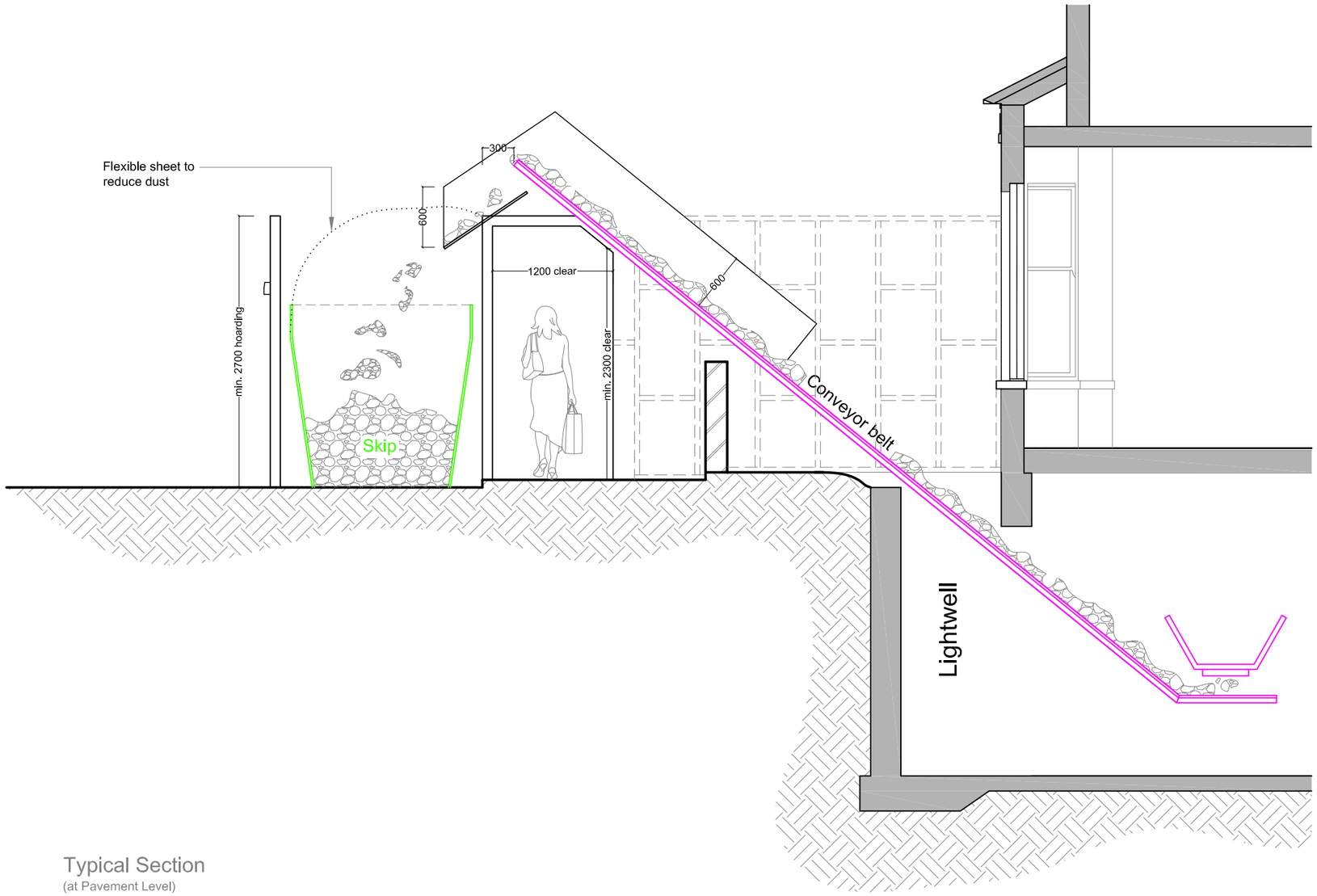

Typical Section
(at Pavement Level)

No.	Date	Amendment	Initials

Client :	Mrs P Lent
Project :	Hogarth House North End London NW3 7HL
Drawing :	Conveyor Hoarding - Section Through Front Lightwell - Typical
Scale : 1:50 @ A3	Status : PRELIMINARY — Rev : -
Date : 14 Jun 12	Dwg No : 2102-TD 02

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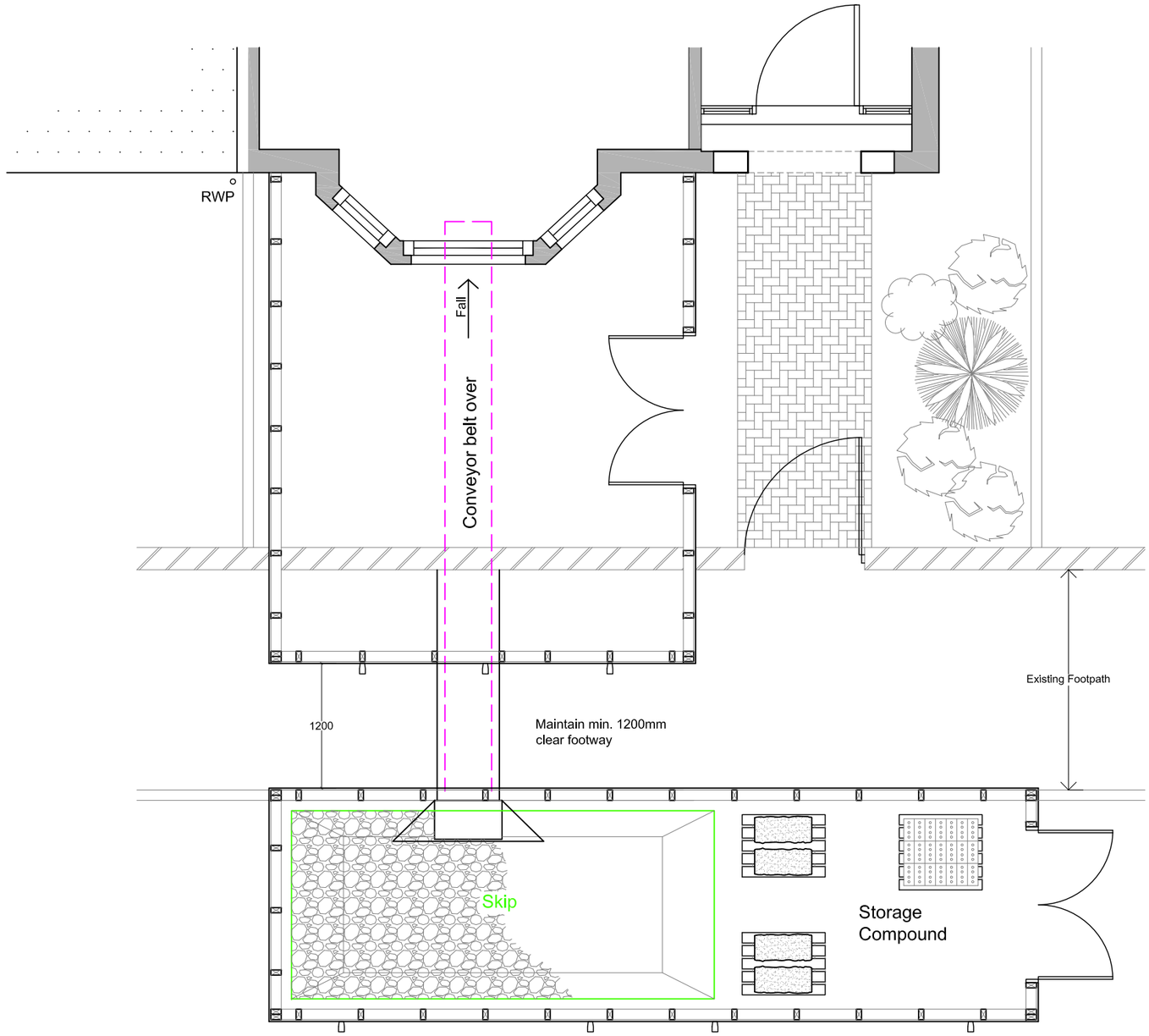

Typical Plan
(at Pavement Level)

No.	Date	Amendment	Initials

Client :	Typical		
Project :	Typical Detail -		
Drawing :	Typical Hoarding & Conveyor Belt Plan		
Scale :	1:50 @ A3	Status : PRELIMINARY	Rev : -
Date :	10 Jul 2009	Dwg No : 0000 / 1005	

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Void

Garden

Garage

Extent of
first floor over

Family Room

Court Yard

Existing Ground Floor Layout

0 METRES 5

SCALE

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Existing Ground Floor Layout
Scale :	1:50 @ A3
Date :	15 Nov 13
Status :	PRELIMINARY
Dwg No :	2173-100
Rev :	-

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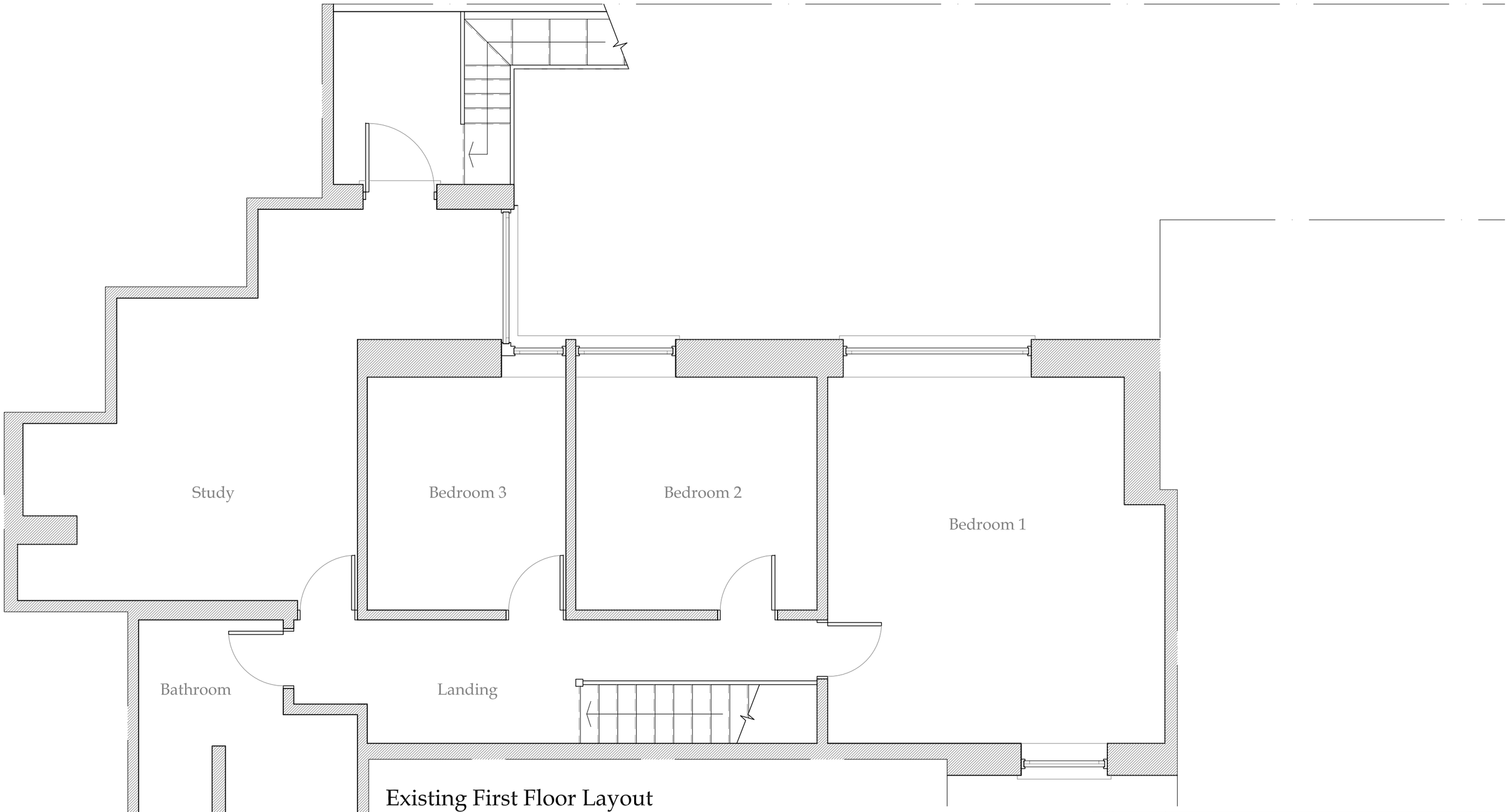
No.	Date	Amendment	Initials



Existing First Floor Layout

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client : Mr & Mrs Calcraft

Project : 6A North End
London
NW3 7HL

Drawing : Existing First Floor Layout

Scale : 1:50 @ A3

Date : 15 Nov 13

Status : PRELIMINARY

Rev : -

Dwg No : 2173-101

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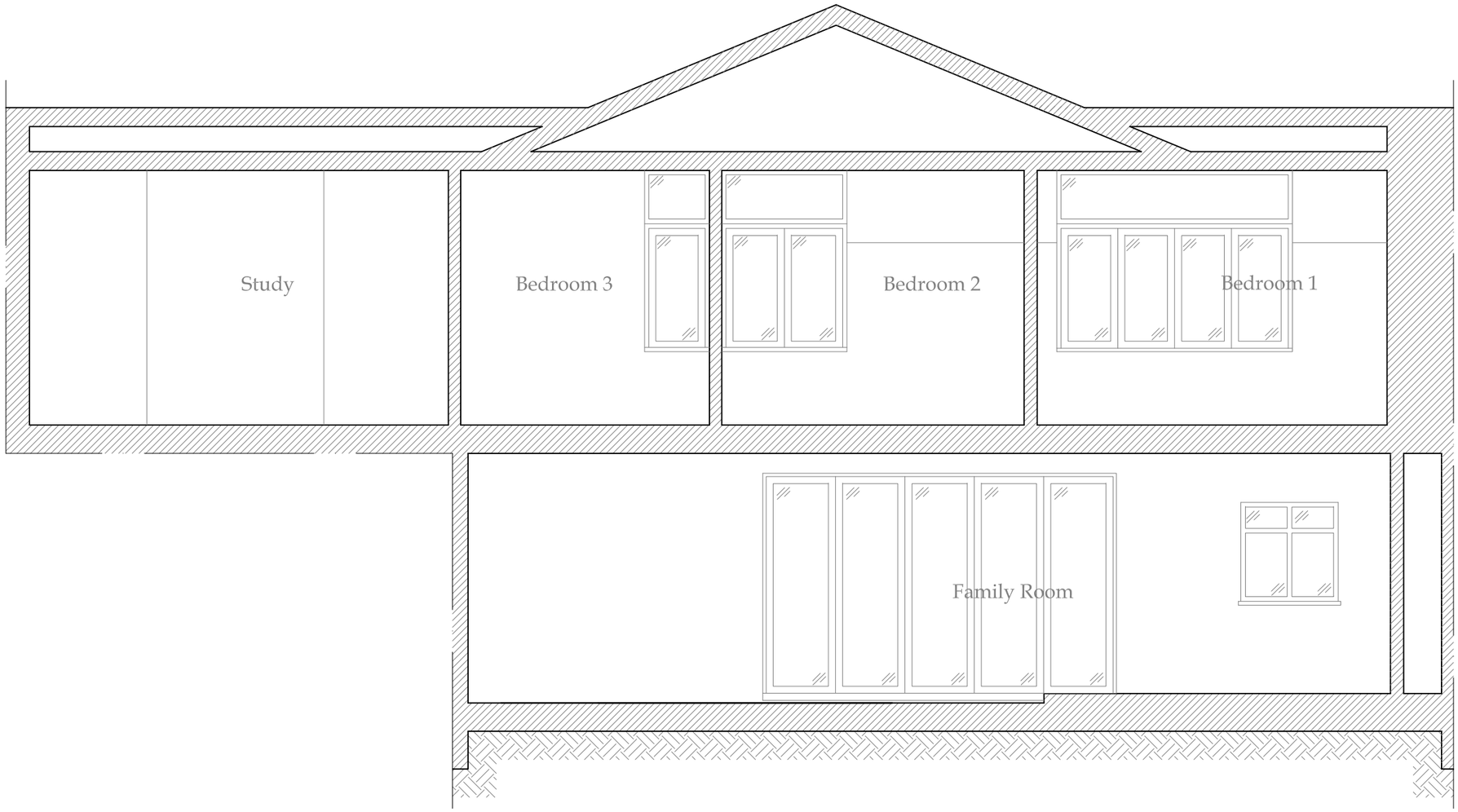

Existing Section AA

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client : Mr & Mrs Calcraft

Project : 6A North End
London
NW3 7HL

Drawing : Existing Section AA

Scale : 1:50 @ A3

Date : 06 Jan 14

Status : PRELIMINARY

Rev : -

Dwg No : 2173-102

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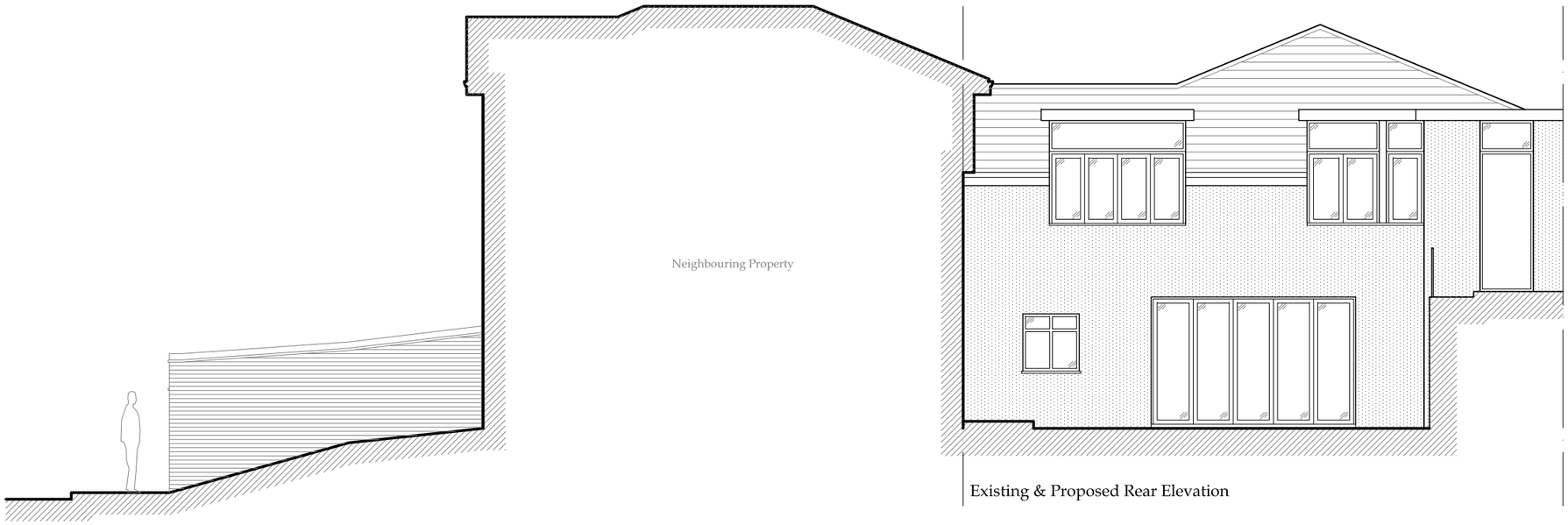

Existing & Proposed Rear Elevation

Existing & Proposed Front Elevation

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client :	Mr & Mrs Calcraft		
Project :	6A North End London NW3 7HL		
Drawing :	Existing & Proposed Front & Rear Elevations		
Scale :	1:100 @ A3	Status : PRELIMINARY	Rev : -
Date :	06 Jan 14	Dwg No : 2173-103	

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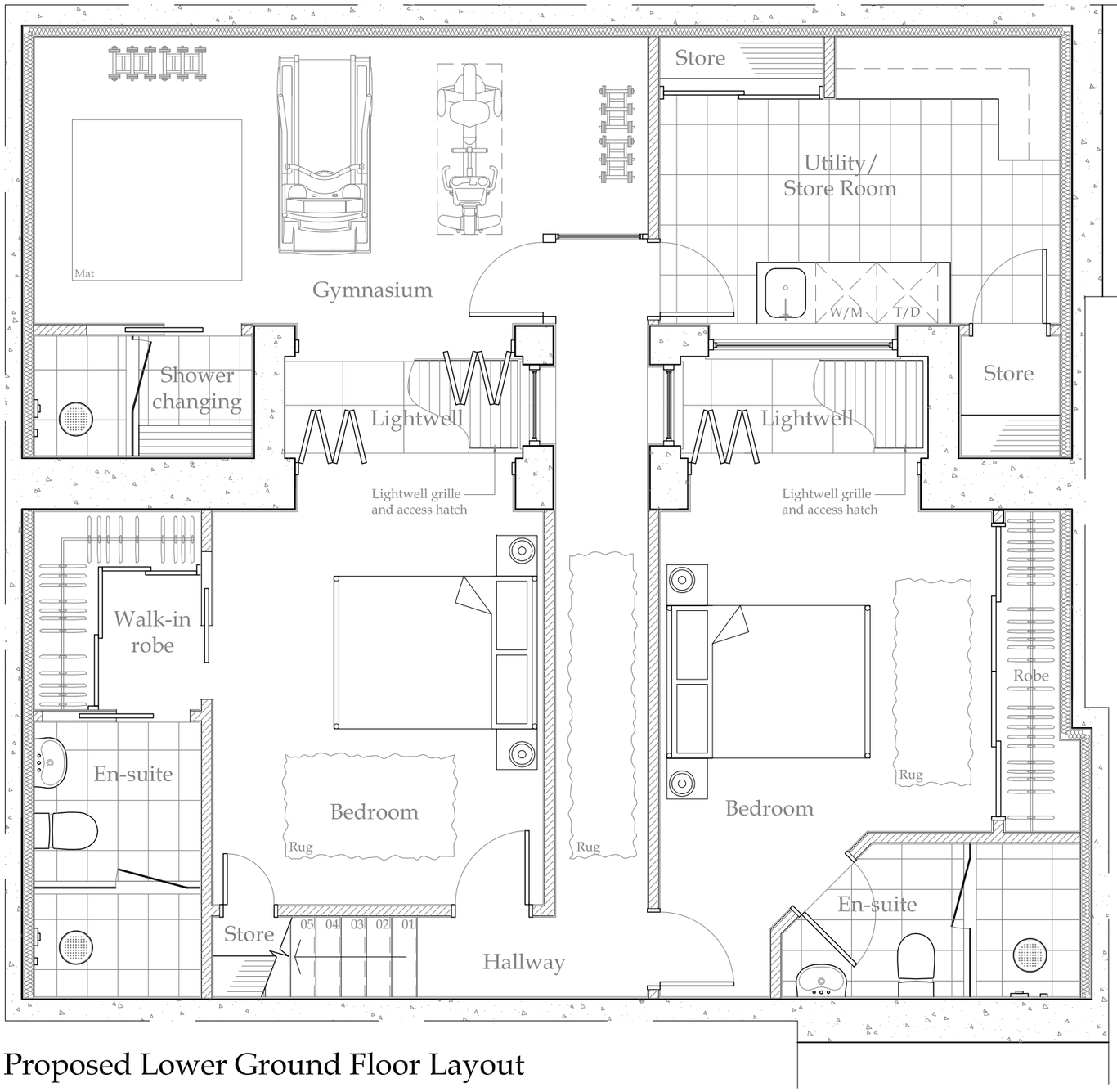

Proposed Lower Ground Floor Layout

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client : Mr & Mrs Calcraft

Project : 6A North End
London
NW3 7HL

Drawing : Proposed Lower Ground Floor Layout

Scale : 1:50 @ A3

Date : 15 Nov 13

Status : PRELIMINARY

Dwg No : 2173-200

Rev : -

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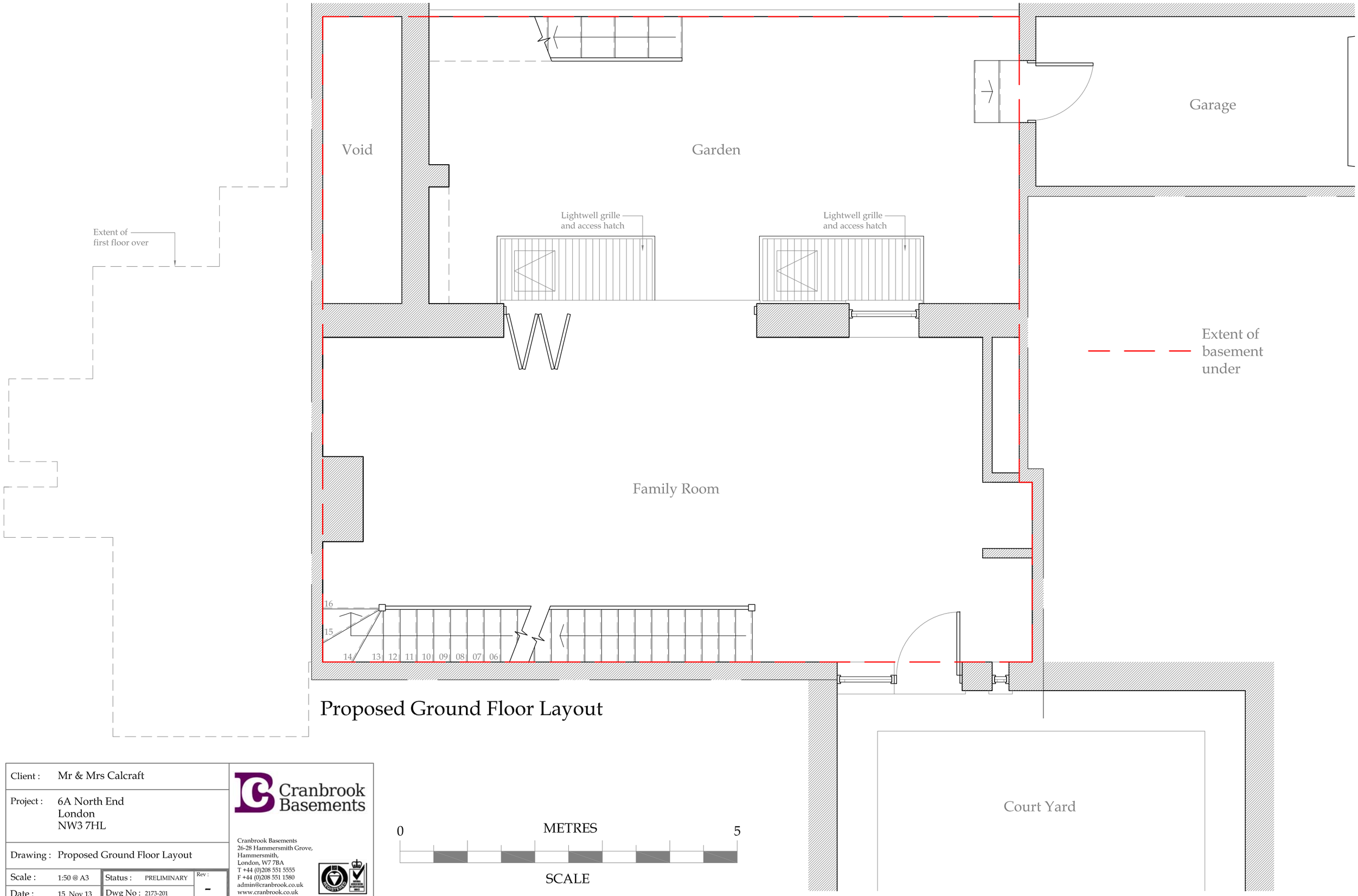

Proposed Ground Floor Layout

0 METRES 5

SCALE

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Proposed Ground Floor Layout
Scale :	1:50 @ A3
Date :	15 Nov 13
Status :	PRELIMINARY
Dwg No :	2173-201
Rev :	-

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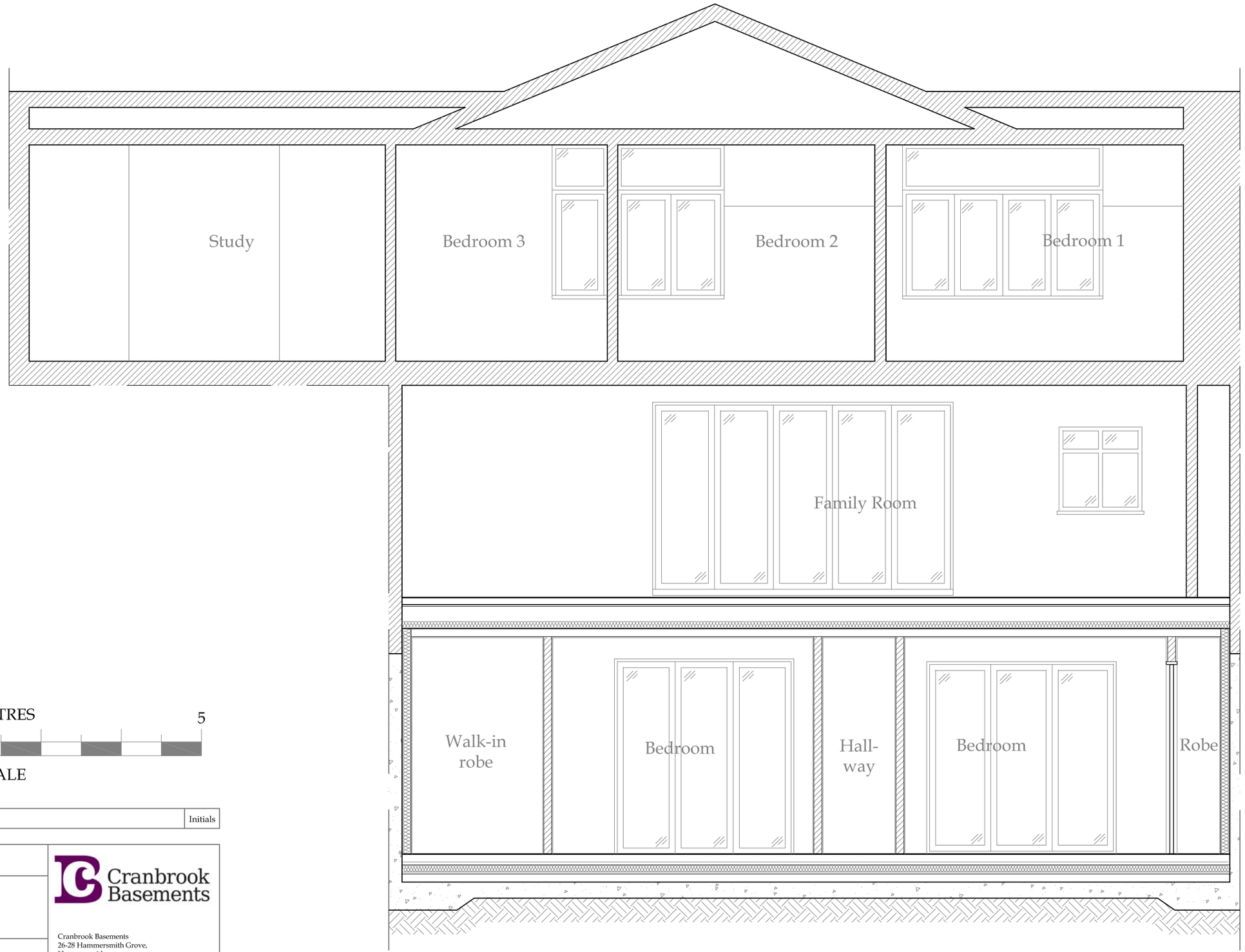
No.	Date	Amendment	Initials



Proposed Section AA

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Proposed Section AA
Scale :	1:50 @ A3
Status :	PRELIMINARY
Rev :	-
Date :	06 Jan 14
Dwg No :	2173-202

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N

METRES
0 10 20 30 40 50
SCALE

No.	Date	Amendment	Initials

Client : Mr & Mrs Calcraft

Project : 6A North End
London
NW3 7HL

Drawing : Proposed Site Layout

Scale : 1:1250 @ A3

Date : 26 Nov 13

Status : PRELIMINARY

Dwg No : 2173-250

Rev : -

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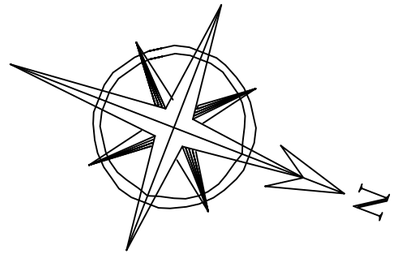

METRES

0 5 10 15 20

SCALE

No.	Date	Amendment	Initials

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Proposed Block Plan
Scale :	1:200 @ A3
Date :	26 Nov 13
Status :	PRELIMINARY
Rev :	-
Dwg No :	2173-251

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6A NORTH END, LONDON, NW3 7HL

STRUCTURAL DESIGN PHILOSOPHY REPORT

Our ref: 6869
19th December 2013

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Ingatestone
Essex CM4 9DU
01277 356311

CLIENT: **Cranbrook Basements Ltd**

Document Details:

Job No:	6869
Issue Date:	19th December 2013
Written By:	Daniel Claydon BEng(Hons), CEng, MIStructE
Reviewed By:	Richard Horwitz BSC (Hons), CEng, MIStruct E

CONTENTS

1.0 Introduction

At the request of Mr Dan Vickerstaff of Cranbrook Basements Ltd, R H Horwitz Associates have been appointed to produce a Structural Design Philosophy Report for the construction of a single storey basement under the existing structure at 6A North End, London NW3 7HL.

R H Horwitz Associates, Consulting Engineers, was formed in 1995 by Richard Horwitz after having spent five years as an Associate Director with Miller Osborne & Partners.

Our expertise and experience cover a full spectrum of civil and structural engineering within the building industry. The practice works on projects of all sizes, working with developers, contractors and other building professionals forming multi discipline teams to deliver optimum designs and construction solutions.

R H Horwitz Associates are members of the Association of Consulting Engineers and Richard Horwitz, a Chartered Engineer, is a Member of the Institute of Structural Engineers and a Fellow of the Association of Consulting Engineers.

R H Horwitz Associates have undertaken structural design services on a number of similar and much larger basement projects for Cranbrook Basements Ltd and a number of other specialist contractors and developers.

2.0 Site and Geology

The site is located just off the A502 North End Way, North of Hampstead Tube Station.

The property is part of a small block of three properties around a central courtyard.

A Site Investigation report was commissioned by Cranbrook Basements and undertaken by Chelmer Site Investigations for one of the adjacent properties a copy of which is contained in Appendix A.

The Site Investigation consisted of a 5.7m deep borehole undertaken in front garden at ground floor level, of the adjacent property. The borehole indicated Made Ground to approximately 0.9m, overlain stiff clay to 3.8m, which in turn is overlain stiff dense, becoming medium dense silty Sands to close at 5.7m. Water seepage was noted at 5.4m

For the sake of the preliminary calculations and taking account of potential ground water within approximately 1m of the proposed formation level a SGBP of 150kN/m^2 will be assumed.

For the sake of the design calculations an allowance for ground water will be made based on basement design guidance with the worst case level being assumed at 0.75 times the retained depth or at 1mabove formation level, depending on the depth of the basement and in accordance with the requirements of BS8102:2009

This report will not provide comment on the local hydrology and the effect on the local ground water.

3.0 The Existing Property

The existing property is positioned with two party walls to adjacent properties on perpendicular elevations. The property has two above ground floor levels, with vaulted ceilings to the first floor rooms.

Appendix B contains copies of Cranbrook Basements drawings indicating the existing floor layouts.

The existing property appears to be of traditional construction with a timber roof and timber upper floors supported on loadbearing masonry walls. It is assumed the ground floor slab is a ground bearing slab throughout.

No exploratory works have been undertaken but given the type, size and age of the structure it is envisaged that the load bearing walls are supported on brick corbel strip foundations.

4.0 Proposed Works

Appendix C contains Cranbrook Basements drawings indicating the proposed floor plans, including the new lower ground floor plan.

It can be seen from the plans and section that it is intended to provide a new basement level under the entire of the existing footprint of the property, extending under the properties courtyard, to the site boundaries. The layouts of the upper floors indicate that the changes include the addition of a new lightwell in the courtyard and amendments to the stairs, with new flight down to the lower ground floor level.

4.1 *Design Principles*

Appendix D contains details of loadings to be taken for the existing and proposed structure in the structural design calculations.

The proposed layouts are such that there are no load bearing elements to be removed at ground floor level.

It is proposed to retain the existing ground floor structure, which is assumed to be a ground bearing concrete slab, this is to be retained, using a system of steel beams supporting precast concrete lintels which in turn are to support the existing slab.

Where steel beams are to be used under ground floor level to support load bearing walls over the steel beams are to be designed in accordance with the relevant British Standards with characteristic dead and live load deflections limited to span/500, to minimise the risk of cracking to the existing wall.

Where the proposed lower ground floor extends to the property boundary the surcharge loads from the adjacent land is considered as set out below:

Gardens - A UDL of 2.5kw/m²

Highway/Footpath - A UDL of 10kw/m²

- A point load of 40kN applied over 0.3 x 0.3m and acting

0.6m from the boundary is considered.

As previously noted the lower ground floor walls will be designed for hydrostatic forces in accordance with the requirements for BS 8100 2009.

It is proposed to provide a special foundation under the existing Party walls. The foundation thickness will match that of the wall over and the reinforced concrete section will be designed to support the loadbearing walls over and retain the adjacent earth.

The special foundation is designed for two load cases, the first a temporary case prior to the installation of dry packing over the new foundation to the underside of the existing and allows for lateral loads only. The second permanent case upon

completion of the pin allows for both vertical and lateral loads.

The bases sizes for the special foundations are calculated for the permanent condition with propping loads indicated, if required, for the temporary condition. The propping forces allow for factors of safety against overturning and sliding at 2.0 and 1.5 respectively.

5.0 Design

Appendix E contains drawings for the proposed foundation/underpin arrangement; the lower ground floor G.A.

6.0 Specifications

Appendix F contains a structural specification for the works.

Daniel Claydon
B Eng(Hons),CEng, MIStruct E ……

Reviewed

Richard Horwitz
BSc(Hons), CEng, MIStruct E ……..

APPENDIX A

SITE INVESTIGATION REPORT

A Factual Report on the

Site Investigation undertaken for

Cranbrook Basments

at

6a North End Road
Camden
London NW3

CSI Ref: 2997

Dated: 26th November 2013

Chelmer Site Investigation Laboratories Ltd. Unit 15 East Hanningfield Industrial Estate, Old Church Road, East Hanningfield, Essex CM3 8AB
Telephone: 01245 400930 Fax: 01245 400933 Email: info@siteinvestigations.co.uk Website: www.siteinvestigations.co.uk

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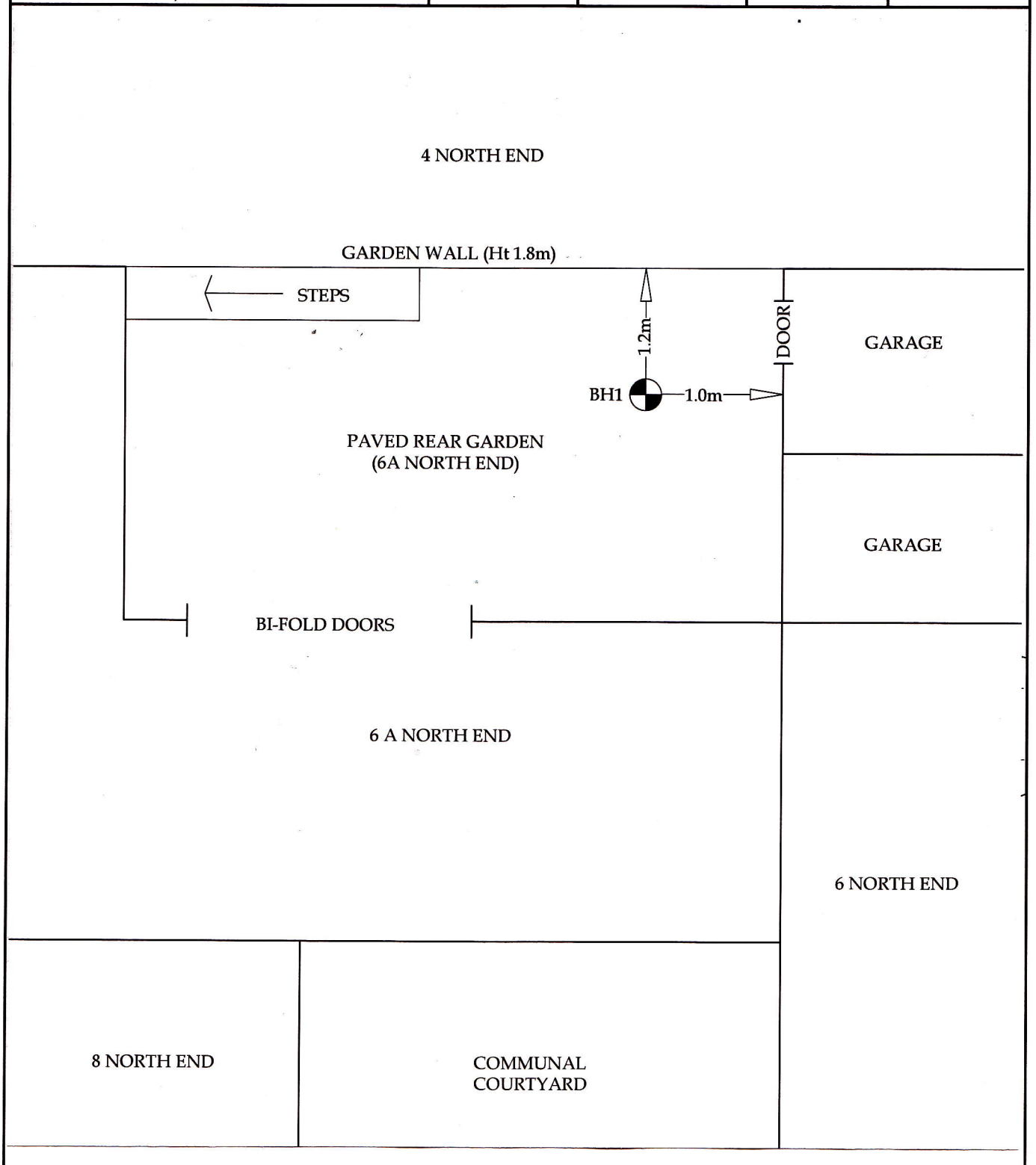
Unit 15 East Hanningfield Industrial Estate
Old Church Road, East Hanningfield, Essex CM3 8AB
Telephone: 01245 400930 Fax: 01245 400933
Email: info@siteinvestigations.co.uk Website: www.siteinvestigations.co.uk

Client:	Cranbrook Basements	**Scale:** N.T.S.	**Sheet:** 1 of 1	**Date:** 26.11.13	
Location:	6a North End Road Camden, London NW3	**Job No:** 2997	**Weather:** Overcast	**Drawn by: JC**	**Checked by: ME**



Notes: RAISED FRONT GARDEN IS APPROX. 1.5m HIGHER THAN FOOTPATH LEVEL.

On site tree identification for guidance only. Not authenticated.

Key:

Tree/Shrub | Borehole | Trial Pit | G Gully | Tree Stump | Rain Water/ Soil Pipe | MH Manhole

Chelmer Site Investigations
Unit 15 East Hanningfield Industrial Estate
Old Church Road, East Hanningfield, Essex CM3 8AB
Telephone: 01245 400930 Fax: 01245 400933
Email: info@siteinvestigations.co.uk Website: www.siteinvestigations.co.uk

Client: Cranbrook Basements	**Scale:** N.T.S.	**Sheet No:** 1 of 1	**Weather:** Hand auger	**Date:** 26.11.13	
Site: 6a North End Road, London NW3	**Job No:** 2997	**Borehole No:** 1	**Boring method:** Hand auger		

Depth Mtrs.	Description of Strata	Thick-ness	Legend	Sample	Test Type	Test Result	Root Information	Depth to Water	Depth Mtrs
G.L.	TOPSOIL	0.3							
0.3	MADE GROUND: medium compact mid brown silty gravelly very sandy clay with numerous brick and concrete fragments.	0.6		D			Roots of live appearance to 5mmØ to 2.2m.		0.5
0.9	Stiff mid brown/orange silty very sandy CLAY.	2.3		D	V	78 82			1.0
				D					1.5
				D	V	88 92	Roots of live appearance to 1mmØ to 3.8m.		2.0
				D					2.5
				D	V	110 108			3.0
3.2	Stiff mid brown grey veined silty CLAY with partings of orange and brown silt and fine sand and crystals.	0.6		D					3.5
3.8	Stiff dense mid brown/orange silty fine SAND.	0.9		D	M	27 29 31 35	No roots observed below 3.8m.		4.0
				D					4.5
4.7	Stiff/medium dense to dense mid brown/ orange laminated CLAY SILT and fine SAND.	0.6		D	M	32 34 37 39			5.0
5.3	Medium dense mid brown slightly clayey very silty fine SAND.	0.4		D				*5.4*	5.5
5.7	Borehole ends at 5.7m Unable to extract samples below 5.5m.								

Drawn by: JC **Approved by:** ME

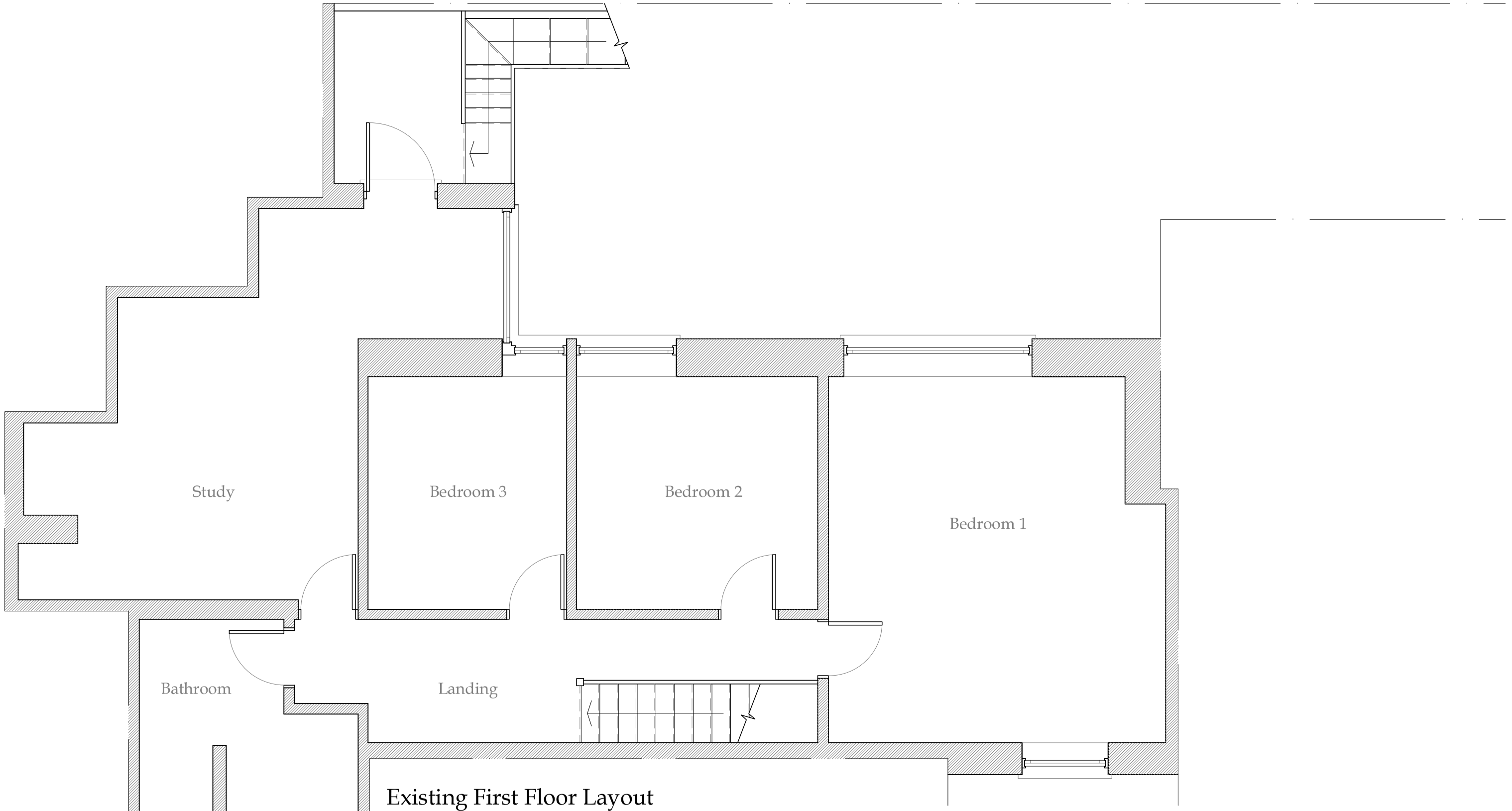
Remarks: *Water seepage at 5.4m.*
Borehole moist and collapsing on completion.

Key: T.D.T.D. Too Dense to Drive
D Small Disturbed Sample J Jar Sample
B Bulk Disturbed Sample V Pilcon Vane (kPa)
U Undisturbed Sample (U100) M Mackintosh Probe
W Water Sample N Standard Penetration Test Blow Count

APPENDIX B

CRANBROOK BASEMENT DRAWINGS

(EXISTING)



Existing First Floor Layout

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Existing First Floor Layout
Scale :	1:50 @ A3
Date :	15 Nov 13
Status :	PRELIMINARY
Dwg No :	2173-101
Rev :	-

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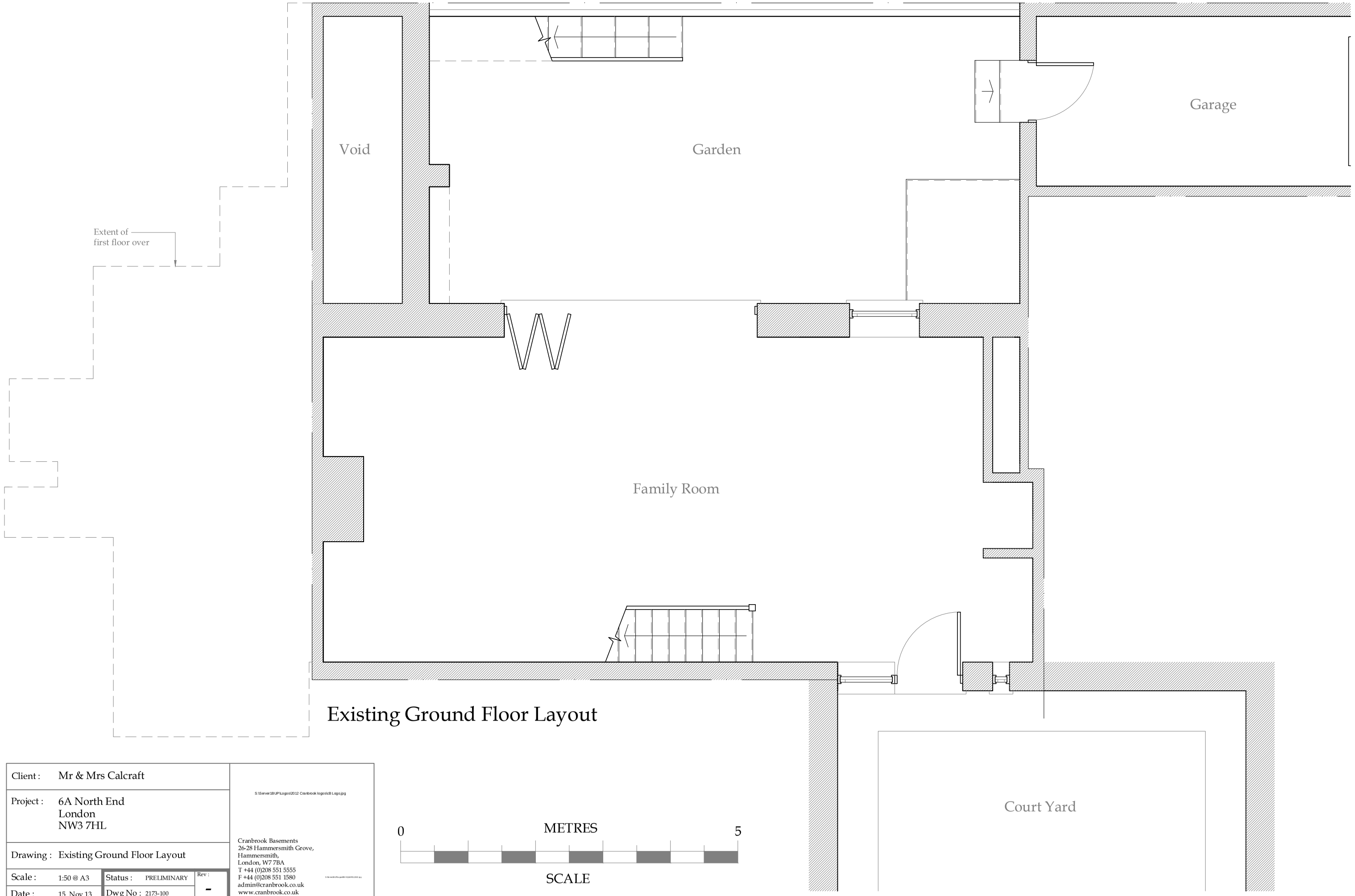

Existing Ground Floor Layout

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Existing Ground Floor Layout
Scale :	1:50 @ A3
Status :	PRELIMINARY
Rev :	-
Date :	15 Nov 13
Dwg No :	2173-100

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0 METRES 5

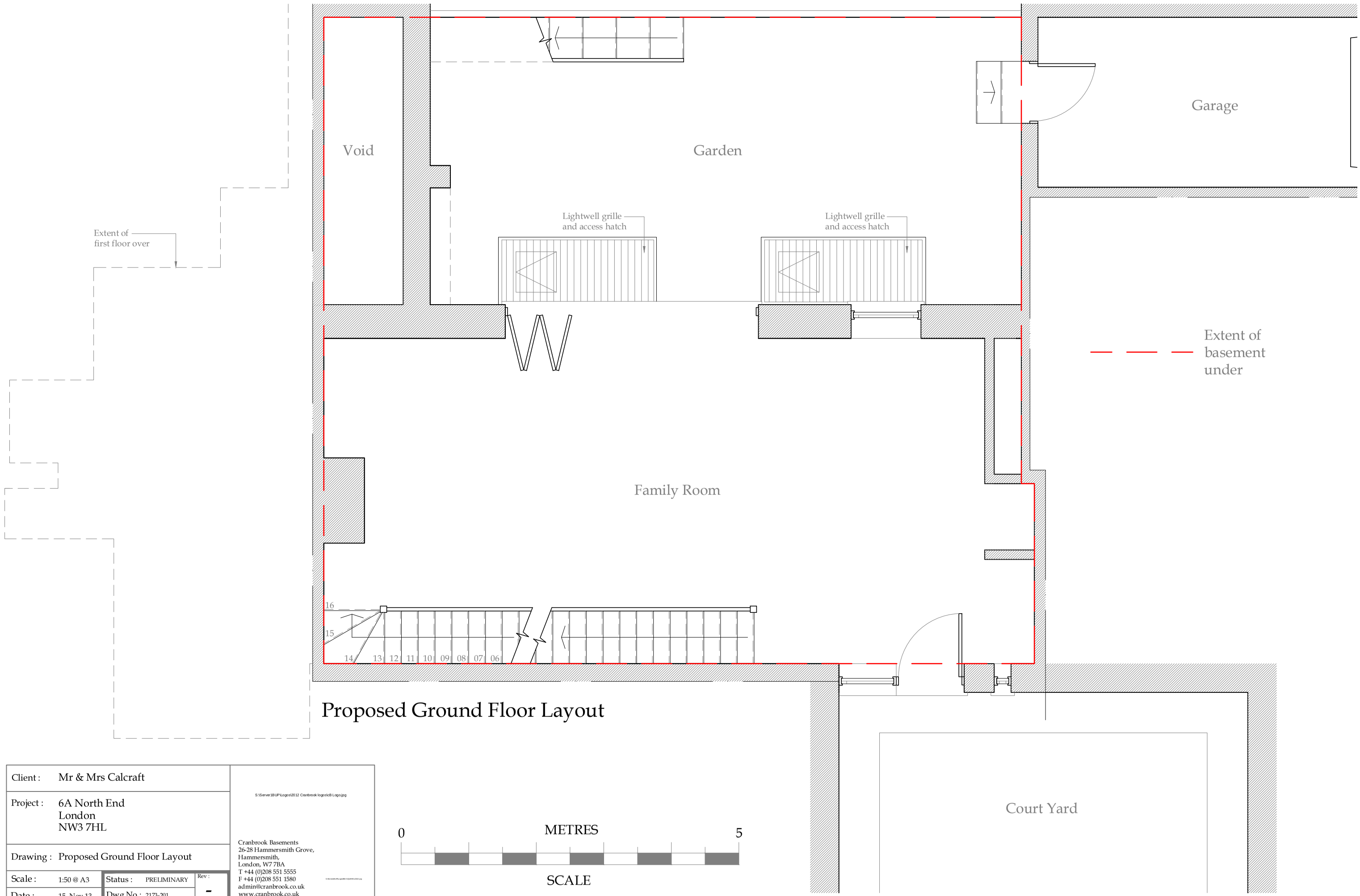
SCALE

No.	Date	Amendment	Initials

APPENDIX C

CRANBROOK BASEMENT DRAWINGS

(PROPOSED)



Proposed Ground Floor Layout

Client :	Mr & Mrs Calcraft
Project :	6A North End London NW3 7HL
Drawing :	Proposed Ground Floor Layout
Scale : 1:50 @ A3	Status : PRELIMINARY — Rev : -
Date : 15 Nov 13	Dwg No : 2173-201

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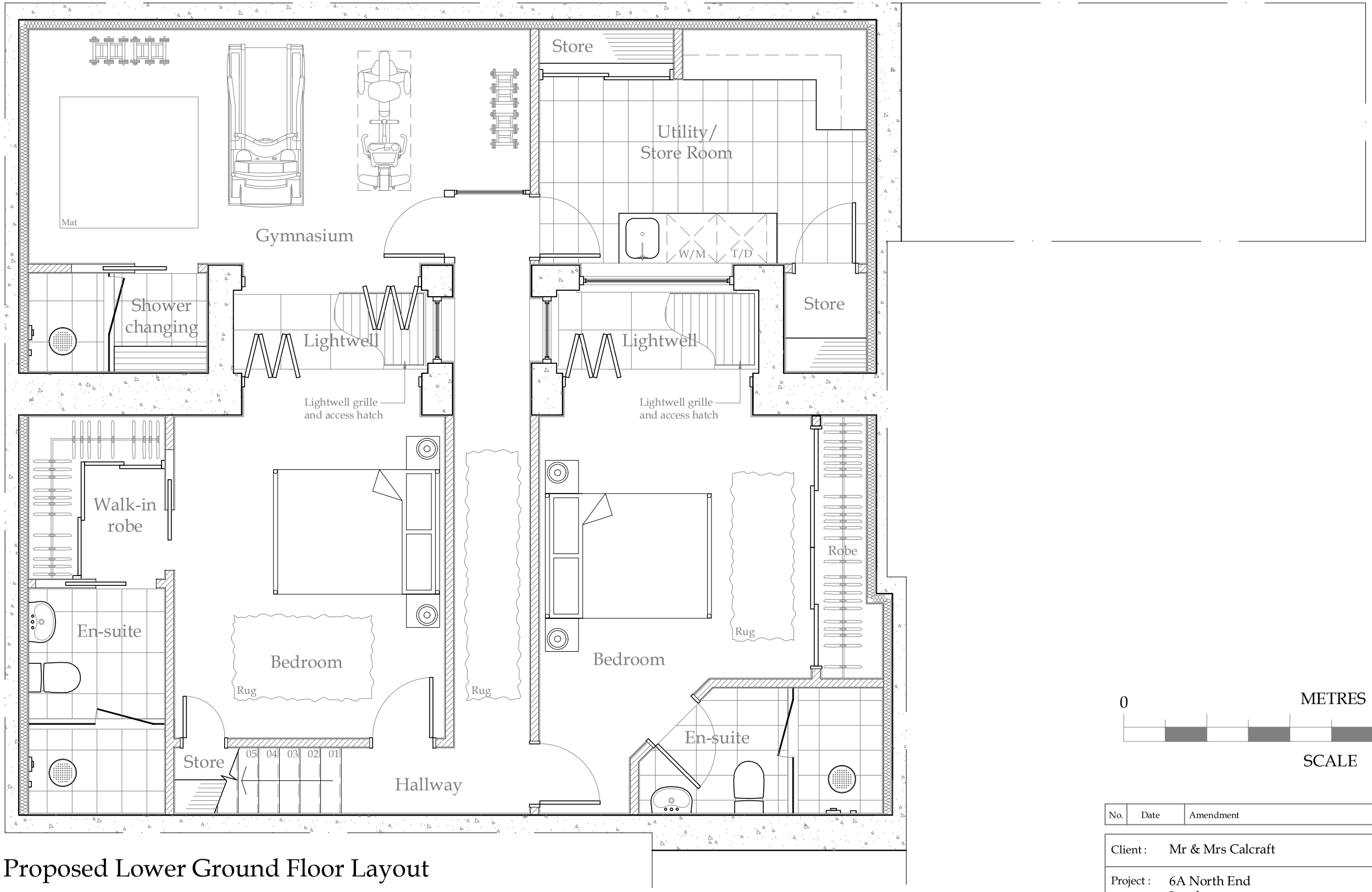
0 METRES 5

SCALE

No.	Date	Amendment	Initials



Proposed Lower Ground Floor Layout

0 METRES 5

SCALE

No.	Date	Amendment	Initials

Client : Mr & Mrs Calcraft

Project : 6A North End
London
NW3 7HL

Drawing : Proposed Lower Ground Floor Layout

Scale : 1:50 @ A3

Date : 15 Nov 13

Status : PRELIMINARY

Dwg No : 2173-200

Rev : -

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