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New Mews House, rear of The Albert Pub, Princess Road, NW1 8JR

Basement Impact Assessment – Revision A – Volume 1 of 2

NEW MEWS HOUSE
REAR OF THE ALBERT PUB
PRINCESS ROAD, NW1 8JR
Basement Impact Assessment

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A 29.10.14	Updated for revised scheme and to include drainage strategy	JM	RM

1.0 INTRODUCTION

1.1 Create Consulting Engineers Ltd (Create) has been commissioned by Brooks Murray Architects Ltd (the Client), to undertake a Basement Impact Assessment (BIA) for a new Mews House on land at the rear of Number 11 Princess Road (the Site) in the London Borough of Camden.

Current Site Use

1.2 The Site is currently in use as part of the beer garden/terrace at the rear of The Albert public house. The pub forms the end of a row of four and five storey terraced buildings, many with ground floor retail units. The site is accessed from Kingstown Street.

Figure 1.1: Site Location Plan, rear of 11 Princess Road

Proposed Development

1.3 The proposed development is for the construction of a 3 storey Mews House including a basement and sunken garden. Development proposals are shown on Brooks Murray Architect's Drawings: 985.03 – P2 – 101 A to 181 B. Drainage proposals are shown on sketch P14-678/SK01 and in the Sustainability report.

Project Context

1.4 This report has been prepared in accordance with the London Borough of Camden's (LBC) Planning Guidance document 'Basements and Lightwells' CPG4 Sept 2013 and 'Guidance for subterranean development document' (LBC, 2010).

Constraints and Limitations

1.5 Create has endeavoured to assess all information provided to them during preparation of this report. The report summarises information from a number of external sources and Create cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon. The recommendations summarised in this report relate to details of the proposed development at the time of writing the report. Any substantial changes to the proposed design may require a reassessment of the strategy identified.

1.6 This report has been prepared for the exclusive use of Brooks Murray Architects Ltd for the purpose of assisting them to assess and mitigate any potential detrimental impacts on the surroundings with respect to surface water flow, groundwater and land stability at the planning stage.

1.7 This report should not be used in whole or in part by any third parties without the express permission of Create in writing.

2.0 SOURCES OF INFORMATION

2.1 The information contained in this report is based on a review of readily available information pertinent to the site, a ground investigation, and consultation with interested parties.

Records Review

2.2 Key reports, drawings and websites pertinent to this assessment are detailed below in Table 2.1.

Document/Website	Author/Publisher	Date
Flood Map, Groundwater Mapping, Reservoir Flood Map – www.environment-agency.gov.uk	Environment Agency	Accessed April 2014
BGS Geoindex – Geology and borehole records - www.bgs.ac.uk/geoindex	British Geological Survey	Accessed April 2014
Camden Planning Guidance – Basements and Lightwells CPG4	London Borough of Camden	2013
Camden Geological, Hydrogeological and Hydrological Study – Guidance for Subterranean Development.	London Borough of Camden/Arup.	2010
Topographic Survey	Centre Line Surveys London	May2014
GroundSure EnviroInsight, GeoInsight reports and historic mapping (Report refs: 43021, 43020)	Find Maps	April 2014
Thames Water Sewer Flooding History Enquiry	Thames Water	2014
London Borough of Camden Preliminary Flood Risk	Drain London	2011
Camden Flood Risk Management Strategy	London Borough of Camden	2013
North London Strategic Flood Risk Assessment	Mouchel	2008
London Borough of Camden Surface Water Management Plan	Halcrow	2011
The Lost Rivers of London	Nicholas Barton	1992
Thames Water Asset Plans and sewer flooding history enquiry	Thames Water	25th April 2014
SI borehole log BH1 and lab testing	Lustre Consulting	May 2014

Table 2.1: Key Information Sources

Consultation

2.3 The parties consulted as part of this Basement Impact Assessment are detailed in Table 2.2.

Consultee	Form of Consultation	Topics Discussed and Actions Agreed
Nick Humfrey, London Borough of Camden	Telephone Conversation 01/05/14 and email dated 28/5/14	Records of historic flooding in the area were requested. Create were referred to the PFRA, SFRA and SWMP, LBC Flood Risk Management Strategy, however he indicated that records suggest surface water flooding has occurred in the Primrose Hill area and that some remedial works have been undertaken but that limited details are available. He indicated that previous studies have highlighted that the capacity and maintenance of the inverted siphon under the canal adjacent to Gloucester Avenue is key to surface water drainage in the general area. Following review of the records and subsequent conversations with the Royal Parks and Camden Highways Department (see below), further consultation was undertaken with Camden to confirm that no further information was available. Nick provided a summary extract of flooding issues from a further study (email dated 28th May 2014, in Appendix F) from which it was concluded that reported flood improvement works may not have been undertaken as documented.
Caroline McDonagh, Royal Parks	Email and Telephone Conversation 23/05/14	The Royal Parks confirmed that they have no record of any Flood remediation works having been undertaken in Primrose Hill park as stated in the LBC Flood Risk Management Strategy
Graham Jasper, LBC Highways	Email and Telephone Conversation, 01/05/14	The Highways Department confirmed that works carried out at the junction of Chalcott/ Fitzroy were part of a traffic calming scheme and he was not aware of the specific flood alleviation works referred to in the LBC Flood Risk Management Strategy.
Thames Water	Online Sewer flooding history report April 2014	The Thames Water Report indicates that there are no records of sewer flooding in the immediate area of the site.

Table 2.2. List of Parties consulted

Ground Investigation

2.4 An intrusive site investigation borehole was undertaken in May 2014. The works and findings are summarized in Section 6 of this report with borehole log, location plan and test results included as Appendix E.

3.0 SITE SETTING

Site Location and description

3.1 The site comprises part of the rear garden/terrace of Number 11 Princess Road, Primrose Hill, NW1 8JR; which is currently occupied by The Albert public house.

3.2 A walkover of the area was undertaken on Friday 2 May 2014.

3.3 The following summarises details of the site:

- The site is rectangular in shape and has an area of approximately 90m^2, identified by National Grid reference 528204,183832, with an approximate ground elevation of 32.3 metres above Ordnance Datum (mAOD).
- Access is gained from the pavement of Kingstown Street at the south-east corner of the site via a gate.
- The property itself has level access from the pavement.
- The site comprises a mainly paved terrace with a small storage shed and a fenced area used as a bin store for the public house. The bin store will be relocated as part of the proposed scheme.
- On the western edge of the site sits a raised planter.
- There is a tree, as indicated on the site plan, in the south-west corner within the raised planter.
- A brick wall and timber fencing form the boundary with Kingstown Street to the south-west of the site and the Pub building to the East.
- No overhead services were recorded on the site itself.

Adjacent Property

3.4 The site is located immediately west of and adjacent to the Albert Pub (a 3 storey terrace with basement). The pub forms the end of a row of residential properties (mainly 4 and 5 storey properties), many with retail outlets at ground floor, and is situated and accessed from the junction of Kingstown Street and Princess Road.

3.5 There is a tree, located within the beer garden terrace as indicated on the site plan, to the north of the site.

3.6 In the landscape area beyond the western site boundary are one tree near Kingstown Street and two larger trees beyond the north-western site boundary

3.7 Manhole covers along both adjoining roads indicate a range of below ground utilities; taken to all be active.

3.8 The north-western boundary is formed from land (footpath and landscaping) adjacent to the flats at 38-43 Kingstown Street. The nearest building structure to the site boundary is the Albert Pub; approximately 4m from the proposed building. The edge of the property to the south is the pavement of Kingstown Street.

Geology

3.9 The GroundSure report (Find report ref 43020 in Appendix C) and available mapping suggests that the site is located directly on the London Clay Formation deposits, with no superficial deposits being identified to be present.

Ground Workings

3.10 There are no records of ground workings on or within 100m of the site according to the records reviewed; other than the Regents Canal to the east.

Mining, Extraction and Natural Cavities

3.11 There are no records of Mining, Extraction and Natural Cavities on or within 500m of the site according to the records reviewed within the GroundSure report.

Ground Subsidence

3.12 The London Clay is susceptible to shrink-swell problems and will require consideration as part of the substructure design.

Borehole Records

3.13 The nearest BGS borehole record is located about 60m to the north-east of the site and encountered stiff clay to a depth of 15mbgl. Two further boreholes are located 79m to the south of the site and 209m to the west of the site. These encountered stiff clay to 20m bgl with 'minor water seepage' recorded at 12.5m bgl and stiff clay to 15m bgl respectively (Appendix B).

3.14 A site specific ground investigation (reported in Section 6 and Appendix E) was undertaken in May 2014 for the purposes of the BIA.

Slope Stability and Subterranean Developments

3.15 Whilst the gradient of the area falls gently generally to the south-east, the gradient appears to be less than 7°.

3.16 The existing adjacent property (The Albert public house) has a single storey basement area approximately 1m shallower than the proposal basement. The mainly paved rear garden area (part of which is the proposed site) is set three steps below the main building ground floor. Neighbouring properties to the north on Princess Road appear to have basements, with lightwells or external glazed paving to the street. These basements however appear to relate to the level of their rear external garden areas. Elsewhere along Princess Road, the properties have step access to the lower ground floor from street level; which also appear to relate to the level of their rear external garden areas.

Hydrology and Hydrogeology

3.17 The site is not located in a groundwater Source Protection Zone (SPZ) (Figure A4). The nearest surface water feature is the Regents Canal located approximately 80m to the south-east of the site. There are no other surface water bodies within a 250m radius according to the GroundSure report.

3.18 The site is located approximately 1km from tributaries of the Tyburn and Fleet lost rivers (to the west and the east respectively).

3.19 The BGS GeoIndex and Environment Agency online mapping show the site lies directly above the London Clay; which is classified by the EA as 'non-productive strata'. The EA aquifer mapping (accessed online) and Figure 8 of the Camden Geological, Hydrogeological and Hydrological study also confirms this classification (Figure A1).

3.20 Thames Water Asset records show that there are water mains and public sewers in both Princess Road and Kingstown Street.

3.21 Two 4" diameter water mains are located in Princess Road and a 3" diameter main in Kingstown Street.

3.22 A 305 mm diameter combined sewer is located in Kingstown Street, which outfalls to a Trunk Sewer (1346 x 864mm diameter); that flows to the north along Princess Road. A storm relief sewer (1350mm diameter) is shown to flow in a southerly direction along Princess Road.

3.23 All properties in the area are likely to be connected to the public foul drainage network.

Flood Risk

3.24 The site is located in Flood Zone 1 of the Environment Agency's indicative flood map, indicating that the site has a greater than 1:1000 probability of fluvial flooding (the lowest level indicated on their mapping).

3.25 Camden SWMP (2011) classifies the Regents Canal as posing a low flood risk (section 1.6.4) to the area, but does however note the site as being within Critical Drainage area (CDA) 3003 (Primrose Hill) and local flood risk Zone (LFRZ 3024.).

3.26 The site is not located in an area at risk of reservoir flooding according to the EA flood maps.

3.27 The Camden Geological, Hydrogeological and Hydrological Study shows that flooding was recorded in Princess Street in 1975 (Figure 15). In addition, the Camden Surface Water Management Plan highlights that the Primrose Hill area experienced surface water flooding in 2002 and that Princess Road flooded in 1975 & 2002. An additional report extract provided by Camden indicated that the most recent sewer flooding was recorded in 1991, with surface water flooding recorded in 2002. No records of more recent flooding in the area were provided.

3.28 Based on subsequent conversations with Camden's Sustainability Team, the Royal Parks and Camden Highways Department (Table 2.2), it has not been possible to draw firm conclusions in relation to the location, duration and extent of flooding that has occurred or in relation to the extent of or success of any remedial works.

3.29 However Camden Council highlighted that the capacity and maintenance of the inverted siphon under the canal adjacent to Gloucester Avenue is key to surface water drainage in the general area. The current maintenance regime is uncertain, but presumably responsibility for effective management of maintenance would fall to Thames Water.

3.30 However, it is noted that the Thames Water Asset Records (Appendix A) indicate that a storm relief sewer is located in Princess Road, which may have been constructed to alleviate the risk of flooding from the public sewers in the location of the inverted siphon beneath the Grand Union Canal.

3.31 No further information has been provided by Camden or Thames Water in relation to the storm relief sewer.

3.32 The EA's surface water flood mapping shows that the site itself is located just inside an area at 'Low' risk. Low risk means each year this has the chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%). Flooding is shown to occur to a depth of <300m in the area of the site.

Figure 3.1: SW flood map from EA website (accessed May 2014)

Radon

3.33 From inspection of the GroundSure report and the relevant radon map, as published by the BRE, the site does not fall within an area affected by radon emissions. The area is not considered an affected area as less than 1% of homes are above the action level.

Trees

3.34 There is a tree located in the north-west corner of the beer garden to the rear of the pub and a tree in the south-west corner of the site. These appear to be approx 6-7m tall.

3.35 To the rear of the property is a publically accessible paved footpath and between it and the rear site boundary is an open landscaped area; within brick upstand surrounds. This area is planted with shrubs and, near the site, there are three mature trees; one to the southern end and two beyond the site to the north. The trees appear to be around 10-12m tall.

4.0 SCREENING

Screening Assessment

4.1 The London Borough of Camden guidance suggests that any development proposal that includes a subterranean basement should be screened to determine whether or not a full BIA is required.

4.2 A number of screening tools are included in the Guidance for Subterranean Development prepared by Arup and reference has been made to them. These consist of a series of questions with a screening flow chart relating to groundwater flow, land stability and surface water flow.

4.3 The following pages tabulate the findings of the initial screening assessment as follows:

- Slope Stability and Subterranean Developments;
- Stability Screening Assessment;
- Surface Flow and Flooding Screening Assessment.

Question	Response	Justification
1a: Is the site located directly above an aquifer?	**No**	• The BGS GeoIndex shows the site lies directly above the London Clay; which is classed as non-productive strata. The EA aquifer mapping (accessed online) and Figure 8 of the Camden Geological, Hydrogeological and Hydrological Study (reproduced in Figure A1 and A5) also confirms this.
1b: Will the proposed basement extend beneath the water table surface?	**Unknown**	• Based on published information, the site is underlain by London Clay; which is a very low permeability stratum. • The BGS groundwater flooding susceptibility rating is negligible based on the underlying geological conditions.
2: Is the site within 100m of a watercourse, well (used/disused) or potential spring line?	**No**	• Based on a review of historical maps (Appendix C), EA website (Groundwater SPZs in 'what's in my backyard', BGS Geoindex map (accessed online), with the exception of the Regents Canal which is located approximately 80m to the east of the proposed development, no watercourses, no wells (used/disused) or springs were identified. • The structure of the canal and its water are managed by British Waterways and are not related to groundwater. For this reason it is considered that the construction of a basement will not interfere with water sources to the canal. • The closest recorded well was identified approximately 0.8 km south of the site. • The closest identified watercourses are tributaries of the River Tyburn & Fleet (lost rivers) approximately 1 km to the west and east respectively.
3: Is the site within the catchment of the pond chains on Hampstead Heath?	**No**	• The site is located approx 2.0 km south of the three ponds in this chain, according to Figure 14 of the Camden Geological, Hydrogeological & Hydrological study (reproduced in Figure A2), placing it outside the catchment. • Given the site's distance from these features, we do not consider that the proposed development will affect flow to the ponds.
4: Will the proposed basement development result in a change in the proportion of hard surfaced /paved areas?	**Yes**	• The impermeable area of the site will be decreased by 15m^2 through the introduction of a sunken landscaped garden.
5: As part of the site drainage, will more surface water (e.g. rainfall / run-off) than at present be discharged to the ground (e.g. soakaways and/or SUDS)?	**Yes**	• The impermeable area of the site will be decreased by 15m^2 through the introduction of a sunken landscaped garden. • The property is likely to increase foul flows slightly, but this will be discharged to the public sewer.
6: Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to, or lower than, the mean water level in any local pond (not just the pond chains on Hampstead Heath) or spring line.	**No**	• There are no ponds in the locality of the site. Given the scale of the proposed basement and the site's distance from any local water bodies, we do not consider that the proposed development will significantly affect flow to any ponds and therefore do not consider any mitigation measures are required.

Table 4.1: Subterranean (Groundwater) Flow Screening Assessment - undertaken prior to site-specific site investigation.

Question	Response	Justification
1: Is the site within the catchment of the pond chains on Hampstead Heath?	**No**	• Figure 14 of the Camden Geological, Hydrogeological and Hydrological Study (reproduced in Figure A2) places the site outside the catchment for these ponds. • Given the scale of the proposed basement and the sites vicinity from the pond chains, we do not consider that the proposed development will significantly affect flows to Hampstead Ponds
2: As part of the proposed site drainage, will surface water flows (e.g. volume of rainfall and peak run-off) be materially changed from the existing route?	**No**	• The site currently discharges to the public sewer network in the adjacent roads and this route will be maintained as the main source of disposal. Peak runoff will be reduced slightly due to the increase in soft landscaping,
3: Will the proposed basement development result in a change in the proportion of hard surfaced /paved external areas?	**Yes**	• The impermeable area of the site will be decreased by 15m^2, through the introduction of a sunken landscaped garden.
4: Will the proposed basement result in changes to the profile of the inflows (instantaneous and long-term) of surface water being received by adjacent properties or downstream watercourses?	**No**	• On the basis that the property is currently drained to sewer, and following development all surface water falling on the buildings will be captured by the new site drainage network, we anticipate that there will be no impact on neighbouring properties or downstream watercourses.
5: Will the proposed basement result in changes to the quality of surface water being received by adjacent properties or downstream watercourses?	**No**	• All foul sewerage will be connected to the public sewer network.
6: 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?	**Yes**	• The Camden Geological, Hydrogeological and Hydrological Study shows that flooding was recorded in Princess Street in 1975 (Figure 15). In addition, the Camden Surface Water Management Plan highlights that the Primrose Hill area experienced surface water flooding in 2002 and that Princess Road flooded in 1975 & 2002. An additional report extract provided by Camden indicated that the most recent sewer flooding was recorded in 1991, with surface water flooding recorded in 2002. No records of more recent flooding in the area were provided. • EA Surface water maps indicate flooding in the vicinity and according to Camden Surface Water mgt Plan it lies within the Critical Drainage Area CDA (3003) and Local Flood Risk Zone LFRZ (3024)

Table 4.2: Surface Flow and Flooding Screening Assessment

Question	Response	Justification
1: Does the existing site include slopes, natural or manmade, greater than 7º? (approximately 1 in 8)	**No**	• Within the land of the proposed new property, the site is currently generally flatter than 7°, other than a small change of level between the rear planter and external paved area (Approx 0.3m).
2: Will the proposed re-profiling of landscaping at site change slopes at the property boundary to more than 7º? (approximately 1 in 8)	**Yes**	• The land within the site boundary is generally flatter than 7°. The new basement will extend up to the south-western site boundary, with a resultant step change in levels.
3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7º? (approximately 1 in 8)	**No**	• The adjoining land appears to be predominately level, although the area falls to the South, but below the 7° threshold. Kingstown St slopes gently from Princess Rd and there are then 3 shallow steps down to the path behind the site.
4: Is the site within a wider hillside setting in which the general slope is greater than 7% (approximately 1 in 8)	**No**	• The area falls generally gently to the south-east, below the threshold of 7°.
5: Is the London Clay the shallowest strata at the site?	**Yes**	• The BGS GeoIndex shows the site lies directly above the London Clay. This is confirmed by the site investigation.
6: Will any tree/s 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? (Note that consent is required from LB Camden to undertake work to any tree/s protected by a Tree Protection Order or to tree/s in a Conservation Area if the tree is over certain dimensions).	**Yes**	• One tree and a number of shrubs will be removed in the rear garden planter.
7: Is there a history of seasonal shrink-swell subsidence in the local area, and/or evidence of such effects at the site?	**Unknown**	• The site is understood to be underlain by the London Clay; which is prone to shrink-swell. No significant evidence of heave effects was seen to the pub or nearby properties.
8: Is the site within 100m of a watercourse, well (used/disused) or potential spring line?	**Yes**	• Based on a review of historical maps (Appendix C), EA website (Groundwater SPZs in 'what's in my backyard', BGS Geoindex map (accessed online), no wells (used/disused) or springs were identified. • The closest identified well was identified approximately 0.8 km south of the site. • The closest identified watercourses are tributaries of the River Tyburn & Fleet (lost rivers), approximately 1 km to the west and east respectively. • Given the scale of the proposed basement and the fact that the underlying geology is of a very low permeability, we do not consider that the proposed development will significantly affect flow to any watercourse. • The Regents Canal is located approximately 80m to the east of the proposed development. The structure of the canal and its water are managed by British Waterways and are not related to groundwater. For this reason it is considered that

Question	Response	Justification
		the construction of a basement will not interfere with water sources to the canal.
9: Is the site within an area of previously worked ground?	**No**	• The only significant previous works were the construction of the existing premises.
10: Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?	**No**	• The BGS GeoIndex shows the site lies directly above the London Clay which is classed as non-productive strata. The EA aquifer mapping (accessed online) and Figure 8 of the Camden Geological, Hydrogeological and Hydrological Study also confirms this.
11: Is the site within 50m of the Hampstead Heath ponds?	**No**	• Based on OS mapping
12: Is the site within 5m of a highway or pedestrian right of way?	**Yes**	• The existing pub building adjoins the public highway on two sides. The southern side of the proposed property will adjoin Kingstown St.
13: Will the proposed basement significantly increase the differential depth of foundations relative to neighbouring properties?	**No**	• The only directly neighbouring property to the proposed building is the existing pub; which already has a basement. Foundation depths are likely to extend to a comparable level.
14: Is the site over (or within the exclusion zone of) any tunnels, e.g. railway lines?	**No**	• The site lies outside of exclusion zones.

Table 4.3: Slope Stability Screening Assessment

5.0 SCOPING STUDY

5.1 The following potential impacts and potential consequences have been identified based on the initial desktop assessment.

Category	Question	Potential Impact	Possible Consequence
Subterranean (Groundwater) Flow	1b	There is a slight possibility of encountering shallow or perched groundwater during construction.	• The basement might be at risk of water ingress from any shallow or perched groundwater and there is potential for localised impacts on the water table if a groundwater table is present.
	4	The proposals will slightly decrease hard standing areas within the site.	• This may slightly increase infiltration to the ground, which may increase groundwater recharge locally.
	5	The proposals will slightly decrease hard standing areas within the site.	• This may slightly increase infiltration to the ground, which may increase groundwater recharge locally.
Surface flow and flooding	3	The proposals will slightly decrease hard standing areas within the site.	• This has potential to slightly decrease surface water runoff (peak flows and volumes) to the sewer.
	6	Princess Road was flooded historically on several occasions following heavy rainfall. The construction of a basement to be used as a dwelling is a more vulnerable use than at present.	• The proposed basement may be at risk of flooding from surface water; which may result in safety/damage to property.
Slope Stability	2	The proposals will alter the ground profile and will require a step change in level with the adjacent highway.	• Without adequate temporary and permanent propping this would lead to slope stability issues.
	5	The site is understood to be underlain by the London Clay Formation, which is prone to shrink-swell.	• Differential movement may occur in the structure and adjacent buildings if not taken into account in the design of temporary works and permanent design of the substructure.
	6	Removal of the tree and shrubs could affect moisture in the ground	
	7	The site is understood to be underlain by the London Clay Formation, which is prone to shrink-swell.	• Differential movement may occur in the structure and adjacent buildings if not taken into account in the design of temporary works and permanent design of the substructure.
	8	The site is within 85m of the Regent's Canal.	• The canal is lined and is kept separate from groundwater flows; so should not be affected by the proposed small basement. No further action.

Category	Question	Potential Impact	Possible Consequence
	12	The basement will be extended up to the site boundary with the pavement and extend below the level of the pavement.	• Without adequate temporary and permanent propping this could lead to settlement or collapse of the pavement.

Table 5.1: Potential Impacts

6.0 GROUND INVESTIGATION

Objective

6.1 In order to further inform the assessment of the potential impacts of the development and to assist with design of the sub-substructure, so that any impacts of the basement can be mitigated through the design of the temporary and permanent works, an intrusive investigation was scoped.

6.2 This was to build on the findings of the desktop assessment set out in previous sections of this report, so as to collect basic geotechnical, chemical and hydrogeological data to further develop the conceptual site model.

Site Work

6.3 Prior to the intrusive site works, a services scan had been carried out at the proposed borehole location.

6.4 The borehole position was chosen to investigate the ground conditions at the location of the proposed dwelling and to check for presence of groundwater within the standpipe.

6.5 A ground investigation was carried out on 23rd May 2014, at the position shown on the attached exploratory borehole location plan in Appendix E.

6.6 The site work consisted of a window sampling borehole below an area of current paving. This was drilled using a modular collapsible rig and taken to 5m depth, that is sufficiently below the proposed basement construction to identify a consistent founding strata.

6.7 Representative disturbed and bulk disturbed samples were taken from the boring tools at regular intervals throughout the depth of the borehole.

6.8 Undisturbed 38mm diameter samples were taken in the clay at regular intervals throughout the depth of the borehole.

6.9 In-situ Standard Penetration Tests (SPTs) were carried out at varying depths.

6.10 On completion of the borehole, a groundwater monitoring standpipe was installed to the base of the bore. This was sealed above the slotted bottom zone of the pipe, so that the piezometric pressure could be recorded. A protective cover was installed flush with the ground surface.

6.11 Groundwater monitoring was carried out during a return site visit on 3rd June 2014. The findings are set out in the Groundwater section below.

Laboratory Work

6.12 The samples were forwarded to a registered laboratory, where geotechnical tests were conducted and the results are presented in the Appendices.

6.13 The moisture content of selected soil samples was determined.

6.14 Liquid and plastic limits of selected samples at various depths were determined, as a guide to soil classification and behaviour.

6.15 Test specimens were prepared at full diameter from selected undisturbed samples. Undrained triaxial compression tests were undertaken on the samples at a single confining cell pressure.

6.16 Selected samples of soil were analysed to determine the concentration of water soluble sulphate, using the BRE SD1 Pyrite Suite. The pH values were also determined.

6.17 The laboratory certificates are included in Appendix E and are summarised in Table 6.1.

Plasticity Index (NHBC modified)				
Borehole No.	**Sample depth, m**	**Index**	**Soil Class**	
WS1	1.50	61	CV	
WS1	2.50	53	CV	
WS1	4.50	52	CV	
Shear Strength (unconsolidated single stage triaxial)				
Borehole No.	**Sample depth, m**	**Dry density Mg/ m^3**	**Moisture content %**	**C_u kPa**
WS1	2.00	1.35	33	73
WS1	4.00	1.44	29	134
Chemical Tests				
Test – sample at 3.5m		**Range**		
Moisture Content %		18		
pH		7.1		
Total Sulphate as SO_4 mg/kg		1464		
W/S Sulphate as SO_4 (2:1) g/l		0.59		
Total Sulphur mg/kg		503		
Magnesium (soluble) g/l		0.242		
W/S Chloride (2:1) mg/kg		90		
Ammonium as NH_4 mg/kg		22.6		
W/S Nitrate (2:1) as NO_3 mg/kg		50		

Table 6.1: Summary of Geotechnical Testing

Ground Conditions

6.18 The encountered soil conditions are reported in the borehole log within Appendix E and summarised below.

Made Ground

6.19 At the borehole location, 50mm thick concrete paving slabs were overlying a 230mm sand sub-base. Below this was sand based granular Made Ground, with some brick fragments, and then 280mm of clay based Made Ground, with fine brick, clinker and rare charcoal. This is a total of 1.36m depth of Made Ground.

London Clay

6.20 London Clay was encountered below the Made Ground. This was initially a firm to stiff brown slightly gravelly clay, with rare fine rootlets. This weathered London Clay extended to 2.00m below existing ground level.

6.21 From 2.00m to the base of the borehole at 5.15m was a firm becoming stiff laminated light brown occasionally mottled grey clay, with rare fine gravel of siltstone.

Groundwater

6.22 No perched groundwater was recorded in the Made Ground, nor was groundwater recorded during the drilling of BH1.

6.23 The ground water level was recorded during a return site visit on Tuesday 3rd June 2104, as set out in Table 6.2.

Location	Ground level (mAOD)	Water Level (mbgl)	Water Level (mAOD)	Base of well (mbsl)
BH1	32.28	None (Dry)	None (Dry)	4.89

Table 6.2: Groundwater Monitoring – 3 June 2014

6.24 Groundwater monitoring did not encounter any water within the London Clay.

Interpretation of Geotechnical Testing results

6.25 The laboratory test results are consistent with and confirm the soil descriptions in the borehole log, namely that beneath the layer of paving and Made Ground the site is underlain by a competent medium to generally high strength brown London Clay deposits.

6.26 The NHBC modified Plasticity Index identifies the clay as being a high volume change potential soil, consistent with London Clay. In relation to the influence of nearby trees to the site, the NHBC guidance Chapter 4.2 'Building Near Trees' sets out the minimum recommended depth to which new foundations should thus be taken.

6.27 One tree in the south-west corner of the site is to be removed for the proposed building. This is approx 7m tall from the Cherry family and its appearance is of an enlarged shrub, with an ill-defined trunk, that has been heavily pollarded. This is likely to have restricted the root zone. NHBC Chapter 4.2 Table 12 identifies a Cherry tree as being of moderate water demand. In relation to tree influence, Table 15 (high shrinkage potential soil and medium water demand tree) gives the appropriate depth of new foundations at zero offset as 2.4m. The proposed basement will found at a greater depth below ground level and will thus be deeper than this requirement.

6.28 Within the external public area to the rear of the site, there is one tree near to the proposed building. This is approx 3.3m beyond the site boundary. It is approx 10m tall and again seems to be of the Cherry family. There is evidence of it having been heavily pollarded, particularly on the western side, to avoid the adjacent flats; this will have limited its root zone. As noted above, in relation to potential tree influence, the basement foundation will be below the recommended minimum depth.

6.29 The basement reinforced concrete walls and base will be designed using the Strength parameters noted in the Laboratory Tests and a concrete mix will be specified to address the raised sulphate readings; for which BRE Special Digest 1 identifies a Chemical Design Class of DS-3.

7.0 IMPACT ASSESSMENT

7.1 Following completion of the site investigation, the potential impacts associated with the scheme have been reassessed in light of the findings. Table 7.1 summarises the assessment and provides appropriate mitigation measures.

Category	Question	Potential Impact	Possible Consequence	Work undertaken to investigate likelihood and significance of impact	Revised conceptual model following ground Investigation	Mitigation measures	Risk following mitigation	Justification
Subterranean (Groundwater) Flow	1b	There is the slight possibility of encountering shallow/perched groundwater during construction.	The basement may be at risk of flooding from any perched/shallow groundwater and there is potential for localised impacts on the water table if a groundwater table is present which may affect neighbouring foundations or result in flooding of below ground structures.	Site investigation was undertaken to confirm presence/absence of groundwater.	Monitoring of the site investigation borehole did not record any groundwater. However, some water may percolate through the upper Made Ground and the design needs to account for this possibility.	As the basement will be constructed using temporary sheet piles, any seepage from the Made Ground will be minimal though dewatering of the excavation itself may be required during the construction works. As only limited dewatering within the excavation may be required, any dewatering is unlikely to affect any shallow/perched groundwater levels in the Made Ground outside of the sheet piled excavation.	Low	Will enable safe construction
						Basement will need to be appropriately waterproofed.	Low	This will protect the basement property from water ingress.
					No significant impact on groundwater levels are anticipated based on the findings of the site investigation	None	Low	No groundwater recorded during the site investigation.
	4	The proposals will slightly decrease hard standing areas within the site.	This will potentially decrease runoff to the public sewer which will potentially increase infiltration to the ground	Consideration of drainage proposals in light of site investigation	The site investigation showed that the basement excavation will be formed within the London Clay. Although the sunken garden will be grassed, the London Clay is of low permeability, such that no significant increase in infiltration is anticipated given that the majority of rainfall will be lost through evapotranspiration. Furthermore, it is likely that the sunken garden will in effect be constructed similar to a “green roof” and will require some drainage to ensure that the grass does not become waterlogged.	Include sufficient sub-surface drainage for the grassed area/sunken garden, as part of the detailed drainage design. This may include the incorporation of a granular fill layer beneath the soil and/or a rainwater harvesting tank, with an overflow to the surface water drainage system; pumped to the public sewer network.	Low	Will ensure that there is no significant change in runoff. No significant impacts considered likely.
	5	The proposals will slightly decrease hard standing areas within the site.	This may potentially increase infiltration to the ground which may slightly increase groundwater recharge locally.	Consideration of drainage proposals in light of site investigation	The site investigation showed that the basement excavation will be formed within the London Clay. Although the sunken garden will be grassed, the London Clay is of such low permeability such that no significant increase in infiltration is anticipated given that the majority of rainfall will be lost through evapotranspiration. Furthermore, it is likely that the sunken garden will in effect be constructed similar to a “green roof” and will require some drainage to ensure that the grass does not become waterlogged.	Include sufficient sub-surface drainage for the grassed area/sunken garden as part of the detailed drainage design. This may include the incorporation of granular fill layer beneath the soil and/or a rainwater harvesting tank, with an overflow to the surface water drainage system; pumped to the public sewer network.	Low	Will ensure that there is no significant increase in infiltration. No significant impacts considered likely.
Surface flow and flooding	3	The proposals will slightly decrease hard standing areas within the site.	This will potentially decrease runoff to the public sewer.	Consideration of drainage proposals in light of site investigation.	The site investigation showed that the basement excavation will be formed within the London Clay. Although the sunken garden will be grassed, the London Clay is of low permeability such that no significant increase in infiltration is anticipated; given that the majority of rainfall will be lost through evapotranspiration. Furthermore, it is likely that the sunken garden will in effect be constructed similar to a “green roof” and will require some drainage to ensure that the grass does not become waterlogged.	Include sufficient sub-surface drainage for the grassed area/sunken garden as part of the detailed drainage design. This may include the incorporation of granular fill layer beneath the soil and/or a rainwater harvesting tank, with an overflow to the surface water drainage system; pumped to the public sewer network.	Low	No significant impacts considered likely; due to the areas and flows concerned.
	6	Princess Road has a	Potential risk of flooding to the	Consultation with LB Camden and	The site is located in an area at risk of surface	The entrance threshold to the property	Low	A risk has been identified and the

Category	Question	Potential Impact	Possible Consequence	Work undertaken to investigate likelihood and significance of impact	Revised conceptual model following ground Investigation	Mitigation measures	Risk following mitigation	Justification
		history of surface water Flooding	development	review of published flood management documents	water flooding. The information relating to historic flooding and any subsequent remedial works is inconsistent and therefore a precautionary approach is recommended. The EA's surface water flood mapping shows that the site itself is located just inside an area at 'Low' risk. Low risk means each year this has the chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%). Flooding is shown to occur to a depth of <300m in the area of the site. Ground levels (established through topographic survey, adjacent to the proposed basement are 32.2mAOD.	should ideally be 32.5mAOD, to reduce the risk of surface water flooding to the property. It is noted that there is considerable uncertainty in the derivation of this level, and we strongly advise that a suitable freeboard should be considered as part of the detailed design Ensure that the building structure is waterproofed to at least 32.5mAOD		measure suggested will assist with managing flood risks associated with surface water flooding.
Slope Stability	1 & 2	The proposals will alter the ground profile and will require a step change in levels with adjacent highway.	Without adequate temporary and permanent propping this would lead to slope stability issues.	Site investigation has confirmed uniform ground conditions (London Clay) across the site and has provided soil characteristics.	Unchanged.	A structural retaining wall will need to be included in the proposals. The design of this structure will be based on the site investigation results (see Section 8 for concept design)	Low	This will enable safe construction and provide long term stability.
	5	The site is understood to be underlain by the London Clay Formation which is prone to shrink-swell.	Differential movement may occur in the structure and adjacent buildings if not taken into account in the design of temporary works and permanent design of the substructure.	The geotechnical properties of the London Clay Formation have been established through site investigation.	Unchanged.	The design of this structure will be based on the site investigation results (see Section 6 and also Section 8 for concept design)	Low	This will enable safe construction and control differential movement.
	6	Removal of a tree and some shrubs could affect moisture in the ground	Differential movement may occur in the structure and adjacent buildings, if not taken into account in the design of temporary works & permanent design of the substructure.	The geotechnical properties of the London Clay Formation have been established through site investigation.	Unchanged	None required.	Low	The removal of the on-site tree & vegetation is not considered to have a significant impact. This is due to the basement extending below the potential influence zone of this and nearby trees.
	7	The site is understood to be underlain the London Clay Formation which is prone to shrink-swell.	Differential movement may occur in the structure and adjacent buildings if not taken into account in the design of temporary works and permanent design of the substructure. Without adequate temporary and permanent propping this could lead to collapse of the pavement.	The geotechnical properties of the London Clay Formation have been established through site investigation.	Unchanged	Potential for shrink-swell to occur will be considered in the detailed design of the temporary works and permanent design of the substructure (see Section 6 and also Section 8 for concept design). Undertake a structural condition survey of neighbouring properties, as part of party wall award process prior to commencement of works.	Low	The basement will be adequately designed for the prevailing ground conditions. A baseline will be established to demonstrate no impact to the neighbouring property during and after construction. This is a standard party wall award process.
	12	The basement will extend up to the boundary with the pavement and extend below the level of the			Unchanged.	Propping will be required as part of the detailed design of the temporary works and permanent design of the substructure (see Section8 for concept design).	Low	This will ensure the integrity of the highway during and after construction.

Category	Question	Potential Impact	Possible Consequence	Work undertaken to investigate likelihood and significance of impact	Revised conceptual model following ground Investigation	Mitigation measures	Risk following mitigation	Justification
		pavement.				Agree proposals with Camden's Highways Department as part of the standard AIP process.		

Table 7.1: Assessment of Impacts

8.0 CONCEPTUAL DESIGN

8.1 Based on the assessment of potential impacts, initial concept design solutions are set out below to demonstrate how the temporary and permanent works might be progressed as part of the detailed design process in accordance with Table 7.1.

8.2 Construction of the new basement is envisaged as a watertight reinforced concrete box up to ground level. To avoid loss of residential space within the basement, the waterproofing would be a membrane system to the outside of the concrete wall; together with reinforcement spacing and a concrete mix designed to watertight concrete criteria.

Surveys & Consents

8.3 To inform both the permanent design and the temporary works, it is proposed to agree with the client for trial pits to be dug along the walls to the pub building; to identify the projection and depth of their foundations.

8.4 The only building in close proximity (less than 6m) is the pub building; which is in the same ownership. So the work will not be subject to a Party Wall award; in relation to the basement works being within 3m or where it will be below a 45 degree line from the underside of the existing foundation. However, the same safeguards are applicable and prior to excavation work commencing, a visual condition survey will be carried out of the site boundary and of the immediately adjacent property. This record will enable a comparative assessment, should it be considered that the works have resulted in any movement cracks to the building.

8.5 Although beyond the 6m zone defined by the Party Wall award process, it will be prudent for a visual condition survey of the nearby properties on the far side of Kingstown Street to also be undertaken.

8.6 Agreement will be required with the Highway Authority, given that the basement will abut the back and will thus uphold the integrity of the pavement. This would be through the Approval in Principle submission and approval process.

Temporary Works

8.7 The contractor will be required to provide a detailed method statement, setting out their proposed method for forming the excavation, maintaining the stability of the sides of the excavation until such time as the new concrete basement is sufficiently complete and for construction of the permanent basement slab, walls and ground slab. The method statement will also set out how the site will be secured by appropriate hoarding during the demolition and construction phase to ensure safety to the general public including neighbours.

8.8 In outline, excavation for basement construction and removal of spoil will be accompanied by installation of temporary sheet piles to the boundary of the opening; embedded; to secure the bottom of the sheets and with propped wailing beams to support the upper part of the sheets in place. The temporary works design criteria will be set to limit potential movement of the soil behind the sheets, to limit the risk of undue movement and hence damage to adjacent properties.

8.9 Given that the basement is single storey, it is expected that just a single horizontal wailer beam will be required to support the sheet piles, near the existing ground level. The temporary sheets would thus be designed to support the applied ground, nominal groundwater loads and also those resulting from the spread of foundation load from the neighbouring property and road. To inform this part of the design, the trial pits mentioned above would provide detail on the depth at which these loads are to be applied. To minimise horizontal deflection of the wailer beam, it would be propped at regular centres; with the props taken down at an incline to temporary footings within the excavation or horizontally across the excavation.

8.10 Given the granular nature of the Made Ground, the contractor's method statement will need to include provision for dewatering of any seepages in to the basement excavation.

Permanent Works

8.11 Construction of the new basement is envisaged as a watertight reinforced concrete box up to ground level; to include the area of the sunken garden. To avoid loss of residential space within the basement, the waterproofing would be a membrane system to the outside of the concrete wall; together with reinforcement spacing and a concrete mix designed to watertight concrete criteria. Granular backfill will be installed behind the wall, on removal of the temporary sheet piles.

8.12 For the new dwelling, the walls would be designed as propped by the basement slab and also by the ground floor slab, acting as a plate across the building. Around the sunken garden, the walls will be freestanding. Regardless of the lack of groundwater identified within the borehole, the walls and basement slab design would include for the appropriate depth of hydrostatic water pressure; using the requirements of the British Standard for Basement construction (BS.8004).

8.13 The concrete mix for all concrete in the ground will be to suit the results of the chemical tests; that is Design Class DS-3 in accordance with BRE Special Digest 1.

8.14 Construction of the reinforced concrete base and wall and installation of the waterproof membrane behind it would be detailed around the temporary props, so that they could remain in place until sufficient of the concrete works have been completed. Except where the concrete wall is designed as a free standing cantilever, such as around the sunken

garden, this will be once a part of the ground slab is in place to prop that portion of the wall. The props and wailer beam can then be removed and the penetrations made good.

8.15 The foul and surface water drainage design should be further developed following a drainage survey and consultation with Thames Water.

8.16 The drainage design should include sufficient sub-surface drainage for the grassed area/sunken garden as part of the detailed drainage design. This may include the incorporation of granular fill layer beneath the soil and/or a rainwater harvesting tank with an overflow to the surface water drainage system, pumped to the public sewer network. Pumped drainage will require duty standby pumps to be included.

8.17 The entrance threshold to the property should ideally be 32.5mAOD, to reduce the risk of surface water flooding to the property. It is noted that there is considerable uncertainty in the derivation of this level, and we strongly advise that a suitable freeboard should be considered as part of the detailed design

8.18 Ensure that the building structure is waterproofed to at least 32.5mAOD

9.0 CONCLUSIONS

9.1 A Basement Impact Assessment has been carried out in accordance with the guidance published by the London Borough of Camden.

9.2 Based on our current understanding of the site setting and ground conditions, we do not envisage that the proposed development will result in material impacts on subterranean groundwater flow, surface water flow and flooding and slope stability; as long as the mitigation measures set out in Table 7.1 are incorporated into the detailed design of the temporary and permanent works. The detailed design should develop the concept design set out in Section 8.0 of this report.

9.3 In order to minimise any negative environmental impacts to neighbouring residents associated with the construction process, all demolition and construction should be undertaken in accordance with the Considerate Constructors Scheme standards and the ICE demolition Protocol (www.ice.org,uk) and should have regard to the Guide for Contractors Working in Camden Guidance (dated Feb 2008) and the GLA's best practice guidance document The Control of Dust and Emissions from Construction (www.London.gov.uk). An outline Construction Management Plan (CMP) has been prepared as part of the planning submission.

10.0 REFERENCES

i. Bakewell, I. (2008) *North London Strategic Flood Risk Assessment.* Mouchel.

ii. London Borough of Camden Planning Guidance CPG4 Basements and Lightwells (2013).

iii. Ove Arup & Partners (2010) Camden geological, hydrogeological and hydrological study. Guidance for Subterranean Development for London Borough of Camden, November 2010.

iv. Find GroundSure EnviroInsight Report (38121).

v. Find GroundSure GeoInsight Report (38120).

vi. Find Historic Mapping (38119)

vii. BSI British Standard, BS5930:1999+A2:2010 "Code of Practice for Site Investigations".

viii. BS EN ISO 22475-1:2006 & 22475-2/3:2011 Geotechnical investigation and testing. Sampling methods and groundwater measurements.

ix. BS EN ISO 22476:2005+A1:2011 Geotechnical investigation and testing. Various.

x. BS EN ISO 14688-2:2004 Geotechnical investigation and testing. Identification and classification of soil. Principles for a classification.

xi. BSI British Standard. 1990. BS1377:1990, "Methods of Test for Soils for Civil Engineering Purposes".

xii. BS EN 1997-1 Eurocode 7 Part 1 "General Rules".

xiii. BS EN 1997-2 Eurocode 7 Part 2 "Ground Investigation and Testing"

PLANS

APPENDICES

APPENDIX A

APPENDICES

APPENDIX A

Asset Location Search

Thames Water Property Searches
12Vastern Road
READING
RG1 8DB

Search address supplied	The Albert 11 Princess Road London NW1 8JR
Your reference	P14-678
Our reference	ALS/ALS Standard/2014_2748246
Search date	25 April 2014

You are now able to order your Asset Location Search requests online by visiting
www.thameswater-propertysearches.co.uk

Asset Location Search

Search address supplied: The Albert, 11, Princess Road, London, NW1 8JR

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This searchprovides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk

Asset Location Search

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0845 920 0800. The Customer Centre can also arrange for a full flow and

pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Asset Location Search

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

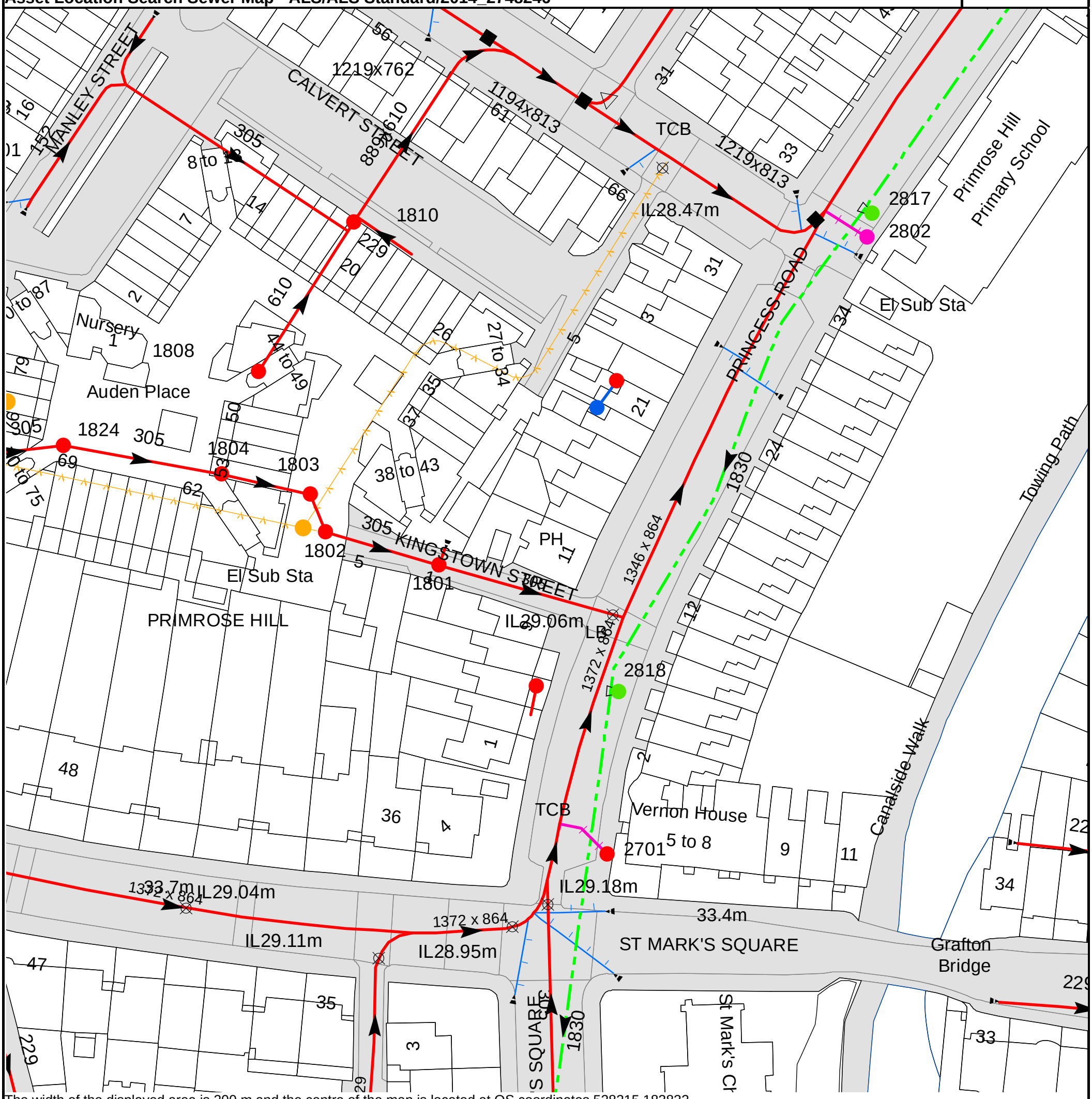
Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2014_2748246



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 528215,183832

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

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
1824	n/a	n/a
1804	n/a	n/a
1808	31.49	29.7
1803	n/a	n/a
1802	n/a	n/a
1810	31.37	28.8
1801	n/a	n/a
28CC	n/a	n/a
28DJ	n/a	n/a
2701	n/a	n/a
28EA	n/a	n/a
2818	32.83	20.47
2802	n/a	n/a
2817	32.6	21

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

Air Valve

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

Control Valve

Drop Pipe

Ancillary

Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

Outfall

Undefined End

Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

Proposed

Abandoned Sewer

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.

2) All measurements on the plans are metric.

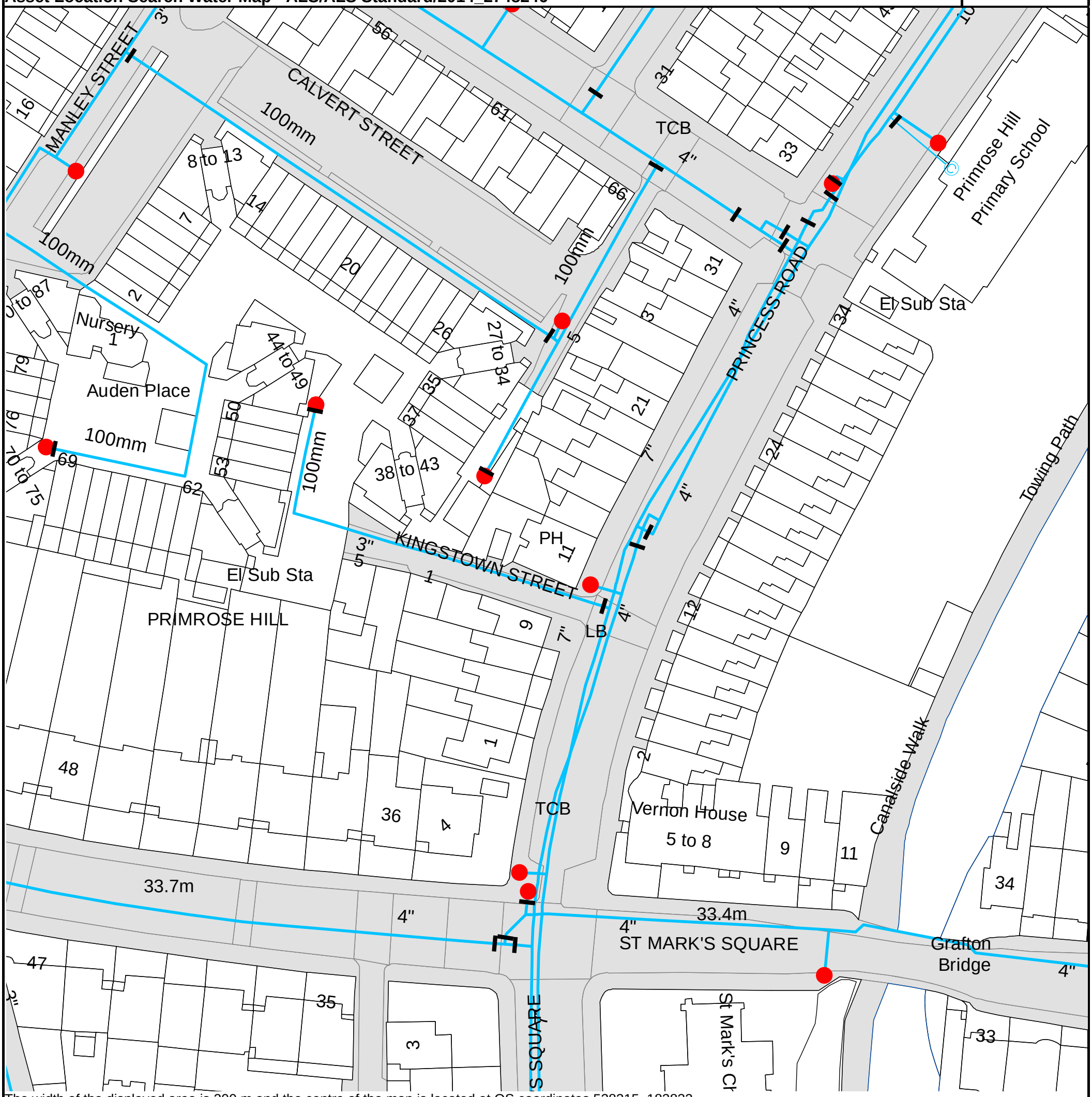
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.

4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

5) 'na' or '0' on a manhole level indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.

Asset Location Search Water Map - ALS/ALS Standard/2014_2748246



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 528215, 183832.

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

4"

Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

16"

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.

3" SUPPLY

Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

3" FIRE

Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

3" METERED

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.

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

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')

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: Indiates 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.

Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL`s terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0845 9200 800.

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to him at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	**BACS Payment**	**Telephone Banking**	**Cheque**
Call **0845 070 9148** quoting your invoice number starting CBA or ADS.	Account number **90478703** Sort code **60-00-01** A remittance advice must be sent to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW.** or email **ps.billing@thameswater.co.uk**	By calling your bank and quoting: Account number **90478703** Sort code **60-00-01** and your invoice number	Made payable to '**Thames Water Utilities Ltd**' Write your Thames Water account number on the back. Send to: **Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW** or by DX to **151280 Slough 13**

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.

Sewer Flooding

History Enquiry

Thames Water Property Searches

Vastern Road

Search address supplied

The Albert
11
Princess Road
London
NW1 8JR

Your reference P14-678

Our reference SFH/SFH Standard/2014_2748244

Received date **25 April 2014**

Search date **25 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
I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

Sewer Flooding

History Enquiry

Search address supplied: The Albert,11,Princess Road,London,NW1 8JR

This search is recommended to check for any sewer flooding in a specific address or area

TWUL, trading as Property Searches, are responsible in respect of the following:-

(i) any negligent or incorrect entry in the records searched;

(ii) any negligent or incorrect interpretation of the records searched;

(iii) and any negligent or incorrect recording of that interpretation in the search report

(iv) compensation payments

Thames Water Utilities Ltd

Property Searches
PO Box 3189
Slough SL1 4WW

DX 151280 Slough 13

T 0118 925 1504
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I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

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

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
I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Thames Water Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

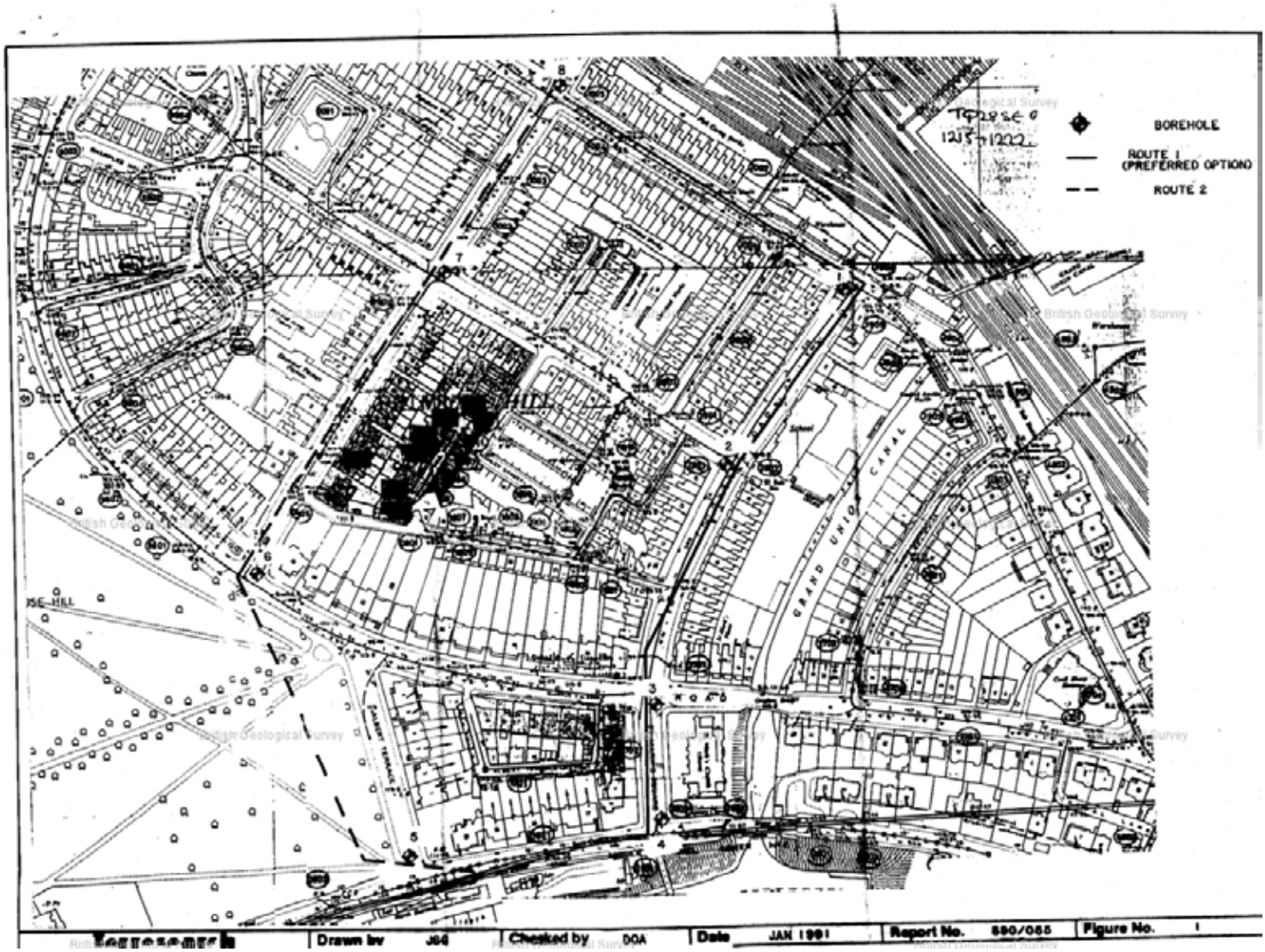
You can get more information about the PCCB from www.propertycodes.org.uk

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

APPENDIX B

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592797 : BGS Reference: TQ28SE1216
British National Grid (27700) : 528250,183880
Report an issue with this borehole



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592797 : BGS Reference: TQ28SE1216
British National Grid (27700) : 528250,183880
Report an issue with this borehole

TQ28SE / 1216

Contract: Gloucester Avenue
Client: London Borough of Camden

Borehole No. 2
Sheet No. 1 Of 2.
Depth 0 to 10 metres.

Equipment and Methods
Light Cable Percussion Boring
150mm Diameter

Orientation : Vertical

Ground Level : m.O.D.

Coordinates :

Job Number : S90/055

Location : 2825, 8388

Dates : 23/10/90
24/10/90

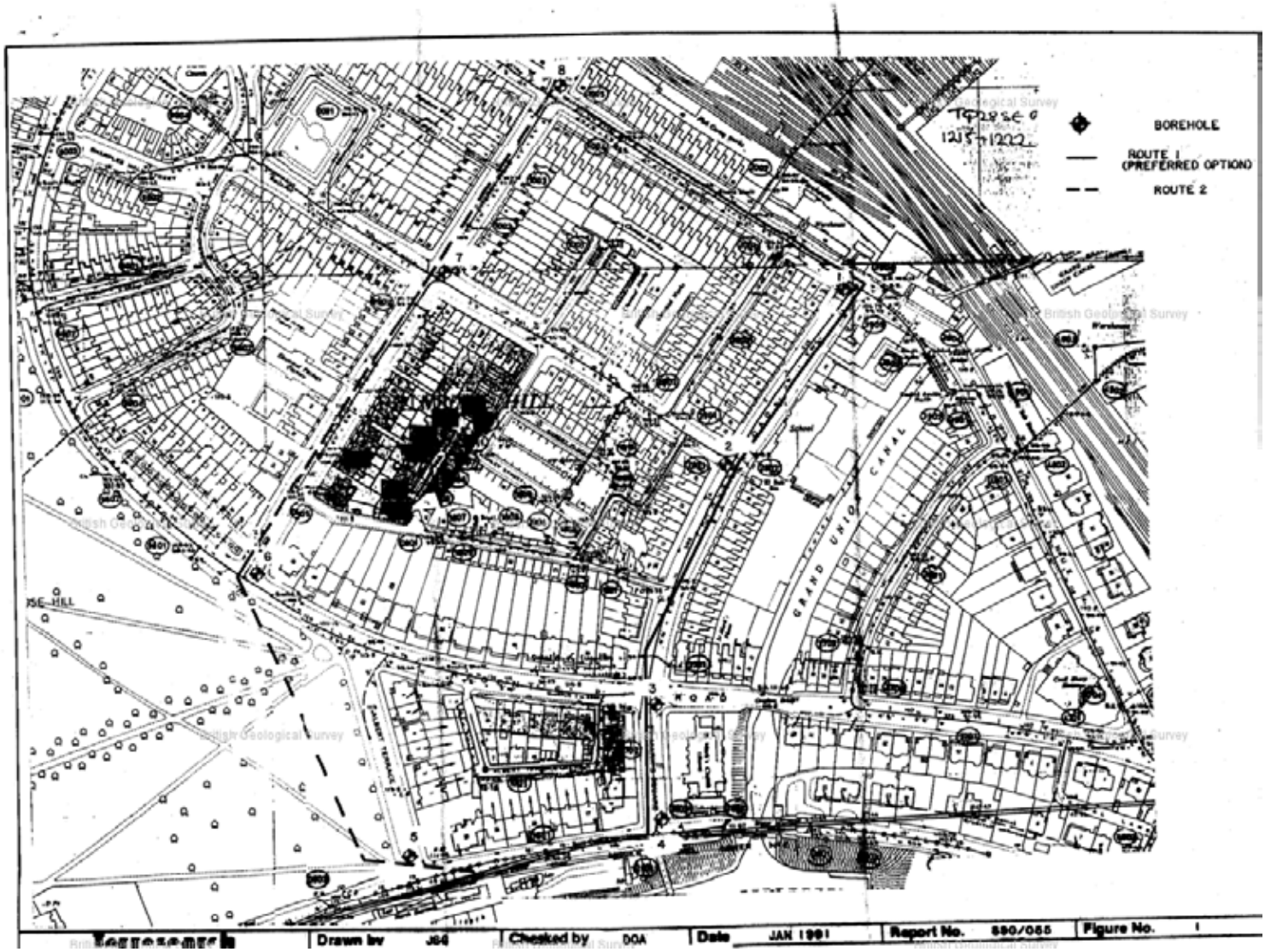
Daily Prog.	Water Levels	Remarks	In Situ Tests	Samples Taken	Depth (Thick)	Reduced Level	Description	Legend
				B	0.00		MADE GROUND (road surface over ash and brick fragments)	
					(1.00)			
				J	1.00		MADE GROUND (soft clayey ash and brick fragments)	
				B	(1.00)			
				J	2.00		MADE GROUND (soft brown sandy clay with brick fragments)	
				B	(1.30)			
23/10				J	3.30			
				B	3.50		Soft to firm brown/grey mottled silty CLAY with occasional sandy pockets (transition zone)	
				U			Firm to stiff brown and slightly grey mottled silty CLAY	
				J				
23/10				J				
				U				
				J	(5.00)			
				J				
				U				
				J				
				J				
				U	8.50		Stiff to very stiff, dark brown slightly fissured silty CLAY	
				J				
					(3.00)			
				J				
					10.00			

						Continued		
Operator DOA	General Remarks:						Appendix 1	
Scale 10m/sheet							Sheet No. 3	

British Geological Survey British Geological Survey British Geological Survey
British Geological Survey British Geological Survey British Geological Survey

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592798 : BGS Reference: TQ28SE1217
British National Grid (27700) : 528210,183750
Report an issue with this borehole



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592798 : BGS Reference: TQ28SE1217
British National Grid (27700) : 528210,183750
Report an issue with this borehole

TQ28 SE / 1217

Contract: Gloucester Avenue
Client: London Borough of Camden

Borehole No. 3
Sheet No. 1 Of 2.
Depth 0 to 10 metres.

Equipment and Methods
Light Cable Percussion Boring
150mm Diameter

Orientation : Vertical

Ground Level : m.O.D.

Coordinates :

Job Number : S90/055

Location : 2821, 8375

Dates : 25/10/90
29/10/90

Daily Prog.	Water Levels	Remarks	In Situ Tests	Samples Taken	Depth (Thick)	Reduced Level	Description	Legend
					0.00			
					(0.70)		MADE GROUND (tarmac over concrete, ash and brick fragments)	
			S 17	B J	0.70		MADE GROUND (firm brown clay, ash with brick fragments)	
			S 10	B J	(1.80)			
			S 11	J	2.50		Firm to stiff brown silty CLAY with grey silty partings	
26/10				U J				
				J	(3.50)			
				U J				
				J				
				U J	6.00		Stiff to very stiff brown slightly fissured silty CLAY	
				J				
				U J	(4.50)			
				J				
				U J				
					10.00			

							Continued	

Operator DOA	General Remarks:	Appendix 1
Scale 10m/sheet		Sheet No. 6

British Geological Survey British Geological Survey British Geological Survey

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592798 : BGS Reference: TQ28SE1217
British National Grid (27700) : 528210,183750
Report an issue with this borehole

TQ28SE /1217

Contract: Gloucester Avenue
Client: London Borough of Camden

Borehole No. 3
Sheet No. 2 of 2.
Depth 10 to 20 metres.

Equipment and Methods
Light Cable Percussion Boring
150mm Diameter

Orientation : Vertical

Ground Level : m.O.D.

Coordinates :

Job Number : S90/055

Location :

Dates : 25/10/90
29/10/90

Daily Prog.	Water Levels	Remarks	In Situ Tests	Samples Taken	Depth (Thick)	Reduced Level	Description	Legend
				J	10.00			
					(4.50)		Stiff to very stiff brown slightly fissured silty CLAY	
				U	10.50			
							Very stiff, dark brown/grey fissured silty CLAY	
				J	(1.85)			
				U				
	26/10	Minor water seepage	C 50	J W B U	12.35 (0.45) 12.80			
				J			Grey CLAYSTONE	
				J	(2.00)		Very stiff dark grey fissured silty CLAY	
				U J				
			C 50		14.80 14.85			
				J			Grey CLAYSTONE	
				U			Very stiff dark grey fissured silty CLAY	
				J	(5.15)			
				J				
				U				
				J				
				J				
				U				
26/10				J	20.00			

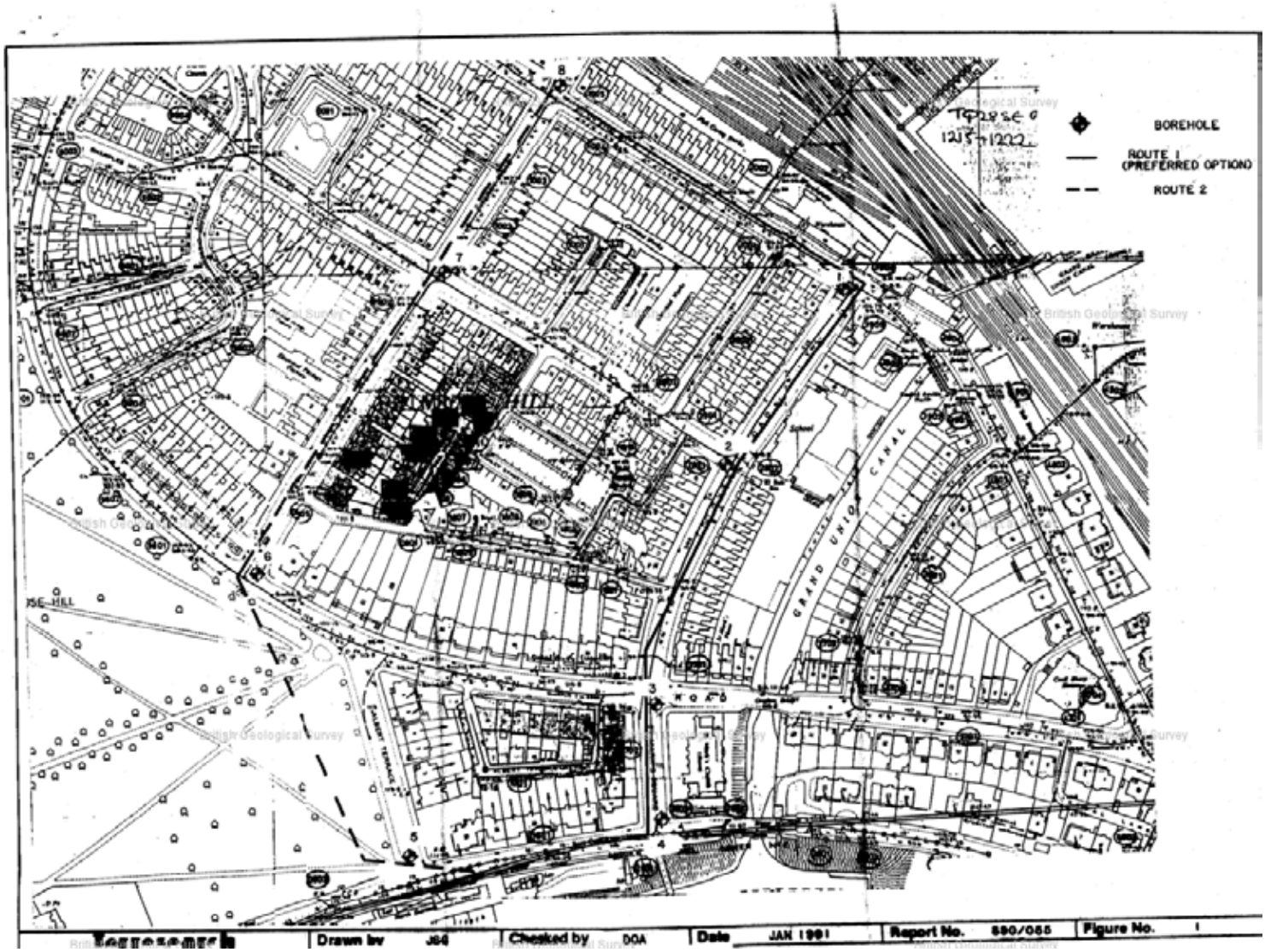
End of Borehole

Operator DOA	General Remarks:	Appendix 1
Scale 10m/sheet		Sheet No. 7

British Geological Survey British Geological Survey British Geological Survey

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592801 : BGS Reference: TQ28SE1220
British National Grid (27700) : 527990,183830
Report an issue with this borehole



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592801 : BGS Reference: TQ28SE1220
British National Grid (27700) : 527990,183830
Report an issue with this borehole

TQ28 SE /1220

Contract: Gloucester Avenue
Client: London Borough of Camden

Borehole No. 6
Sheet No. 1 Of 2.
Depth 0 to 10 metres.

Equipment and Methods
Light Cable Percussion Boring
150mm Diameter

Orientation : Vertical

Ground Level : m.O.D.

Coordinates :

Job Number : S90/055

Location : 2799,8383

Dates : 1/11/90

Daily Prog.	Water Levels	Remarks	In Situ Tests	Samples Taken	Depth (Thick)	Reduced Level	Description	Legend
				B	0.00			
					(0.35)		MADE GROUND (road surface over reinforced concrete)	
				B	0.35			
					(0.95)		MADE GROUND (firm brown clay and brick fragments)	
			S 8	J	1.30			
1/11				J			Firm to stiff brown/grey mottled silty CLAY	
			S 10	U				
				J				
				B				
					(4.00)			
				U				
				J				
				J				
				U	5.30			
				J			Stiff to very stiff, brown slightly fissured silty CLAY	
				J				
				U				
				J				
					(4.50)			
				J				
				U				
				J				
				J				
				U	9.80		Very stiff dark brown to grey fissured silty CLAY	
					10.00			

						Continued	

Operator DOA	General Remarks:	Appendix 1
Scale 10m/sheet		Sheet No. 16

British Geological Survey British Geological Survey British Geological Survey

British Geological Survey British Geological Survey British Geological Survey

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

BGS ID: 592801 : BGS Reference: TQ28SE1220
British National Grid (27700) : 527990,183830
Report an issue with this borehole

TQ28 SE /1220

Contract: Gloucester Avenue
Client: London Borough of Camden

Borehole No. 6
Sheet No. 2 Of 2.
Depth 10 to 20 metres.

Equipment and Methods
Light Cable Percussion Boring
150mm Diameter

Orientation : Vertical

Ground Level : m.O.D.

Coordinates :

Job Number : S90/055

Location :

Dates : 1/11/90

Daily Prog.	Water Levels	Remarks	In Situ Tests	Samples Taken	Depth (Thick)	Reduced Level	Description	Legend
				U J	10.00		Very stiff dark brown to grey fissured silty CLAY	
				J				
				U J				
				J	(5.20)			
				U J				
				J				
				U J				
1/11					15.00		End of Borehole	

British Geological Survey

Operator DOA	General Remarks:	Appendix 1
Scale 10m/sheet		Sheet No. 17

British Geological Survey British Geological Survey British Geological Survey

PLANS

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Rev.	Amendment	Date
A	Proposal amended	17.10.2014

BROOKS / MURRAY
ARCHITECTS
8-10 NEW NORTH PLACE
LONDON EC2A 4JA
TEL 020 7739 9955
FAX 020 7739 9944
architects@brooksmurray.com

CLIENT:
Springcroft Constructions

JOB:
11 Princess Road
Primrose Hill
London, NW1 8JR

DATE: April 2014
SCALE: 1:200 @ A3

DRAWING TITLE:
Proposed Site Plan

DRAWING NUMBER:
985.03 - P2 - 101 A

0 1 2 3 4 5 10m

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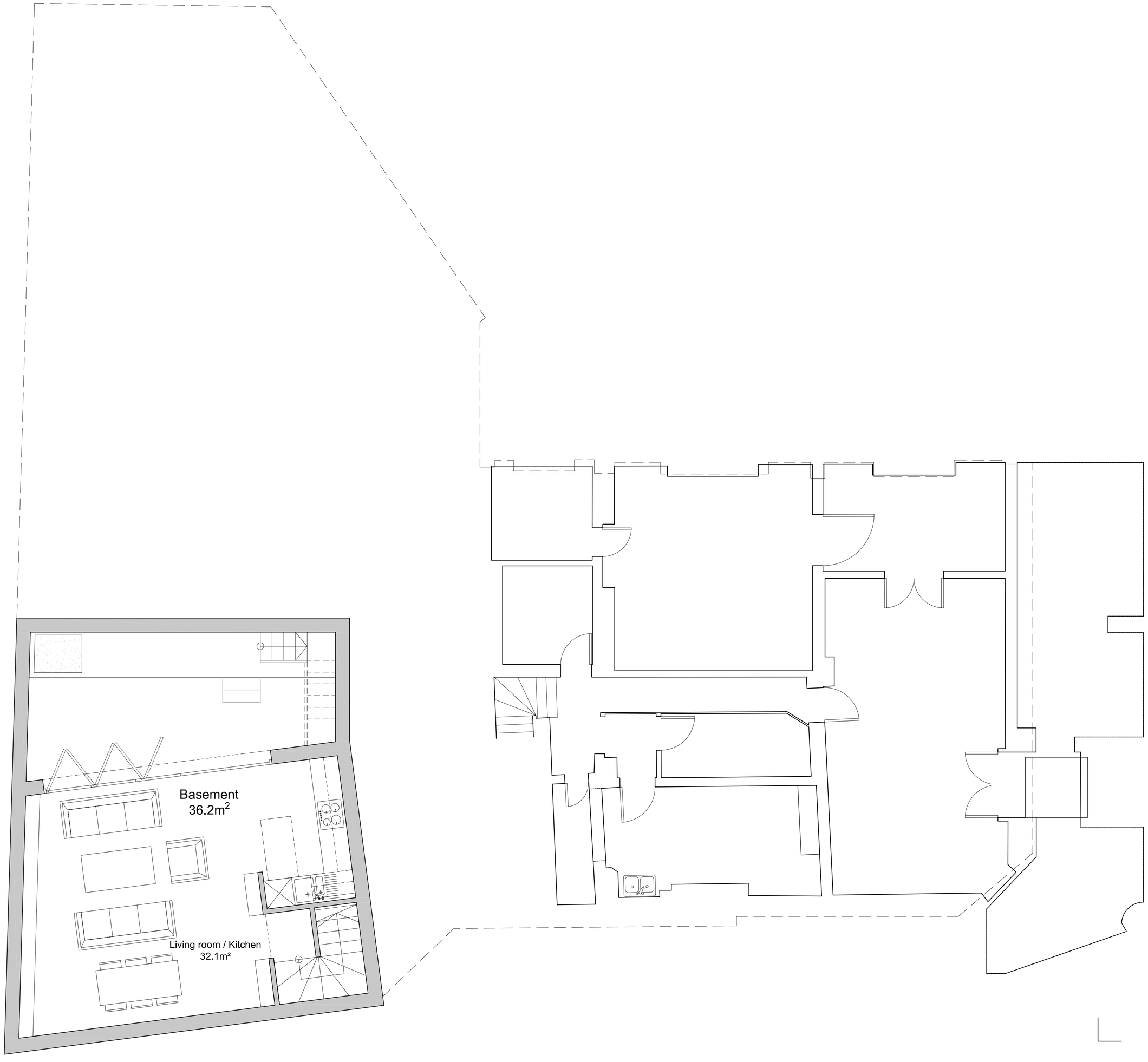

REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Progress Update	23.07.2014

BROOKS / MURRAY
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8-10 NEW NORTH PLACE
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FAX 020 7739 9944

architects@brooksmurray.com

CLIENT:
Springcroft Constructions

JOB:
11 Princess Road
Primrose Hill
London, NW1 8JR

DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Basement Plan

DRAWING NUMBER:
985.03 - P2 - 109 B

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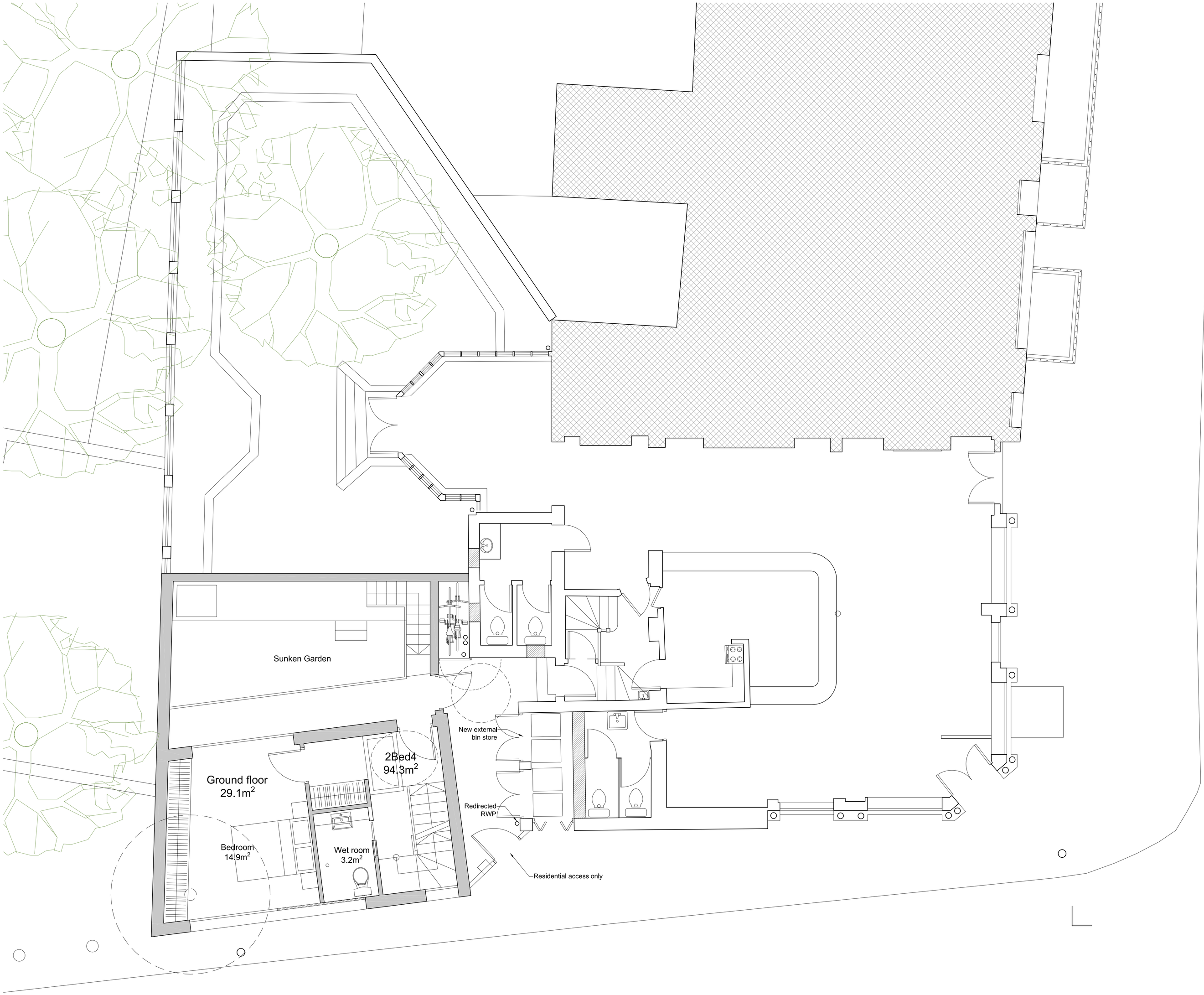

REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Progress Update	23.07.2014

BROOKS / MURRAY
ARCHITECTS

8-10 NEW NORTH PLACE
LONDON EC2A 4JA

TEL 020 7739 9955
FAX 020 7739 9944

architects@brooksmurray.com

CLIENT:
TLX Capital Ltd

JOB:
11 Princess Road
Primrose Hill
London, NW1 8JR

DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Ground Floor Plan

DRAWING NUMBER:
985.03 - P2 - 110 B

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Rev.	Amendment	Date
B	Proposal amended	17.10.2014
A	PV panels added to roof	23.07.2014

BROOKS / MURRAY
ARCHITECTS
8-10 NEW NORTH PLACE
LONDON EC2A 4JA
TEL 020 7739 9955
FAX 020 7739 9944
architects@brooksmurray.com

CLIENT:
TLX Capital Ltd

JOB:
11 Princess Road
Primrose Hill
London, NW1 8JR

DATE: April 2014
SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Roof Plan

DRAWING NUMBER:
985.03 - P2 - 113 B

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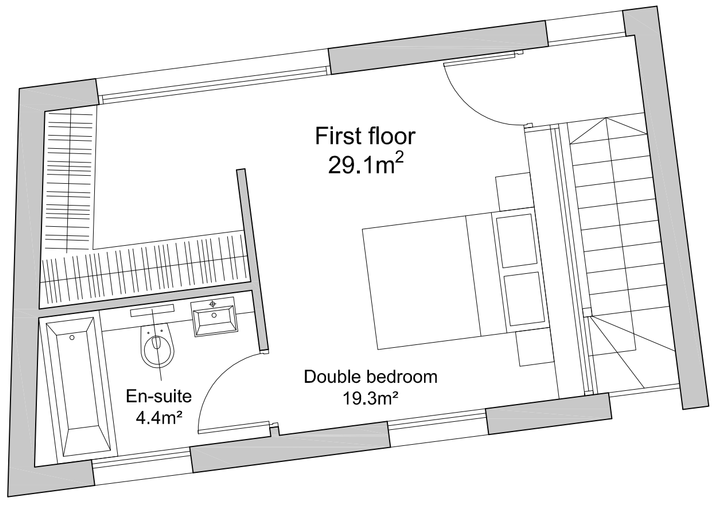
Front Elevation



First Floor

0 1 2 3 4 5m

REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Previous South East Elevation	23.07.2014

BROOKS / MURRAY

ARCHITECTS

8-10 NEW NORTH PLACE
LONDON EC2A 4JA

TEL 020 7739 9955
FAX 020 7739 9944

architects@brooksmurray.com

CLIENT:
TLX Capital Ltd

JOB:
11 Princess Road
Primrose Hill
London, NW1 8JR

DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Front Elev and
First Floor Plan

DRAWING NUMBER:
985.03 - P2 - 150 B

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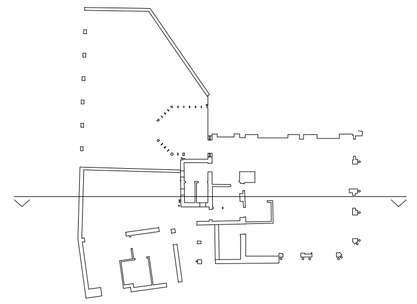

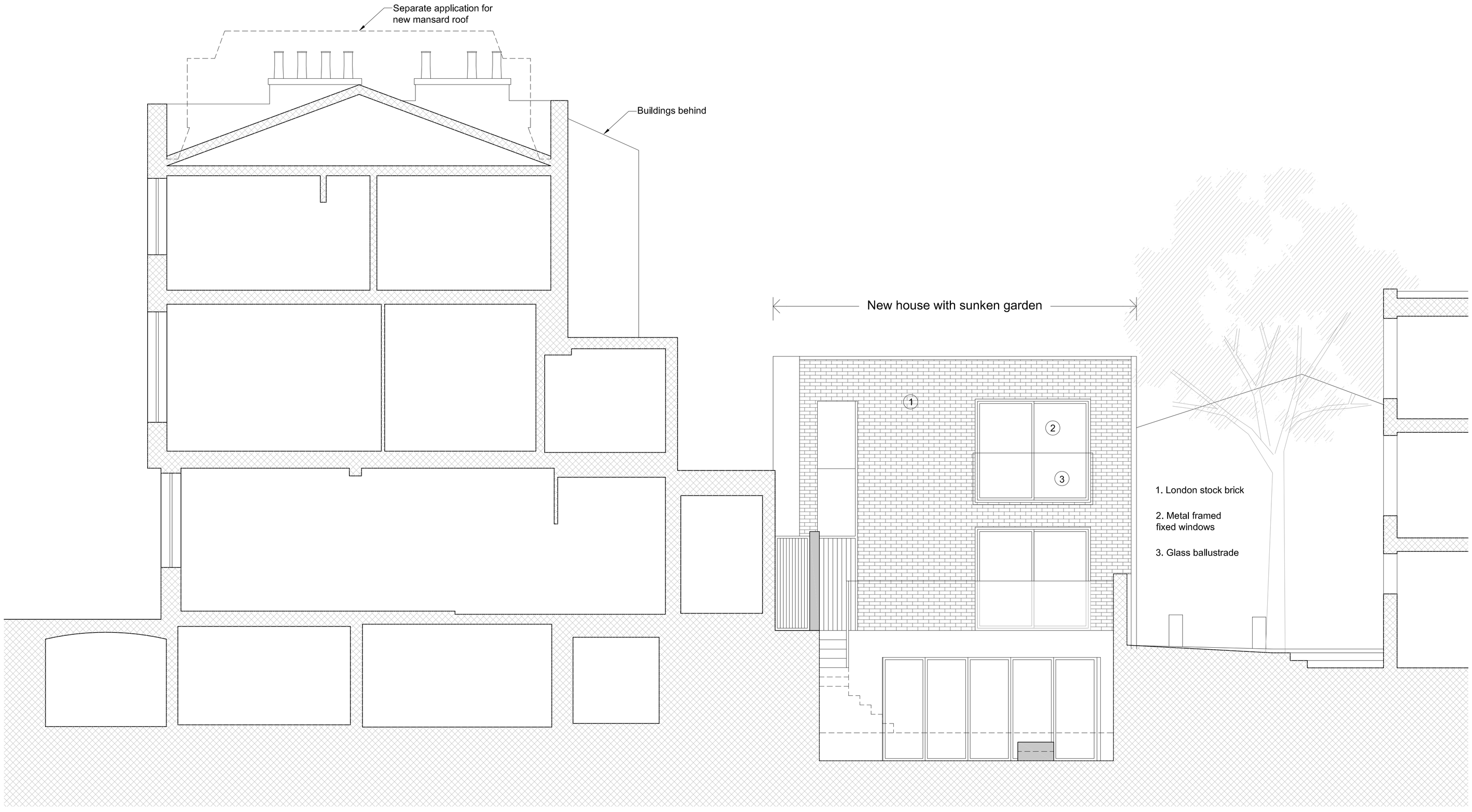

REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Previous South West Elevation	23.07.2014

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DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Rear Elevation

DRAWING NUMBER:
985.03 - P2 - 151 B

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REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Previous Rear Elevation	23.07.2014

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DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed North-West Elevation

DRAWING NUMBER:
985.03 - P2 - 152 B

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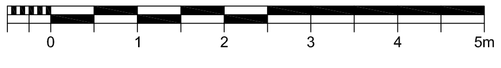

REV.	AMENDMENT	DATE
C		
B		
A	Proposal amended	17.10.2014

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DATE:
April 2014

SCALE:
1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed South-East Elevation

DRAWING NUMBER:
985.03 - P2 - 153 A

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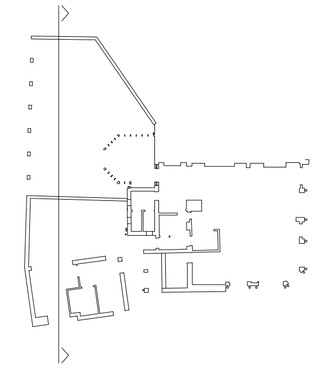

REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Previous Section A Eliminated	23.07.2014

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DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Section A

DRAWING NUMBER:
985.03 - P2 - 180 B

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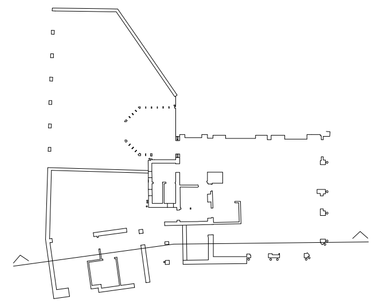

REV.	AMENDMENT	DATE
C		
B	Proposal amended	17.10.2014
A	Previous Section B Eliminated	23.07.2014

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DATE: April 2014

SCALE: 1:100 @ A3 & 1:50 @ A1

DRAWING TITLE:
Proposed Section B

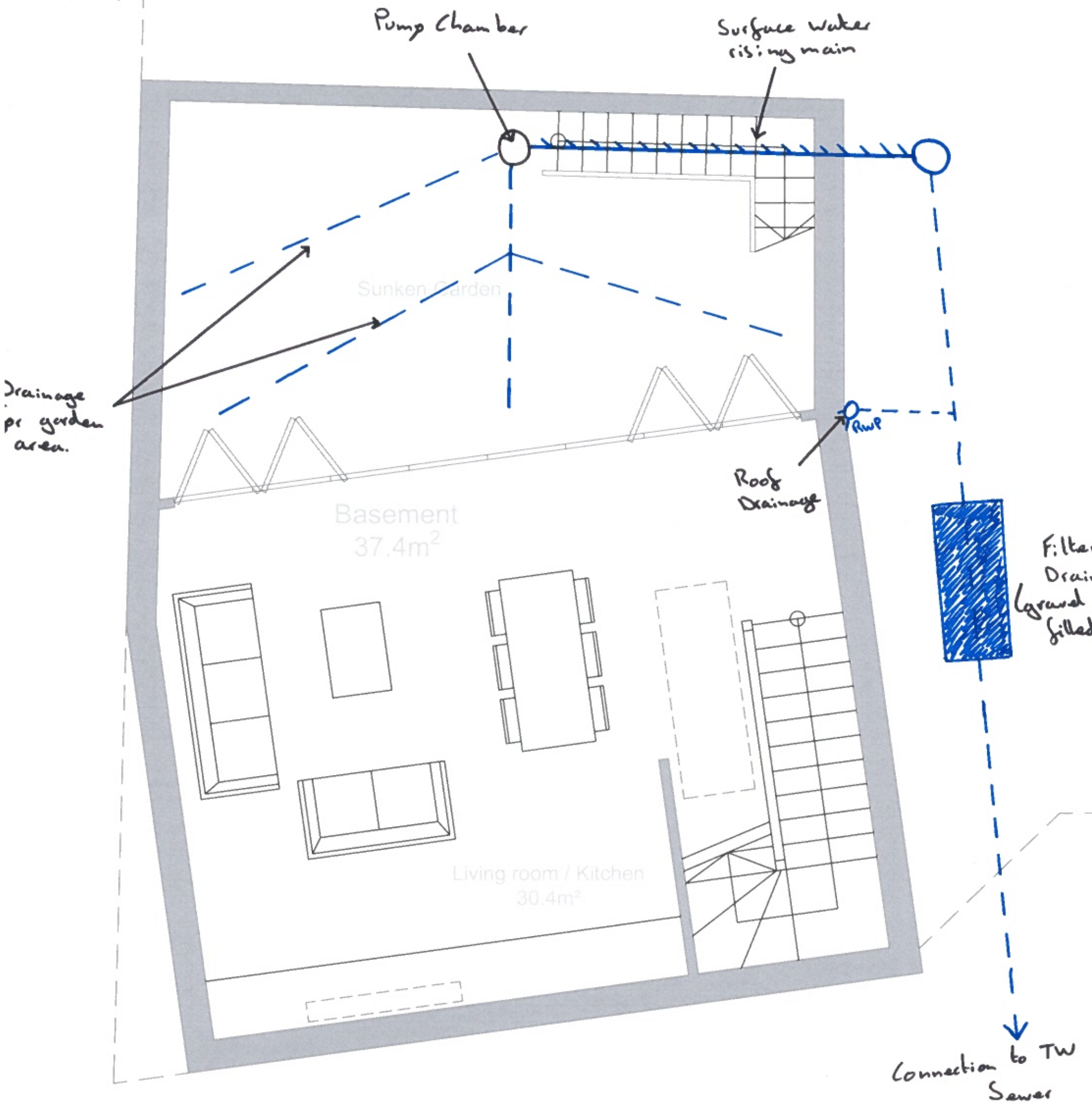
DRAWING NUMBER:
985.03 - P2 - 181 B

P14-678/SK01

Surface Water Drainage Sketch

GS

30/07/14



Notes:

+ Not for construction → Indicative only
+ Drainage / Pipe runs are indicative only and subject to change at the detailed design Stage.