APPENDIX C
H Fraser Consulting Limited Report Ref.: 30164R1D1, dated 26/09/2016

H Fraser
CONSULTING
CONTAMINATED LAND
AND HYDROGEOLOGY

Basement Impact Assessment: Groundwater
28 Maresfield Gardens, NW3 5SX

Prepared for: Ground and Water Limited
Unit 2, The Long Barn, Norton Farm
Selbourne Road, Selbourne
Alton
Hampshire
GU34 3NB

Date: 26/09/2016
Status: Draft
Reference: 30164R1D1

Prepared by: H Fraser Consulting Ltd

H FRASER CONSULTING LTD
Shrewsbury Environmental Technology Centre, The Pump House, Coton Hill, SY1 2DP
T: 01743 352797 M:07527 006625 E:hfraser@hfraserconsulting.co.uk www.hfraserconsulting.co.uk
Registered Company No 07712855

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AND HYDROGEOLOGY

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EXECUTIVE SUMMARY

The proposed development is to extend the lower ground floor level at the rear, and excavate a basement level below the extension and extending further out below the rear garden. The total rear garden area will be reduced to 586m^2 from 693 m^2; the hard landscaped area will reduce from 101 m^2 to 83 m^2 and the soft landscaped area will reduce from 592 m^2 to 503 m^2. The area of basement extending beyond rear extension into the garden area is 74.5m^2. The depth of the basement is approximately 4.7 m deep with a finished floor level of 65.47 m a OD.

The underlying geology comprises the London Clay. Site investigation data from the front of the property confirm the presence of Clay below 0.6 m to 0.9 m of clayey Made Ground. The London Clay is classified as 'unproductive strata', and has low permeability. Groundwater flow within the London Clay is generally negligible, although some groundwater movement occurs on discrete sand partings or other discontinuities.

The basement will extend to approximately 4.7 m bgl, which is below the measured groundwater level of 2.7 m bgl at the site. There may be inflows of groundwater to the excavation; whilst these are likely to be very low due to the low permeability of the London Clay, greater inflows may arise on discontinuities within the London Clay, or within more permeable Made Ground deposits.

There is the potential for groundwater ingress to the excavation, although volumes are likely to be minimal due to the low permeability of the London Clay. There is also the potential for groundwater ingress to the finished basement development. Measures should be taken to protect the excavation against groundwater ingress during construction. The excavation should be kept dry. The basement design should include protection against groundwater ingress to the finished development, and also protection against soil moisture permeation.

There is the potential for groundwater ingress to the finished basement structure, and also for groundwater to back-up around the finished structure. It is thought unlikely that there would be an impact to neighbouring properties as the basement structure is not contiguous with neighbouring properties, which are not thought to have basements.

Structural design should allow for seasonal fluctuations in groundwater elevations, which may rise to ground level. It is recommended that groundwater levels are monitored prior to, during, and after construction.

The area of soft landscaping will reduce due to the rear extension, which has the potential to reduce the volume of water recharging groundwater. The effect on groundwater is likely to be minimal however, due to the low permeability of the London Clay, which restricts recharge under the present circumstances.

Detailed drainage designs are not known at this stage, however it is not anticipated that significant volumes of water will be discharged to ground due to the low permeability of the London Clay. Drainage design should comply with the requirements of SUDS.

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APPENDICES

1 INTRODUCTION

Ground and Water Limited has instructed H Fraser Consulting Ltd (HFCL) to provide the hydrogeological aspects of a Basement Impact Assessment at the following property:

28 Maresfield Gardens, NW3 5SX.

The site is in the London Borough of Camden.

1.1 Objective

The objective of this report is to provide the hydrogeological aspects of a Basement Impact Assessment to support a planning application for construction of a basement at 28 Maresfield Gardens, NW3 5SX.

1.2 Scope of works

The following works have been undertaken:

- Desk study
- Screening assessment with regards to groundwater
- Scoping assessment to identify potential impacts
- Impact assessment with regard to groundwater attributes
- Reporting

The work has been undertaken in accordance with the requirements of London Borough of Camden's Planning Guidance CPG4 'Basements and Lightwells' (referred to as CPG4) and Arup's 'Geological Hydrogeological and Hydrological Study, Guidance for Subterranean Development' (Arup, 2012, referred to throughout this report as the GHHS).

This assessment is limited to an assessment of the hydrogeological aspects of the proposed development and does not purport to make any comment on surface water flooding, hydrology, contamination or pollution, engineering, land stability, design or construction issues.

The work has been undertaken by Hannah Fraser, Director of HFCL, who is a Chartered Geologist with 20 years' experience as a hydrogeologist and consultant.

2 BACKGROUND INFORMATION

Background information has been derived from a Groundsure report for the site (Appendix A); geological information has been derived from on-line BGS sources (Geology of Britain Viewer, GeoIndex, Lexicon); on-line mapping and aerial photography have been derived from Streetmap and GoogleEarth. Table 2.1 presents relevant background information for the site. The site location is shown in Figure 2.1.

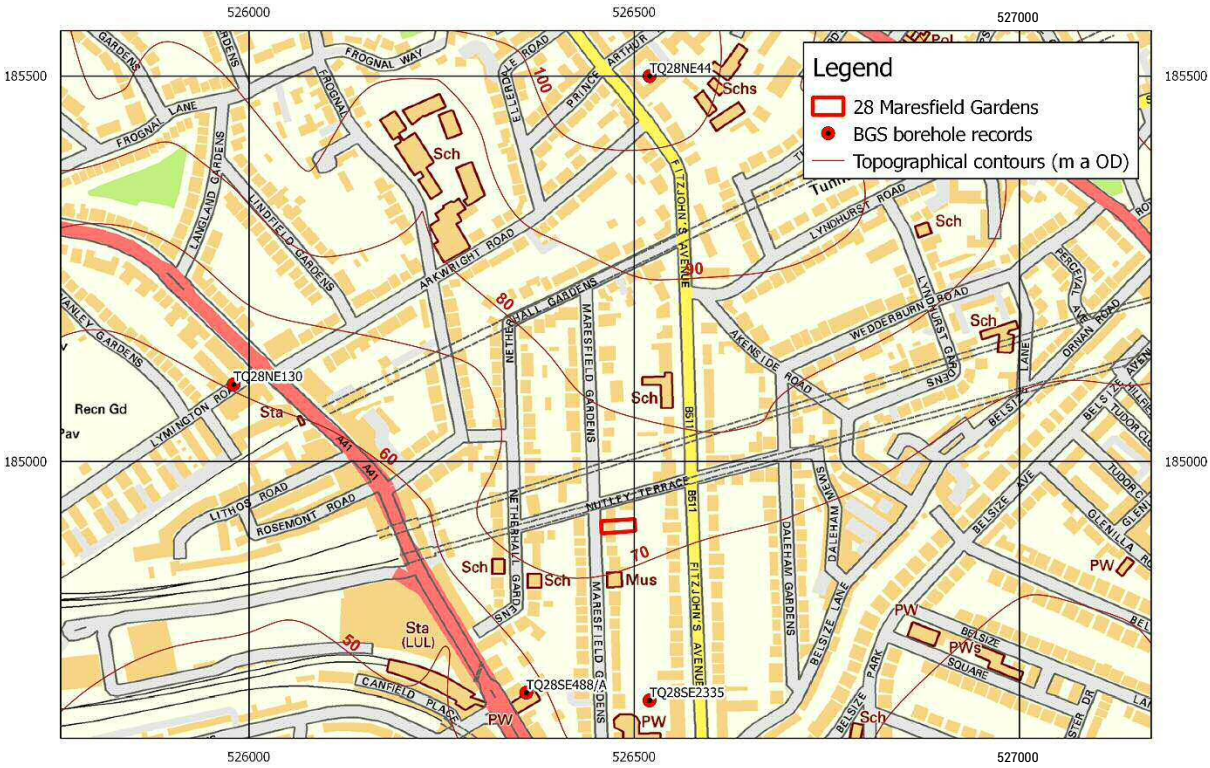

Figure 2.1 Site location

Contains Ordnance Survey data © Crown copyright and database right 2016

Table 2.1 Background information

Address	28 Maresfield Gardens, NW3 5SX
NGR	526470, 184917
Description	The existing property is a 3 storey detached property with a lower ground floor. The site area is estimated at 690m^2, and the internal area of the ground floor is shown as 103 m^2 on existing plans. The area of the lower ground floor is slightly larger at 117 m^2. Access to the front door is via stone steps up from the front garden level. Aerial photography shows the front garden area is partly a tarmac drive and partly shrubs, and the rear garden is grassed, with some hardstanding close to the house. The total rear garden area is 693 m^2, with 101 m^2 of hard landscaping and 592 m^2 of soft landscaping. Ordnance survey topographic data show the site to lie between the 70 m a OD and 80 m a OD contours, with ground levels falling to the south and southwest, as shown in Figure 2.1. A section of the proposed development shows the internal elevation of the lower ground floor at 70.17 m a OD. It's evident from on-line photography that there is a lower ground floor level at the neighbouring properties, 30 Maresfield Gardens and 28 Maresfield

	Gardens. There is no evidence from planning records that there has been a basement development or extension of the lower ground floor at either property.
Proposed development	The proposals are to extend the lower ground floor at the rear of the property and develop a c.4.7 m deep basement below the new extension and below the rear garden. The proposed total area of the lower ground floor is 172.6 m^2, and the proposed area of the basement is 136.5 m^2. The finished floor of the basement is at 65.47 m a OD. The total rear garden area will be reduced to 586m^2 from 693 m^2; the hard landscaped area will reduce from 101 m^2 to 83 m^2 and the soft landscaped area will reduce from 592 m^2 to 503 m^2. The area of basement extending beyond rear extension into the garden area is 74.5m^2. Site plans are shown in Appendix B.
Geology	Geological mapping[1] shows the area to be underlain by London Clay. The London Clay is extensive across the area, with no local superficial deposits mapped. The geological boundary with the Claygate Member, which overlies the London Clay, lies approximately 160 m north. The London Clay mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel occur in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels[2] Table 2.2 presents geological data from selected BGS borehole records[3], and Figure 2.1 shows the location of the boreholes. The local borehole records confirm the presence of Made Ground overlying London Clay. A site investigation was undertaken by Ground and Water Ltd on 5 August 2016 comprising the drilling of one borehole (BH1) to 10.45 m bgl, and one borehole (WS2) to 5 m bgl. The borehole log shows Made Ground underlain by Clay. Site investigation data are provided in Table 2.3.
Aquifer status	The London Clay is classified by the Environment Agency as unproductive strata (rock layers with low permeability and negligible significance for water supply or river base flow). The site is not within a source protection zone of a public water supply. Groundwater was not recorded in any of the BGS borehole logs presented in Table 2.2.

[1] http://mapapps.bgs.ac.uk/geologyofbritain/home.html
[2] http://www.bgs.ac.uk/lexicon/lexicon.cfm?pub=LC
[3] http://mapapps2.bgs.ac.uk/geoindex/home.html

	Groundwater was not recorded during drilling at the site, however groundwater was measured at 2.7 m bgl on a subsequent monitoring visit.
Watercourses	The Groundsure report[4] states there are no surface water abstractions within 2 km of the site, and no rivers or surface water features within 500 m and 250 m of the site respectively. The old course of the headwaters of the River Tyburn lies approximately 100 m east of the site, and the old course of the headwaters of the River Westbourne lie approximately 210 m west of the site. It is not known whether these rivers are now culverted or diverted, but there are no indications that there is a water feature present on current mapping or aerial photography.
Spring lines	There are no springs shown on OS mapping. The geological boundary between the Claygate Member and the London Clay is 150 m north of the site, however there is no evidence from mapping or the Groundsure report that springs rise on this boundary.
Wells	The nearest groundwater abstraction licence reported in the Groundsure report is approximately 693 m south of the property, at Swiss Cottage. The outer catchment of the source protection zone for this abstraction is 427 m southeast of the site. The BGS Geoindex indicates that this well abstracts from the Chalk aquifer underlying the London Clay[5].
Groundwater flooding	The area is not considered prone to groundwater flooding, based on rock type.[6]

[4] Groundsure report GS-3300137
[5] http://mapapps2.bgs.ac.uk/geoindex/home.html
[6] Groundsure report GS-3300137

Table 2.2 BGS borehole records

Ref	Name	Easting	Northing	Description
TQ28SE488/A	HOLY TRINITY, FINCHLEY RD 1	526360	184700	Ground level at 55.43 m OD. Made Ground: grey-blue sandy clay with bricks, stones etc. to 0.5 m, brown fissured clay with crystals to 10.3 m, dark brown fissured clay to 15.2 m. Groundwater: No data
TQ28SE2335	NO`S 3 5 & 7 FITZJOHN`S AVENUE LONDON 1	526520	184690	Grass onto soft dark brown slightly sandy slightly gravelly CLAY (MADE GROUND) to 0.4 m OD, soft grey mottled orange slightly sandy slightly gravelly CLAY with occasional rootlets (MADE GROUND) to 0.6 m, soft grey orange brown CLAY with occasional rootlets (MADE GROUND) to 2 m, firm light brown slightly gravelly slightly sandy CLAY with occasional cobbles of flint (MADE GROUND) to 3 m, stiff brown slightly sandy CLAY (LONDON CLAY) to 7 m, firm brown CLAY (LONDON CLAY) to 7.5 m, stiff brown CLAY (LONDON CLAY) to 10.1 m, stiff dark grey CLAY (LONDON CLAY) to 12.5 m, stiff dark grey CLAY (LONDON CLAY) to 21.1 m, very stiff dark grey CLAY (LONDON CLAY) to 30 m. Groundwater: Dry
	NO`S 3 5 & 7 FITZJOHN`S AVENUE LONDON			Of 21 trial pits and boreholes excavated on this plot, groundwater was recorded at 7 trial pits between 0.63 m and 1.2 m and at one borehole at a depth of 12.1m (very slow inflow rate, rapidly drying up).
TQ28NE44	BOROUGH OF HAMPSTEAD FITZJOHNS AVE NW 3	526520	185500	Topsoil to 0.76 m OD, stiff laminated grey sandy clay and brown silty fine sand to 4.27 m OD, yellow brown silty fine sand, clayey at some levels to 10.06 m OD, coarsely laminated grey sandy clay and orange/brown silty sand to 11.28 m OD, brown silty very fine sand with trace of clay to 12.19 m. Groundwater: no data
TQ28NE130	HAMPSTEAD T.E. EXTENSION BH3	525980	185100	Ground level at 60.7 m OD. Reinforced concrete to 0.3 m OD, Made Ground: Clay, very sandy soft and organic with flints and brick fragments etc. to 0.9 m OD, clay, orange brown slightly sandy, structure-less with scattered rounded stones (solifluction deposit?) to 1.5 m OD, clay, brown stiff slightly silty extremely fissured and brittle with occasional small carbonaceous pockets to 15 m OD. Groundwater level 1.5 m, or 59.2 m OD.

Geological data from site investigations undertaken by Ground and Water on 5 August 2016 are presented in Table 2.3.

Table 2.3 Site investigation data

Strata	Depth (m bgl)	Thickness (m)
- MADE GROUND (BH1/TP1 and TP2 only): Tarmac/yorkstone over crushed brick and concrete sub-base	GL	0.2 – 0.26
- MADE GROUND: Dark brown slightly gravelly silty clay. Gravel is occasional, fine to medium, sub-angular to sub-rounded brick and rare to occasional fine sub-angular to sub-rounded carbonaceous material (ash/clinker)	GL – 0.26	0.30 – 0.90
- LONDON CLAY FORMATION: Brown silty CLAY with rare fine selenite crystals	0.60 – 0.90	1.00 – 2.00
- LONDON CLAY FORMATION (WS2 only): Brown silty CLA with fine selenite crystals and sub-rounded flint gravel	1.9	0.3
- LONDON CLAY FORMATION (BH1 and WS2 only): Brown silty CLAY with pockets of orange silt, veins of grey silt and rare fine selenite crystals	2.20 – 2.60	>2.8 – 4.60
- LONDON CLAY FORMATION (BH1 only): Dark grey brown silty CLAY with rare selenite crystals	7.2	>2.8

Groundwater was not encountered during drilling, however groundwater was measured at 2.7 m bgl on a subsequent monitoring visit, as shown in Table 2.4.

Table 2.4 Groundwater measurement

Borehole Ref	Groundwater reading (m bgl)	Depth to base of borehole (m bgl)	Date
BH1	2.70	5.00	21/09/2016

3 SCREENING

A screening assessment has been undertaken in accordance with the methodology set out in Section 6.2 and Appendix E2 of the GHHS (Arup, 2012). The results are presented in Table 3.1.

Table 3.1 Screening assessment

Ref	Question	Answer (yes/no/unknown)	Action
Q1a	Is the site located directly above an aquifer?	No the site is underlain by the London Clay	No further action
Q1b	Will the proposed basement extend beneath the water table surface?	Yes	Take forward to scoping stage
Q2	Is the site within 100m of a watercourse, well (used/ disused) or potential spring line?	No (see figure 12 of the GHHS)	No further action
Q3	Is the site within the catchment of the pond chains on Hampstead Heath?	No (see Figure 14 of the GHHS)	No further action
Q4	Will the proposed basement development result in a change in the proportion of hard surface/paved areas?	Yes (see Section 2 above)	Take forward to scoping stage
Q5	As part of the 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)	Unknown	Take forward to scoping stage
Q6	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 or spring line?	No, there are no local surface water features (see Figure 12 of the GHHS and Section 2 above)	No further action

4 SCOPING

This section of the report summarises the pertinent information as a Conceptual Model, and then describes the matters of concern that need to be considered in the Impact Assessment.

4.1 Conceptual model

The proposed development is to extend the lower ground floor level at the rear, and excavate a basement level below the extension and extending further out below the rear garden. The total rear garden area will be reduced to 586m^2 from 693 m^2; the hard landscaped area will reduce from 101 m^2 to 83 m^2 and the soft landscaped area will reduce from 592 m^2 to 503 m^2. The area of basement extending beyond rear extension into the garden area is 74.5m^2. The depth of the basement is approximately 4.7 m deep with a finished floor level of 65.47 m a OD.

The underlying geology comprises the London Clay. Site investigation data from the front of the property confirm the presence of Clay below 0.6 m to 0.9 m of clayey Made Ground. The London Clay is classified as 'unproductive strata', and has low permeability. Groundwater flow within the London Clay is generally negligible, although some groundwater movement occurs on discrete sand partings or other discontinuities. Groundwater flow directions are likely to be in the direction of topography, to the south and southwest.

Groundwater was not observed during drilling at the site, but was measured at 2.7 m bgl on a subsequent monitoring visit. Due to the very low permeability of the London Clay, it can take several days or weeks for a water table elevation to be established within a water monitoring borehole, and it is therefore inappropriate to assume that there is no groundwater at the site on the basis of observations during drilling.

Both neighbouring properties are believed to have lower ground floor levels, but there are no planning records of basement developments.

The drainage arrangements for the site are not known.

4.2 Matters of concern

Five attributes are considered as potential matters of concern, as discussed below.

1. Groundwater level – the basement is likely to extend below the water table. This is taken forward for further assessment
2. Range of seasonal fluctuation in groundwater levels – the range of fluctuation in groundwater levels is not known. This is taken forward for further assessment.
3. Spring/stream hydrographs – there is no evidence that local streams or springs are likely to be affected. This is not considered further.
4. Soil moisture – there is the potential for soil moisture content to affect the development, and this is carried forward for further assessment.
5. Water quality – there is no evidence that the development will affect water quality, provided good practice is followed with regard to pollution management. This is not considered further.

5 IMPACT ASSESSMENT

The impact assessment has been undertaken by considering groundwater attributes, how these are likely to change under the proposed development and the consequence of any predicted changes. The assessment is qualitative at this stage. The results are presented in Table 5.1.

Table 5.1 Impact assessment

Groundwater Attribute	Predicted Change	Consequence of change and mitigation
Groundwater levels	The basement will extend to approximately 4.7 m bgl, which is below the measured groundwater level of 2.7 m bgl at the site. There may be inflows of groundwater to the excavation; whilst these are likely to be very low due to the low permeability of the London Clay, greater inflows may arise on discontinuities within the London Clay, or within more permeable Made Ground deposits. There is the potential for groundwater ingress to the finished basement structure, and also for groundwater to back-up around the finished structure. It is thought unlikely that there would be an impact to neighbouring properties as the basement structure is not contiguous with neighbouring properties, which are not thought to have basements. The area of soft landscaping will reduce due to the rear extension, which has the potential to reduce the volume of water recharging groundwater. The effect on groundwater is likely to be minimal however, due to the low permeability of the London Clay, which restricts recharge under the present circumstances. Detailed drainage designs are not known at this stage, however it is not anticipated that significant volumes of water will be discharged to ground due to the low permeability of the London Clay.	Measures should be taken to protect the excavation against groundwater ingress during construction. The excavation should be kept dry. The basement design should include protection against groundwater ingress to the finished development. Drainage design should comply with the requirements of SUDS.
Range of seasonal fluctuation in groundwater levels	The range of seasonal groundwater fluctuation is not known.	Structural design should allow for seasonal fluctuations in groundwater elevations, which may rise to ground level. It is recommended that groundwater levels are monitored prior to, during, and after construction.

Groundwater Attribute	Predicted Change	Consequence of change and mitigation
Soil moisture	Soil moisture has the potential to permeate the basement structure.	The proposed basement structure should be adequately protected against permeation of soil moisture.

6 CONCLUSIONS

The proposed development is to extend the lower ground floor level at the rear, and excavate a basement level below the extension and extending further out below the rear garden. The total rear garden area will be reduced to 586m^2 from 693 m^2; the hard landscaped area will reduce from 101 m^2 to 83 m^2 and the soft landscaped area will reduce from 592 m^2 to 503 m^2. The area of basement extending beyond rear extension into the garden area is 74.5m^2. The depth of the basement is approximately 4.7 m deep with a finished floor level of 65.47 m a OD.

The underlying geology comprises the London Clay. Site investigation data from the front of the property confirm the presence of Clay below 0.6 m to 0.9 m of clayey Made Ground. The London Clay is classified as 'unproductive strata', and has low permeability. Groundwater flow within the London Clay is generally negligible, although some groundwater movement occurs on discrete sand partings or other discontinuities.

The basement will extend to approximately 4.7 m bgl, which is below the measured groundwater level of 2.7 m bgl at the site. There may be inflows of groundwater to the excavation; whilst these are likely to be very low due to the low permeability of the London Clay, greater inflows may arise on discontinuities within the London Clay, or within more permeable Made Ground deposits.

There is the potential for groundwater ingress to the excavation, although volumes are likely to be minimal due to the low permeability of the London Clay. There is also the potential for groundwater ingress to the finished basement development. Measures should be taken to protect the excavation against groundwater ingress during construction. The excavation should be kept dry. The basement design should include protection against groundwater ingress to the finished development, and also protection against soil moisture permeation.

There is the potential for groundwater ingress to the finished basement structure, and also for groundwater to back-up around the finished structure. It is thought unlikely that there would be an impact to neighbouring properties as the basement structure is not contiguous with neighbouring properties, which are not thought to have basements.

Structural design should allow for seasonal fluctuations in groundwater elevations, which may rise to ground level. It is recommended that groundwater levels are monitored prior to, during, and after construction.

The area of soft landscaping will reduce due to the rear extension, which has the potential to reduce the volume of water recharging groundwater. The effect on groundwater is likely to be minimal however, due to the low permeability of the London Clay, which restricts recharge under the present circumstances.

Detailed drainage designs are not known at this stage, however it is not anticipated that significant volumes of water will be discharged to ground due to the low permeability of the London Clay. Drainage design should comply with the requirements of SUDS.

7 REFERENCES

Arup, 2012. Geological Hydrogeological and Hydrological Study, Guidance for subterranean development

Ground and Water Ltd, 2016. Preliminary Summary, Ground Investigation Report 28 Maresfield Gardens, South Hampstead, NW3 5SX GWPR1761.

London Borough of Camden CPG4 'Basements and Lightwells'

APPENDIX A

Groundsure Report

Groundsure Enviro Insight

Address:	**28, MARESFIELD GARDENS, LONDON, NW3 5SX**
Date:	**21 Sep 2016**
Reference:	**GS-3310676**
Client:	**H Fraser Consulting Ltd**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	04-May-2014
Grid Reference:	526470,184917
Site Size:	0.07ha

Report Reference: GS-3310676
Client Reference: 30164_28_Maresfield_Gardens

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	5	22	70
1.2 Additional Information – Historical Tank Database	0	0	8	5
1.3 Additional Information – Historical Energy Features Database	0	0	12	69
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	26
1.6 Potentially Infilled Land	0	5	20	25

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	10
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	0
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	0	1	0	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	3	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	0	0

Section 4: Current Land Use

	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	6	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	1
4.3 National Grid Underground Electricity Cables	0	0	0	16
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology

5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology

	0-500m
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	No
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	4	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	3
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	1	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	1	0	Not searched	Not searched

	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology	0-500m					
6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	0	0	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding	
7.1 Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	1
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	2
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	4
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Moderate
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Moderate
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Negligible
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	No
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

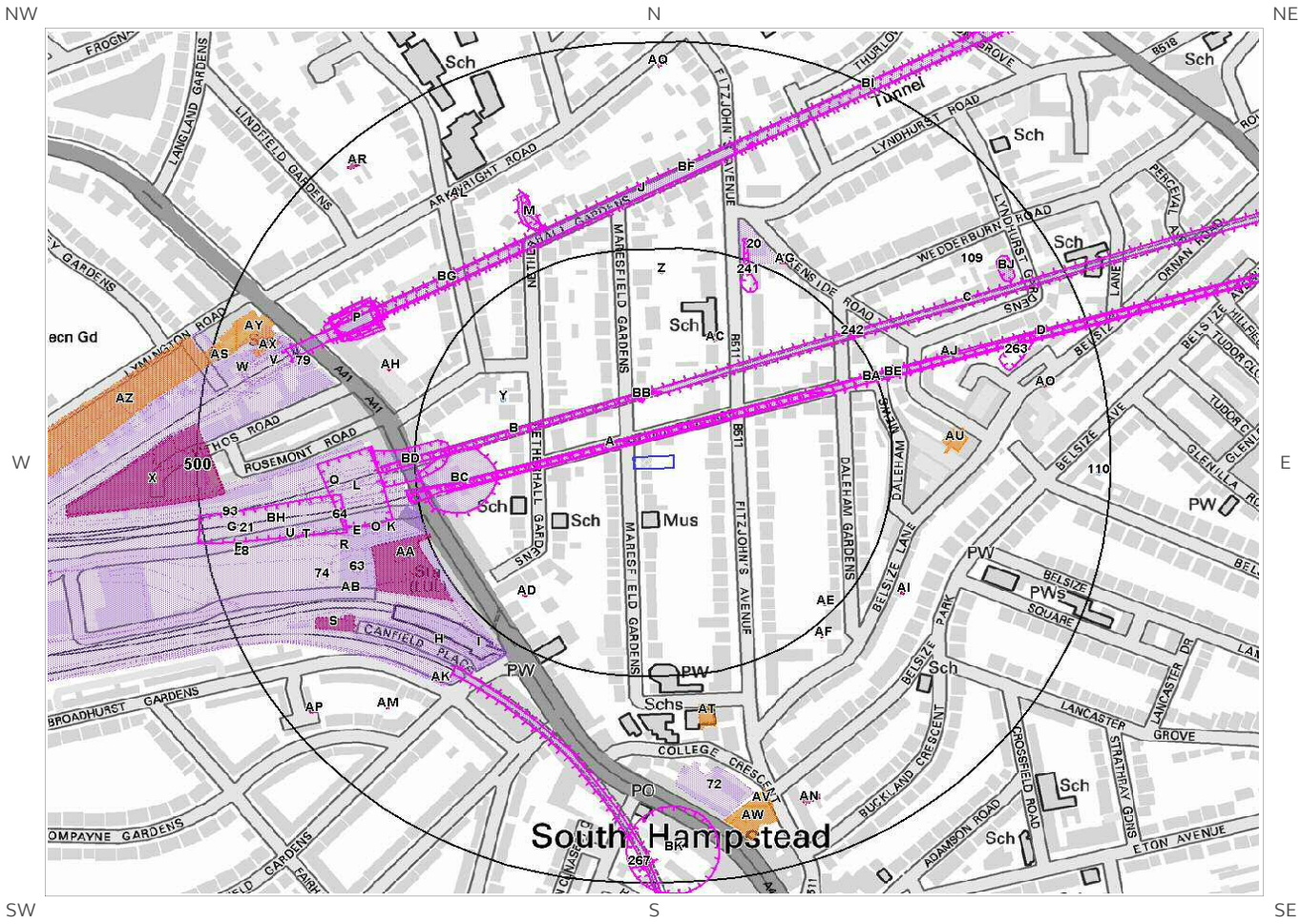
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Site Outline

250
500
Search Buffers (m)

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Tanks

Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 97

ID	Distance [m]	Direction	Use	Date
1BA	15	N	Tunnel	1866
2A	17	N	Tunnels	1968
3A	17	N	Tunnels	1973
4A	17	N	Tunnels	1989
5A	17	N	Tunnels	1957
6B	66	N	Tunnels	1973
7B	66	N	Tunnels	1989
8B	66	N	Tunnels	1957
9B	66	N	Tunnels	1968
10C	76	N	Tunnel	1996
11C	76	N	Tunnel	1974
12C	76	N	Tunnel	1965
13C	76	N	Tunnel	1958
14BC	156	W	Cuttings	1866
15D	169	NE	Tunnel	1974
16D	169	NE	Tunnel	1996
17D	169	NE	Tunnel	1965
18D	169	NE	Tunnel	1958
19BD	211	W	Cuttings	1894
20	243	N	Hospital	1965
21	248	W	Railway Sidings	1866
22E	248	W	Coal Depot	1968
23F	248	W	Railway Sidings	1957
24E	248	W	Coal Depot	1957
25F	249	W	Railway Sidings	1973
26F	249	W	Railway Sidings	1968
27G	249	SW	Railway Sidings	1920
28	256	W	Railway Sidings	1948
29E	256	W	Railway Buildings	1948
30G	259	SW	Railway Sidings	1894
31I	259	SW	Railway Station	1894
32H	263	SW	Railway Station	1948
33H	264	SW	London Transport Station	1968
34H	264	SW	London Transport Station	1957

35H	264	SW	London Transport Station	1973
36BE	266	E	Unspecified Shaft	1866
37H	267	SW	Railway Station	1989
38I	268	SW	Railway Station	1920
39K	272	W	Railway Buildings	1894
40AA	277	SW	Railway Building	1920
41BF	279	NW	Tunnel	1965
42J	279	NW	Tunnel	1974
43J	279	NW	Tunnel	1996
44BG	280	NW	Tunnel	1958
45K	281	W	Railway Building	1920
46L	283	W	Cuttings	1957
47L	288	W	Railway Station	1894
48L	289	W	Railway Station	1866
49M	293	N	Unspecified Ground Workings	1920
50M	294	N	Unspecified Ground Workings	1949
51O	301	W	Railway Building	1920
52Q	302	W	Railway Station	1920
53N	311	SW	Tunnel	1973
54N	311	SW	Tunnel	1968
55N	311	SW	Tunnel	1957
56O	316	W	Railway Building	1920
57P	324	NW	Cuttings	1965
58E	330	W	Railway Building	1920
59P	330	NW	Cuttings	1894
60P	333	NW	Cuttings	1866
61P	334	NW	Cuttings	1949
62P	334	NW	Cuttings	1958
63	334	W	Railway Building	1920
64	336	W	Railway Building	1866
65BH	336	W	Cuttings	1866
66P	337	NW	Cuttings	1920
67Q	338	W	Railway Building	1948
68Q	338	W	Railway Building	1957
69E	339	W	Railway Building	1920
70R	340	W	Railway Building	1894
71R	344	W	Railway Building	1866
72	355	S	Hospital	1948
73BI	371	N	Tunnel	1958
74	374	W	Railway Building	1968
75S	375	SW	Railway Building	1920
76T	376	W	Railway Building	1894
77S	377	SW	Railway Building	1948
78T	384	W	Railway Building	1920

79	384	W	Railway Building	1958
80U	394	W	Railway Building	1973
81U	394	W	Railway Building	1968
82V	396	W	Railway Station	1958
83V	396	W	Railway Station	1894
84V	397	W	Railway Station	1866
85V	400	W	Railway Station	1965
86V	401	W	Railway Station	1949
87U	401	W	Railway Building	1866
88V	408	W	Railway Station	1920
89W	409	W	Railway Sidings	1949
90AX	412	W	Railway Buildings	1958
91BJ	433	NE	Unspecified Pit	1866
92W	453	W	Railway Building	1949
93	460	W	Railway Building	1948
94X	485	W	Unspecified Works	1968
95X	485	W	Unspecified Works	1973
96AZ	487	W	Unspecified Depot	1920
97X	488	W	Electric Works	1920

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 13

ID	Distance (m)	Direction	Use	Date
98Y	162	NW	Unspecified Tank	1955
99Y	162	NW	Unspecified Tank	1953
100Y	162	NW	Unspecified Tank	1960
101Z	220	N	Unspecified Tank	1896
102Z	228	N	Unspecified Tank	1935
103Z	228	N	Unspecified Tank	1915
104AA	246	W	Gas Board Depot	1953
105AA	247	W	Gas Board Depot	1955
106AB	356	SW	Unspecified Tank	1955
107AB	356	SW	Unspecified Tank	1953
108J	393	N	Unspecified Tank	1896
109	411	NE	Unspecified Tank	1871
110	484	E	Unspecified Tank	1935

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 81

ID	Distance (m)	Direction	Use	Date
111AC	145	N	Electricity Substation	1991
112AC	145	N	Electricity Substation	1986
113AC	146	N	Electricity Substation	1991
114AD	192	SW	Electricity Substation	1994
115AD	193	SW	Electricity Substation	1971
116AD	194	SW	Electricity Substation	1991
117AD	194	SW	Electricity Substation	1986
118AE	236	SE	Electricity Substation	1985
119AE	236	SE	Electricity Substation	1991
120AE	236	SE	Electricity Substation	1994
121AA	246	W	Gas Board Depot	1953
122AA	247	W	Gas Board Depot	1955
123AF	262	SE	Electricity Substation	1985
124AF	262	SE	Electricity Substation	1991
125AG	262	NE	Electricity Substation	1991
126AF	262	SE	Electricity Substation	1994
127AG	262	NE	Electricity Substation	1991
128AG	262	NE	Electricity Substation	1986
129AH	297	W	Electricity Substation	1991
130AH	297	W	Electricity Substation	1995
131AH	297	W	Electricity Substation	1992
132AH	297	W	Electricity Substation	1978
133AH	297	W	Electricity Substation	1970
134AI	299	SE	Electricity Substation	1967
135AI	299	SE	Electricity Substation	1953
136AI	299	SE	Electricity Substation	1955
137AI	300	SE	Electricity Substation	1994
138AI	300	SE	Electricity Substation	1985
139AI	300	SE	Electricity Substation	1991
140AI	300	SE	Electricity Substation	1977
141AJ	334	E	Electricity Substation	1991
142AJ	335	E	Electricity Substation	1991
143AJ	336	E	Electricity Substation	1986
144AJ	336	E	Electricity Substation	1955
145AK	336	SW	Electricity Substation	1953
146AK	337	SW	Electricity Substation	1971
147AK	337	SW	Electricity Substation	1994

148AK	337	SW	Electricity Substation	1991
149AK	337	SW	Electricity Substation	1986
150AK	337	SW	Electricity Substation	1953
151S	366	SW	Electricity Substation	1955
152S	366	SW	Electricity Substation	1991
153P	370	NW	Electricity Substation	1978
154P	370	NW	Electricity Substation	1970
155P	370	NW	Electricity Substation	1995
156P	371	NW	Electricity Substation	1992
157P	371	NW	Electricity Substation	1991
158AL	372	NW	Electricity Substation	1992
159AL	373	NW	Electricity Substation	1995
160AL	373	NW	Electricity Substation	1994
161AM	401	SW	Electricity Substation	1991
162AM	401	SW	Electricity Substation	1986
163AM	401	SW	Electricity Substation	1971
164AM	401	SW	Electricity Substation	1994
165AN	426	S	Electricity Substation	1985
166AN	428	SE	Electricity Substation	1991
167AN	429	SE	Electricity Substation	1991
168AN	429	SE	Electricity Substation	1986
169AO	430	E	Electricity Substation	1991
170AO	430	E	Electricity Substation	1994
171AO	432	E	Electricity Substation	1991
172AP	465	SW	Electricity Substation	1986
173AP	466	SW	Electricity Substation	1971
174AP	466	SW	Electricity Substation	1991
175AP	466	SW	Electricity Substation	1978
176AQ	469	N	Electricity Substation	1995
177AQ	469	N	Electricity Substation	1992
178AQ	469	N	Electricity Substation	1955
179AQ	469	N	Electricity Substation	1955
180X	469	W	Electricity Depot	1953
181X	469	W	Electricity Depot	1978
182X	470	W	Electricity Depot	1970
183AR	471	NW	Electricity Substation	1991
184AR	471	NW	Electricity Substation	1896
185AR	472	NW	Electricity Substation	1995
186X	472	W	Electric Lighting Station	1992
187AR	473	NW	Electricity Substation	1991
188AR	473	NW	Electricity Substation	1979
189AS	486	W	Electricity Substation	1971
190AS	486	W	Electricity Substation	
191AS	486	W	Electricity Substation	

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 26

ID	Distance (m)	Direction	Use	Date
192AT	286	S	Garage	1985
193AT	287	S	Garage	1991
194AT	287	S	Garage	1967
195AT	287	S	Garage	1953
196AU	308	E	Garage	1955
197AU	310	E	Garage	1967
198AV	402	S	Garage	1994
199AV	403	S	Garage	1985
200AV	403	S	Garage	1991
201AV	403	S	Garage	1995
202AV	403	S	Garage	1973
203AV	416	S	Garage	1962
204AV	416	S	Garage	1967
205AV	416	S	Garage	1978
206AV	416	S	Garage	1984
207AW	416	S	Garage	1979
208AW	416	S	Garage	1991
209AW	416	S	Garage	1953
210AW	416	S	Garage	1965
211AX	429	W	Garage	1953
212AX	429	W	Garage	1953
213AY	437	W	Garage	1953
214AY	473	W	Garage	1953
215AY	473	W	Garage	1935
216AY	473	W	Garage	
217AZ	484	W	Works Depot	

1.6 Potentially Infilled Land

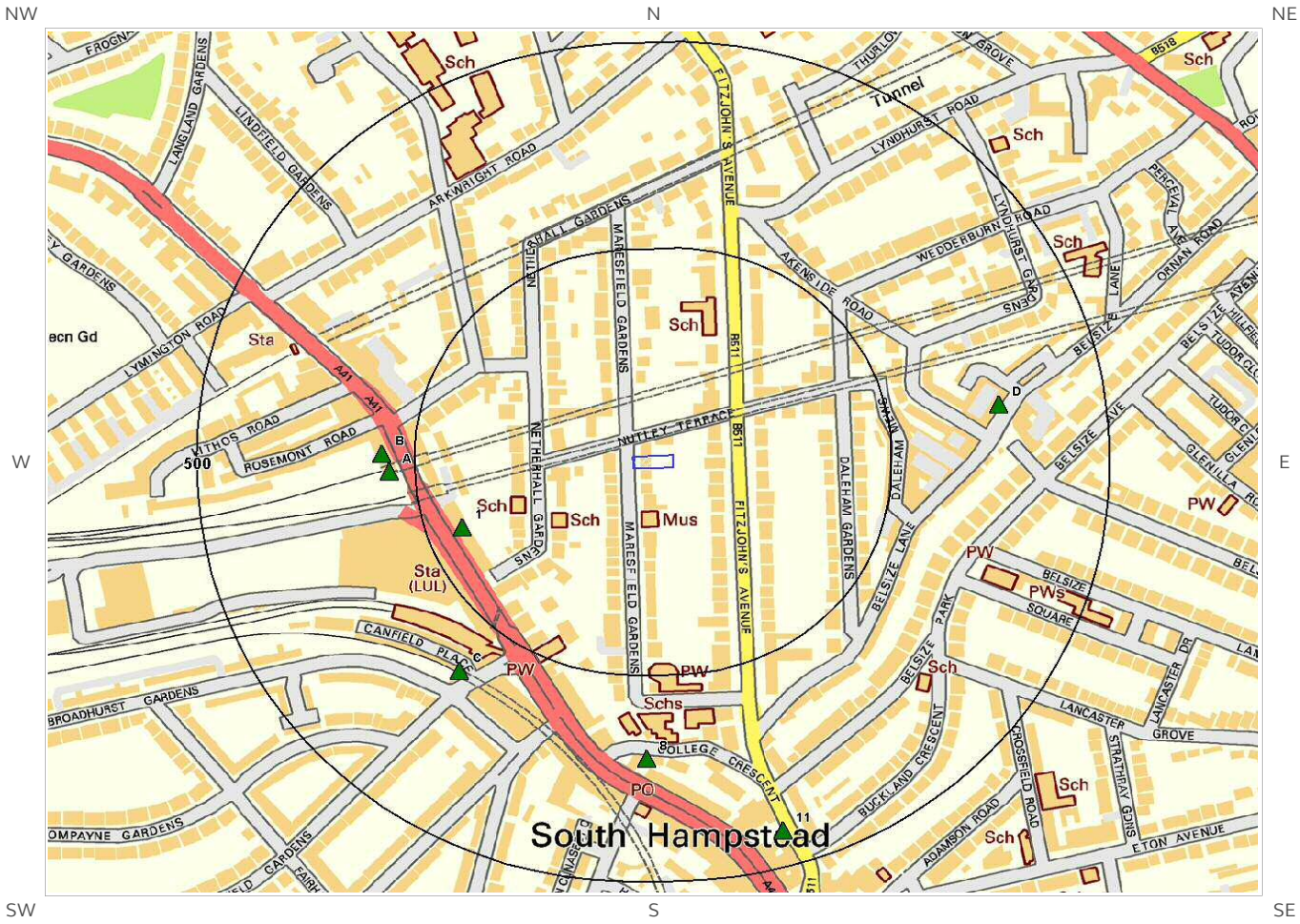
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 50

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
218BA	15	N	Tunnel	1866
219A	17	N	Tunnels	1957
220A	17	N	Tunnels	1973
221A	17	N	Tunnels	1968
222A	17	N	Tunnels	1989
223B	66	N	Tunnels	1957
224B	66	N	Tunnels	1973
225B	66	N	Tunnels	1968
226B	66	N	Tunnels	1989
227BB	67	N	Air Shaft	1973
228BB	67	N	Air Shaft	1989
229BB	70	N	Air Shaft	1948
230BB	71	N	Air Shaft	1920
231C	76	N	Tunnel	1958
232C	76	N	Tunnel	1996
233C	76	N	Tunnel	1974
234C	76	N	Tunnel	1965
235BC	156	W	Cuttings	1866
236D	169	NE	Tunnel	1958
237D	169	NE	Tunnel	1996
238D	169	NE	Tunnel	1965
239D	169	NE	Tunnel	1974
240BD	211	W	Cuttings	1894
241	214	NE	Pond	1866
242	249	NE	Air Shaft	1920
243BE	266	E	Unspecified Shaft	1866
244J	279	NW	Tunnel	1996
245BF	279	NW	Tunnel	1965
246J	279	NW	Tunnel	1974
247BG	280	NW	Tunnel	1958
248L	283	W	Cuttings	1957
249M	293	N	Unspecified Ground Workings	1920
250M	294	N	Unspecified Ground Workings	1949
251N	311	SW	Tunnel	1973
252N	311	SW	Tunnel	1968
253N	311	SW	Tunnel	1957
254P	324	NW	Cuttings	1965

255P	330	NW	Cuttings	1894
256P	333	NW	Cuttings	1866
257P	334	NW	Cuttings	1958
258P	334	NW	Cuttings	1949
259BH	336	W	Cuttings	1866
260P	337	NW	Cuttings	1920
261BI	371	N	Tunnel	1958
262J	384	N	Ventilating Shaft	1873
263	391	E	Pond	1866
264BK	409	S	Air Shaft	1920
265BJ	433	NE	Unspecified Pit	1866
266BK	471	S	Air Shaft	1957
267	474	S	Air Shaft	1948

2. Environmental Permits, Incidents and Registers Map



- Site Outline
- Search Buffers (m) — 250 — 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	210	W	526259 184834	Address: Executive Clean Dry Cleaners, 148 Finchley Road, NW3 5HS Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
2A	280	W	526176 184901	Address: Hampstead Express Clothes Clinic , 279a Finchley Road, NW3 6LT Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
3A	280	W	526176 184901	Address: Hampstead Express Dry Cleaning, 279a Finchley Road, NW3 6LT Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
4B	288	W	526167 184923	Address: Ariana Hand Laundry Ltd, 281a Finchley Road, NW3 6ND Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
5B	288	W	526167 184923	Address: Ariana Hand Laundry Ltd, 281a Finchley Road, NW3 6ND Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
6C	318	SW	526256 184660	Address: I.S. Dry Cleaners, 6 Canfield Gardens, London, NW6 3BS Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
7C	318	SW	526256 184660	Address: I.S.Dry Cleaners, 6 Canfield Gardens, NW6 3BS Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
8	353	S	526471 184554	Address: BP Hampsted Connect, 104a Finchley Road, London, NW3 5EY Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
9D	378	E	526875 184983	Address: Pyramid Cleaners, 52 Belsize Lane, Belsize Park, NW3 5AR Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
10D	378	E	526875 184983	Address: Pyramid Cleaners, 52 Belsize Lane, NW3 5AR Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

ID	Distance (m)	Direction	NGR	Details	
11	458	S	526627 184467	Address: Red Spot Dry Cleaners, 26 Northways Parade, College Crescent, N1 1ED Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

0

Database searched and no data found.

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

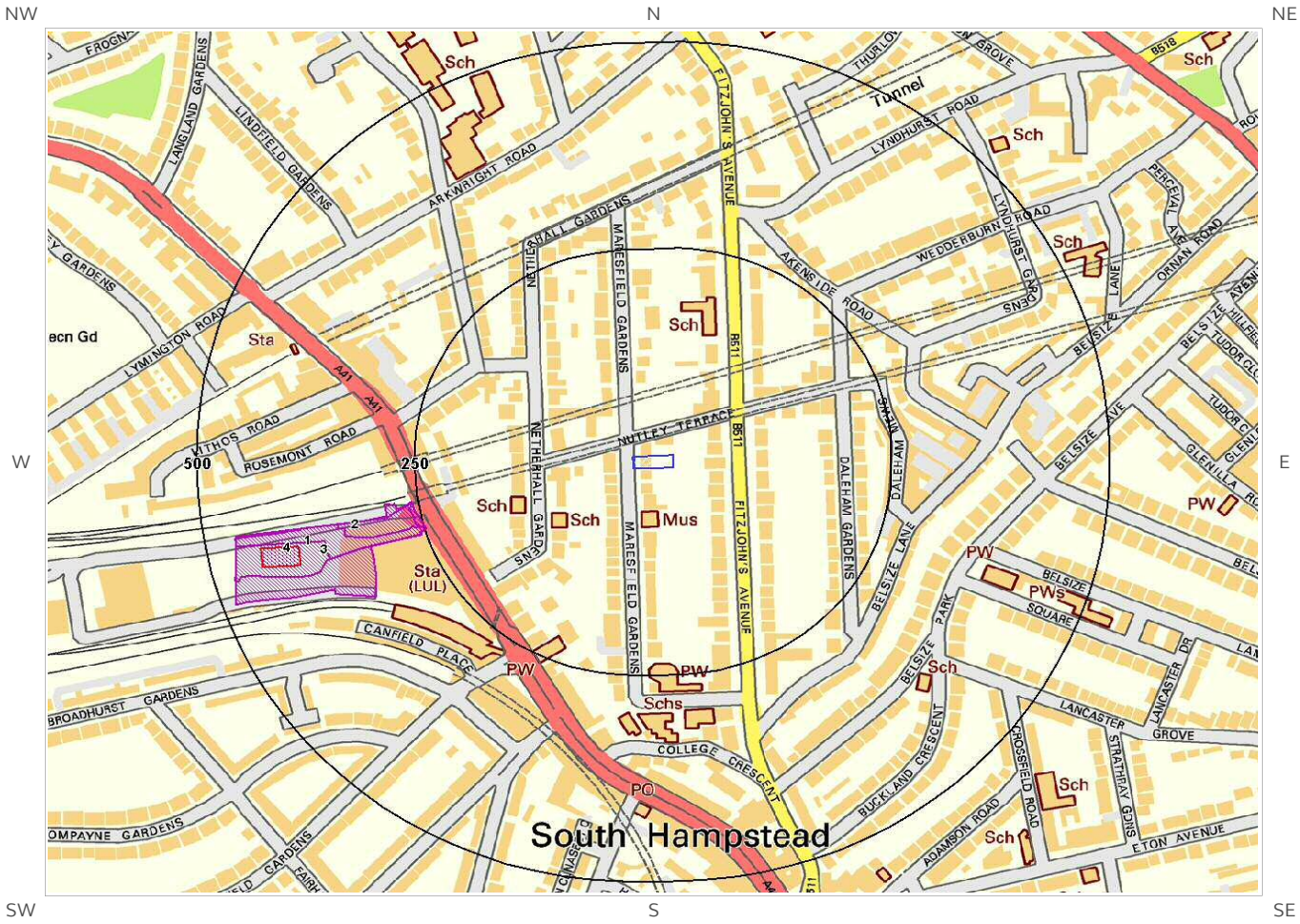
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

---

3. Landfill and Other Waste Sites Map



Site Outline

250 — 500 — Search Buffers (m)

E.A. Active Landfill

E.A. Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

E.A. Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

1

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
4	395	W	526000 184800	Site Address: Canfield Place, London NW6 Waste Licence: - Site Reference: DON009 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0

Database searched and no data found.

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

3

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

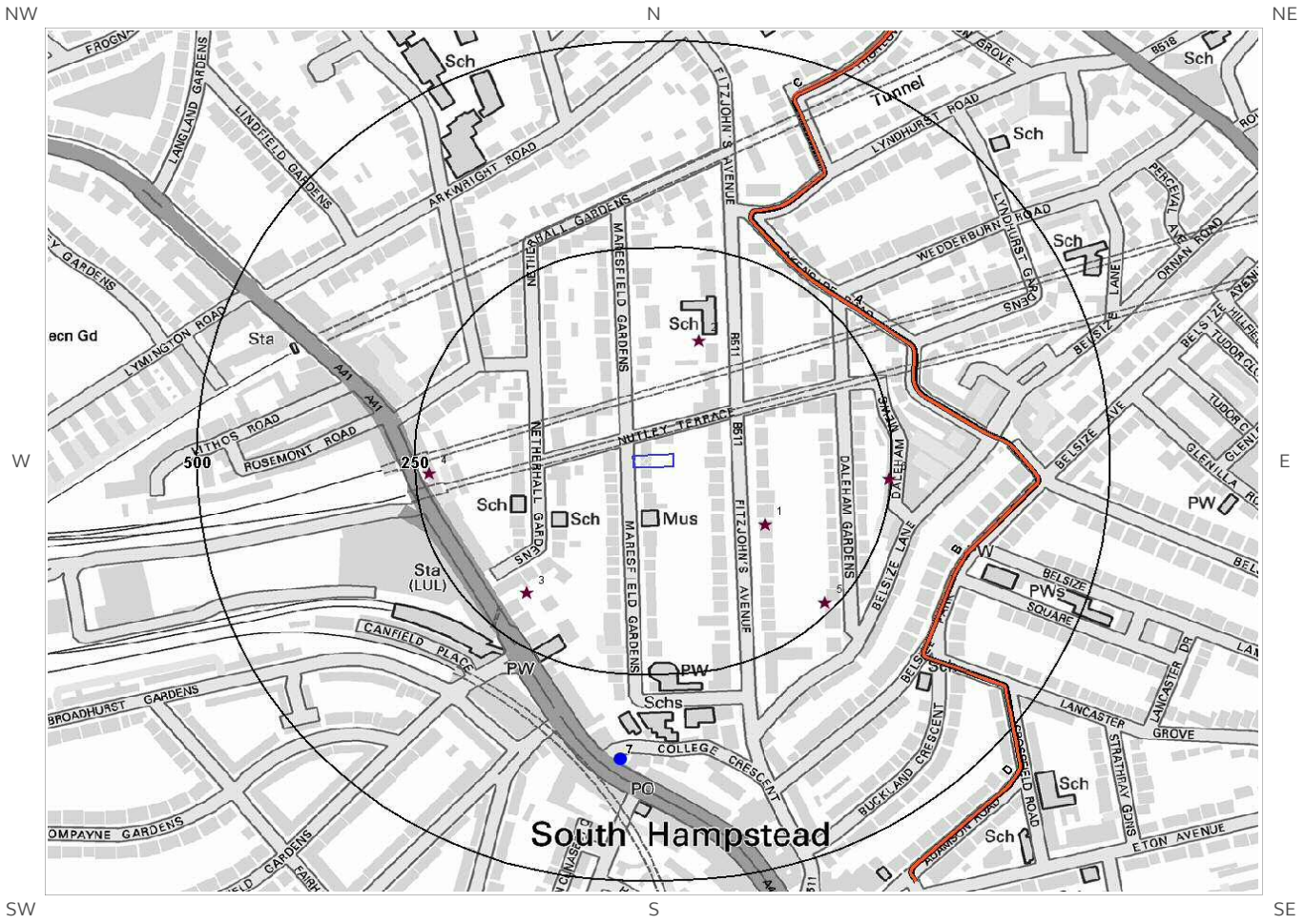
ID	Distance (m)	Direction	NGR	Details		
1	248	W	526076 184811	Type of Site: Refuse Transfer Depot Site Address: N/A	Planning Application Reference: N/A Date: 1986	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
2	248	W	526109 184831	Type of Site: Refuse Transfer Depot Site Address: N/A	Planning Application Reference: N/A Date: 1970	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon
3	249	W	526109 184803	Type of Site: Waste Transfer Station Site Address: N/A	Planning Application Reference: N/A Date: 1994	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

0

Database searched and no data found.

4. Current Land Use Map



Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 6

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	126	SE	Hot Chiu	526606 184839	Garden Flat 26, Fitzjohns Avenue, London, NW3 5NB	Catering and Non Specific Food Products	Foodstuffs
2	141	N	Electricity Sub Station	526531 185062	NW3	Electrical Features	Infrastructure and Facilities
3	195	SW	Electricity Sub Station	526333 184756	NW3	Electrical Features	Infrastructure and Facilities
4	235	W	Neatsmith	526220 184901	6-8, Frognal Parade, London, NW3 5HH	Furniture	Consumer Products
5	238	SE	Electricity Sub Station	526675 184745	NW3	Electrical Features	Infrastructure and Facilities
6	247	E	Daleham Garage	526748 184894	14, Daleham Mews, London, NW3 5DB	Vehicle Repair, Testing and Servicing	Repair and Servicing

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 1

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
7	352	S	526441 184555	BP	Hampstead Service Station, 104A, Finchley Road, Finchley Road, Hampstead, London, Greater London, NW3 5EY	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 16

The following Underground Electricity Transmission Cable records are represented as linear features on the Current Land Use map:

ID	Distance (m)	Direction	Details	
8A	263	NE	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
9A	264	NE	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 2 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
10A	264	NE	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 1 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
11A	265	NE	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
12B	346	E	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
13B	346	E	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 2 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
14B	347	E	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 1 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
15B	347	E	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
16C	357	NE	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
17C	361	NE	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 1 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
18C	361	NE	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 2 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -

ID	Distance (m)	Direction	Details	
19C	365	NE	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
20D	410	SE	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
21D	413	SE	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 1 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
22D	413	SE	Cable Set: - Cable Route: MILL HILL - ST JOHNS WOOD 2 Cable Make: -	Cable Type: DECOMMISSIONED Operating Voltage (kV): 275 Year of installation: - Cable in tunnel: -
23D	416	SE	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.3 Bedrock and Solid Geology

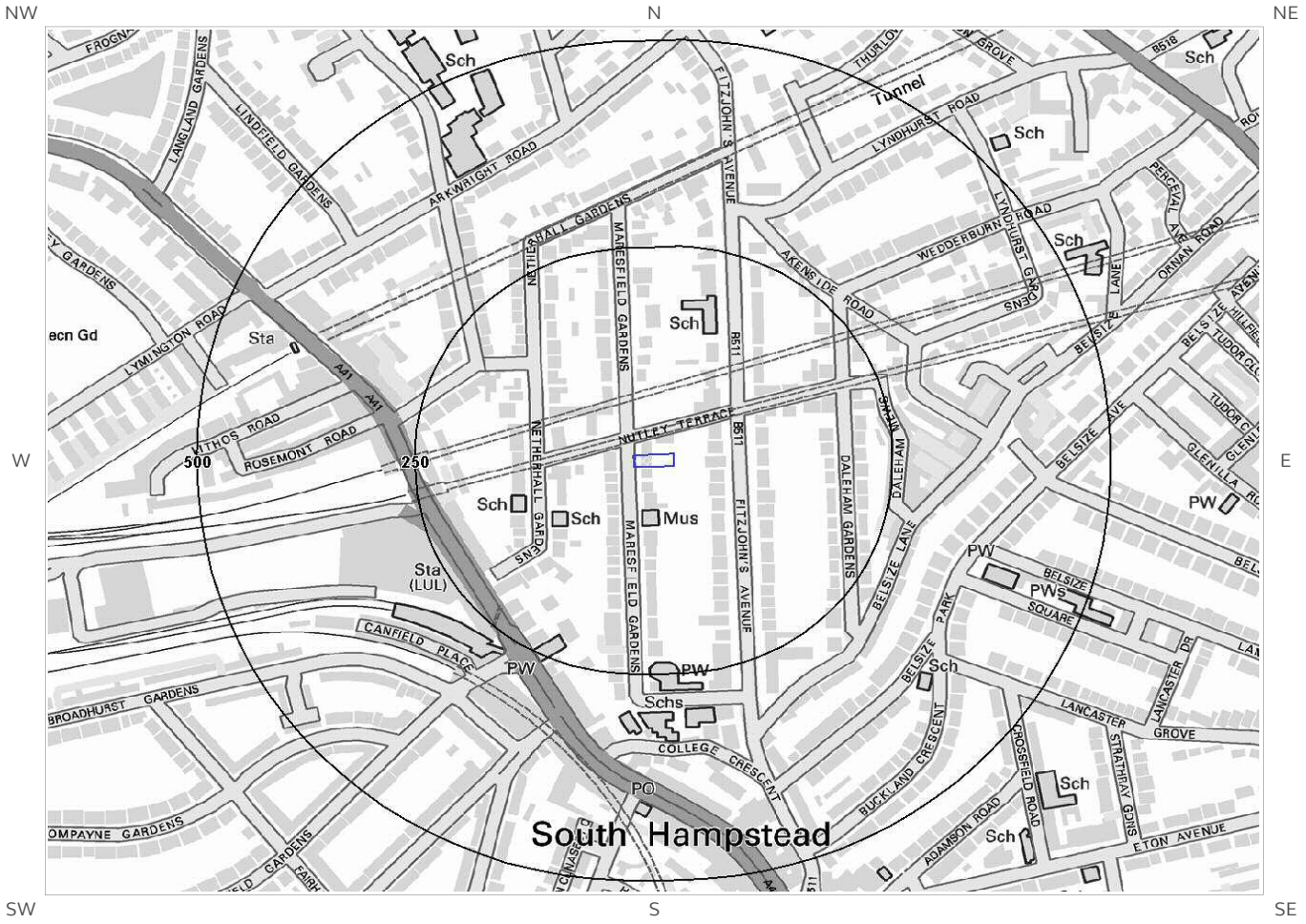
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-CLSISA	LONDON CLAY FORMATION	CLAY, SILT AND SAND

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



Site Outline

250 — 500 — Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

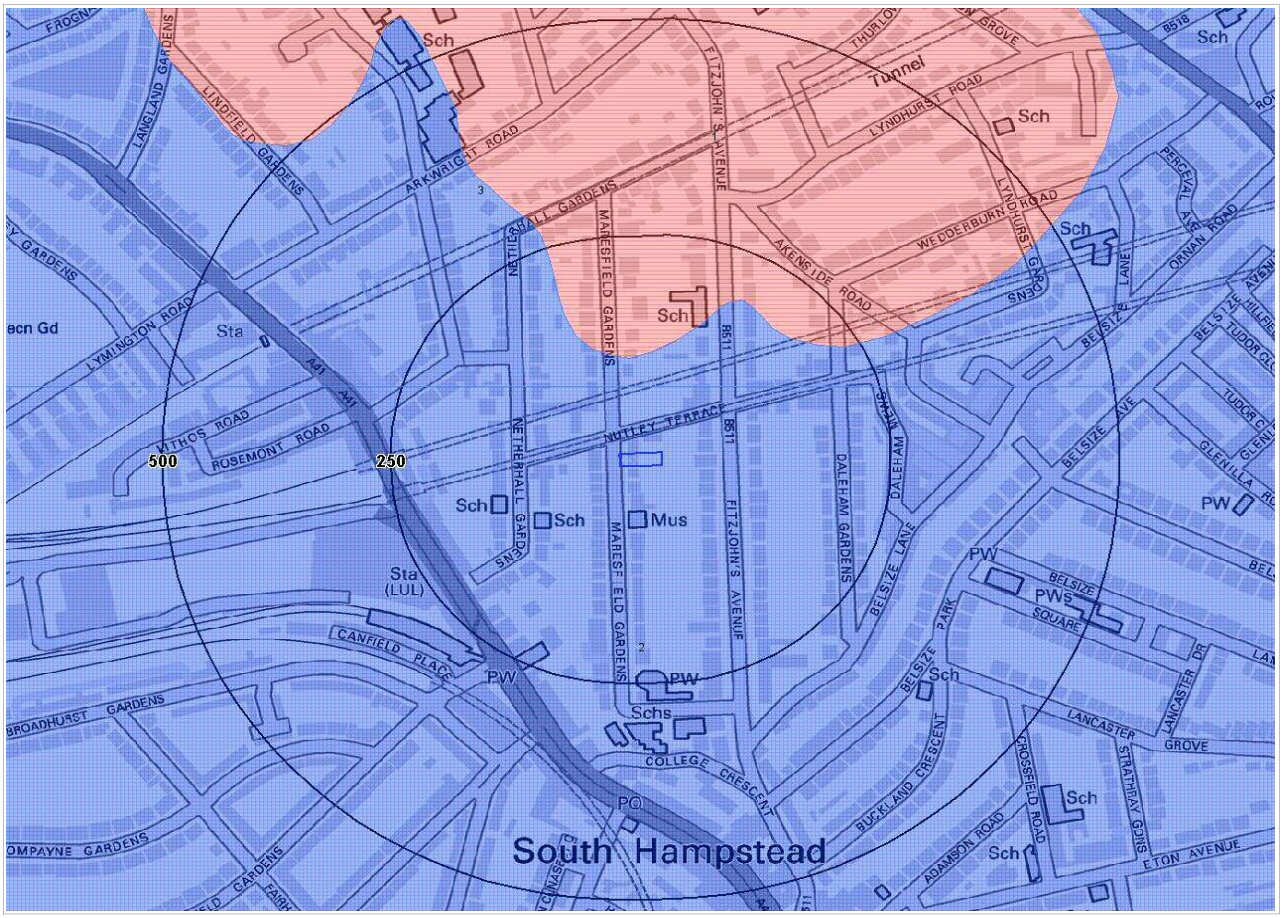
Unknown (lakes and landslip)

6b. Aquifer Within Bedrock Geology and Abstraction Licenses

NW N NE

W E

SW S SE



Site Outline

250 500 Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

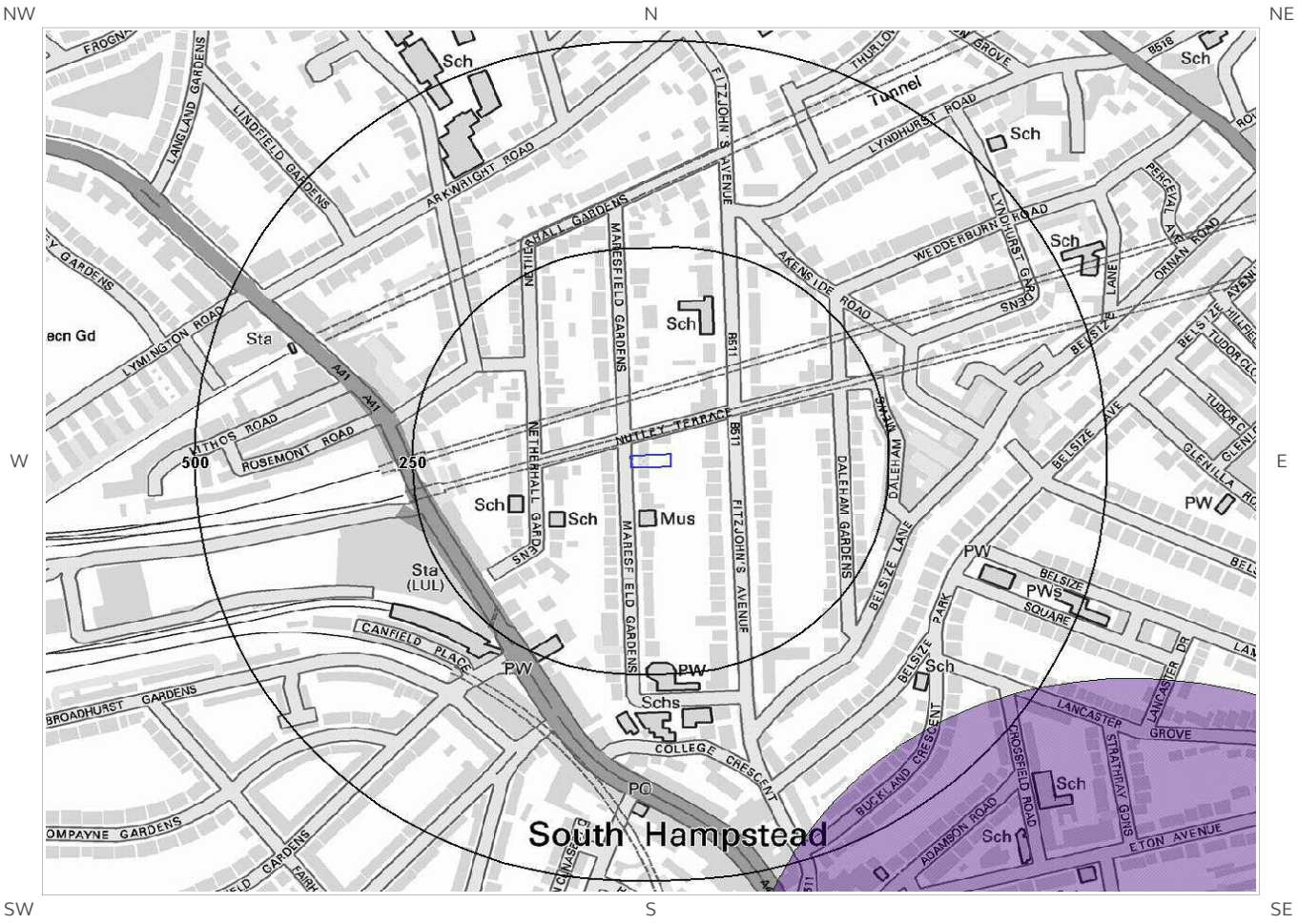
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

Surface Water Abstraction Licence

6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



Site Outline

250 — 500 — Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

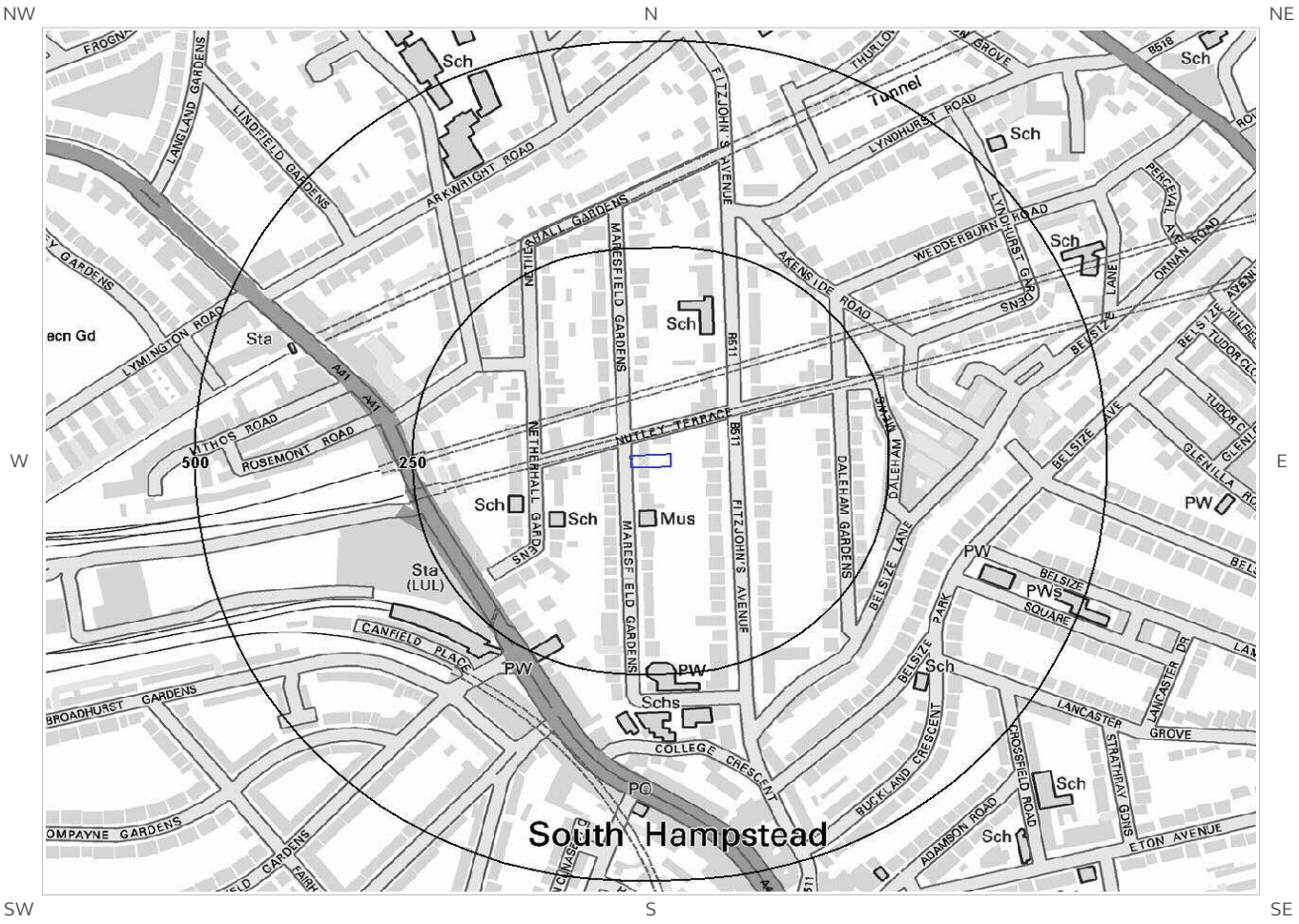
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

6d. Hydrogeology – Source Protection Zones within confined aquifer



Site Outline

250 — 500 — Search Buffers (m)

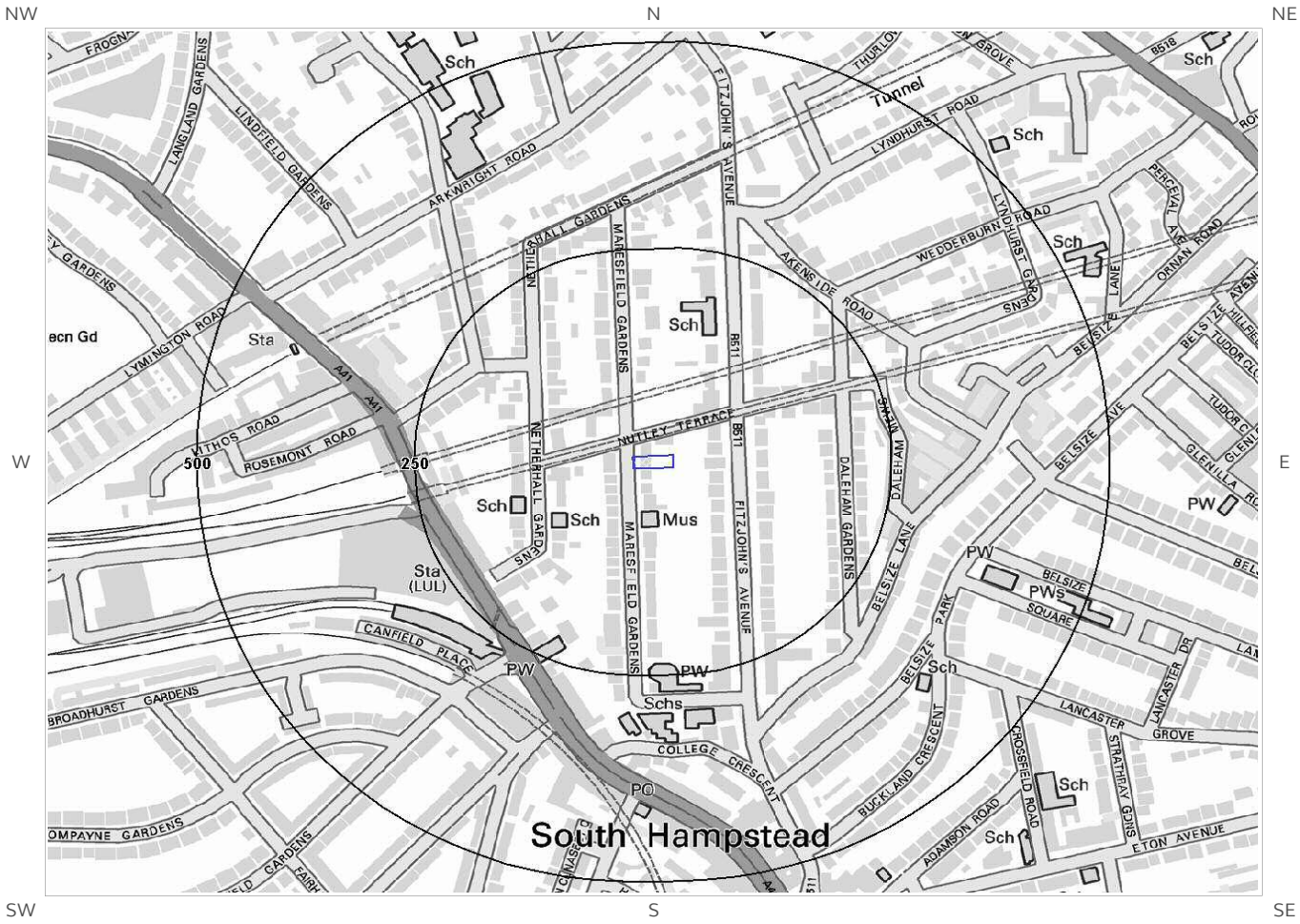
Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

6e. Hydrology – Detailed River Network and River Quality



Site Outline

250 — 500 — Search Buffers (m)

Primary River
Secondary River
Tertiary River
Lake/Reservoir
Underground River (inferred)
General Quality Assessment: Biology
General Quality Assessment: Chemistry

Canal
Canal Tunnel
Culvert
Multiple Channel Culvert
Underground River (Potential Sewer)
Underground River (local knowledge)

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? No

Database searched and no data found.

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
2	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	76	N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
1	109	N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
Not shown	693	S	526750 184261	Status: Historical Licence No: TH/039/0039/087 Details: General Washing/Process Washing Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m^3): 10512 Max Daily Volume (m^3): 28.8 Original Application No: NPS/WR/014567 Original Start Date: 5/12/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 5/12/2013 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	693	S	526750 184261	Status: Historical Licence No: TH/039/0039/087 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m^3): 10512 Max Daily Volume (m^3): 28.8 Original Application No: NPS/WR/014567 Original Start Date: 5/12/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 5/12/2013 Version End Date:
Not shown	693	S	526750 184261	Status: Historical Licence No: TH/039/0039/087 Details: Lake & Pond Throughflow Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m^3): 10512 Max Daily Volume (m^3): 28.8 Original Application No: NPS/WR/014567 Original Start Date: 5/12/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 5/12/2013 Version End Date:
Not shown	695	SE	526800 184280	Status: Historical Licence No: 28/39/39/0219 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m^3): 10512 Max Daily Volume (m^3): 28.8 Original Application No: WRA/N/1407 Original Start Date: 12/8/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 1/4/2008 Version End Date:
Not shown	1659	SE	527636 183697	Status: Historical Licence No: TH/039/0039/058 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Borehole At Barrow Hill Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m^3): 631000 Max Daily Volume (m^3): 2000 Original Application No: NPS/WR/009229 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 1/4/2013 Version End Date:
Not shown	1667	SE	527640 183690	Status: Historical Licence No: 28/39/39/0231 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m^3): 631000 Max Daily Volume (m^3): 2000 Original Application No: WRA/R/1026 Original Start Date: 1/4/2007 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 1/4/2007 Version End Date:
Not shown	1667	SE	527640 183690	Status: Historical Licence No: 28/39/39/0202 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m^3): 631000 Max Daily Volume (m^3): 2000 Original Application No: WRA/2/2(24) Original Start Date: 26/9/2002 Expiry Date: 31/3/2007 Issue No: 1 Version Start Date: 26/9/2002 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details	
Not shown	1659	SE	527636 183697	Status: Active Licence No: TH/039/0039/058 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Borehole At Barrow Hill Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m^3): 631000 Max Daily Volume (m^3): 2000 Original Application No: NPS/WR/009229 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: Version End Date:
Not shown	1667	SE	527640 183690	Status: Historical Licence No: 28/39/39/0231 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m^3): 631000 Max Daily Volume (m^3): 2000 Original Application No: WRA/R/1026 Original Start Date: 1/4/2007 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: Version End Date:
Not shown	1667	SE	527640 183690	Status: Historical Licence No: 28/39/39/0202 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Name: THAMES WATER UTILITIES LTD	Annual Volume (m^3): 631000 Max Daily Volume (m^3): 2000 Original Application No: WRA/2/2(24) Original Start Date: 26/9/2002 Expiry Date: 31/3/2007 Issue No: 1 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distance (m)	Direction	Zone	Description
1	427	SE	2	Outer catchment

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
183	NW	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? No

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?	No

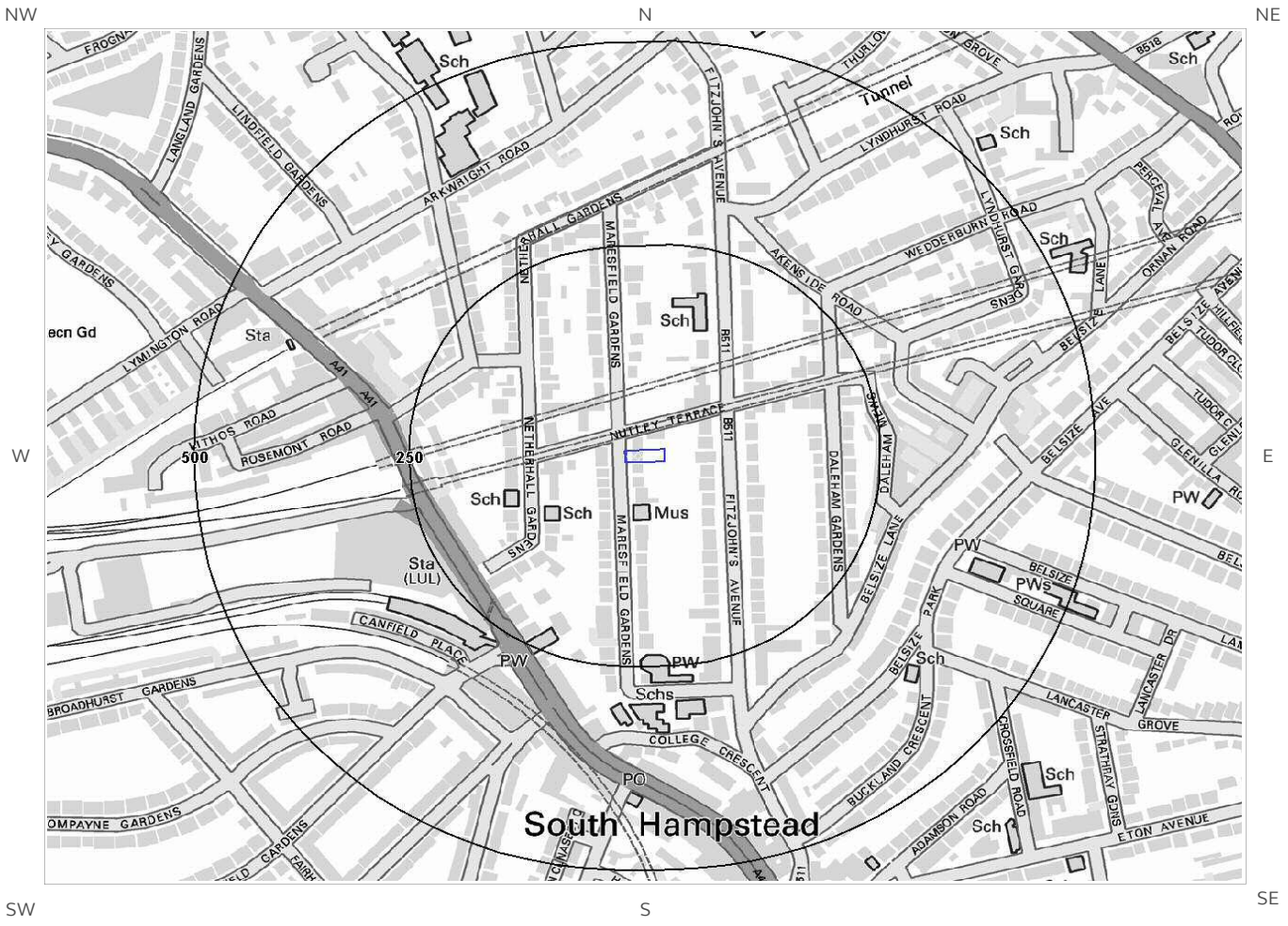
Database searched and no data found.

6.11 Surface Water Features

Are there any surface water features within 250m of the study site?	No

Database searched and no data found.

7a. Environment Agency Flood Map for Planning (from rivers and the sea)



Site Outline

100
250
Search Buffers (m)

Zone 2 Floodplain

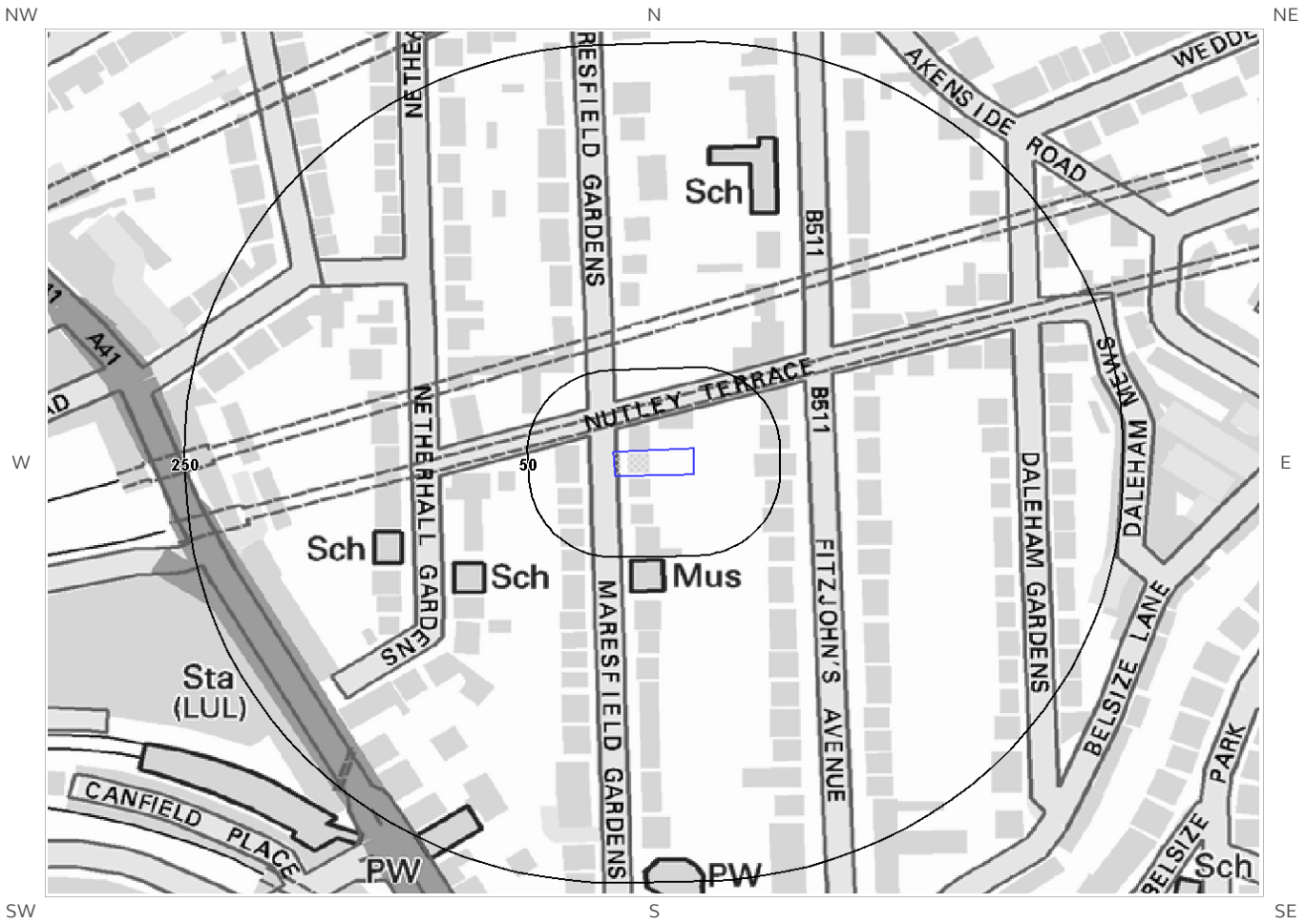
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



Site Outline

100 250 Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? No

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Not Prone

The area is not considered to be prone to groundwater flooding based on rock type.

7.8 Groundwater Flooding Confidence Areas

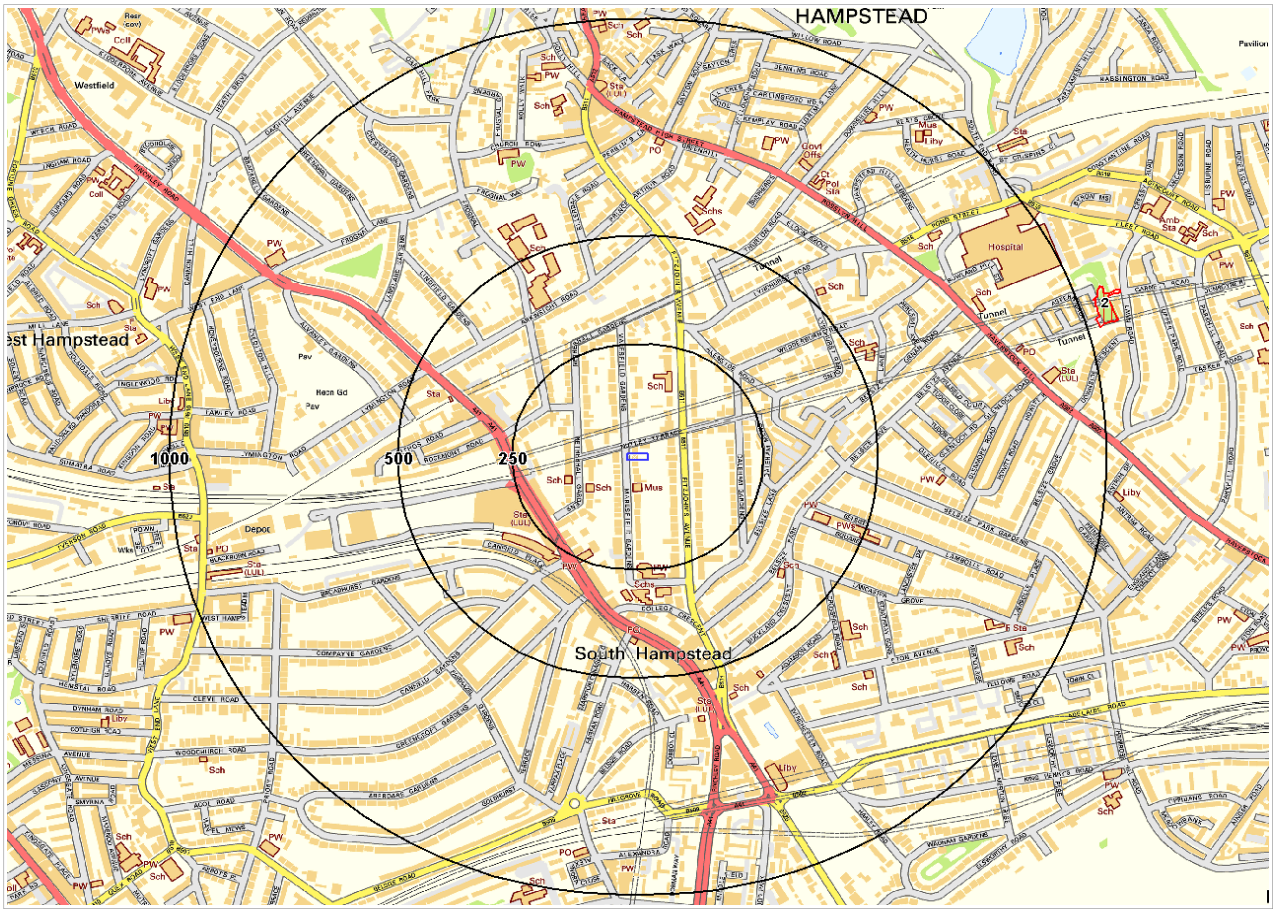
What is the British Geological Survey confidence rating in this result? Not Applicable

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map

NW N NE



W E

SW S SE

Site Outline

100

250

Search Buffers (m)

AONB

National Park

SSSI

Special Protection Areas

Nitrate Vulnerable Zones

Green Belt

Environmentally Sensitive Areas

Special Areas of Conservation

World Heritage Sites

Nitrate Sensitive Areas

Ancient Woodland

National Nature Reserve

Local Nature Reserves

Ramsar Sites

8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

1

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1899	N	Hampstead Heath Woods	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

2

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
Not shown	1676	N	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1905	N	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

4

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
2	1025	E	Belsize Wood	Natural England
Not shown	1942	S	St John's Wood Church Grounds	Natural England
Not shown	1979	W	Westbere Copse	Natural England
Not shown	1995	W	Westbere Copse	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

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9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell*[*] hazard rating identified on the study site? Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand*[*] hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing
ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506
Web:**www.environment-agency.gov.uk**
Email:**enquiries@environment-agency.gov.uk**

Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

The Coal Authority
200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority
Authority: London Borough of Camden
Phone: 020 7974 4444
Web: http://www.camden.gov.uk/
Address: Camden Town Hall, Judd Street, London, WC1H 9JE

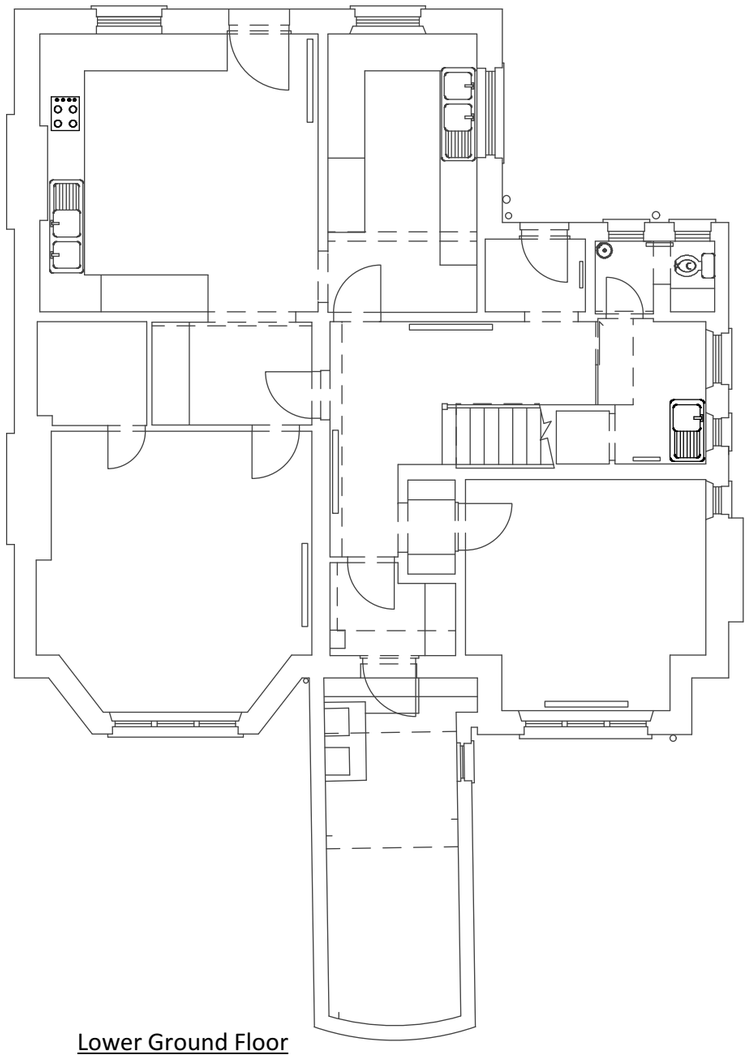
Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444

Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
https://www.groundsure.com/terms-and-conditions-sept-2016

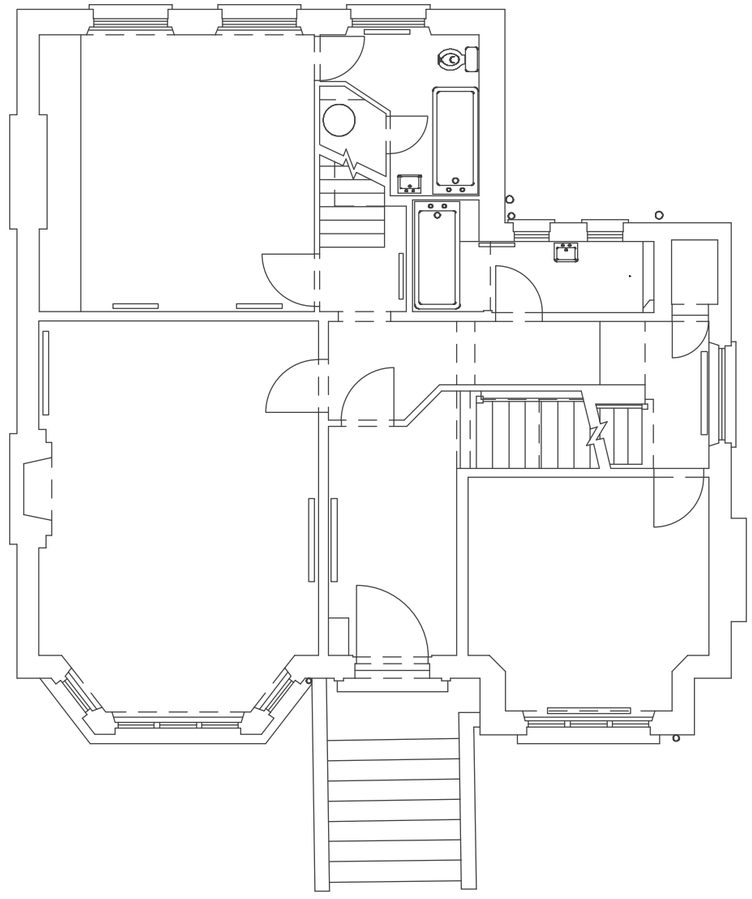
APPENDIX B

Site Plans



Lower Ground Floor

GIA: 117m²



Ground Floor

GIA: 103m²

Areas:
LG:117m²
G:103m²
F:99m²
S:94m²

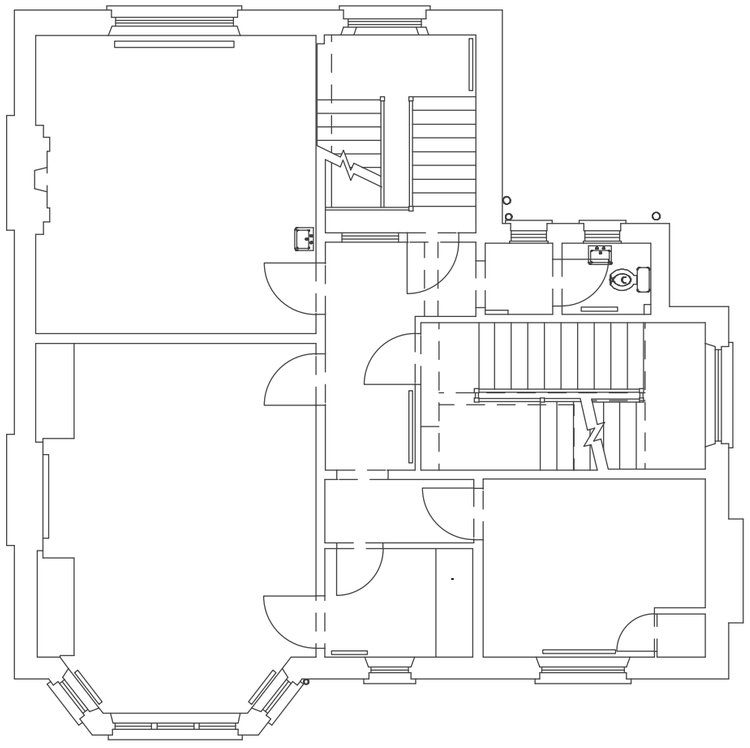
Total:413m²
4445ft²

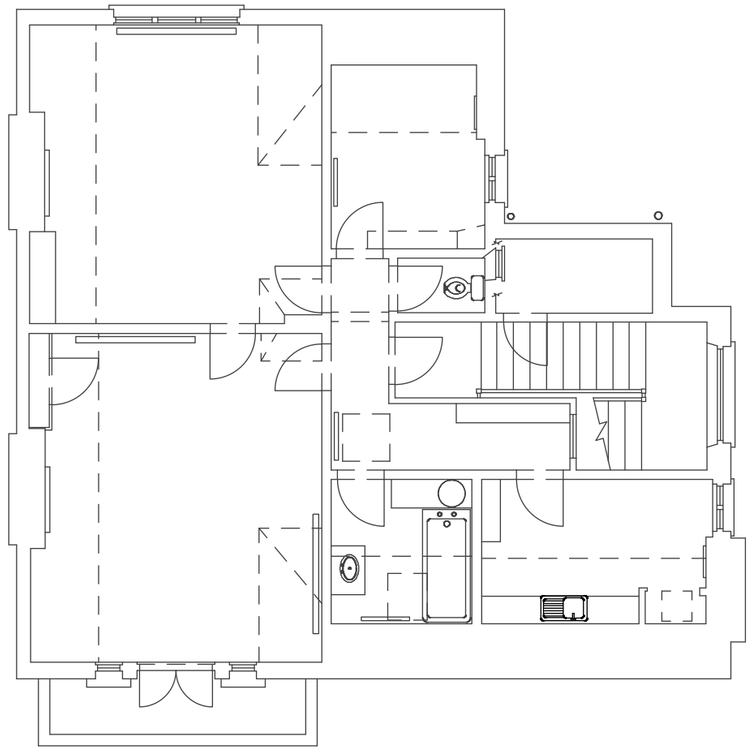
1:100 @A3

N

Existing Plans

greenwayarchitects





Areas:
LG:117m^2
G:103m^2
F:99m^2
S:94m^2

Total:413m^2
4445ft^2

First Floor

GIA: 99m^2

Second Floor

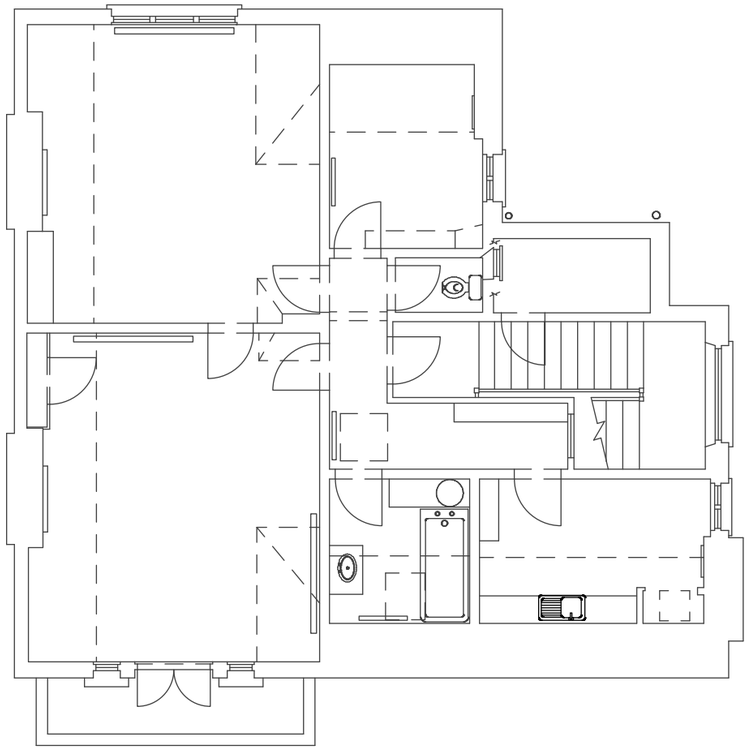
GIA: 94m^2

1:100 @A3

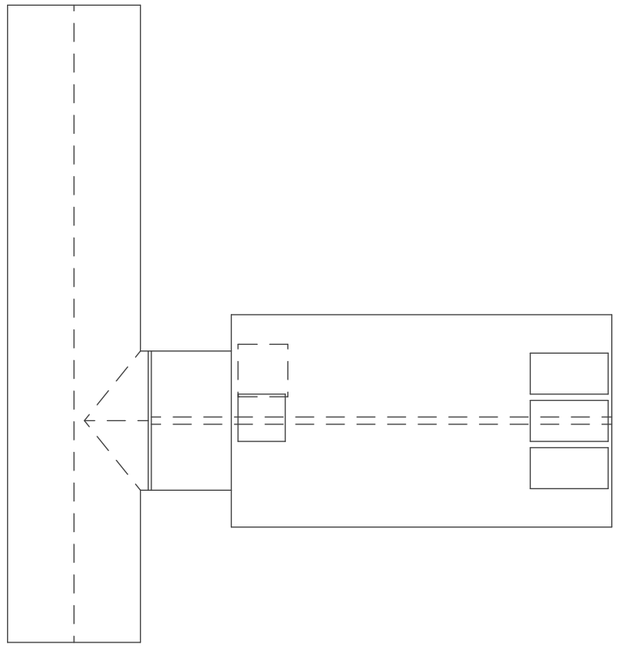
N

Existing Plans

greenwayarchitects



Second Floor



Attic Floor

Areas:
LG:117m^2
G:103m^2
F:99m^2
S:94m^2

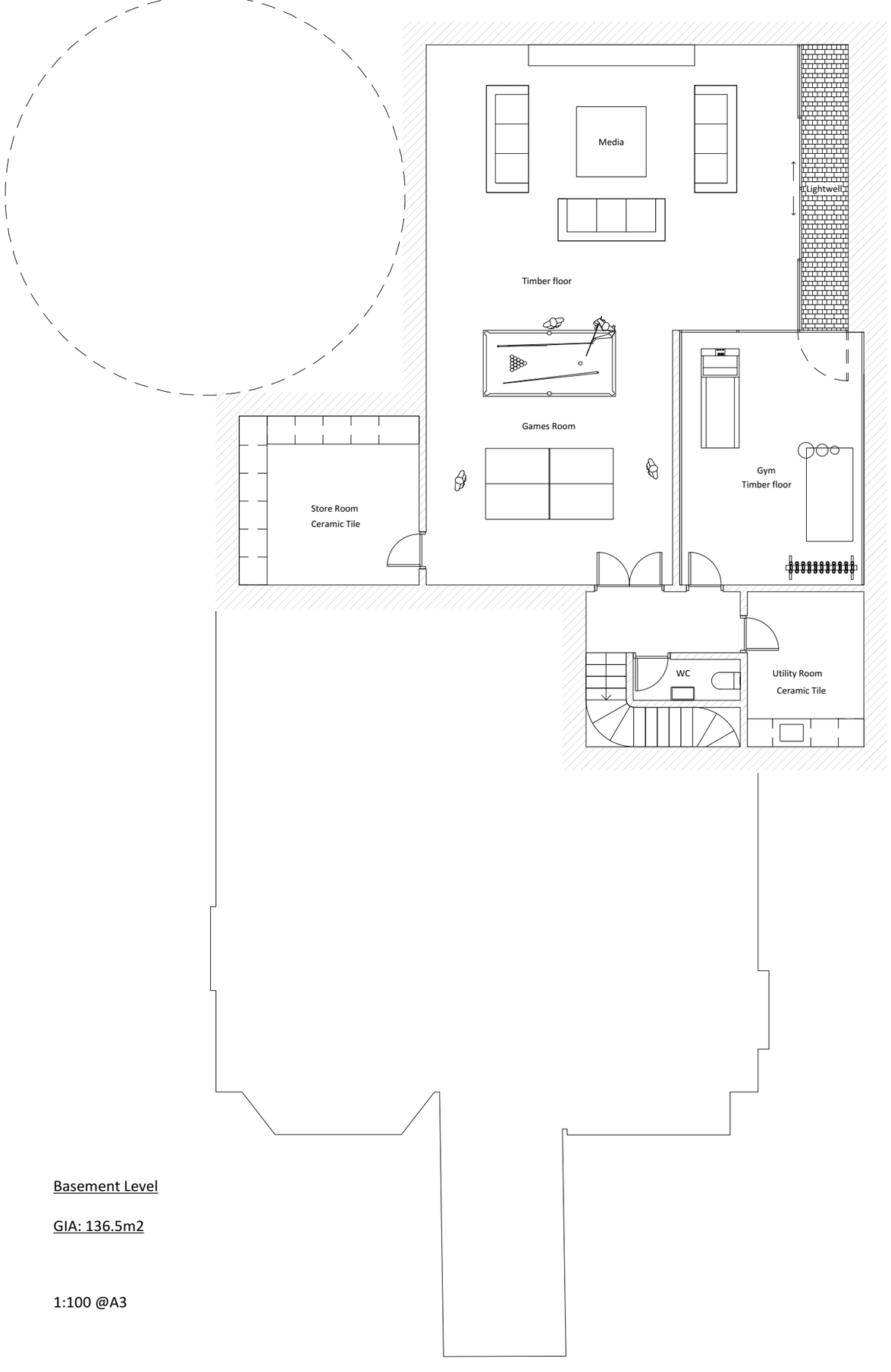
Total:413m^2
4445ft^2

1:100 @A3

N

Existing Plans

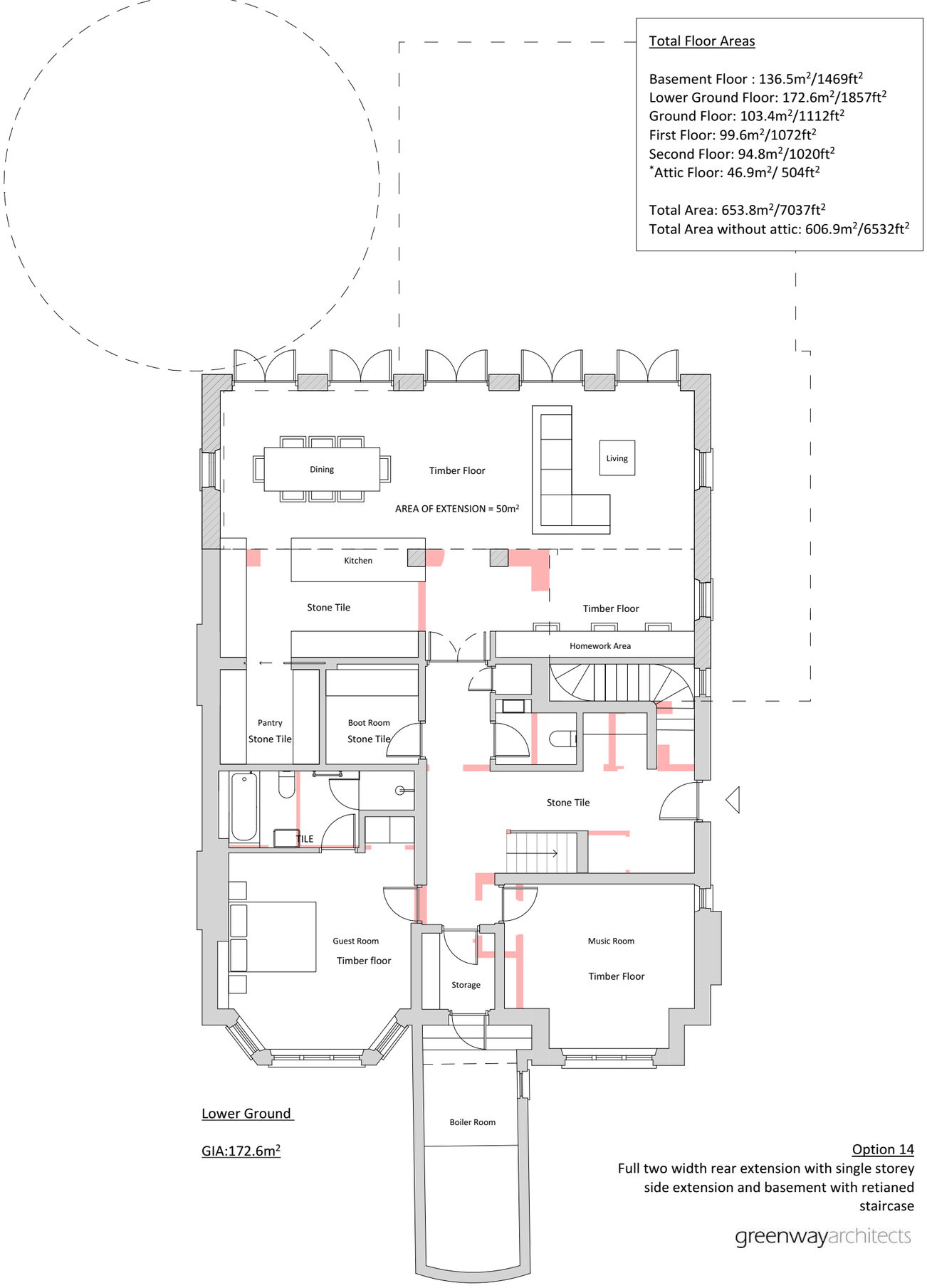
greenwayarchitects



Basement Level

GIA: 136.5m2

1:100 @A3



Lower Ground

GIA:172.6m²

Total Floor Areas

Basement Floor : 136.5m²/1469ft²
Lower Ground Floor: 172.6m²/1857ft²
Ground Floor: 103.4m²/1112ft²
First Floor: 99.6m²/1072ft²
Second Floor: 94.8m²/1020ft²
*Attic Floor: 46.9m²/ 504ft²

Total Area: 653.8m²/7037ft²
Total Area without attic: 606.9m²/6532ft²

Option 14

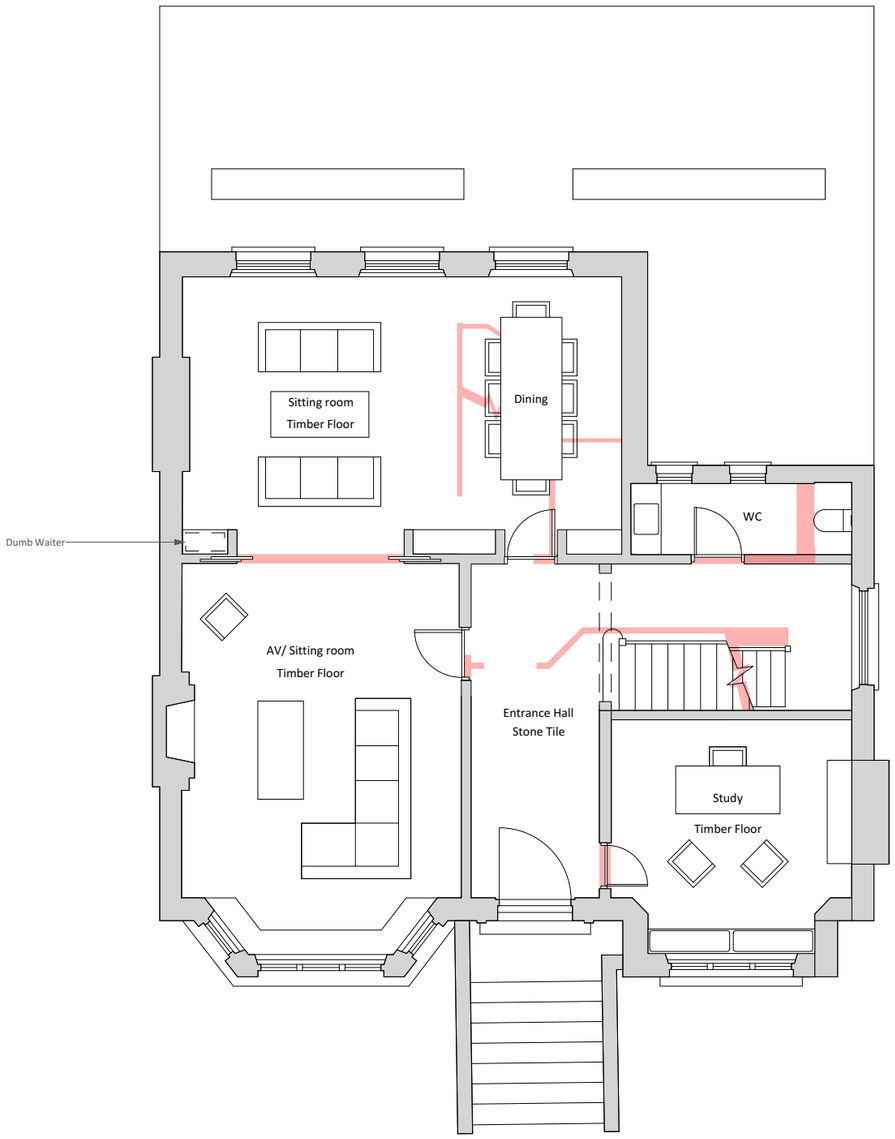
Full two width rear extension with single storey side extension and basement with retianed staircase

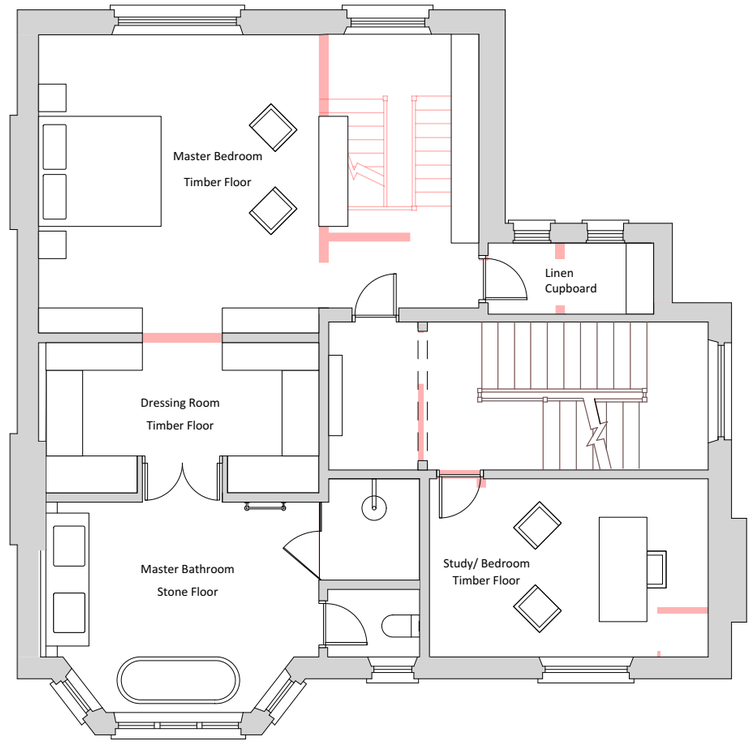
greenwayarchitects

Total Floor Areas

Basement Floor : 136.5m^2/1469ft^2
Lower Ground Floor: 172.6m^2/1857ft^2
Ground Floor: 103.4m^2/1112ft^2
First Floor: 99.6m^2/1072ft^2
Second Floor: 94.8m^2/1020ft^2
*Attic Floor: 46.9m^2/ 504ft^2

Total Area: 653.8m^2/7037ft^2
Total Area without attic: 606.9m^2/6532ft^2





Gound Level

GIA: 103.4m^2

1:100 @A3

First Floor Level

GIA: 99.6m^2

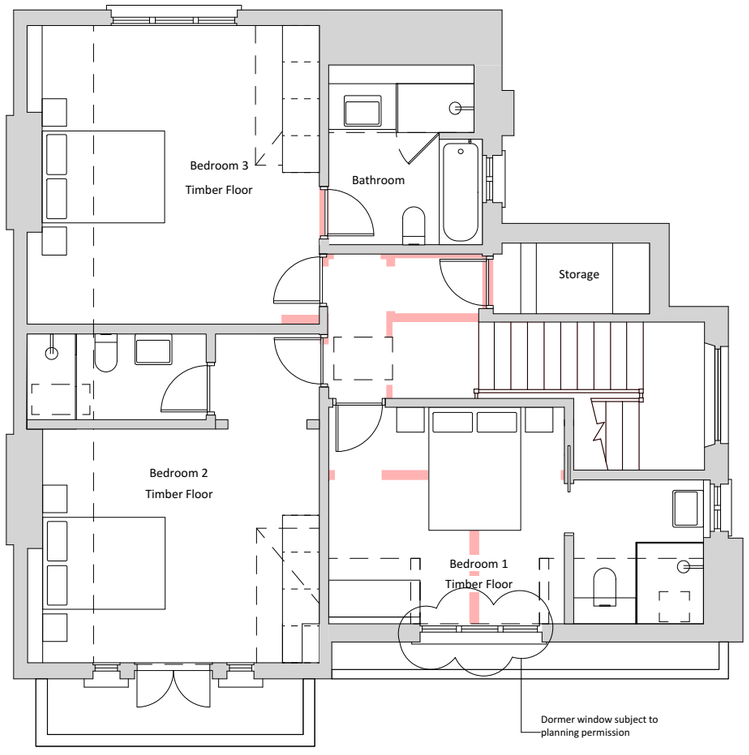
Option 14
Full two width rear extension with single storey side extension and basement with retianed staircase

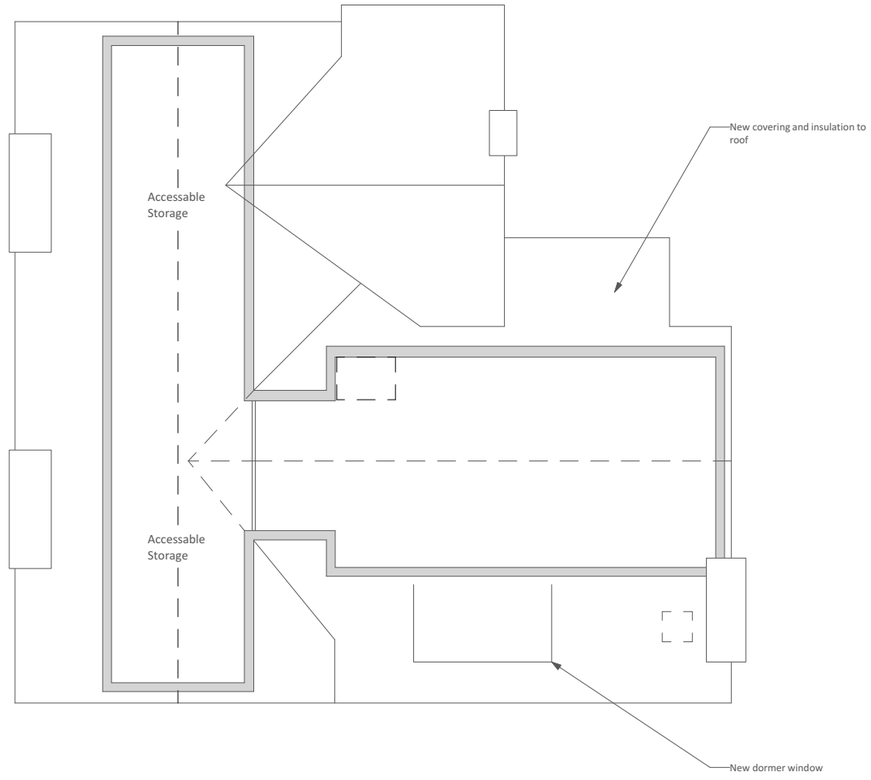
greenwayarchitects

Total Floor Areas

Basement Floor : 136.5m^2/1469ft^2
Lower Ground Floor: 172.6m^2/1857ft^2
Ground Floor: 103.4m^2/1112ft^2
First Floor: 99.6m^2/1072ft^2
Second Floor: 94.8m^2/1020ft^2
*Attic Floor: 46.9m^2/ 504ft^2

Total Area: 653.8m^2/7037ft^2
Total Area without attic: 606.9m^2/6532ft^2





Second Floor Level

GIA: 94.8m^2

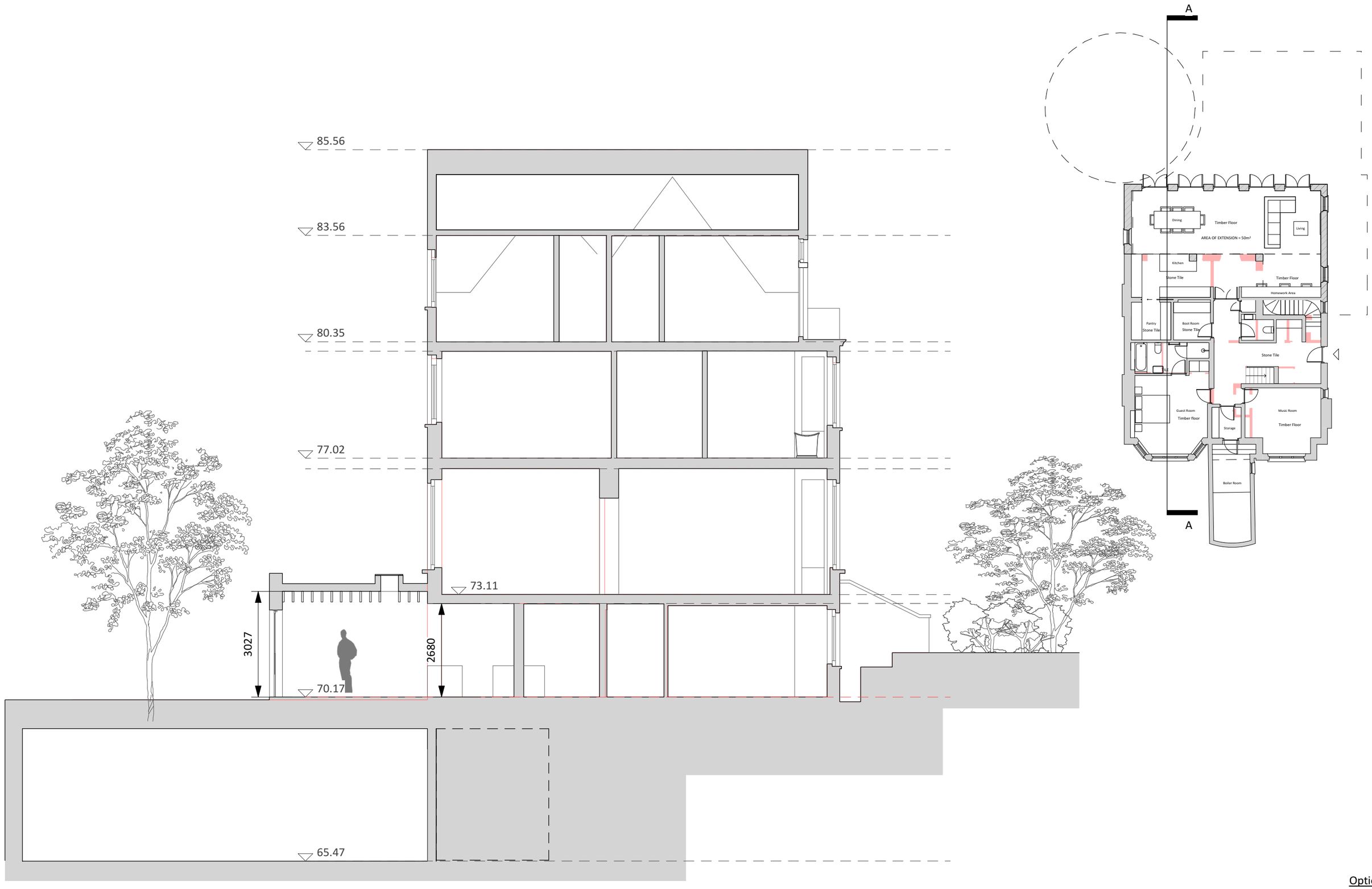
1:100 @A3

Attic Floor Level

GIA: 46.9m^2
*Low level storage space

Option 14
Full two width rear extension with single storey side extension and basement with retianed staircase

greenwayarchitects

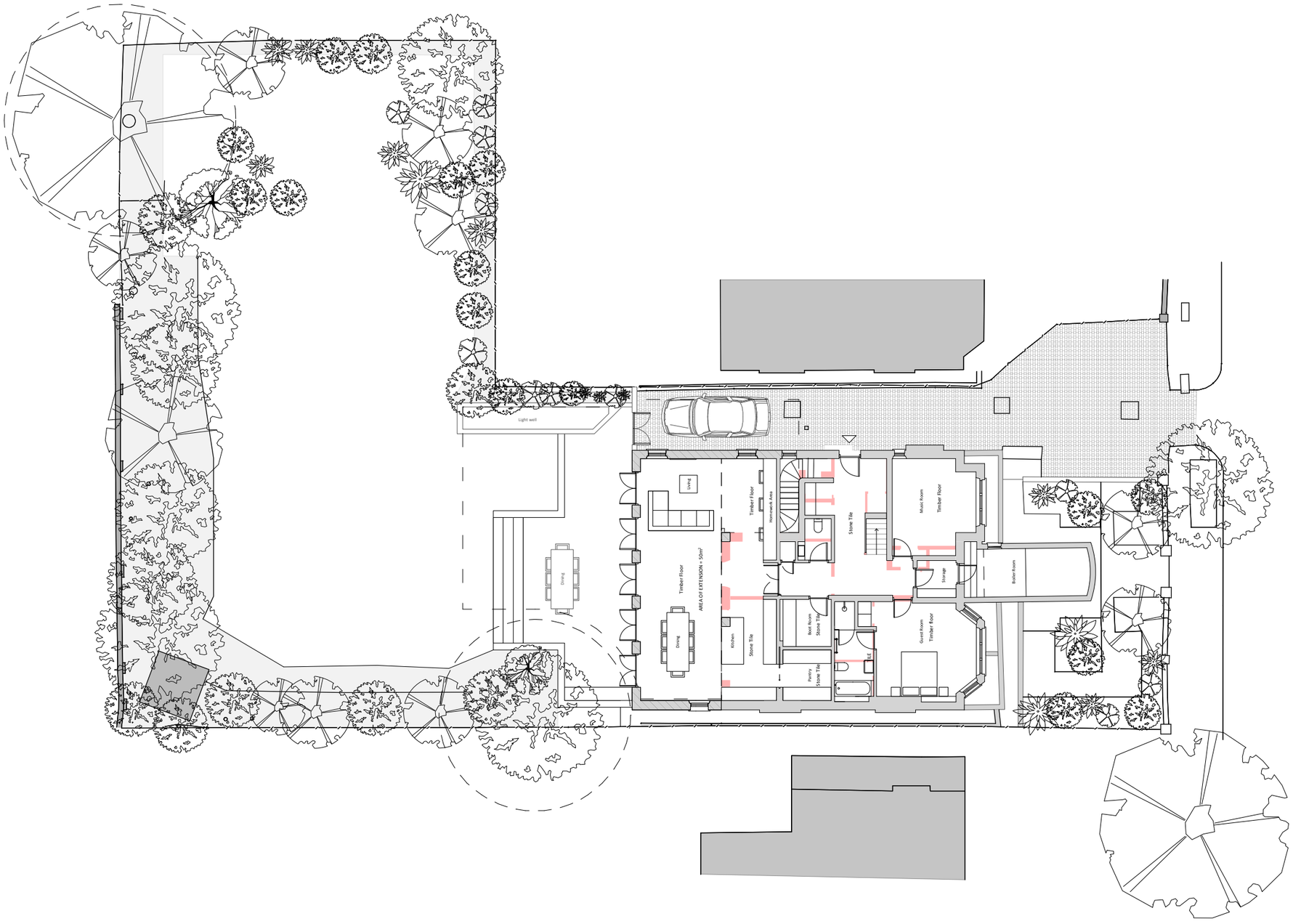


Section AA

Option 14

Full two width rear extension with single storey side extension and basement with retianed staircase

greenwayarchitects



Site Plan

<u>Option 14</u>
Full two width rear extension with single storey side extension and basement

greenwayarchitects