



**BASEMENT IMPACT ASSESSMENT**

**FOR**

**PROPOSED BASEMENT WORKS**

**AT**

**122 DRUMMOND STREET  
LONDON  
NW1 2HN**

**FOR**

**JULIA PYPER**

**Project No. P2775**

Issue Date: 18 August 2014

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**1.00 INTRODUCTION**

- 1.01 Michael Alexander Consulting Engineers has been appointed to prepare a Basement Impact Assessment Report to support the Planning Application for the proposed basement extension at 122 Drummond Street, London NW1 2HN.
- 1.02 This document has been prepared by Isaac Hudson MEng MA(Cantab) CEng MIStructE who is a chartered structural engineer
- 1.03 The existing terraced mixed use property is on four storeys built circa 1860.
- 1.04 The existing property is not located within a Conservation Area and is not Listed.
- 1.05 The site is bounded by Drummond Street to the front (south-east) and by No. 122a Drummond Street to the left (south-west). To the rear of the property (north-west) the site is bounded by 192 North Gower Street and to the right (north-east) is 120 Drummond Street.
- 1.06 The proposed works involve the enlargement of the current below ground vault under the public footpath into habitable space. This document addresses the specific issues relating to the basement construction, as described in Camden Planning Guidance CPG4 (September 2013).

**2.00 BASEMENT PROPOSALS**

- 2.01 The details of the existing building and proposals for the basement are shown on the following Watson+Cosgrave drawings.
 

4462/B1	Lower Ground Floor Plan as Existing
4462/B2 rev.A	Lower Ground Floor Plan as Proposed
4462/B3	Section A-A as Existing
4462/B4 rev.A	Section A-A as Proposed
- 2.02 The details of the existing structure and site boundaries will be subject to detailed exploratory work prior to and during the works on-site.
- 2.03 The design and construction of the building structure shall be in accordance with current Building Regulations, British Standards, Codes of Practice, Health and Safety requirements and good building practice.



**3.00 SUBTERRANEAN (GROUND WATER) FLOW**

**3.01 Stage 1: Screening**

The impact of the proposed development on ground water flows is considered here as outlined in Camden Planning Guidance CPG 4 (April 2011). The references are to the screening chart Figure 1 in CPG4.

3.01.1 GW Q1a *Is the site located directly above an aquifer?*

Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a)) the site is located above a secondary aquifer.

3.01.2 GW Q1b *Will the proposed basement extend beneath the water table surface?*

Unknown at time of screening, but considered to be unlikely due to the presence of a current basement to the property. Also considered unlikely with lightwells and basement constructions to the neighbouring properties.

3.01.3 GW Q2 *Is the site within 100m of (i) a watercourse, (ii) a well (used or disused) or (iii) a potential spring line?*

With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figures (b), (c) (d) and (e)),

(i) The nearest surface water feature appears to be two small ponds which belongs to the British Medical Association, located adjacent to Spring Walk, approximately 615m to the East of the site.

The Hampstead pond chains are located to the North approximately 3800m from the site.

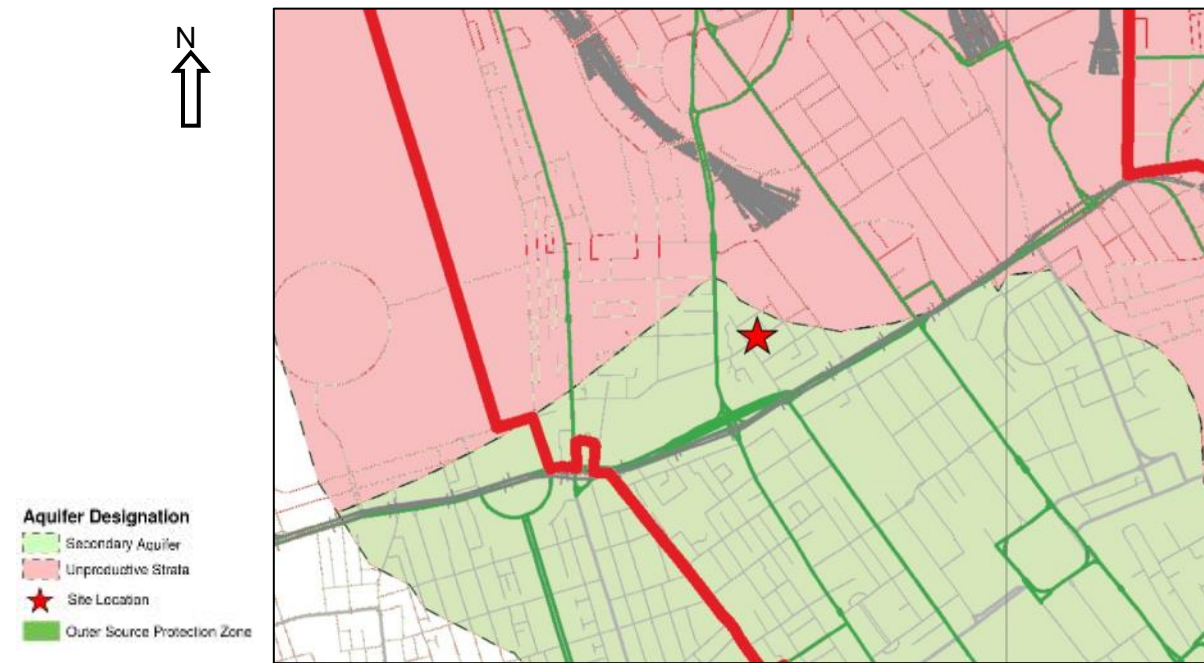
The nearest 'lost' watercourse is the River Fleet which ran approximately 270m to the south of the site.

(ii) From the British Geological Society 'Geindex' the nearest water wells are to the south of William Road (approximately 150m to the West of the site) and along Euston Road (approximately 180m to the South of the site).

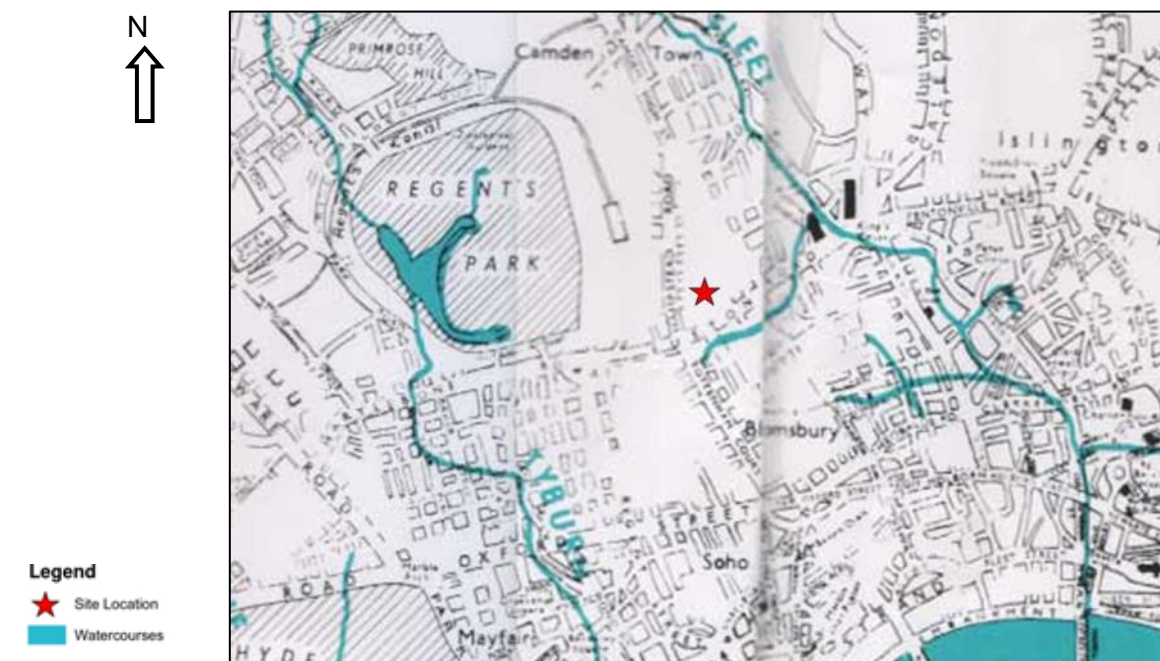
(iii) The local geology suggests that the site is located within 100m of a potential spring line.

3.01.4 GW Q3 *Is the site within the catchment of the pond chains of Hampstead Heath?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.



**Figure (a)**  
Acquifer Designation Map  
(Extract from Fig 8 of Camden Geological, Hydrogeological and Hydrological Study)



**Figure (b)**  
Subsurface Watercourses  
(Extract from Lost Rivers of London by Nicholas Barton)

3.01.5 GW Q4 *Will the proposed basement development result in a change in the proportion of hard surface/paved areas?*

No. There will be no change in the proportion of soft landscaping, as the site is currently completed covered by hard landscaping or roofs.

3.01.6 GW Q5 *As part of the site drainage, will more surface water (e.g. rainfall and-runoff) than at present be discharged to the ground (e.g. via soakaways and /or SUDS)?*

No. Currently no surface water from the site is discharged to the ground, and this will also be true after the proposed works.

3.01.7 GW 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 (not just the pond chains on Hampstead Heath) or spring line?*

Not currently. There are no local ponds in close vicinity to the site, but the level of any potential spring lines will need to be verified.

3.01.8 On the basis of items 3.01.1 to 3.01.7 above, and in reference to Figure 1 of CPG4, the aspects that should be carried forward to a scoping stage in respect of groundwater are:

- The site being located above an aquifer.
- The site being in close proximity of a potential spring line.

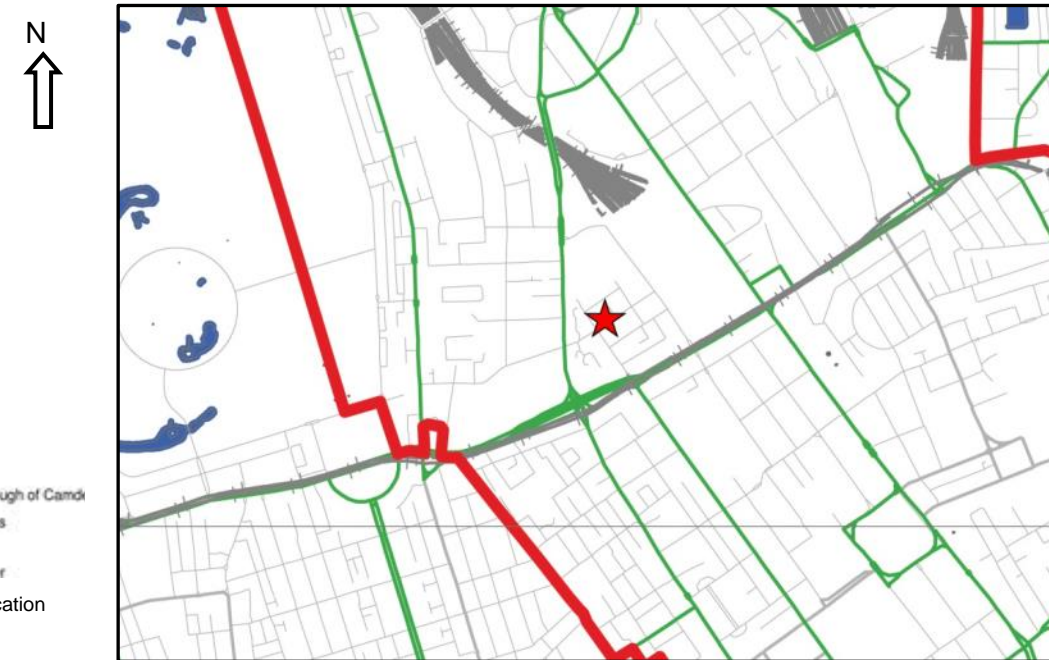
**3.02 Stage 2: Scoping**

3.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F2, the potential impacts which will need to be considered will include:-

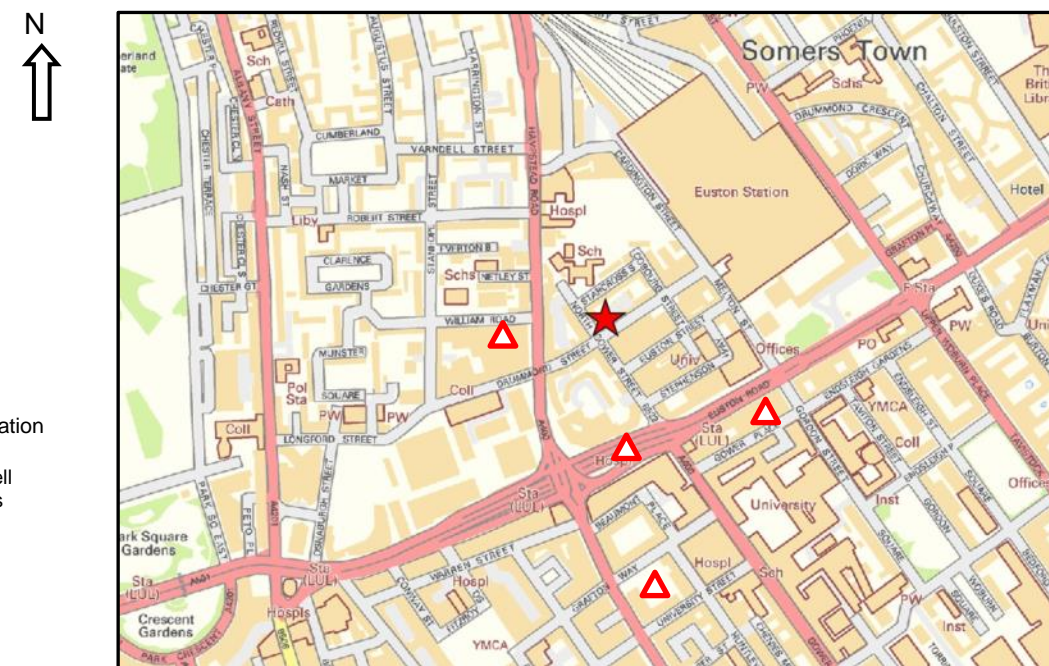
- Whether the basement extends below the water table and whether it will impact on the groundwater flow regime.
- Whether the basement works will affect the groundwater flow regime associated with the potential spring line.

3.02.2 In response to the above issues: -

- The scope of the site soil investigations included for establishing ground water levels using a borehole



**Figure (c)**  
Surface Water Features  
(Extract from Fig 12 of Camden Geological, Hydrogeological and Hydrological Study)



**Figure (d)**  
Waterwells (also showing Infrastructure)  
(Extract from British Geological Survey)

**3.03 Stage 3: Site Investigation and Study**

- 3.03.1 A site investigation was carried out by GEA in May 2014 which included a 4m deep borehole.
- 3.03.2 Groundwater was encountered in the borehole at a depth of 2.5m below the existing basement level.

**3.04 Stage 4: Impact Assessment**

- 3.04.1 A hydrogeological assessment has been carried out by a chartered geologist and is included in section 7.5 of GEA's report. In summary it notes that the deepened basement will be founded in the Lynch Hill Gravel and will not extend below the water table surface. On this basis any existing groundwater flows, which are likely to be north to south across the site, will not be effected by the works.
- 3.04.2 It is however possible that local pockets of perched water could be encountered during the excavation. As highlighted in the GEA report, the groundworks contractor should have a contingency plan in place should there be unexpected local groundwater inflows.

**4.00 GROUND STABILITY**

**4.01 Stage 1: Screening**

4.01.1 GS Q1 *Does the existing site include slopes, natural or manmade, greater than 7°?*

No. The site is generally level, with a slight slope from north to south and east to west. There are no slopes >7 degrees within the site.

4.01.2 GS Q2 *Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7°?*

No. The basement construction will not change the profile of the ground at the boundaries of the property.

4.01.3 GS Q3 *Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7°?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (f)), the neighbouring areas also have slopes less than 7 degrees.

4.01.4 GS Q4 *Is the site within a wider hillside setting in which the general slope is greater than 7°?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, (refer Figure (f)), the closest slopes that are greater than 7 degrees are located approximately 170m to the south.

4.01.5 GS Q5 *Is the London Clay the shallowest strata at the site?*

No. With reference to Camden Geological, Hydrogeological and Hydrological Study, the underlying soil strata is indicated as being the Lynch Hill Gravel Formation (Figure (e)).

4.01.6 GS Q6 *Will any trees be felled as part of the proposed development and/or are any works proposed within any tree protection zones where trees are to be retained?*

There are no trees within the site.



**Figure (e)**  
Geological Map  
(Extract from Fig 4 of Camden Geological, Hydrogeological and Hydrological Study)



**Figure (f)**  
Slope Angle Map  
(Extract from Fig 16 of Camden Geological, Hydrogeological and Hydrological Study)

4.01.7 GS Q7 *Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?*

The Lynch Hill Gravel strata is not a cohesive soil and hence shrink-swell subsidence is not expected to be a problem for this site. We have no specific evidence of subsidence having been experienced on site or in the immediate surrounding area.

4.01.8 GS Q8 *Is the site within 100m of a water course or a potential spring line?*

Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (refer Figures (b) and (c)), the site is within 100m of a potential spring line.

4.01.9 GS Q9 *Is the site within an area of previously worked ground?*

No. The site is not in close vicinity of any recorded areas of worked ground. With reference to the Camden Geological, Hydrogeological and Hydrological Study (figure (e)) the nearest recorded on the geological map are to the West of Hampstead Road (approximately 120m from the site).

4.01.10 GS Q10 *Is the site within an aquifer?*

Yes. With reference to the Camden Geological, Hydrogeological and Hydrological Study (Figure (a)) the site is above an aquifer.

4.01.11 GS Q11 *Is the site within 50m of the Hampstead Heath ponds?*

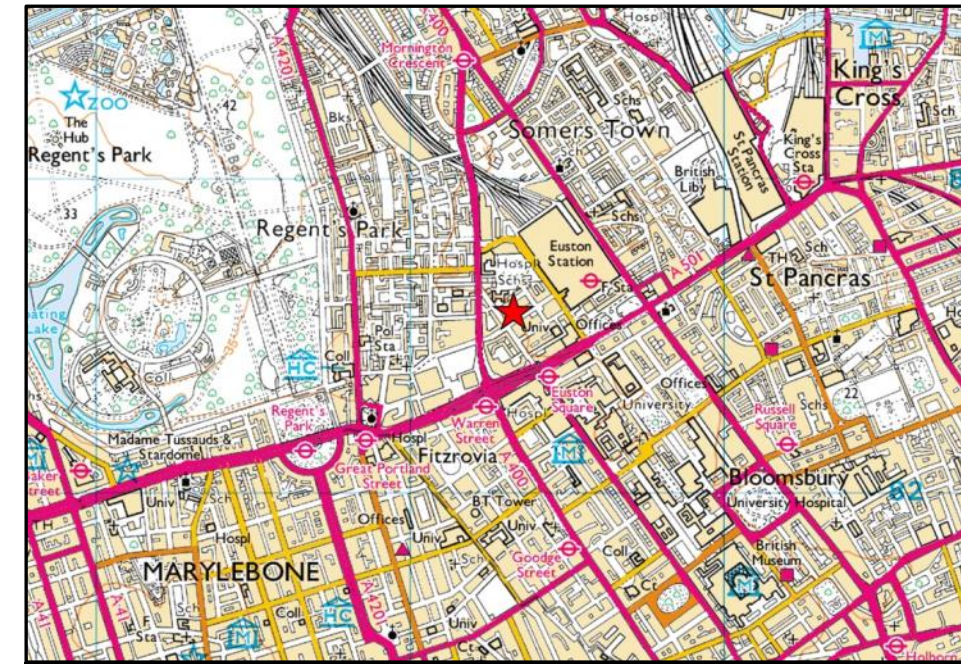
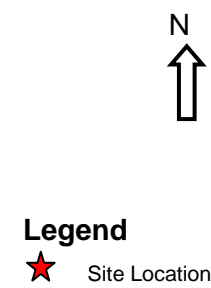
No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the Hampstead pond chains are located to the North of the site approximately 3800m from the site.

4.01.12 GS Q12 *Is the site within 5m of a highway or pedestrian right of way?*

Yes. The basement works extend under the public highway.

4.01.13 GS Q13 *Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?*

There may be a small change in differential depth of the foundations relative to neighbouring properties where the basement depth is being increased.



**Figure (g)**  
Topography Map  
(Extract from Ordnance Survey Mapping)



**Figure (h)**  
1873 Map



4.01.14 GS Q14 *Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?*

With reference to Open Street Map (Figures (i)), it appears that the tunnels of the Charing Cross Branch of Northern Line are located below the site.

London Underground will need to be consulted in respect of the works, where excavation is proposed. They will provide detailed mapping regarding the precise line of their tunnels.

We understand the tunnel crowns are at a depth of approximately 15-20m below ground level.

4.01.15 On the basis of items 4.01.01 to 4.01.14 above and in reference to Figure 2 of CPG4, the aspects that should be carried forward to a scoping stage in respect of land stability are:

- The site being within 100m of a potential springline.
- The proximity to the nearby London Underground tunnel.
- The basement works being located below the public highway.
- The site being located above an aquifer.
- The potential increase in differential depth with the adjoining building's foundations.

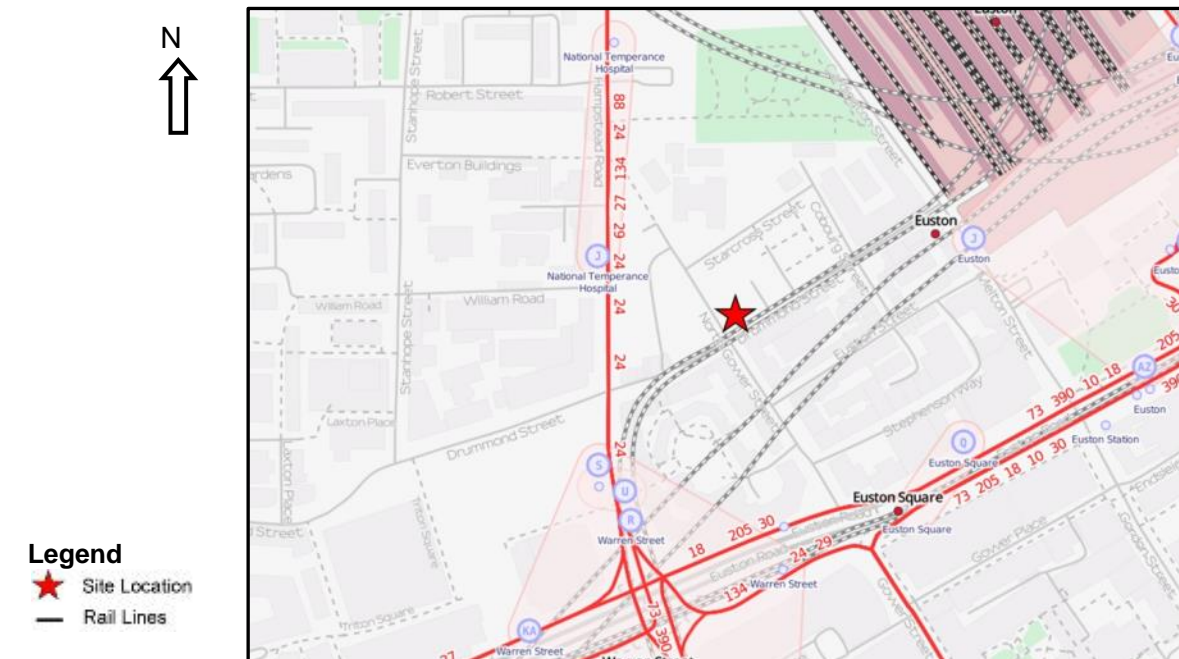
## 4.02 Stage 2: Scoping

4.02.1 With reference to the Camden Geological, Hydrogeological and Hydrological study Appendix F3, the potential impacts which will need to be considered will include:-

- Whether the works will impact on the groundwater flows caused by the presence of the spring line; and hence impact on ground stability
- The risk of damage to the rail tunnel.
- The potential impact of the works on the road, pathway and buried services.
- Whether the works will impact on the aquifer, which could lead to settlement.
- The risk of structural damage to the adjoining properties during and following the basement construction.

4.02.2 In response to the above issues: -

- Groundwater levels were established during the ground investigation works
- The line and level of the London Underground tunnel was established.
- Utility companies were contacted in terms of their buried services in the vicinity. A sub-surface services scan was carried out.
- An outline construction method statement was prepared.



**Figure (i)**  
Map of Underground Infrastructure  
(Extract from Open Street Map)

#### 4.03 Stage 3: Site Investigation and Study

- 4.03.1 The GEA Site Investigation of May 2014 is summarised in their report J14127. In summary of the findings: -
- A 4m deep window sample borehole was drilled in the lightwell. Below around 1.0m of made ground, Lynch Hill Gravel was encountered to a depth of 3m. The underlying strata was London Clay.
  - Two trial pits were carried out on the existing vault walls. These showed that the foundations were the same width as the walls over and founded in the made ground.
  - Groundwater was encountered at around 2.5m below existing basement level.

#### 4.04 Stage 4: Impact Assessment

- 4.04.1 The proposed basement works comprise the lowering of the floor to the vaults and the reconstruction of the roof of the vaults at a higher level – refer drawings in Appendix F. This will be achieved by a) underpinning the existing vault walls, to facilitate construction of the new floor, and b) removing the ground over the vaults, to enable construction of the new raised concrete ceiling structure.

The proposed sequence of works including the requirements for propping are set out in an 'Outline Construction Method Statement' in Appendix E.

- 4.04.2 Since the basement floor is being lowered only by around 1m, the resulting ground movements will be small provided appropriate and established techniques are employed for the underpinning works. Given that adjoining buildings also have basements and basement vaults, it is anticipated that any resulting damage would be classified as category 0 'Negligible' or category 1 'Very Slight' using the Burland criteria.
- 4.04.3 The potential impact on the highway and the services contained therein has been considered in some detail. A subsurface scan has been carried out by 'Subscan Technology' who prepared a drawing of existing services based on the scanning techniques and with reference to statutory records.

The utility companies have been also approached directly in respect of the proposals. The required works and approvals are summarised in Table 4.04.3. The information that has been obtained is summarised in Appendix B. The works will also require approval from Camden Highways.

- 4.04.4 With regards to the London Underground tunnel, we have consulted with their infrastructure protection team. Details of the line and level of the Northern Line tunnel are given on the Asset Search map in Appendix D. The tunnel crown was found to be at approximately 5mOD compared to a street level of approximately 25mOD. The proposed basement level is approximately 22mOD hence the basement works will be around 17m above the tunnel crown. It is therefore considered unlikely that will be any adverse impact on tunnel. However all the relevant approvals will be obtained from London Underground prior to the works.
- 4.04.5 As described in section 3.04, there will be no impact on the water table or ground water flows as a result of the works since the basement will not extend below the water table.

Utility	Required works	Procedure
National Grid (Gas)	Construction is in proximity to a low pressure main.	Works to be carried out in accordance with agreed 'Proposed Works application' to avoid risk of damage to main.
Thames Water (Water supply)	Connection to 122 Drummond St will need to be diverted during works.	A 'Service Application' will be submitted in due course so that Thames Water can carry out the diversion works.
UK Power Networks (Electricity)	Diversion of electricity cables within pavement	Diversion works to be carried out by UK Power Networks' approved Contractor
Openreach (Telephone/Data)	Diversion of cables and chamber within pavement	Diversion works to be carried out by Openreach's approved Contractor

a  
Table 4.04.3 - Impact on services

**5.00 SURFACE FLOW AND FLOODING**

**5.01 Stage 1: Surface Flow and Flooding Screening**

5.01.1 SF Q1 *Is the site within the catchment of the pond chains on Hampstead Heath?*

No. With reference to the Camden Geological, Hydrogeological and Hydrological Study, the site is not within the catchment of the pond chains on Hampstead, nor the Golder's Hill Chain.

5.01.2 SF Q2 *As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?*

No. On completion of the development, the surface water flows will be routed in the same way as the existing condition, with rainwater run-off collected in a surface water drainage system and discharged to the combined sewer in Drummond Street (Refer to Thames Water Asset Search in Appendix B).

5.01.3 SF Q3 *Will the proposed basement development result in a change in the proportion of hard surface/paved external areas?*

No. There will be no change in the proportion of hard landscaped areas. Refer figures A1 and A2 in Appendix A.

5.01.4 SF Q4 *Will the proposed basement result in changes to the profile of inflows (instantaneous and long term) of surface water being received by adjacent properties or downstream watercourses?*

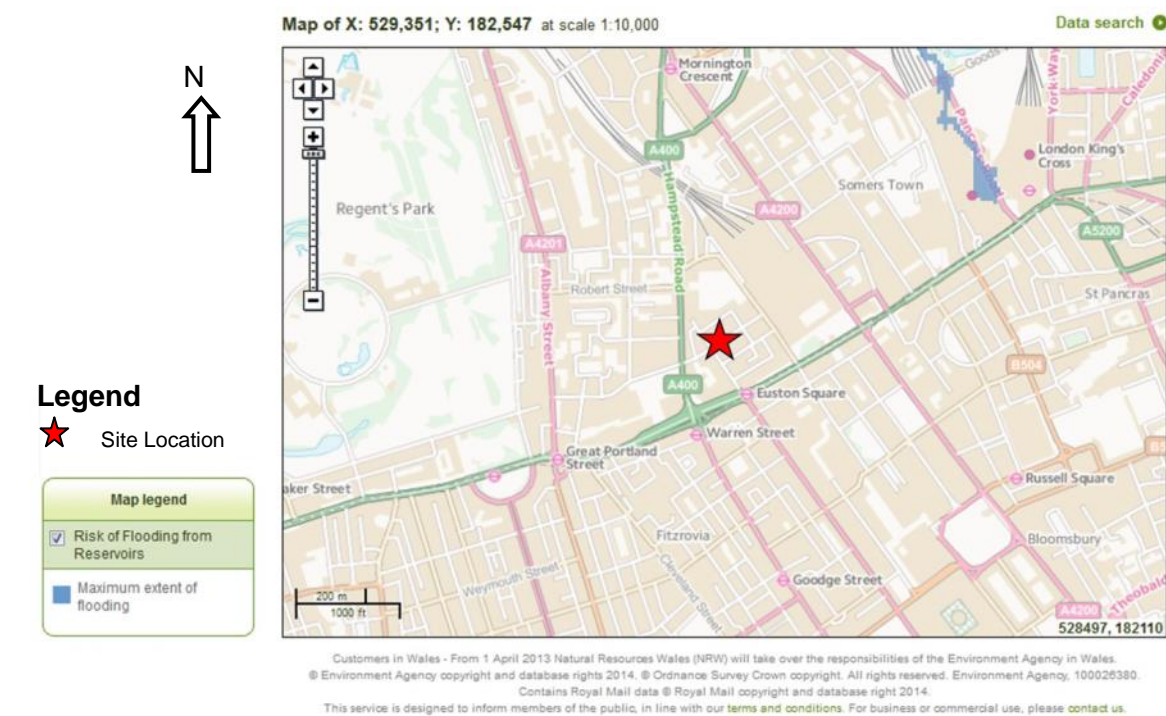
No. A layer of soil will be maintained over the proposed basement, so the profile of inflows of surface water will be unchanged following the works.

5.01.5 SF Q5 *Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream water courses?*

No. The surface water quality will not be affected by the development, as in the permanent condition collected surface water will be generally be from roofs, or external hard landscaping as existing.



**Figure (k)**  
Areas at Risk of Flooding from Rivers or Sea  
(Extract from Environment Agency flood map)



**Figure (l)**  
Areas at Risk of Flooding from Reservoirs  
(Extract from Environment Agency flood map)

5.01.6 On the basis of items 5.01.1 to 5.01.5 above and in accordance with the Figure 3 in Camden Planning Guidance CPG 4 (April 2011), no aspects need to be carried forward respect of Surface Flow and Flooding.

5.01.7 SF Q6 *Is the site in an area known to be at risk from surface water flooding, such as South Hampstead, West Hampstead, Gospel Oak and King's Cross, or is it at risk from flooding, for example because the proposed basement is below the static water level of a nearby surface water feature?*

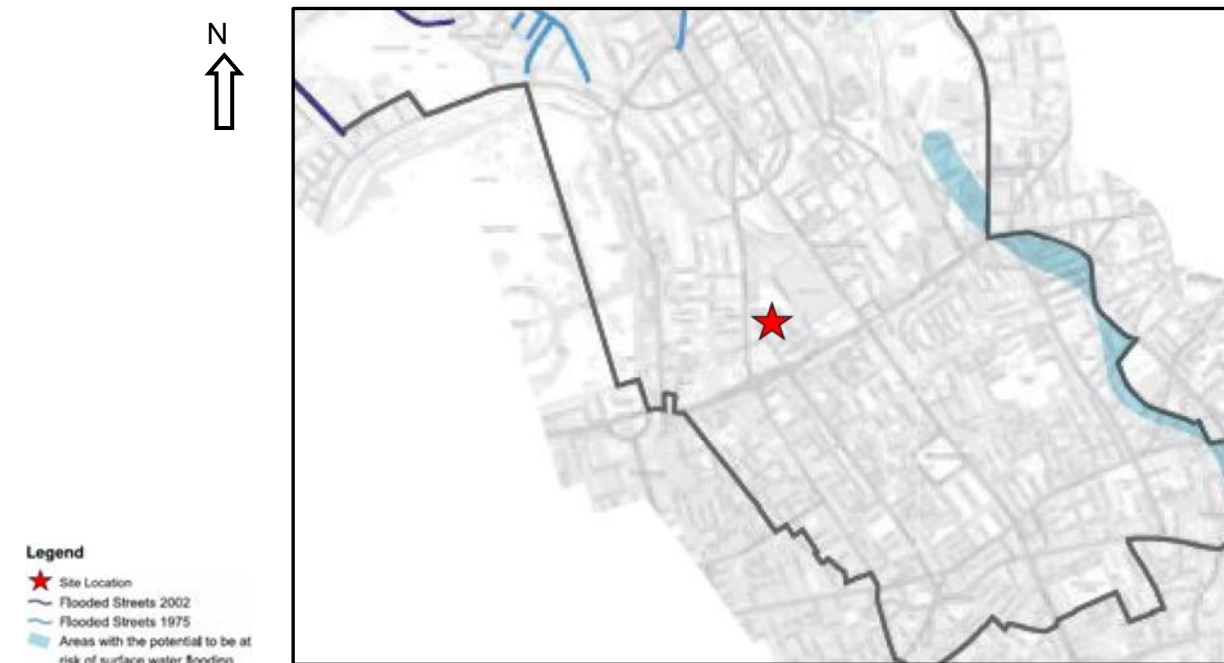
No. Drummond Street is not one of the streets noted within the Camden Planning Guidance CPG 4 (April 2011) as a street "at risk of surface water flooding" (Figure (m)). The street was not affected by floods in 1975 and 2002 due to overloading of the public sewers during a storm event.

A 'Sewer History' enquiry to Thames Water (Appendix A) gave no record of surcharge of sewers having previously affected this particular property.

With reference to the EA Rivers and Sea Flood Maps (Figure (k)), the site is not located within a flood risk zone. The EA Reservoir flood map (Refer figure (l)), shows that the site is not at risk of flooding from reservoirs.

With reference to the EA surface water flooding maps (Figure (n)) the site is at 'very low risk' of flooding.

5.01.8 On the basis of the above and in accordance with the Figure 3 in Camden Planning Guidance CPG 4 (April 2011), a flood risk assessment in accordance with PPS25 is not required.



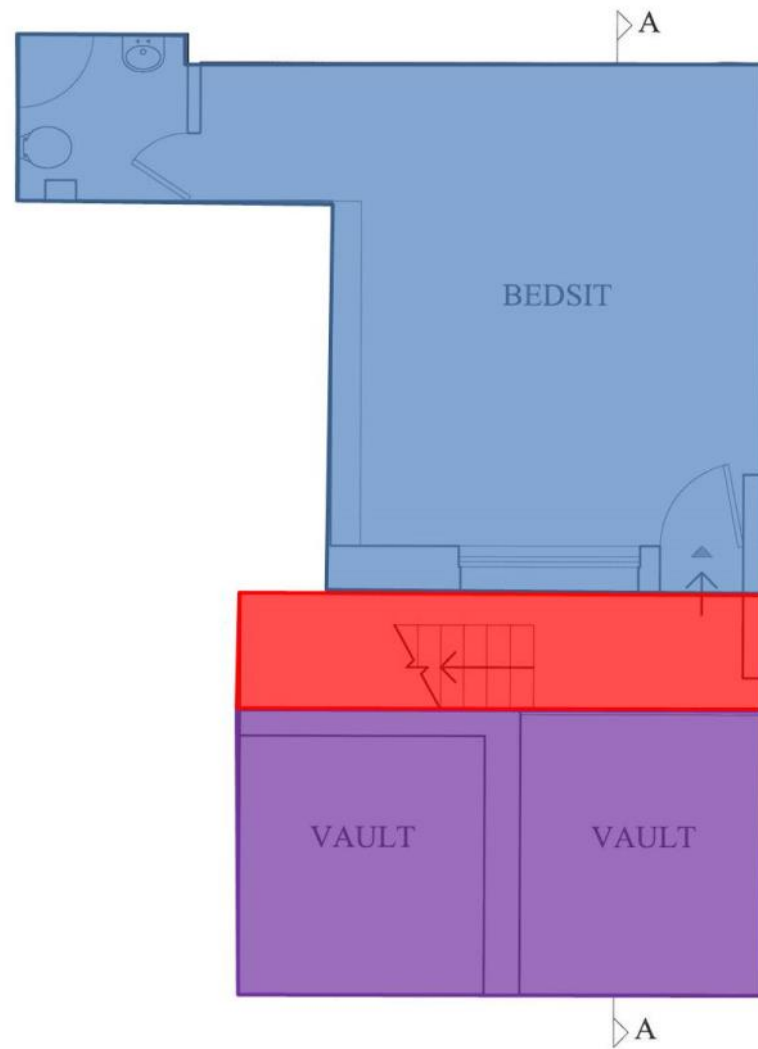
**Figure (m)**  
Flood Map

(Extract from Fig 15 of Camden Geological, Hydrogeological and Hydrological Study)

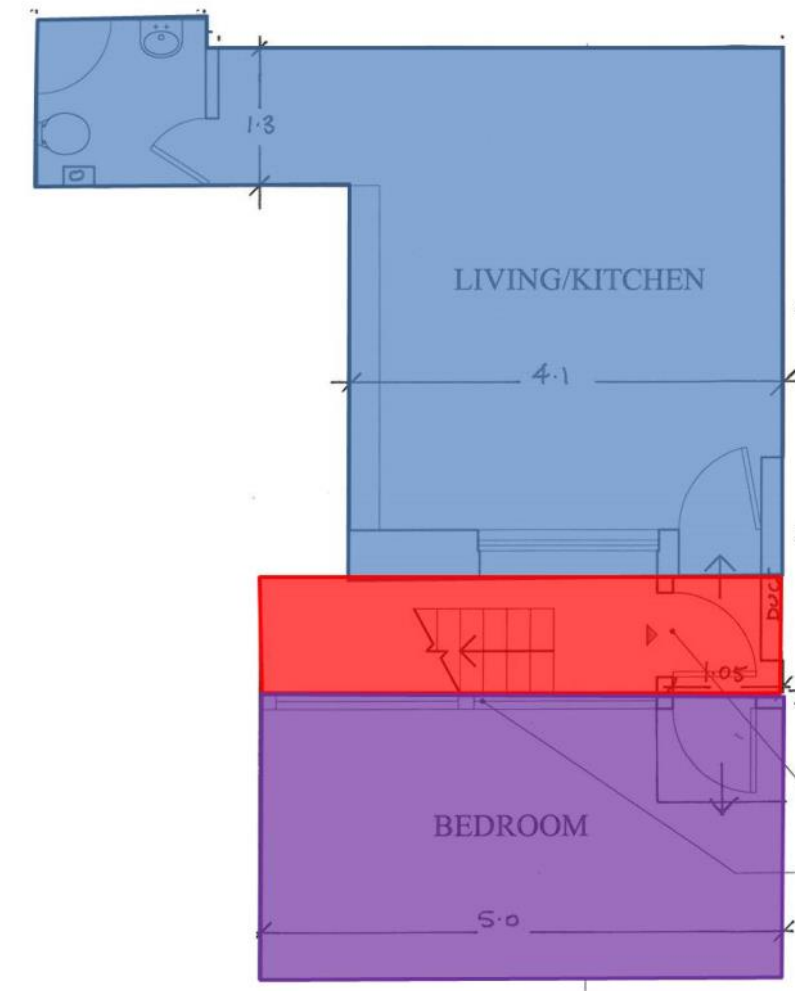


**Figure (n)**  
Flooding from Surface Water  
(Extract from Environment Agency flood map)

**APPENDIX A**  
**IMPERMEABLE AREA PLANS**



**Figure A1**  
Existing Impermeable Area Plan



**Figure A2**  
Proposed Impermeable Area Plan

**APPENDIX B**  
**UTILITY RECORDS**

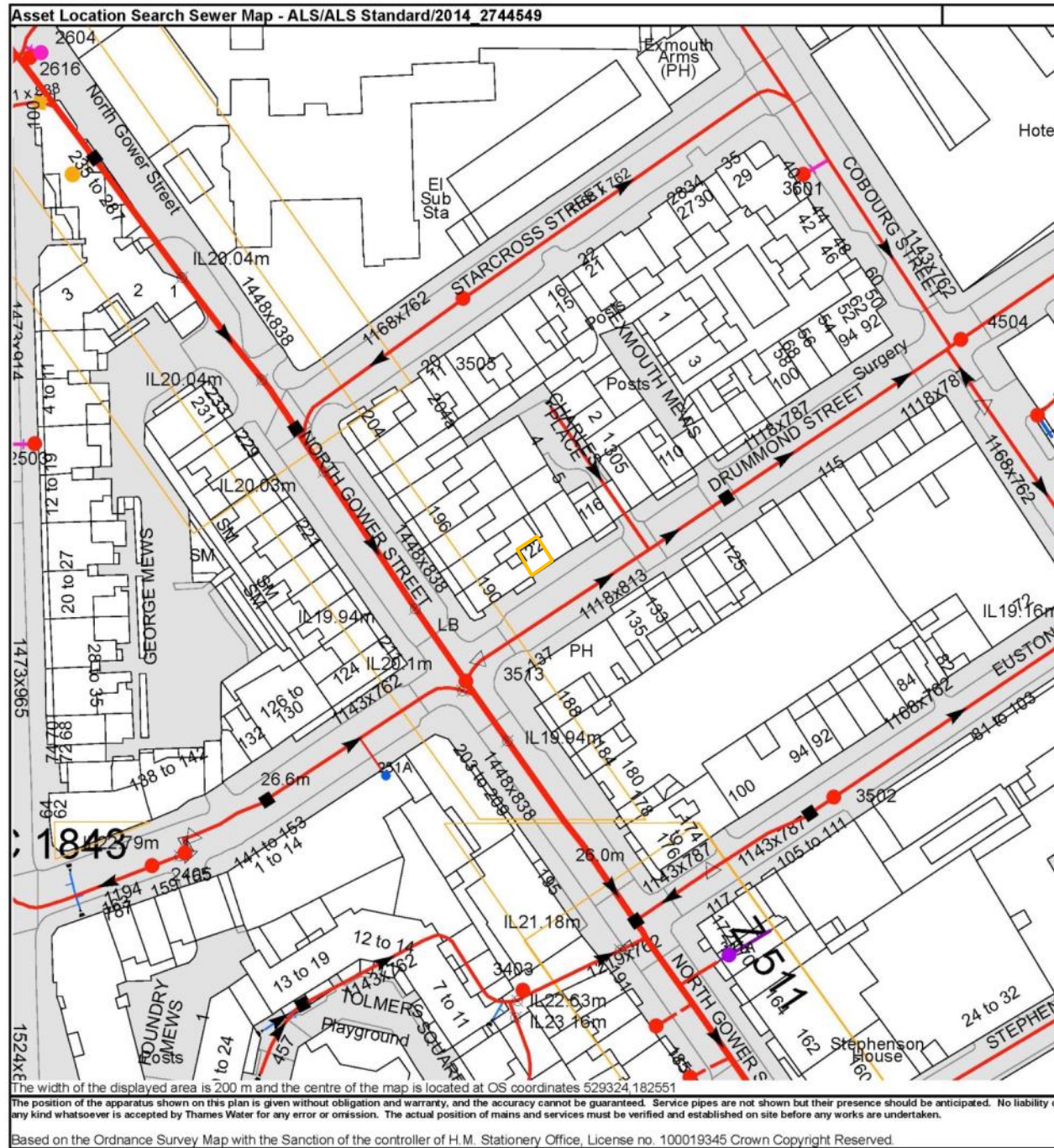


Figure B1 - Extract from Thames Water Asset Search showing a combined sewer

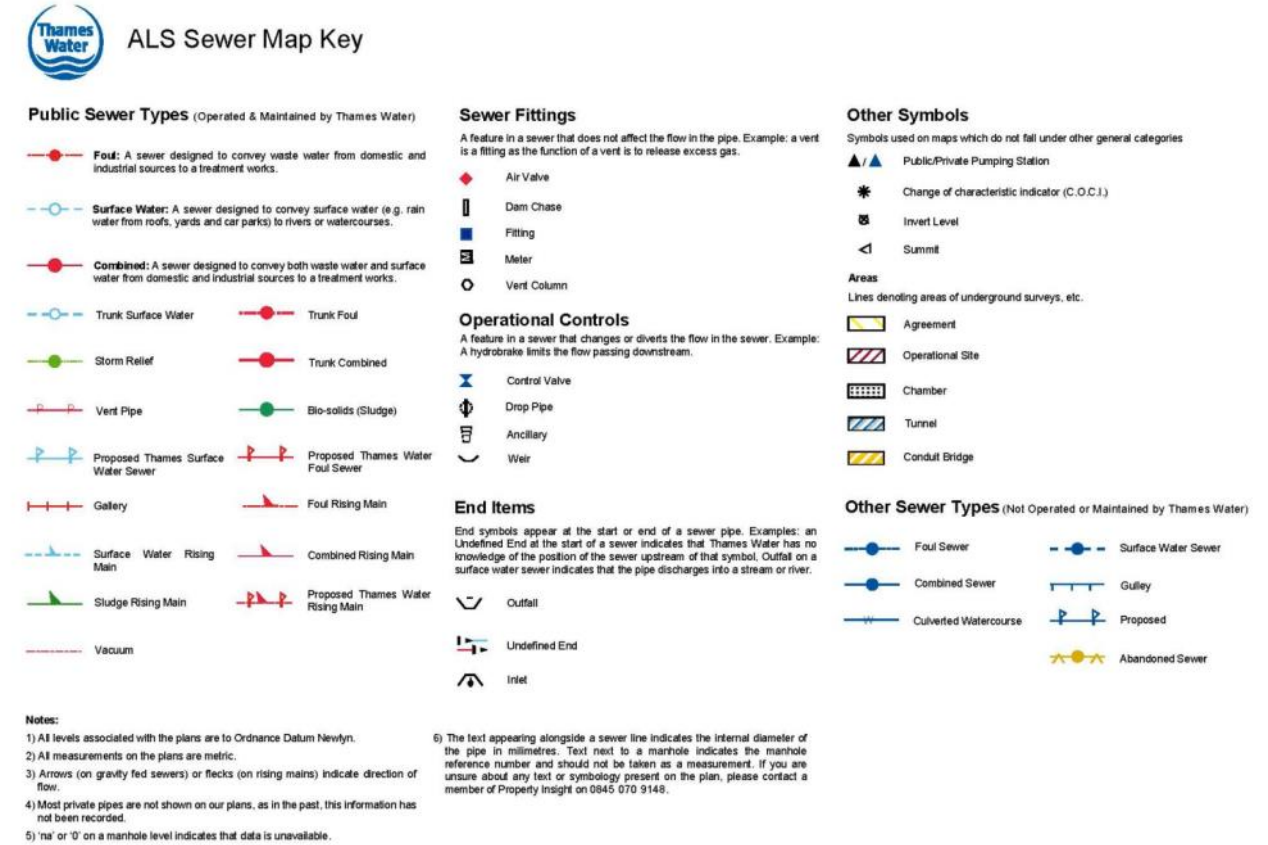


Figure B2 - Key to Thames Water Asset Search

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
45CD	n/a	n/a
4504	24.17	18.71
2503	n/a	n/a
2402	n/a	n/a
2405	26.62	n/a
251A	n/a	n/a
3505	25.36	20.44
3513	26.14	19.95
3403	27.64	n/a
3426	n/a	n/a
3425	n/a	n/a
341A	n/a	n/a
3502	25.1	19.82
3601	n/a	n/a
2616	n/a	n/a
2604	n/a	20.15

Figure B3 - Manhole Invert and Cover Levels



# Sewer Flooding

## History Enquiry



Thames Water Property Searches

Vastern Road

**Search address supplied** 122  
Drummond Street  
London  
NW1 2HN

**Your reference** P2775 122 Drummond Street NW1 2HN

**Our reference** SFH/SFH Standard/2014\_2744547

**Received date** 22 April 2014

**Search date** 22 April 2014

Thames Water Utilities Ltd  
Property Searches  
PO Box 3189  
Slough SL1 4WW  
DX 151280 Slough 13  
T 0118 925 1504  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Vastern Road  
Reading RG1 8DB

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# Sewer Flooding

## History Enquiry



### History of Sewer Flooding

#### Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

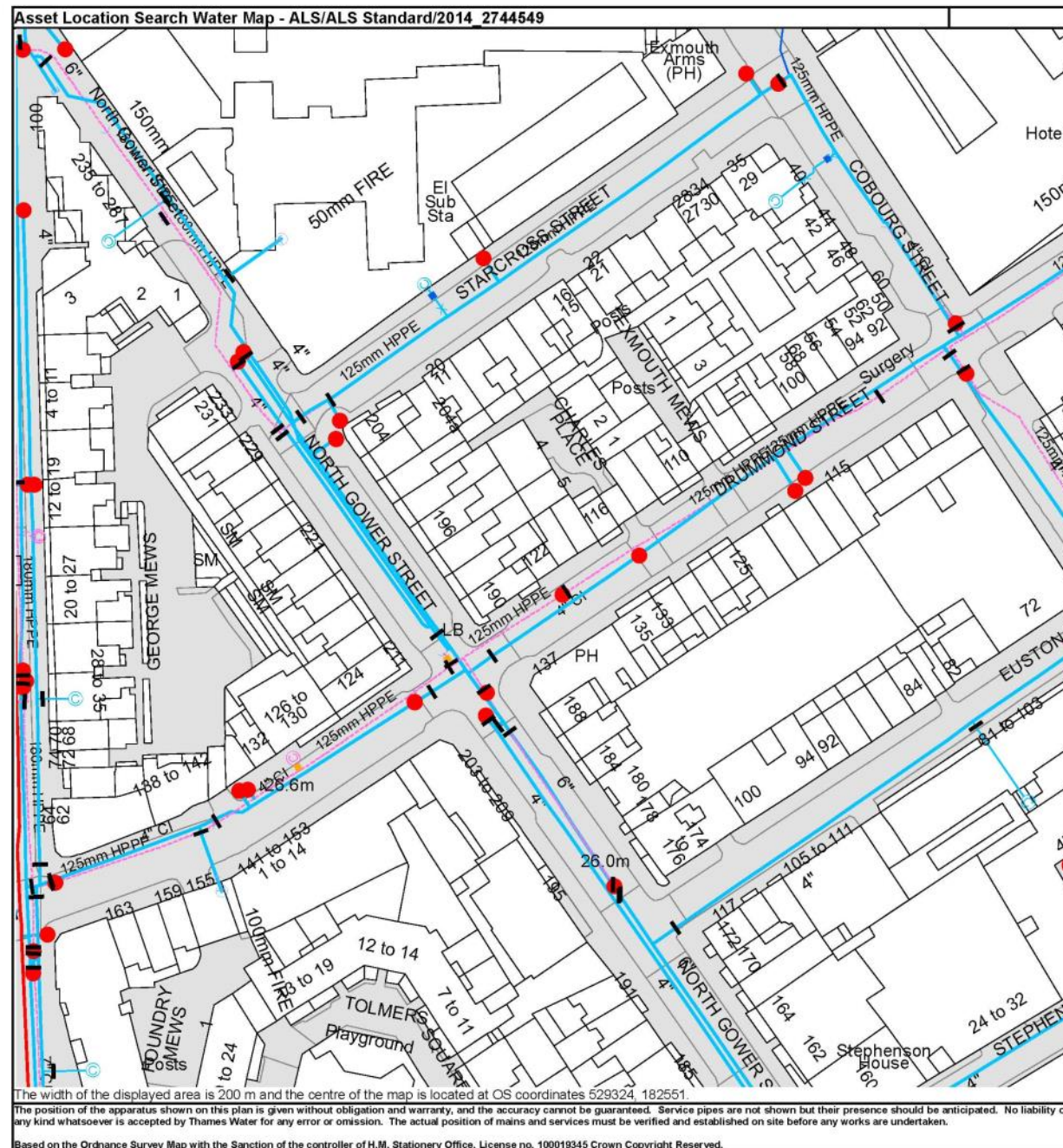
#### For your guidance:

- A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- "Internal flooding" from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- "At Risk" properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company's reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0845 9200 800 or website [www.thameswater.co.uk](http://www.thameswater.co.uk)

Thames Water Utilities Ltd  
Property Searches  
PO Box 3189  
Slough SL1 4WW  
DX 151280 Slough 13  
T 0118 925 1504  
E [searches@thameswater.co.uk](mailto:searches@thameswater.co.uk)  
I [www.thameswater-propertysearches.co.uk](http://www.thameswater-propertysearches.co.uk)  
Registered in England and Wales  
No. 2366661, Registered office  
Clearwater Court, Vastern Road  
Reading RG1 8DB

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Figure B4 - Thames Water Sewer Flooding History Enquiry



ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

- Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- Metered Pipe:** A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
- Transmission Tunnel:** A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
- Proposed Main:** A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Thames Water Utilities Ltd, Property Searches, PO Box 3189, Slough SL1 4W, DX 151280 Slough 13  
 T 0845 070 9148 E searches@thameswater.co.uk I www.thameswater-propertysearches.co.uk

Valves

- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

Hydrants

- Single Hydrant

Meters

- Meter

End Items

- Symbol indicating what happens at the end of a water main.
- Blank Flange
  - Capped End
  - Emptying Pit
  - Undefined End
  - Manifold
  - Customer Supply
  - Fire Supply

Operational Sites

- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

Other Symbols

- Data Logger

Other Water Pipes (Not Operated or Maintained by Thames Water)

- Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
- Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Figure B5 - Thames Water – Water Mains

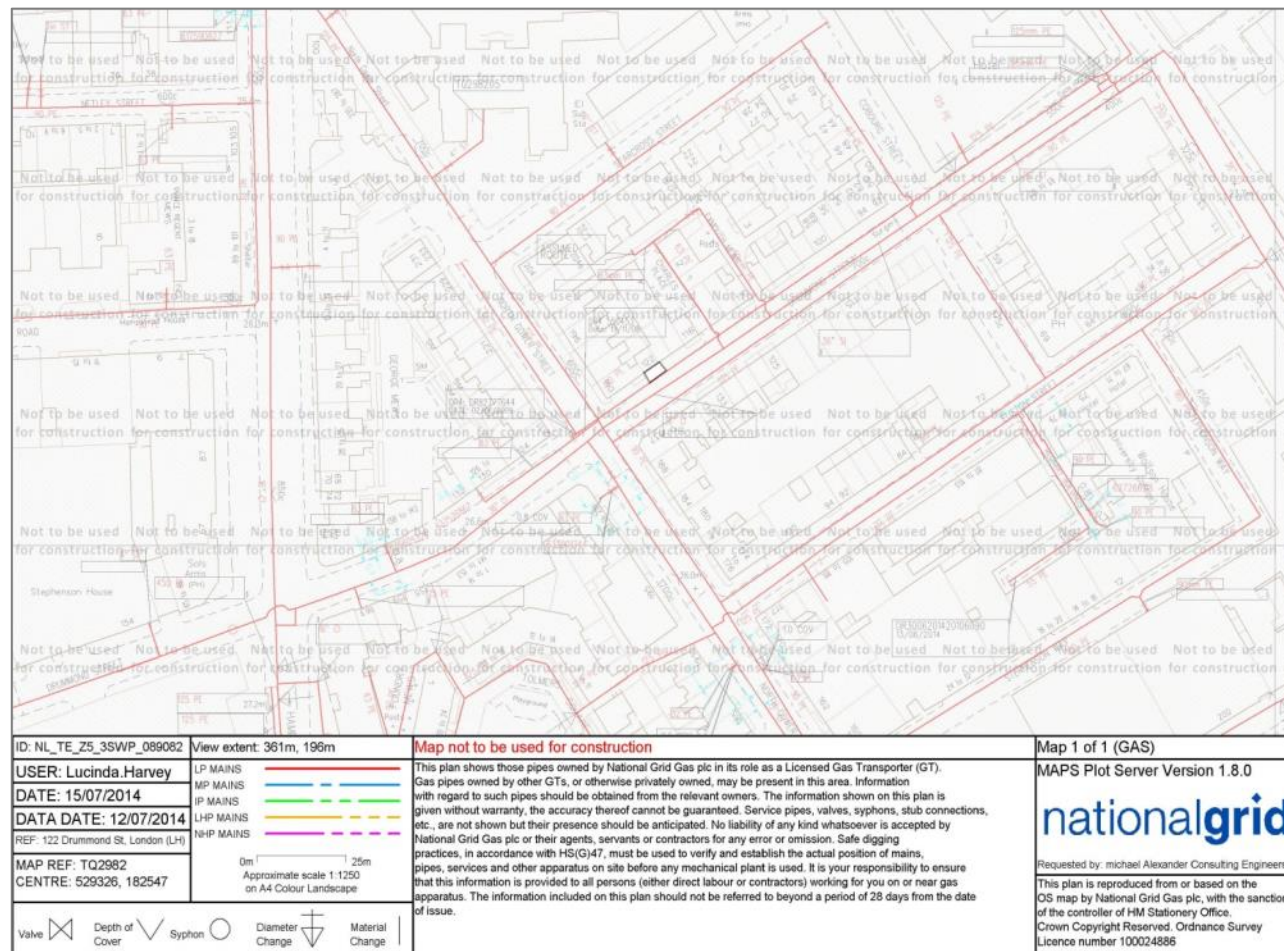


Figure B6 – National Grid Gas Mains

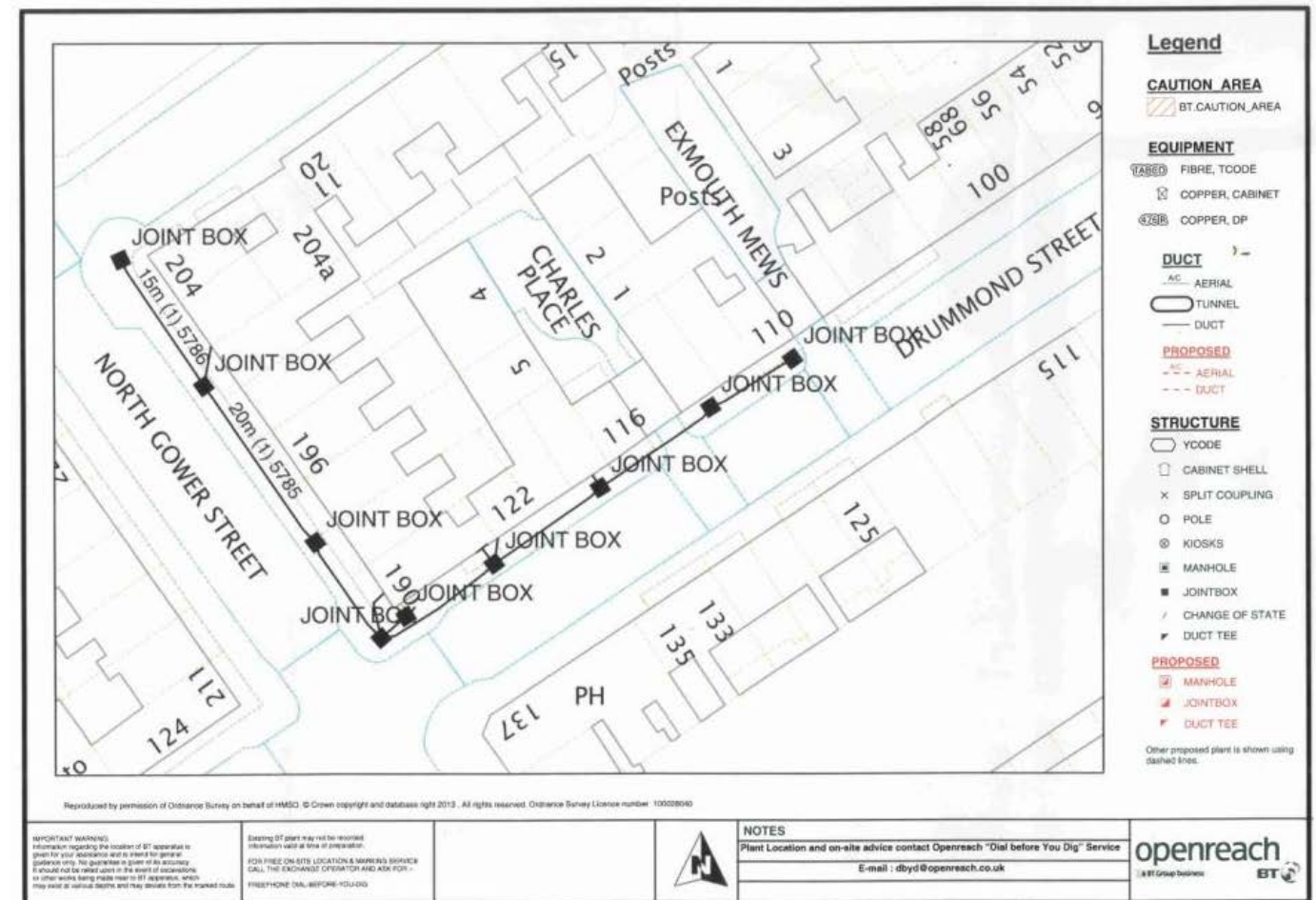


Figure B7 – BT Openreach Network

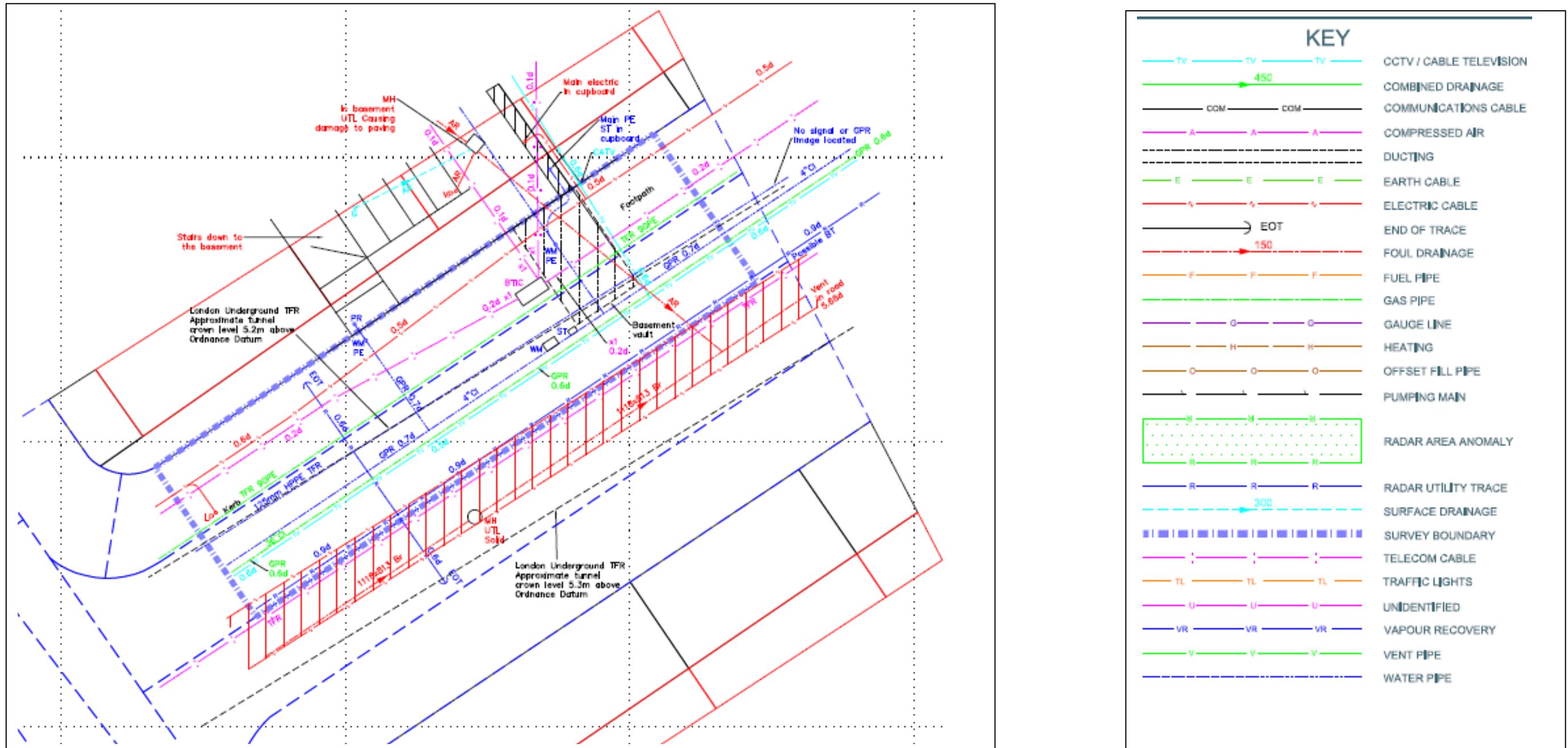
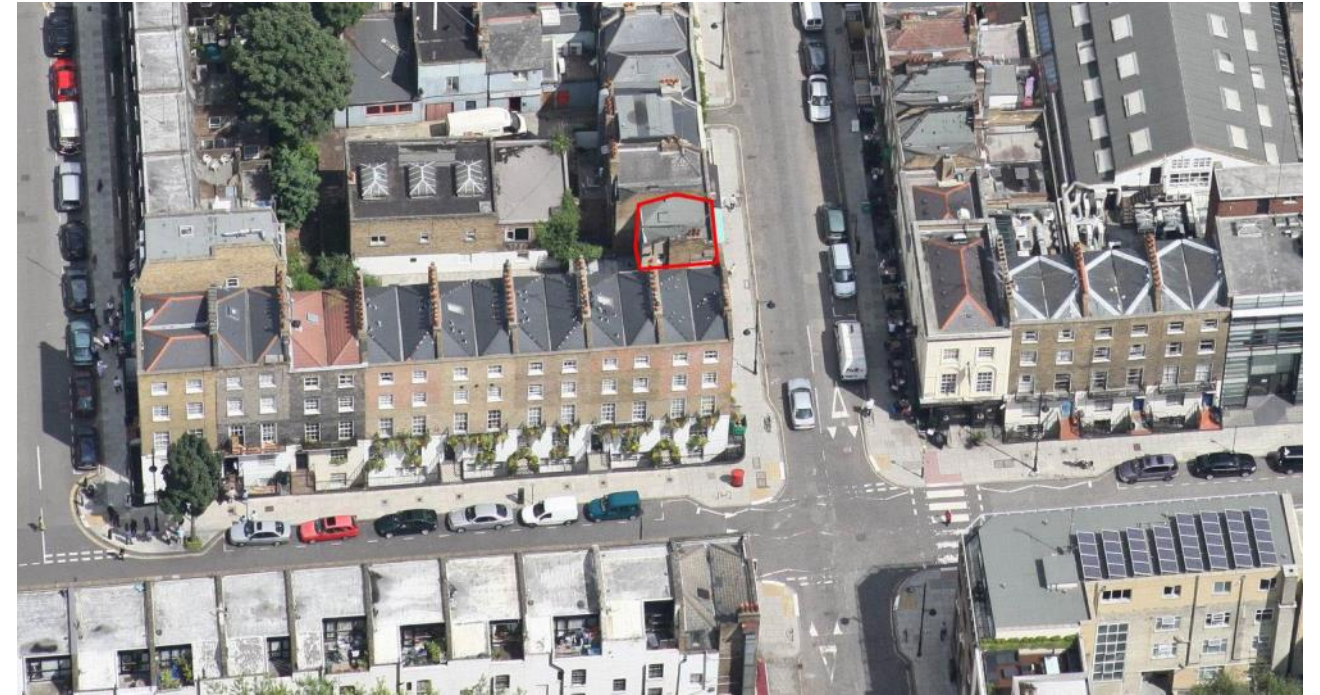


Figure B8 - Subsurface Utilities Scan

**APPENDIX C**  
**PHOTOGRAPHS**



Photograph 1



Photograph 3



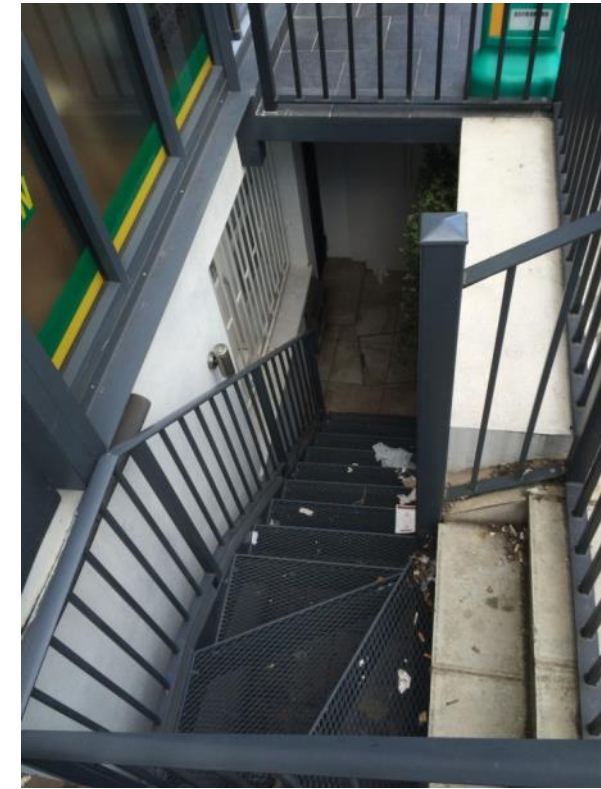
Photograph 2



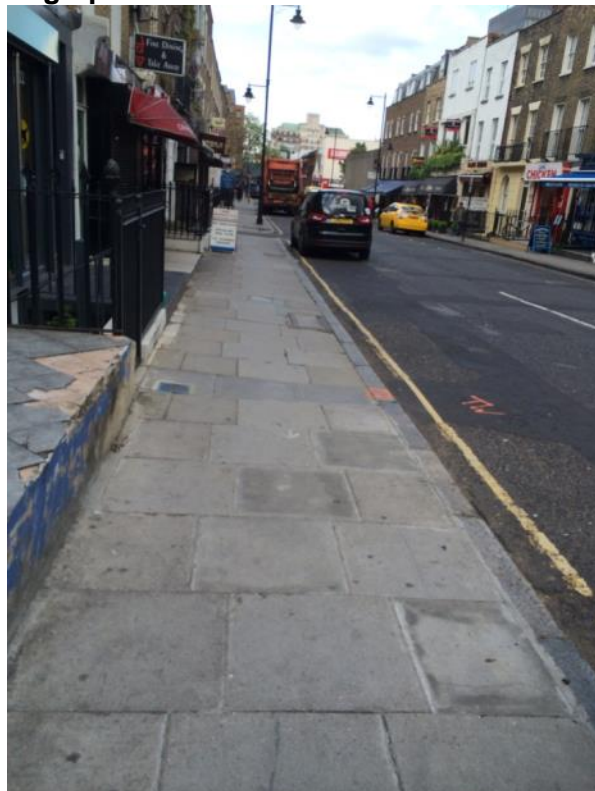
Photograph 4



Photograph 5 - Streetview from Drummond Street



Photograph 7 - Existing Staircase down to Basement Level



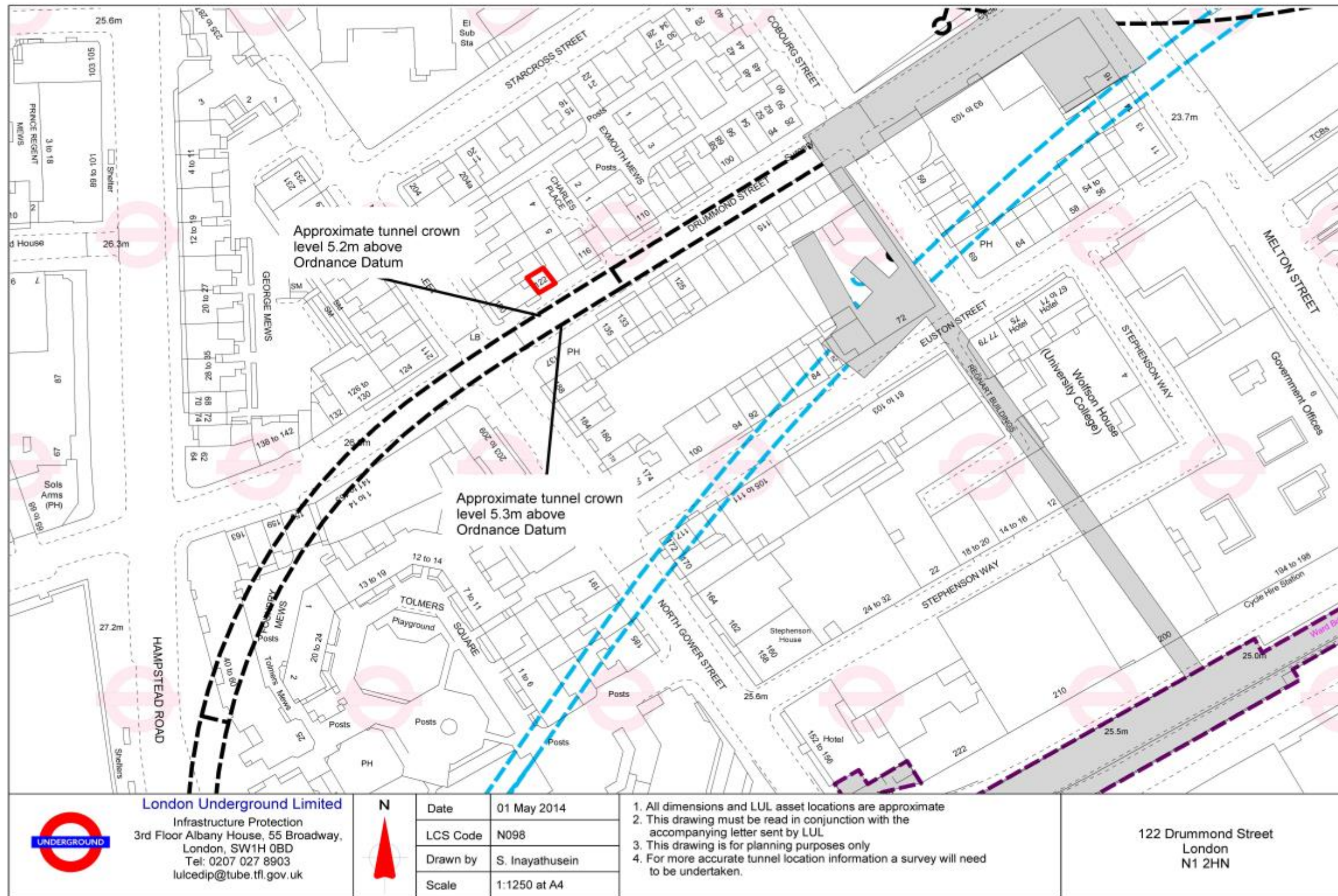
Photograph 6 - View of Pavement over Vault



Photograph 8 - View of Existing Vault

**APPENDIX D**  
**LONDON UNDERGROUND RECORDS**





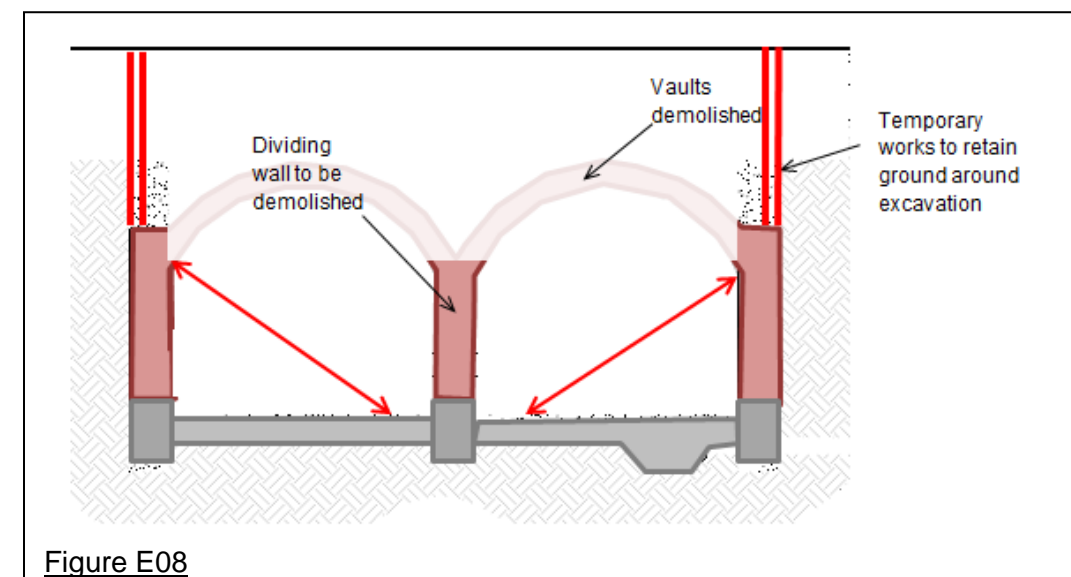
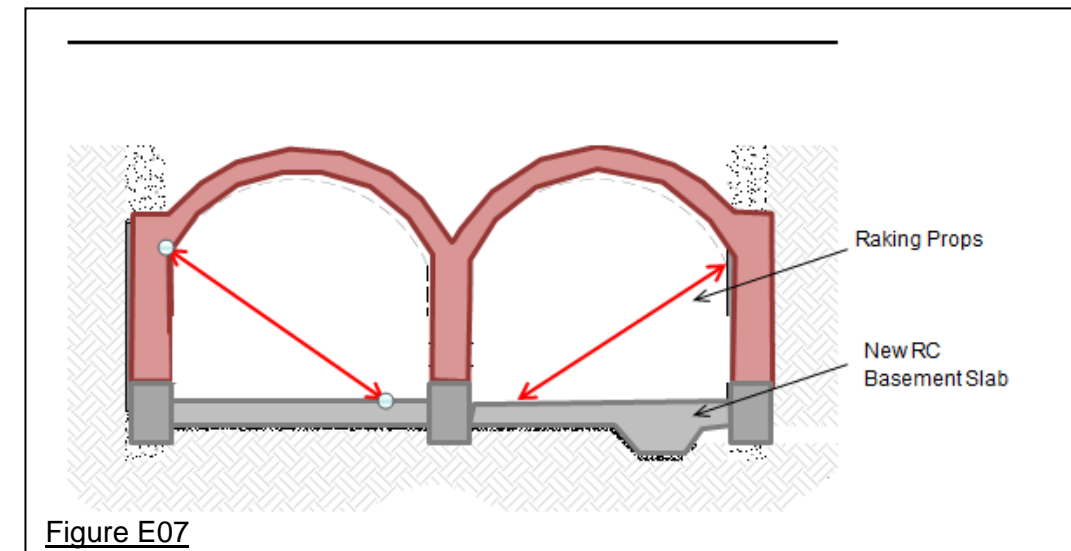
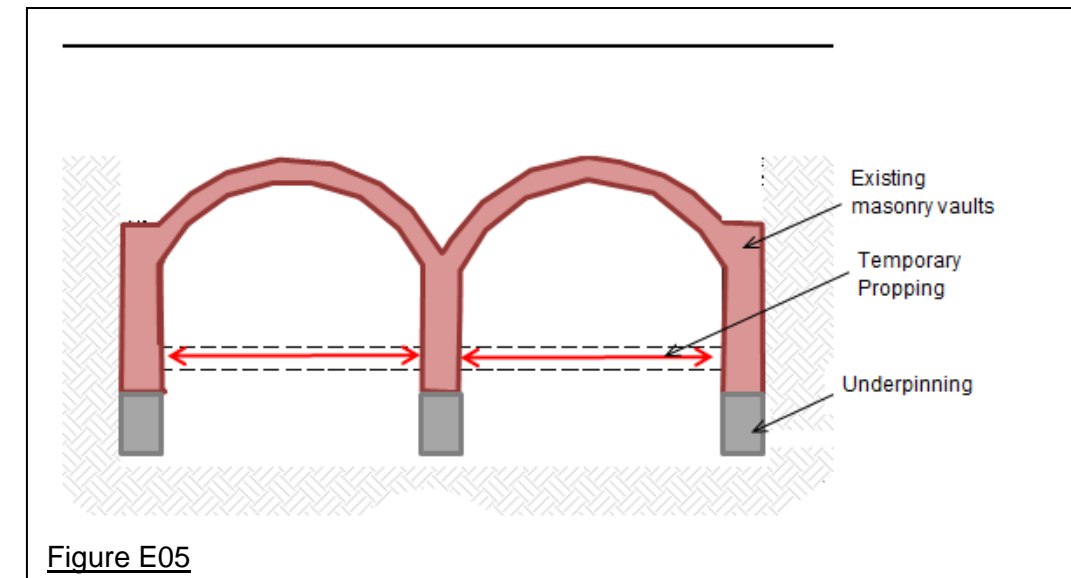
© Crown copyright and database rights 2013 Ordnance Survey 100035971

Figure D1 – London Underground Asset Search

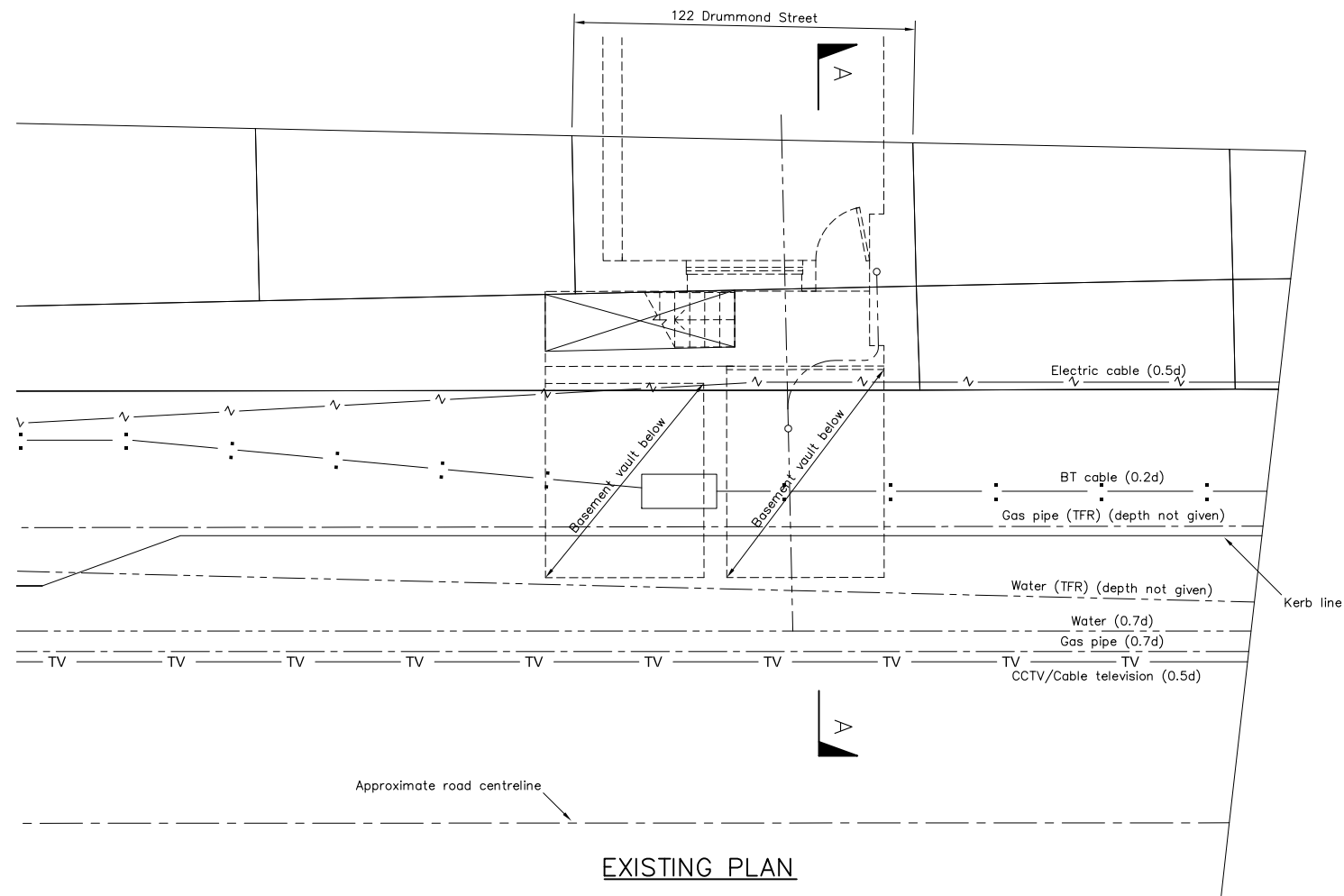
**APPENDIX E**  
**CONSTRUCTION METHOD STATEMENT**

## CONSTRUCTION METHOD STATEMENT

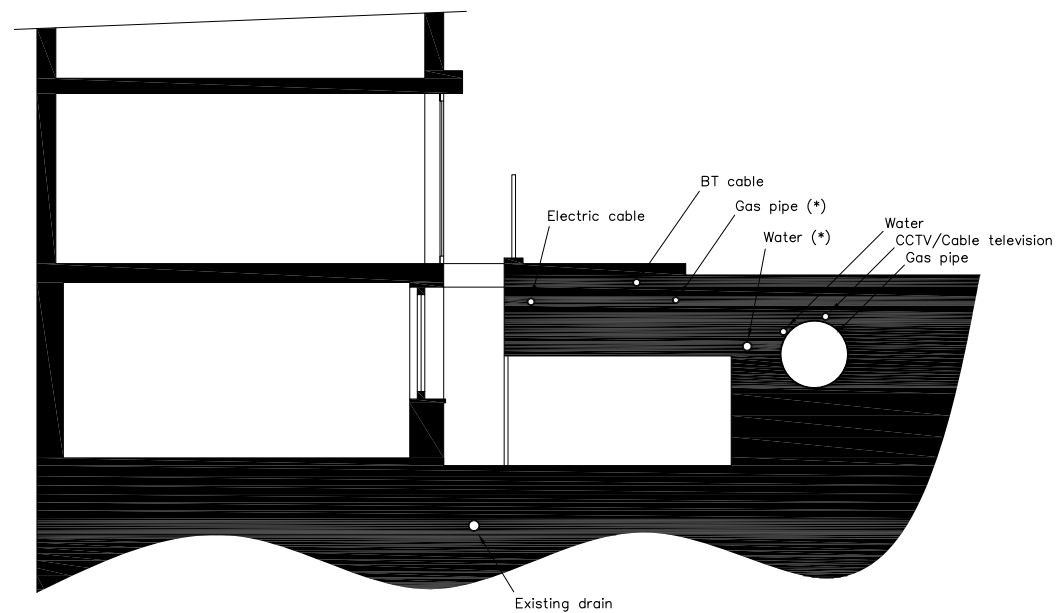
- E01 The following provides an outline Method Statement for the alterations to the basement vaults. This will be developed and finalised by the appointed Contractor, once the detailed design is complete.
- E02 Schedules of condition will be carried out to adjoining properties as part of the party wall process.
- E03 Prior to the works commencing, the necessary approvals for the works will be obtained from: -
- Utility companies whose services are affected by the works
  - London Underground in respect of the tunnels under the property
  - Camden Highways due to the impact on the Highway and Pavement during construction
- E04 The site boundaries will then be established, which will include the temporary closure of the footpath. The services diversion works will then proceed, carried out either directly by the utility companies or by their approved contractors.
- E05 It is assumed that the new construction will commence with underpinning works to the existing vaults. A trial pin will first be excavated to check the ability of the ground to remain un-supported and to establish whether back shutters will be required. The underpinning will then proceed in a conventional sequence, with temporary propping installed across the vaults as shown in figure E05.
- E06 Once the underpinning works are complete, the new reinforced concrete basement slab will be cast, enabling the temporary props to be removed.
- E07 Raking props will then be installed to ensure stability of the perimeter walls and any adjoining vaults during the reconstruction as shown on figure E07. These will be connected to the newly constructed basement slab.
- E08 The ground over the existing masonry vaults will then be excavated, with care taken to establish if there are any untraced services present. Temporary works will be required around the excavation to ensure the adjoining ground remains stable. Once the masonry arches are exposed they will be carefully removed – refer figure E08. The central wall between the vaults will then be demolished.
- E09 The new reinforced concrete ceiling to the vaults will then be constructed. This will act both in supporting the earth that will be backfilled over; and as permanent prop to the masonry retaining walls and any adjoining arch vaults. Once this slab has been constructed and cured, the temporary raking props will be carefully removed.
- E10 A compacted engineered fill material will be used over the reinforced concrete ceiling slab. The water supply pipework serving no. 122 will be installed at an agreed depth. The pavement will then be reinstated to a specification agreed with Camden Highways.
- E11 The works will then be completed by installation of waterproofing and insulation to create a habitable basement space.



**APPENDIX F**  
**OUTLINE STRUCTURAL DRAWINGS**



EXISTING PLAN



EXISTING SECTION A-A

(\* These services are taken from records and were not located on site)

NOTES

- 1 This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.
- 2 Do not scale any dimensions. All dimensions to be checked on site.
- 3 All information on existing services taken from Subscan Technology drawing no. 24332 dated 15th May 2014.
- 4 Services are indicative and must be checked on site prior to commencing works.
- 5 Services to be located by hand excavation prior to commencing works.

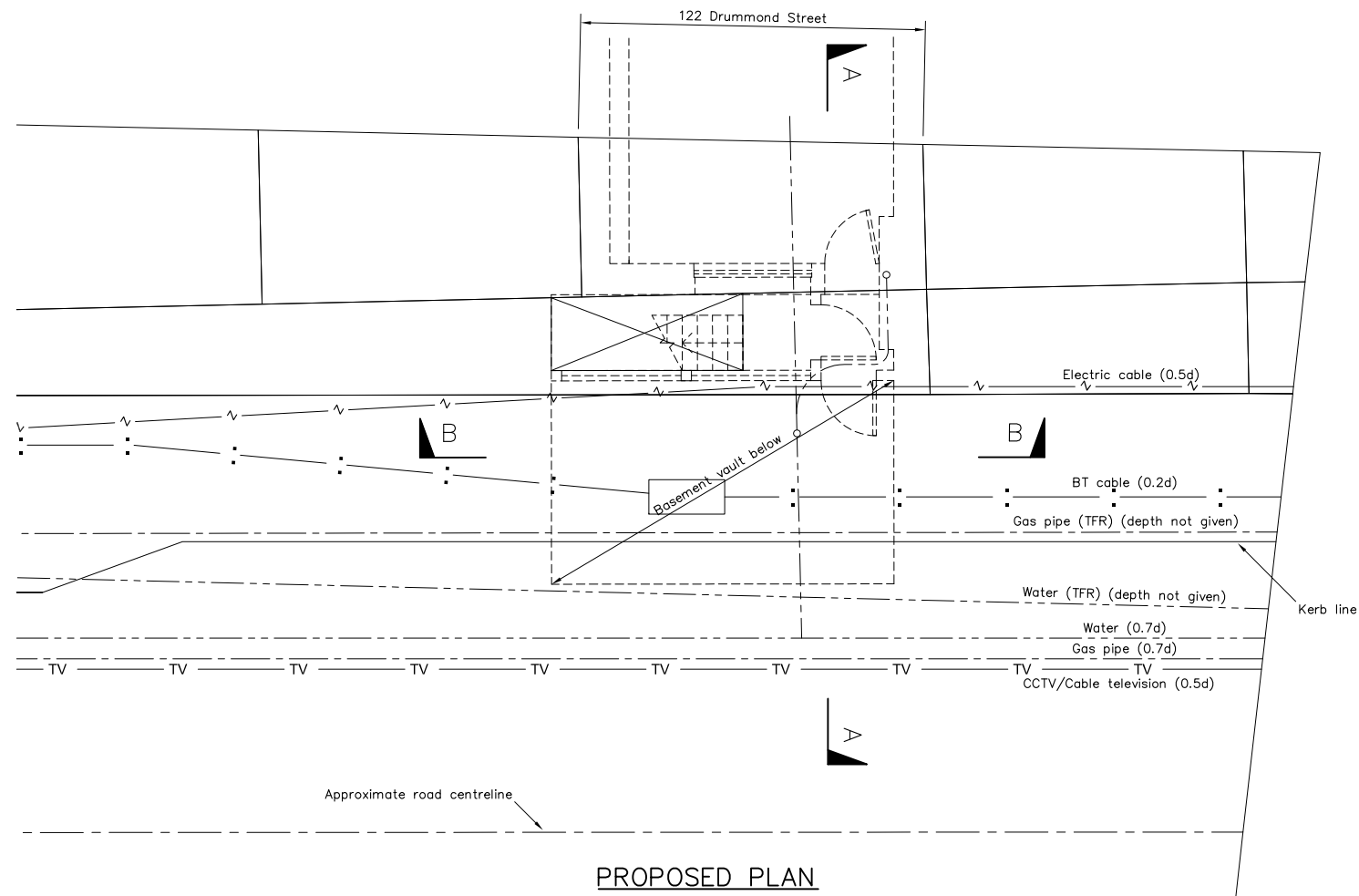
Rev.	Date	Description	Signed

Client  
JULIA PYPER

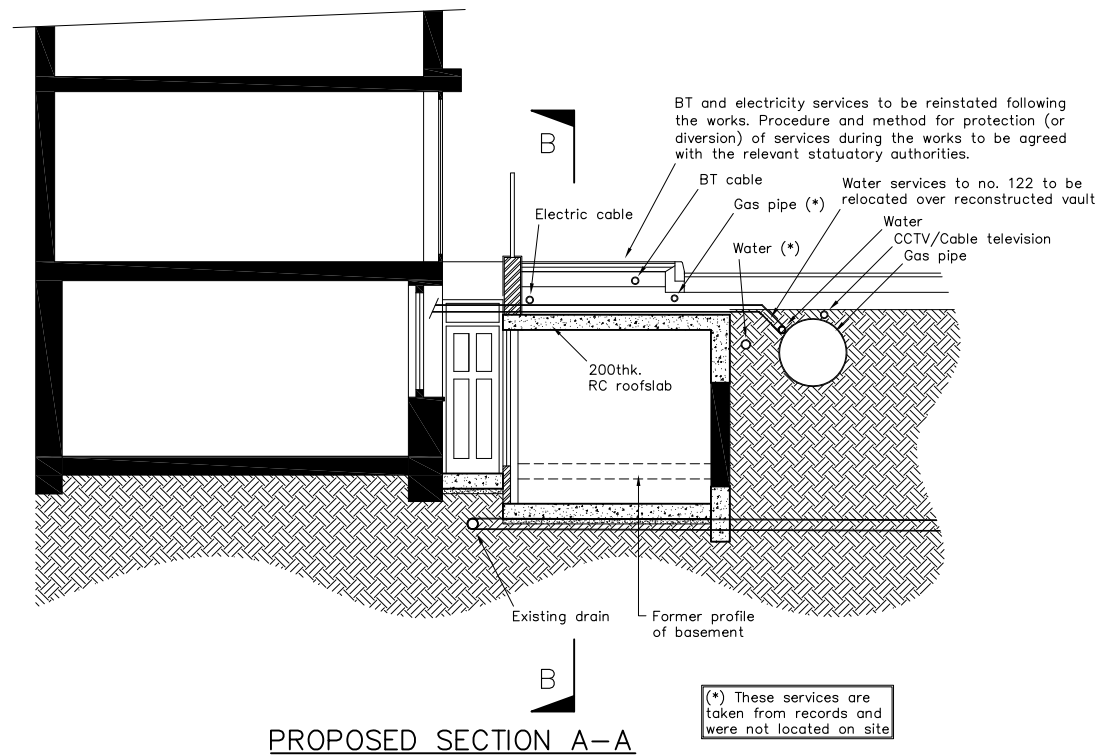
Project Title  
122 DRUMMOND STREET  
LONDON NW1

Drawing Title  
EXISTING PLAN & SECTION

	Drawn	RJC
	Checked	IH
Foundation House 4 Percy Road London N12 8BU Tel 020 8445 9115 Fax 020 8446 9788 E-mail mail@maengineers.com	Scale	Size
<b>C O N S U L T I N G</b> <b>E N G I N E E R S</b>	1:50	A1
Project No.	Drawing No.	Rev.
P2775	01	

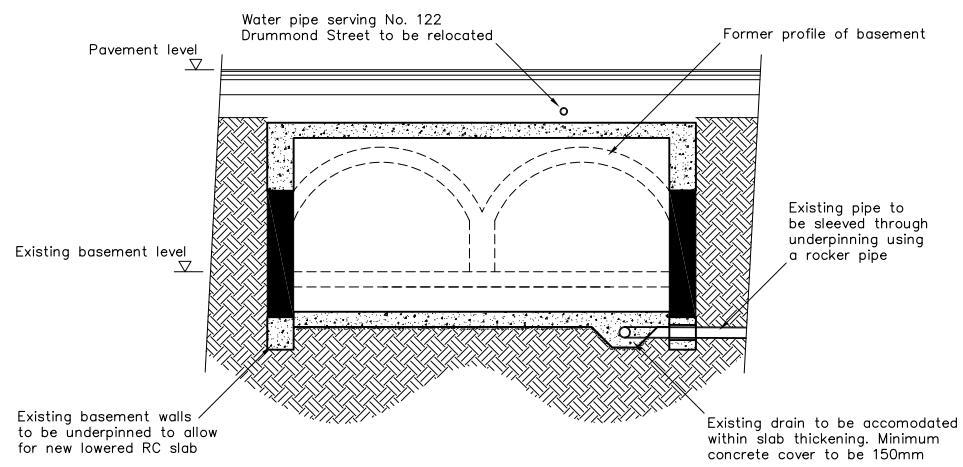


PROPOSED PLAN



PROPOSED SECTION A-A

(\* These services are taken from records and were not located on site)



PROPOSED SECTION B-B

NOTES

- 1 This drawing shall be read in conjunction with all relevant Architects & Engineers drawings and specifications.
- 2 Do not scale any dimensions. All dimensions to be checked on site.
- 3 All information on existing services taken from Subscan Technology drawing no. 24332 dated 15th May 2014.
- 4 Services are indicative and must be checked on site prior to commencing works.
- 5 Services to be located by hand excavation prior to commencing works.

Rev.	Date	Description	Signed

Client  
**JULIA PYPER**

Project Title  
**122 DRUMMOND STREET  
LONDON NW1**

Drawing Title  
**PROPOSED PLAN & SECTIONS**

	Drawn	RJC
	Checked	IH
Foundation House 4 Percy Road London N12 8BU Tel 020 8445 9115 Fax 020 8446 9788 E-mail mail@maengineers.com	Scale	Size
<b>CONSULTING ENGINEERS</b>	Project No.	Drawing No. Rev.
	P2775	02