



# **Stag Brewery, Mortlake**

## **Foul Sewage and Utilities Assessment**

For Reselton Properties

February 2018



### Audit sheet

Rev.	Date	Description	Prepared	Verified
A1	February 2018	First Issue	GS/NF	OC
A2	February 2018	Updated to incorporate comments	GS/NF	OC

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### Introduction

This Foul Sewage and Utilities Assessment report has been prepared by Hoare Lea on behalf of Reselton Properties Limited ('the Applicant') in support of three linked planning applications for the comprehensive redevelopment of the former Stag Brewery Site in Mortlake ('the Site') within the London Borough of Richmond Upon Thames ('LBRuT').

The former Stag Brewery Site is bounded by Lower Richmond Road to the south, the river Thames and the Thames Bank to the north, Williams Lane to the east and Bulls Alley (off Mortlake High Street) to the west. The Site is bisected by Ship Lane. The Site currently comprises a mixture of large scale industrial brewing structures, large areas of hardstanding and playing fields.

The redevelopment will provide homes (including affordable homes), accommodation for an older population, complementary commercial uses, community facilities, a new secondary school alongside new open and green spaces throughout. Associated highway improvements are also proposed, which include works at Chalkers Corner junction.

The three planning applications are as follows:

- Application A – hybrid planning application for comprehensive mixed use redevelopment of the former Stag Brewery site consisting of:
  - i. Land to the east of Ship Lane applied for in detail (referred to as 'Development Area 1' throughout); and
  - ii. Land to the west of Ship Lane (excluding the school) applied for in outline detail (referred to as 'Development Area 2' throughout).
- Application B – detailed planning application for the school (on land to the west of Ship Lane).
- Application C – detailed planning application for highways and landscape works at Chalkers Corner.

This report demonstrates early engagement with the electricity, gas, water and sewage utility providers to determine the availability of capacity within the existing infrastructure around the development.





### Summary

The below summary provides a status of the utility applications.

Service	Provider	Quote Received	Summary of Works
Electricity	UKPN	Yes	Installation of 5No. substations at ground level across the proposed development to provide 6000kVA, with connection into the existing network.
Gas	Squire Energy	No	Quotation issued for 2No. energy centre supplies, 26No. commercial supplies and domestic supplies for the town houses. Squire Energy have confirmed receipt of application and in the process of providing a quotation.
Water	Thames Water	Yes	A budget quote has been received from Thames Water detailing the new supply requirements. Within the quotation Thames Water state that they will need to carry out further network analysis.
Drainage	Thames Water	Capacity confirmation requested	A Pre-Development enquiry has been submitted to Thames Water to confirm that the existing public sewer network has the capacity to accommodate the foul flows.



### UK Power Networks – Electricity

#### Asset Search

Existing UKPN record drawings have been obtained indicating HV and LV cable routes around the perimeter of the site and some cable routes on the existing site. There is reference to the 'Watneys Switch House 06864' on UKPN record drawing ref: p216906448 located adjacent to the footbridge in Ship Lane which indicate an existing HV network on site. Through discussions with UKPN this existing capacity is being retained to serve the proposed development. Refer to UKPN Asset Drawings below.

#### Application Requirements

An application has been made to UKPN to provide a new 6000kVA supply for the site (combined application) and install 5No. new substations located at ground floor level across the proposed development.

#### Status

A Budget quote has been received from UKPN for the above proposed works and the current HV capacity on the existing site is to be retained for the proposed development. The next step is to obtain a finalised quotation. Refer to UKPN Budget Quotation below.

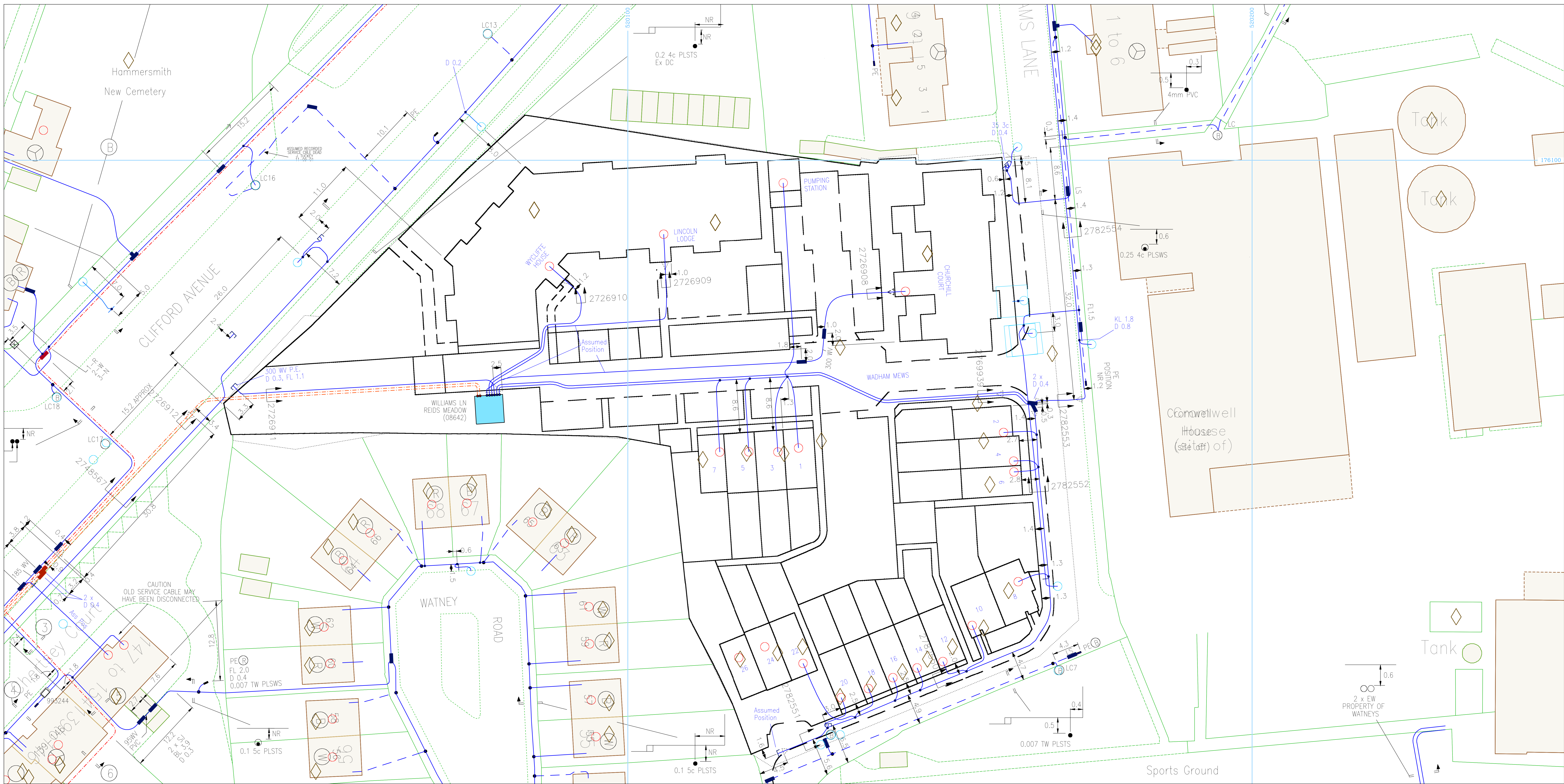
# MEP ENGINEERING

Former Stag Brewery Foul Sewage and Utilities Assessment



UKPN Asset Drawings





Plotted On : 24/01/2017

Plotted By : Kav Singh

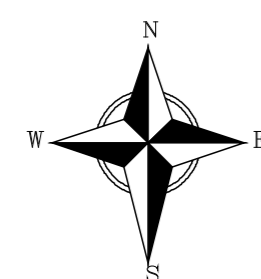
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Tel 0800 0565 866  
Fax 08701 963782



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**PRIMARY CABLES**  
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1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
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6. The information provided must be given to all people working near UK Power Networks' plant & equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
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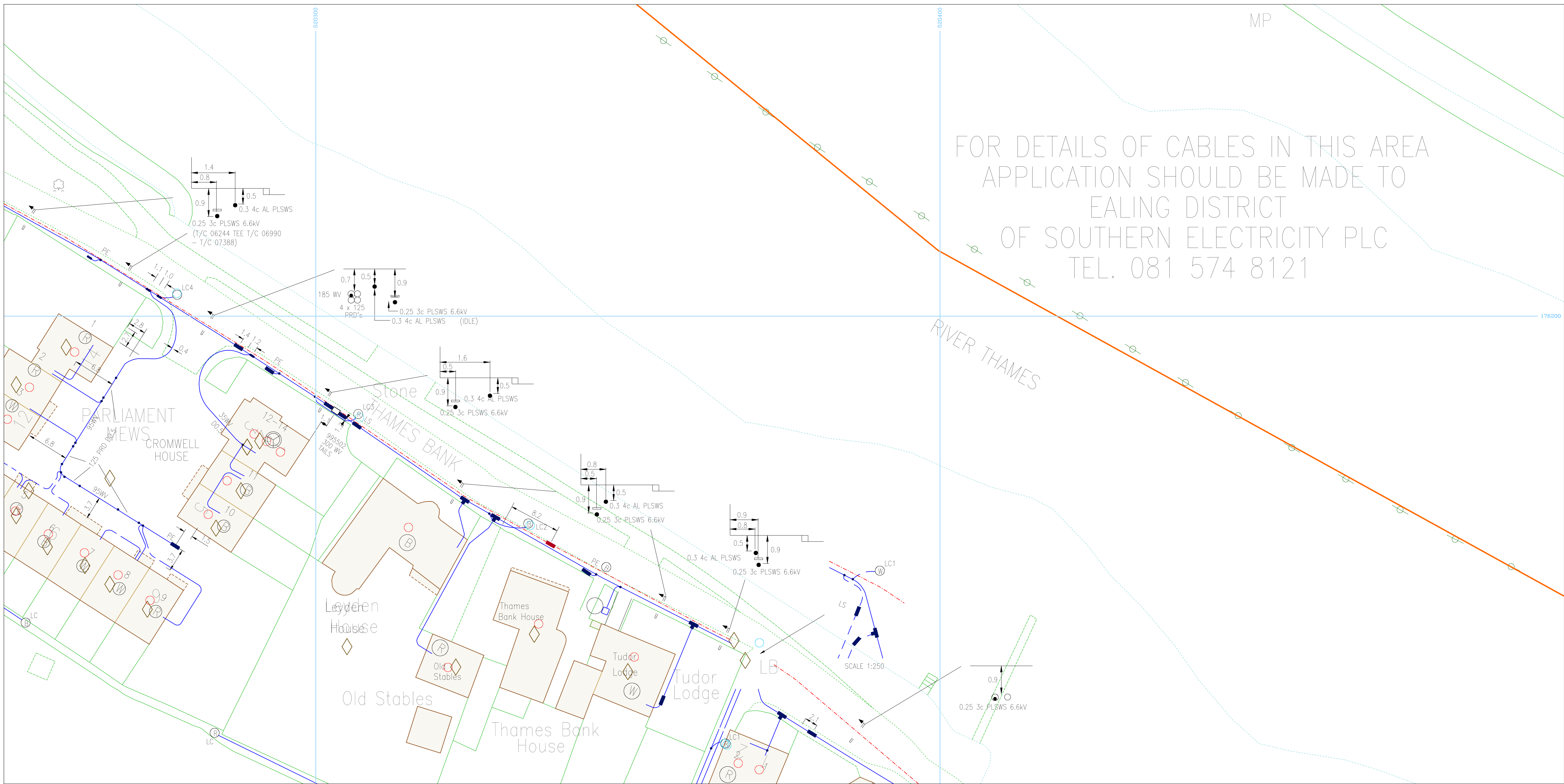
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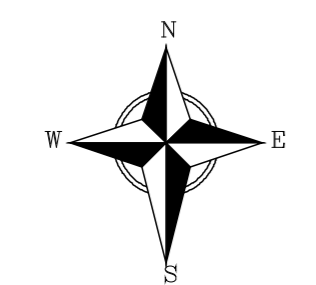


FOR DETAILS OF CABLES IN THIS AREA  
APPLICATION SHOULD BE MADE TO  
EALING DISTRICT  
OF SOUTHERN ELECTRICITY PLC  
TEL. 081 574 8121

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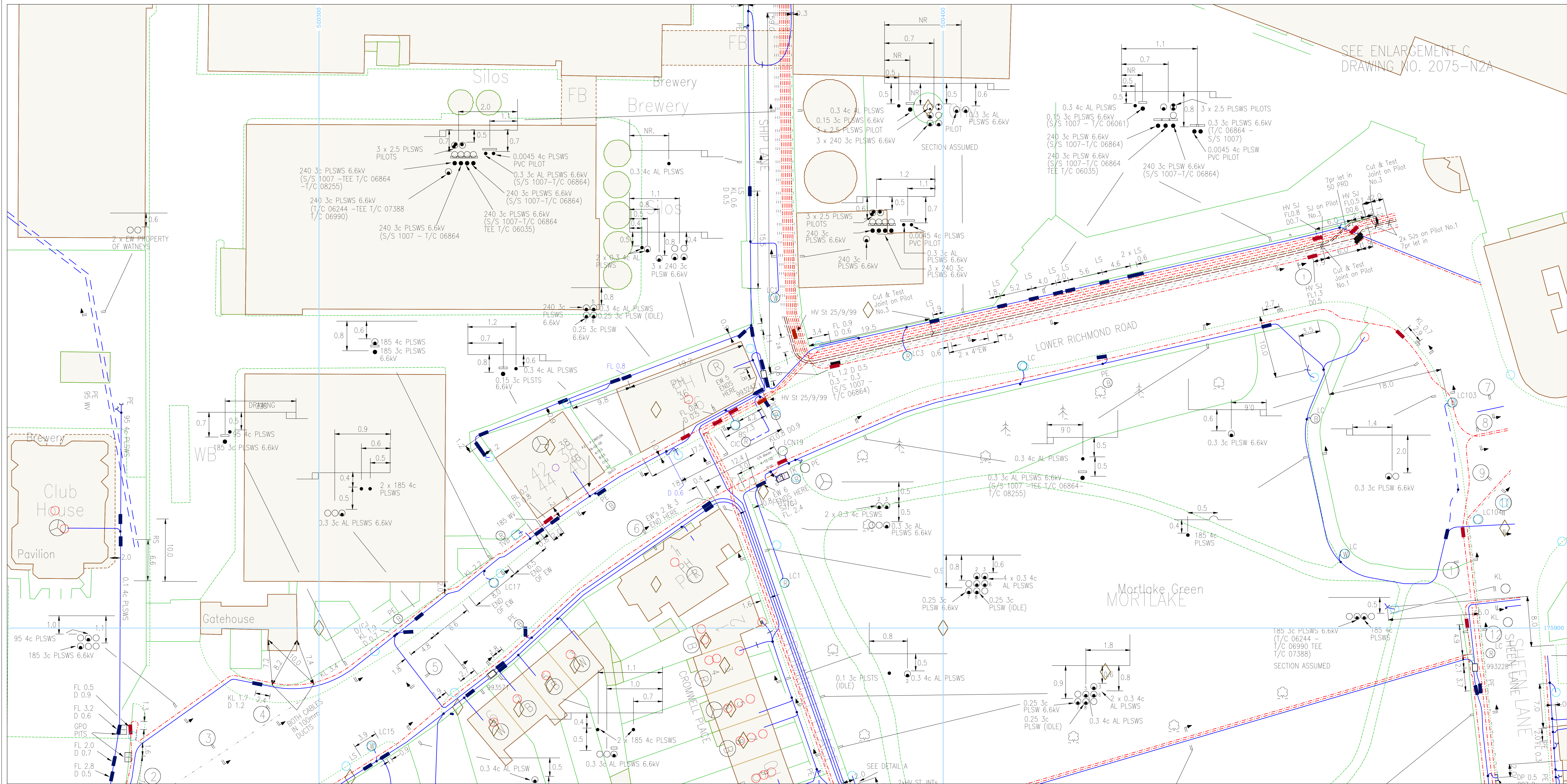
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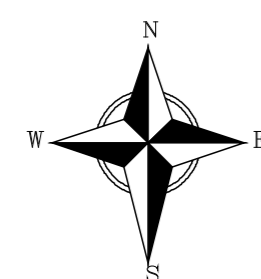
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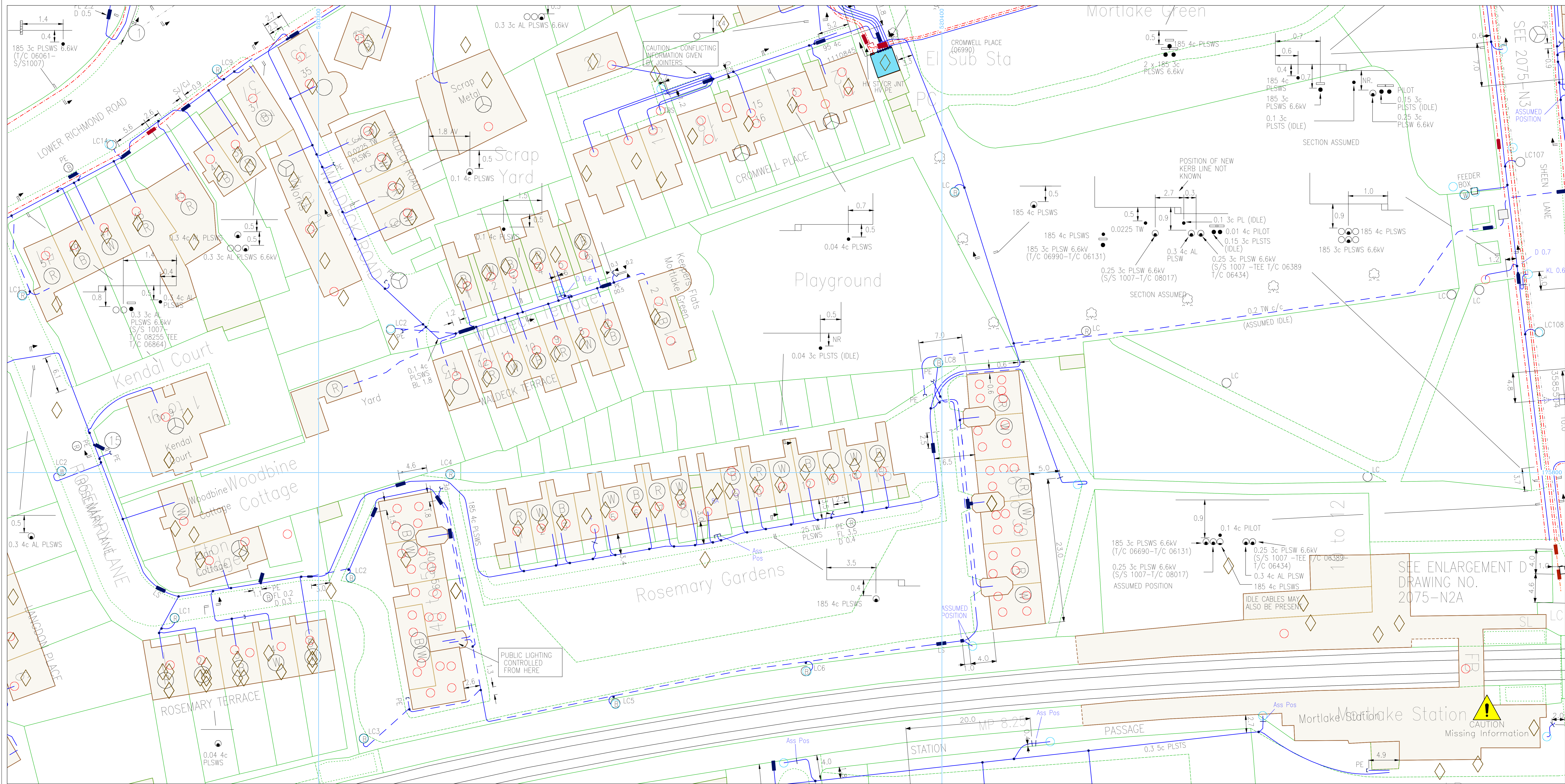
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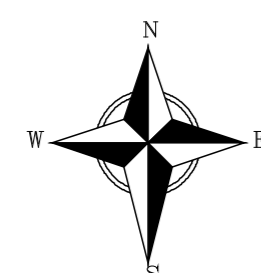
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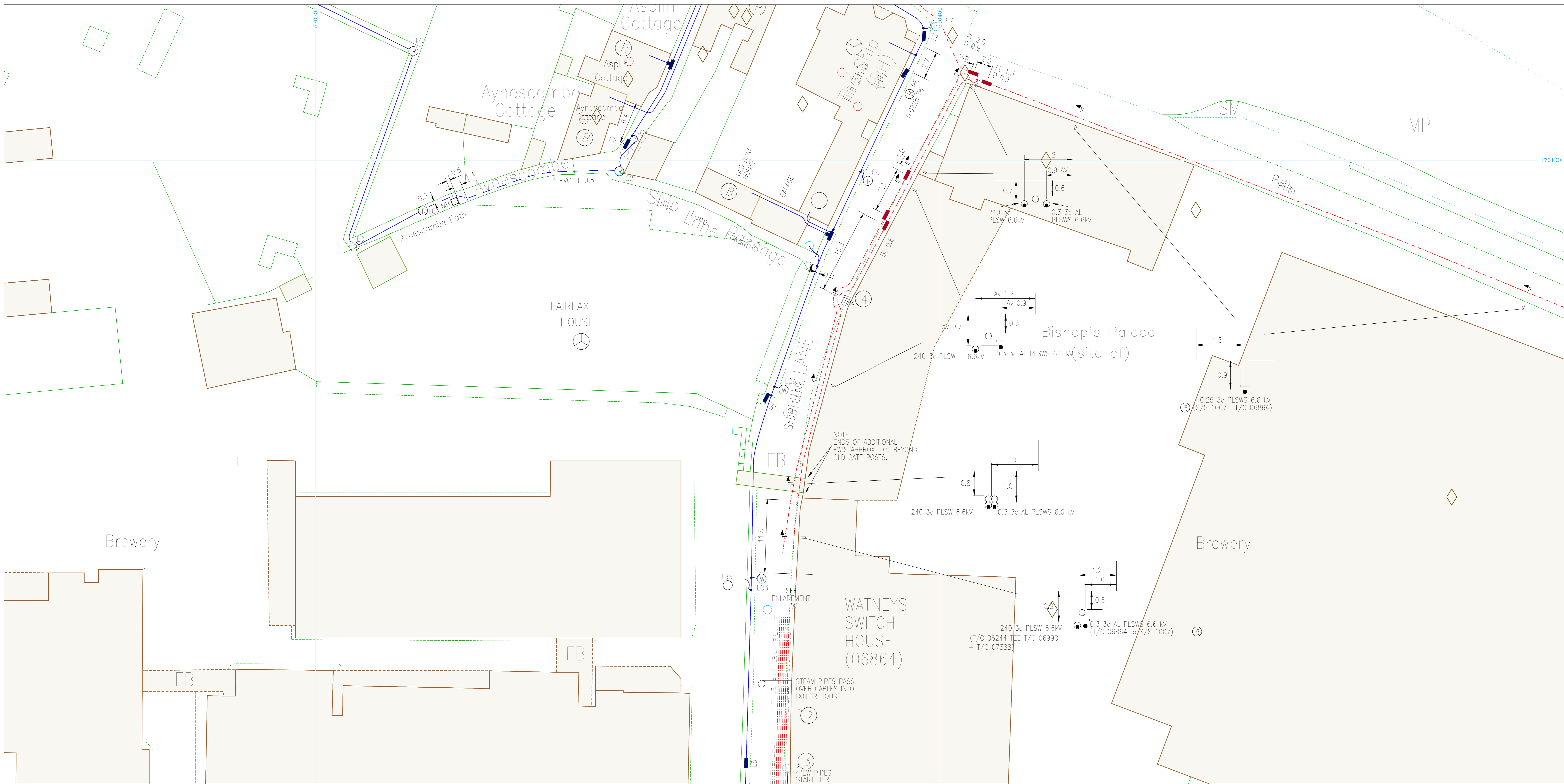
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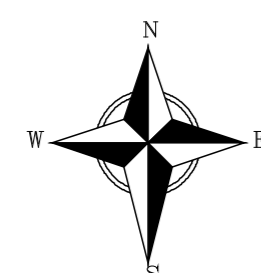
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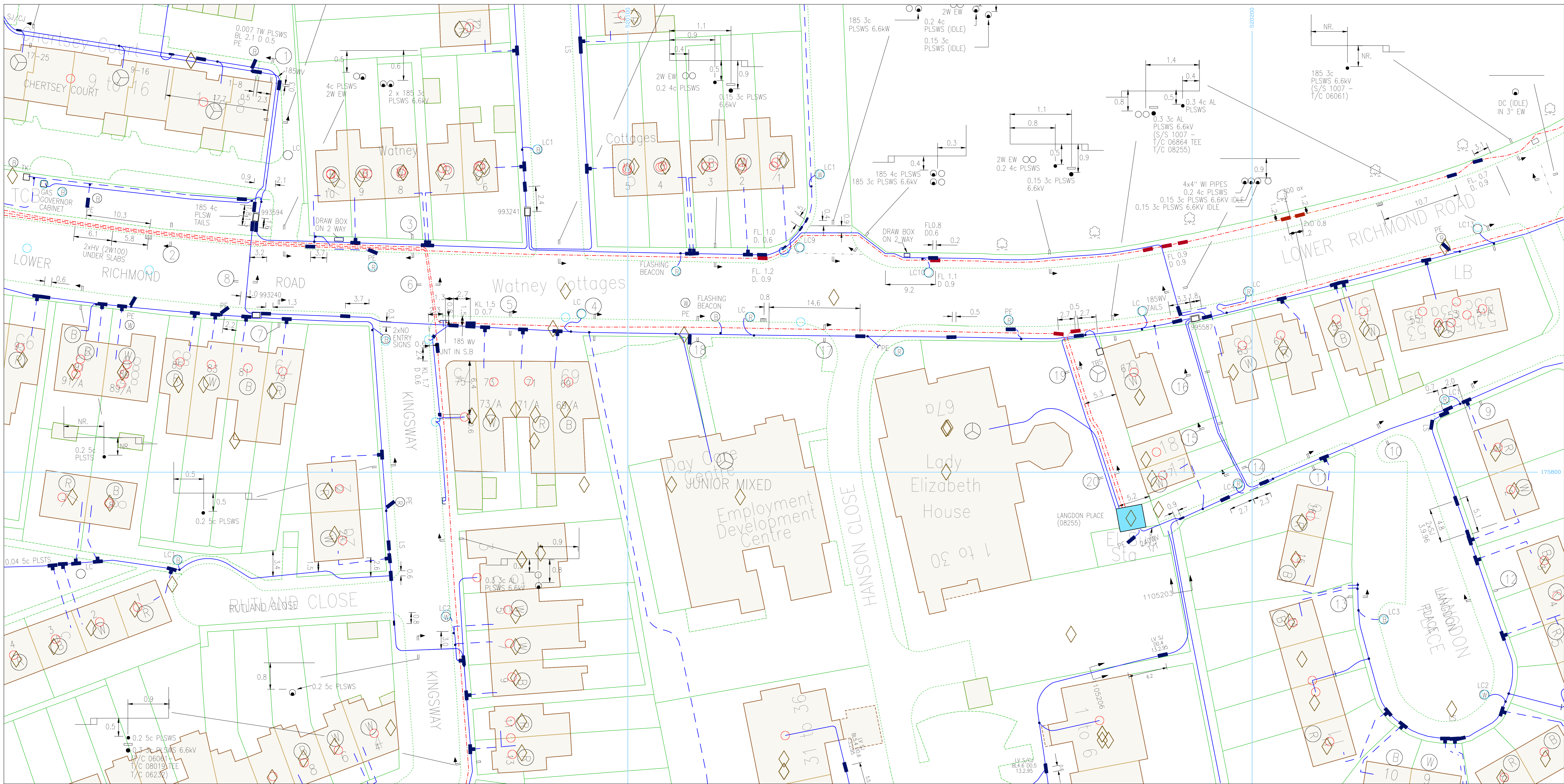
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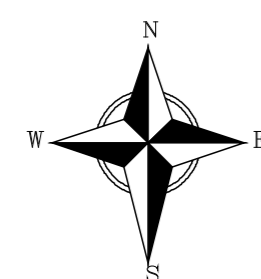
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For details of the symbology please refer to <http://www.ukpowernetworks.co.uk/safety-emergencies/in-the-workplace/understanding-safety-symbols.shtml>

**PRIMARY CABLES**  
EXTRA HIGH VOLTAGE CABLES (EHV) 22,000 to 132,000 Volts

Depth normally 750mm cover in carriageway & 600mm cover in footway.  
Before digging within one metre of these cable routes Telephone 0800 056 5866 in order that the Company's apparatus may be located on site and any necessary protection works agreed.

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**ADVICE TO CONTRACTORS ON AVOIDING DANGER FROM BURIED ELECTRICITY CABLES.**

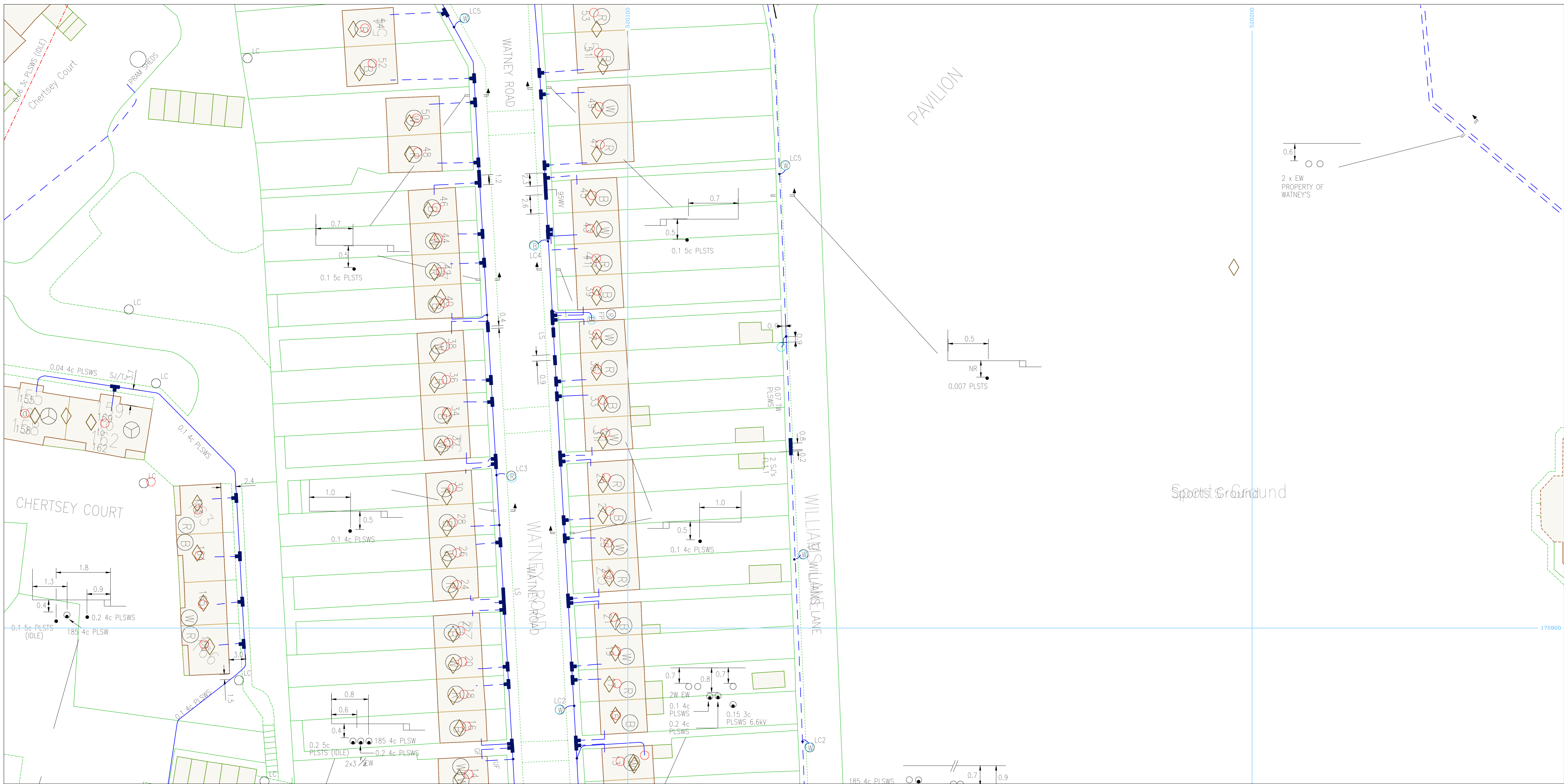
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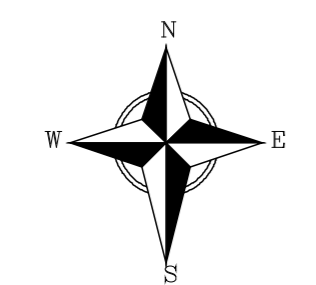


0m 10m 20m 30m 40m 50m 60m 70m

Plotted On : 24/01/2017  
 Plotted By : Kav Singh  
 Plot Description: THE STAG BRWERY, LOWER RICHMOND ROAD, LONDON SW14 7ET  
 2017/2244506/comp  
 Map Centre : TQ2075NW



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 Plan Provision  
 Fore Hamlet  
 IPSWICH  
 Suffolk  
 IP3 8AA  
 Tel 0800 0565 866  
 Fax 08701 963782



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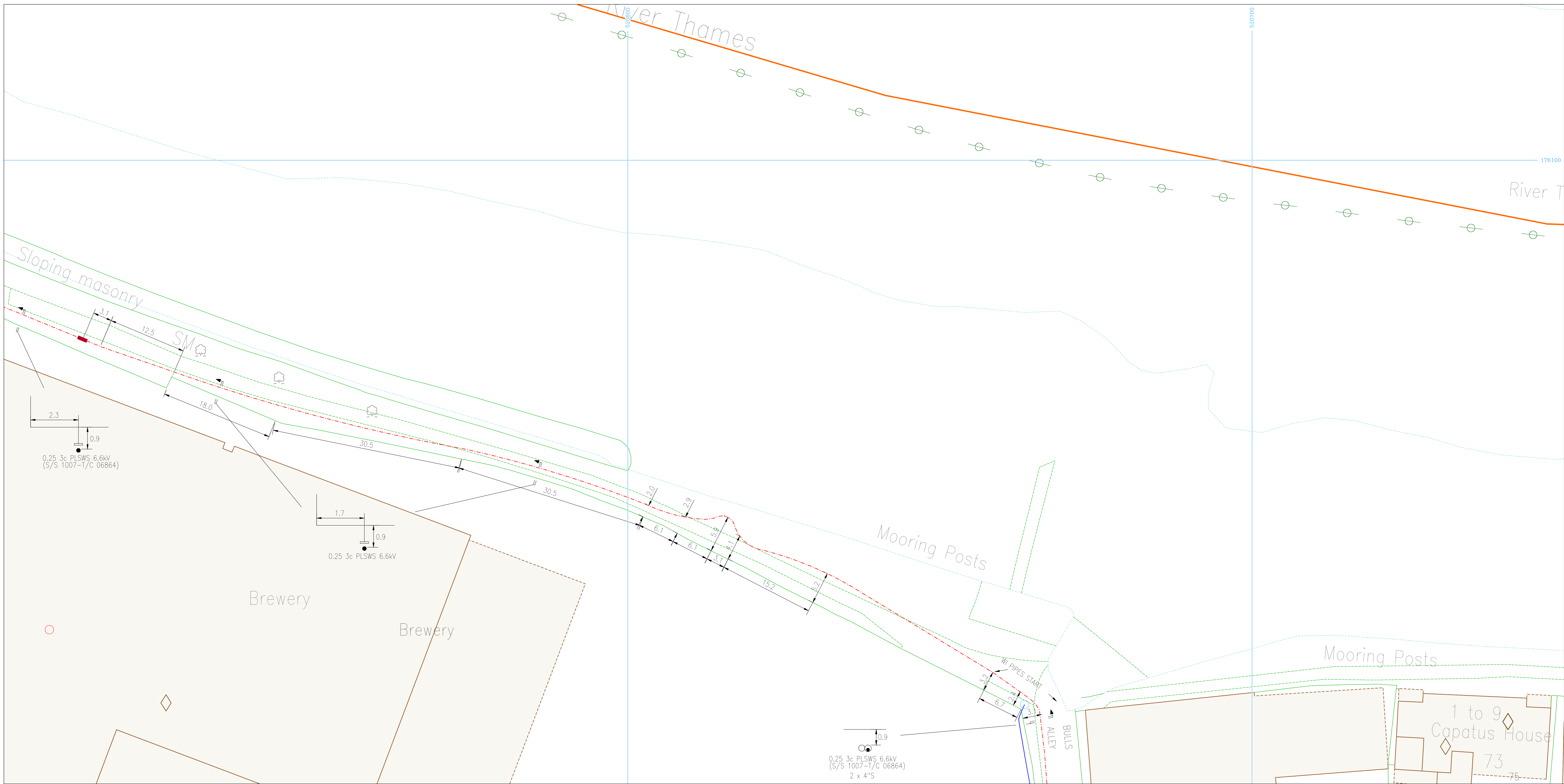
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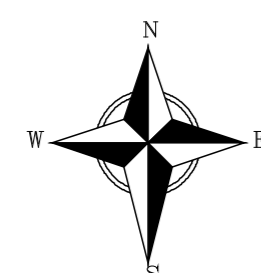
Plot Description: THE STAG BRWERY, LOWER RICHMOND ROAD, LONDON SW14 7ET

2017/2244506/comp

Map Centre : TQ2076SE



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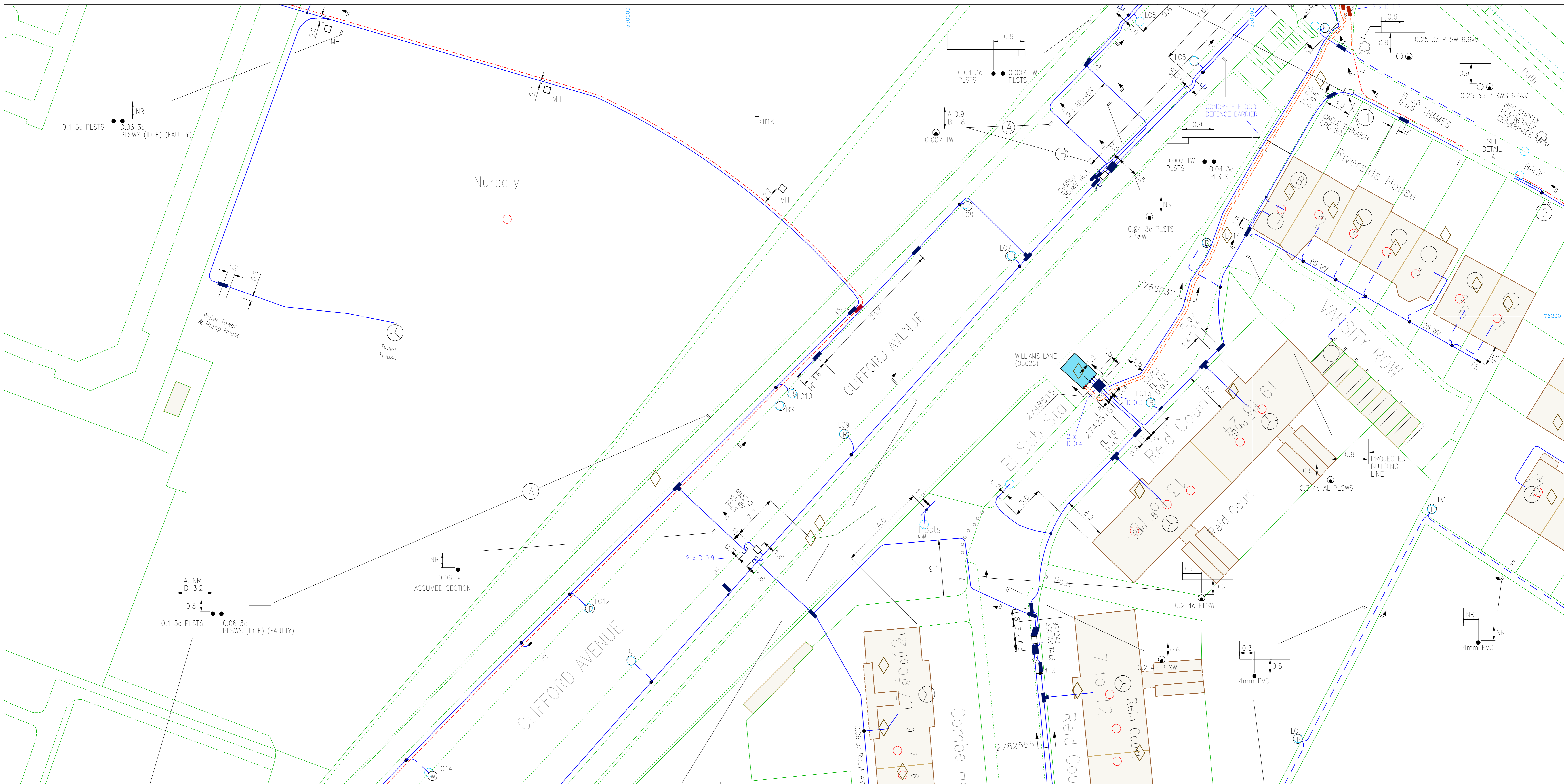
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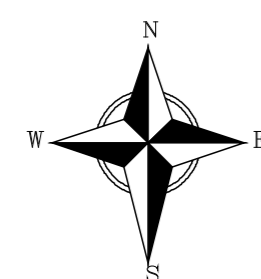
Plot Description: THE STAG BRWERY, LOWER RICHMOND ROAD, LONDON SW14 7ET

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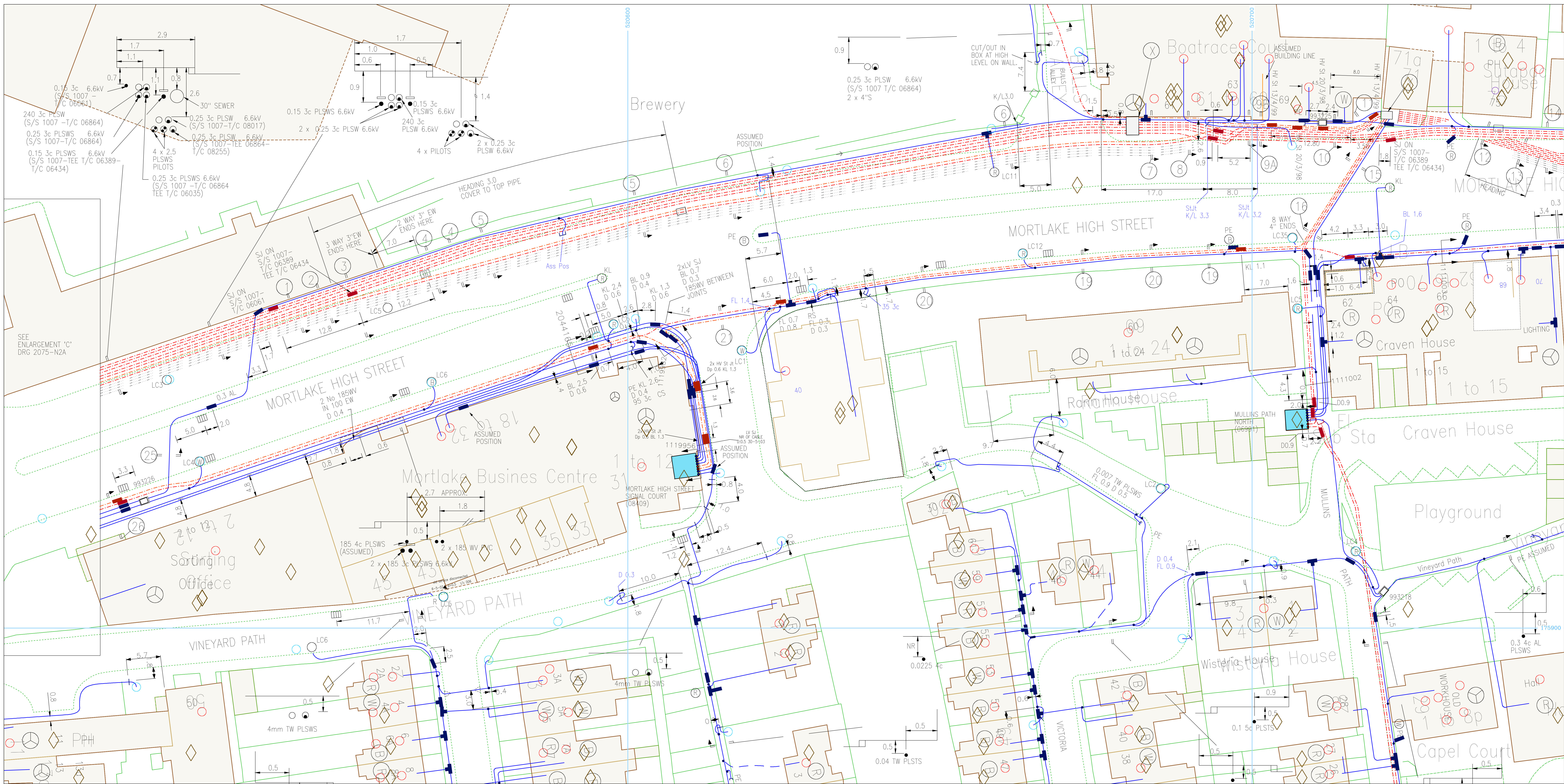
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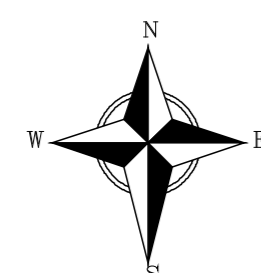
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# MEP ENGINEERING

Former Stag Brewery Foul Sewage and Utilities Assessment



UKPN Budget Quotation



Ms. Elena Pujol  
Hoare Lea  
Enterprise House  
11, Old School Close  
Ferndown  
Dorset  
BH22 9UN

01 March 2017

Our Ref: 8600006243 / QID 3000009566

Dear Ms. Pujol,

Site Address: The Stag Brewery, London SW14 7ET

Thank you for your recent enquiry regarding the above premises. I am writing to you on behalf of London Power Networks plc the licensed distributor of electricity for the above address trading as UK Power Networks.

I am pleased to be able to provide you with a budget estimate for the work.

It is important to note that this budget estimate is intended as a guide only. It may have been prepared without carrying out a site visit or system studies. No enquiry has been made as to the availability of consents or the existence of any ground conditions that may affect the ground works. It is not an offer to provide the connection and nor does it reserve any capacity on UK Power Networks electricity distribution system.

Budget estimate:

The cost for the works is estimated at £240,000.00 (exclusive of VAT) if the Point Of Connection (POC) is at our Barnes B Main substation

Description of works

- We will install and commission 7 x Genie Evo Panel switchboard for your connection in a brick built enclosure constructed by you
- We will install approximately 500m of HV main cables and 500m of pilot cables (assuming the switchroom is in the centre of the development)
- We will carry out all jointing and fitting works.

This budget estimate is based on the following assumptions:

- The most appropriate Point of Connection (POC) is as described above.
- The customer will provide the substation enclosure including lighting
- The customer will carry out all on site excavation works
- The substation is located in the middle of the development

- The existing substation Watneys Switch House 06864 is decommissioned (cost not included in this budget estimate)
- A viable cable or overhead line route exists along the route we have assumed between the Point of Connection (POC) and your site.
- In cases where the Point of Connection (POC) is to be at High Voltage, that a substation can be located on your premises at or close to the position we have assumed.
- Where electric lines are to be installed in private land UK Power Networks will require an easement in perpetuity for its electric lines and in the case of electrical plant the freehold interest in the substation site, on UK Power Networks terms, without charge and before any work commences.
- You will carry out, at no charge to UK Power Networks, all the civil works within the site boundary, including substation bases, substation buildings where applicable and the excavation/reinstatement of cable trenches.
- Unless stated in your application, all loads are assumed to be of a resistive nature. Should you intend to install equipment that may cause disturbances on UK Power Networks' electricity distribution system (e.g. motors; welders; etc.) this may affect the estimate considerably.
- All UK Power Networks' work is to be carried out as a continuous programme of work that can be completed substantially within 12 months from the acceptance of the formal offer.

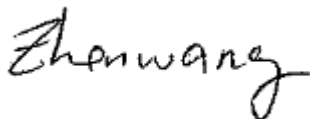
Please note that if any of the assumptions prove to be incorrect, this may have a significant impact on the price in any subsequent quotation. You should note also that UK Power Networks' formal connection offer may vary considerably from the budget estimate. If you place reliance upon the budget estimate for budgeting or other planning purposes, you do so at your own risk.

If you would like to proceed to a formal offer of connection then you should apply for a quotation, Please refer to our website

[http://www.ukpowernetworks.co.uk/internet/en/help-and-advice/documents/the\\_connection\\_process.pdf](http://www.ukpowernetworks.co.uk/internet/en/help-and-advice/documents/the_connection_process.pdf) for '**The connection process**' which details our application process. To help us progress any future enquiry as quickly as possible please quote the UK Power Networks Reference Number from this letter on all correspondence.

If you have any questions about your budget estimate or need more information, please do not hesitate to contact me. The best time to call is between the hours of 9am and 4pm, Monday to Friday. If the person you need to speak to is unavailable or engaged on another call when you ring, you may like to leave a message or call back later.

Yours sincerely

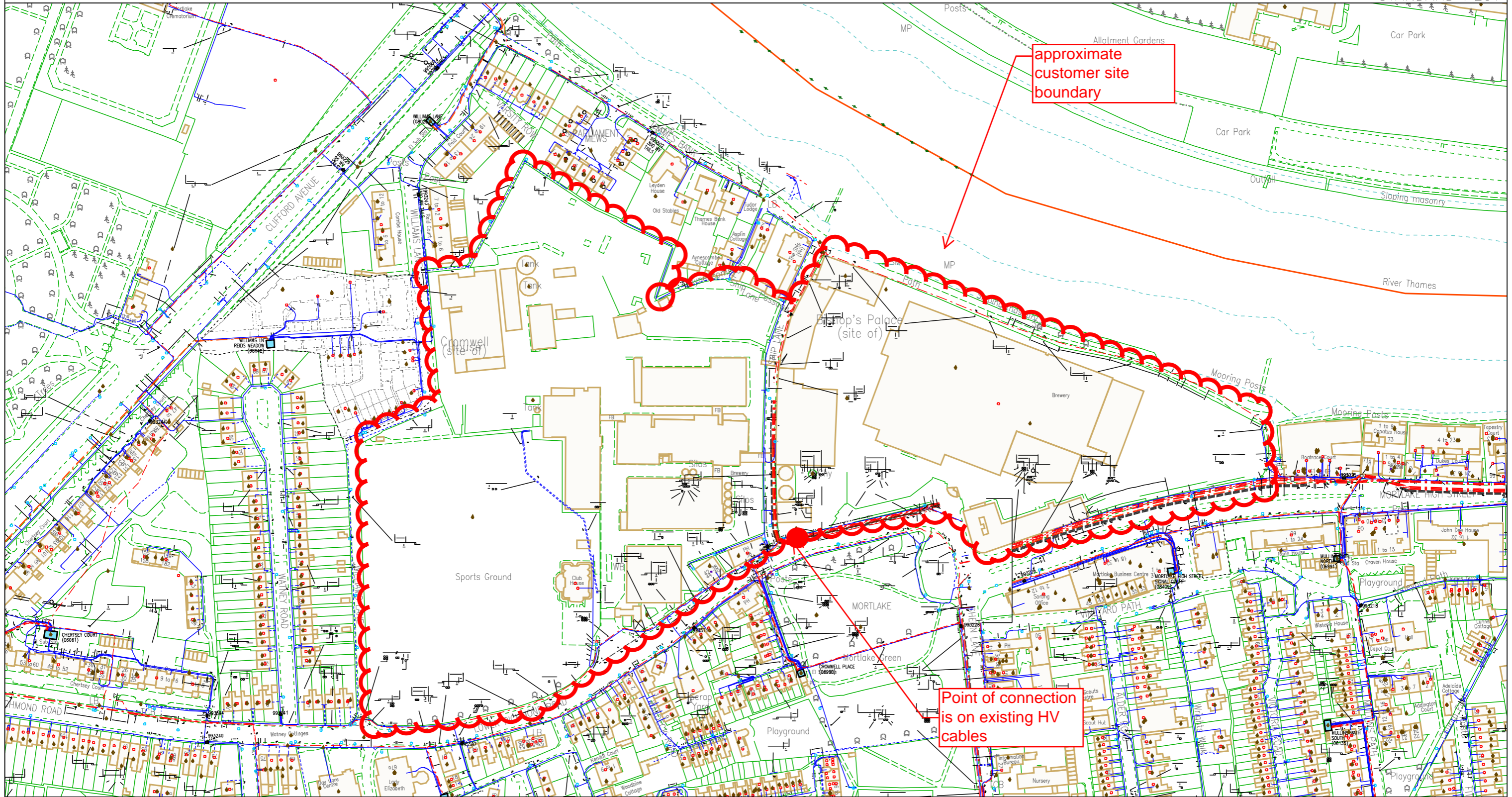


Mr. Zhen Wang  
Centenary House  
London, West Ham  
E16 4ET  
07812262721  
[zhen.wang@ukpowernetworks.co.uk](mailto:zhen.wang@ukpowernetworks.co.uk)



Title:

STANDARD PLOT



approximate customer site boundary

Point of connection is on existing HV cables

The quality and accuracy of any print will depend on your printer, your computer and its print settings. Measurements scaled from this plan may not match measurements between the same points on the ground.

LV Cable or Line	
HV Cable or Line	
EHV Cable or Line approx. Location	
Duct Ends	
Service Discon & Street Furniture	
Substation & Link Box	

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- Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
- This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and you must return it to the sender of the letter.
- You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

Grid Ref: TQ2076SW  
 Scale 1:2220  
 (When Plotted at A3)  
 Plotted on: 10/02/2017  
 Plotted by: <anonymous>

IF IN DOUBT – ASK! PHONE 0800 056 5866	Raster Visibilities:				
EMERGENCY – If you damage a cable or line Phone 0800 780 0780 (24hrs) URGENTLY	Comp	HV	LV	Mains	Ways
	ON	ON	ON	ON	ON

Maps produced at 1:2500 scale are LV Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.



### Squire Energy - Gas

#### Asset Search

Record drawing information has been obtained from National Grid indicating existing low pressure mains surrounding the site running along Ship Lane and Lower Richmond Road. Record drawings indicate that the site has a number of connections via underground pipework from various locations on the perimeter. Refer to Gas Asset Drawings below.

#### Application Requirements

An application has been made to Squire Energy 2No. supplies for the energy centres to the east and west of Ship Lane and 24No. commercial supplies for the community facilities, school and the accommodation for the older population. Domestic supplies have been requested for the town houses.

#### Status

Squire Energy has confirmed receipt of the application and we are awaiting a formal quotation.

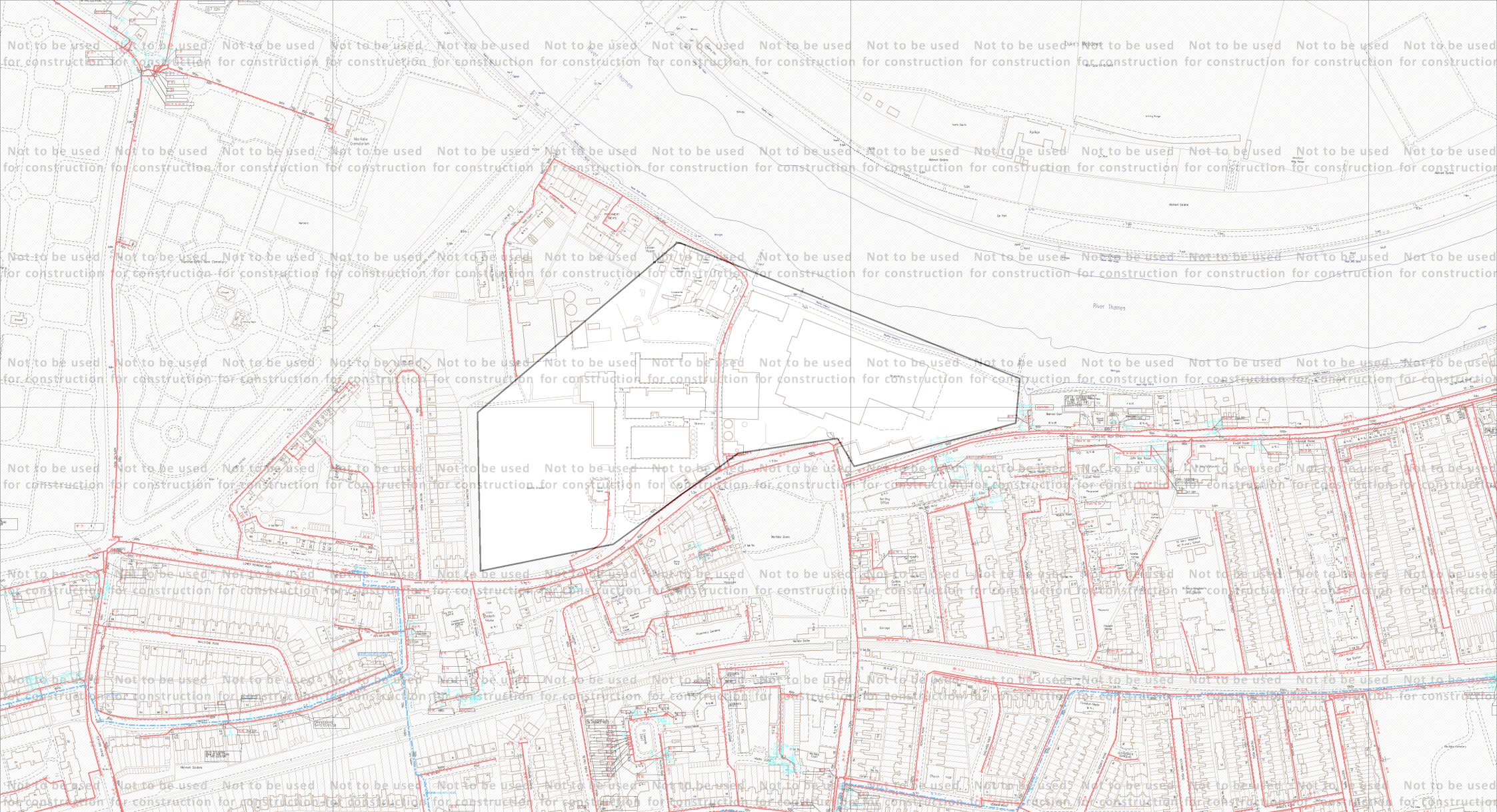
# MEP ENGINEERING

Former Stag Brewery Foul Sewage and Utilities Assessment



Gas Asset Drawings





ID: NL\_TE\_Z5\_3SWX\_294802  
 USER: HoareLeaBH229UN  
 DATE: 05/01/2017  
 DATA DATE: 04/01/2017  
 REF: Brewery  
 MAP REF: TQ2076  
 CENTRE: 520402, 176000

View extent: 1445m, 785m

LP MAINS

MP MAINS

IP MAINS

LHP MAINS

NHP MAINS

0m 100m  
 Approximate scale 1:5000  
 on A4 Colour Landscape

**Map not to be used for construction**

This plan shows those pipes owned by National Grid Gas plc in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Map 1 of 2 (GAS)

MAPS Plot Server Version 1.9.0

Requested by: Hoare Lea

This plan is reproduced from or based on the OS map by National Grid Gas plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886

Some examples of Plant Items:

Valve

Depth of Cover

Syphon

Diameter Change

Material Change

Out of Standard Service





### Thames Water – Water Services

#### Asset Search

Record drawings have been obtained from Thames Water indicating existing water services within and surrounding the site. Record drawings indicate that the site has a number of trunk mains in Lower Richmond Road serving smaller distribution mains along Ship Lane. The record information shows existing connections into the proposed site. Refer to Thames Water Asset Drawings below.

#### Application Requirements

An application has been made Thames Water to provide new supplies for the central water distribution system, as well as individual supplies for the community facilities, school and the accommodation for the older population. Domestic supplies have been requested for the town houses.

#### Status

A budget quote has been received from Thames Water detailing the new supply requirements above. Within the quotation Thames Water state that they will need to carry out further network analysis. Refer to Thames Water Budget Quotation below.



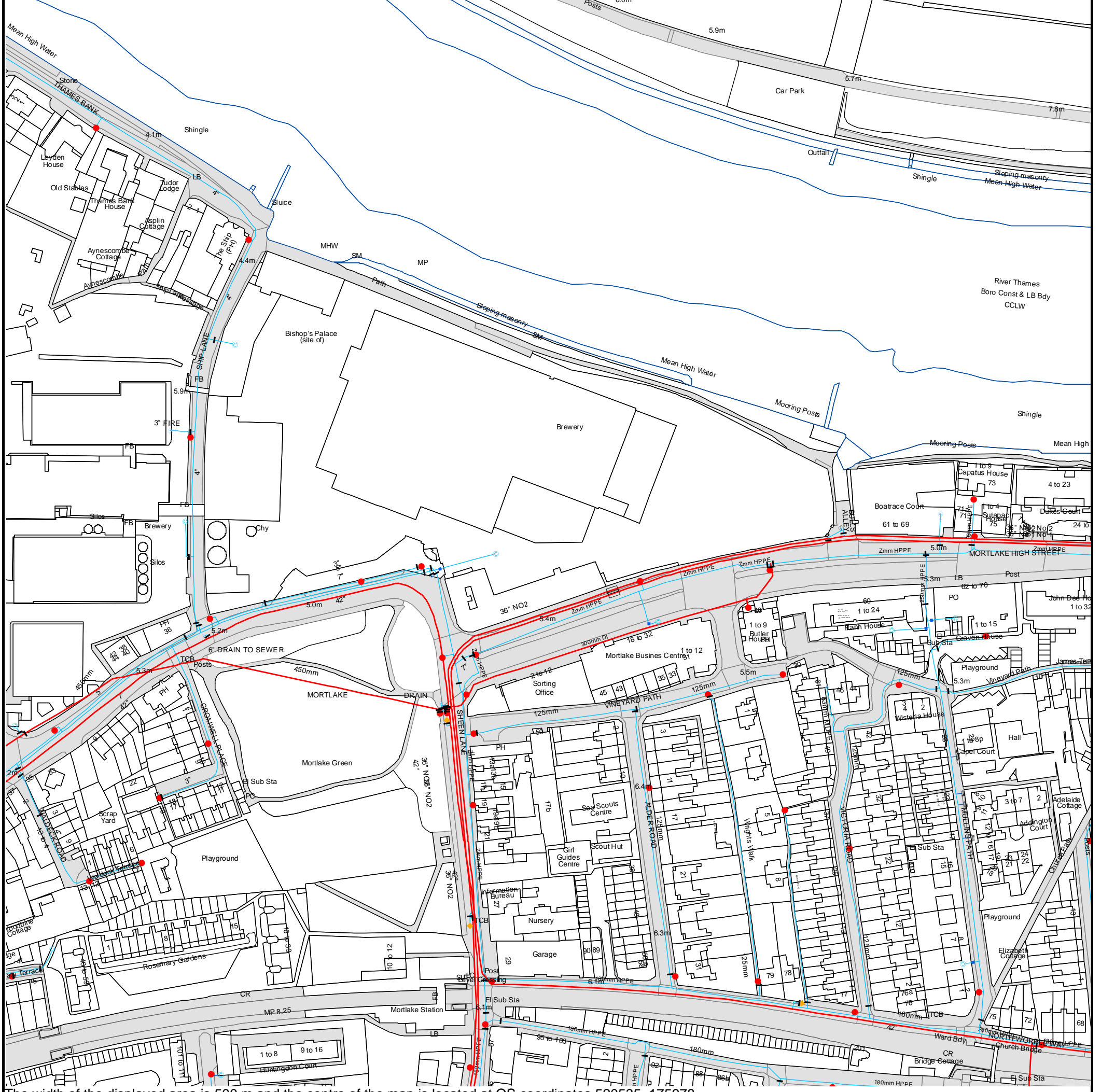
# MEP ENGINEERING

Former Stag Brewery Foul Sewage and Utilities Assessment



Thames Water Asset Drawings

**Asset Location Search Water Map - ALS/ALS Standard/2017 3494020**










The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 520535, 175978.  
 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.







# 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.

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')

## Valves

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

## Hydrants








-  Single Hydrant

## Meters










-  Meter

## End Items

Symbol indicating what happens at the end of a water main.

-  Blank Flange
-  Capped End
-  Emptying Pit
-  Undefined End
-  Manifold
-  Customer Supply
-  Fire Supply



## Operational Sites

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

## Other Symbols

-  Data Logger

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

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

# MEP ENGINEERING

Former Stag Brewery Foul Sewage and Utilities Assessment



Thames Water Budget Quotation



Elena Pujol  
Hoare Lea  
Enterprise House  
Old School Close  
Ferndown  
Dorset  
BH22 9UN



**DS reference** DS6041414



**developer.services@thameswater.co.uk**



**08000 093 921**  
Mon-Fri 8am-5pm



**thameswater.co.uk/developerservices**

17<sup>th</sup> November 2017

## Your clean water budget estimate / point of connection report.

**Site location:** The Stag Brewery, Lower Richmond Road, Mortlake, London, SW14 7ET.

Dear Elena

Thank you for your correspondence dated 16<sup>th</sup> November 2017 regarding the above redevelopment consisting of domestic dwellings, domestic apartments, care home, assisted living apartments, cinema, community facilities, health centre, hotel, management office, retail units, offices and a school..

Please be aware that this report is based upon the details and drawings provided. If there are any subsequent changes to the details and information on your drawing, the contents of this report will become invalid and a new assessment will be needed.

We've listed below the approximate costs to serve the site. Subject to survey, additional costs may be applicable, such as traffic management, parking bay suspensions or lane rental charges.

You'll need to make single payments for each activity (such as the flow and pressure test, modelling report or impact assessment). Please also quote our DS6041414 reference number when paying to avoid any delay.

### Finding your best fit

When arranging supplies for your site, we want you to choose the installer that best suits your needs and timescales. This may or may not be us. Independent self-lay providers could be able to offer cost-effective terms and fit in better with your construction programme, and might also be able to install multiple utilities. You can find out more about the self-lay option at [developers.thameswater.co.uk/Developing-a-large-site/Using-a-self-lay-provider](http://developers.thameswater.co.uk/Developing-a-large-site/Using-a-self-lay-provider)

### Contaminated land

If our assessment of your full soil report deems the site to be 'contaminated', you'll need to install mains and service connections using barrier pipe, rather than plastic pipe.



### What to do next

If you'd like to proceed with your design, you can apply for a formal quotation for water supply to [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk) for the attention of the self-lay team or design team.

For more information, see [developers.thameswater.co.uk/domestic-and-small-commercial/water-supply/new-or-replacement-water-supply/how-to-get-a-quote](https://developers.thameswater.co.uk/domestic-and-small-commercial/water-supply/new-or-replacement-water-supply/how-to-get-a-quote).

### Network capacity

As a result of our assessment, we'll need to carry out further investigations before we can more thoroughly assess the requirements for supplying the site.

This site will require network modelling analysis to determine the effect of the new demand on the local and strategic network.

The cost and duration of this analysis varies according to the complexity of the job and the availability of data for the area. The cost can vary between £2,000 and £35,000, with a report delivery time of up to 30 weeks.

In order to proceed with this investigation, we'll need to prepare a briefing for our network analysis group. Due to the work involved we'll require an initial non-refundable deposit of £100 + VAT (a total of £120) to provide you with a quote and timescales for the investigation specific to your site. If you decide to proceed, we'll deduct this sum from the final cost. We'll use the results to indicate what action needs to be taken, both local and strategic, to allow our network to support the new demand. We'll provide a report including an indication, where possible, of costs associated with any such work.

The modelling study will investigate:

- Understanding current operation/current demands of the zone
- Revising model demands to reflect current demand forecast
- Identifying impact of development and review solutions
- Preparing modelling report and liaising with our operations team
- Approval and sign off

### What to do next

We require payment for the modelling in advance please, by one of the following methods:

- By cheque, made payable to Thames Water Utilities Ltd, which can be sent marked for my attention to:  
Developer Services  
First Floor West  
Clearwater Court  
Vastern Road  
Reading  
Berkshire  
RG1 8DB
- By card, by calling 0800 009 3921, quoting our reference number DS6041414. We'll send you an invoice showing your payment on receipt of your instruction.



- Online, using the link below and quoting our DS reference number. Please contact me directly when you've made payment, or if you've any further questions, on 0203 577 8737 or [Karl.Tuchscherer@ThamesWater.Co.UK](mailto:Karl.Tuchscherer@ThamesWater.Co.UK)  
Apply online: [my.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/18743.htm](https://my.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/18743.htm)

For more details on network capacity, please visit [developers.thameswater.co.uk/developing-a-large-site/planning-your-development/water-capacity](https://developers.thameswater.co.uk/developing-a-large-site/planning-your-development/water-capacity).

### **Fire hydrant and sprinkler demand**

Please note that we aren't able to confirm whether a fire hydrant or sprinkler demand can be accommodated on a new connection. **You'll need to contact an independent consultant or specialist company for hydrant testing for fire-fighting purposes.**

### **Working near our assets**

If you're planning significant work near our assets, it's important you minimise the risk of damaging them. You can find more information at [developers.thameswater.co.uk/domestic-and-small-commercial/building-near-pipes](https://developers.thameswater.co.uk/domestic-and-small-commercial/building-near-pipes).

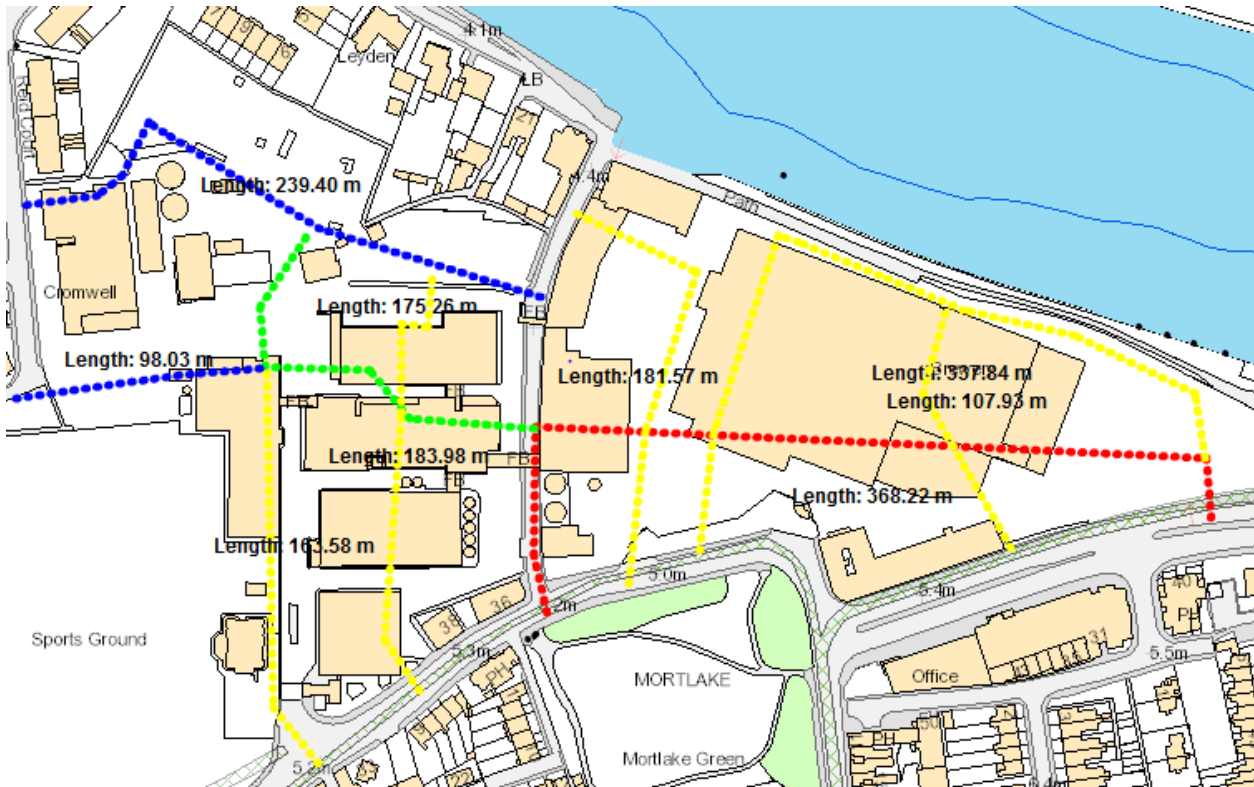
### **Diversions**

From our records, we don't anticipate that any clean water assets need to be diverted to accommodate your proposals.

Please note that any diversion is charged at full cost, payable in advance. You'll need to apply for this work, and can do so online at [my.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/18730.htm](https://my.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/18730.htm)



### New main(s) point of connection location



### New main(s) and water supply connections cost

There are two options available for installation of mains and water supply connections:

- Self-lay option, where a self-lay provider carries out the work on our behalf and we adopt the asset once completed. Self-lay providers are independent companies who you can ask to provide competitive quotes, and may be able to offer more flexible timescales, or be able to install multiple utilities.
- Statutory option, where we carry out the work.

Budget cost for works undertaken:

Activity required	Self-lay budget cost	Statutory budget cost
Onsite Mainlaying: Lay approximately 370 metres of 250mm diameter HPPE water main in carriage way and unmade ground, 185 metres of 180mm diameter HPPE water main in unmade ground, 340 metres of 125mm diameter HPPE water main in unmade ground and 965 metres of 90mm diameter HPPE water main in unmade ground.	Total: £178,935.00 Asset Payment: £169,144.00  The above costs are only applicable if the site is requisitioned as one package	Total: £178,935.00 DAD: £9,790.00  The above costs are only applicable if the site is requisitioned as one package



Building 2:1 x 90mm metered MDPE bulk supply from the proposed main and the supply of 103 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £8,562.39 103 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £15,562.39
Building 3:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 45 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,740.85 45 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,740.85
Building 4:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 20 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £1,662.60 20 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £4,662.60
Building 5 Hotel: 1 x 63mm metered MDPE bulk supply form the existing main in The Lower Richmond Road	Total: £261.02 1 x 50mm diameter meter, supply to be laid by the Self Lay Company	Total: £3,500.00
Building 6:1 x 50mm metered MDPE bulk supply from the proposed main and the supply of 16 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £1,330.08 16 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £3,830.08
Building 7:1 x 90mm metered MDPE bulk supply from the proposed main and the supply of 71 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more	Total: £5,902.23 71 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £12,902.23



than 1,500mm from the floor level		
Building 8:1 x 90mm metered MDPE bulk supply from the proposed main and the supply of 74 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £6,151.62 74 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £13,151.62
Building 9:1 x 50mm metered MDPE bulk supply from the proposed main and the supply of 13 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £1,080.69 13 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £3,580.69
Building 10:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 27 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £2,244.51 27 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £5,244.51
Building 11:1 x 90mm metered MDPE bulk supply from the proposed main and the supply of 46 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,823.98 46 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,823.98
Building 12:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 37 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,075.81 37 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,075.81



Building 13:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 40 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,325.20 40 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,325.20
Building 14:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 41 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,408.33 41 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,408.33
Building 15:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 41 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,408.33 41 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,408.33
Building 16:1 x 90mm metered MDPE bulk supply from the proposed main and the supply of 44 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,657.72 44 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £10,657.72
Building 17:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 42 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,491.46 42 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £6,491.46
Building 18:1 x 125mm metered MDPE bulk supply from the proposed main and the supply of 127 internal fit meters which need	Total: £10,557.51 127 x 20mm diameter meter, supply to be laid by the Self Lay	Total: £19,557.51





to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Company	
Building 19:1 x 90mm metered MDPE bulk supply from the proposed main and the supply of 48 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £3,990.24 48 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £10,990.24
Building 20:1 x 63mm metered MDPE bulk supply from the proposed main and the supply of 36 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £2,992.68 36 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £5,992.68
Building 21:1 x 50mm metered MDPE bulk supply from the proposed main and the supply of 24 internal fit meters which need to be fitted within the riser cupboards in the public spaces on each floor at a height of no more than 1,500mm from the floor level	Total: £1,995.12 24 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £4,495.12
Individual domestic dwellings: 24 x 25mm diameter metered supplies with 20mm diameter meters, supplies from the proposed main	Total: £1,995.12 24 x 20mm diameter meter, supply to be laid by the Self Lay Company	Total: £14,880.00
Cinema: 1 x 50mm diameter supply with 40mm diameter meter supply from the proposed main	Total: £191.51 1 x 40mm diameter meter, supply to be laid by the Self Lay Company	Total: £2,500.00
Retail Units/Restaurant's: 25/32mm diameter metered supplies with 20mm diameter meters	Please allow £83.13 per each 20mm diameter meter, supplies to be laid by the Self Lay Company	Please allow £620.00 per each 25/32mm diameter metered supplies
Offices: 25/32mm diameter metered supplies with 20mm	Please allow £83.13 per each 20mm diameter meter,	Please allow £620.00 per each 25/32mm



diameter meters	supplies to be laid by the Self Lay Company	diameter metered supplies
Community Facilities: 25/32mm diameter metered supplies with 20mm diameter meters	Please allow £83.13 per each 20mm diameter meter, supplies to be laid by the Self Lay Company	Please allow £620.00 per each 25/32mm diameter metered supplies
School: 1 x 50mm diameter supply with 40mm diameter meter supply from the proposed main	Total: £191.51 1 x 40mm diameter meter, supply to be laid by the Self Lay Company	Total: £2,500.00
Health Centre: 1 x 32mm diameter metered supply with 25mm diameter meter	Please allow £83.13 per each 20mm diameter meter, supply to be laid by the Self Lay Company	Please allow £620.00 per each 25/32mm diameter metered supply

- Total: shows a total cost of the scheme
- DAD: Discounted Aggregate Deficit – shows the lump sum contribution payable by the developer towards the scheme cost
- Asset payment: shows the forecast sum to be paid to self-lay provider for asset installed and adopted by us

### Infrastructure and network charges

#### Infrastructure Charges:

996 x £365.45 for Water Infrastructure Charges = £363,988.20  
 996 x £365.45 for Sewerage Infrastructure Charges = £363,988.20

I have made an assessment of the additional infrastructure charges for the additional usage over that for the domestic

Please note that infrastructure charge credits may be applicable based on the water consumption at the site within the last five years.

#### Building water

It's important that you contact us before you start using water on your building work. If you don't, we'll base your charges on 0.17 per cent of the contract value. For more details visit [developers.thameswater.co.uk/domestic-and-small-commercial/water-supply/water-for-building-work](https://developers.thameswater.co.uk/domestic-and-small-commercial/water-supply/water-for-building-work)

#### Water quality and hardness

You can check water quality in your area at [secure.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/899.htm](https://secure.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/899.htm)

#### Asset location search

You can contact our Property Searches team to request an asset location search (for which a fee is payable) showing where any nearby mains, sewers and other equipment is situated. Please visit [thameswater-propertysearches.co.uk](https://thameswater-propertysearches.co.uk) or call 0845 070 9148.



### Disconnection

If you'd like to permanently disconnect your existing water supply, please apply at [secure.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/15131.htm](https://secure.thameswater.co.uk/dynamic/cps/rde/xchg/corp/hs.xsl/15131.htm)

### Important note about this estimate

**All information enclosed in this letter is for indicative budgetary purposes only and should by no means be taken as the actual costs for serving this development site. Please note that they are simply an estimate, and that other factors that may have not been taken into consideration could increase these costs.**

I hope you find this information helpful. If you've any further queries, please don't hesitate to contact us.

Yours sincerely,

Karl Tuchscherer  
Thames Water  
Developer Services – Customer Experience Team  
[developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)  
0800 009 3921



### Thames Water – Foul Sewage

#### Asset Search

Record drawings have been obtained from Thames Water indicating existing foul drainage within and surrounding the site. Record drawings indicate that the site has a number of sewers in Lower Richmond Road and along Ship Lane. Refer to Thames Water Asset Drawings below.

#### Application Requirements

A Pre-Development enquiry has been submitted to Thames Water to confirm that the existing public sewer network has the capacity to accommodate the foul flows. The existing and proposed foul discharge rates have been calculated using the water consumption method at 14.4 l/s and 25.5 l/s respectively.

#### Status

It is understood that foul flows from the existing Stag Brewery component of the Site discharge to the Thames Water foul network in the surrounding highways. It is proposed to mimic this scenario, with new connections into the sewers on Mortlake High Street, Lower Richmond Road, Ship Lane, and Willams Lane according to the proposed building layout.



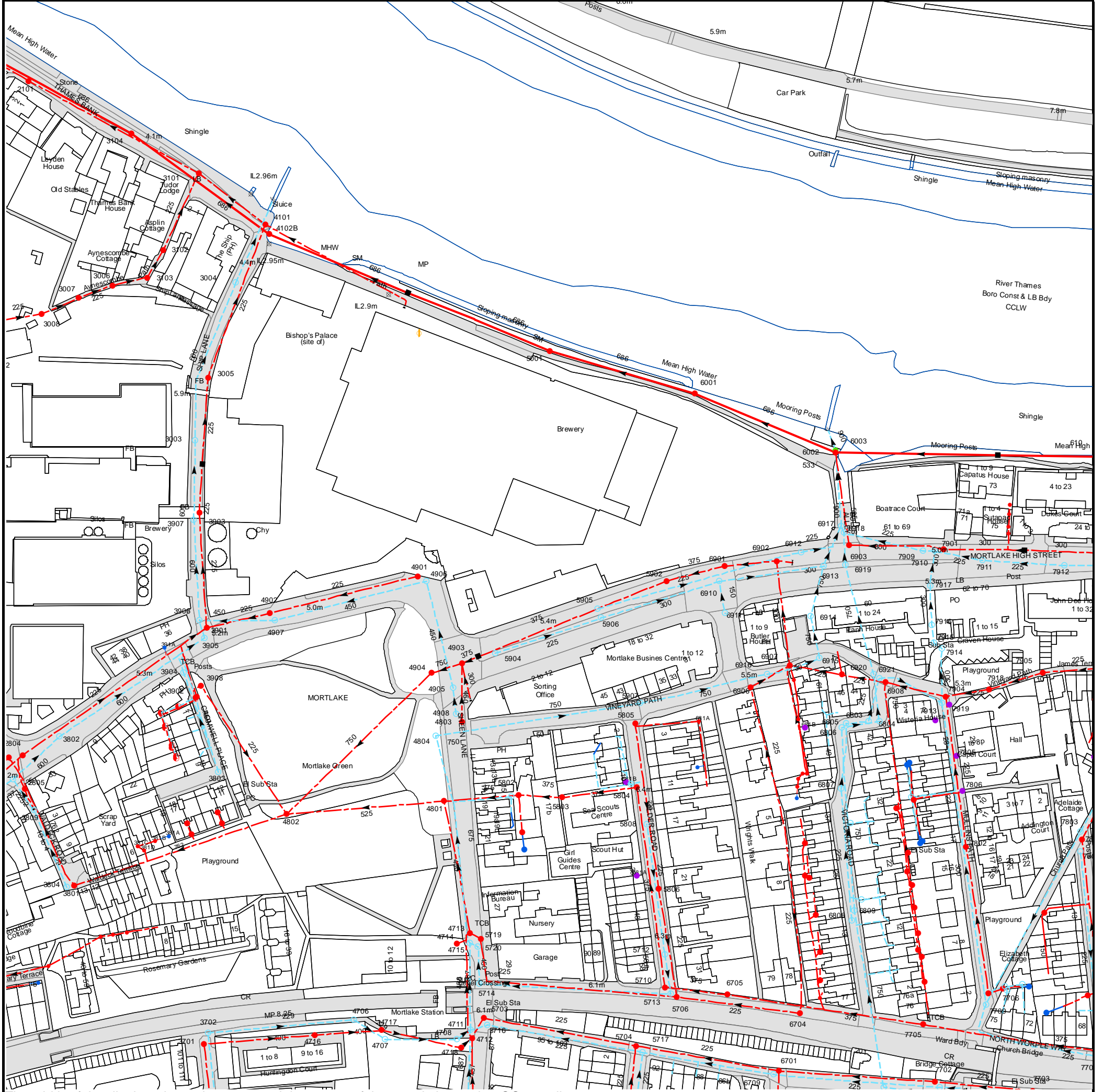
# MEP ENGINEERING

Former Stag Brewery Foul Sewage and Utilities Assessment



Thames Water Asset Drawings

**Asset Location Search Sewer Map - ALS/ALS Standard/2017 3494020**



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 520535,175978

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
77MN	n/a	n/a
7905	5.32	2.96
78KN	n/a	n/a
77KN	n/a	n/a
7912	5.21	3.71
7804	n/a	n/a
7803	5.69	3.92
7801	5.67	3.09
77MC	n/a	n/a
781A	n/a	n/a
68JF	n/a	n/a
68JD	n/a	n/a
68JC	n/a	n/a
78LH	n/a	n/a
77LH	n/a	n/a
77LF	n/a	n/a
77LK	n/a	n/a
7705	6.46	1.76
77LE	n/a	n/a
7702	6.75	4.27
7711	6.78	4.67
7709	6.39	3.48
7706	6.29	3.83
77MK	n/a	n/a
77NF	n/a	n/a
77NC	n/a	n/a
77NH	n/a	n/a
68ND	n/a	n/a
681D	n/a	n/a
68MN	n/a	n/a
68NH	n/a	n/a
68MM	n/a	n/a
681B	n/a	n/a
68MF	n/a	n/a
68ML	n/a	n/a
6807	5.66	4.37
6806	5.34	2.58
6805	5.36	3.72
68LC	n/a	n/a
6803	5.3	3.44
6804	5.26	2.5
68KH	n/a	n/a
68NM	n/a	n/a
78LM	n/a	n/a
78NF	n/a	n/a
78ME	n/a	n/a
78NM	n/a	n/a
78ML	n/a	n/a
781C	n/a	n/a
7913	5.07	3.02
7904	5.06	2.39
7919	n/a	n/a
7805	n/a	n/a
7806	n/a	n/a
7802	5.84	3.2
6907	5.38	2.03
69NK	n/a	n/a
6912	4.72	2.17
6914	5.5	1.63
6915	5.27	1.67
6913	4.82	1.52
6003	3.64	.92
6002	n/a	-4.41
6917	4.57	1.51
69NC	n/a	n/a
6918	4.6	1.82
6919	4.82	2.06
6903	4.71	1.07
6920	4.9	2.26
6921	4.91	3.31
6908	4.96	2.33
7909	4.94	2.63
7917	5.32	2.72
7916	5.32	2.75
7915	5.31	2.8
7910	n/a	2.98
7914	5.41	2.87
7901	4.94	1.5
7911	5.13	3.41
7918	5.14	2.67
791B	n/a	n/a
791D	n/a	n/a
791E	n/a	n/a
791A	n/a	n/a
6706	6.73	3.34
6709	6.72	4.49
6701	6.66	4.03
6704	6.04	4.24
67LF	n/a	n/a
6705	6.28	1.58
67KL	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
67LD	n/a	n/a
6808	5.94	4.75
68LJ	n/a	n/a
6809	5.95	3.03
68JM	n/a	n/a
68LL	n/a	n/a
68MD	n/a	n/a
4803	4.95	n/a
4903	5.08	.89
5904	5.33	3.55
58MK	n/a	n/a
5802	5.72	1.31
58KL	n/a	n/a
58MJ	n/a	n/a
5001	n/a	-4.57
5803	n/a	1.33
5905	5.22	3.4
5906	5.39	2.77
581B	n/a	n/a
58LK	n/a	n/a
5805	6.02	4.45
5804	6.28	1.37
5907	5.9	4.45
5808	6.27	5.43
5902	5.15	1.11
6001	n/a	-4.49
681C	n/a	n/a
681A	n/a	n/a
6910	5.11	2.32
6901	5.06	1.13
6911	5.27	3.76
6906	5.67	3.23
6916	5.48	1.67
6902	4.82	1.21
4714	5.95	3.74
4718	n/a	n/a
4713	5.79	1.65
4715	5.75	2.45
4711	6.05	2.52
4712	n/a	n/a
5720	5.69	3.64
5714	6.03	3.92
5719	5.67	n/a
5703	6.02	3.46
5716	6	4.03
5704	6.83	3.79
581A	n/a	n/a
5717	6.88	4.38
5806	6.21	4.15
5712	6.26	5.22
5710	6.2	1.5
5713	6.04	4.5
5706	6.04	3.81
38LL	n/a	n/a
38ML	n/a	n/a
4804	5.05	2.06
38LK	n/a	n/a
38MK	n/a	n/a
39NE	n/a	n/a
4908	4.97	n/a
39MJ	n/a	n/a
39ND	n/a	n/a
39NK	n/a	n/a
39NC	n/a	n/a
39NJ	n/a	n/a
3902	4.98	3.64
4905	5.03	2.59
3908	n/a	n/a
4904	5.02	.89
3904	5.14	2.68
391A	n/a	n/a
3905	5.19	2.25
3901	5.2	1.62
4907	4.94	2.32
3906	5.17	2.03
4902	4.86	1.96
4906	4.96	n/a
4901	4.93	2.36
3907	5.99	1.99
3903	6	1.53
3701	6.15	3.48
4707	n/a	n/a
4708	n/a	n/a
4716	n/a	n/a
3702	6.16	4.58
4717	n/a	n/a
4706	6.33	4.22
371A	n/a	n/a
371D	n/a	n/a
371C	n/a	n/a
381D	n/a	n/a
381C	n/a	n/a
381B	n/a	n/a





















Manhole Reference	Manhole Cover Level	Manhole Invert Level
381A	n/a	n/a
38NL	n/a	n/a
38NH	n/a	n/a
38NM	n/a	n/a
4802	5.35	.8
38NJ	n/a	n/a
4801	5.22	1.38
3803	4.87	3.65
38LM	n/a	n/a
38MM	n/a	n/a
271E	n/a	n/a
371B	n/a	n/a
3804	4.67	4.08
3801	n/a	n/a
2809	5.07	n/a
2805	5.19	2.78
2806	5.3	3.26
2801	5.32	.44
2804	5.33	1.95
3802	5.33	3.22
3003	6.06	2.01
3005	5.56	1.22
3008	n/a	n/a
3007	6.65	1.7
3006	6.59	1.59
3004	4.81	1.77
3103	6.12	1.37
3102	5.77	1.35
4102B	n/a	-4.73
4101	3.47	1.08
3101	4.14	.92
3104	n/a	-4.82
2101	n/a	n/a

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
-  Gully
-  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 millimetres. 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.

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