BASEMENT IMPACT ASSESSMENT
ASSESSMENT OF FLOOD RISK FOR 251 GOLDHURST TERRACE, LONDON, NW6 3EP
DOCUMENT NO: C-1799

PREPARED BY

Basement Impact Assessment
251 Goldhurst terrace, London, NW6 3EP
Nimbus Engineering Consultants Ltd – April 2017

Contents

1. SITE DETAILS

Site Name	251 Goldhurst terrace
Site Address	251 Goldhurst terrace, London, NW6 3EP
Purpose of Development	Residential
Existing Land Use	Residential
OS NGR	525827E, 184019N
County	Greater London
Country	England
Local Planning Authority	The London Borough of Camden

1.1. Development Proposals

A set of drawings showing the existing and proposed site layout and sections are included in Appendix A. These show, that the proposals for this development involve the demolition of the existing lower ground floor slab, in order to provide a new deeper basement, including new light wells to the front and the rear of the property.

The development works will also involve a new loft conversion on the first floor and the refurbishment of the existing first floor.

1.2. Geology of The Area

According to the British geological survey, the bedrock at the area is of the London Clay formation shown in Figure 2, below. There was no superficial deposits information available.

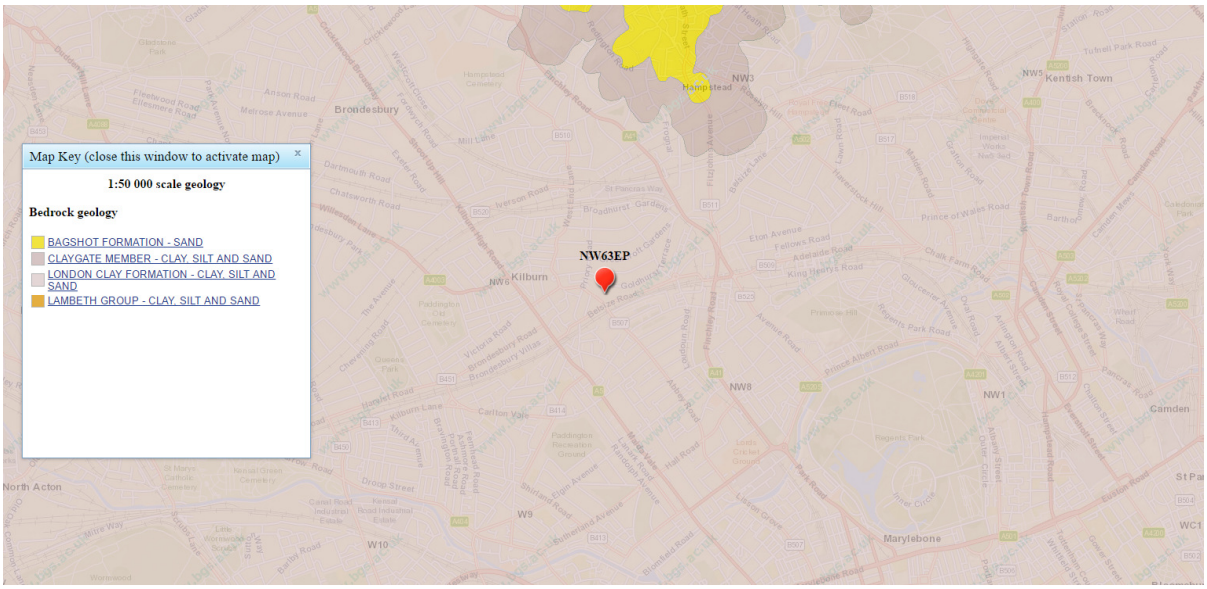


Figure 1- Bedrock at the site. (Source: British Geological Society Website (contains British Geological Survey materials © NERC2015)).

2. PLANNING POLICIES

2.1 National Planning Policy

NPPF's technical guidance states:

"The effect of development is generally to reduce the permeability of at least part of the site. This markedly changes the Site's response to rainfall. Without specific measures, the volume of water that runs off the site and the peak run-off flow rate is likely to increase. Inadequate surface water drainage arrangements in new development can threaten the development itself and increase the risk of flooding others".

2.2 Local Planning Policy

This report has been written in conjunction with the following local planning policies:

- Camden Geological, hydrogeological and hydrological study by the London Borough of Camden
- Camden Planning Guidance CPG4: Basements & Lightwells by the London Borough of Camden
- The City of Camden's Flood Risk Management Strategy

3. FLOOD RISK ASSESMENT

The possible causes of flooding set out in NPPF's technical guidance are considered in this section in relation to the flood risk to the site itself and the effects of the development of the site on flood risk elsewhere.

3.1. Fluvial or Tidal Flooding

The River Thames is located approximately 4000 metres to the south of the site, however any flooding from this does not affect the proposed development site. The Environment Agency's Flood Map for Planning (Rivers and Sea), shown in below, indicates the site is in Flood Zone 1, and not at risk of flooding from rivers or the sea.
The site is also not at risk of tidal flooding, this can also be confirmed by the Environment Agency's Flood map in below.

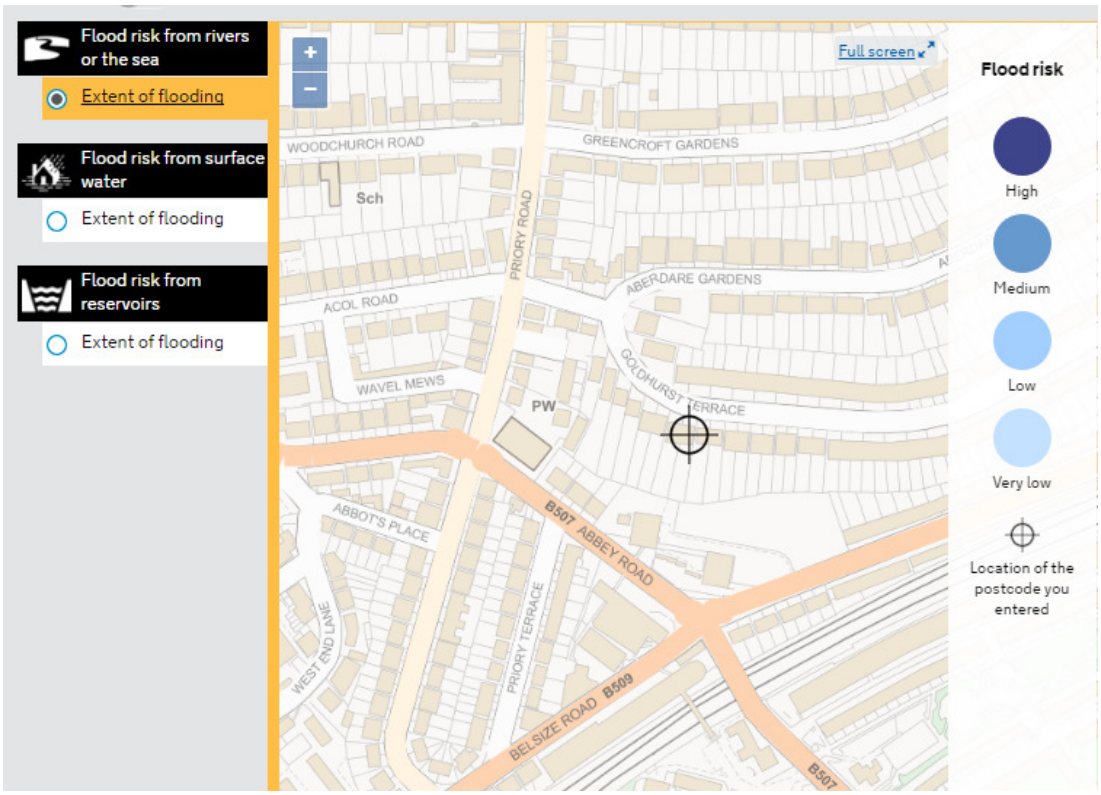


Figure 2 – Environment Agency Flood Map (from Rivers and the Sea) for the proposed development

3.2. Flooding from Land (Overland Flow)

The proposed development site is not at risk of surface water flooding, this can be confirmed by the Environment Agency's Flood map shown below:

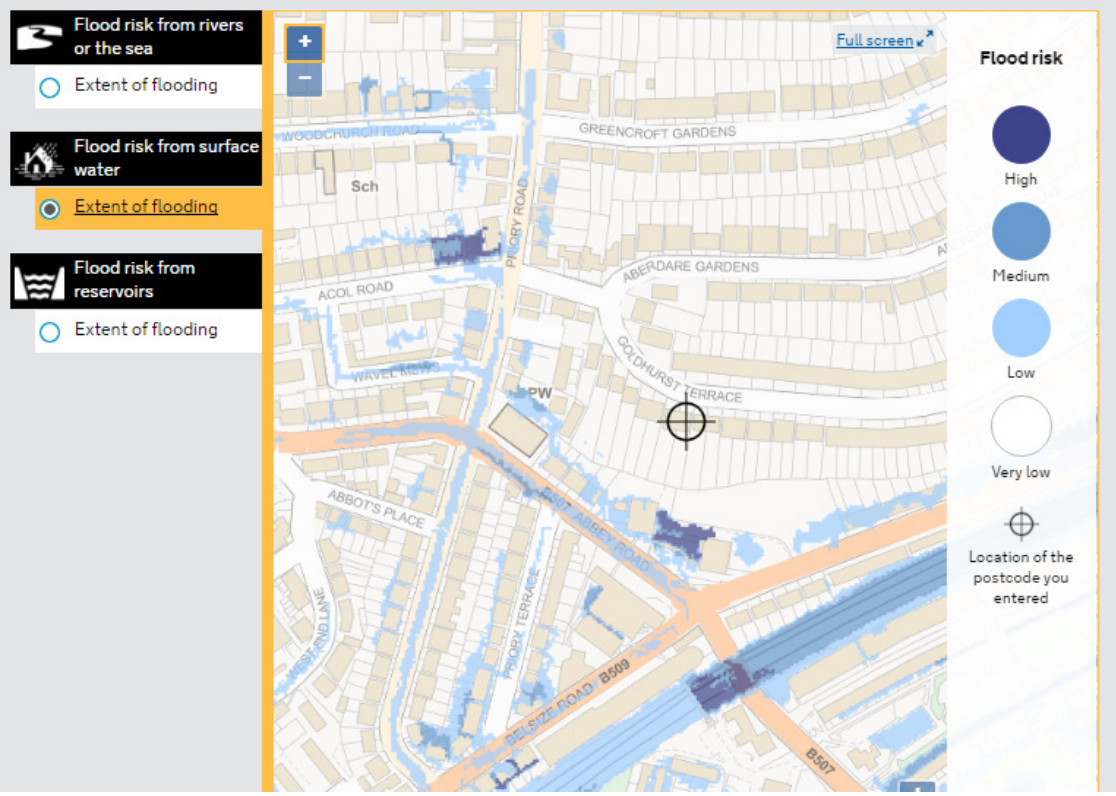


Figure 3 – Environment Agency Flood Map (from surface water) for the proposed development

3.3. Flooding from Groundwater

The map shown below, from the Camden Flood Risk Management strategy report shows that the proposed site is not in an area that is at risk of groundwater flooding, or in an area with groundwater vulnerability.

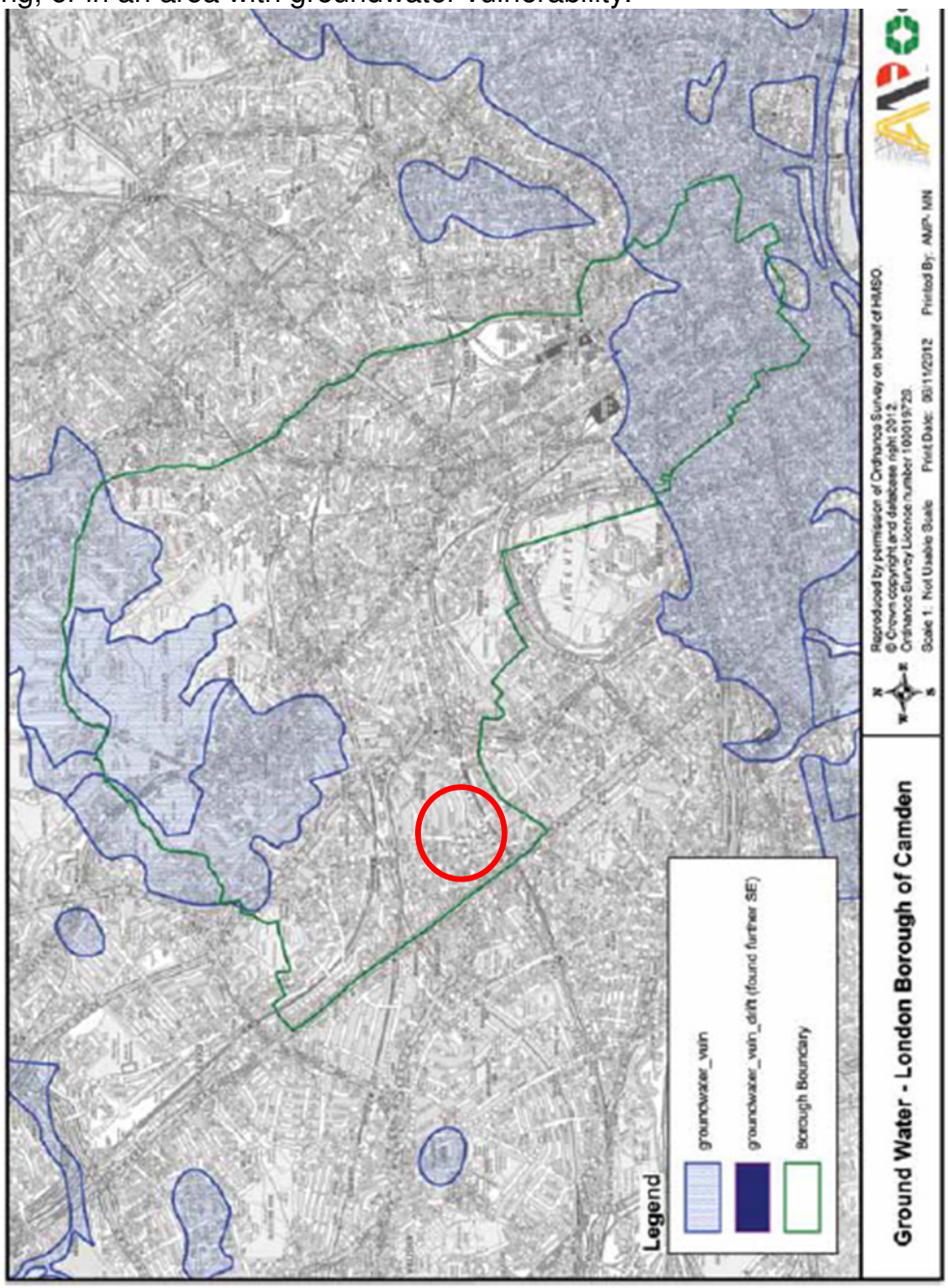


Figure 4 – Map of groundwater Flood Risk taken from the Camden Flood Risk Management Strategy.

Ground investigation was carried out at the site in October 2016 by Ground and Water Ltd as follows:

- 2 no. Window Sample Borehole (one at 5.0 metres below ground level and one at 10.0 metres below ground level)
- 1 no. Trial Pit (to a depth of 1.0 metres below ground level)
- Groundwater monitoring

Groundwater was not encountered in any of the above boreholes or trial pit. The results of this ground investigation can be found in Appendix B.

The presence of this perched water must be taken in to consideration when excavating below ground and during the construction of the basement.

As per the ADS consultancy report proposals, the proposed structures should be designed to resist any potential hydrostatic uplift forces which may be imparted by the presence of groundwater.

The basements should be designed as watertight elements. It should also be appreciated that the soils at likely foundation/basement depth will deteriorate rapidly in the prolonged presence of water, therefore a waterproof membrane such as delta membrane or equivalent should be used. Consequently, it may be prudent to apply a blinding layer of lean-mix concrete to all excavations, if continuous working cannot be achieved.

Pumps will also be provided to remove excess water should the properties flood.

Additional mitigation measures will include:

- Fixtures and fittings for the basement will be located to ensure that if any flood water does enter the building, the impact of floodwater on the property will be minimal;

- Electricity sockets for the basement will be 600mm above the finished floor level and wired from the ceiling down;

- Non return valves will be employed in the drainage design for the basement, to prevent back up of flow;

- Water resistant paint to be used for internal walls.

3.4. Flooding from Sewers

This new site drainage has been designed in accordance with Building Regulations Part H, therefore is unlikely to surcharge. Consultation of the London Borough of Camden's Flood Risk Management Strategy indicates that there are no known drainage problems in the area. Therefore, it is considered unlikely that there is any risk of flooding of the site due to surcharge of sewers.

3.5. Flooding from Reservoirs, Canals or Other Artificial Sources

There is no risk of flooding to this site from any reservoirs, canals or other artificial sources in the vicinity of the site. This can be confirmed by the Environment Agency's Flood map shown below.

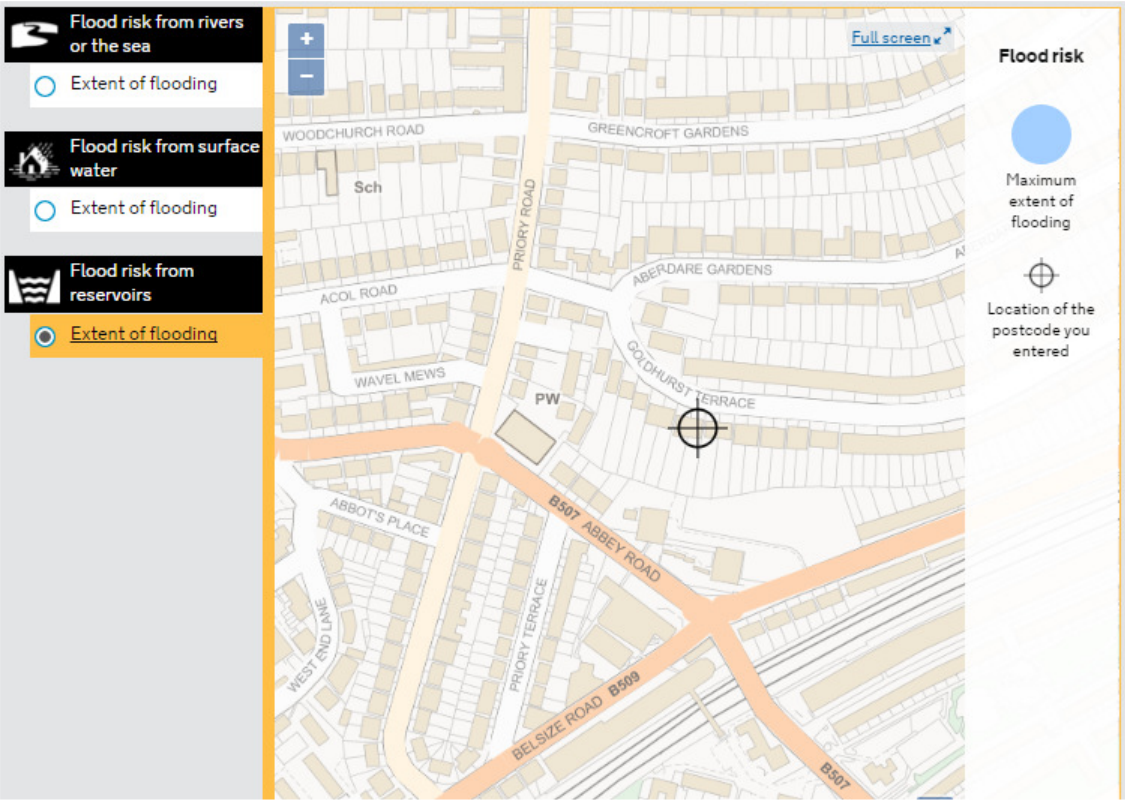


Figure 5 – Environment Agency Flood Map (from reservoirs) for the proposed development

4. MANAGEMENT OF SURFACE WATER

Due to the proposed basement construction and extension, the impermeable areas at this site will increase, and therefore will increase the risk of surface water flooding elsewhere due to the increase in surface water run of produced by these proposals.

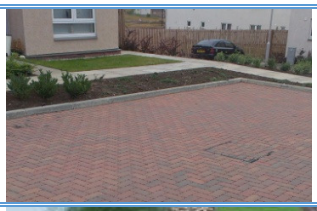
Surface water arising from a developed site should, as far as is practicable, be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development, while reducing the flood risk to the site itself and elsewhere, taking climate change into account.

Traditional piped surface water systems work by removing surface water from our developments as quickly as possible, however this can cause various adverse impacts:

- Increased downstream flooding, and sudden rises in flow rates and water levels in local water courses.
- Reduction in groundwater levels and dry weather flows in watercourses.
- Reduce amenity and adversely affect biodiversity due to the surface water run-off containing contaminants such as oil, organic matter and toxic materials.

SUDS are defined as a sequence of management principles and control structures designed to drain surface water in a more sustainable fashion than conventional piped drainage techniques. SUDS should utilise the natural landscape of an area which as well as slowing down the rate of runoff provides a number of environmental, ecological and social benefits.

The various types of SUDS include:

Permeable paving	
Soakaways;	

Swales and basins;	
Bioretention/ rain gardens;	
Green roofs and rainwater re-use;	
Infiltration trenches and filter drains	
Ponds and wetlands.	

Preferably a combination of these techniques should be used as part of the surface water management train, and it is important for all stakeholders, such as developers, architects, landscape architects and engineers to work together at the planning stage in order to determine a feasible solution.

Due to the soil conditions and lack of available space, soakaways, ponds and wetlands were not considered as a suitable SuDs strategy for this site, however the proposed solution will involve providing storage for the increase in basement impermeable area to a 1 in 100 year storm event plus a 40% allowance for climate change, with a flow restriction of 5 l/s leaving the site.

5. SUMMARY AND CONCLUSIONS

The site is at low risk from flooding from tidal, fluvial, surface water, sewer and reservoir flooding.

The amount of impermeable area is increased by the proposed basement extension and therefore SUDS will be employed to ensure the amount of runoff generated by the site is no greater than existing.

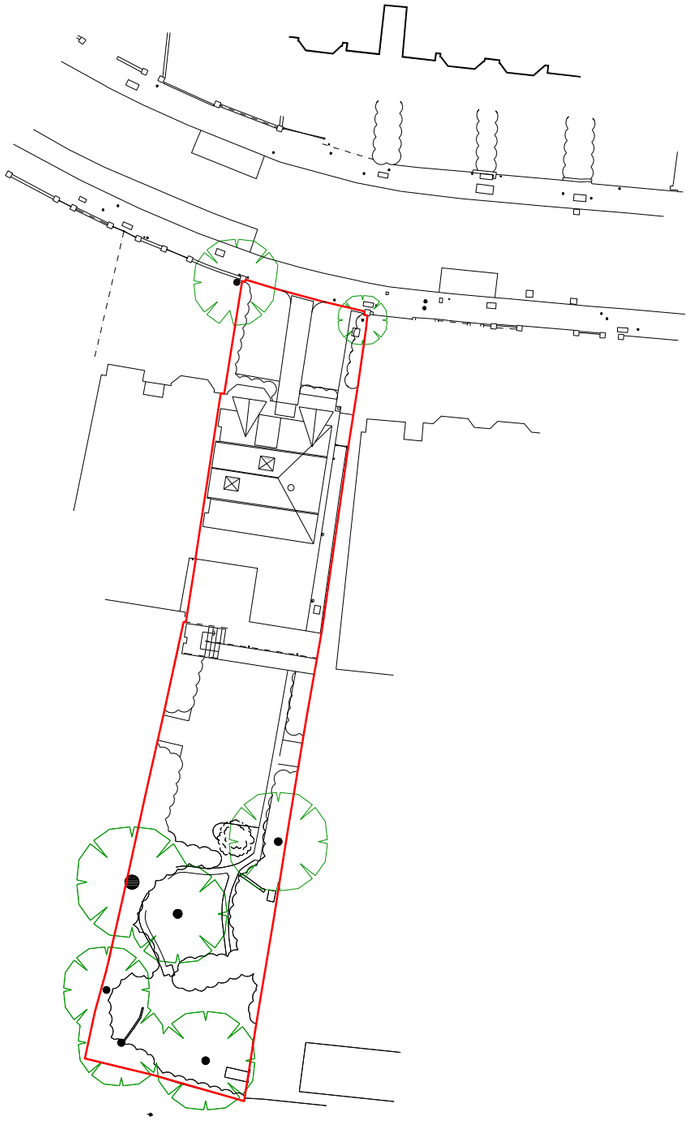
The proposals will not impact on any known flood flow route or flood storage area.

The basements are not at risk from groundwater flooding, however suitable mitigation measures are identified in this report and the site investigation report, included as Appendix B.

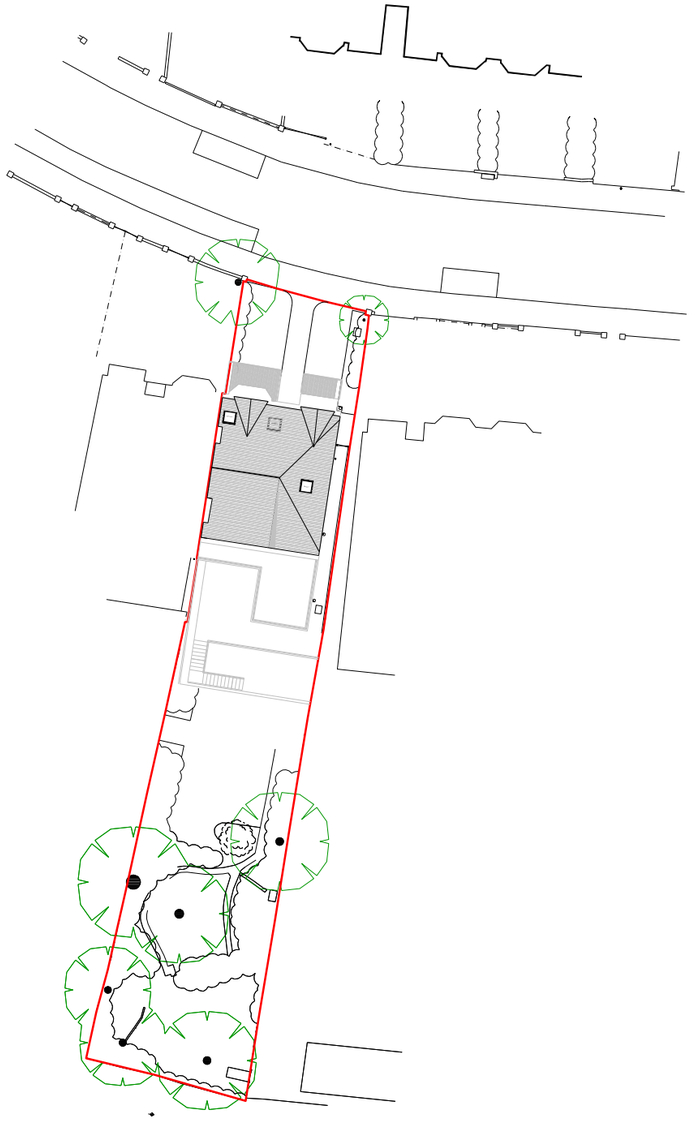
The report has been reviewed by Andrew Long who is a Chartered Member of the Chartered Institute of Water and Environmental Management (CIWEM).

APPENDIX A – DRAWINGS

251 Goldhurst Terrace
NW6 3EP



Existing Site Plan



Proposed Site Plan

0 5 10 15 25 50

PLANNING APPLICATION

251 GOLDHURST TERRACE

Site Plan

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:500@A3
ISSUED FOR: PLANNING

4536/PA/01

251 Goldhurst Terrace
NW6 3EP

A

B

Basement

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251 GOLDHURST TERRACE

Site Photos

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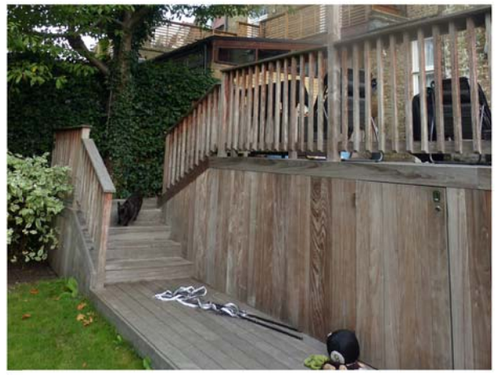
G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

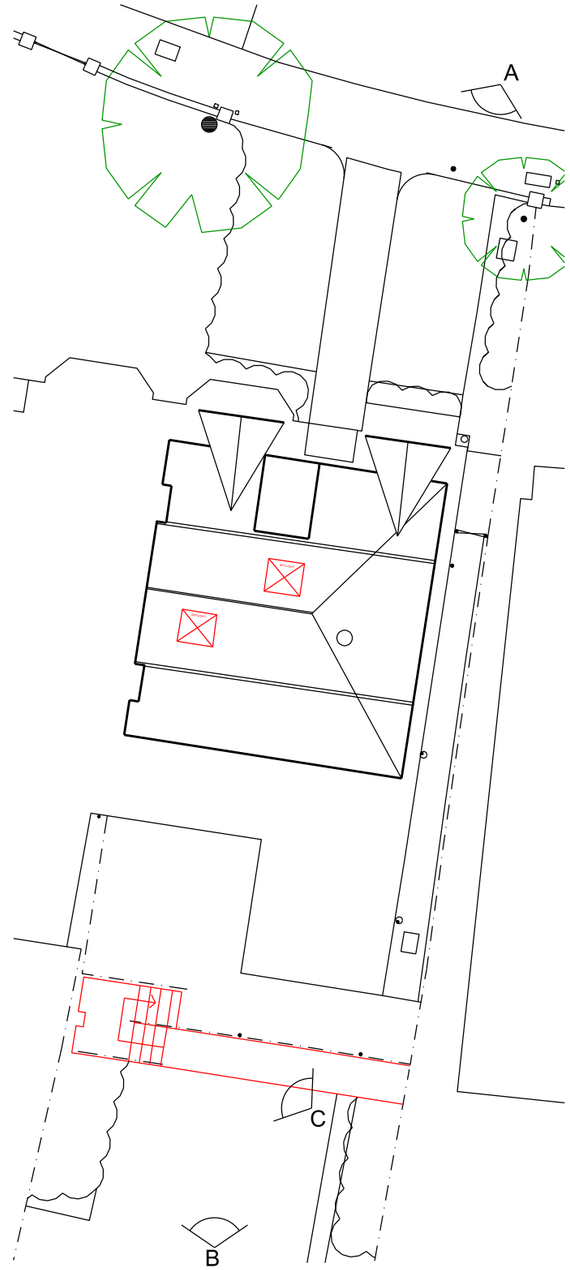
4536/PA/02

A

B



C



Roof

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251 GOLDHURST TERRACE

Site Photos

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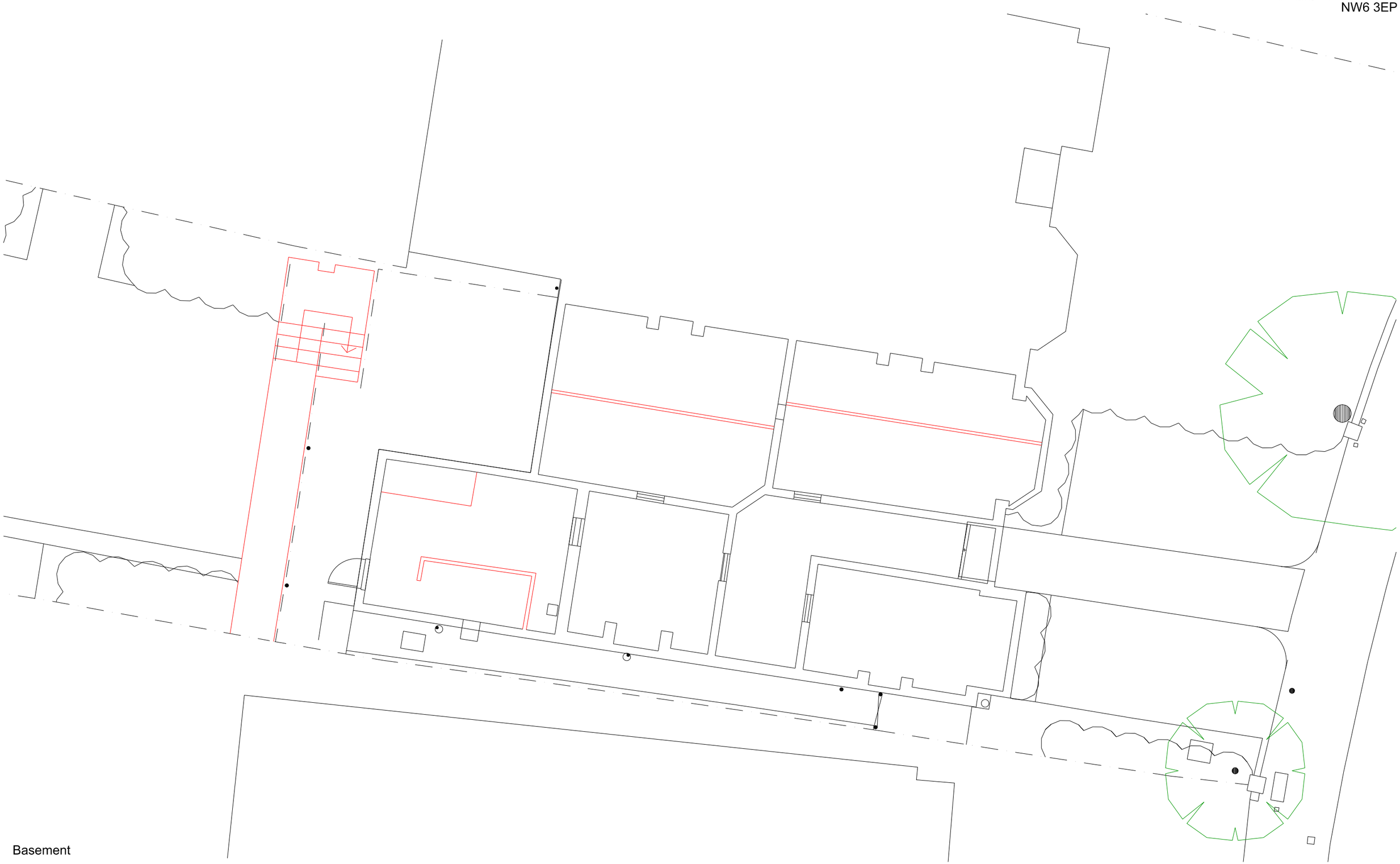
4536/PA/03

251 Goldhurst Terrace
NW6 3EP



Basement

0 1 2 3 5 10

N

NOTES:
Do not scale from this drawing

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251 GOLDHURST TERRACE

Existing Basement

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251 Goldhurst Terrace
NW6 3EP

Ground Floor Plan

0 1 2 3 5 10

N

NOTES:

Do not scale from this drawing

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251 GOLDHURST TERRACE

Existing Ground Floor Plan

G M L A r c h i t e c t s

UNIT 3,1-4 Christina Street, London EC2A 4PA
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SCALE: 1:100@A3, 1:50@A1
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251 Goldhurst Terrace
NW6 3EP

Roof Plan

0 1 2 3 5 10

N

NOTES:

Do not scale from this drawing

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251 GOLDHURST TERRACE

Existing Roof Plan

December 2016

G M L A r c h i t e c t s

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4536/PA/06

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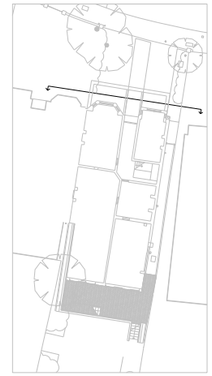
NW6 3EP



Front Elevation

0 1 2 3 5 10

NOTES:
Do not scale from this drawing

PLANNING APPLICATION
251 GOLDHURST TERRACE
Existing Front Elevation

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
ISSUED FOR: PLANNING

4536/PA/07

251 Goldhurst Terrace
NW6 3EP

Front Elevation

0 1 2 3 5 10

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

251 GOLDHURST TERRACE

Existing Rear Elevation

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
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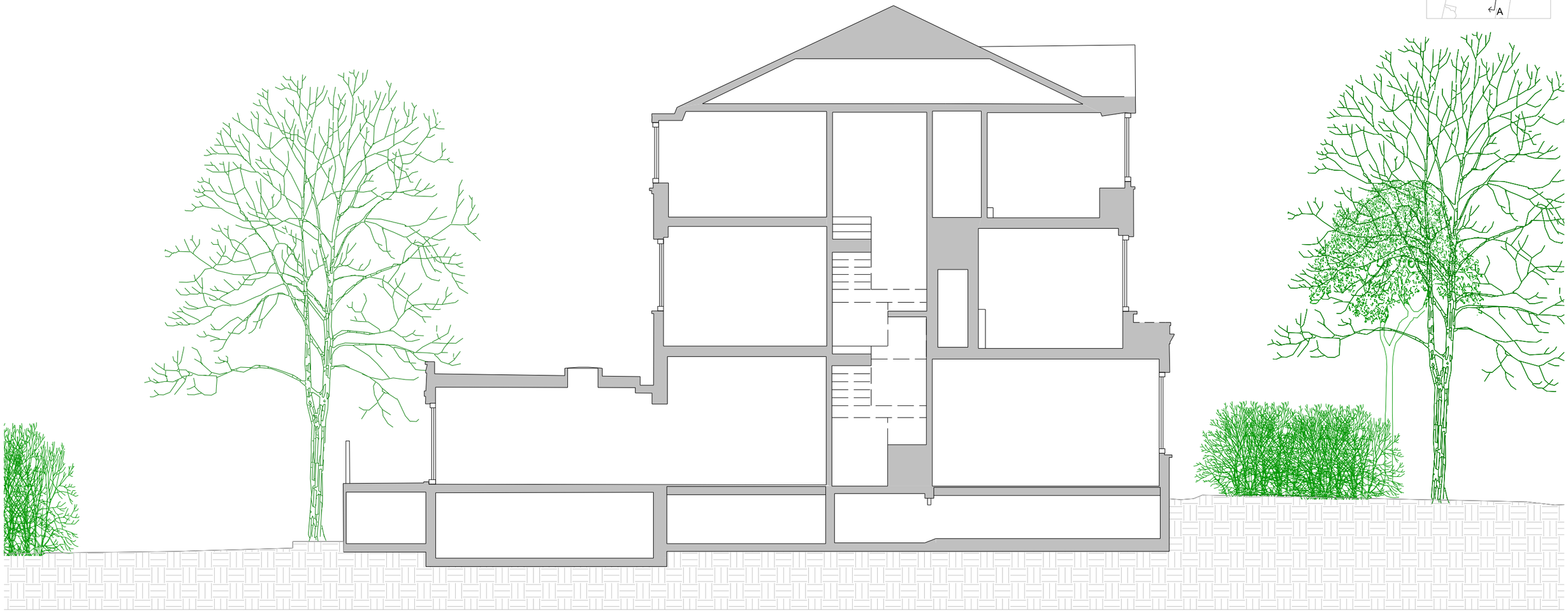
4536/PA/08

251 Goldhurst Terrace
NW6 3EP



Section A-A

0 1 2 3 5 10

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

251 GOLDHURST TERRACE

Existing Section

December 2016

G M L A r c h i t e c t s

UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
ISSUED FOR: PLANNING

4536/PA/09

251 Goldhurst Terrace
NW6 3EP

Basement

0 1 2 3 5 10

N

NOTES:
Do not scale from this drawing

PLANNING APPLICATION
251 GOLDHURST TERRACE
Proposed Basement Plan

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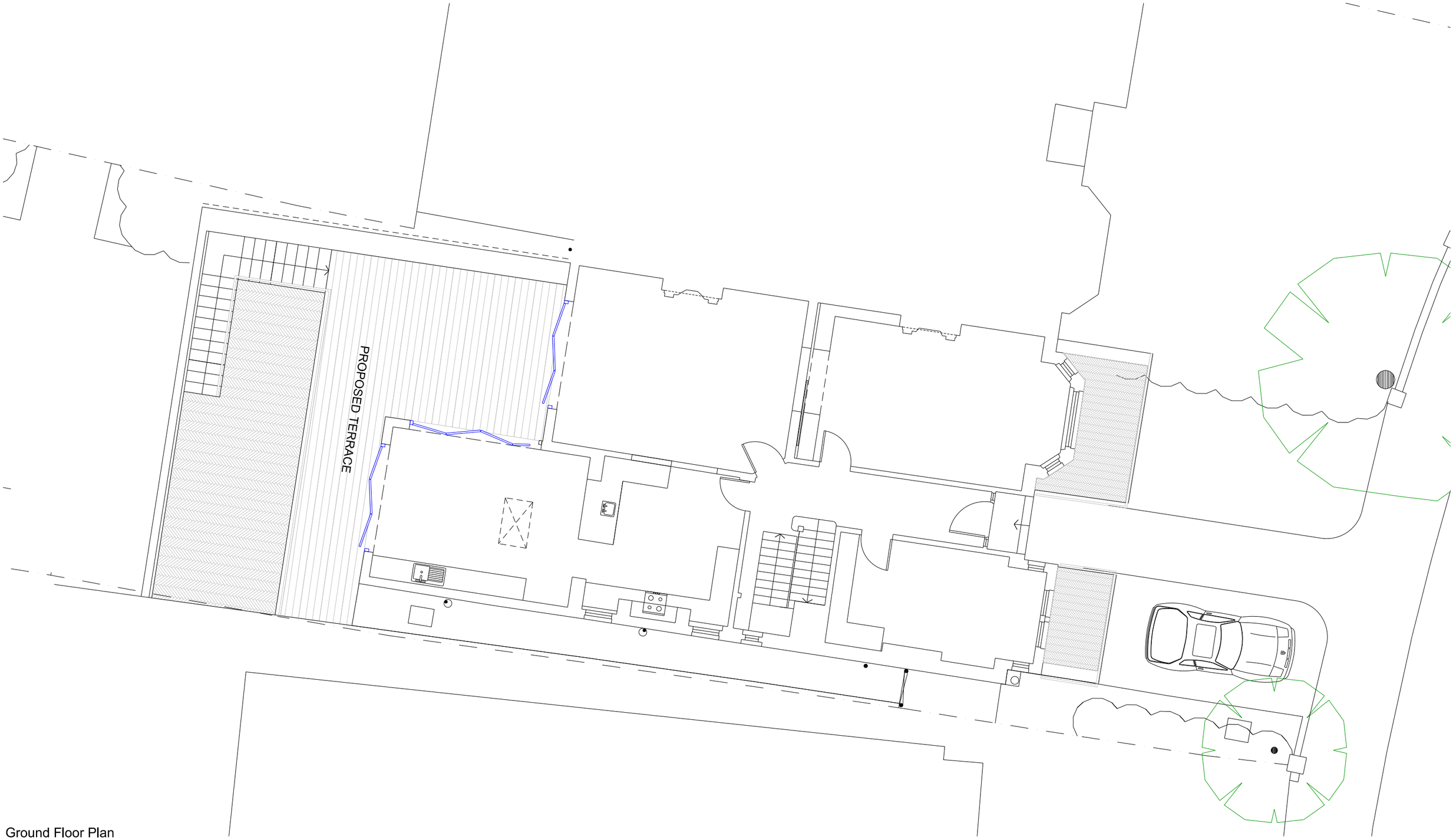
4536/PA/10

251 Goldhurst Terrace
NW6 3EP



Ground Floor Plan

0 1 2 3 5 10

N

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

December 2016

251 GOLDHURST TERRACE

Proposed Ground Floor Plan

G M L A r c h i t e c t s

UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
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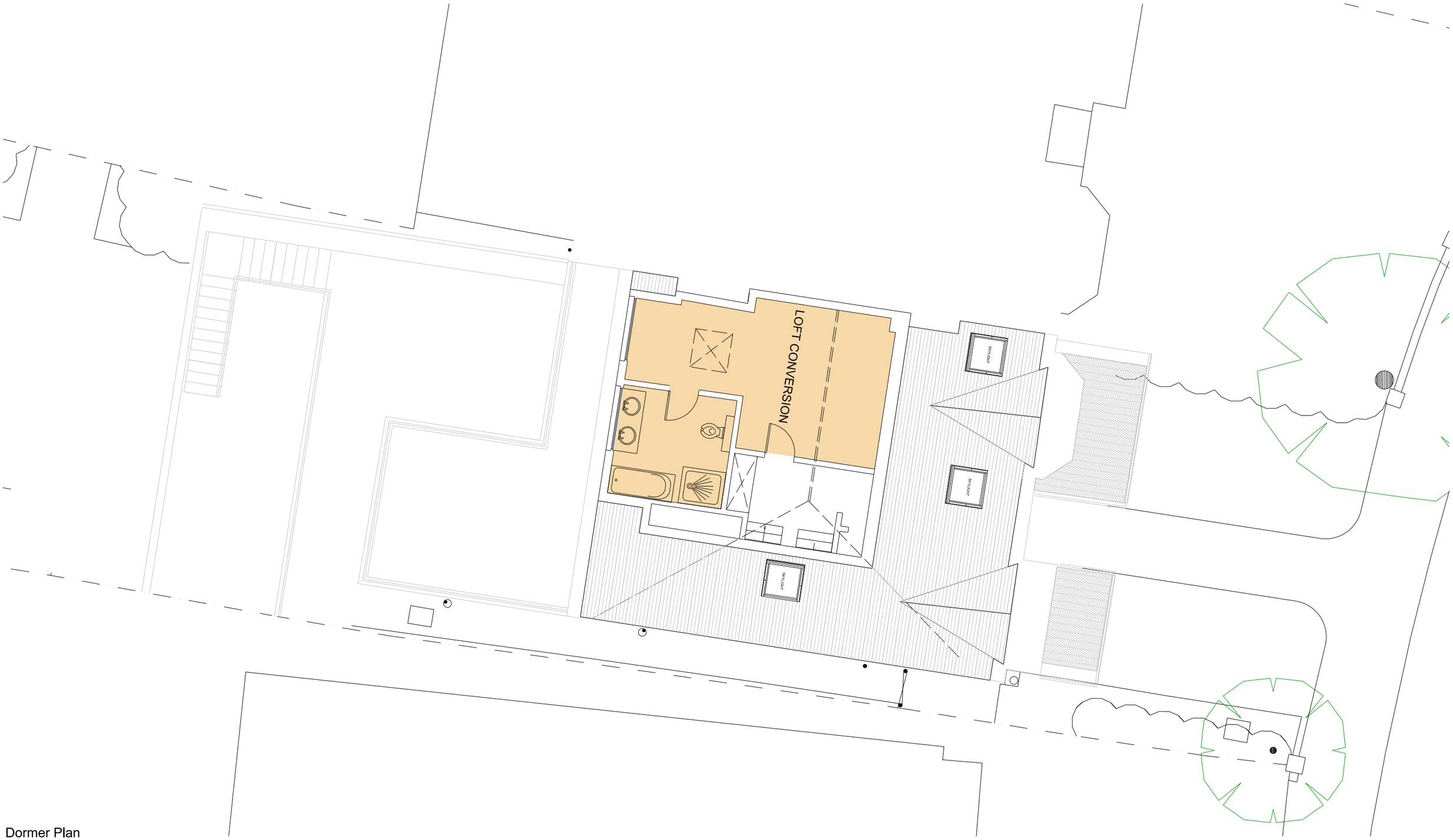
4536/PA/11

251 Goldhurst Terrace
NW6 3EP



Dormer Plan

0 1 2 3 5 10

N

NOTES:
Do not scale from this drawing

PLANNING APPLICATION
251 GOLDHURST TERRACE

Proposed Dormer Plan

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
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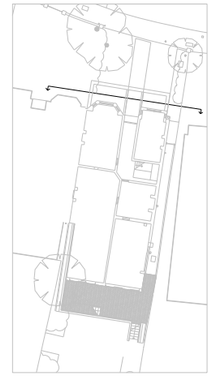
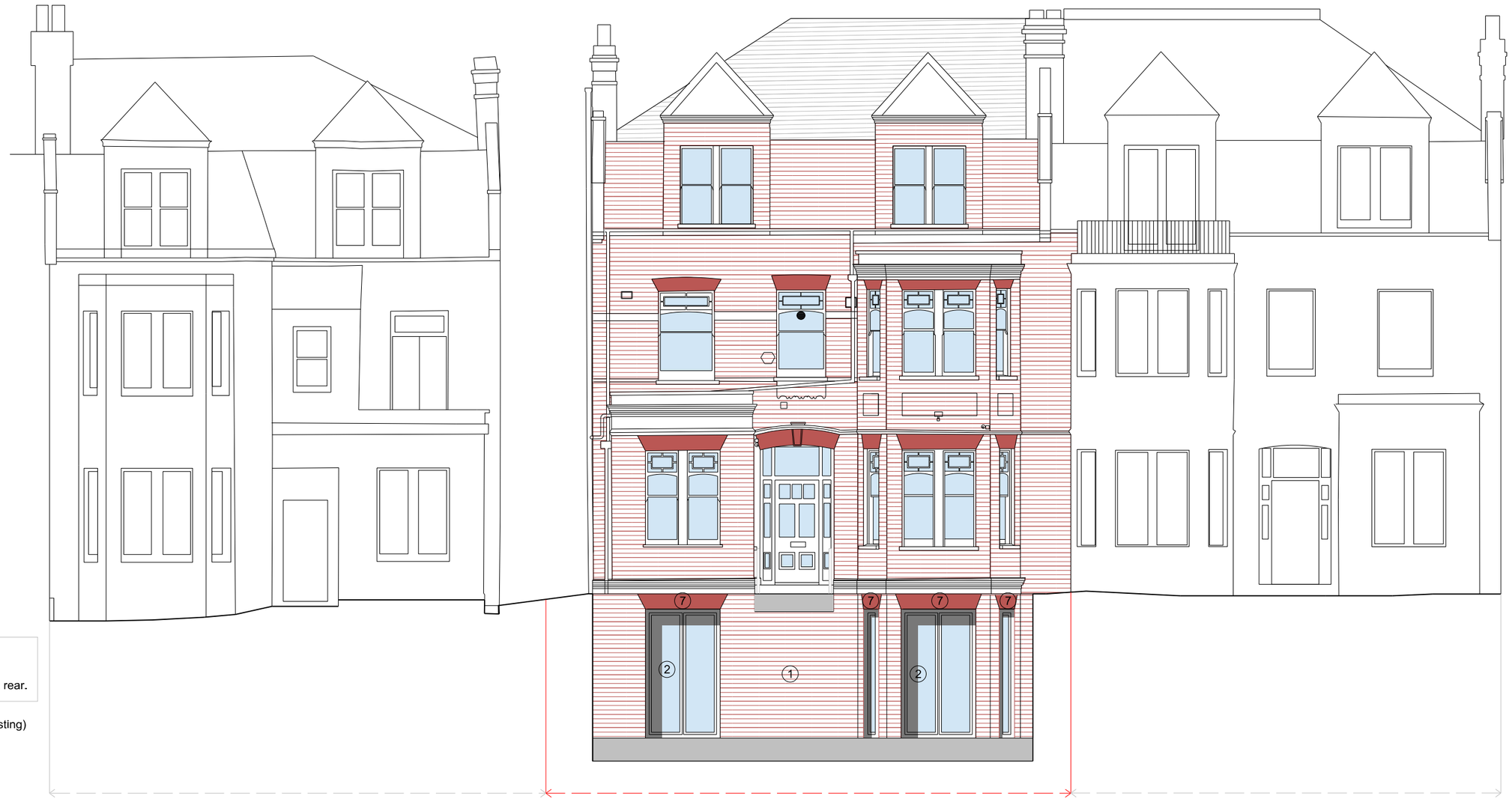
4536/PA/12

251 Goldhurst Terrace
NW6 3EP





Note:
New glazing - Timber frame windows to match existing at front, and aluminium frame to rear.

1. Brick (to match existing)
2. New Glazing
3. Timber Balustrade
4. Glass Balustrade
5. Roof Tiles (to match existing)
6. Metal Balustrade (to be wrought in iron late Victorian era in style)
7. Brick Soldier course lintels

0 1 2 3 5 10

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

251 GOLDHURST TERRACE

Proposed Front Elevation

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
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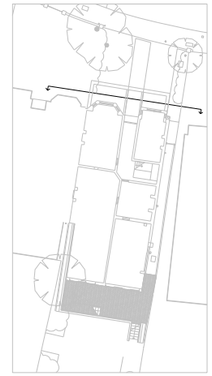
251 Goldhurst Terrace
NW6 3EP



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1. Brick (to match existing)
2. New Glazing
3. Timber Balustrade
4. Glass Balustrade
5. Roof Tiles (to match existing)
6. Metal Balustrade (to be wrought in iron late Victorian era in style)
7. Brick Soldier course lintels

0 1 2 3 5 10

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

251 GOLDHURST TERRACE

Proposed Rear Elevation

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
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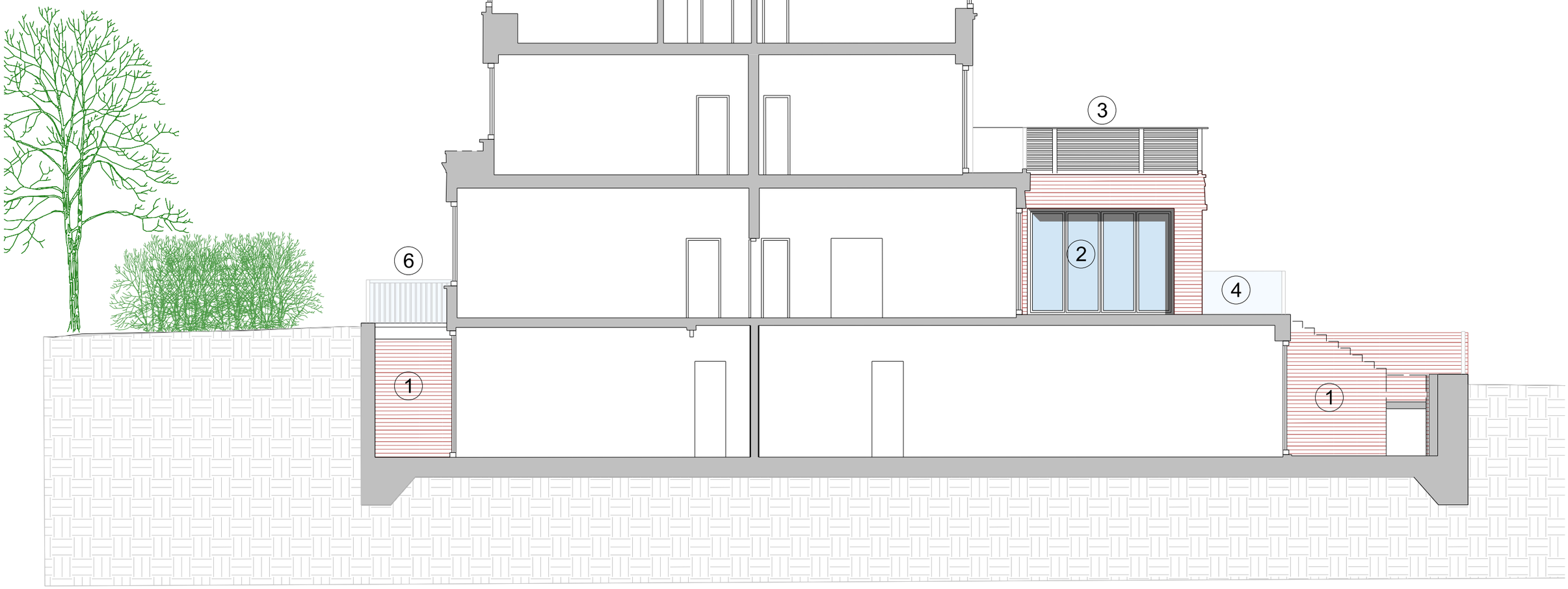
4536/PA/14

251 Goldhurst Terrace
NW6 3EP



Section B-B

1. Brick (to match existing)
2. New Glazing
3. Timber Balustrade
4. Glass Balustrade
5. Roof Tiles (to match existing)
6. Metal Balustrade

0 1 2 3 5 10

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

251 GOLDHURST TERRACE

Proposed Section B-B

December 2016

G M L A r c h i t e c t s
UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
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4536/PA/16

251 Goldhurst Terrace
NW6 3EP

First Floor Plan

0 1 2 3 5 10

N

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

251 GOLDHURST TERRACE

Existing First Floor Plan

December 2016

G M L A r c h i t e c t s

UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
ISSUED FOR: PLANNING

4536/PA/17

251 Goldhurst Terrace
NW6 3EP

First Floor Plan

0 1 2 3 5 10

N

NOTES:

Do not scale from this drawing

PLANNING APPLICATION

December 2016

251 GOLDHURST TERRACE

Proposed First Floor Plan

G M L A r c h i t e c t s

UNIT 3,1-4 Christina Street, London EC2A 4PA
Tel: 020 7729 9595 Fax: 020 7729 1801 info@gmlarchitects.co.uk

SCALE: 1:100@A3, 1:50@A1
ISSUED FOR: PLANNING

4536/PA/18

APPENDIX B – SITE INVESTIGATION REPORT

Ground and Water Limited
Unit 2
The Long Barn, Norton Farm
Selborne Road
Selborne, Alton
Hampshire
GU34 3NB

Tel: 0333 600 1221
E-mail: enquiries@groundandwater.co.uk/
roger.foord@groundandwater.co.uk

Preliminary Summary – Ground Investigation Report

CLIENT	483 NCR Ltd c/o GML Architects
SITE ADDRESS	251 Goldhurst Terrace, South Hampstead, London NW6 3EP
REPORT REFERENCE	GWPR1852
ENGINEER	Roger Foord, Ground and Water Limited
INVESTIGATION LOCATIONS AND SCOPE OF WORKS	Please see Figure 1 Attached. Site works were undertaken on the 18th October 2016 and comprised the drilling of one Dart Windowless Sampler Borehole (BH1) to a depth of 10.00m bgl, with Standard Penetration Tests (SPTs) carried out at 1.00m intervals to a depth of 8.00m bgl. A Windowless Sampler Borehole (BH2) was also drilled to a depth of 5.00m bgl. A Trial Pit Foundation Exposure (TP1) was also drilled to a depth of 1.50m bgl. BH2 drilled at a level ~1.50m lower than BH1.

GROUND CONDITIONS ENCOUNTERED

Summary of Strata Encountered (BH1)

Strata	Depth Encountered (m bgl)	Thickness (m)
CONCRETE (BH1 only)	GL – 0.18	0.18
MADE GROUND (BH1): Orange brown/brown mottled sandy gravelly clay to dark brown sandy gravel. Sand is fine to coarse grained. Gravel is occasional to abundant, fine to medium, sub-angular brick.	GL - 0.180 – 0.80	0.60 – 1.12
HEAD DEPOSITS: Orange brown/brown mottled gravelly silty CLAY. Gravel is rare to occasional, medium to coarse, sub-angular to sub-rounded flint. Gravels reduce with depth.	0.60 - 1.30	0.30 – 1.20
LONDON CLAY FORMATION (BH1): Orange brown/brown and grey mottled silty CLAY. Pockets of silt and fine roots noted between 1.60 – 3.10m bgl and pockets of orange silt noted between 3.10 – 4.30m bg in BH1. Selenite crystals noted from 3.70m bgl in BH2.	1.60 – 1.80	>3.20 - 6.90
LONDON CLAY FORMATION (BH1): Dark grey brown silty CLAY.	7.50	2.50

IN-SITU STRENGTH TESTING (DPH)	LONDON CLAY FORMATION (cohesive) (BH1 1.00 – 10.00m bgl): Low/medium to high/very high undrained shear strength (40 – 155kpa)
GROUNDWATER	No groundwater strikes noted.
ROOTS	Roots were noted to 0.80m bgl at BH2 and TP1 and to 1.00m bgl at BH1.
ANTICIPATED VOLUME CHANGE POTENTIAL	LONDON CLAY FORMATION (BH1 1.00 – 10.00m bgl): Likely to have **HIGH** volume change potential Estimations were in accordance with BRE240 & NHBC Standards Chapter 4.2. Subject to confirmation of results of geotechnical classification testing.
FOUNDATION RECOMMENDATIONS	At the time of reporting, October 2016, it was understood that the proposed development incorporate the excavation of a basement below the existing property at an assumed depth of 3.00-3.50m bgl.

Foundations constructed on the soils of the London Clay Formation at 3.00-3.50m bgl **c**an be designed based on a presumed safe bearing capacity of 100kN/m^2. This is based on trial hole records, inspection of samples recovered and referral to BS 8004:1986, *Code of Practice for Foundations,* the results of the SPT's, and based on a 5m long by 1m wide foundation and a maximum settlement of 25mm.

Ground and Water Ltd			Borehole No **BH1** Sheet 1 of 2
Project Name: 251 Goldhurst Terrace	Project No.: GWPR1852	Co-ords: -	Hole Type: WLS
Location: 251 Goldhurst Terrace, South Hampstead, London NW6 3EP		Level: -	Scale: 1:50
Client: 483 NCR Ltd c/o GML Architects		Dates: 18/10/2016	Logged By: RT

Well	Water Strikes	Samples & In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
					0.18			CONCRETE
		0.30	D					MADE GROUND: Orange brown/brown mottled sandy gravelly clay. Sand is fine to coarse grained. Gravel is occasional, fine to medium, sub-angular brick.
		0.50	D					
		0.80	D		0.80			
		1.00	SPT	N=10	1.00			MADE GROUND: Dark brown sandy gravel. Sand is medium to coarse grained. Gravel is abundant, fine to coarse, sub-angular brick.
		1.00	D	(2,3/ 3,3,2,2)				
					1.30			MADE GROUND: Brown sandy very gravelly clay. Sand is fine to coarse grained. Gravel is occasional, fine to coarse, sub-angular to sub-rounded brick, clinker and flint.
		1.50	D		1.60			HEAD DEPOSITS: Orange brown/brown mottled gravelly silty CLAY. Gravel is rare to occasional, medium to coarse, sub-angular to sub-rounded flint. Gravels reduce with depth.
		2.00	SPT	N=8				
		2.00	D	(1,1/ 2,2,2,2)				LONDON CLAY FORMATION: Orange brown/brown mottled silty CLAY. Pockets of silt and fine roots noted between 1.60 - 3.10m bgl. Pockets of orange silt noted between 3.10 - 4.30m bgl.
		2.50	D					
		3.00	SPT	N=9				
		3.00	D	(2,2/ 2,2,2,3)				
		3.50	D					
		4.00	SPT	N=14				
		4.00	D	(2,3/ 3,3,4,4)				
					4.30			LONDON CLAY FORMATION: Brown with grey and orange brown mottling, silty CLAY.
		4.50	D					
		5.00	SPT	N=16	5.00			LONDON CLAY FORMATION: Brown silty CLAY.
		5.00	D	(3,3/ 4,3,4,5)				
		5.50	D					
		6.00	SPT	N=19				
		6.00	D	(4,4/ 4,5,5,5)				
		6.50	D					
		7.00	SPT	N=23				
		7.00	D	(5,5/ 5,6,6,6)				
		7.50	D		7.50			LONDON CLAY FORMATION (BH1): Dark grey brown silty CLAY.
		8.00	SPT	N=31				
		8.00	D	(5,6/ 7,8,8,8)				
		8.50	D					
		9.00	SPT	N=30				
		9.00	D	(7,6/ 7,8,7,8)				
		9.50	D					
			Type	Results				

Continued next sheet

Remarks: Roots noted to 1.00m bgl.
No groundwater strikes noted.

AGS

Ground and Water Ltd

Borehole No
BH1
Sheet 2 of 2

Project Name	Project No.	Co-ords: -	Hole Type
251 Goldhurst Terrace	GWPR1852		WLS
Location: 251 Goldhurst Terrace, South Hampstead, London NW6 3EP		Level: -	Scale 1:50
Client: 483 NCR Ltd c/o GML Architects		Dates: 18/10/2016	Logged By RT

Well	Water Strikes	Samples & In Situ Testing			Depth (m)	Level (m AOD)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.00 10.00	SPT D	N=33 (7,8/ 8,9,8,8)	10.45			LONDON CLAY FORMATION (BH1): Dark grey brown silty CLAY. End of Borehole at 10.45 m
			Type	Results				

Remarks: Roots noted to 1.00m bgl.
No groundwater strikes noted.

AGS

Ground and Water Ltd

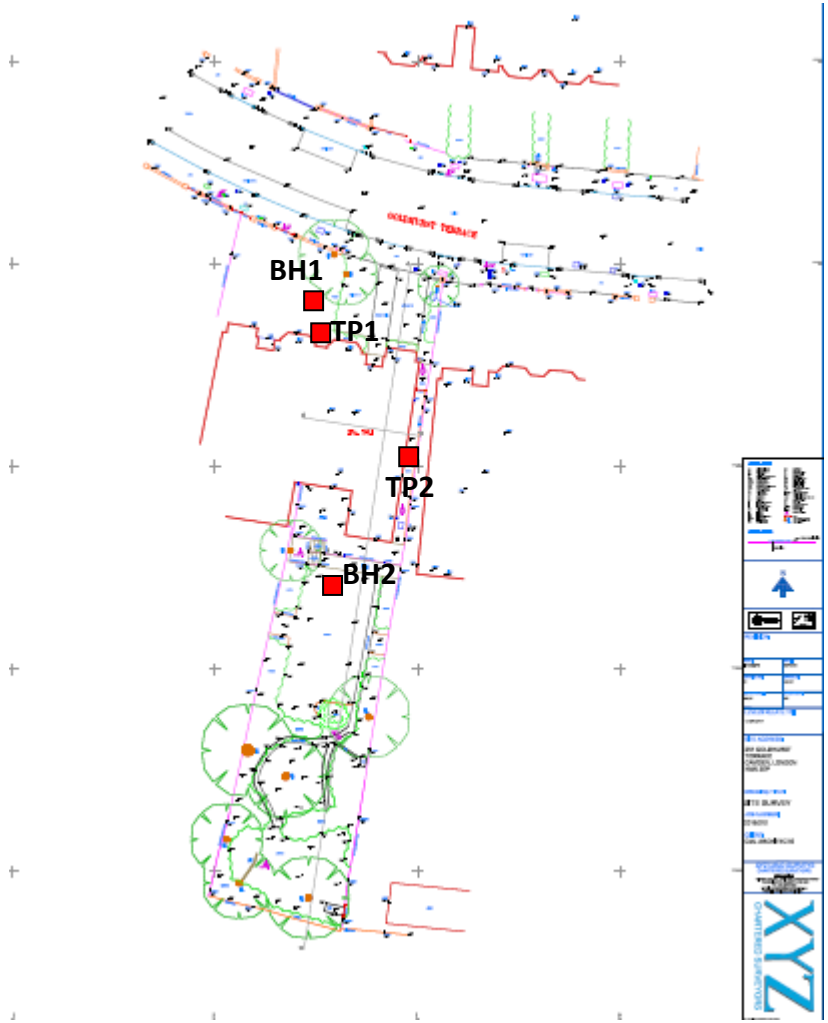
Borehole No
BH2
Sheet 1 of 1

Project Name 251 Goldhurst Terrace	Project No. GWPR1852	Co-ords: -	Hole Type WLS
Location: 251 Goldhurst Terrace, South Hampstead, London NW6 3EP		Level: -	Scale 1:50
Client: 483 NCR Ltd c/o GML Architects		Dates: 18/10/2016	Logged By RT

Well	Water Strikes	Samples & In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m AOD)	Legend	Stratum Description
		0.30	D		0.35			MADE GROUND: Brown gravelly sand with clay lenses. Sand is fine to coarse grained. Gravel is rare, fine to medium, sub-angular to sub-rounded brick and flint.
		0.50	D		0.60			MADE GROUND: Orange brown sandy gravelly clay. Sand is fine to coarse grained. Gravel is occasional, fine to coarse, sub-angular to sub-rounded flint and brick.
		0.80	D		0.90			HEAD DEPOSITS: Orange brown/brown mottled silty CLAY.
		1.00	D					HEAD DEPOSITS: Orange brown/brown mottled gravelly silty CLAY. Gravel is rare, fine to coarse, sub-angular flint.
		1.50	D		1.80			LONDON CLAY FORMATION: Brown/orange brown/grey mottled silty CLAY. Pockets of fine grained orange sand noted. Selenite crystals noted from 3.70m bgl.
		2.00	D					
		2.50	D					
		3.00	D					
		3.50	D					
		4.00	D					
		4.50	D					
		5.00	D		5.00			End of Borehole at 5.45 m
			Type	Results				

Remarks: Roots noted to 0.80m bgl.
No groundwater strikes noted.
BH2 approximately 1.5m lower than BH1.

AGS



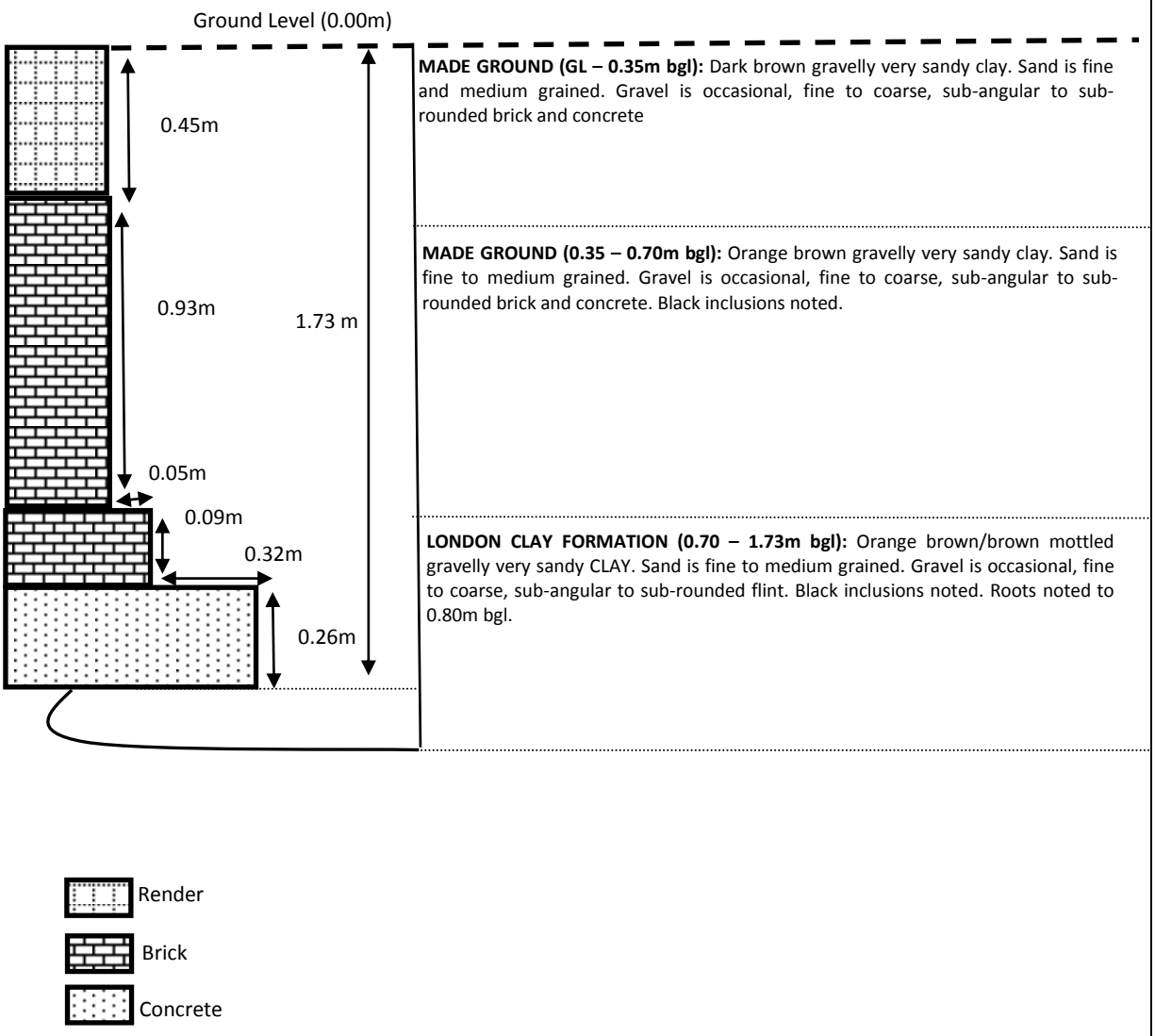
TP1/2 Trial Pit Foundation Exposures

BH2 Hand Held Window Sampler Borehole

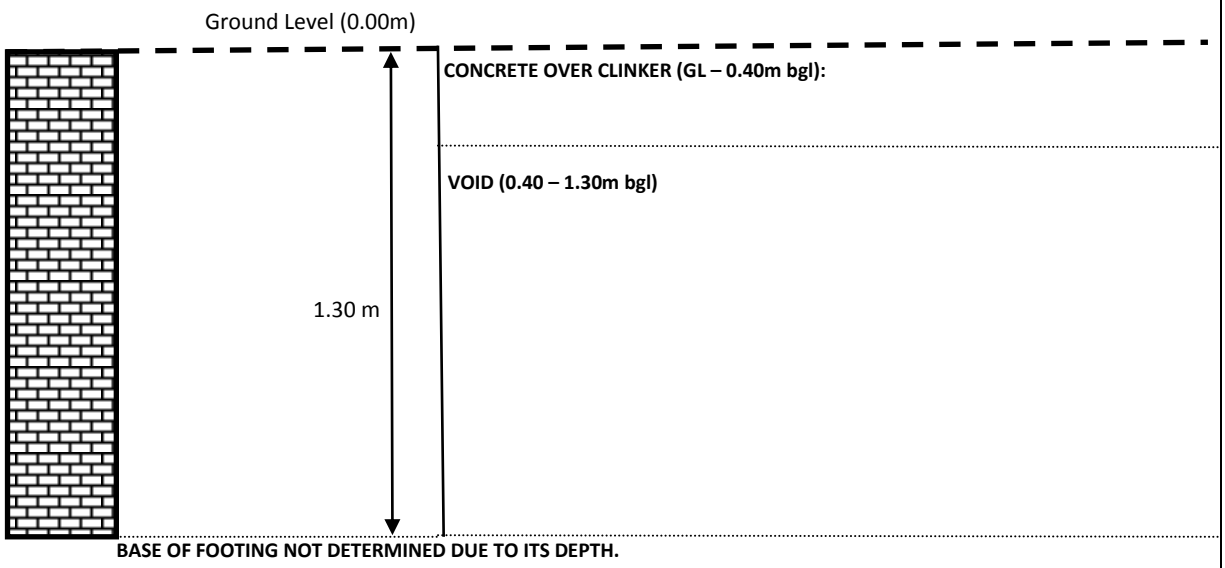
BH1 Dart Windowless Sampler Boreholes

NOT TO SCALE

Project: 251 Goldhurst Terrace, South Hampstead, London NW6 3EP		**Figure 1**
Client: 483 NCR Limited c/o GML Architects	**Date:** October 2016	ground&water
Trial Hole Location Plan	**Ref:** GWPR1852	



Project: **251 Goldhurst Terrace, South Hampstead, London NW6 3EP**		**Figure 2**
Client: **483 NCR Ltd c/o GML Architects**	**Date:** **October 2016**	ground&water
Section Drawing: Foundation Exposure TP1	**Ref:** **GWPR1852**	



Brick

Concrete

Project: 251 Goldhurst Terrace, South Hampstead, London NW6 3EP		**Figure 3**
Client: 483 NCR Ltd c/o GML Architects	**Date:** October 2016	ground&water
Section Drawing: Foundation Exposure TP2	**Ref:** GWPR1852	