BASEMENT IMPACT ASSESSMENT

56 Platt's Lane, London NW3 7NT

February 2019

Issue and Revision Record

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
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CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The following is a Basement Impact Assessment (BIA) to support the planning application for a proposed development of a site currently occupied by a three-storey house at 56 Platts Lane, London, NW3 7NT.

The purpose of this BIA is to determine the geological, hydrological and hydrogeological characteristics local to the site to assist with the design and construction of the basement to ensure that as a consequence minimum negative impact occurs to the local environment including; flooding, water quality, land stability and the effect on neighbouring properties. Design and construction techniques have been considered together with construction sequencing.

This BIA should be used for no other purpose. This BIA should be read in conjunction with all of the structural drawings issued.

1.2 DESIGN

The proposed development will include the construction of a single storey basement as expressed on 136 Architects Ltd drawings ST_17_56PLATTS_01 and ST_17_56PLATTS_02[10.1]. It can be seen that the proposed basement is within the existing footprint of the existing house. Care should be taken so as not to undermine existing structures or adjacent property when underpinning the existing foundations which will enable the formation of the basement beneath the house. The underpinning should be carefully sequenced and designed to act as a retaining wall – The sloping ground at the rear and other structures should be considered in the calculation of active pressures. Heave forces caused by the removal of overburden are not expected to be significant as long as there are no undue delays in the construction program. The basement slab should be properly reinforced and tied to the perimeter walls. If left for a prolonged period, it may be necessary to trim the formation level. Water should not be allowed to pond or accumulate on the formation.

Whilst the basement is to be constructed above the water table, water vapour may still penetrate the basement or water may occur from other sources such as leaking drainage or water mains. Accordingly, the basement should be afforded an adequate and appropriate level of waterproofing, in accordance with grade 3 of BS8102:2009 and construction joints should be carefully designed and detailed.

A Ground Investigation was deemed necessary to determine the following;

- Depth of London Clay to ensure principal aquifer is not breached;
- Characteristics of London clay to enable a considered design of both temporary and permanent building works;
- Presence of ground water to ensure the construction procedure is considered and appropriate;
- Ground and surface water characteristics local to the site; and
- Land stability.

The site is located in the London Borough of Camden, approximately a mile northwest of Hampstead and 1 mile south of Golders Green Underground station. The London Underground Northern Line runs approximately 800m to the East of the site. The closest known water course is in the Golder Green park located approximately 390m North of the site by way of streams and ponds.

Thames water assets search was carried out and a combined sewer runs along Platts Lane. There are no Thames Water assets in the vicinity of the works.

1.3 CONSTRUCTION

The proposed works will include underpinning to the existing masonry boundary external walls as well as providing a new 350mm thick RC retaining wall and base slab acting as a foundation. Once the formation level has been established the RC basement slab and lining walls will be cast. The ground floor construction can at this stage be reinstated and either an in-situ or a prefabricated concrete system such as a concrete beam and block system can be used.

RECOMMENDATIONS

Control of ground water migration within the made ground is of paramount importance. The design and construction techniques presented in this document are deemed appropriate for the current site conditions, however, the Contractor should establish a system of monitoring and control with full agreement of the design team and seeking advice from a geotechnical engineer who should specify limits and thresholds prior to any excavation work being undertaken.

With reference to all of the information collated and included in this Basement Impact Assessment, it can be seen that the proposed development has been considered in such a way that should not adversely affect the neighbouring built or natural environment.

2.0 GROUND CONDITIONS

Land Science were commissioned to undertake a Site Investigation and with reference to their report, made ground over London Clay was confirmed. London Clay was proved to the maximum depth investigated 5m. London Clay is believed to exist to depths of over 25m in this area as shown by historical borehole records. Records of historical boreholes held by the BGS were inspected and borehole record (ref. TQ28NE104) was identified 200m south-east of the site.

Strata	**Base Depth (m)**	**Summary Description**
'Bagshot Beds'	1.20	*'Dirty sand'*
	12.80	*'Silty clayey sand'*
	13.40	*'Silty grey clay'*
	15.25	*'Silty sand'*
'Claygate Beds'	18.30	*'Grey silt (liquid)'*
	21.30	*'Grey clay'*

Site specific ground conditions were found to comprise of the following.

Ground Conditions	Strata	Base depth m	Summary
	Hardstanding	0.05	Concrete
	Made Ground	0.45-1.10	Slightly clayey gravelly sand with occasional brick and concrete fragments.
	Claygate Formation	2.00-5.00+	Stiff very sandy CLAY.
Groundwater	Water was recorded at 3.92mbgl during the drilling of WS2. No groundwater encountered during the return monitoring. (the well was installed to 4.0mbgl)		

The results of the Site Investigation confirmed that the London Clay has a unit weight of 19kN/m^3 and a bearing capacity of 125kN/m^2. Analysis of the soil for acidity and water soluble sulphate based on BS8500$^{11.3}$ recommendations suggests an ACEC class of AC-2 should be ascribed to all concrete elements that make contact with the ground. No additional protection measures (to Table A.5 of BS8500$^{11.3}$) are required. London Clays are considered to possess high plasticity and are therefore particularly susceptible to volume change. Precautions for soil shrinkage and soil heave will be incorporated into the design as discussed in Section 5.0.

Water seepage was recorded during drilling at the base of WS2 at 3.92mbgl. However, no groundwater was encountered during the return monitoring visit.
Groundwater levels may vary seasonally and with variations in rainfall. Water may also become perched upon cohesive strata or around features such as foundations, and may also occur from leaking drains and water mains etc.

The basement construction will, however, be designed to give full protection against water ingress. The standpipe is to be left in place throughout the construction phase and the Contractor shall frequently monitor for changes.

2.1 ADDITIONAL ASSESSMENTS

Upon investigation of the requirement for an Arboricultural report, it was found that due to there being no trees within 30m of any point of excavation, it is unlikely an Arboricultural report is required. This information was supplied by Nick Bell (09/01/2019), a tree and landscape officer at Camden Council.

3.0 HYDROLOGY

The site is not within local proximity to surface water features or courses and is located within a substantial stratum of London Clay and hence presents no risk of contaminating potable water or bathing water, nor will it contaminate local flora/fauna, and nor will it cause flooding to local water courses/features due to increase in flows.

From the report by Land Science;

- The property is located outside the fluvial/tidal flood zone of the River Thames
- The site does not lie within an area classified as being susceptible to significant flooding and does not lie within an area benefitting from flood defences.
- The site does not appear to be at risk from surface waters.

4.0 GROUND STABILITY

The site is located on a west-facing hillside, which slopes very steeply. A topographical survey provided shows ground levels falling from 113.2m at the eastern boundary to 106.6m on the western boundary. The current building on site is not on level ground, with steps leading up to the ground floor from Platts Lane to the front of the building. The current site conditions present slightly higher risk to ground instability in the long term. Ground stability in the short term, i.e. during construction will need to be addressed by suitably considered and installed temporary works.

No immediate evidence of significant structural movement was observed or was reported to Land Science.
No major ground profiling is intended. To aid build ability, ground will be lightly graded away from the newly installed piles to allow surface water to run away from the proposed excavation.

The proposed development will see hard paved areas reduced with the introduction of 1200mm of topsoil to filter and attenuate surface water discharge into the local drainage infrastructure via a French drain. Permeable paving will be used for hard surfaces. The topsoil will have higher permeability than the surrounding clay but will exist over the basement box only. The ground water, and hence pore pressure, within the surrounding clay will therefore remain unchanged and the stability of the surrounding clay not effected.

5.0 SCREENING

5.1 A SCREENING PROCESS HAS BEEN UNDERTAKEN AND THE FINDINGS ARE DESCRIBED BELOW.

Question	Response	Details
1a. Is the site located directly above an aquifer?	No	The site is located in Hampstead and is founded on sand with a low water table. The sand is not used as an aquifer
1b. Will the proposed basement extend beneath the water table surface?	No	The basement is built into the hillside as the site is on a slope. The basement does not extend below the water table
2. Is the site within 100m of a watercourse, well (used / disused) or potential spring line?	No	There are no water courses within 100m of the site
3. Is the site within the catchment of the pond chains on Hampstead Heath?	No	No, the site is below the level of the pond
4. Will the proposed basement development result in a change in the proportion of hard surfaced / paved areas?	No	There is no change in the proportion of hard and soft landscaping due to this proposal
5. As part of site drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDS)?	No	There is no change to the surface water run off from this development
6. Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond (not just the pond chains on Hampstead Heath) or spring line?	No	As stated above, all parts of the excavation for the proposed basement are above the water table.

5.2 SLOPE STABILITY

Question	Response	Details
1. Does the existing site include slopes, natural or man-made greater than 7 degrees (approximately 1 in 8)?	No	Slopes are less than 1:8 currently
2. Will the proposed re-profiling of landscaping at the site change slopes at the property boundary to more than 7 degrees (approximately 1 in 8)?	No	No change is envisaged in ground slopes
3. Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7	No	No, this development does not affect the neighbouring properties

degrees (approximately 1 in 8)?		
4. Is the site within a wider hillside setting in which the general slope is greater than 7 degrees (approximately1 in 8)?	No	
5. Is the London Clay the shallowest strata at the site?	No	No, shallowest strata to be excavated is sand
6. Will any trees be felled as part of the development and/or are any works proposed within any tree protection zones where trees are to be retained?	No	No trees exist on the property
7. Is there a history of seasonal shrink-swell subsidence in the local area and/or evidence of such effects at the site?`	No	No, as ground is sand. Refer to ground investigation for ground conditions.
8. Is the site within 100m of a watercourse or a potential spring line?	No	
9. Is the site within an area of previously worked ground?	No	
10. Is the site within an aquifer. If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?	No	
11. Is the site within 50m of the Hampstead Heath Ponds?	No	
12. Is the site within 5m of a highway or pedestrian right of way?	No	Yes, the property is accessed from Platts Lane
13. Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	No	No, as the property is on a hillside with enough clearance from the adjacent property.
14. Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	No	The site is not in an exclusion zone

5.3 SURFACE WATER AND FLOODING

There is no change to the plan size of the property from the basement construction as it is within the existing curtilage. As the property is raised on the downward slope the depth of the basement will have no effect on any existing drainage or water courses and as such does not affect the flood risk for the property or adjacent areas.

Question	Response	Details
1. Is the site within the catchment of the ponds chains on Hampstead Heath?	No	
2. As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?	No	
3. Will the proposed basement development result in a change in the proportion of hard surfaced / paved external areas?	No	
4. Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?	NO	
5. Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	No	
6. Is the site in an area identified to have surface water flood risk according to either the Local Flood Risk Management Strategy or the Strategic Flood Risk Assessment or is it at risk from flooding, for example because the proposed basement is below the static water level of nearby surface water feature.	No	

6.0 THIRD PARTY ASSETS

The following section confirms correspondence with third parties owning assets that could possibly cause concern for the proposed works. Copies of correspondence are given as appendices.

6.1 THAMES WATER

A Thames Water Combined Sewer and a potable water main run along Platts Lane to the East of the site. The manhole nearest the property is 4301B with a MH cover level of 105.45 and an invert level of 103.93m

Thames Water did confirm that no sewer improvement works have been planned local to the site (please see Thames Water correspondence also given in *Appendix F)*

6.2 NETWORK RAIL

There are no Network Rail assets near the site.

6.3 TRANSPORT FOR LONDON (TfL)

There are no Crossrail lines near the site.

6.4 CROSSRAIL + HS2

On the North side of London, Crossrail has no tunnels north of Tottenham Court Road Station. The HS2 line closest point is Swiss Cottage and therefore is not affected by the proposals.

6.5 HIGHWAY

The proposed development is adjacent to Platts Lane to the North West. The design of all structures adjacent the highway will be Approved In Principal by London Borough of Camden Highways Division using the AIP template given in Annex A1a of BD2-12 (Design Manual for Roads and Bridges). An AIP has been submitted to the Highways Authority. During construction the Contractor will be required to undertake a condition assessment of the highway before and after construction and remediate any damaged parts. Predicted ground movement is deemed not to present significant risk to the public highway.

6.6 NEIGHBOURING STRUCTURES

The Land Science report confirms that ground movement, and hence risk to neighbouring structures, caused by the installation of the proposed basement will be nominal, providing sufficient consideration is given to the design of the temporary works and to the construction methodology and sequencing.

7.0 STRUCTURAL DESIGN

The structure has been analysed as a vertical cantilevered retaining wall which is to be supported by a ground bearing base slab and hence satisfying classification 2B of the disproportionate collapse requirements of the Building Regulations: Part A[11.11]. The existing upper stories comprising timber roofs and floors will be checked to ensure they are suitably tied to existing masonry walls with mild steel restraint straps at regular centres, as per BS5628, and will hence satisfy classification 2A.

The basement is formed within the slope of the ground. The existing building is to be underpinned using traditional reinforced concrete underpinning techniques to a depth of 3.5mbgl to act as a perimeter retaining walls and built in strips to provide stability. The basement is to be excavated and a reinforced concrete base constructed within. Based on the ground and the groundwater conditions encountered it is considered that such a scheme would be appropriate. Temporary flying shores and walers will be installed until the concrete box is formed.

Strip foundations of the underpinnings, symmetrically loaded and up to a width of 1.00m, may be designed based on a maximum allowable net bearing pressure of 125kN/m2 upon the Claygate Formation at a depth of 3.50m. Total foundation settlement is estimated to be less than 3mm, calculated using the DeBeer and Martens (1957) method. This method provides a "safe upper limit of settlements" which generally provides estimates of about 2 times the observed settlement.

It is anticipated that the full extent of the site will be underlain by London Clay to depths in excess of 15.000m (refer to Land Science Ground Investigation Report [10.2]), becoming fissured below depths of 3.000m. Figure 6 of BS8004[11.6] shows that fissured clays have wide ranging rates of low permeability and the concrete grade upgraded to suit.

As London Clay has low permeability ground water will slowly migrate towards the new basement forming hydrostatic pressure on the retaining walls. BS8102[11.4] recommends that a 2.0m hydrostatic water pressure be considered in the design of basement bases and walls.

Heave forces caused by the removal of overburden are not expected to be significant as long as there are no undue delays in the construction program. The basement slab should be properly reinforced and tied into the perimeter walls. If left for a prolonged period it may be necessary to trim the formation level. Water should not be allowed to pond on accumulate on the formation.

As a precaution the basement structure will be fully water proofed to protect against the ingress of perched water or surface water runoff. Reference to BS8102[11.4] classifies the proposed basement as Grade 3 and will be designed with an internal cavity drainage system as per Type C of BS8102.

The design team will consider the mitigation of health and safety risks in accordance with the Construction (Design and Management) Regulations 2007.

All designs will be approved by London Borough of Camden Highways, prior to commencement of construction.

8.0 DRAINAGE

Localised ground water will increase, but will be contained over the basement only and hence will not affect any foundations to local buildings.

The local sewer network is a Combined system taking both surface water and foul water, see the Thames Water Asset Location Search in *Appendix F*. The proposed foul water discharge will be similar to the existing and hence there is no perceived impact on the existing foul water drainage infrastructure. All new foul water drainage connections to the basement will be fitted with a positive pumped device to ensure all foul drainage is adequately discharged as well as preventing back up flooding from the sewer.

The design team will consider the mitigation of health and safety risks in accordance with the Construction (Design and Management) Regulations 2007.

9.0 SUSTAINABLE DESIGN

The sub base to the ground bearing basement slab will comprise recycled Type 1 aggregate.

All concrete will be specified to comprise a 30% replacement of Portland cement with Flash or Ground Granulated Blast-furnace Slag (GGBS). These Portland cement replacement constituents are by-products of the coal power station and steel manufacturing processes respectively. Additional to the environmental benefits of using these constituents, other benefits include; the concrete will have greater compressive strength, increased chemical resistance and durability, substantially higher fire resistance, a rapid strength gain, and lower shrinkage. The use of Flash or GGBS with concrete additives such as Calcite will have to be confirmed by the manufacture of any such additive.

If commercially viable to the UK markets, the design team will endeavour to specify Green Concrete, such as Novice, which utilises a magnesium oxide-based cement instead of the traditional carbon heavy Portland cement. Green Concrete absorbs more carbon dioxide than is omitted which and this will contribute to the long-term target of reducing 80% of Carbon Dioxide by 2050.

10.0 CONSTRUCTION TECHNIQUES AND METHODOLOGY

Prior to construction works commencing the Contractor shall undertake a condition assessment of all existing neighbouring structures and infrastructure. This assessment shall be agreed, by all parties, including London Borough of Camden, as a true and correct record. Photographs are to be used to document any found areas of dilapidation.

Prior to any excavations taking place, the Contractor shall commission *Envirocheck* to undertake a survey of the existing statutory utility services local to 56 Platts Lane. This will give an indication of the potential services and their location running onto the site. The contractor will ensure that the existing services are set-out and clearly marked at ground level. The ground is to be cat-scanned. Trial pits are to be dug to expose and confirm the location of existing services. All utility services are to be located prior to excavation with heavy plant. All existing utility services encountered on the site will be maintained. The Contractor shall consult the design team and the utility service provider if diversions are deemed necessary.

The body of the underpins shall be formed of RC40 sections no longer than 1.0m in length, in such a manner that adequate support is, at all times, maintained to the underside of the wall for at least three quarters of its length and that sections of work in progress at any one time are separated by a distance of at least 3.0m. As far as practicable, excavation and concreting of any underpin section shall be carried out on the same day. Excavation to any section of underpinning shall not commence until at least 48 hours after completion of any adjacent sections of work. The underpin is to stop 75mm below the underside of the existing footing. Once the concrete of the underpin has sufficiently cured, the final pinning up over the full extent is to be carried out with a semi-dry fine concrete.

Before undertaking an excavation for an underpin, the contractor shall undertake a comprehensive assessment of the condition of the building and adjacent structures. Frequent monitoring for movement and distress shall continue at regular intervals throughout the works.

The contractor shall be entirely responsible for the stability of the existing building and adjacent structures and any temporary support required for this purpose.

The below ground foul and surface water drainage systems, including sumps and pumps shall be installed and connected to the main infrastructure and the RC basement floor slab constructed over. The RC slab of the lower ground floor shall be constructed using the slab below to support a system table formwork.

All pavements and highways adjacent to the site will be made good at the end of the contract period in accordance with Local Authority requirements.

To ensure the requirements of the Construction (Design and Management) Regulations 2007 are met, the client shall be encouraged to employ a competent contractor with an appropriate level of knowledge and experience of working on developments similar those being proposed at 56 Platts Lane. The Contractor shall adhere to the contract drawings and specifications, and any ancillary information issued with the contract documents. The Contractor's working procedures shall be developed around the information presented in the Land Science Ground Investigation report.

11.0 REFERENCES

11.1 136 Architects Ltd drawings ST_17_56PLATTS_01 and ST_17_56PLATTS_02

11.2 Geotechnical Ground Investigation Report for 56 Platts Lane, London, No. LS3267 February 2018, produced by Land Science.

11.3 Code of Practice BS8500-1:2006 'Concrete – Complementary British Standard to BS EN 206-1, Part 1: Method of specifying and guidance for the specifier'

11.4 Code of Practice BS8102:2009 'Protection of structures against water from the ground'

11.5 Code of Practice BS8002:1994 'Design of earth retaining structures'

11.6 Code of Practice BS8004:1986 'Design of foundations'

11.7 Code of Practice BS8007:1987 'Design of Concrete Structures for Retaining Aqueous Liquids'

11.8 Code of Practice BS8110-1:1997 'Structural use of concrete – design and construction'
Code of Practice BS5628:1:1992 'Structural use of unreinforced masonry'

11.9 Code of Practice BS6187: 2011 'Demolition'

11.10 BS 5837: 2012 Trees in relation to design, demolition and construction - Recommendations

11.11 Building Regulations 2000 Approved Document A – Structure

11.12 Building Regulations 2000 Approved Document C – Site preparation and resistance to contaminants and moisture.

11.13 BRE Good Building Guide 72, Parts 1 and 2 – Basement construction and waterproofing

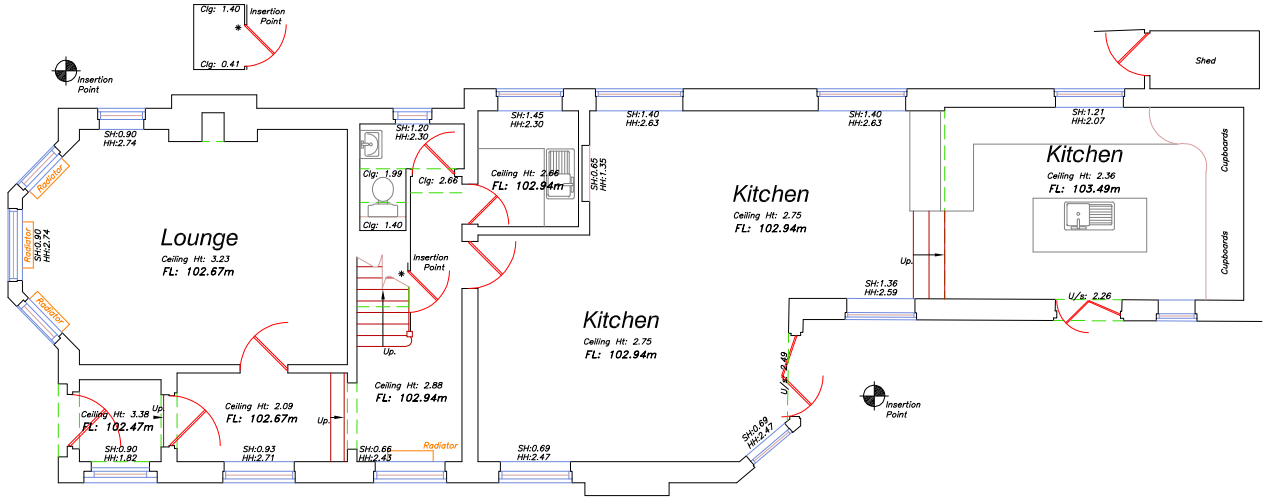
11.14 Ciria Report 139 – Water resisting basements

11.15 National House Builders Council Standards 2010 Edition

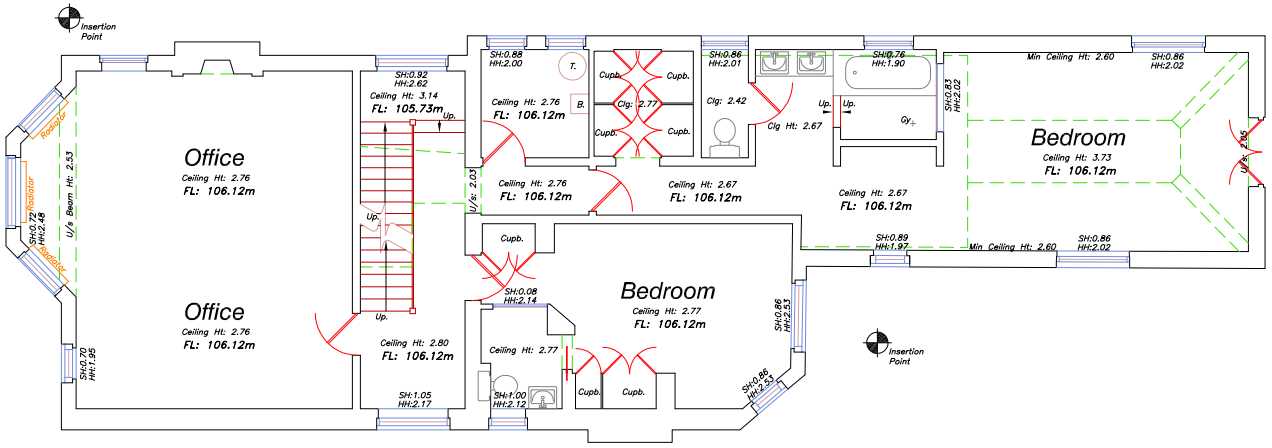
APPENDIX A :

EXISTING AND PROPOSED DRAWINGS

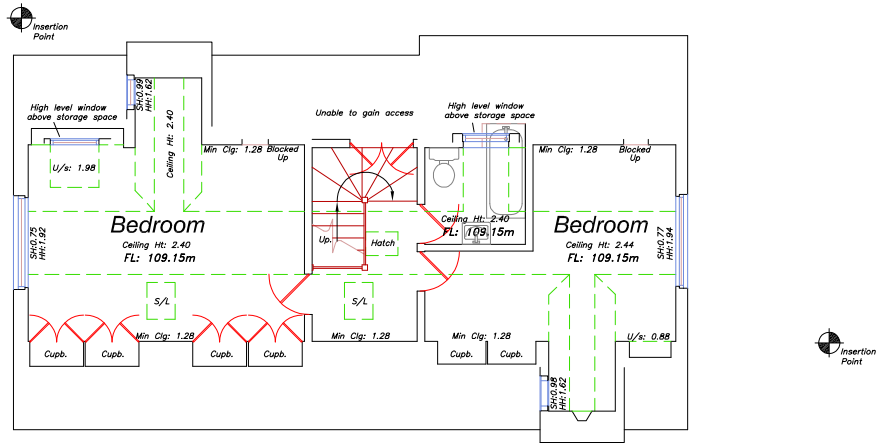
Ground Floor Plan



First Floor Plan



Second Floor Plan



Note:
Some services may have been omitted due to parked vehicles.
The Ordnance Survey tile is to be used as a guide only.

OS Buildings | Surveyed Buildings

This survey has been orientated to the Ordnance Survey (O.S) National Grid (OSGB36) via Global Navigational Satellite Systems (GNSS) and the O.S. Active Network (OS Net).

A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN15 & OSGM15 transformation models.
The survey has been correlated to this point and a further one or more OSGB36 points established to create a true O.S. bearing for angle orientation.

No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.

Please refer to Survey Station Table to enable establishment of the on-site grid.

Building Survey Legend:

SH: 1.00 HH: 2.12	Sill Height from FFL. Head Height from FFL.
SL: 51.03m HL: 52.82m	Sill Level from defined datum. Head Level from defined datum.
Susp CHt: 2.00 Struct CHt: 3.00	Suspended Ceiling Height from FFL. Structural Ceiling Height from FFL.
Susp Ceil: 30.00m Struct Ceil: 31.00m	Suspended Ceiling Level from datum. Structural Ceiling Level from datum.
IFL: 100.00m +100.00m	Internal Floor Level (General). Internal Floor Level (Specific).
Insertion Point	Insertion Point for overlay drawings of other floors or details.

Legend:

Rev.	Date	Description	Drawn	Ch. Rev.

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Topographical Surveys
Site Engineering
Utility / CCTV Surveys
Measured Building Surveys
3D Laser Scanning
Revit & BIM Models

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CLIENT
Amirilan

PROJECT
56 Platts Lane, London, NW3 7NT

TITLE
Existing Floor Plans

SCALE	DATE
A3@ 1: 100	14/02/2017
DRAWN: Gy	QUALITY REF:

Level datum	See OS Note
Grid orientation	See OS Note
Job number	26113
Drawing No.	26113_02_P
Rev.	

Comments
This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.
All dimensions should be checked on site prior to design and construction.
Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

Datum: 100.00m.

Elevation 1.

Datum: 100.00m.

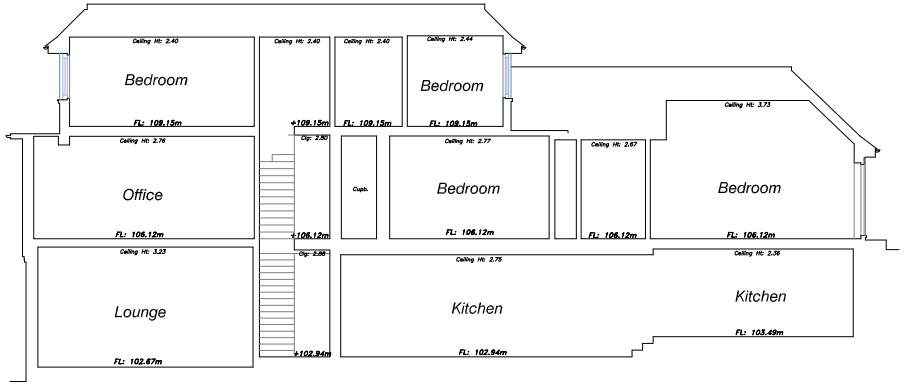
Elevation 2.

Datum: 100.00m.

Elevation 3.

Datum: 100.00m.

Elevation 4.



Datum: 100.00m.

Section 1.

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OS Buildings | Surveyed Buildings

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Legend:

Rev	Date	Description	Drawn	Ch'kd

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- Topographical Surveys
- Site Engineering
- Utility / CCTV Surveys
- Measured Building Surveys
- 3D Laser Scanning
- Revit & BIM Models

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CLIENT
Amirilan

PROJECT
56 Platts Lane, London, NW3 7NT

TITLE
Existing Elevations & Section

SCALE	DATE
A2@ 1: 100	14/02/2017
DRAWN: Gy	QUALITY REF:

Level datum	See OS Note
Grid orientation	See OS Note
Job number	26113

Drawing No:	Rev:
26113_03_ES	0

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This plan should only be used for its original purpose, Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.
All dimensions should be checked on site prior to design and construction.
Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.

Notes:

Proposed Section
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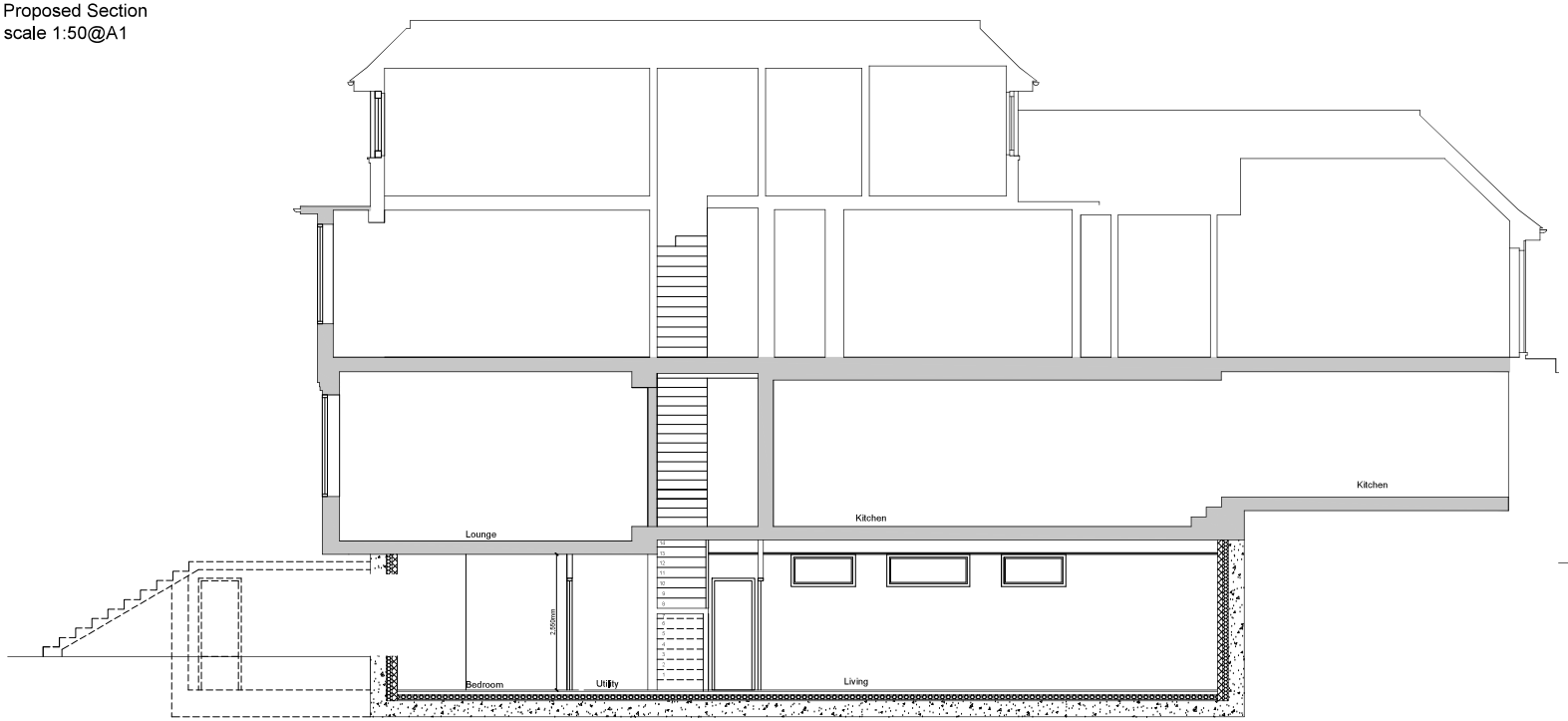
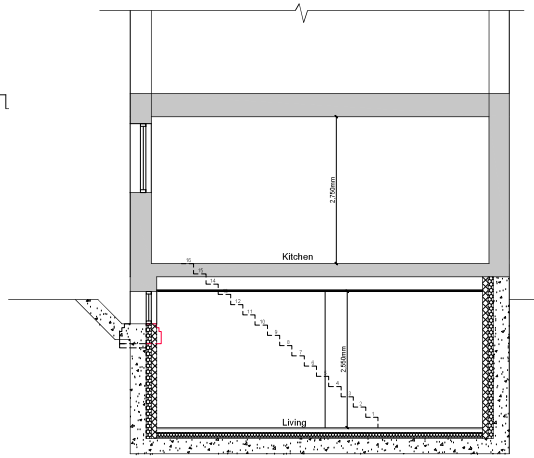


0m .5m 1m 2m 3m 4m 5m
SCALE BAR IN METERS

PROPOSED SECTION A-A



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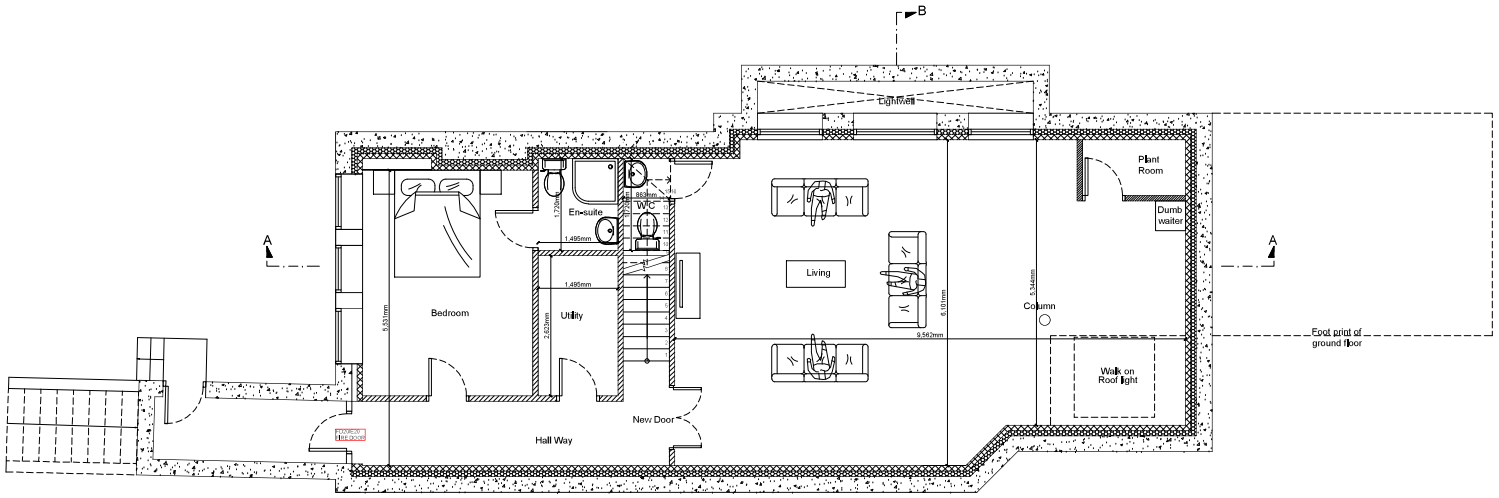


PROPOSED BASEMENT FLOOR FLAN

studio 136 architects
6 The Broadway, Wembley, Middlesex, HA9 8JT
Tel/Fax: 020 8907 7131 e-mail: info@studio136.co.uk

Project
PROPOSED BASEMENT CONVERSION AT
56 PLATTS LANE
W4 1BX
LONDON

Client
Mr Fedak
56 PLATTS LANE
W4 1BX
LONDON

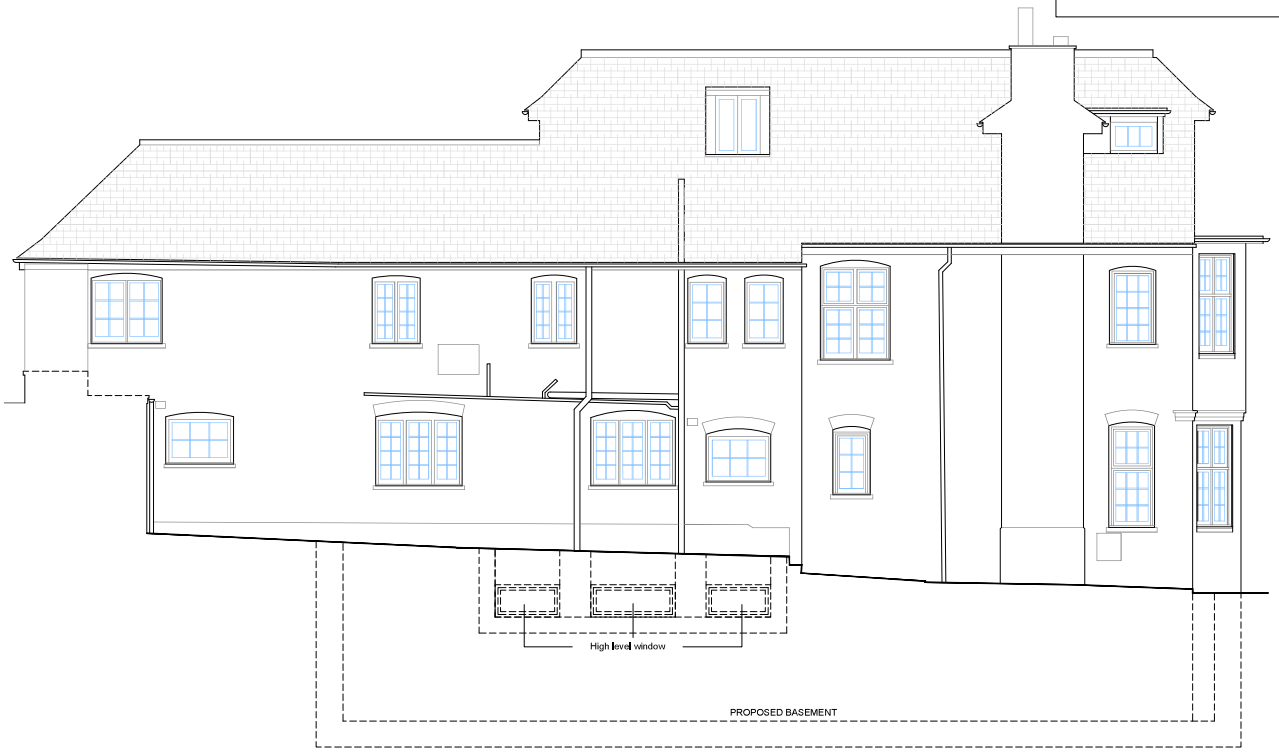
Drawing Title
PROPOSED PLAN AND SECTION

Scale	Drawn	Checked	Authorised
1:50 @A1	–	–	–
	27th APRIL 2017	–	–

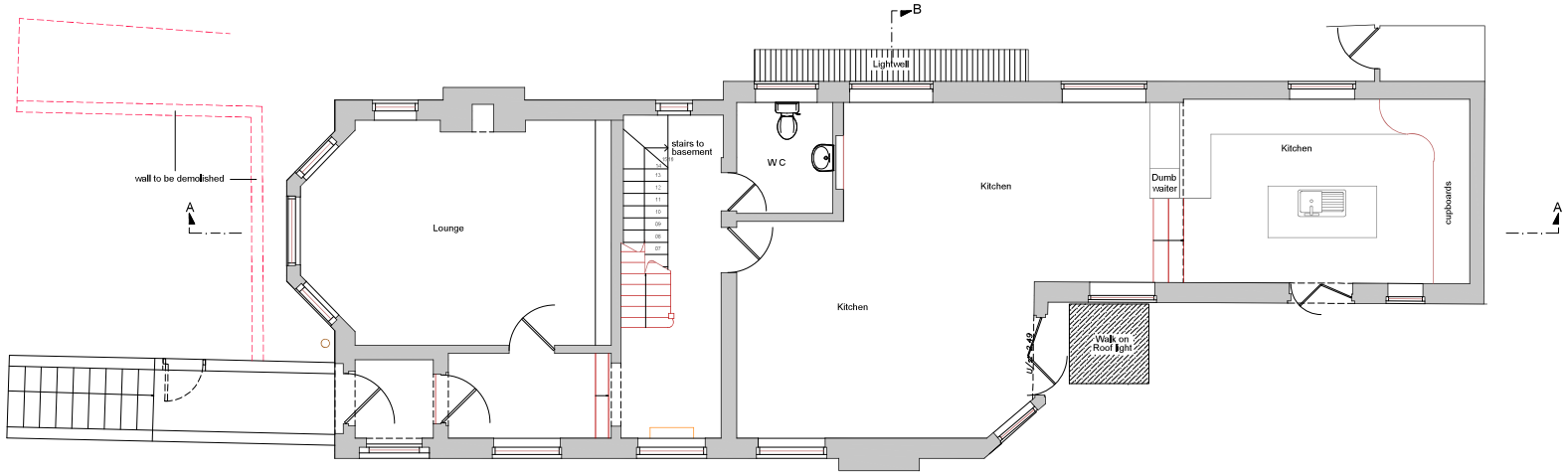
Drawing Number	Rev
ST_17_56PLATTS_01	B

Proposed Elevation
scale 1:50@A1

PROPOSED FRONT ELEVATION



PROPOSED SIDE ELEVATION



PROPOSED GROUND FLOOR PLAN

studio 136 architects
6 The Broadway, Wembley, Middlesex, HA9 8JT
Tel/Fax: 020 8907 7131 e-mail: info@studio136.co.uk

Project

PROPOSED BASEMENT CONVERSION AT
56 PLATTS LANE
W4 1BX
LONDON

Client

Mr Fedak
56 PLATTS LANE
W4 1BX
LONDON

Drawing Title

PROPOSED PLAN AND ELEVATION

Scale	Drawn	Checked	Authorised
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	27th APRIL 2017	–	–

Drawing Number	Rev
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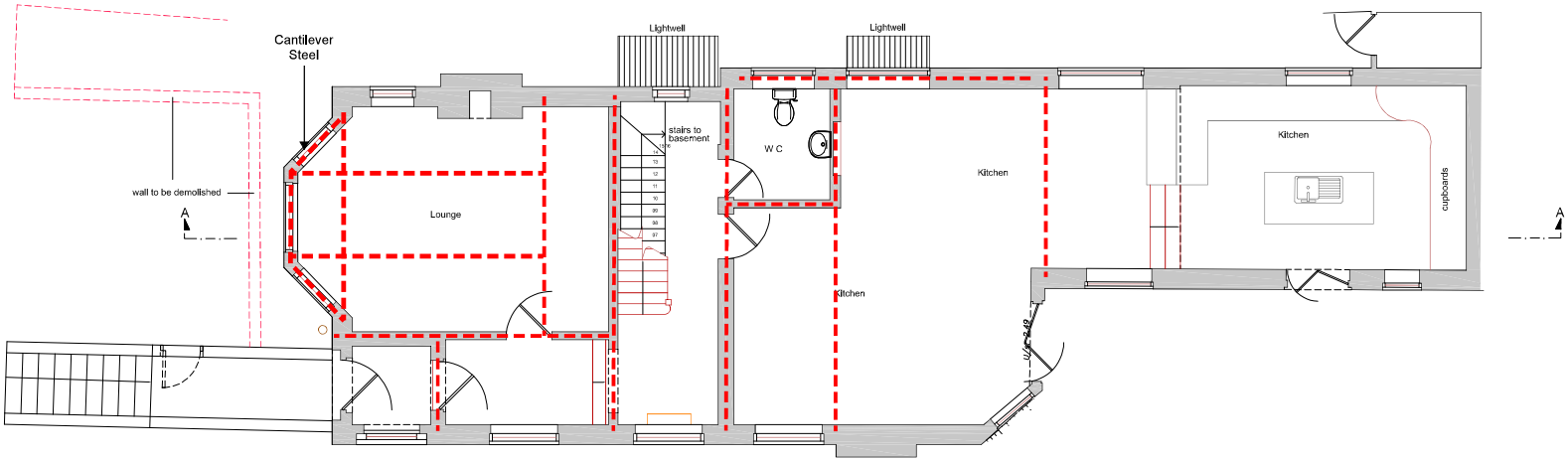
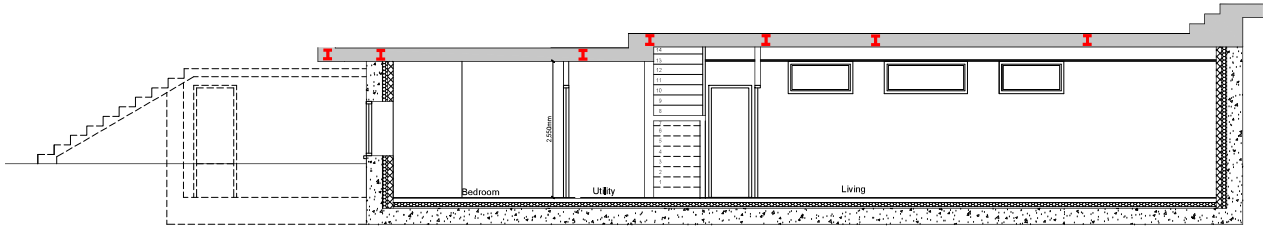


PROPOSED GROUND FLOOR PLAN



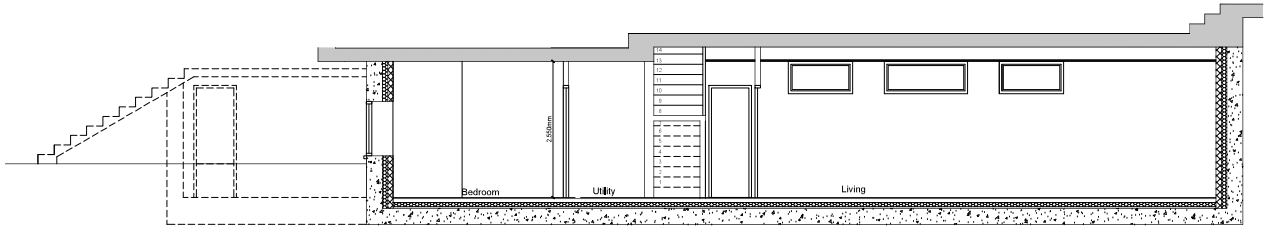
PROPOSED SECTION A-A

AMIRILAN DESIGN LTD
Unit 3, London Business Park, London, NW2 7AH
Tel: 0208 452 9400 Email:info@amirilan.com

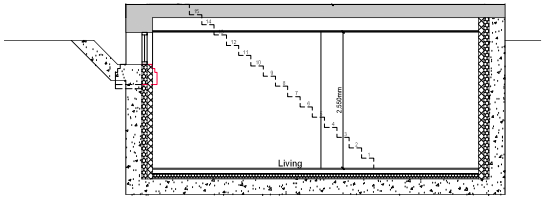
Project: 56 Platt's Lane
Drawing Ref: Engineering Plan
Date: 08.01.19
Revision:

APPENDIX B :

CONSTRUCTION SEQUENCE

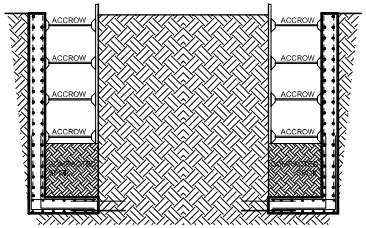


PROPOSED SECTION A-A



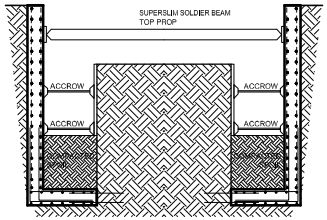
PROPOSED SECTION B-B

SECTION 1-1



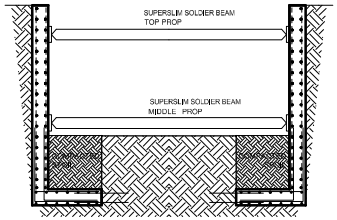
Step 1
Install retaining walls

SECTION 1-1



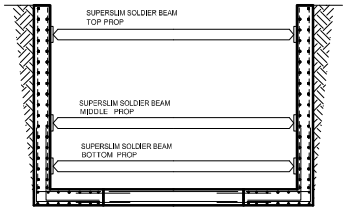
Step 2
Reduce ground level
Install top prop

SECTION 1-1



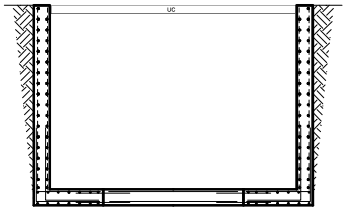
Step 3
Reduce ground level
Install middle prop

SECTION 1-1

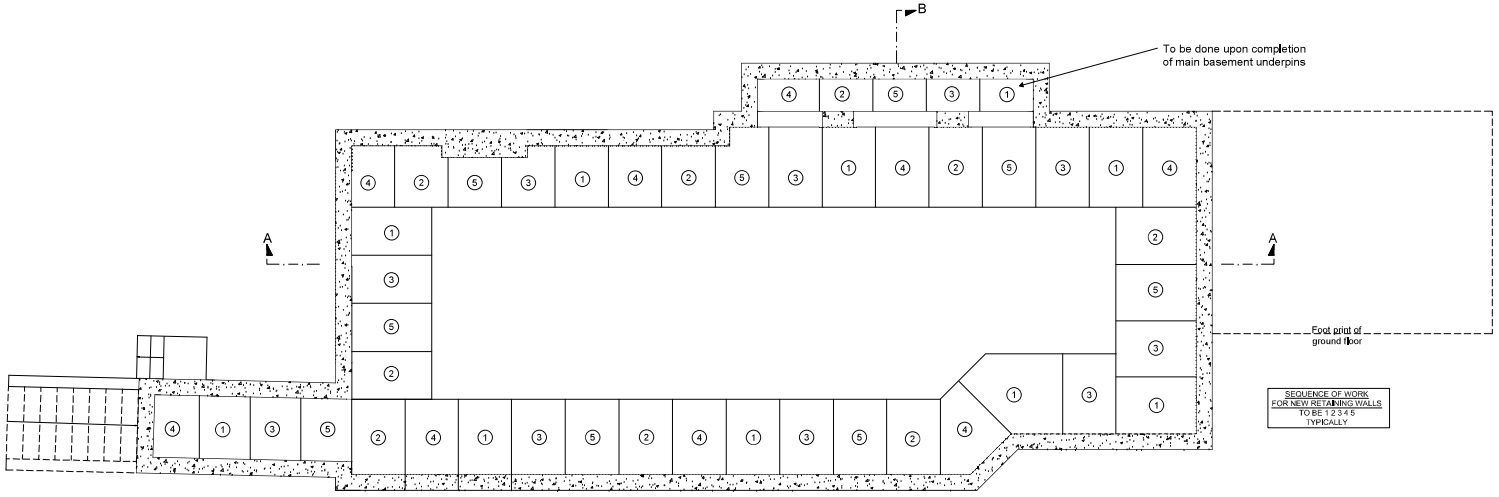


Step 4
reduce ground level
install middle prop
place concrete for new slab
install UC ground floor supporting beams

SECTION 1-1

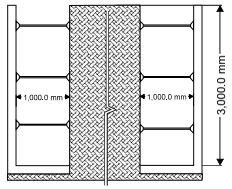


Step 5
after min 14 days remove props



PROPOSED BASEMENT UNDERPIN SEQUENCE PLAN

UNDERPIN
SECTION DETAIL



AMIRILAN DESIGN LTD
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Tel: 0208 452 9400 Email:info@amirilan.com

Project: 56 Platt's Lane
Drawing Ref: Underpin Details
Date: 08.01.19
Revision:

APPENDIX C :

SOIL INVESTIGATION

GEOTECHNICAL GROUND INVESTIGATION

for the

PROPOSED SINGLE STOREY BASEMENT

at

56 PLATTS LANE, CHILDS HILL, LONDON, NW3 7NT

on behalf of

MR AMIR REI

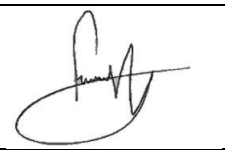
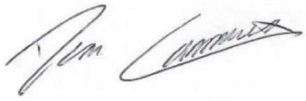
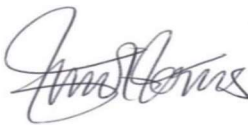
Land Science

Brighton | London | Bristol | Kent

0845 604 6494 | www.landscience.co.uk

The Old Police Station, Jobs Lane, Sayers Common, West Sussex, BN6 9HE

Title:	**GEOTECHNICAL GROUND INVESTIGATION**
Site:	**56 PLATTS LANE, CHILDS HILL, LONDON, NW3 7NT**
Development:	**PROPOSED SINGLE STOREY BASEMENT**
Client:	**MR AMIR REI**
Date:	**26th FEBRUARY 2018**
Reference:	**LS3267**
Version:	**V1.0**

Prepared by:		**FRANCISCO VIEIRA JUNIOR** **Civil Engineering Technician**
Prepared by:		**ORVILLE VASQUEZ B.Sc. (Hons.)** **Geotechnical Engineer**
Prepared by:		**DANIEL CANNEAUX B.Sc. (Hons.), FGS** **Senior Geotechnical Engineer**
Authorised by:		**ELLIOT TOMS CEnv M.Sc., B.Sc. (Hons.), FGS, MIEnvSci** **Managing Director**

Land Science are Geotechnical Engineering and Contaminated Land specialists for construction, regulation, property ownership, and due diligence. By understanding our client's needs and appreciating the role that ground issues play within a wider context, we provide a reliable service and first class expertise tailored to their specific requirements. For more information on how we can benefit your project, please visit www.landscience.co.uk

CONTENTS

F I G U R E S

A P P E N D I C E S

EXECUTIVE SUMMARY			
Appointment	Geotechnical desk study and ground investigation. The intrusive investigation included two dynamic sampler boreholes (WS1 and WS2) and associated geotechnical testing.		
Existing Site	A three storey dwelling, with a terraced garden to the rear.		
Development	A new basement is proposed beneath the existing building on site.		
Ground Conditions	Strata	Base depth m	Summary
	Hardstanding	0.05	Concrete
	Made Ground	0.45-1.10	Slightly clayey gravelly sand with occasional brick and concrete fragments.
	Claygate Formation	2.00-5.00+	Stiff very sandy CLAY.
Groundwater	Water was recorded at 3.92mbgl during the drilling of WS2. No groundwater encountered during the return monitoring. (the well was installed to 4.0mbgl)		
Foundations	Underpinned foundations designed to a maximum net allowable bearing capacity of 125 kN/m^2 on the Claygate Formation. The formation should be treated as being medium volume change potential. The basement should be constructed as reinforced concrete box or raft. Sloping ground should be considered in calculations of active preasures.		
Excavations	The Made Ground is unlikely to remain stable. The Claygate Formation should remain generally stable. Risk assessments should be prepared and appropriate safety measures provided.		
Building Materials	All sub-surface concrete should fall into class DS-2 and class AC-2 in accordance with BS8500-1:2015+A1:2016.		
Radon Gas	No issues with respect to Radon gas have been identified.		
Waste Disposal	The Made Ground should be handled as Inert Waste and It is likely that natural soils could also be handled as Inert Waste.		
Discovery strategy	A discovery strategy should be employed, so that any evidence of possible unidentified contamination can be dealt with appropriately		
Further Action	No immediate requirements for further ground investigation have been identified. This report should be submitted to relevant regulatory bodies and warranty providers in good time for approval.		
This Executive Summary is intended to provide a brief summary of the main findings and conclusions of the investigation. For detailed information, the reader is referred to the main report.			

1.0 INTRODUCTION

1.1 General

Land Science was instructed by Mr. Amir Rei (the Client) to undertake a geotechnical ground investigation in relation to the proposed construction of a single storey basement below the existing property at 56 Platts Lane, Childs Hill, London, NW3 7NT. The location of the site is shown on Figure 1, which is centred at grid reference TQ 2551 8627.

1.2 The Site

The area under investigation comprised a three-storey dwelling with a small parking area and soft landscaping at the front (west) and a terraced hillside garden to the rear (east).

The layout of the existing site is indicated on Figure 2, and a walkover survey is presented in section 3.0. The area was approximately 0.05 hectares. It was assumed that the Client was in ownership of the site, and that this investigation was not a pre-purchase appraisal.

1.3 Form of Development

The proposed development was understood to comprise the construction of a single storey basement under the majority of the existing building. The proposed development was covered under planning application number 2009/5783/P.

1.4 Previous Investigations

Land Science was not aware of any previous desk studies or ground investigation(s) undertaken on this site.

1.5 Scope of Works

In accordance with the agreed scope, the investigation comprised the following:

- A desk study
- 2no. dynamic sampler boreholes
- 1no. super heavy dynamic probe (SHDP)
- A standpipe installation, to be monitored on one return visit.

The fieldwork was conducted on 18th January 2018 under the supervision of Land Science. The return monitoring visit was conducted on 26th January 2018.

1.6 Geotechnical Objectives

A geotechnical investigation was required to provide an interpretation of ground conditions with respect to foundations, concrete specification, excavations, basement design and construction and soil classification for waste disposal purposes.

1.7 Standards

Where practicable, the investigation was undertaken in accordance with the following standards and guidance:

- BS 5930:2016 Code of Practice for Site Investigations
- BS 1377:2015 Soils for Civil Engineering Purposes

Unless otherwise explicitly stated, the work has not been undertaken in accordance with Eurocode 7 and this report does not represent a Geotechnical Design Report (GDR) under that standard.

Other technical sources have been cited in respect of specific aspects of the investigation, as referenced throughout the text.

1.8 Confidentiality and Limitations

This report may be relied upon by the Client and their agents and consultants, and should be read and used only in full.

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