Introduction

This report assesses the potential constraints presented by the existing utility infrastructure both within the boundary and in the vicinity of the search area.

The report is based on the information provided by the client about the location of the search area and the information provided by the utilities about their existing plant and networks. The information contained in this report is based on desk research only.

What is a utility constraint?

We use the term constraint to indicate that there may be limitations or prohibitions on designs and planned works due to the presence of utility apparatus. To overcome these can be costly and time-consuming. Depending on the legal rights and statutory powers of the utility the costs may have to be borne by the applicant/developer.

Report interpretation

We have developed a simple traffic light mechanism to present site constraints based on a red/amber/green evaluation;

<table>
<thead>
<tr>
<th>Traffic Light</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Site constraints exist due to the presence of utility apparatus.</td>
</tr>
<tr>
<td>Amber</td>
<td>Site constraints may exist due to the proximity of utility apparatus.</td>
</tr>
<tr>
<td>Green</td>
<td>Site constraints do not appear to exist.</td>
</tr>
</tbody>
</table>

This report confirms to QL-D of PAS 128:2014 - Specification for Underground Utility Detection, Verification and Location. To obtain further detail on utility locations consider site reconnaissance (QL-C), detection (QL-B) and verification (QL-A) as recommended under ‘Important Information’.

Prepared by

Signed off by

Premier Energy Services Ltd has taken all reasonable steps, within the timescales, to obtain the most robust information in this report but accepts no liability for the accuracy of such information or report and in addition to any limitation of liability under its Standard Terms and Conditions. These services are provided subject to our standard Scope of Services, the Supplementary Terms and our Standard Terms and Conditions.

This report is for the private and confidential use of the client for whom the report is undertaken and should not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without the express authority of Premier Energy Services Ltd.
Important Information

This flow diagram is intended to help give an understanding of the process from referring to plans on-site through to the start of excavation, for example when excavating in a road or footway. However it:

- Describes only part of the process; it does not, for example, describe planning the work, including reference to plans at the design stage;
- Is a simplified picture and not a substitute for reading the text;
- Is not a substitute for a suitable and sufficient risk assessment;
- Does not take account of a number of other situations, e.g. cable embedded in concrete or those situations where resiting services is proposed.

Excavation planned

Refer to plans of buried services

Use locating devices (CAT scan/GPR etc.)

Services located & confirmed by trial holes as necessary?

- YES
  - Obtain more information and plans if possible
  - Evidence of other services †
  - Is work close to services?
  - Carry out excavation near services by hand-digging

- NO
  - Is there a reasonable explanation for not being located *
  - Dig as many trial holes as necessary by hand
  - Services exposed?
  - Contact owners of services **
  - Use tools of choice

* For example, could services be non-metallic pipes? Please refer to HS (G) 47 text for further information.

† In particular; visual evidence. Ensure that the presence of services, which may be unmarked on plans or for which no plans are available, has been considered, for example service connections.

** If there is visual evidence of services, but owners cannot be traced, despite all reasonable attempts to do so, any excavation could proceed but using hand-dug trial holes and proceeding with great care.
Important Information

Relevant Documents

The following documents must be referred to before work commences in the vicinity of existing services:

- Health and Safety Booklet HS (GS) 6 Avoidance of Danger from Overhead Electric Lines.
- General Safety Measures to Avoid Injury and Damage to Gas Apparatus.
- HSE Guidance Note HS (G) 47 Avoiding Danger from Underground Services.
- CDM Regulations 2015.

Basic Risk Assumption for all Services

When dealing with existing services the following assumptions must always be accepted:

- All existing buildings have gas, water electric and telecoms supplies to them until proven otherwise.
- Any supply to an existing building, no matter how old the building is or how deteriorated the supply may appear, is taken to be ‘live’ until proven otherwise.
- All open land, vacant lots and derelict sites are deemed to have services beneath them until proven otherwise.
- The only acceptable proof that a service is ‘dead’ and can be removed is written confirmation from the owner of the service.
- The quality and accuracy of information provided by utilities about their existing plant is indicative and no warranty is made as to its accuracy. Therefore, any utility record plans and/or marked up drawings provided by each utility must only be used as a guide and the actual location of plant should be verified by CAT Scan or trial holes before construction works commence.

  Please note not all service connections are shown on the utility record plans.

Plant Found Within Site Boundaries

Where utility plant is found within the site boundary, it is recommended for the client to check for legal easements or wayleaves.

Diversions of plant within site boundaries can be expensive and time consuming to relocate. Further investigation of costs and timescales are recommended. Please ask PES for further details.
## Enclosures

<table>
<thead>
<tr>
<th>Type</th>
<th>Company</th>
<th>In Vicinity</th>
<th>Desk Research</th>
<th>Awaiting Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>UK Power Networks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Thames Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td>Thames Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas</td>
<td>Cadent (formerly National Grid Gas)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openreach</td>
<td>Openreach (formerly BT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virgin Media</td>
<td>Virgin Media</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independents</td>
<td>GTC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Energetics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engie</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comms.</td>
<td>Vodafone Ltd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KPN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SKY Telecommunications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interoute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SOTA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Instalcom (multiple co's)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verizon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vtesse Networks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TeliaSonera</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>euNetworks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSE Telecoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tunnels &amp; Pipelines</td>
<td>Details</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CityFibre</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mast Data</td>
<td><img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="green" alt="Green" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LinesearchbeforeUdig (ESP in Vicinity, UKPN, see Electric, Zayo in Vicinity)</td>
<td><img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BT Deep Level Tunnels</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thames Water Ring Main</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thames Tunnel</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Office Tunnels</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Docklands Light Railway</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
<tr>
<td>London Underground</td>
<td><img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
<tr>
<td>LUL HV Power Assets</td>
<td><img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="red" alt="Red" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
<tr>
<td>Crossrail</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
<tr>
<td>Network Rail</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
<tr>
<td>Transport for London</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
<tr>
<td>Trafficmaster</td>
<td><img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="green" alt="Green" /> <img src="check" alt="Check" /></td>
</tr>
</tbody>
</table>
## Acronyms Key

<table>
<thead>
<tr>
<th>Apparatus</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electric</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNO</td>
<td>Distribution Network Operator</td>
<td>KVA</td>
</tr>
<tr>
<td>IDNO</td>
<td>Independent Distribution Network Operator</td>
<td>MVA</td>
</tr>
<tr>
<td>ICP</td>
<td>Independent Connections Provider</td>
<td>AC</td>
</tr>
<tr>
<td>LV</td>
<td>Low Voltage</td>
<td>S/S</td>
</tr>
<tr>
<td>HV</td>
<td>High Voltage</td>
<td>PMT</td>
</tr>
<tr>
<td>EHV</td>
<td>Extra High Voltage</td>
<td></td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLO</td>
<td>Self Lay Organisation</td>
<td>WRAS</td>
</tr>
<tr>
<td>Incumbent</td>
<td>Local Water / Water &amp; Sewerage Company</td>
<td></td>
</tr>
<tr>
<td><strong>Gas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GT</td>
<td>Gas Transporter</td>
<td>LP</td>
</tr>
<tr>
<td>iGT</td>
<td>Independent Gas Transporter</td>
<td>MP</td>
</tr>
<tr>
<td>UIP</td>
<td>Utility Infrastructure Provider</td>
<td>IP</td>
</tr>
<tr>
<td>PRS</td>
<td>Pressure Reducing Station (Governor)</td>
<td>HP</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PES</td>
<td>Premier Energy Services</td>
<td>CATV</td>
</tr>
<tr>
<td>PE</td>
<td>Polyethylene</td>
<td>FTTP</td>
</tr>
<tr>
<td>DI</td>
<td>Ductile Iron</td>
<td>FTTC</td>
</tr>
<tr>
<td>ST</td>
<td>Steel</td>
<td>l/min</td>
</tr>
<tr>
<td>CI</td>
<td>Cast Iron</td>
<td>H&amp;S</td>
</tr>
<tr>
<td>SI</td>
<td>Spun Iron</td>
<td>HBF</td>
</tr>
<tr>
<td>HPPE</td>
<td>High Performance Polyethylene</td>
<td>TPO</td>
</tr>
<tr>
<td>MDPE</td>
<td>Medium Density Polyethylene</td>
<td>TBC</td>
</tr>
<tr>
<td>GRP</td>
<td>Glass Reinforced Plastic</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**DESIGN RESEARCH**

<table>
<thead>
<tr>
<th>Project No:</th>
<th>603552</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td>02/02/2018</td>
</tr>
<tr>
<td>Client:</td>
<td>40Seven</td>
</tr>
<tr>
<td>Site:</td>
<td>LSHTM</td>
</tr>
<tr>
<td>Postcode:</td>
<td>WC1H 9RH</td>
</tr>
<tr>
<td>OS Ref:</td>
<td>TQ 30074 82419</td>
</tr>
<tr>
<td>National Grid Ref:</td>
<td>Easting: 530074 Northing: 182419</td>
</tr>
</tbody>
</table>

### UTILITIES

<table>
<thead>
<tr>
<th>OPENREACH &amp; DEEP LEVEL TUNNELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset map requested?</td>
</tr>
<tr>
<td>Is the Openreach plan marked with hatching in the vicinity of the site?</td>
</tr>
<tr>
<td>If yes, email enquiry to Openreach</td>
</tr>
<tr>
<td>Broadband check made (USIR only)?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GAS NETWORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT and IGT asset maps requested?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VIRGIN MEDIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset map requested?</td>
</tr>
</tbody>
</table>

### COMMUNICATIONS

<table>
<thead>
<tr>
<th>SOTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in Kent?</td>
</tr>
<tr>
<td>If yes, email enquiry to McNicholas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KCOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of Hull?</td>
</tr>
<tr>
<td>If yes, email enquiry to KCOM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SSE TELECOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of SSE Telecoms?</td>
</tr>
<tr>
<td>If yes, print asset map</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CITYFIBRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of CityFibre?</td>
</tr>
<tr>
<td>If yes, enquiry to CityFibre</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of a base station?</td>
</tr>
<tr>
<td>If yes, print details of base station</td>
</tr>
</tbody>
</table>

### TUNNELS & PIPELINES

<table>
<thead>
<tr>
<th>LINESEARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineseach confirmed plant in vicinity?</td>
</tr>
<tr>
<td>If yes, send enquiry to plant operator</td>
</tr>
</tbody>
</table>
# Desk Research

## Thames Water Ring Main

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of the TWU Ring Main?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If yes, ensure TWU asset map shows Ring Main</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

## Thames Tunnel

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of any planned works?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If yes, print details</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

## Transport

### Network Rail

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site either (a) immediately adjacent to or above major Network Rail infrastructure such as substations or (b) on land formerly owned by Network Rail?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>If yes, email enquiry to Network Rail</td>
<td>Sent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Crossrail

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of Crossrail?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If yes, email enquiry to Crossrail</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### Trafficmaster

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site adjacent to a Trafficmaster installation?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>If yes, email enquiry to Trafficmaster</td>
<td>Sent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Greater London

**Yes ☐ No ☐**

### EU Networks

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site in the vicinity of euNetworks plant?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>If yes, email enquiry to euNetworks</td>
<td>Sent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### If site is within a Greater London Borough, send enquiries to:

#### Transport for London

**LUL HV Power Assets**

**London Underground**

Check enquiry area, send if required

**Signed**

## Inner London

**Yes ☐ No ☐**

### Docklands Light Rail

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site close to the DLR?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>If yes, email enquiry to DLR</td>
<td>Sent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Post Office Tunnels

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Signed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the site close to the tunnels?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>If yes, only piling or similar depth works will affect plant</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cross Section
2045190
Cable cross section

Cross Section
2761242

0.6

0.25 3C 11kV

P

0.4 4C

0.04 2C

300 kV Ass Pos
Get the basics right. Familiarise yourself with the site. Mark the route of underground cables running across the site on all plans circulated to staff. Find out if the work could be carried out away from the cables, or avoided all together.

UK Power Networks is committed to safety and actively encourages anyone undertaking work to contact us in advance for advice and free cable locating maps. These will help you avoid our underground cables during your work, which is vital for your safety as well as ensuring we can provide a reliable supply of electricity.

For free maps and advice call or write to:

Plan Provision
UK Power Networks
Fore Hamlet
Ipswich
IP3 8AA
plans@ukpowernetworks.co.uk

We can advise you on what steps to take if essential work is necessary close to underground cables and help ensure safe working practices are implemented.

Good management reduces the risk of accidents. With proper planning and control, workers should not come into contact with underground cables.

If excavation work forms a part of your day-to-day activities obtain a copy of the Health & Safety Executive's Guidance Note “Avoiding Danger from Underground Services” HSG47, which is free to download from the HSE’s website - www.hse.gov.uk/pubns/priced/hsg47.pdf

• Have cable drawings and records on site, know how to read them and check them before starting work. Be aware that not all cables may be shown on the records.

• Look around for anything in the vicinity that would have an electricity service, such as street lights, CCTV cameras, phone boxes, etc. as well as the more obvious things like houses and industrial units.

• Always use a cable avoidance tool (CAT) to survey the entire site before digging commences. Once found, mark cable positions with spray paint or similar. Do not forget to use encroachment lines as well.

• Dig trial holes, by hand, alongside the indicated route of the cables(s).

• Use spades and shovels with insulated handles in preference to forks and picks.

• Make sure everyone on site, including visitors, understand the risks.

• If there is a cable encased in concrete contact UK Power Networks to agree a safe method of work. This may mean making the cable dead.

• Have the emergency contact telephone number easily available on site.

Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take time to read this simple safety leaflet and identify the precautions they should be taking.

People in construction, demolition, agriculture, infrastructure or anywhere else where excavation is taking place. That is why it is vital everyone working on or visiting a working site is fully aware of the hazards and the steps that must be taken to avoid them.

Sadly, accidents where excavators, breakers or other tools make contact with power cables are not uncommon. Where equipment or machinery is used near underground cables the risk must be considered and controlled in the interests of everyone.

• Never allow anyone near a damaged or suspected damaged cable or joint.

• Do not handle or attempt to alter the position of a cable or joint.

• Never assume that cables run in straight lines, they may be deflected around underground obstacles.

• Do not use mechanical excavator or powered digging tool within the vicinity of known cables.

• Never knock a road pin, or forcibly throw a spiked digging tool into the ground, without checking what is below the surface.

Call the network operator if you are unsure of your network operator then please visit www.energynetworks.org 0800 587 3243

www.ukpowernetworks.co.uk

UK Power Networks, Registered office: Newington House, 237 Southwark Bridge Road, London SE1 6NP
Registered in England and Wales No: 3870728

Think before you...

DIG UNDER GROUND

THINK BEFORE YOU DIG

Notify UK Power Networks immediately:

Call the emergency services if anyone is injured. Anyone who has received an electrical shock should go to hospital as damage may have occurred to the heart.

Always treat the cable(s) as live even if they are not sparking. Cables can be re-energised at any time without warning.

Never remove anything that is stuck in a cable.

Keep everyone well away from the area of the damage.

Do NOT attempt to remove anything that is in contact with the cable.
Every year people are killed or seriously injured in incidents involving underground electricity cables.

THE DANGER

Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take time to read this simple safety leaflet and identify the precautions they should be taking.

WHO IS AT RISK?

People in construction, demolition, agriculture, infrastructure or anywhere else where excavation is taking place. That is why it is vital everyone working on or visiting a working site is fully aware of the hazards and the steps that must be taken to avoid them.

HOW INCIDENTS HAPPEN

Sadly, accidents where excavators, breakers or other tools make contact with power cables are not uncommon. Where equipment or machinery is used near underground cables the risk must be considered and controlled in the interests of everyone.
### THINK AHEAD

Get the basics right. Familiarise yourself with the site. Mark the route of underground cables running across the site on all plans circulated to staff. Find out if the work could be carried out away from the cables, or avoided altogether.

UK Power Networks is committed to safety and actively encourages anyone undertaking work to contact us in advance for advice and free cable locating maps.

These will help you avoid our underground cables during your work, which is vital for your safety as well as ensuring we can provide a reliable supply of electricity.

For free maps and advice call 0800 056 5866 or write to:

Plan Protection
UK Power Networks
Fenland
Ipswich
IP2 5AA
plan@ukpowernetworks.co.uk

We can advise you on what steps to take if essential work is necessary close to underground cables and help ensure safe working practices are implemented.

Good management reduces the risk of accidents. With proper planning and control, workers should not come into contact with underground cables.

If excavation work forms a part of your day-to-day activities obtain a copy of the Health & Safety Executive’s Guidance Note “Avoiding Danger from Underground Services” HSG47, which is free to download from the HSE’s website - [www.hse.gov.uk/pubns/priced/hsg47.pdf](http://www.hse.gov.uk/pubns/priced/hsg47.pdf)
WHAT TO DO

- Have cable drawings and records on site, know how to read them and check them before starting work. Be aware that not all cables may be shown on the records.

- Look around for anything in the vicinity that would have an electricity service, such as street lights, CCTV cameras, phone boxes, etc. as well as the more obvious things like houses and industrial units.

- Always use a cable avoidance tool (CAT) to survey the entire site before digging commences. Once found, mark cable positions with spray paint or similar. Do not forget to use encroachment lines as well.

- Dig trial holes, by hand, alongside the indicated route of the cable(s).

- Use spades and shovels with insulated handles in preference to forks and picks.

- Make sure everyone on site, including visitors, understand the risks.

- If there is a cable encased in concrete contact UK Power Networks to agree a safe method of work. This may mean making the cable dead.

- Before demolishing a building make sure that supplies are disconnected, preferably well clear of the work area.

- Before demolition or other disruptive works please contact UK Power Networks so we can give you tips and advice on how to avoid our underground cables.

- When planning any work on or around a public highway, etc. you should contact the Highways Authority and consider what underground services, if any, may be running across the site.

- Before starting or continuing any work, call UK Power Networks on 0800 587 3243 to agree a safe method of work.

- Never remove anything that is in contact with the cable, even if they are not sparking.

- Notify UK Power Networks immediately:
  - If the cable is live or you think it may be
  - If the cable is dead.
WHAT NOT TO DO

- Never allow anyone near a damaged or suspected damaged cable or joint.
- Do not handle or attempt to alter the position of a cable or joint.
- Never assume that cables run in straight lines, they may be deflected around underground obstacles.
- Do not use mechanical excavator or powered digging tool within the vicinity of known cables.
- Never knock a rod pin, or forcibly throw a spade digging tool into the ground, without checking what is below the surface.
Get the basics right. Familiarise yourself with the site. Mark the route of underground cables running across the site on all plans circulated to staff. Find out if the work could be carried out away from the cables, or avoided altogether.

UK Power Networks is committed to safety and actively encourages anyone undertaking work to contact us in advance for advice and free cable locating maps. These will help you avoid our underground cables during your work, which is vital for your safety as well as ensuring we can provide a reliable supply of electricity.

For free maps and advice call 0800 783 8866 or write to:

Plan Provision
UK Power Networks
Fore Hamlet
Ipswich
IP3 8AA
plans@ukpowernetworks.co.uk

We can advise you on what steps to take if essential work is necessary close to underground cables and help ensure safe working practices are implemented.

Good management reduces the risk of accidents. With proper planning and control, workers should not come into contact with underground cables.

If excavation work forms a part of your day-to-day activities obtain a copy of the Health & Safety Executive’s Guidance Note “Avoiding Danger from Underground Services” HSG47, which is free to download from the HSE’s website - www.hse.gov.uk/pubns/priced/hsg47.pdf

- Have cable drawings and records on site, know how to read them and check them before starting work. Be aware that not all cables may be shown on the records.
- Look around for anything in the vicinity that would have an electricity service, such as street lights, CCTV cameras, phone boxes, etc. as well as the more obvious things like houses and industrial units.
- Always use a cable avoidance tool (CAT) to survey the entire site before digging commences. Once found, mark cable positions with spray paint or similar. Do not forget to use encroachment lines as well.
- Dig trial holes by hand, alongside the indicated route of the cables(s).
- Use spades and shovels with insulated handles in preference to forks and picks.
- Make sure everyone on site, including visitors, understand the risks.
- If there is a cable encased in concrete contact UK Power Networks to agree a safe method of work. This may mean making the cable dead.
- Have the emergency contact telephone number easily available on site.

16.417 mm Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take time to read this simple safety leaflet and identify the precautions they should be taking.

People in construction, demolition, agriculture, infrastructure or anywhere else where excavation is taking place. That is why it is vital everyone working on or visiting a working site is fully aware of the hazards and the steps that must be taken to avoid them.

Sadly, accidents where excavators, breakers or other tools make contact with power cables are not uncommon. Where equipment or machinery is used near underground cables the risk must be considered and controlled in the interests of everyone.

- Never allow anyone near a damaged or suspected damaged cable or joint.
- Do not handle or attempt to alter the position of a cable or joint.
- Never assume that cables run in straight lines, they may be deflected around underground obstacles.
- Do not use mechanical excavator or powered digging tool within the vicinity of known cables.
- Never knock a road pin, or forcibly throw a spiked digging tool into the ground, without checking what is below the surface.

Call the network operator if you are unsure of your network operator then please visit www.energynetworks.org

0800 587 3243

www.ukpowernetworks.co.uk

UK Power Networks, Registered office: Newington House, 237 Southwark Bridge Road, London SE1 6NP

Registered in England and Wales No: 3870728

IF A CABLE IS DAMAGED

Notify UK Power Networks immediately:

London 0800 028 0247
East of England 0800 783 8838
South East 0800 783 8866

Call the emergency services if anyone is injured. Anyone who has received an electrical shock should go to hospital as damage may have occurred to the heart.

Always treat the cable(s) as live even if they are not sparking. Cables can be re-energised at any time without warning.

Never remove anything that is stuck in a cable.

Keep everyone well away from the area of the damage.

Do NOT attempt to remove anything that is in contact with the cable.
Get the basics right. Familiarise yourself with the site. Mark the route of underground cables running across the site on all plans circulated to staff. Find out if the work could be carried out away from the cables, or avoided altogether.

UK Power Networks is committed to safety and actively encourages anyone undertaking work to contact us in advance for advice and free cable locating maps. These will help you avoid our underground cables during your work, which is vital for your safety as well as ensuring we can provide a reliable supply of electricity.

For free maps and advice call or write to:

Plan Provision
UK Power Networks
Fore Hamlet
Ipswich
IP3 8AA
plans@ukpowernetworks.co.uk

We can advise you on what steps to take if essential work is necessary close to underground cables and help ensure safe working practices are implemented.

Good management reduces the risk of accidents. With proper planning and control, workers should not come into contact with underground cables.

If excavation work forms a part of your day-to-day activities obtain a copy of the Health & Safety Executive's Guidance Note “Avoiding Danger from Underground Services” HSG47, which is free to download from the HSE’s website - www.hse.gov.uk/pubns/priced/hsg47.pdf.

• Have cable drawings and records on site, know how to read them and check them before starting work. Be aware that not all cables may be shown on the records.

• Look around for anything in the vicinity that would have an electricity service, such as street lights, CCTV cameras, phone boxes, etc. as well as the more obvious things like houses and industrial units.

• Always use a cable avoidance tool (CAT) to survey the entire site before digging commences. Once found, mark cable positions with spray paint or similar. Do not forget to use encroachment lines as well.

• Dig trial holes, by hand, alongside the indicated route of the cables(s).

• Use spades and shovels with insulated handles in preference to forks.

• Make sure everyone on site, including visitors, understand the risks.

• If there is a cable encased in concrete contact UK Power Networks to agree a safe method of work. This may mean making the cable dead.

• Have the emergency contact telephone number easily available on site.

Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take time to read this simple safety leaflet and identify the precautions they should be taking.

People in construction, demolition, agriculture, infrastructure or anywhere else where excavation is taking place. That is why it is vital everyone working on or visiting a working site is fully aware of the hazards and the steps that must be taken to avoid them.

Sadly, accidents where excavators, breakers or other tools make contact with power cables are not uncommon. Where equipment or machinery is used near underground cables the risk must be considered and controlled in the interests of everyone.

• Never allow anyone near a damaged or suspected damaged cable or joint.

• Do not handle or attempt to alter the position of a cable or joint.

• Never assume that cables run in straight lines, they may be deflected around underground obstacles.

• Do not use mechanical excavator or powered digging tool within the vicinity of known cables.

• Never knock a road pin, or forcibly throw a spiked digging tool into the ground, without checking what is below the surface.

Call the network operator if you are unsure of your network operator then please visit www.energynetworks.org 0800 587 3243 www.ukpowernetworks.co.uk

UK Power Networks, Registered office: Newington House, 237 Southwark Bridge Road, London SE1 6NP Registered in England and Wales No: 3870728

CHECK IT OUT BEFORE YOU DIG UNDER GROUND
THINK BEFORE YOU DIG
PLAN IT OUT

Notify UK Power Networks immediately:
Call the emergency services if anyone is injured. Anyone who has received an electrical shock should go to hospital as damage may have occurred to the heart.

Always treat the cable(s) as live even if they are not sparking. Cables can be re-energised at any time without warning.

Never remove anything that is stuck in a cable.

Keep everyone well away from the area of the damage. Do NOT attempt to remove anything that is in contact with the cable.
Get the basics right. Familiarise yourself with the site. Mark the route of underground cables running across the site on all plans circulated to staff. Find out if the work could be carried out away from the cables, or avoided altogether.

UK Power Networks is committed to safety and actively encourages anyone undertaking work to contact us in advance for advice and free cable locating maps. These will help you avoid our underground cables during your work, which is vital for your safety as well as ensuring we can provide a reliable supply of electricity.

For free maps and advice call 0800 587 3243 or write to:

Plan Provision
UK Power Networks
Fore Hamlet
Ipswich
IP3 8AA

plans@ukpowernetworks.co.uk

We can advise you on what steps to take if essential work is necessary close to underground cables and help ensure safe working practises are implemented.

Good management reduces the risk of accidents. With proper planning and control, workers should not come into contact with underground cables.

If excavation work forms a part of your day-to-day activities obtain a copy of the Health & Safety Executive's Guidance Note "Avoiding Danger from Underground Services" HSG47, which is free to download from the HSE's website - www.hse.gov.uk/pubns/priced/hsg47.pdf

16.417 mm

Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take time to read this simple safety leaflet and identify the precautions they should be taking.

People in construction, demolition, agriculture, infrastructure or anywhere else where excavation is taking place. That is why it is vital everyone working on or visiting a working site is fully aware of the hazards and the steps that must be taken to avoid them.

Sadly, accidents where excavators, breakers or other tools make contact with power cables are not uncommon. Where equipment or machinery is used near underground cables the risk must be considered and controlled in the interests of everyone.

• Have cable drawings and records on site, know how to read them and check them before starting work. Be aware that not all cables may be shown on the records.
• Look around for anything in the vicinity that would have an electricity service, such as street lights, CCTV cameras, phone boxes, etc. as well as the more obvious things like houses and industrial units.
• Always use a cable avoidance tool (CAT) to survey the entire site before digging commences. Once found, mark cable positions with spray paint or similar. Do not forget to use encroachment lines as well.
• Dig trial holes, by hand, alongside the indicated route of the cables(s).
• Use spades and shovels with insulated handles in preference to forks.
• Make sure everyone on site, including visitors, understand the risks.
• If there is a cable encased in concrete contact UK Power Networks to agree a safe method of work. This may mean making the cable dead.
• Have the emergency contact telephone number easily available on site.

Call the network operator

0800 587 3243
www.ukpowernetworks.co.uk

If you are unsure of your network operator then please visit www.energynetworks.org

DANGER OF DEATH
THINK BEFORE YOU DIG

Call the network operator

0800 587 3243
www.ukpowernetworks.co.uk

If you are unsure of your network operator then please visit www.energynetworks.org

UK Power Networks, Registered office: Newington House, 237 Southwark Bridge Road, London SE1 6NP, Registered in England and Wales No: 3870728

THINK BEFORE YOU DIG
Premier Energy Services  
Premier House  
Daux Road  
BILLINGSHURST  
RH14 9SJ

Search address supplied  LSHTM  
Tavistock Place  
London  
WC1H 9RH

Your reference  603552 - LSHTM

Our reference  ALS/ALS Standard/2018_3732008

Search date  2 February 2018

Keeping you up-to-date

Knowledge of features below the surface is essential in every development. The benefits of this not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility for any commercial or residential project.

An asset location search provides information on the location of known Thames Water clean and/or wastewater assets, including details of pipe sizes, direction of flow and depth. Please note that information on cover and invert levels will only be provided where the data is available.
Search address supplied:  LSHTM, Tavistock Place, London, WC1H 9RH

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 search provides 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
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 0800 316 9800. 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.
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: 0800 009 3921
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: 0800 009 3921
Email: developer.services@thameswater.co.uk
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.
<table>
<thead>
<tr>
<th>Manhole Reference</th>
<th>Manhole Cover Level</th>
<th>Manhole Invert Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>95BE</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95CA</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>96CE</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>96CB</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8601</td>
<td>22.57</td>
<td>13.5</td>
</tr>
<tr>
<td>96CD</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8611</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>96CC</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>96CF</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>96CH</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>96CG</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9601</td>
<td>22.38</td>
<td>18.63</td>
</tr>
<tr>
<td>8612</td>
<td>22.03</td>
<td>12.78</td>
</tr>
<tr>
<td>96CI</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9604</td>
<td>21.79</td>
<td>18.47</td>
</tr>
<tr>
<td>7606</td>
<td>22.44</td>
<td>18.55</td>
</tr>
<tr>
<td>851D</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>851C</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>851B</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8501</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>851E</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>851A</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8402</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9501</td>
<td>23.05</td>
<td>19.35</td>
</tr>
<tr>
<td>95BI</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95CC</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95BJ</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95CB</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95BH</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95BF</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>95BG</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>951A</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9502</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>941A</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9005</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9002</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9001</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1503</td>
<td>23.74</td>
<td>18.68</td>
</tr>
<tr>
<td>141A</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1405</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1502</td>
<td>23.79</td>
<td>16.54</td>
</tr>
<tr>
<td>1504</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1403</td>
<td>22.33</td>
<td>19.94</td>
</tr>
<tr>
<td>160D</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>26DE</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2401</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2601</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2503</td>
<td>21.52</td>
<td>18.39</td>
</tr>
<tr>
<td>24DD</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>73DA</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>82DH</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>82BI</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>82DF</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>82DG</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8203</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8304</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>8205</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9202</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9303</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>9204</td>
<td>24.96</td>
<td>21.47</td>
</tr>
<tr>
<td>9201</td>
<td>24.8</td>
<td>n/a</td>
</tr>
<tr>
<td>021A</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>03DI</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>0201</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>031A</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>0301</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1105</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1301</td>
<td>23.68</td>
<td>n/a</td>
</tr>
<tr>
<td>1204</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>2201</td>
<td>23.26</td>
<td>19.5</td>
</tr>
</tbody>
</table>

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**

- **Storm Relief**

- **Vent Pipe**

- **Proposed Thames Surface Water Sewer**

- **Gallery**

- **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 Valve**
- **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.

- **Control Valve**
- **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 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.
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)

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

- **Trunk Main**: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

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

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

- **Metered Pipe**: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

- **Transmission Tunnel**: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

- **Proposed Main**: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

#### 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.

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>DEPTH BELOW GROUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 300mm (12&quot;)</td>
<td>900mm (3')</td>
</tr>
<tr>
<td>300mm - 600mm (12&quot; - 24&quot;)</td>
<td>1100mm (3' 8&quot;)</td>
</tr>
<tr>
<td>600mm and bigger (24&quot; plus)</td>
<td>1200mm (4')</td>
</tr>
</tbody>
</table>
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 0800 316 9800

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 her 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

<table>
<thead>
<tr>
<th>Credit Card</th>
<th>BACS Payment</th>
<th>Telephone Banking</th>
<th>Cheque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call 0845 070 9148 quoting your invoice number starting CBA or ADS / OSS</td>
<td>Account number 90478703 Sort code 60-00-01</td>
<td>By calling your bank and quoting: Account number 90478703 Sort code 60-00-01 and your invoice number</td>
<td>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</td>
</tr>
</tbody>
</table>

ps.billing@thameswater.co.uk

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, 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
Date: 02/02/2018  
Our Ref: NL_TE_Z5_3SWX_400488  
Your Ref: 603552 - LSHTM  
RE: Proposed Works, Tavistock Place, Kings Cross, London, WC1H 9RH

Thank you for your enquiry which was received on 02/02/2018. Please note this response and any attached map(s) are valid for 28 days.

An assessment has been carried out with respect to Cadent Gas Ltd, National Grid Electricity Transmission plc's and National Grid Gas plc's apparatus. Please note it does not cover the items listed in the section "Your Responsibilities and Obligations", including gas service pipes and related apparatus.

For details of Network areas please see the Cadent website (http://cadentgas.com/Digging-safely/Dial-before-you-dig) or the enclosed documentation.

As your works are at a "proposed" stage, any maps and guidance provided are for information purposes only. This is not approval to commence work. You must submit a "Scheduled Works" enquiry at the earliest opportunity and failure to do this may lead to disruption to your plans and works. Plant Protection will endeavour to provide an initial assessment within 14 days of receipt of a Scheduled Works enquiry and dependent on the outcome of this, further consultation may be required.

In any event, for safety and legal reasons, works must not be carried out until a Scheduled Works enquiry has been completed and final response received.


Your Responsibilities and Obligations

The "Assessment" Section below outlines the detailed requirements that must be followed when planning or undertaking your scheduled activities at this location.

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near Cadent and/or National Grid's apparatus, e.g. as contained within the Construction (Design and Management) Regulations.

This assessment solely relates to Cadent Gas Ltd, National Grid Electricity Transmission plc (NGET) and National Grid Gas plc (NGG) and apparatus. This assessment does NOT include:

- Cadent and/or National Grid's legal interest (easements or wayleaves) in the land which restricts activity in proximity to Cadent and/or National Grid's assets in private land. You must obtain details of any such restrictions from the landowner in the first instance and if in doubt contact Plant Protection.
- Gas service pipes and related apparatus
- Recently installed apparatus
- Apparatus owned by other organisations, e.g. other gas distribution operators, local electricity companies, other utilities, etc.

It is YOUR responsibility to take into account whether the items listed above may be present and if they could be affected by your proposed activities. Further "Essential Guidance" in respect of these items can be found on the National Grid Website (http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982).

This communication does not constitute any formal agreement or consent for any proposed development work; either generally or with regard to Cadent and/or National Grid's easements or wayleaves nor any planning or building regulations applications.

Cadent Gas Ltd, NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you require further assistance please contact the Plant Protection team via e-mail (click here) or via the contact details at the top of this response.

Yours faithfully

Plant Protection Team
ASSESSMENT

Affected Apparatus
The apparatus that has been identified as being in the vicinity of your proposed works is:

- Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are gas services and associated apparatus in the vicinity)

Requirements

BEFORE carrying out any work you must:

- Carefully read these requirements including the attached guidance documents and maps showing the location of apparatus.
- Contact the landowner and ensure any proposed works in private land do not infringe Cadent and/or National Grid's legal rights (i.e. easements or wayleaves). If the works are in the road or footpath the relevant local authority should be contacted.
- Ensure that all persons, including direct labour and contractors, working for you on or near Cadent and/or National Grid's apparatus follow the requirements of the HSE Guidance Notes HSG47 - 'Avoiding Danger from Underground Services' and GS6 – 'Avoidance of danger from overhead electric power lines'. This guidance can be downloaded free of charge at [http://www.hse.gov.uk](http://www.hse.gov.uk)
- In line with the above guidance, verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken.
GUIDANCE


Standard Guidance


Copies of all the Guidance Documents can also be downloaded from the National Grid Website: http://www.nationalgrid.com/uk/Gas/Safety/work/downloads/
This plan shows those pipes owned by Cadent Gas Ltd in their 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 Cadent Gas Ltd 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. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm)

A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.
This plan shows those pipes owned by Cadent Gas Ltd in their 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 Cadent Gas Ltd 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. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm). A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.
This plan shows those pipes owned by Cadent Gas Ltd in their 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 Cadent Gas Ltd 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. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm)
A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.
This plan shows those pipes owned by Cadent Gas Ltd in their 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 Cadent Gas Ltd 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. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm)

A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.
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.
ENQUIRY SUMMARY

Received Date
02/02/2018

Your Reference
603552 - LSHTM

Location
Centre Point: 530059, 182408
X Extent: 228
Y Extent: 247
Location Description: Tavistock Place, Kings Cross, London, WC1H 9RH

Map Options
Paper Size: A4
Orientation: LANDSCAPE
Requested Scale: 2500
Actual Scale: 1:2500 (GAS)
Real World Extents: 723m x 393m (GAS)

Recipients
holli.welsh@premierenergy.co.uk

Enquirer Details
Organisation Name: Premier Energy Services
Contact Name: Holli Welsh
Email Address: holli.welsh@premierenergy.co.uk
Telephone: 01403289887
Address: Premir House, Daux Road, Billingshurst, West Sussex, RH14 9SJ

Description of Works
Plans Only

Enquiry Type
Proposed Works

Activity Type
Development Project

Work Types
Work Type: Plans Only
Reference/Location:- LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

With reference to your email:- *The Hatched Area shows that BT has "Significant Network Assets in the Area "*

This request will have to be forwarded to our Consultants.

Could you please supply additional information as below

1. Location Plan
2. Full address and Postcode
3. Grid Reference
4. Full details of Works inclusive of Depths.

Once received your Search will be forwarded directly.

Regards

Sent using my LENOVA THINKPAD LAPTOP

Mike Powell
NNHC
Openreach
Telephone: 0117 376 0905
Web: www.openreach.co.uk

Openreach is building Britain’s connected future. We install and maintain the communications infrastructure that links homes and businesses to their service provider’s network - meeting their digital needs both today, and in the future.

This email contains BT information, which may be privileged or confidential. It's meant only for the individual(s) or entity named above. If you're not the intended recipient, note that disclosing, copying, distributing or using this information is prohibited. If you've received this email in error, please let me know immediately on the email address above. Thank you.

We monitor our email system, and may record your emails.

British Telecommunications plc
Registered office: 81 Newgate Street London EC1A 7AJ
Registered in England no. 1800000
Dear Sir/Madam,

Enquiry Location: LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

Thank you for your enquiry regarding work at the above location. I enclose a copy of our above referenced drawing, marked to show the approximate position of plant owned and operated by Virgin Media.

You will be aware that you have a duty to ensure that no damage results to this equipment as a result of your proposed works. Please note that this apparatus may contain Fibre Optic, Coaxial and/or 240v Power Cables and as such, special care must be taken when excavating this area.

Should you require Virgin Media apparatus to be diverted we must agree a specification of works and provide a detailed estimate of costs. The costs are £720 (Business) or £240 (Residential) Inc VAT and the charge applies to each individual scheme requested. Both the estimate and specification will be sent to you within 25 working days of when the payment was received.

This initial payment will cover the following:

• Detailed site visit by an experienced planning engineer. (Up to 10 hours planning time)

• Detailed specification of works.

• Detailed breakdown of costs.

Payment is required in advance for the estimated cost of detailed design work and the charge applies whether or not your works proceed. Please supply us with your payment and a copy of your plans or drawings and quote ‘Our Ref’ as above.
The address to send the cheque is:

Diversionary Works, Virgin Media, 1 Dove Wynd, Strathclyde Business Park Bellshill ML4 3AL

Or if you prefer to talk, please call the Diversionary Team on: 0800 408 0088 Option 1

Yours faithfully

National Plant Enquiries Team,
Important Information - please read

The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the "Affected Postcodes.pdf", which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2018 Ordnance Survey 100019209.
GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 606289
Your Enquiry Ref: 603552 - LSHTM

Dear Holli,

Thank you for your enquiry concerning apparatus in the vicinity of your proposed work. GTC can confirm that we have no apparatus in the vicinity but please note that other asset owners may have and ensure all utility owners have been consulted. For your records, the search area is shown in the attached map.

Please note our assets now include those owned and operated by:

- GTC Pipelines Limited
- Independent Pipelines Limited
- Quadrant Pipelines Limited
- Electricity Network Company Limited
- Independent Power Networks Limited
- Independent Water Networks Limited
- Independent Fibre Networks Limited
- Independent Community Heating Limited

If you have any queries or require any further information please do not hesitate to contact us.

Your sincerely,

GTC Plant Enquiry Service.

GTC
Energy House
Woolpit Business Park
Woolpit
Bury St Edmunds
Suffolk, IP30 9UP
Tel: 01359 240363
plant.enquiries@gtc-uk.co.uk

NOTE:
This E-Mail originates from GTC, Energy House, Woolpit Business Park, Woolpit, Bury St Edmunds, Suffolk, IP30 9UP
VAT Number: GB688 8971 40. Registered No: 029431.

DISCLAIMER
The information in this E-Mail and in any attachments is confidential and may be privileged. If you are not the intended recipient, please destroy this message, delete any copies held on your system and notify the sender immediately. You
Dear Sir/Madam,

Thank you for submitting your recent plant enquiry.

Based on the information provided, I can confirm that Energetics does not have any plant within the area(s) specified in your request.

If you require further assistance with outstanding enquiries, please call 03300 587 443.

Please ensure all plant enquiries are sent to plantenquiries@energetics-uk.com

Regards

---

From: Holli Welsh [mailto:holli.welsh@premierenergy.co.uk]
Sent: 02 February 2018 10:16
To: Plant Enquiries <plantenquiries@energetics-uk.com>
Subject: Plant Enquiry - LSHTM

Dear Plant Enquiries,

Please search the following location for your plant:

LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

[529966,182470]

A location plan (2 pages) showing the search area is attached. If you have plant within the search area or close to the boundary please provide record drawings, ideally by email attachment. Please provide your information as soon as possible.

Many thanks.

Kind regards,
To whom it may concern

With regard to your request for details of existing services in the specified area;

LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

We can confirm that, based on the details provided to us, we have no buried plant or equipment in the identified area.

ENGIE Document Control
Urban Energy
UK & Ireland
NRSWA.UK@engie.com

Cofely GDF SUEZ is now ENGIE

engie.co.uk
Kings Yard,
1 Waterden Road,
Queen Elizabeth Olympic Park
London E15 2GP - UK

Please consider the environment before printing this message

From: Holli Welsh [mailto:holli.welsh@premierenergy.co.uk]
Sent: 02 February 2018 10:21
To: NRSWA <nrswa.uk@engie.com>
Subject: Plant Enquiry - LSHTM

Dear Plant Enquiries,

Please search the following location for your plant:

LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

[529966,182470]

A location plan (2 pages) showing the search area is attached. If you have plant within the search area or close to the boundary please provide record drawings, ideally by email attachment. Please provide your information as soon as possible.
Please accept this email as confirmation that Vodafone: Fixed does have apparatus within the vicinity of your proposed works detailed below.

Please see attached network information.

IMPORTANT - PLEASE READ = Your Next Step? - Where apparatus is affected and requires diversion, please send all the scheme related proposals that affects the Vodafone Network to c3requests@vodafone.com with a request for a ‘C3 Budget Estimate’. Please ensure you include a plan showing proposed works. (A location plan is insufficient for Vodafone to provide a costing). These estimates will be provided by Vodafone directly, normally within 20 working days from receipt of your request. Please include proof of this C2 response when requesting a C3 (using the 'forward' option). Diversionary works may be necessary if the existing line of the highway/railway or its levels are altered.

Plant Enquiries Team
T: +44 (0)1454 662881
E: osm.enquiries@atkinsglobal.com

ATKINS working on behalf of Vodafone: Fixed

This response is made only in respect to electronic communications apparatus forming part of the Vodafone Limited electronic communications network formerly being part of the electronic communications networks of Cable & Wireless UK, Energis Communications Limited, Thus Group Holdings Plc and Your Communications Limited.

PLEASE NOTE:
The information given is indicative only. No warranty is made as to its accuracy. This information must not be solely relied upon in the event of excavation or other works carried out in the vicinity of Vodafone plant. No liability of any kind whatsoever is accepted by Vodafone, its servants, or agents, for any error or omission in respect of information contained on this information. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to Vodafone’s apparatus and all claims made against them by Third parties as a result of any interference or damage.

Please consider the environment before printing this e-mail

---

From: Holli Welsh [mailto:holli.welsh@premierenergy.co.uk]
Sent: 02 February 2018 16:01
To: National Plant Enquiry's <OSM.enquiries@atkinsglobal.com>
Subject: Plant Enquiry - LSHTM

Dear Plant Enquiries,

Payment confirmation attached.
Transaction ID: 0EL69712XF455705V
Our ref: 603552 - LSHTM
1. Introduction

This document sets out the procedure that will apply when Other Parties intend or are undertaking works in the vicinity of Vodafone apparatus (see Appendix B for further information on what constitutes Vodafone apparatus).

2. Purpose of document

This document provides a means by which the Vodafone specific special requirements relating to their apparatus, regardless of it being situated in the public highway / road, private street, land or any other areas, is made aware to Other Parties.
3. **Scope**

This document will be presented to Other Parties or Contractors to encourage those undertaking works within the vicinity of Vodafone apparatus to refer to and comply with. This is in order to protect where necessary the Vodafone apparatus and to avoid damage to the apparatus and loss of service.


It should be noted that, where appropriate, additional information on avoiding danger from underground apparatus is contained within the HSG47 guidance book titled “Avoiding Danger from Underground Services.”

4. **Vodafone Network and Apparatus**

Damage to Vodafone apparatus is extremely disruptive and can be expensive to repair, especially where long lengths of cable have to be replaced.

In order to maintain the network integrity and minimise disruption to service, it is essential that disturbances are absolutely minimal. When working within the vicinity of Vodafone apparatus, extreme care is necessary in order to avoid costly repairs. The Other Parties / Contractor shall make every effort to ensure that disturbance of Vodafone apparatus is no more than is absolutely necessary for the completion of the works in accordance with their contract. It should be noted that it is an offence to interfere with Vodafone apparatus without first contacting the company for advice.

5. **Plant records**

It is the responsibility of the Other Parties undertaking works which may affect Vodafone apparatus to obtain all relevant Vodafone plant records from our agent Atkins Global prior to works commencing. This may be done by contacting the Atkins Global Plant Enquiries Team listed in Appendix B.

Plant records for such enquiries will generally be provided within 10 working days of receipt and in compliance with the New Roads and Street Works Act 1991 [NRSWA] requirements.

6. **Definitions**

The following definitions are applicable in this document:

   a) **Apparatus** - means all surface or sub-surface equipment and plant used by Vodafone including any associated cables or ducts owned, leased or rented by Vodafone.

   b) **Cable** - means any polythene or other sheath containing optical fibres or metallic conductors.

   c) **Depth of cover** - means the depth from the surface to the topmost barrel of the duct nest, in the case of ducts encased in concrete, to the top of the concrete, and in the case of directly buried cable, the top of the cable.

   d) **Jointing chamber** - means any manhole, surface box or other chamber giving access to Vodafone apparatus or their network.

   e) **Utility** - means an organisation licensed to provide gas, water, electricity, Cable TV or telecommunications services.

   f) **Developer** - means an organisation licensed to develop industrial/residential premises or given license to connect to utility apparatus.
7. Requirements

Prior to commencing any work or moving heavy plant or equipment over any portion of the site, the Other Parties or Contractor shall notify Vodafone of their intentions. This may be done by contacting Vodafone via the contact list in Appendix B.

Upon receipt of this notification, Vodafone will identify if their apparatus is affected. If any Vodafone apparatus is affected by the works then they will arrange for the necessary records to be provided and confirm details of Vodafone apparatus and network operated within the affected area or adjacent to the proposed work site.

7.1 Location of Plant

It is the responsibility of the Other Parties or Contractors to undertake adequate plant location procedures. These may include searches for metallic cables which must be performed by actively inducing a signal in a cable conductor via a transmitter. A passive search is not considered sufficient.

Before applying a tracing signal to the Vodafone apparatus, the Other Parties or Contractors shall seek confirmation from Atkins Global that the Vodafone apparatus will not suffer any disruption to its networks normal workings as a result of the nature of the signal being induced.

7.2 Trial excavations

Optic fibre cables are very susceptible to damage from excavation tools. They are not electrically conductive and cannot be located by radio induction methods. Once an approximate location is known, the exact location must be ascertained by means of hand dug pilot holes. Where the work to be carried out by the Other Party or Contractor involves excavation in the vicinity of our apparatus, the Other Party or Contractor shall, by trial excavation at his own expense, determine the exact location and depth of the Vodafone apparatus. All excavations adjacent to the Vodafone apparatus are to be carried out by hand until the extent and/or location of the apparatus is known.

All excavation work shall be executed in accordance with the current issue of Health and Safety series booklet HSG47, Avoiding danger from underground services.

8. Depths of cover

The Other Party or Contractor should note that the minimum depths of cover for Vodafone apparatus shall be maintained together with specified separation requirements. Where the minimum depths of cover specified by Vodafone cannot be maintained, the Other Party or Contractor shall at their own expense, carry out the instructions of Vodafone requirements for the protection or diversion of their apparatus.

The Other Party or Contractor should have particular regard to the possibility of encountering Vodafone apparatus (including ducts and cables), at depths of cover other than that reported.

Surface cables (such as cables on bridges or walls) which are liable to be placed in danger from the Other Parties or Contractors works shall be protected, at the Other Parties expense, as directed by the Vodafone representative.
9. Separation

Reference should be made to HSG47 to ensure that adequate separation is achieved. The following details outline the specific requirements of Vodafone and capture the HSG47 requirements.

9.1 High voltage cables
High voltage single core cables of 1000 V and above shall have a minimum clearance from Company Apparatus of 500 mm.

High voltage multi-core cables of 1000 V and above shall have a minimum clearance from Company Apparatus of 350 mm.

In exceptional circumstances where the above clearances cannot be maintained, the separating distance may be reduced to a minimum of 175 mm. In such circumstances, concrete, of a quality as directed by the Company Representative, must be inserted to completely fill the space between the High Voltage cable and the Company Apparatus, in accordance with the requirements of the Company Representative. Any further services must have a minimum clearance of 250 mm from the concrete.

9.2 Low voltage cables
Low voltage cables of less than 1000 V shall have a minimum clearance from Company Apparatus of 180 mm.

In exceptional circumstances where the above clearance cannot be maintained, the separating distance may be reduced to a minimum of 75 mm. In such circumstances, concrete, of a quality as directed by the Company Representative, must be inserted to completely fill the space between the services, in accordance with the requirements of the Company Representative. Any further services must have a minimum clearance of 250 mm from the concrete.

9.3 Ancillary electrical apparatus
Street furniture such as lamp posts, traffic posts and other such ancillary electrical apparatus shall have a minimum clearance of 150 mm from underground Company Apparatus and 600 mm clearance from above ground Company Apparatus.

9.4 High pressure gas mains and other Undertakers plant/equipment
High pressure gas mains shall have a minimum clearance of 450 mm from Company Apparatus. All other undertakers’ plant and equipment, when running in parallel with Company Apparatus, shall have a minimum clearance of 200 mm. Where gas mains cross Company Apparatus, the minimum clearance shall be 200 mm. All other undertakers’ plant and equipment, when running across Company Apparatus, shall have a minimum clearance of 100 mm. NJUG Volume 1, Guidelines on the positioning and colour coding of underground utilities’ apparatus refers.

9.5 Other Undertakers plant
Other undertakers’ plant and equipment which runs in parallel with Company Apparatus shall have a minimum clearance of 200 mm. All other undertakers’ plant and equipment when running across Company Apparatus shall have a minimum clearance of 100 mm.

9.6 Tramways
Each separating distance shall be individually agreed with the Company Representative.
10. Jointing chambers

10.1 Protection
Footway type jointing chambers are not designed to withstand carriageway loadings.

Where such chambers are liable to be placed at risk, either temporarily or permanently, from vehicular traffic or from the movement of plant and/or equipment, they will need to be adequately protected. Alternatively, they may have to be demolished and rebuilt to carriageway standards, at the Other Parties or Contractors expense under supervision of Vodafone representative.

All Vodafone jointing chambers and / or other access points shall be kept clear and unobstructed. Access for vehicles, winches, cable drums and / or any further equipment required by Vodafone for the maintenance of its apparatus, must be maintained at all reasonable times.

10.2 Access
The covers to Vodafone jointing chambers and / or apparatus shall only be lifted by means of the appropriate keys and under the direct supervision of a Vodafone representative. Other Parties or Contractors shall not enter any Vodafone jointing chamber and / or apparatus unless under the supervision of a Vodafone representative and in any case not before the mandatory gas test has been carried out in the presence of Vodafone representative and such checks have shown it to be safe to enter the Vodafone chamber and / or apparatus.

The Other Parties or Contractors shall be given reasonable access to Vodafone apparatus and chambers when required.

11. Notification periods

Where the Other Parties or Contractors works or the movement of plant or equipment may endanger Vodafone apparatus, the Other Party or Contractor shall give the Vodafone at least 7 working days’ notice in writing of the intended date to commence operations.

No excavation should be made without first consulting the relevant Vodafone apparatus layout drawings, which will be made available from the Vodafone agent Atkins Global on request and allowing 28 working days for processing the relevant drawings. However, should this not be possible, direct contact should be made to the Atkins Global Plant Enquiries Team as soon as possible to assess the situation.

When excavating, moving or backfilling (including use of Foamed Concrete for Reinstatements – FCR) around Vodafone apparatus, Vodafone shall be given adequate prior written notice of the Other Parties or Contractors intentions in order that the works may be adequately supervised. Such notice shall not be less than 3 working days.

12. Excavation and backfill

All excavations adjacent to Vodafone apparatus are to be carried out by hand until the extent and or location of the Vodafone apparatus is known.

Use of mechanical borers and / or excavators shall not be used without the supervisory presence of a Vodafone representative or a given exemption.

Shuttering of the excavation or support to Vodafone apparatus, at the Other Parties or Contractors expense, shall be used as directed by the Vodafone representative.

At least 7 working days’ notice must be given to Vodafone in order that any special protective measures which may be required to protect Vodafone apparatus, at the Other Parties or Contractors expense, when equipment such as pile driving, explosives, laser cutting high powered RF equipment or RF test gear, is to be used in conjunction with the works.
13. Foam concrete

If foam concrete is being used as the backfill material, it shall not be used either above or within 500 mm of any Company Apparatus. A suitable material in accordance with the specification for the Reinstatement of Openings in Highways shall be substituted.

14. Attendance of Company Representative

If a situation requires the attendance on site of a Vodafone representative for a continuous period of more than 6 hours, suitable facilities shall be provided by the Other Party or Contractor, at their expense, to meet the office and ablution requirements. If a situation arises that requires urgent attention Vodafone will endeavour to attend site within 2 hours for all other occasions arising, 24 hours.

15. Damage reports

In the event of any damage whatsoever occurring to Vodafone apparatus, the Other Party or Contractor shall immediately inform Vodafone by contacting their 24/7 number , (for contact details please refer to Appendix A).

All relevant costs of any subsequent repair and / or removal of the Vodafone apparatus shall be charged to the Other Party or Contractor, irrespective of who affects the repair.

The above requirements do not relieve the Other Party or Contractor of any of their obligations under their contract.
16. Appendix A – Street Works Team Contacts for Vodafone

<table>
<thead>
<tr>
<th>Function</th>
<th>Address</th>
<th>Phone</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streetworks Team</td>
<td>Vodafone Damage Claims, Pavilion 4, 1-2 Berkeley Square, 99 Berkeley Street Glasgow G3 7HR</td>
<td>0333 304 0759</td>
<td><a href="mailto:utilitiescentre@vodafone.com">utilitiescentre@vodafone.com</a></td>
</tr>
<tr>
<td>Customer Complaints</td>
<td>n/a</td>
<td>0333 304 0762</td>
<td>n/a</td>
</tr>
<tr>
<td>Liability Claims Or Damage to Vodafone Apparatus</td>
<td>Vodafone Damage Claims, Pavilion 4, 1-2 Berkeley Square, 99 Berkeley Street Glasgow G3 7HR</td>
<td>0333 304 1104</td>
<td><a href="mailto:claims@vodafone.com">claims@vodafone.com</a></td>
</tr>
<tr>
<td>Diversionary Works C2</td>
<td>Atkins Global, The Hub, 500 Park Avenue, Aztec West, Bristol, BS32 4RZ</td>
<td>T: 01454 662881</td>
<td><a href="mailto:osm.enquiries@atkinsglobal.com">osm.enquiries@atkinsglobal.com</a></td>
</tr>
<tr>
<td>Diversionary Works C3/C4 Escalations</td>
<td>Smale House, Floor 2E, 114 Great Suffolk Street, London, SE1 OSL</td>
<td>02075281485</td>
<td><a href="mailto:c3requests@vodafone.com">c3requests@vodafone.com</a></td>
</tr>
<tr>
<td>Emergencies 24 Hour – Defects &amp; Faults</td>
<td>n/a</td>
<td>0333 304 0762</td>
<td>n/a</td>
</tr>
<tr>
<td>Plant Enquiries Vodafone inc: Cable &amp; Wireless; Mercury Communications; Thus Plc; Energis; Scottish Telecom; Your Comms; Norweb Comms</td>
<td>Atkins Global, The Hub, 500 Park Avenue, Aztec West, Bristol, BS32 4RZ</td>
<td>T: 01454 662881</td>
<td><a href="mailto:osm.enquiries@atkinsglobal.com">osm.enquiries@atkinsglobal.com</a></td>
</tr>
</tbody>
</table>
17. Appendix B – What constitutes Vodafone Network

Vodafone own fibre network dedicated to business and residential users of telecommunications and has an international cable network that provides connectivity to 153 countries, either directly or indirectly through partners, reaching across the Atlantic Ocean, through Europe and on to India and throughout Asia. Spanning approximately 500,000 km in length, including interests in more than 69 major global cable systems, our next-generation network improves the quality and performance of telecommunications services through our use of advance optical and IP transmission.

In the UK & Ireland Vodafone’s overall network includes the following legacy networks now owned through acquisitions or Company name changes.

Below are examples of what you could see on the streets and should be aware of:

Vodafone Limited

Cable & Wireless U.K
Mercury Communications Limited

Energis Communications Limited

Thus plc
Scottish Telecom

Your Communications
Norweb Communications

Our apparatus is installed in roads and streets of UK and Ireland, however in some places is undistinguishable from other operators’ apparatus, for example in City Centres where high quality infill modular paving chamber covers are found; some with labels and some without.

See below as examples:
The apparatus shown here is now owned, maintained and still in operation by Vodafone and includes:

Vodafone Limited
Cable & Wireless U.K
Mercury Communications Limited
Energis Communications Limited
Thus plc, now Thus Group Holdings Limited
Your Communications Group Limited

Please see the Contact Details in Appendix A for Plant Enquiries and help on site.
18. About this Document

<table>
<thead>
<tr>
<th>Content Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes since last version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reformatted using the current Vodafone template to include updated Contact Details</td>
</tr>
</tbody>
</table>

End of Document
Please Note: Our search criteria has changed. We previously searched for Colt Network which was within 200 metres, this has now changed to 50 metres. The negative response will be for all enquiries that the network is 50 metres or more away from the place of enquiry.

Dear Sir/Madam,

Thank you for your enquiry for the above reference.

We can confirm that Colt Technology Services do not have apparatus near the above location as presented on your submitted plan, if any development or scheme amendments fall outside the 50 metre perimeter new plans must be submitted for review.

Search is based on Overseeing Organisation Agent data supplied; we do not accept responsibility for O.O. Agent inaccurate data.

If we can be of any further assistance please do not hesitate to contact us.

Kind regards,

Plant Enquiry Team

Please consider the environment before printing this email.

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the intended recipient(s). If you are not the intended recipient, you must not copy, distribute or take any action based on this communication. If you have received this communication in error please contact plantenquiries@catelecomuk.com and delete this communication and any copies of it. Any views or opinions presented are solely those of the author and do not necessarily represent those of C A Telecom LTD. C A Telecom LTD monitors e-mails to ensure that its systems operate effectively and to minimise the risk of viruses.
Dear Sir or Madam,

With reference to your plant enquiry below, we can confirm that KPN do not have any apparatus within the immediate proximity of your proposed works.

If you require any further information, please do not hesitate to contact us.

Please note that this response is only valid for 3 months. If your works do not commence within this time period, please resubmit your plant enquiry for assessment before any works commence.

Regards

Plant Enquiries Dept
Instalcom Limited
Borehamwood Ind. Park
Rowley Lane
Borehamwood
WD6 5PZ

Office: +44 (0)208 731 4613
Fax: +44 (0)208 731 4601
Email: kpn.plantenquiries@instalcom.co.uk
Web: http://www.instalcom.co.uk
Thank you for your enquiry.

Please be advised that Sky Telecommunications Services Ltd will not be affected by your proposal.

Best endeavours have been made to ensure accuracy, however if you require further information, please contact us by email at nrswa@sky.uk.

Regards

NRSWA Department
Tech UK - Implementation

nrswa@sky.uk +44 20708323234

Dear Plant Enquiries,

Please search the following location for your plant:

LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

[529966,182470]

A location plan (2 pages) showing the search area is attached. If you have plant within the search area or close to the boundary please provide record drawings, ideally by email attachment. Please provide your information as soon as possible.

Many thanks.

Kind regards,
This response does not include Vtesse or Easyet plant, please continue to use Vtesse or Easyet details for their enquiries

To whom it may concern,

Thank you for your enquiry regarding the above proposals at the above location

We would advise that there is Interoute duct and fibre optic cable existing in the approximate location of your work as indicated by way of a RED line on the enclosed marked up drawings and only hand digging methods, that will ensure the safety of Interoute plant should be employed, until the precise location of the plant has been established and marked.

Please note the following:

1. The information provided is for general guidance only and no guarantee is given of the accuracy. The location of Interoute plant shown on the route plan is specific to that point at the date of this enquiry and to the best of our knowledge.
2. The information provided is given without warranty and therefore, the accuracy cannot be guaranteed. Some building connections may not be shown but their presence should be anticipated.
3. The information provided is not to be relied upon in the event of excavations or other works made near to Interoute plant, as this plant may exist at various depths or deviate from the indicated route.
4. Any information provided by Interoute at any time, shall not in any way reduce and or limit / mitigate your liability or duty to safeguard Interoute plant and or equipment.
5. No liability of any kind whatsoever is accepted by Interoute or their Agents, servants or contractors for any error or omission in the information provided.
6. The information provided should not be referred to beyond a period of 28 days from the date of this enquiry.
7. Safe digging practices, in accordance with HS(G)47, must be used to establish the actual position of the plant on site before any mechanical plant is used. Mechanical equipment must not be used within 500mm of any part of Interoute plant without Interoute or their Agents written authority. If scaffolding is erected, you are to ensure that the Interoute plant or equipment is not enclosed, blocked, covered or otherwise obstructed by the scaffolding.
8. Trial excavations must be carried out to confirm the identification, exact location and depths, of Interoute plant.
9. Interoute must be advised on 01296 662647 or by e-mail to Interoute.Enquiries@plancast.co.uk if any Interoute plant or equipment is exposed or when damage to Interoute plant is sustained.
10. Your representatives and/or agents shall comply with any reasonable request to safeguard and or facilitate the repair of Interoute plant and you will be liable to any damage caused by your operations and for all remedial works and all related expenses.
11. We may require a meeting to be convened with our Agent’s representative on site, to determine the impact of the proposed works on the Interoute plant. This may result in the re-design of the proposed works or an application can be made to PLANCAST to provide a C3 estimate to re-locate the Interoute plant.
12. You should be made aware that it is a criminal offence under the Telecommunications Act 1984 to alter or disturb any telecommunications apparatus without the owner’s written consent or a Court Order.
Dear Sir or Madam,

Thank you for your plant enquiry below.

We can confirm that Level 3, Global Crossing (Uk) Ltd, Global Crossing PEC, Fibernet UK Ltd and Fibrespan Ltd do not have any apparatus within the indicated works area.

Instalcom responds to plant enquiries for all of the above and therefore you only need send one plant enquiry to cover all of these companies.

**Please note that this response is only valid for 3 months. If your works do not commence within this time period, please resubmit your plant enquiry for assessment before any works commence.**

Regards

Plant Enquiries Dept
Instalcom Limited
Borehamwood Ind. Park
Rowley Lane
Borehamwood
WD6 5PZ

Office: +44 (0)208 731 4613
Fax: +44 (0)208 731 4601
Email: plantenquiries@instalcom.co.uk
Web: http://www.instalcom.co.uk

---

Dear Plant Enquiries,

Please search the following location for your plant:
Dear Sir/Madam,

**C2 Plant Enquiry**

We have reviewed your proposed plan and have enclosed maps of the areas in which Verizon (Formally known as MCI WorldCom, MFS) has apparatus in the area concerned. Please note these maps are for approximate location only. To determine the exact location a trial hole must be dug using extreme caution.

Where U/G plant is affected and requires rerouting; you must submit draft details of the proposed scheme with a request for a ‘C3 Budget Estimate’ to email osp-team@uk.verizon.com. These should be returned to you within 30 working days on receipt of your request.

If you have any further queries, please do not hesitate to call us on the above numbers.

Yours faithfully

**Plant Protection Officer**

---

**Please Note.** To enable us to process your enquiry as quickly as possible, please ensure that you include a post code and/or an Ordnance Survey Grid Reference. Chambers may also be marked as MCI, W-Com, MFS. Thank you for your cooperation.

---

Verizon Business is a licensed Utility.
Your order is complete

Your recent order on Interoute (Vtesse) Plant Enquiries has been completed. No results were found in the specified search criteria. Your order details are shown below for your reference:

Order #31355

<table>
<thead>
<tr>
<th>Product</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Enquiry (Central London)</td>
<td>1</td>
<td>£55.00</td>
</tr>
<tr>
<td>Urgent Request: No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address: Tavistock Place Kings Cross, London WC1H 9RH United Kingdom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastings: 530074</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northing: 152419</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description: Redevelopment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reason for Enquiry: New Development. Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting Documentation: [&quot;<a href="https://plant.interoute.com/wp-content/uploads/gravity_forms/2-ef3c1fd0a0acb16b354efe70e960ec381/2018/02/location-plan2.pdf">https://plant.interoute.com/wp-content/uploads/gravity_forms/2-ef3c1fd0a0acb16b354efe70e960ec381/2018/02/location-plan2.pdf</a>&quot;]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your Reference: 603552 - LSHTM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal: £55.00

VAT: £11.00

Payment Method: Credit Card via SagePay

Total: £66.00

Your details
Dear Sir/Madam

**Teliasoneira Line Plant Enquiry.**

Thank you for your correspondence enclosing details of your proposals as per your reference below.

**LSHTM, Tavistock Place, Kings Cross, London**

Our client’s apparatus, Teliasonera, is not located within the vicinity of the above reference and we therefore have no further interest in this current location.

Please note that all enquiries relating to the Teliasoneira line plant should be forwarded to:

By post – to, telent,

Teliasoneira line plant enquiries,
Mayne House,
Fenton Way,
Basildon,
Essex
SS15 6TD

By email - to, telenttelia.plantenquiries@telent.com

By phone – to, 01268 412670

Yours faithfully

Telent CCO

Basildon
To Whom It May Concern:

Thank you for your recent enquiry regarding your proposed work at the above location.

euNetworks Fiber UK Limited do not have plant in the vicinity of your proposed works and no strategic additions to our existing network are envisaged in the immediate future.

This information is only valid for a period of 3 months so, if your start date is 3 months or more from the date of this email, please re-apply for updated information at our generic email address: plantenquiries@psgservices.co.uk.

Kind regards

ALL PLANT ENQUIRIES AND DIVERSIONARY REQUESTS SHOULD BE ADDRESSED BY EMAIL TO THE OPERATIONS TEAM AT plantenquiries@psgservices.co.uk, WITH A PLAN AND FULL POSTAL ADDRESS OF YOUR ENQUIRY, THANK YOU

For and on behalf of euNetwork Fiber UK Limited

Regards

Stuart Green
Watch it!
Safety advice brought to you by
Scottish and Southern Electricity Networks

These notes are intended to help all those who have to work in the vicinity of electrical apparatus. Employers have a legal obligation to ensure that their operatives are fully instructed in the correct procedures.

The Electricity at Work Regulations 1989 impose health and safety requirements upon employers, employees and self-employed persons with respect to electricity at work. The regulations impose restrictions on persons being engaged in work activities on or near live conductors.

Regulation 14 requires that: "No person shall be engaged in any work activity on or near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless:

♦ it is unreasonable in all circumstances for it to be dead; and
♦ it is reasonable in all circumstances for him to be at work on or near it while it is live; and
♦ suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury."

The purpose of the regulations is to require precautions to be taken against the risk of death or personal injury from electricity in work activities.

Publications
The Health and Safety Executive have produced a document entitled 'Avoiding Danger from Underground Services', and the Appendix 1 deals specifically with electric cables. Copies are available from the HSE's Accredited Agents and good booksellers, Ref. HS (G) 47.

Copies of Health and Safety Guidance note GS 6 relating to safe working in proximity to overhead lines, are available from the Health and Safety Executive's website - www.hse.gov.uk.

Note
In situations of emergency or danger, or where the advice contained in these notes cannot be followed, you must consult Scottish and Southern Electricity Networks immediately. Tel. 08457 708090 for southern England or 0800 300999 for Scotland.

Additional copies of these "Watch it!" leaflets can be obtained from our Asset Data Team office upon request. Tel. 01256 337294, or Fax 01256 337295.
Remember that a damaged cable may cause extensive loss of supplies, make expensive repairs necessary and cause serious or even fatal injury.

If effective measures are not adopted to protect our equipment, we will take steps to recover the cost of any damage caused. Persons causing damage resulting in loss of supply to customers can be held legally responsible for any claims made by those customers. Promptness in reporting an incident will minimise costs.

In most cases it is not practicable to make cables dead without interrupting supplies to our customers. But given adequate notice, we will wherever possible, give advice regarding special precautions which may be necessary on any site where particular problems are likely to be encountered. The right is reserved to make a charge for this service.

Electricity cables can exist anywhere - under paths or roads, in gardens or driveways, on new housing or industrial development sites or even farmland.

**Watch it! - Working in the vicinity of overhead lines**

For your own and your workmates’ safety, please follow the do’s and don’ts listed below:

- do carefully note the position of all overhead lines before commencing work.
- do co-operate with us during planning and sitework stages.
- do follow the advice given in HSE Guidance Note GS 6 when siting barriers, goal posts, bunting etc.
- do keep overhead lines in view when moving scaffolding or machinery and take special care when felling or lopping trees.
- do remember that the raising or slewing of a crane or excavator jib may cause danger when operating near an overhead line.
- do avoid any machinery that is in contact with an overhead line until we confirm that conditions are safe.
- do warn others to keep well clear.
- don’t drive a high vehicle below an overhead line when an alternative route is available.
- don’t raise the bed of a tipper lorry beneath an overhead line or drive under the line with the body of the vehicle raised.
- don’t steady any suspended load until you are satisfied that there is no danger from overhead lines.
- don’t handle or use scaffold platforms, poles, pipes or ladders unless they are at a safe distance from overhead lines.
- don’t transport long objects beneath overhead lines, unless they are carried in a horizontal position.
- don’t approach or touch any broken or fallen overhead lines.

Always remember that:

- Electricity can jump gaps.
- Contact or near contact with a crane jib, scaffold or ladder can cause a discharge of electricity with a risk of fatal or severe shock and burns to any person in the vicinity.

If effective measures are not adopted to protect our equipment, we will take steps to recover the cost of any damage caused. Persons causing damage resulting in loss of supply to customers can be held legally responsible for any claims made by those customers. Promptness in reporting an incident will minimise costs.

In most cases it is not practicable to make overhead lines dead without interrupting supplies to customers. However, provided adequate notice is given, then we will, whenever possible, give advice regarding special precautions which may be necessary on site where specific problems may be encountered. The right is reserved to make a charge for this service.

Scottish and Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460 (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having its Registered Office at No.1 Forbury Place 43 Forbury Road Reading RG1 3JH which are members of the SSE Group www.ssen.co.uk
<table>
<thead>
<tr>
<th>Data Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Radisson Edwardian Hampshire Hotel - POI,</td>
</tr>
<tr>
<td>Ref</td>
<td>83830</td>
</tr>
<tr>
<td>Type</td>
<td>Vodafone (Vodafone Sites (Operator 16))</td>
</tr>
<tr>
<td>Polar Diagram</td>
<td>View Line of Sight up to 7km</td>
</tr>
<tr>
<td>Data Source</td>
<td>VF V2:Data Batch2(20611)</td>
</tr>
<tr>
<td>Site Status</td>
<td>Transmitting</td>
</tr>
<tr>
<td>Web Search</td>
<td>! Operator Licence Required</td>
</tr>
<tr>
<td>Web Search xls</td>
<td>! Operator Licence Required</td>
</tr>
<tr>
<td>Work/Planning</td>
<td>0 matched by site ref</td>
</tr>
<tr>
<td>Superseded Sites</td>
<td>0 superseded sites</td>
</tr>
<tr>
<td>Location</td>
<td>Poor Accuracy (Unknown)</td>
</tr>
<tr>
<td>East/North</td>
<td>530097/182489</td>
</tr>
<tr>
<td>Difference(m)</td>
<td>4.22782</td>
</tr>
<tr>
<td>Long/Lat</td>
<td>-0.12/51.52</td>
</tr>
<tr>
<td>View On Google Map</td>
<td>View On Google Map with Measure Tool</td>
</tr>
<tr>
<td>Map Corrections</td>
<td>Reposition History: 0 Records</td>
</tr>
<tr>
<td>Record Created</td>
<td>May 26 2016 10:41AM</td>
</tr>
</tbody>
</table>
**Enquiry Confirmation**

**LSBUD Ref: 12136501**

**Enquirer**

<table>
<thead>
<tr>
<th>Name</th>
<th>Miss Holli Welsh</th>
<th>Phone</th>
<th>01403 289887</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Premier Energy Services Ltd</td>
<td>Mobile</td>
<td>Not Supplied</td>
</tr>
<tr>
<td>Address</td>
<td>Premier House Daux Road</td>
<td>Fax</td>
<td>Not Supplied</td>
</tr>
<tr>
<td></td>
<td>Billingshurst West Sussex</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RH14 9SJ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:holli.welsh@premierenergy.co.uk">holli.welsh@premierenergy.co.uk</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Enquiry Details**

<table>
<thead>
<tr>
<th>Scheme/Reference</th>
<th>603552 - LSHTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enquiry type</td>
<td>Initial Enquiry</td>
</tr>
<tr>
<td>Work category</td>
<td>Development Projects</td>
</tr>
<tr>
<td>Start date</td>
<td>23/02/2018</td>
</tr>
<tr>
<td>Work type</td>
<td>Housing</td>
</tr>
<tr>
<td>End date</td>
<td>23/02/2018</td>
</tr>
<tr>
<td>Site size</td>
<td>33427 metres square</td>
</tr>
<tr>
<td>Searched location</td>
<td>XY= 530074, 182419</td>
</tr>
<tr>
<td>Confirmed location</td>
<td>530052 182399</td>
</tr>
<tr>
<td>Work type buffer*</td>
<td>25 metres</td>
</tr>
</tbody>
</table>

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

**Site Map**

![Site Map Image]

V3.3.2 Contains Ordnance Survey data © Crown copyright and database right 2016
Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.linesearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LinesearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
   a. These LSBUD Members will either:
      i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.
      ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.

2. LSBUD Members who do not have assets registered within your search area. ("Not Affected")

3. Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com
LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

<table>
<thead>
<tr>
<th>Asset Owner</th>
<th>Phone/Email</th>
<th>Emergency Only</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESP Utilities Group</td>
<td>01372227560</td>
<td>01372227560</td>
<td>Await response</td>
</tr>
<tr>
<td>UK Power Networks</td>
<td>08000565866</td>
<td>08000565866</td>
<td>Await response</td>
</tr>
<tr>
<td>Zayo Group UK Ltd c/o JSM Group Ltd</td>
<td>01992 655 919</td>
<td>0800 169 1646</td>
<td>Await response</td>
</tr>
</tbody>
</table>

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

<table>
<thead>
<tr>
<th>Asset Owner</th>
<th>Phone/Email</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWE Pipeline</td>
<td>Gateshead Energy Company</td>
<td>Premier Transmission Ltd (SNIP)</td>
</tr>
<tr>
<td>BOC Limited (A Member of the Linde Group)</td>
<td>Gigaclear PLC</td>
<td>Prismsian Cables &amp; Systems Ltd (c/o Western Link)</td>
</tr>
<tr>
<td>BP Exploration Operating Company Limited</td>
<td>Gitt</td>
<td>Redundant Pipelines - LPDA</td>
</tr>
<tr>
<td>BPA</td>
<td>Humbly Grove Energy</td>
<td>RWEpower (Little Barford and South Haven)</td>
</tr>
<tr>
<td>Carrington Gas Pipeline</td>
<td>IGas Energy</td>
<td>SABIC UK Petrochemicals</td>
</tr>
<tr>
<td>CATS Pipeline c/o Wood Group PSN</td>
<td>INEOS FPS Pipelines</td>
<td>Scottish Power Generation</td>
</tr>
<tr>
<td>Centrica Storage Ltd</td>
<td>INOVYN Enterprises Limited</td>
<td>Seabank Power Ltd</td>
</tr>
<tr>
<td>CLH Pipeline System Ltd</td>
<td>Intergen (Coryton Energy or Spalding Energy)</td>
<td>SGN</td>
</tr>
<tr>
<td>Concept Solutions People Ltd</td>
<td>Mainline Pipelines Limited</td>
<td>Shell (St Fergus to Mossmorran)</td>
</tr>
<tr>
<td>ConocoPhillips (UK) Ltd</td>
<td>Manchester Jetline Limited</td>
<td>Shell Pipelines</td>
</tr>
<tr>
<td>DIO (MOD Abandoned Pipelines)</td>
<td>Manx Cable Company</td>
<td>SSE (Peterhead Power Station)</td>
</tr>
<tr>
<td>E.ON UK CHP Limited</td>
<td>Marchwood Power Ltd (Gas Pipeline)</td>
<td>Tata Communications (c/o JSM Construction Ltd)</td>
</tr>
<tr>
<td>EirGrid</td>
<td>Melbourn Solar Limited</td>
<td>Total (Colnbrook &amp; Colwick Pipelines)</td>
</tr>
<tr>
<td>Electricity North West Limited</td>
<td>National Grid Gas (Above 7 bar), National Grid</td>
<td>Total Finaline Pipelines</td>
</tr>
<tr>
<td>Eni &amp; Himor c/o Penspen Ltd</td>
<td>Northumbrian Water Group</td>
<td>Transmission Capital</td>
</tr>
<tr>
<td>EnQuest NNS Limited</td>
<td>NPower CHP Pipelines</td>
<td>Uniper UK Ltd</td>
</tr>
<tr>
<td>EP Langage Limited</td>
<td>Oikos Storage Limited</td>
<td>Vattenfall</td>
</tr>
<tr>
<td>ESSAR</td>
<td>Ørsted</td>
<td>Veolia ES SELCHP Limited</td>
</tr>
<tr>
<td>Esso Petroleum Company Limited</td>
<td>Perenco UK Limited (Purbeck Southampton Pipeline)</td>
<td>Western Power Distribution</td>
</tr>
<tr>
<td>Fulcrum Pipelines Limited</td>
<td>Petroineos</td>
<td>Westminster City Council</td>
</tr>
<tr>
<td>Gamma</td>
<td>Phillips 66</td>
<td>Wingas Storage UK Ltd</td>
</tr>
</tbody>
</table>
02/02/2018

LinesearchbeforeUdig Ref: 12136501
Your Ref: 603552 - LSHTM

Dear Sir/Madam,

Further to your enquiry received on 02/02/2018 10:14:59 AM please find attached the ESP Utilities Group (ESP) response to your enquiry.

If your proposed work site was found to be in the vicinity of ESP plant, project drawing as laid extracts for these sites are enclosed (not to scale) for your information which show the approximate location of the ESP gas network close to the area of interest.

As your plans for the proposed work develop you are required to keep ESP regularly updated about the extent and nature of your proposed works in order for us to fully establish whether any additional precautionary or diversionary works are necessary to protect our gas network.

Arrangements can be set in place so that one of our representatives can meet on site (date to be agreed) and we will be happy to discuss the impact of your proposals on the gas network once we have received the details.

ESP are continually constructing new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your linesearchbeforeUdig enquiry.

The attached files are in PDF format, to view them you will need Adobe Acrobat Reader(R). You can download it free of charge from http://get.adobe.com/reader

Yours sincerely,

ESP Utilities Group Ltd

ESP Utilities Group Ltd can be contacted at:

Office Address: Bluebird House, Mole Business Park, Leatherhead, Surrey, KT22 7BA

Office Tel: 01372 587500; email: info@espug.com
Whilst ESP Utilities Group Ltd (ESP) try to ensure the asset information we provide is accurate, the information is provided Without Prejudice and ESP accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to ESP apparatus and all claims made against them by Third parties as a result of any interference or damage.

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE SANCTION OF THE CONTROLLER OF HER MAJESTY’S STATIONARY OFFICE © CROWN COPYRIGHT RESERVED.

THIS DRAWING IS THE COPYRIGHT OF ES PIPELINES LIMITED AND MAY NOT BE REPRODUCED WITHOUT WRITTEN CONSENT ©
Whilst ESP Utilities Group Ltd (ESP) try to ensure the asset information we provide is accurate, the information is provided Without Prejudice and ESP accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to ESP apparatus and all claims made against them by Third parties as a result of any interference or damage.

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE SANCTION OF THE CONTROLLER OF HER MAJESTY’S STATIONARY OFFICE © CROWN COPYRIGHT RESERVED.

THIS DRAWING IS THE COPYRIGHT OF ES PIPELINES LIMITED AND MAY NOT BE REPRODUCED WITHOUT WRITTEN CONSENT ©
PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK IN THE VICINITY OF UNDERGROUND GAS PIPES

ADVICE TO SITE PERSONNEL

MANAGEMENT NOTE

Please ensure that a copy of this note is read by your site management and to your site operatives.

Early consultation with ESP Utilities Group prior to excavation is recommended to obtain the location of plant and precautions to be taken when working nearby.

This Guidance Note should be read in conjunction with the Health and Safety Executive guidance HSG47 "Avoiding danger from underground services".

Introduction

Damage to ESP Utilities Group’s plant can result in uncontrolled gas escapes which may be dangerous. In addition these occurrences can cause expense, disruption of work and inconvenience to the public.

Various materials are used for gas mains and services. Cast Iron, Ductile Iron, Steel and Plastic pipes are the most widely found. Modern Plastic pipes are either bright yellow or orange in colour.

Cast Iron and Ductile Iron water pipes are very similar in appearance to Cast Iron and Ductile Iron gas pipes and if any Cast Iron or Ductile Iron pipe is uncovered, it should be treated as a gas pipe. ESP Utilities Group do not own any metallic gas pipes but their gas network infrastructures may be connected to Cast Iron, Ductile Iron or Steel pipes owned by Distribution Network Operators.

The following general precautions apply to Intermediate Pressure (2-7barg MOP), Medium Pressure (75mbarg-2barg MOP), Low Pressure (up to 75mbarg MOP) and other gas mains and services likely to be encountered in general site works and are referred to within this document as ‘pipes’.

Locating Gas Pipes

It should be assumed when working in urban and residential areas that gas mains and services are likely to be present. On request, ESP Utilities Group will give approximate locations of pipes derived from their records. The records do not normally show the position of service pipes but their probable line can be deducted from the gas meter position. ESP Utilities Group’s staff will be pleased to assist in the location of gas plant and provide advice on any precautions that may be required. The records and advice are given in good faith but cannot be guaranteed until hand excavation has taken place. Proprietary pipe and cable locators are available although generally these will not locate plastic pipes.

Safe working Practices

To achieve safe working conditions adjacent to gas plant the following must be observed:

Observe any specific request made by ESP Utilities Group’s staff.

Gas pipes must be located by hand digging before mechanical excavation. Once a gas pipe has been located, mechanical excavation must proceed with care. A mechanical excavator must not in any case be used within 0.5 metre of a gas pipe and greater safety distances may be advised by ESP Utilities Group depending on the mains maximum operating pressure (MOP).

Where heavy plant may have to cross the line of a gas pipe during construction work, the number of crossing points should be kept to a minimum. Crossing points should be clearly indicated and crossings at other places along the line of the pipe should be prevented.

Where the pipe is not adequately protected by an existing road, crossing points should be suitably reinforced with sleepers, steel plates or a specially constructed reinforced concrete raft as necessary. ESP Utilities Group staff will advise on the type of reinforcement necessary.

No explosives should be used within 30 metres of any gas pipe without prior consultation with ESP Utilities Group.

**ESP Utilities Group must be consulted prior to carrying out excavation work within 10 metres of any above ground gas installation.**

Where it is proposed to carry out piling or boring within 15 metres of any gas pipe, ESP Utilities Group should be consulted prior to the commencement of the works.

Access to gas plant must be maintained at all times during on site works.
Proximity of Other Plant
A minimum clearance of 300 millimetres (mm) should be allowed between any plant being installed and an existing gas main to facilitate repair, whether the adjacent plant be parallel to or crossing the gas pipe. No apparatus should be laid over and along the line of a gas pipe irrespective of clearance.

No manhole or chambers shall be built over or around a gas pipe and no work should be carried out which results in a reduction of cover or protection over a pipe, without consultation with ESP Utilities Group.

Support and Backfill
Where excavation of trenches adjacent to any pipe affects its support, the pipe must be supported to the satisfaction of ESP Utilities Group and must not be used as an anchor or support in any way. In some cases, it may be necessary to divert the gas pipe before work commences.

Where a trench is excavated crossing or parallel to the line of the gas pipe, the backfill should be adequately compacted, particularly beneath the pipe, to prevent any settlement which could subsequently cause damage to the pipe.

In special cases it may be necessary to provide permanent support to the gas pipe, before backfilling and reinstatement is carried out. Backfill material adjacent to gas plant must be selected fine material or sand, containing no stones, bricks or lumps of concrete, etc., placed to a minimum depth of 150mm around the pipes and well compacted by hand. No power compaction should take place until 300mm of selected fine fill has been suitably compacted.

If the road construction is in close proximity to the top of the gas pipe, a “cushion” of selected fine material such as sand must be used to prevent the traffic shock being transmitted to the gas pipe. The road construction depth must not be reduced without permission from the local Highway Authority.

No concrete or other hard material must be placed or left under or adjacent to any Cast Iron pipe as this may cause fracture of the pipe at a later date.
Concrete backfill should not be used closer than 300 mm to the pipe.

Damage to Coating
Where a gas pipe is coated with special wrapping and this is damaged, even to a minor extent ESP Utilities Group must be notified so that repairs can be made to prevent future corrosion and subsequent leakage.

Welding or “Hot Works”
When welding or other “hot works” involving naked flames are to be carried out in close proximity to gas plant and the presence of gas is suspected, ESP Utilities Group must be contacted before work commences to check the atmosphere. Even when a gas free atmosphere exists care must be taken when carrying out hot works in close proximity to gas plant in order to ensure that no damage occurs.

Particular care must be taken to avoid damage by heat or naked flame to plastic gas pipes or to the protective coating on other gas pipes.

Leakage from Gas Mains or Services
If damage or leakage is caused or an escape of gas is smelt or suspected the following action should be taken at once:

- Remove all personnel from the immediate vicinity of the escape;
- Contact the National Gas Emergency Service on: 0800 111 999;
- Prevent any approach by the public, prohibit smoking, extinguish all naked flames or other source of ignition for at least 15 metres from the leakage;
- Assist gas personnel, Police or Fire Service as requested.

REMEMBER - IF IN DOUBT; SEEK ADVICE FROM ESP UTILITIES GROUP.

ESP Utilities Group can be contacted at:

Office Address: Bluebird House, Mole Business Park, Leatherhead, Surrey, KT22 7BA
Office Tel: 01372 587 500; Fax: 01372 377 996
Miss Holli Welsh
Premier Energy Services Ltd
Premier House Daux Road
Billingshurst West Sussex
RH14 9SJ

Date: 02/02/2018

Our Reference: 12136501
Your Reference: 603552 - LSHTM

Dear Miss Holli Welsh,

ZAYO GROUP UK LTD AFFECTED C2 PRELIMINARY PLANT ENQUIRY

We acknowledge with thanks your request dated 02/02/2018 10:14:49 AM for information on the location of our services.

Please find enclosed plan(s) showing the approximate position of our apparatus known to be in the vicinity of this site.

We confirm we have reviewed your proposed plan, and have enclosed maps of the area in which Zayo Group UK Ltd have apparatus.

Please note these maps indicate approximate location only and their accuracy cannot be guaranteed. To determine the exact location a trial hole must be dug using extreme caution and hand dig methods only. Please refer to the attached document “Guide to Excavation within the vicinity of Zayo Apparatus”.

If you would like a Supervisor on site to mark the trench, or to supervise works around the apparatus, please call 5 days in advance to schedule a site meeting. Please note this maybe chargeable.

Please forward all C3 and C4 Diversionary Estimate requests for diversionary works under the New Roads and Street Works Act 1991 “Measures necessary where apparatus is affected by Major Works (Diversionary Works), A Code of Practice”, to zayodiversions@jsmgroup.com.

Please do not hesitate to contact us for further assistance.

Regards,

Zayo Group UK Ltd c/o JSM Group Ltd
JSM Plant Protection Department
T: 01992 655 919
zayoplanotenquiries@jsmgroup.com
The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Date Requested: 02/02/2018
Requested by: Holli Welsh
Company: Premier Energy Services Ltd
Job Reference: 12136501
Your Scheme/Reference: 603552 - LSHTM

The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Warning: PDF designed for colour print only with no page scaling. This Information is given as a guide only and its accuracy cannot be guaranteed

In Emergency Only and if Zayo Plant or Cables damaged call: 0800 169 1646
CROWN COPYRIGHT © All Rights Reserved. Ordnance Survey Licence number: 100040487
The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Date Requested: 02/02/2018
Requested by: Holli Welsh
Company: Premier Energy Services Ltd
Job Reference: 12136501
Your Scheme/Reference: 603552 - LSHTM

The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Warning: PDF designed for colour print only with no page scaling. This Information is given as a guide only and its accuracy cannot be guaranteed.

CROWN COPYRIGHT © All Rights Reserved. Ordnance Survey Licence number: 100040487
The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Date Requested: 02/02/2018
Requested by: Holli Welsh
Company: Premier Energy Services Ltd
Job Reference: 12136501
Your Scheme/Reference: 603552 - LSHTM

The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Warning: PDF designed for colour print only with no page scaling. This Information is given as a guide only and its accuracy cannot be guaranteed

In Emergency Only and if Zayo Plant or Cables damaged call: 0800 169 1646

CROWN COPYRIGHT © All Rights Reserved. Ordnance Survey Licence number: 100040487
The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Date Requested: 02/02/2018
Requested by: Holli Welsh
Company: Premier Energy Services Ltd
Job Reference: 12136501
Your Scheme/Reference: 603552 - LSHTM

The information on this document is proprietary and shall not be used, copied, reproduced or disclosed in whole or in part without written consent of Zayo Group UK Ltd. Approximate location only is shown. To determine exact location a trial hole must be dug with a Zayo Group UK Ltd Supervisor present. Zayo Group UK Ltd and JSM Construction Ltd accept no liability for errors or omissions.

Warning: PDF designed for colour print only with no page
scaling. This Information is given as a guide only and its
accuracy cannot be guaranteed

Protecting Lives, Cables & Pipes
In Emergency Only and if Zayo Plant or Cables damaged call: 0800 169 1646

CROWN COPYRIGHT © All Rights Reserved. Ordnance Survey Licence number: 100040487
GUIDE TO CONTRACTORS UNDERTAKING EXCAVATIONS IN THE VICINITY OF ZAYO PLANT

1. Prior to commencing any work or moving heavy plant or equipment over any portion of the site, the Contractor shall confirm details of the location of the Zayo apparatus by contacting and requesting utility drawings from LinesearchbeforeUdig.

All Enquirers should register free of charge for the Zayo plant enquiry service at LinesearchbeforeUdig [http://www.linesearchbeforeudig.co.uk/](http://www.linesearchbeforeudig.co.uk/)

Or follow the direct link to register at [http://onecall.linesearchbeforeudig.co.uk/RegisterNewUser](http://onecall.linesearchbeforeudig.co.uk/RegisterNewUser) and start your search there.

If you have any queries or wish to speak to a member of the JSM Plant Protection Team please call 01992 655 919.

The accuracy of information on the plans cannot be guaranteed and no liability can be accepted for errors or omissions.

2. Where the utility drawings show that the works or the movement of plant or equipment may endanger the Zayo Apparatus the Contractor must mark out the location of the Zayo Apparatus and ensure the apparatus is adequately protected from damage.

3. The contractor should note that damage to Zayo’s Fibre-optic network is extremely disruptive and costly to reinstate. The Contractor shall make every effort to avoid the disturbance of Zayo’s apparatus for the completion of the work.

4. When excavating, moving or backfilling around Zayo’s apparatus The Contractor should note that the normal depth of cover for Zayo ducts are as follows:

- Carriageway 600mm
- Footway 350mm
- Verge 350mm

5. With regard to excavation in the vicinity of Zayo’s apparatus the Contractor should be aware of the possibility of reduced cover and the possibility of encountering Zayo apparatus at depths of cover less than that given above.

6. All excavation adjacent to Zayo apparatus is to be carried out by hand until the exact extent and/or location of the Zayo apparatus is known. Use spades and shovels in preference to other tools.
7. Do NOT use Mechanical borers and/or excavators within 0.5m of Zayo Apparatus.

8. To prevent any movement of Zayo apparatus during excavations, complete shuttering shall be used if:
   - The excavation is deeper than the depth of cover of the adjacent Zayo apparatus.
   - The excavation is within 1.0m of Zayo apparatus in stable ground.
   - The excavation is within 5.0m of Zayo apparatus in unstable ground.

9. If for the completion of the works the Contractor intends using any of the following:
   - Pile driving equipment within 10.0m of Company Apparatus.
   - Explosives within 20.0m of Company Apparatus.

   Then the Contractor shall advise the Zayo Plant Protection Centre giving a minimum 10 working days written notice.

10. All Zayo manhole, joint box and/or other access points and chambers within the site shall be kept clear and unobstructed at all times to allow access by Zayo and/or their Contractor to carryout maintenance on the network. The Contractor should particularly note that footway type jointing chambers are not specified for carriageway loadings and will need to be adequately protected and/or demolished and rebuilt by Zayo where such chambers are likely to be placed at risk, either temporarily or permanently, from the movement of plant and/or equipment on the site.

11. The covers to Zayo chambers and/or apparatus shall only be lifted by means of appropriate manhole keys under the direct supervision of a Zayo Representative. No employee of the Contractor or of any sub-contractor employed by the Contractor shall enter any Zayo chamber and/or apparatus unless under the supervision of a Zayo Representative.

12. In the event of any damage whatsoever to Zayo apparatus, the Contractor shall immediately report the incidence to Zayo by contacting Zayo as follows:

   **Telephone:** 0800 169 1646 (Zayo 24Hr Network Operations Centre)

   **Damage to Communications Plant is Expensive – Please Take Care**

   Please note these basic safety details are explained in detail in the HSE booklet HS(G)47 – Avoiding Danger from Underground Services.
Reference/Location:- LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

With reference to your email:- *The Hatched Area shows that BT has "Significant Network Assets in the Area"*

This request will have to be forwarded to our Consultants.

Could you please supply additional information as below

1. Location Plan
2. Full address and Postcode
3. Grid Reference

4. **Full details of Works inclusive of Depths.**

Once received your Search will be forwarded directly.

Regards

Sent using my LENOVA THINKPAD LAPTOP

**Mike Powell**  
NNHC  
Openreach  
Telephone: 0117 376 0905  
Web: [www.openreach.co.uk](http://www.openreach.co.uk)

Openreach is building Britain’s connected future. We install and maintain the communications infrastructure that links homes and businesses to their service provider’s network - meeting their digital needs both today, and in the future.

This email contains BT information, which may be privileged or confidential. It’s meant only for the individual(s) or entity named above. If you’re not the intended recipient, note that disclosing, copying, distributing or using this information is prohibited. If you’ve received this email in error, please let me know immediately on the email address above. Thank you.

We monitor our email system, and may record your emails.

**British Telecommunications plc**  
Registered office: 81 Newgate Street London EC1A 7AJ  
Registered in England no. 1800000
Dear Holli,

LSHTM Tavistock Place Kings Cross London WC1H 9RH

Thank you for your communication of 2nd February 2018.

Attached is a 1:1250 plan @A4 showing the alignment and tunnel crown levels of the Piccadilly line in relation to the above location.

Please note:

- the positions of the tunnels on this plan are indicative only and must not be used for design purposes
- for more accurate tunnel location information a survey will need to be undertaken
- this letter must be distributed with the drawing which it refers to

If you or any other intends undertaking the following at the above location London Underground Infrastructure Protection must be provided with details of the proposals so that the safety of our railway can be assured:

- demolition
- structural works
- excavation
- boreholes or piling

If I can be of further assistance, please contact me.

Yours sincerely

Shahina Inayathusein
Information Manager
Email: locationenquiries@tube.tfl.gov.uk
Direct line: 020 3054 1365
1. All dimensions and LUL asset locations are approximate.
2. This drawing must be read in conjunction with the accompanying letter sent by LUL.
3. This drawing is for planning purposes only.
4. For more accurate tunnel location information a survey will need to be undertaken.

London School Of Hygiene And Tropical Medicine

Approximate tunnel crown level 6.1m below Ordnance Datum

Approximate tunnel crown level 6.2m below Ordnance Datum
Dear Sir/Madam

We acknowledge receipt of your Letter / New Roads & Street Works Act Enquiry dated 02/02/18 relating to the following enquiry:

LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

We do have apparatus in the immediate area in question, please see the attached drawings and map snapshot:

Drawing No(s):

R2507_1  
R2507_2

Please note we only manage High Voltage, Pilot and Fibre Optic cables for London Underground distribution network.

For further assistance please contact Sylvie Stroud in our Drawing Office on 0203 054 8354.

Please ensure that any contractors or sub-contractors engaged by you for these works are made aware of this response and its contents. In some cases our cable ducts may be used by a third party, for which we have no information or drawing records.

Yours sincerely

On Behalf of the H.V. Cables Manager

Title: NRSWA co-ordinator

Email: LULHVpowerassets@tfl.gov.uk

London Underground  
Power Distribution  
Units 7 & 8, Station Road  
Drawing Office  
Tufnell Park  
London  
N19 5IU  
Tel: 0203 054 8418
PICCADILLY LINE

RUSSELL SQUARE TO COCKFOSTERS
Dear Sir/Madam,

With regards to your enquiry, Network Rail does not believe there is any Network Rail owned apparatus or underground services within the area you have defined. As there is always the possibility that new works could be planned and undertaken in this area by Network Rail this information is valid as at today’s date and is supplied for general guidance only.

Please be aware that this response is based on Network Rail’s records and knowledge and no guarantee can be given regarding accuracy or completeness. CAT scans, safe digging practices (as contained in HSE publications) and other appropriate investigative techniques should always be carried out.

There may be other apparatus or underground services owned or operated by Utility Companies and accordingly you should contact individual utilities for information.

If, in connection with your investigations and/or work, you become aware of Network Rail apparatus or underground services within your area of work, please ensure these are notified to our Asset Protection team via the following link as a matter of urgency so that appropriate measures for avoidance of risk and damage can be put in place.

http://www.networkrail.co.uk/aspdx/1758.aspx?cd=1

If you require any further clarification on any of the information please contact opburiedservicesenquiries@networkrail.co.uk.

Regards,

Alexis Xoufarides
Distribution Manager (NRSWA), Asset Information Services

Asset Information Services: to inspire & enable through the power of data
National Records Centre, Audax Road, York YO30 4US
T: 01904 386338 (int. 085338)
M: 07718 004626
E: alexis.xoufarides@networkrail.co.uk

Network Rail – Working for you
Dear Sir/Madam

**Plant Enquiry:** LSHTM, Tavistock Place, Kings Cross, London, WC1H 9RH

Thank you for your email dated 2nd February 2018.

Our records show no traffic control equipment, within the sites of your anticipated works. Should you vary the location of the works, please inform us so that further checks can be made.

The information relates to traffic control equipment, owned by Transport for London and believed to be correct.

Yours faithfully

Viv Lloyd
Plant Enquiries Officer
Network Performance - Regulation
Transport for London
Surface Transport | Network Management Directorate
Email: plantenquiries@tfl.gov.uk
Tel: 020 3054 6121