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10th November 2014

Our ref: 14168/dab/ajm

9 Fortis Green Avenue

I was instructed by you on July 15th to carry out an inspection of the above property, and this was duly done on July 30th. A further inspection of excavated trial pits was carried out on October 6th. The purpose of the inspections was to assess the effects that the construction of a new basement would have on the property. The property was divided into several flats; the new basement would form an enlarged ground floor flat.

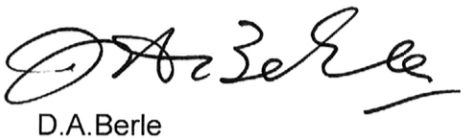
The initial inspection was of all the flats at ground, first and second/loft floors. The property was a two storey terraced house, probably built in the early 1900's with a two storey rear addition and was converted into several flats in the 1970's. It was traditionally constructed in external solid brickwork and timber floors with a pitched and tiled roof. The internal wall separating the front and rear rooms at ground floor level, was masonry construction whereas all the walls at the upper levels were stud. Floor joists spanned from front to rear. There was a single storey front bay. The ground floor was suspended timber constructed on brickwork dwarf walls. There was a small basement under the ground floor hallway and it was here that the trial pits were dug to establish soil profiles and party wall foundations.

All the external walls were reasonably plumb with no apparent bulges or distortions. There was no evidence of the bay separating from the main front wall, nor was there evidence of the trees affecting the property. Even so, the exterior of the property had been poorly maintained as there was a broken downpipe to the front and the brickwork was rather shabby.

I have prepared a construction method statement which is an addition to this report. The new basement will not have a detrimental effect on the property as a whole although there will be a need for party wall and structure notices with the adjoining properties and leaseholders in the remainder of the property.

Works will follow established procedures that will minimize risk and the possibilities of damage both during construction and in the final state.

Yours sincerely



D.A.Berle

1.0 Introduction

1.1 David A Berle Consulting Engineers have been asked to prepare a construction method statement in connection with the proposed construction of a new basement at 9 Fortis Green Avenue N2 9LY.

1.2 This report is to be read in conjunction with Lariko/Urbanski Architects drawings series 14_010 and marked up drawings together with temporary works procedures.

2.0 Existing Conditions

2.1 The existing property is situated on the south side of Fortis Green (A504). It is a three storey terraced house with a small basement.

2.2 The footprint of the existing property is approximately 15m long by 5.5m wide to the internal faces of the perimeter walls and the site is essentially level.

2.3 The property shares party walls with nos. 7 & 11 Fortis Green Avenue which are similar in age and arrangement.

2.4 The existing construction is traditional with timber floors spanning form front to rear with load bearing internal walls in both masonry and timber stud.

2.5 The existing foundations to the ground floor of the main house are spread brickwork which is typical of such properties. The North London Geological map indicates that the soil conditions are London clay and this has been confirmed by excavated trial pits.

2.6 Drainage runs below the property into Fortis Green Avenue and will be locally altered to suit the new basement arrangement.

3.0 Structural proposals

3.1 The proposed structural works are as follows:

a) form a new basement under the existing building footprint.
b) form front and rear lightwells.
c) carry out works to the ground floor.

3.2 The proposed new basement will be formed by extending the existing foundations under the party walls to the new basement level by reinforced concrete underpins. The underpins will be inverse T shaped and formed sequentially throughout as the excavation proceeds throughout the building. They will be the same width as the existing foundations so as to maintain the existing bearing pressures. The underpins will be linked by reinforcement.

3.3 The new basement floor will be formed of 350mm reinforced concrete bearing on concrete blinding. This will connect to the perimeter underpins and retaining walls so as to deal with potential ground heave. The ground floor within the existing terraced part of the house will be supported by new timber joists and steel beams and also possibly beam and blocks.

3.4 The waterproofing is likely to consist of proprietary drained cavities with a sump and pump within the basement area.

3.5 We confirm that the works will not adversely affect the adjoining properties.

4.0 Impact on drainage and surface water

4.1 We understand that there is no statutory drainage within the proposed basement works. All of the proposed basement is below the extension and therefore there is no impact as far as surface water is concerned drainage is concerned.

5.0 Slope instability

5.1 The site is essentially level and therefore there is no opportunity for slope instability.

6.0 Structural stability of the existing building

6.1 The proposed extended basement is constructed directly below the existing footprint of the property by extending the party walls downwards. The work will be completed in stages using underpinning techniques that are well established. The proposed contractor will be experienced in this type of work.

6.2 The underpin foundations will bear on suitable strata that will provide a bearing for the proposed loads. The walls will be designed to resist lateral pressures. The existing building does not show any signs of settlement or differential movement and the proposed works will not have any detrimental affect on the existing or adjoining properties.

7.0 Trees

7.1 We understand that the proposed basement is not within the zone of influence of any trees.

8.0 Assumed sequence of construction

8.1 **Site set up**

8.1.1 Deliveries, spoil removal and access will be from Fortis Green Road and through the front entrance. The entrance will be manned throughout to ensure that there is no potential risk to pedestrians.

8.1.2 Construct site hoarding, entrance gates and possible tunnel protection to passers by. Site accommodation will include welfare facilities and be provided within the house throughout the construction period. Materials may be delivered over the temporary pavement tunnel.

8.1.3 Existing services including drainage will be protected throught the construction period.

8.2 **Underpinning and excavations**

8.2.1 The underpinning will be formed in an agreed sequence by excavating soil in 1.2m maximum lengths by approximate 2.5m off wall to the proposed basement depth of approximately 2800mm. Temporary side shutters may be installed to retain the soil and to provide protection to operatives.

8.2.2 Reinforcement will be placed into both faces of the underpin, formwork will be placed and the underpin concrete will be poured.

8.3.3 Dry pack between pin and the underside of the existing foundations at least 24 hours after casting and backfill hole to top of underpin level, ensuring that it is properly compacted. Any projecting footing will be removed as found to be necessary.

8.3.4 All pins are cast sequentially such that no two adjacent pins are cast consecutively within 72 hours of completing an adjacent pin. Soil bunds may be required depending on the soil within the excavated area. After the underpinning is completed props are to be available if required until the base slab is cast and cured.

8.3.5 Spoil is removed by way of conveyor to the front where it will be transferred to skips to be transported to sanctioned disposal sites.

8.3.6 The basement will be excavated to the agreed level and 50mm blinding concrete will be laid.

8.3.7 Below ground drainage will be installed including any manholes and sumps.

8.3.8 Install any insulation, tanking, damp proof membranes as required.

8.3.9 Fix required reinforcement and cast base slab as required.

9.0 Retaining walls

9.1 These will be required to form the lightwells and will be 250 reinforced concrete.

9.2 It is envisaged that temporary supports such as sheet piling or trench sheeting will be installed to retain the soil and this will be on the party wall boundaries.

9.3 When installed excavation will commence with any necessary propping also installed depending on the contractors working methods and soil conditions.

9.4 Excavation will be taken down to the required basement level, and 50mm concrete blinding will be laid.

9.5 Below ground drainage will be installed including any manholes and sumps.

9.6 Install any insulation, tanking, damp proof membranes as required.

9.6 Fix required reinforcement and cast base slab as required.

9.7 Fix required reinforcement for the retaining walls and cast; any sheet piling will be sacrificial.

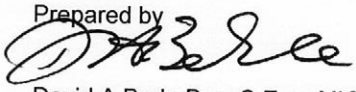
10.0 Temporary works

10.1 The temporary works will be designed by the contractor to suit soil conditions and his method of working. He will be fully responsible for the design and installation.

11.0 Follow on trades

11.1 The structural works are complete and the work can then proceed to making the building weathertight with finishing trades commencing through to completion.

Prepared by



David A Berle Bsc. C.Eng. MICE, MIStructE

14168

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Dimensions stated are for guidance only, contractor to verify all boundary positions and dimensions on site prior to commencing any works, making workshop drawings or obtaining any materials. No site supervision is implied or undertaken unless otherwise separately arranged.

The drawings does not indicate the extent of any excavation works and the contractor is to determine this prior to submitting a quotation for the works or commencing any works.

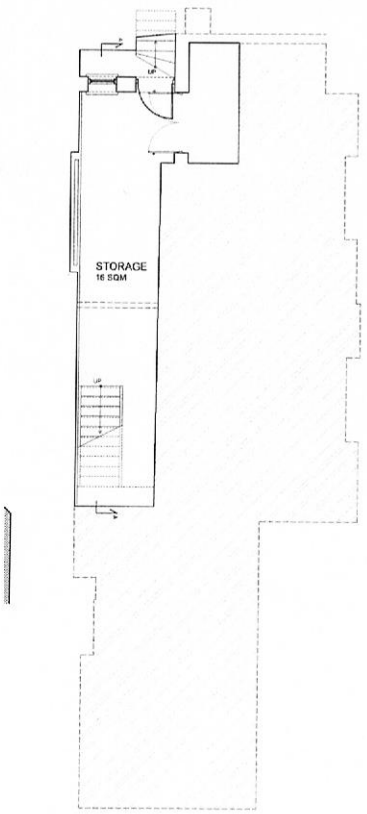
The drawing does not indicate or imply the structural condition of the property, the survey carries out was a "measure survey" for assistance in the preparation of details for Planning and Building Regulations purposes only. The details shown assume that the property is in sound condition and that there are no adverse ground conditions.

Prior to commencing works the contractor must verify with the client that no underpinning of the property has been carried out and that no structural survey has been undertaken reporting that structural and/or ground movement exist.

Prior to commencing works the contractor must obtain verification from the client or his legal advisor that no restrictive covenants exist or that any "right of light" will not be infringed and if so that reasonable steps have been taken by the client to comply with them.

Prior to commencing works the contractor must have sight of the Planning and Building Regulations approval and must note any conditions thereon, in particular, the Planning Consent will require samples of the facing materials to be submitted to the Planning Authority for their written approval prior to installation on site.

All materials and workmanship to comply with the current Building Regulations and all relevant British Standards and Codes of Practice.



EXISTING
BASEMENT PLAN
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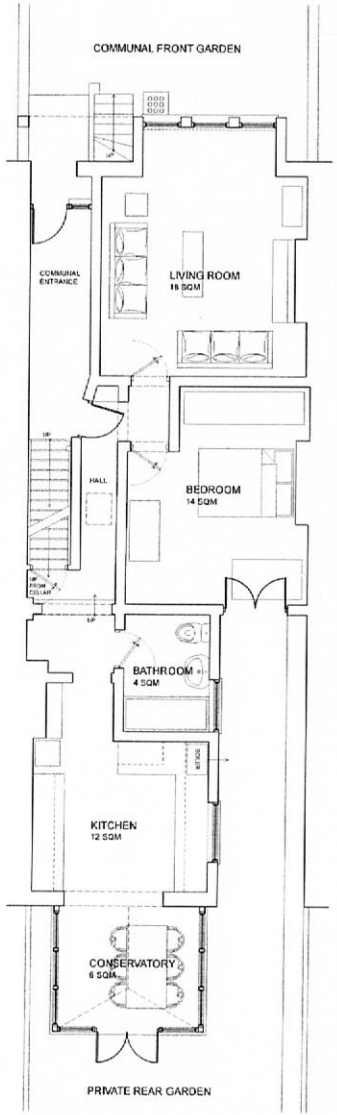
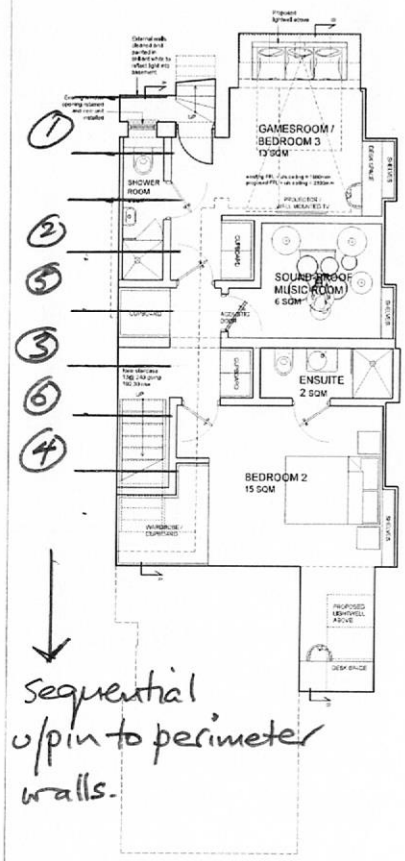
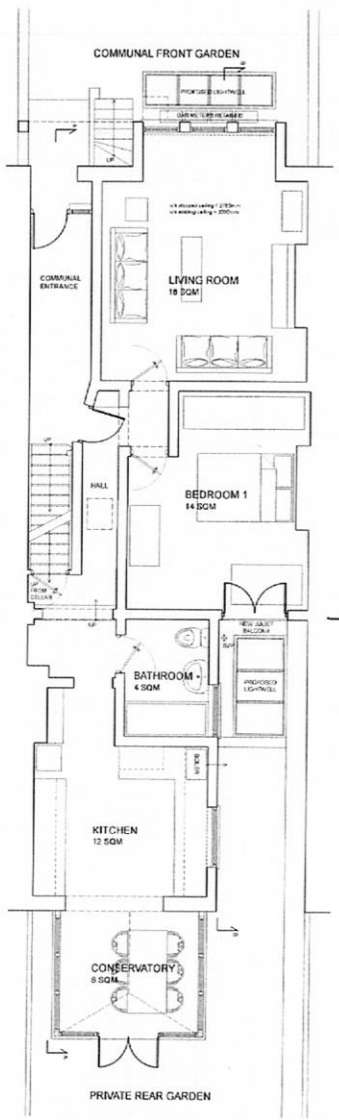


EXISTING
GROUND FLOOR PLAN
SCALE 1:100



PROPOSED
BASEMENT PLAN (option 2)
SCALE 1:100



PROPOSED
GROUND FLOOR PLAN
SCALE 1:100

Suspended ground floor
timber joists & steel beams

existing is largely
unchanged

PRELIMINARY

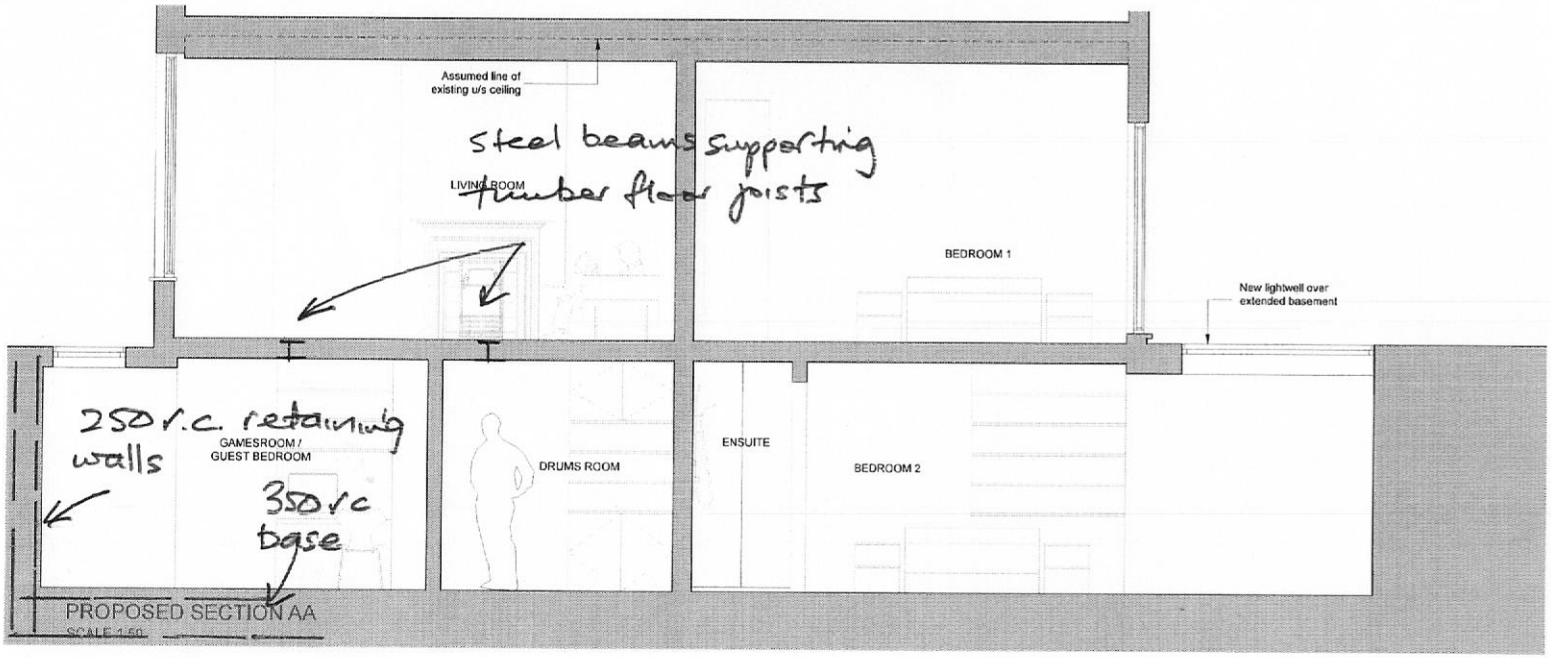
no.	Revision	Date

APPLICATION SITE

larikørbanski
www.larikorbanski.com

client	9 FORTIS GREEN AVENUE LONDON, N2 9LY
drawing title	EXISTING AND PROPOSED PLANS
status	PLANNING
scale	1:100/1250 A3
date	28.03.14
drawn by	SL
drawing no.	P100
job ref.	14_010
rev.	-

14168



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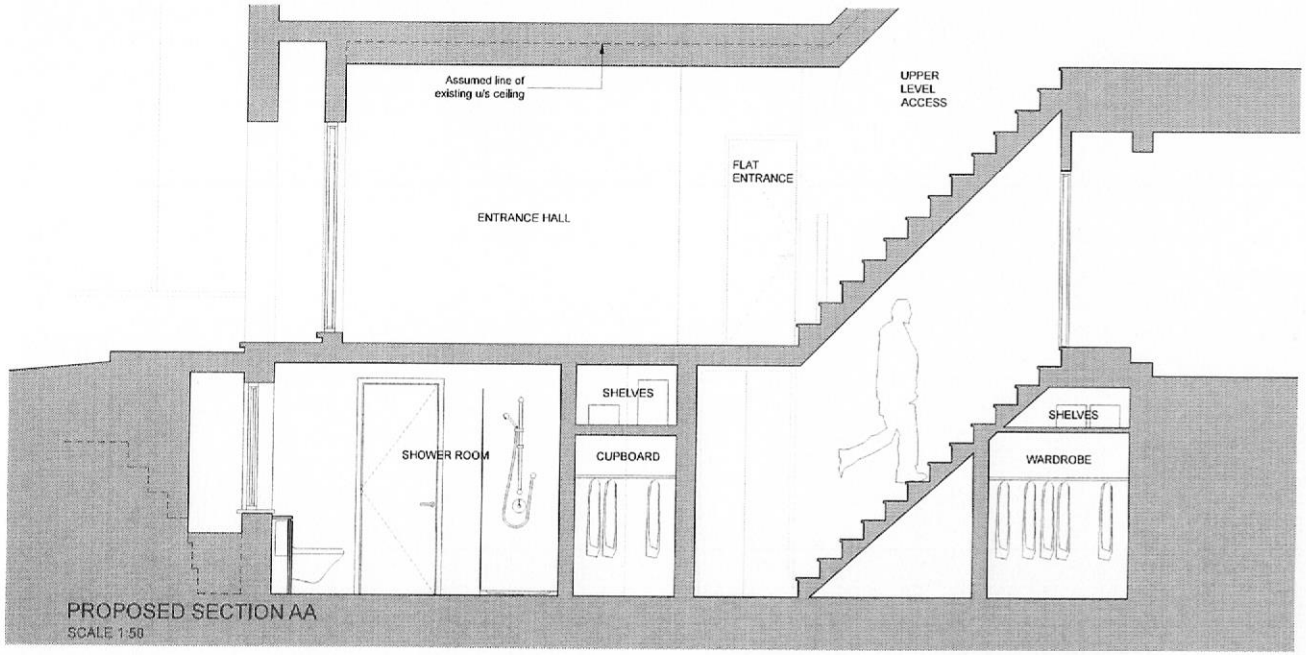
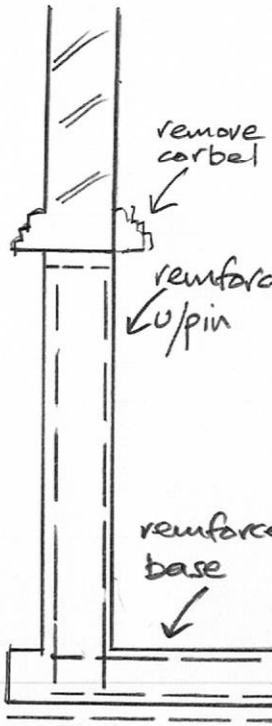




TYPICAL UNDERPIN SECTION

PRELIMINARY

No	Revision	Date

APPLICATION SITE

larikarbanski
www.larikcarbanski.com

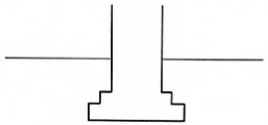
client: 9 FORTIS GREEN AVENUE
LONDON. N2 9LY

drawing title: PROPOSED SECTIONS AA & BB

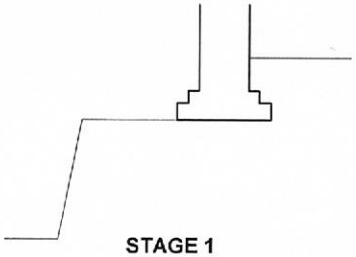
status: PLANNING

scale	date	drawn by
1:50/1:250 A3	26.03.14	SL

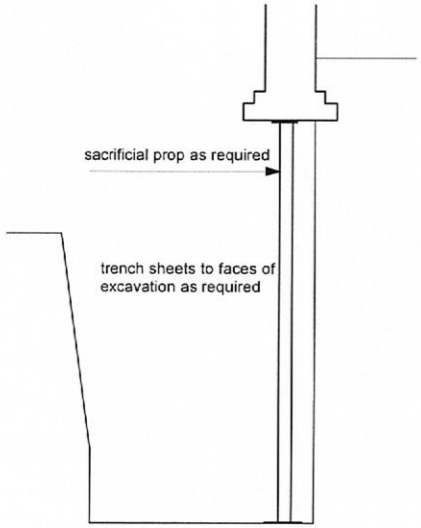
drawing no.	job no.	rev.
P300	14_010	-



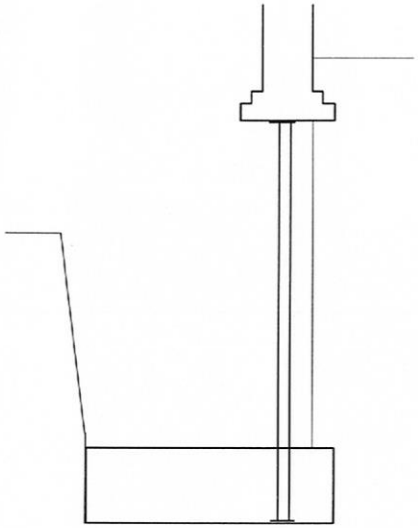
STAGE 0
existing condition



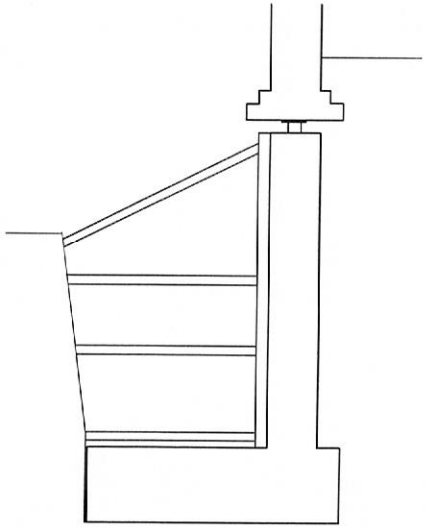
STAGE 1
general level excavation



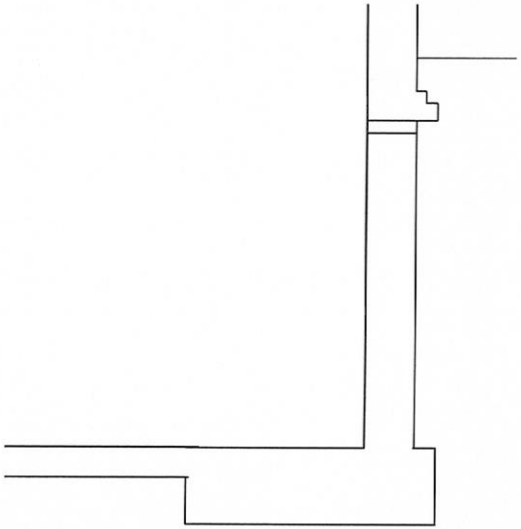
STAGE 2
excavate to form underpin



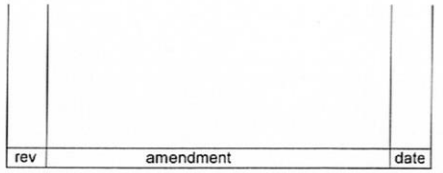
STAGE 3
concrete base of slab



STAGE 4
concrete underpin stem



STAGE 5
strike shutter when concrete had gained sufficient strength, dry pack, remove projecting brickwork, cast base slab



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Project 9 Fortis Green Avenue London N2 9LY

Drawing No 14168- TW1

Scale 1:50

Date November 2014