



Technics
Geospatial Surveyors

Underground Utility Report

Desktop Subsurface Utility Report

Site Address: Charing Cross
Westminster
Greater London
SW1A 2DX

Grid Ref: 530034,180381

Our Ref: SP21616

Client: Technics

Search Date: 27th July 2021



Technics House, Merrow Business Park, Guildford, Surrey, GU4 7WA
Technics Group is the trading name of Sitechnics Limited & Subtechnics Limited





1 Utility Report Content & Information

1.1 Purpose of Utilities Report

The Utilities Report is intended to be for project planning and feasibility only. It is not suitable to be used for construction or excavation purposes. The existence of utilities on the plans does not imply that they are suitable in size, capacity, type or location for the project purpose. The Utility Companies should be contacted directly for clarification in this regard.

1.2 Compilation of the Utilities Report

The Utilities Report is a compilation of Utility Company record plans. These are obtained via application to the Utility Companies following a geographic search to determine which Companies are in a given area. The data is provided by the Utility Companies in a variety of formats including faxed plans, pdf files, digital drawing files and paper drawings. They are all converted to pdf files for inclusion in the report. The quality of the plans therefore varies. A quality assured process is followed for each report. This requires that it is checked at different stages during the process before being subjected to a final assessment prior to issue.

1.3 Limitations and Accuracy of the data

Each Utility Company has its own disclaimer statement in respect of the information they provide. They do not guarantee or provide a warranty for the data. The Utility Company disclaimers should be referred to when considering the accuracy and completeness of the data. Generally the plans provided are for guidance only and are not guaranteed to be up to date or to be a complete record of the Utility Company plant in a given area.

Some Utility Companies only show main utilities. Therefore service pipes or cables may not be shown on the plans but they may be present on the site.

Some Utility Companies state that the utilities may deviate from the route and position shown on the plans.

All enquiries made to utility providers are sent with a generic set of work category details. Should the user require utility providers to be made aware of the details of their project, this information should be made available to Technics at time of order.

Some water and sewerage companies do not display cover levels or invert levels on their plans, this information may therefore not be available for a given report.

Due to the time delay between installation of, or repair or upgrading of utilities and the subsequent updating of the Utility Companies plans, it should be noted that there could be utilities present that are not shown on the plans.

The user shall make further enquires and investigations to satisfy himself as to the adequacy of the plans and position of the utilities. The exact position of the utilities should be verified by the use of suitable detecting devices and safe digging practices in accordance with HS(G)47. Further advice on the location of the utilities should be requested from the owner.

1.4 Completeness

Whilst every effort is made to locate all Utility Companies in a given area, due to the sensitive or restrictive nature of certain sites, the existence of redundant utilities, the emergence of new companies and the combining of, takeover or sale of existing Companies, we cannot guarantee to provide details on all utilities in a given area.

An Essentials Report will contain a response from the DNO (electricity), GDN (gas), main regional water and sewerage company, and BT Openreach. Tertiary suppliers (e.g., IDNOs, IGTs, local water companies etc.) will not be contacted.

1.5 Date

Due to the Utility Companies plans being regularly changed and updated, the Utility Report is only valid at the time of production.

1.6 Liability

For the reasons given in 1.1 to 1.5 above, Subtechnics Limited cannot accept any liability for or offer any guarantees for the report or the content. No representation is made by Subtechnics Limited as to the accuracy, completeness, and sufficiency or otherwise of this report.

1.7 Copyright

The copyright of the Utilities Report remains with Subtechnics Limited and may not be copied nor communicated using any method either in whole or in part without the prior written consent of Subtechnics Limited.

1.8 Assignment

The Utility Report cannot be assigned to any other party without the prior written consent of Subtechnics Limited.



2 Terms and Conditions

The Terms and Conditions should be read in conjunction with the 'Report Content & Information' sheet. The content of the 'Report Content & Information' sheet forms part of the Terms and Conditions.

2.1 Disbursements

- 2.1.1 Several Utility Companies charge for either searching to determine if they have any plant or for providing plans. The details of the charges are contained in the disbursement table. They are charged to the client at cost.
- 2.1.2 The Utility Companies that make a charge or the charges themselves may be changed or updated without notification to the client.

2.2 Turnaround times

- 2.2.1 Whilst every effort is made to produce the reports as quickly as possible we are reliant on the Utility Companies to provide us with the plans and/or data. Generally reports are completed within approximately 15 to 20 working days.
- 2.2.2 No guarantees can be made regarding the time taken to complete the report.

2.3 Limitation of Liability

- 2.3.1 Subtechnics Limited will make all reasonable endeavors to provide the Utility Report within the stated time period and shall not be liable for any delay arising because of any act, omission or delay of any Utility Company.
- 2.3.2 The Utility Companies have no liability to Subtechnics Limited in relation to the provision of information, plans and/or data or the omission of or to provide such information, plans or data. Therefore Subtechnics Limited shall have no liability to a Client for the information, plans and data contained in a Utilities Report.
- 2.3.3 Subtechnics Limited shall have no liability in relation to any Utilities Report for loss or damage arising in relation to loss of profits, loss of business, loss of use, costs, damages, charges or expenses.

2.4 Cancellation Policy

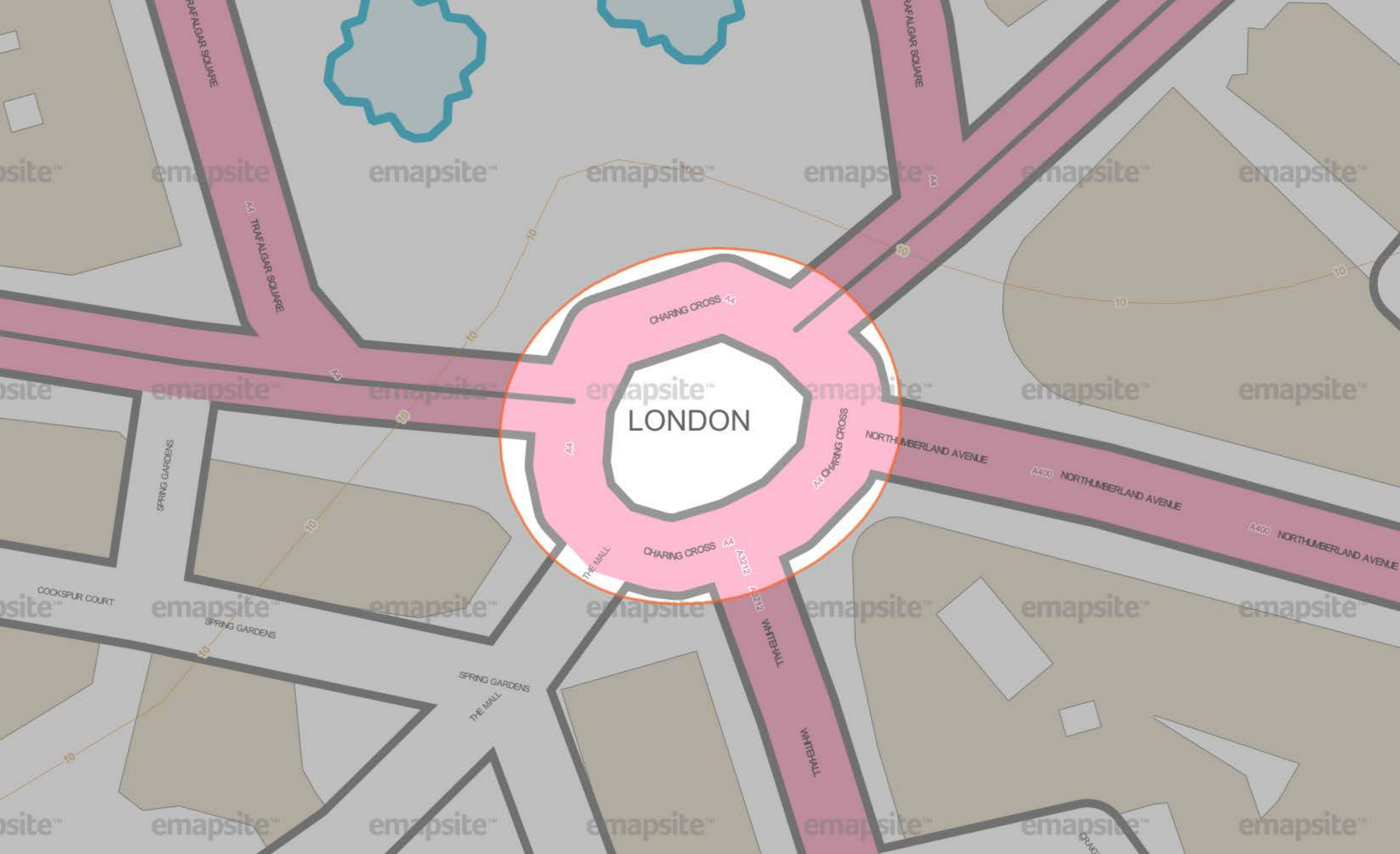
- 2.4.1 If the report has been ordered online or by any other means, but the Utility Report compilation process has not been initiated at the time of cancellation, there will be no charge.
- 2.4.2 If the report has been generated but not sent out, you will be charged 75% of the report price plus the full costs of all disbursements.
- 2.4.3 There is no cancellation if the report has been sent.

2.5 Force Majeure

Subtechnics Limited will have no liability to the Client if it is prevented from or delayed in performing its obligations in connection with producing the Utilities Report by any act, event, omission, accident or incident beyond its reasonable control. These include but are not limited to:- any form of industrial dispute, strike or lock-out, breakdown or failure of a utility service or transport network, act of God, war, riot, civil commotion, malicious damage, accident, incident, breakdown of plant, machinery or electronic system, fire or flood.

2.6 Governing Law

The Governing Law and Jurisdiction of these Terms and Conditions, any Contract or Agreement are governed by and construed in accordance with the laws of England and Wales. The courts of England and Wales shall have non-exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with these Terms and Conditions, any Contract or Agreement.



LONDON

CHARING CROSS

CHARING CROSS

CHARING CROSS

WHITEHALL

WHITEHALL

NORTHUMBERLAND AVENUE

NORTHUMBERLAND AVENUE

NORTHUMBERLAND AVENUE

TRAFFALGAR SQUARE

TRAFFALGAR SQUARE

SPRING GARDENS

SPRING GARDENS

SPRING GARDENS
THE MALL

COCKSPUR COURT

Utility Company Underground Services Search Results Schedule

Our Ref: SP21616
 Address: Charing Cross, Westminster, Greater London
 Grid Reference: 530034,180381
 Post Code: SW1A 2DX
 Author: Stephen
SEARCH DATE: 27/07/21

AFFECTED

Utility Company	Site Area Affected ✓
Water	
Foul/Surface Water Company – Thames Water	✓
Potable Water Company – Thames Water	✓
Electricity	
Electricity Distribution Company – UK Power Networks	✓
Gas	
Gas Distribution Company – Cadent Gas	✓
Telecoms	
Atkins Global (Vodafone)	✓
BT Openreach	✓
C A Telecom (Colt)	✓
euNetworks Fiber UK Limited	✓
Instalcom – Fibernet UK Ltd	✓
Instalcom – FibreSpan Ltd	✓
Instalcom – Global Crossing (UK) Ltd	✓
Instalcom – Global Crossing PEC	✓
Instalcom – Lumen Technologies	✓
Neos Networks	✓
Sky Telecommunications Services Ltd	✓
Verizon Business	✓
Virgin Media	✓
Zayo Group UK Ltd (c/o JSM Group Ltd)	✓
Transportation	
London Underground Ltd	✓
London Underground Power Maintenance	✓
Transport for London	✓
Utility Company	Site Area Affected ✓

NOT AFFECTED

Utility Company	NOT Affected ✓
Water	
GTC – Independent Water Networks Limited	✓
Leep Utilities - Water	✓
Linesearch – Northumbrian Water Group	✓
Linesearch – Portsmouth Water	✓
Linesearch – SES Water	✓
Gas	
Energy Assets Pipelines	✓
GTC Pipelines Ltd	✓
GTC – Independent Pipelines Ltd	✓
GTC – Quadrant Pipelines Ltd	✓
Leep Utilities - Gas	✓
Linesearch – BOC Limited (A Member of the Linde Group)	✓
Linesearch – Carrington Gas Pipeline	✓
Linesearch – CATS Pipeline c/o Wood Group PSN	✓
Linesearch – Centrica Storage Ltd	✓
Linesearch – CNG Services Ltd	✓
Linesearch – ESP Utilities Group	✓
Linesearch – Fulcrum Pipelines Limited	✓
Linesearch – Gas Networks Ireland (UK)	✓
Linesearch – Humbly Grove Energy	✓
Linesearch – IGas Energy	✓
Linesearch – Last Mile Gas Ltd	✓
Linesearch – Marchwood Power Ltd (Gas Pipeline)	✓
Linesearch – Murphy Gas Networks	✓
Linesearch – National Grid Gas Transmission	✓
Linesearch – Premier Transmission Ltd (SNIP)	✓
Linesearch – RWE - Great Yarmouth Pipeline	✓
Linesearch – Seabank Power Limited	✓
Linesearch – SGN	✓
Linesearch – SSE Utility Solutions Limited	✓
Linesearch – Wales and West Utilities	✓
Linesearch – Wingas Storage UK Ltd	✓
Utility Company	NOT Affected ✓

Utility Company	NOT Affected ✓
Electricity	
Eclipse Power	✓
Energy Assets Networks	✓
GTC – Electricity Network Company Limited	✓
GTC – Independent Power Networks Limited	✓
Leep Utilities - Electricity	✓
Linesearch – Diamond Transmission Corporation	✓
Linesearch – EirGrid	✓
Linesearch – Electricity North West Limited	✓
Linesearch – EP Langage Limited	✓
Linesearch – ESB	✓
Linesearch – ESP Utilities Group	✓
Linesearch – Interger (Coryton Energy or Spalding Energy)	✓
Linesearch – Last Mile Electricity Ltd	✓
Linesearch – Manx Cable Company	✓
Linesearch – Melbourn Solar Limited	✓
Linesearch – Murphy Power Distribution	✓
Linesearch – National Grid Electricity Transmission	✓
Linesearch – Ørsted	✓
Linesearch – Prysmian Cables & Systems Ltd (c/o Western Link)	✓
Linesearch – RWEpower (Little Barford and South Haven)	✓
Linesearch – Scottish and Southern Electricity Networks	✓
Linesearch – Scottish Power Generation	✓
Linesearch – Seabank Power Limited	✓
Linesearch – SSE (Peterhead Power Station)	✓
Linesearch – SSE Transmission	✓
Linesearch – Transmission Capital	✓
Linesearch – Uniper UK Ltd	✓
Linesearch – Vattenfall	✓
Linesearch – VPI Power Limited	✓
Linesearch – West of Duddon Sands Transmission Ltd	✓
Linesearch – Western Power Distribution	✓
Utility Company	NOT Affected ✓

Utility Company	NOT Affected ✓
District Energy	
ENGIE	✓
GTC – Independent Community Heating Limited	✓
Linesearch – E.ON UK CHP Limited	✓
Linesearch – Gateshead Energy Company	✓
Linesearch – Npower CHP Pipelines	✓
Linesearch – Pimlico District Heating Undertaking (PDHU)	✓
Linesearch – Veolia ES SELCHP Limited	✓
Linesearch – Veolia ES Sheffield Ltd	✓
Telecoms	
CityFibre Holdings Limited	✓
GTC – Independent Fibre Networks Limited	✓
Linesearch – Box Broadband	✓
Linesearch – Concept Solutions People Ltd	✓
Linesearch – EXA	✓
Linesearch – Gamma	✓
Linesearch – Gigaclear Ltd	✓
Linesearch – Jurassic Fibre Ltd	✓
Linesearch – NTT Global Data Centers EMEA UK Ltd	✓
Linesearch – Tata Communications (c/o JSM Construction Ltd)	✓
Linesearch – University of Cambridge Granta Backbone Network	✓
MBNL	✓
Transportation	
Linesearch – Heathrow Airport LTD	✓
Network Rail	✓
Utility Company	NOT Affected ✓

Utility Company	NOT Affected ✓
Oil/Fuel/Other - Linesearch Replies	
Linesearch – AWE Pipeline	✓
Linesearch – Balfour Beatty Investments Limited	✓
Linesearch – BP Exploration Operating Company Limited	✓
Linesearch – BPA	✓
Linesearch – Cemex	✓
Linesearch – Chrysaor Production (UK) Limited	✓
Linesearch – ConocoPhillips (UK) Teesside Operator Ltd	✓
Linesearch – DIO (MOD Abandoned Pipelines)	✓
Linesearch – DIO (MOD Live Pipelines)	✓
Linesearch – ENI & Himor c/o Penspen Ltd	✓
Linesearch – EnQuest NNS Limited	✓
Linesearch – ESSAR	✓
Linesearch – Esso Petroleum Company Ltd	✓
Linesearch – Exolum Pipeline System Ltd	✓
Linesearch – Harbour Energy	✓
Linesearch – Humbly Grove Energy	✓
Linesearch – IGas Energy	✓
Linesearch – INEOS FPS Pipelines	✓
Linesearch – INEOS Manufacturing (Scotland & TSEP)	✓
Linesearch – INOVYN ChlorVinyls Limited	✓
Linesearch – INOVYN Enterprises Limited	✓
Linesearch – Mainline Pipelines Limited	✓
Linesearch – Manchester Jetline Limited	✓
Linesearch – Oikos Storage Limited	✓
Linesearch – Perenco UK Ltd (Purbeck Southampton Pipeline)	✓
Linesearch – Petroineos	✓
Linesearch – Phillips 66	✓
Linesearch – Redundant Pipelines – LPDA	✓
Linesearch – SABIC UK Petrochemicals	✓
Linesearch – Shell	✓
Linesearch – Shell NOP	✓
Linesearch – Total (Colnbrook & Colwick Pipelines)	✓
Linesearch – Total Finaline Pipelines	✓
Linesearch – Westminster City Council	✓
Utility Company	NOT Affected ✓

www.technicsgroup.com
utility.reports@technicsgroup.com
 01483 230 080 Ask for Stephen

AFFECTED

WATER



Subtechnics Ltd
Technics House
Merrow Lane
GUILDFORD
GU4 7WA

Search address supplied Charing Cross
Westminster
Greater London
SW1A 2DX

Your reference SP21616

Our reference ALS/ALS Standard/2021_4520913

Search date 12 October 2021

Knowledge of features below the surface is essential for every development

The benefits of this knowledge not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility of any development.

Did you know that Thames Water Property Searches can also provide a variety of utility searches including a more comprehensive view of utility providers' assets (across up to 35-45 different providers), as well as more focused searches relating to specific major utility companies such as National Grid (gas and electric).

Contact us to find out more.

Search address supplied: Charing Cross, Westminster, Greater London, SW1A 2DX

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 or use the address below:

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 . 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:

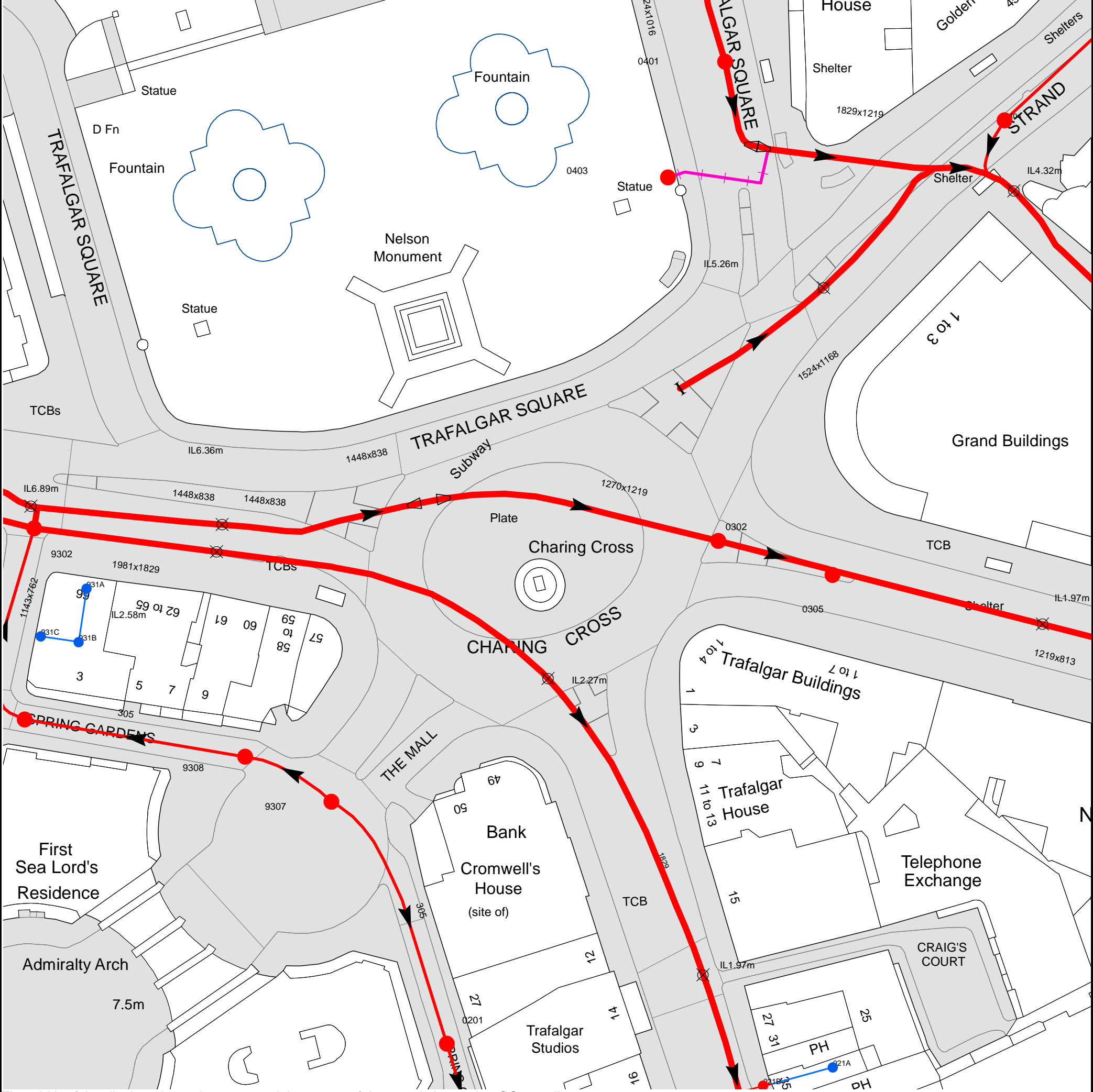
Waste Water queries

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: . 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:

Clean Water queries

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



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 530039,180380
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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

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

Manhole Reference	Manhole Cover Level	Manhole Invert Level
931B	n/a	n/a
931C	n/a	n/a
931A	n/a	n/a
0201	6.38	2.92
021B	n/a	n/a
021A	n/a	n/a
9307	7.78	4.12
9308	8.1	4.58
9309	8.87	3.13
0305	n/a	n/a
0302	7.52	2.44
9302	n/a	2.62
0403	n/a	n/a
1404	10.46	4.61
0401	n/a	n/a

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



ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

	Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Trunk Surface Water
	Trunk Foul
	Storm Relief
	Trunk Combined
	Vent Pipe
	Bio-solids (Sludge)
	Proposed Thames Surface Water Sewer
	Proposed Thames Water Foul Sewer
	Gallery
	Foul Rising Main
	Surface Water Rising Main
	Combined Rising Main
	Sludge Rising Main
	Proposed Thames Water Rising Main
	Vacuum

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 'D' on a manhole level indicates that data is unavailable.

Sewer Fittings

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

	Air Valve
	Dam Chase
	Fitting
	Meter
	Vent Column

Operational Controls

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

	Control Valve
	Drop Pipe
	Ancillary
	Weir

End Items

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

	Outfall
	Undefined End
	Inlet

Other Symbols

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

	Public/Private Pumping Station
	Change of characteristic indicator (C.O.C.I.)
	Invert Level
	Summit

Areas

Lines denoting areas of underground surveys, etc.

	Agreement
	Operational Site
	Chamber
	Tunnel
	Conduit Bridge

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

	Foul Sewer		Surface Water Sewer
	Combined Sewer		Gully
	Culverted Watercourse		Proposed
	Abandoned Sewer		

- 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 Searches on



ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

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

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

Valves

	General Purpose Valve
	Air Valve
	Pressure Control Valve
	Customer Valve

Hydrants

	Single Hydrant
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Meters

	Meter
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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
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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.

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

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

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:

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 or write to them at

Ways to pay your bill

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ELECTRICITY

Our Ref: 23538318 Your Ref: SP21616

Tuesday, 12 October 2021

Stephen Sawyer
Technics House Merrow Business Park
Guildford
Surrey
GU4 7WA

Dear Stephen Sawyer

Thank you for contacting us regarding UK Power Networks equipment at the above site. I have enclosed a copy of our records which show the electrical lines and/or electrical plant. I hope you find the information useful.

I have also enclosed a fact sheet which contains important information regarding the use of our plans and working around our equipment. Safety around our equipment is our number one priority so please ensure you have completed all workplace risk assessments before you begin any works.

Should your excavation affect our Extra High Voltage equipment (6.6 KV, 22 KV, 33 KV or 132 KV), please contact us to obtain a copy of the primary route drawings and associated cross sections.

If you have any further queries do not hesitate to contact us.



This information is made available to you on the terms set out below. If you do not accept the terms of use set out in this fact sheet please do not use the plans and return them to UK Power Networks.

1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks does not exclude or limit its liability if it causes the death of any person or causes personal injury to a person where such death or personal injury is caused by its negligence.
3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise how for any loss, damage, costs, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
4. The information about UK Power Networks electrical plant and/or electric lines provided to you belongs to and remains the property of UK Power Networks. You must not alter it in any respect.
5. The information provided to you about the electrical plant and/or electric lines depicted on the plans may NOT be a complete record of such apparatus belonging to UK Power Networks. The information provided relates to electric lines and/or electrical plant belonging to UK Power Networks that it believes to be present but the plans are not definitive: other electric lines and/or electrical plant may be present and that may or may not belong to UK Power Networks.
6. Other apparatus not belonging to UK Power Networks is not shown on the plan. It is your responsibility to make your own enquiries elsewhere to discover whether apparatus belonging to others is present. It would be prudent to assume that other apparatus is present.
7. You are responsible for ensuring that the information made available to you is passed to those acting on your behalf and that all such persons are made aware of the contents of this letter.
8. Because the information provided to you may not be accurate, you are recommended to ascertain the presence of UK Power Networks electric lines and/or electrical plant by the digging of trial holes. Trial holes should be dug by hand only.

Excavations must be carried out in line with the Health and Safety Executive guidance document HSG 47. We will not undertake this work. A copy of HSG 47 can be obtained from the Health and Safety Executives website.

All electric lines discovered must be considered LIVE and DANGEROUS at all times and must not be cut, resited, suspended, bent or interfered with unless specially authorised by UK Power Networks.

The electric line and electrical plant belonging to UK Power Networks remains so even when made dead and abandoned and any such electric line and/or electrical plant exposed shall be reported to UK Power Networks.

Where your works are likely to affect our electric lines and/or electrical plant an estimate of the price of any protective /diversionary works can be prepared by



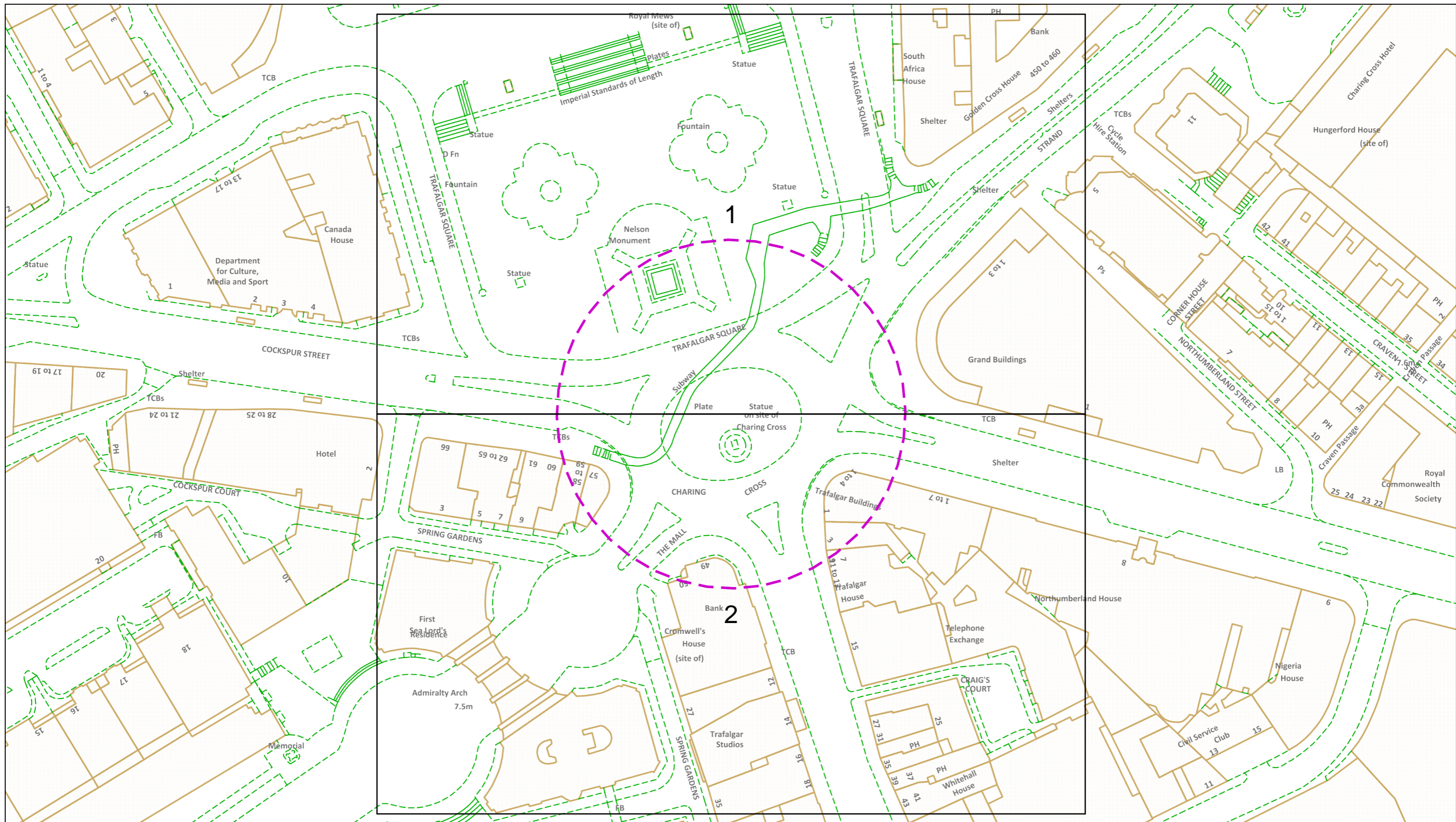
- 9 Any work near to any overhead electricity lines must be carried out by you in accordance with the Health and Safety Executive guidance document GS6 and the Electricity at Work Regulations.

The GS6 Recommendations may be purchased from HSE Books or downloaded from the Energy Networks Association's website.

If given a reasonable period of prior notice UK Power Networks will attend on site without charge to advise how and where "goal posts" should be erected. If you wish to use this service, in the first instance please telephone: between 08:30 and 17:00 Monday to Friday.

10. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.
11. If in carrying out work on land in, on, under or over which is installed an electric line and/or electrical plant that belongs to UK Power Networks you and/or anyone working on your behalf damages (however slightly) that apparatus you must inform immediately UK Power Networks by our emergency 24 hour three digit telephone number **105** providing;
- your name, address and telephone number;
 - the date, time and place at which such damage was caused;
 - a description of the electric line and/or electrical plant to which damage was caused;
 - the name of the person whom it appears to you is responsible for that damage;
 - the nature of the damage.
12. The expression "UK Power Networks" includes UK Power Networks (EPN) plc, UK Power Networks (LPN) plc, UK Power Networks (SEPN) plc, UK Power Networks and any of their successors and predecessors in title.





Dig Sites Area: Line:

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

This plan must be used with
the attached 'Symbols'
document.

Date Requested: 12/10/2021
Job Reference: 23538318
Site Location: 529936 180307
Requested by:
Mr Stephen Sawyer
Your Scheme/Reference: SP21616

Scale: 1:1025 (When plotted at A3)

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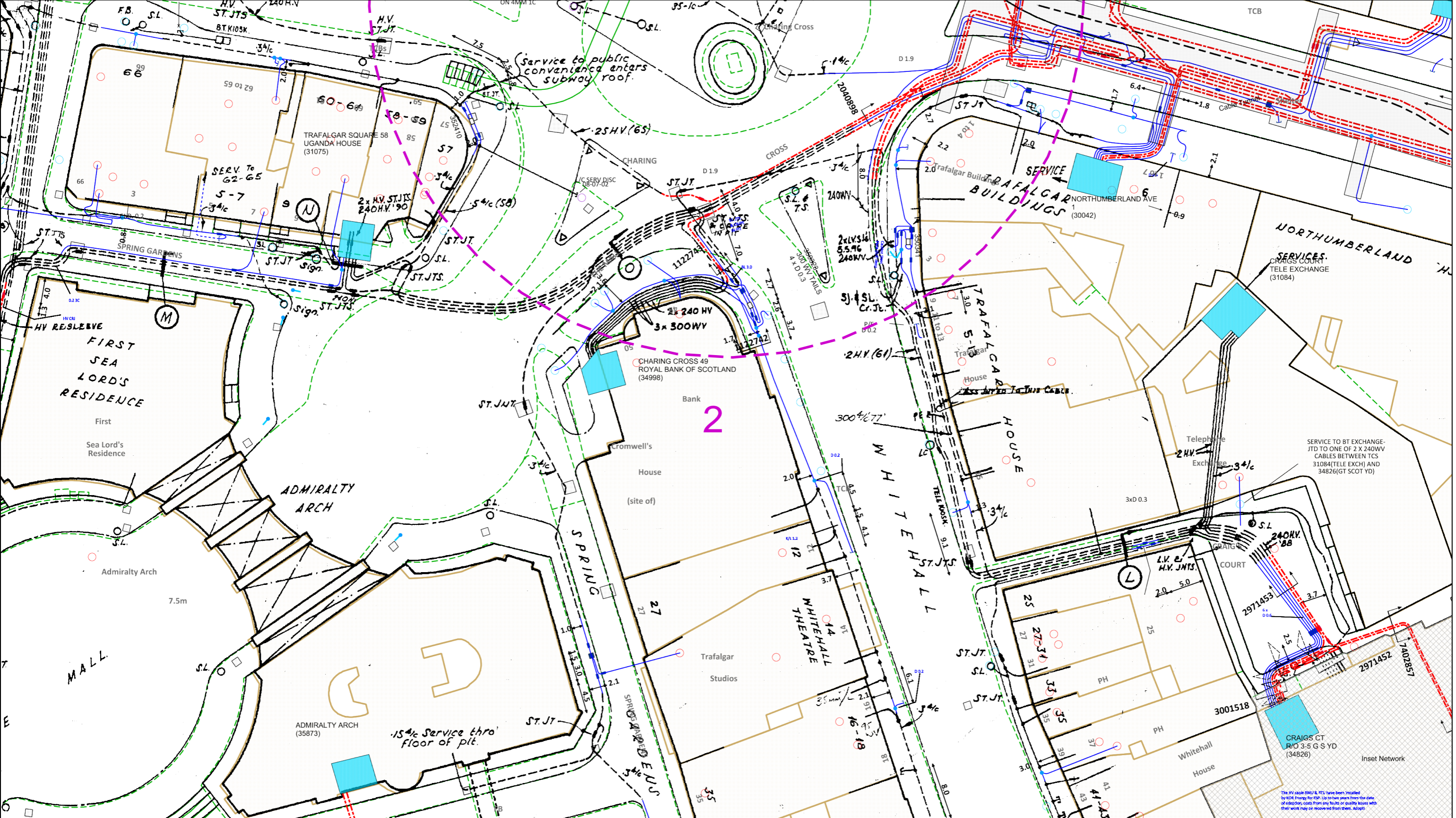


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BEFORE
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Refer to HSE
Guidance note GS6

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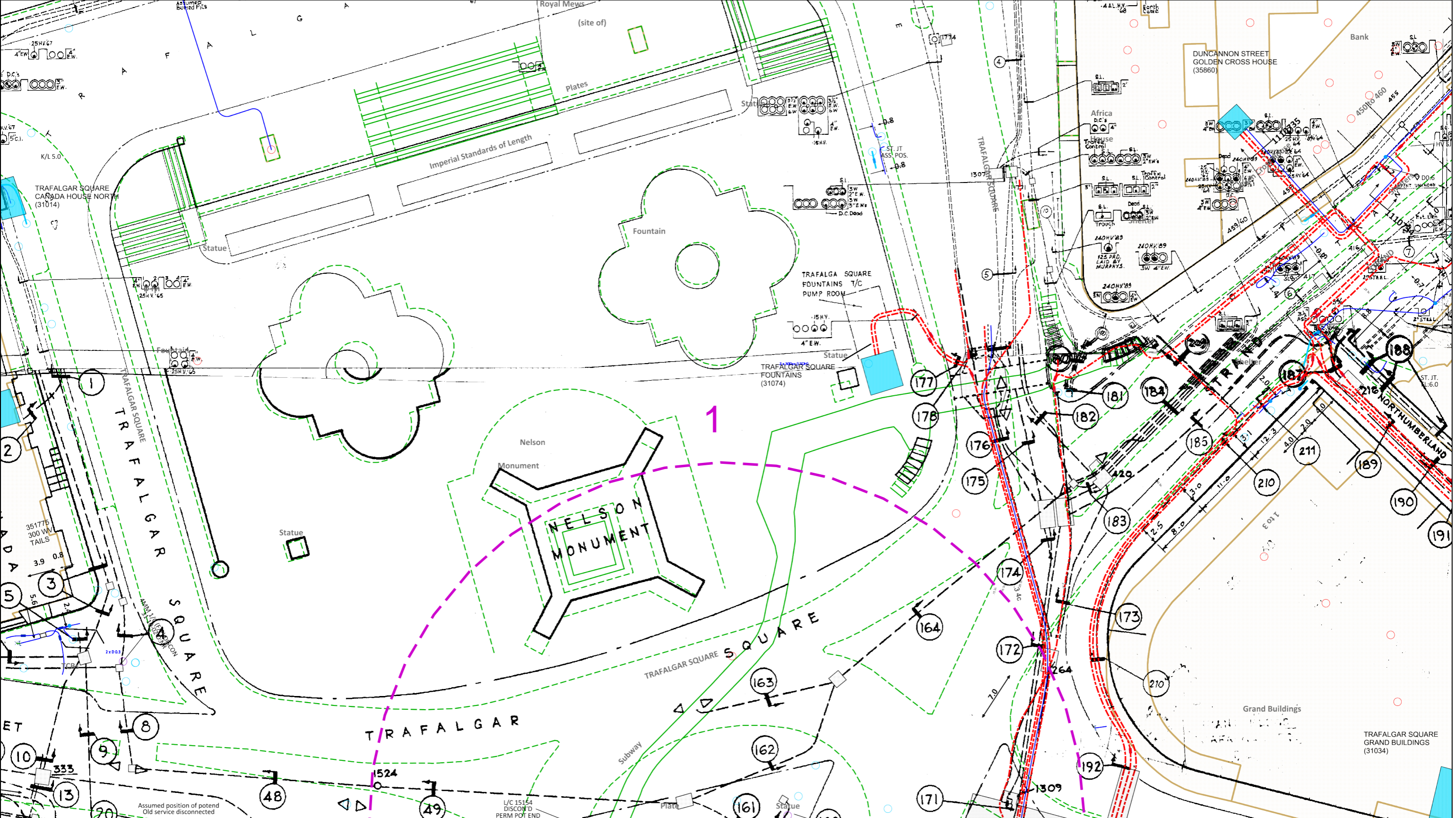
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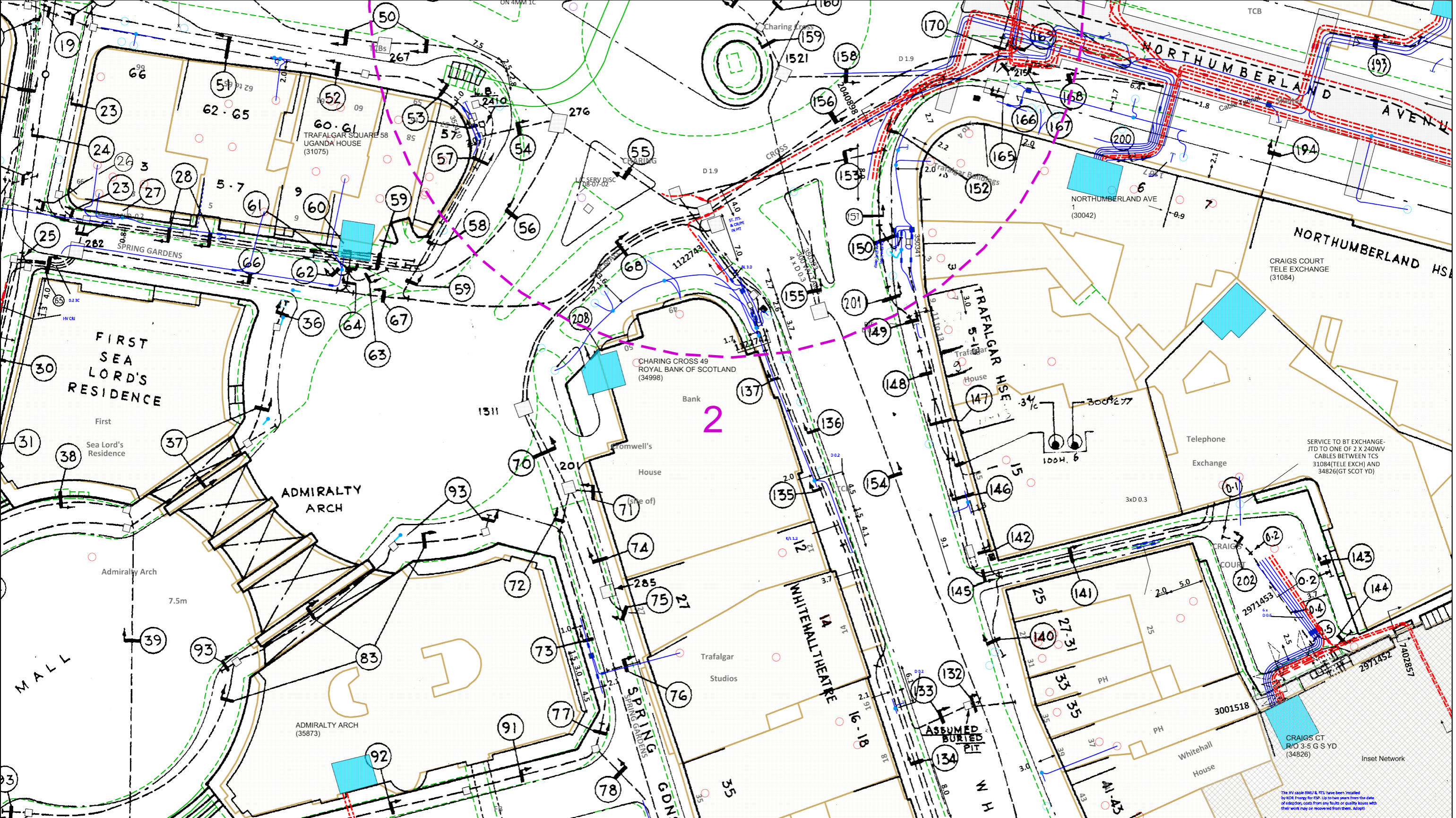
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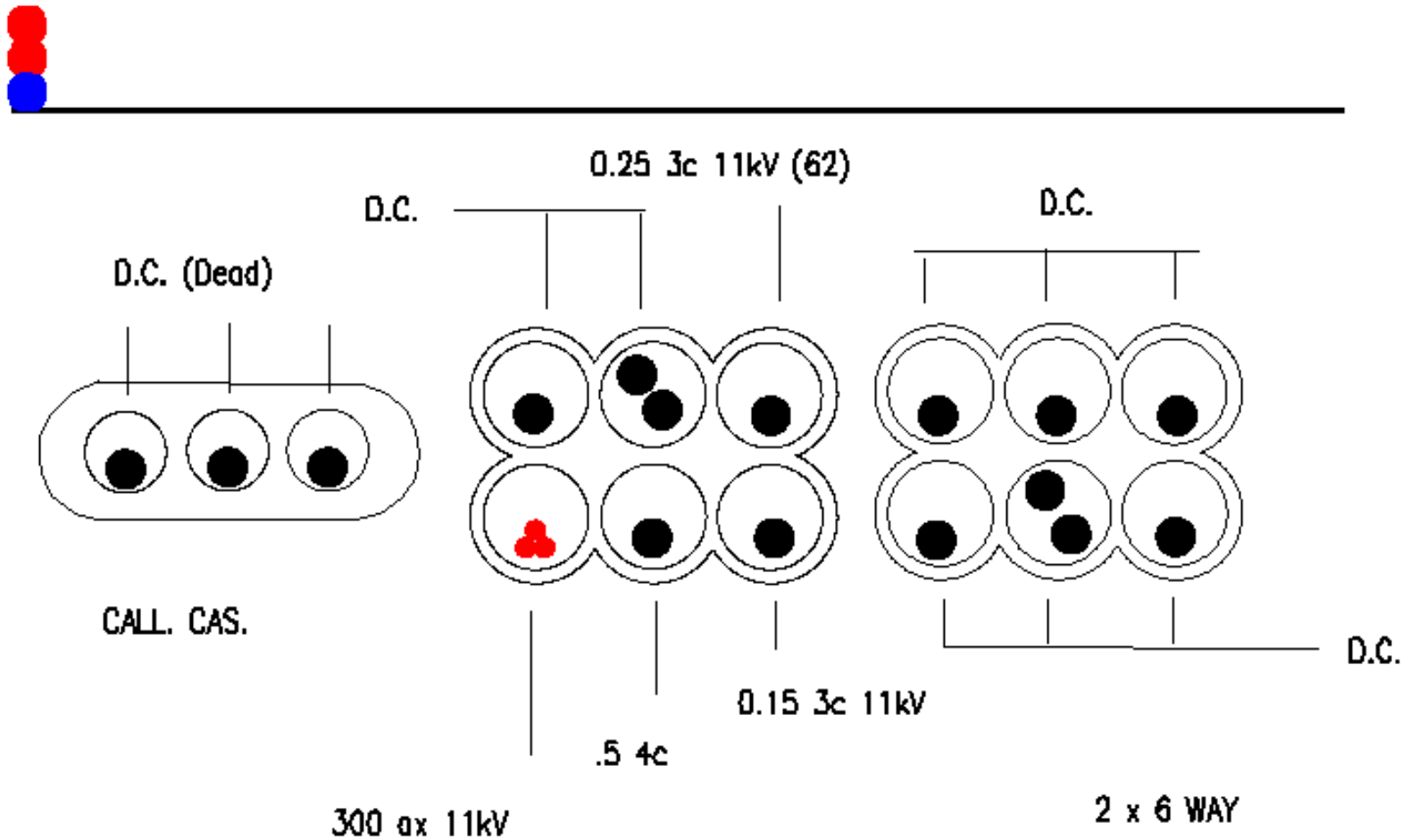
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Cross Section

2040898

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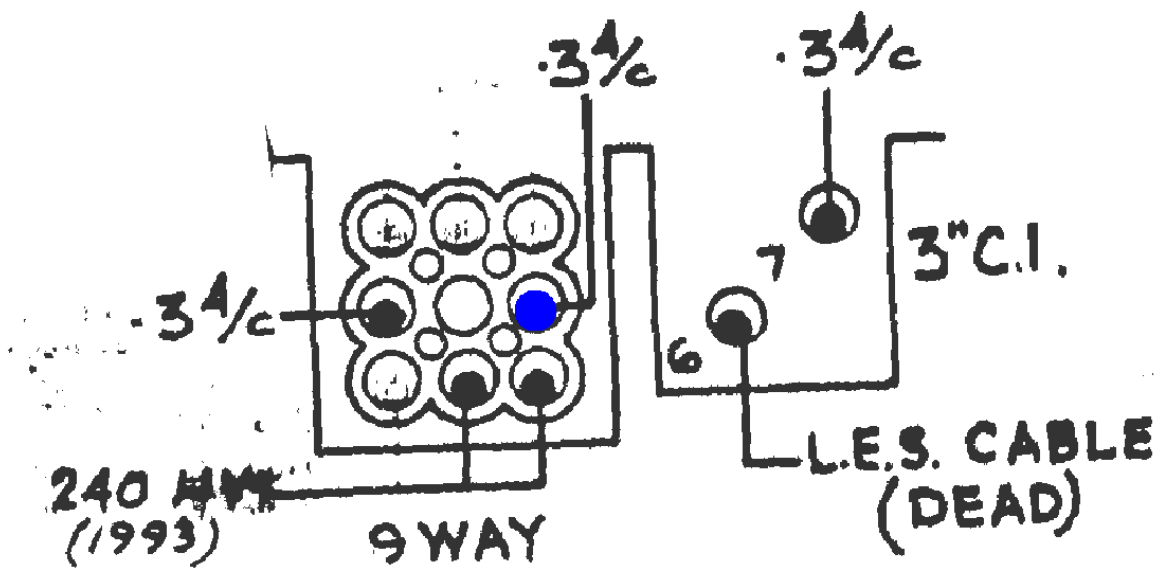
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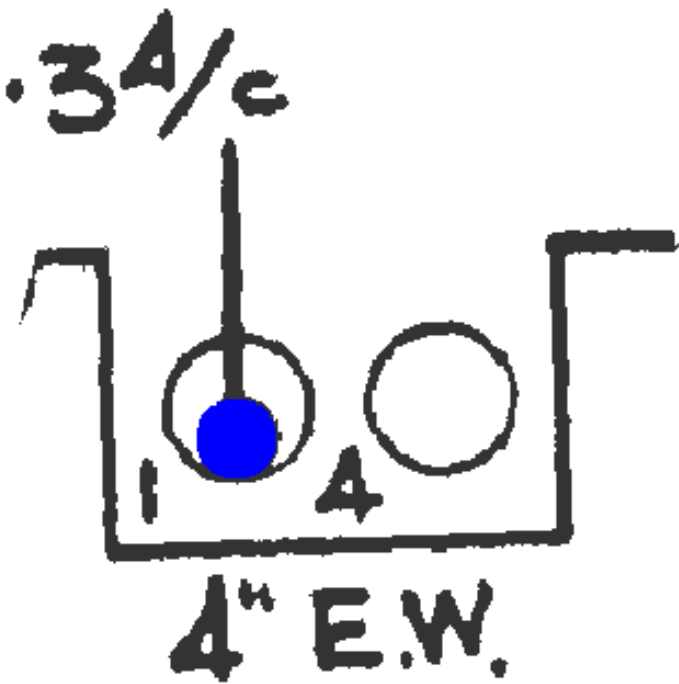
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Cross Section : 1122743



Cross Section
1122743

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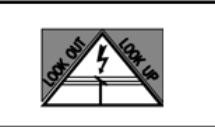


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UK Power Networks Feedback Tool

Please help UK Power Networks improve the accuracy of their network records and help make it safer for all those working around them in future.

All you need to do is:

1. Use your phone camera to scan the QR code:
2. Provide feedback on what you have found on site (good or bad)
3. Upload a photo if needed



Thank you for making the area a safer place to dig.

UK Power Networks, working with LSBUD

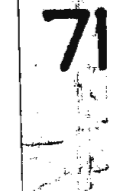


SCALE 1/500

NOTE:- ALL DEPTHS SHOWN
ARE IN METRES.

SERVICES:- THE INFORMATION IS PARTLY BASED ON OLD RECORDS THE ACTUAL LOCATION &

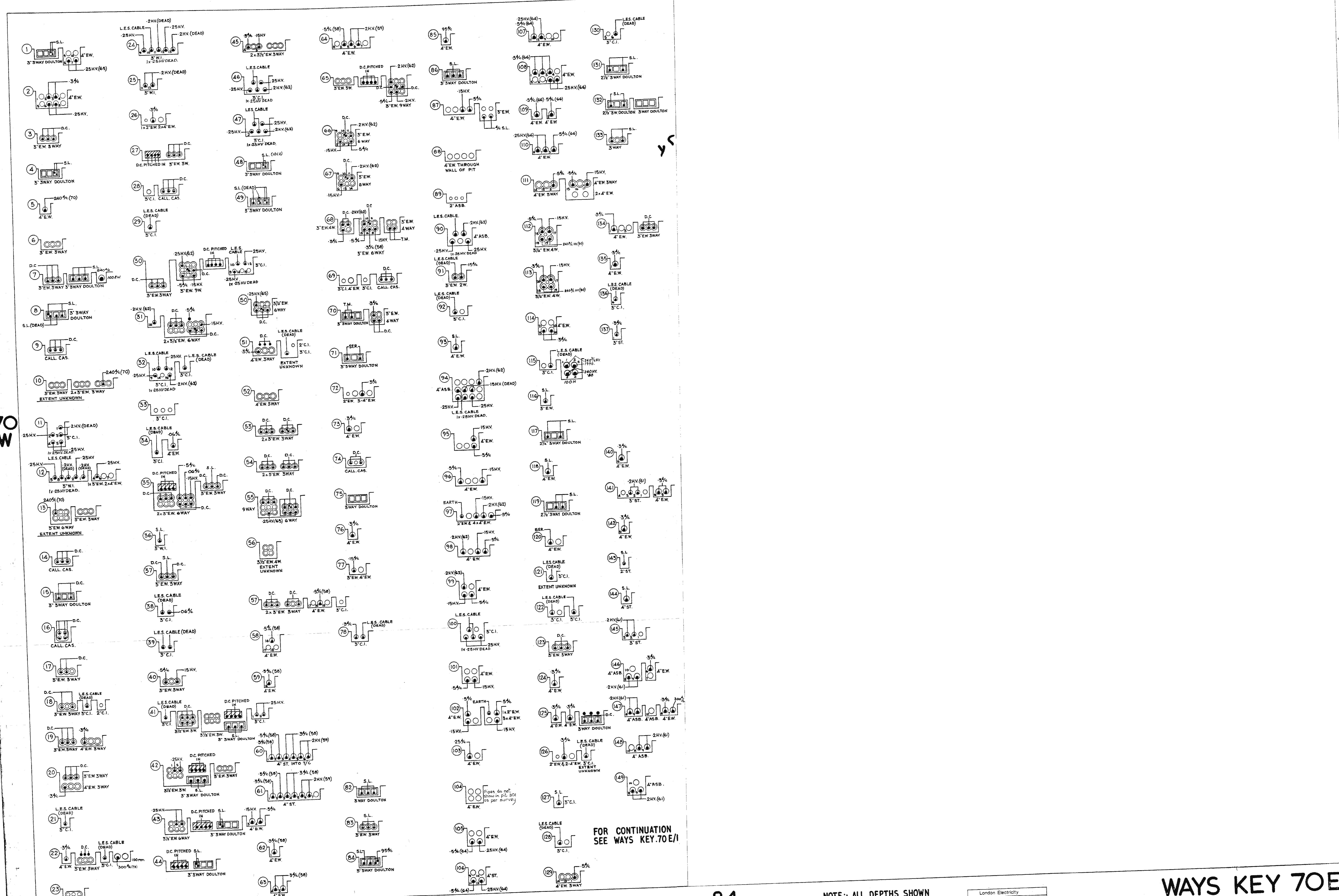
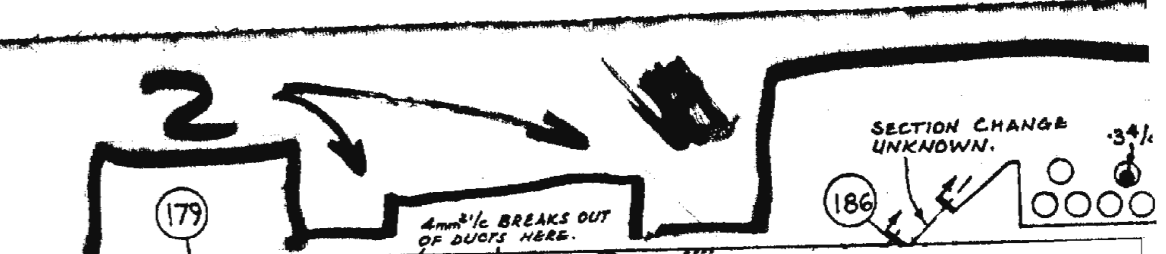
MAINS KEY 70E.



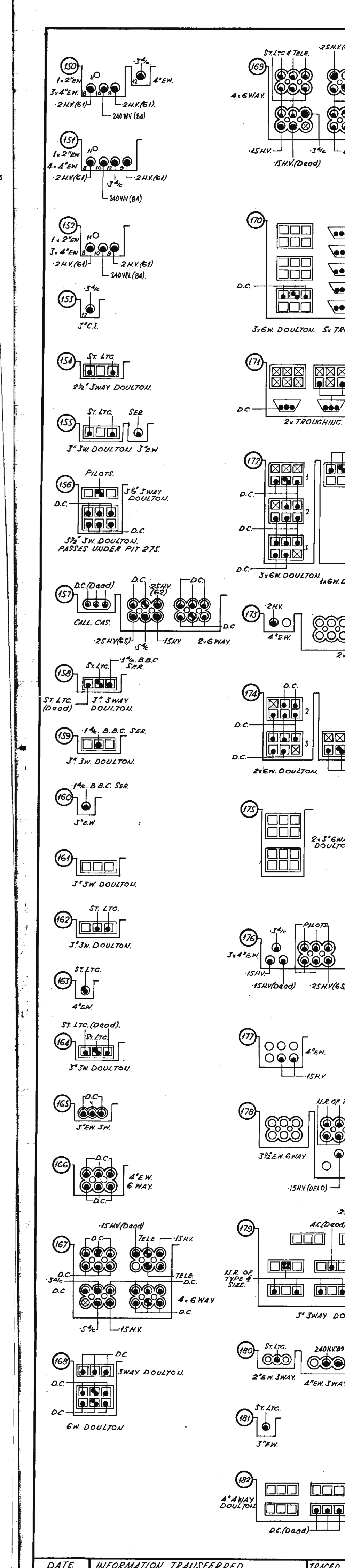
70
W

DATE	INFORMATION TRANSFERRED	TRACED BY	TRACING C
10-1-77	FROM 41-0 to 11-KEYS BY:- R.M.H.	B.A.S.	EKODH

52 S.E.



FOR CONTINUATION
SEE WAYS KEY 70E/1



DATE: 25-9-72 INFORMATION TRANSFERRED FROM 440' TO 1' KEYS BY: R.M.H. TYPED: R.M.H.

SCALE 1/500

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London Electricity
Served under the Electricity Supply Act
with the sanction of the Controller of Electricity
Stationary Office, Great Britain

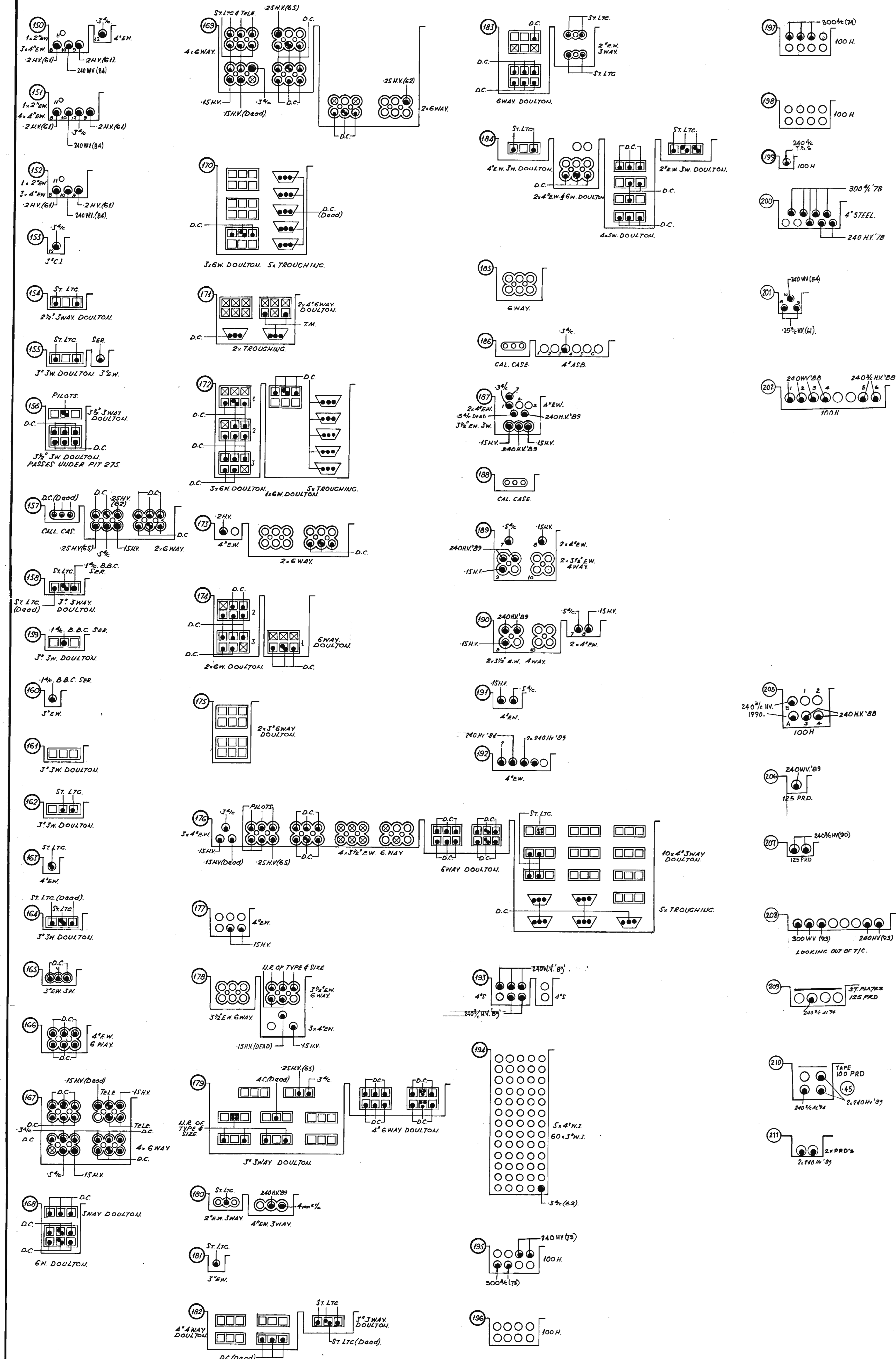
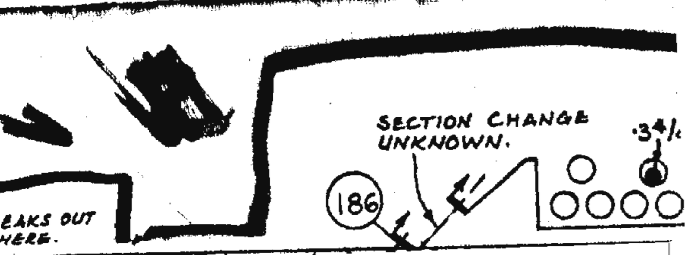
WAYS KEY 70E

DATE: 17/9/73 INFORMATION TRANSFERRED FROM 440' TO 1' KEYS BY: R.M.H. TRACED BY: TRACING CHECKED BY: B.A.S. EX P 311 31-10-73

NS KEY 70E.

FOR SECTIONS ONLY.
CONTINUED FROM WAYS KEY 70 E.

WAYS KEY 70E/I.



DATE	INFORMATION TRANSFERRED	TRACED BY	TRACING CHECKED BY
2-2-71	FROM 405 IN 1 KEY BY R.M.H.	ED-D	ED-D 24/1/71



Network Records NetMAP Symbols Booklet - London

This symbol booklet is intended as a general guide only - some local variations of these symbols may be found.

Version 1.2

Released October 2010

Always check with your local Network Records office or the UK Power Networks server to ensure that you are using the most up to date copy of this booklet. Tel:

Index:-

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Guidance notes.

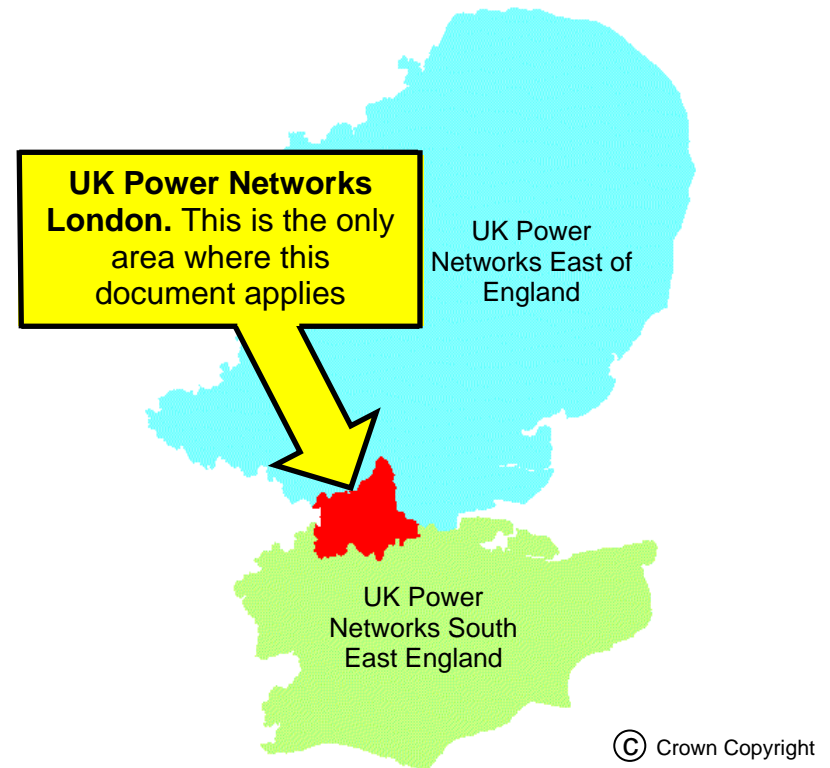
Important notice:

If you do not understand the NetMAP record that you are using, please contact UK Power Networks Network Records for guidance

















- The position of apparatus shown on NetMAP is believed to be correct, but the original landmarks may have altered since the apparatus was installed.
- It must be assumed that there is at least one service to each property, lamp column, street sign etc. A separate record may be available.
- When excavations are to be carried out near Extra High Voltage (EHV) cables, further details must be obtained before commencement of work.
- Third party cables are not usually shown.
- When two or more maps are supplied for the same area, the maps must be read in conjunction with each other and with this symbol booklet.
- All LV cables are assumed to be 4 core, and all HV cables assumed to be 3 core – unless otherwise stated.
- All Imperial cable sizes are assumed to be copper and all metric cable sizes are assumed to be aluminium – unless otherwise stated.










The area covered by this guide:


















Please see the anomalies map at the end of this safety booklet for greater map area detail, and a breakdown of the more significant anomalies within the London area.

Scenery		
NetMAP system	Scanned image	Description
		100 metre Ordnance Survey grid line (on O/S based maps only)
		Property fence line
		Building line
		Kerb line
		Kerb line on majority of ways & mains maps
		Cable tunnel or subway
NOT APPLICABLE		Borough or City boundary and UK Power Networks boundary
	or 	
		UK Power Networks or Electrical boundary
	or 	








Scenery for UK Power Networks use only - boxed in red		
NetMAP system	Scanned image	Description
 Inset Network – Contact xxxx IDNO for further information	Not applicable	Area of inset network - not the asset of UK Power Networks (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Proposed Cross Rail route (only visible to of UK Power Networks and their immediate contractors)
	Not applicable	High pressure pipelines in the general vicinity (only visible to of UK Power Networks and their immediate contractors)
<p>Note: Pipelines are only viewable on NetMAP by UK Power Networks staff and their immediate contractors. Do not carry out any excavation without consent from the relevant agency - legally protected high pressure petroleum products pipeline route in the general vicinity - consult www.linewatch.co.uk for contacts and guidance. Pipeline contact numbers can also be found on the intranet – out of hours, contact our Control Centre.</p>		
	Not applicable	Water - surface water (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Water - Source Protection Zone 1 (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Water - Source Protection Zone 2 (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Water - Source Protection Zone 3 (only visible to UK Power Networks and their immediate contractors)

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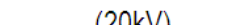
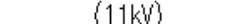
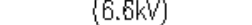







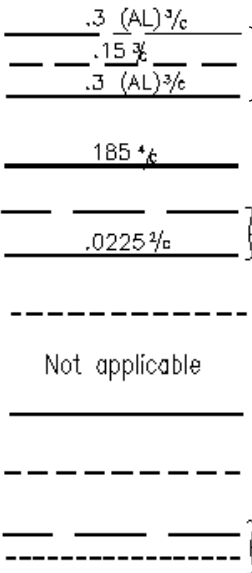
Scenery for UK Power Networks use only - boxed in red		
NetMAP system	Scanned image	Description
	Not applicable	Historical - Scheduled Monuments (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Historical - Parks and Gardens (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Historical - Areas of Archaeological Potential (AAP) (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Ramsar Wetlands of International Importance (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Special Area of Conservation (SAC) (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Special Protected Area (SPA) (only visible UK Power Networks and their immediate contractors)
	Not applicable	Nature - Site of Special and Scientific Interest (SSSI) (only visible to UK Power Networks and their immediate contractors)
section continued on next page		

Scenery for UK Power Networks use only - boxed in red		
NetMAP system	Scanned image	Description
	Not applicable	Nature - Local Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - National Nature Reserve (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - Area of Outstanding Natural Beauty (AONB) (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Nature - National Park (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - very high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - high sensitivity (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - medium sensitivity (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Fluid filled cables - low sensitivity (only visible to UK Power Networks and their immediate contractors)

Primary distribution cables

NetMAP system	Scanned image	Description
 Solid  Gas  Oil  Cable stop  Shallow	 EHV Cable Route 259 Not applicable 	UK Power Networks route (11,000 , 22,000 to 132,000 volts) Oil/gas cable stop Part of UK Power Networks cable route where cover is less than normal

Secondary distribution cables

NetMAP system	Scanned image	Description
 (20kV)  (11kV)  (6.6kV)       		HV cable (up to 20kV) 3 phase LV cable (230V or 400/230V) 1 or 2 phase LV cable (230V or 400/230V) Pilot or Telephone cable, often not shown in plan if running with other cables Fibre-optic cable Earth cable HV or LV cable in duct Duct route(s) not containing live cables

Cable terminology		
NetMAP system	Scanned image	Description
PL	PL	Paper Lead
PLS	PLS	Paper Lead Served
PLST or PLSW	PLA	Paper Lead Armoured
PLSTS	PLTS	Paper Lead Steel Tape Served
PLSTS	PLDT	Paper Lead Double Tape
PLSWS	PLWS	Paper Lead Steel Wire Served
PLSW	PLBW	Paper Lead Bright Wire
PLS	LC & H	Lead Covered & Hessian
PLST or PLSW	LC & A	Lead Covered & Armoured
PLSW	LC & BA	Lead Covered & Bright Armoured
PLST	DSTA	Double steel tape armoured
PLST	STA	Steel Tape Armoured
PLSW	SWA	Steel Wire Armoured
Al	Al	Aluminium
Cu	Cu	Copper
WV	WV	Waveconal
CS	CS	Consac
PVC	PVC	Polyvinyl Chloride
EPR	EPR	Ethylene Propylene Rubber
XLPE	XLPE	Cross Linked Polyethylene
SOL	SOLIDAL	Solid Aluminium
ax	TRIPLEX	Triplex (aluminium)
cx	TRIPLEX	Triplex (copper)


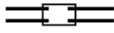



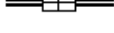





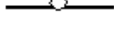







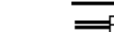



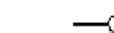

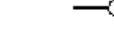



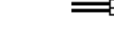


Cable size abbreviations		
NetMAP system	Scanned image	Description
1c	$\frac{1}{c}$	Single core.
c/c	$\frac{9}{c}$	Concentric cores
t/c	$\frac{T}{c}$ or $\frac{T}{cc}$	Triple concentric cores
4c	$\frac{4}{c}$	Four cores
3c CNE	$\frac{3}{c}$ (CNE)	Three cores and concentric neutral – not of the Waveconal type
2c	$\frac{2}{c}$ (or Tw)	Two cores (or twin)
s/c	$\frac{s}{c}$	Split concentric cores
3c	$\frac{3}{c}$	Three cores
DC	DC	Direct current
P	P	Pilot
Pr	Pr	Number of telephone pairs

Cable ducts		
NetMAP system	Scanned image	Description
		Single empty ducts
		Cluster of empty ducts (two or more)
		Cable in single duct
		Group of cables shown in a cluster of ducts, plus one or more empty (shown in section)
		Ex-Western area 'ways' maps: This symbol indicates one or more ducts. On City of London area maps "extent of ducts" symbols are not in general use as most duct runs are between pits or boxes

Other NetMAP symbols		
NetMAP system	Scanned image	Description
<u>0.3 4c AL PLSWS</u> (Details also in cable attributes and/or section)		Cable size (and year laid)
		Cable capped end
		Cable pressure (or pot) end or signal end
		Pressure/pot end & earth cable/electrode
		Earth rod (vertical)
		Earth rod (horizontal)
		Earth plate
		Earth plate or end
		Bottle or trouser joint or combined crutch & pressure end - (CPE)
		Straight joints
		Tee joints
		Crutch (or spur) joints (CJ) straight & crutch joints combined (S&CJ)
		Double crutch (or spur) joint
		Sleeve
		UT (Disconnected universal tee)


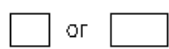

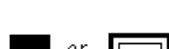

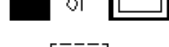

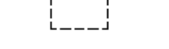








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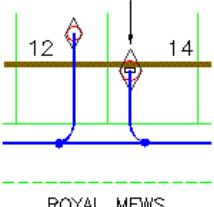
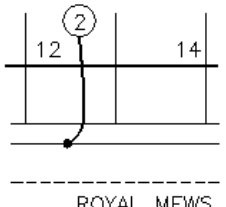
Other NetMAP symbols

NetMAP system	Scanned image	Description
		Four way underground disconnecting boxes(DB)
		Link boxes(LB)
		Network boxes(NB) or (NWB)
		4 way 6 entry
		6 way box
		6 way 8 entry
		Split bus-bar
		Link box with identification number
		3 way underground disconnecting boxes
		2 way underground disconnecting boxes
		1 way underground disconnecting boxes
		Feeder pillars
		Split bus-bar distribution pillar
		Double bus-bar distribution pillar
		Blind pit/pit
		Pit with access

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Other NetMAP symbols























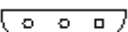
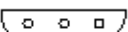


NetMAP system	Scanned image	Description
		Transformer chambers (T/C) & transformer compounds
		Underground transformer chamber
		Missing data in or near this location
		Underground tank
		Indicates service between separate buildings is looped
		Jointing schedule numbers or phasing diagram
		Contaminated land reference
		Instrument traced cable or ITC - cable traced electronically using Cable Avoidance Tool (CAT) or similar

Services		
NetMAP system	Scanned image	Description
<p>SRC = Service Record Card</p> <p>To a property/metered supply (also see SRC)</p> <p>Address point ◇</p> <p>Supply point ○</p> <p>Also see SRC and joint/cable attributes</p> <p>Service in external cabinet</p>  <p>Also see SRC and joint/cable attributes</p>		
	<p>Also see SRC</p> <p>(W) Single phase service</p> <p>(1) Connected to 1 core & neutral</p> <p>(R) Connected to red core & neutral</p> <p>(⊗) Three phase service</p> <p>(+) Connected to inner & outer cores of triple conc cable</p> <p>(-) Connected to middle & outer cores of triple conc cable</p> <p>(⊕) Connected to all three cores of triple conc cable</p> 	<p>Existence of a service with its core connection shown in circle</p>

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







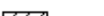
Services		
NetMAP system	Scanned image	Description
<p>To street furniture/un-metered supply (also see SRC)</p> <p>Please note that newly edited street furniture no longer has an address point or an SRC</p> <p>(Street furniture general)</p> <p>(Street furniture feeder pillar or cabinet)</p>		
	<p>P.L.S.261 Public lighting</p> <p>S.L.261 Street lighting</p> <p>WB Wall bracket</p> <p>TL Traffic light control</p> <p>FB Flashing beacon</p> <p>TS Traffic sign</p> <p>B IGP Bollard/illuminated guard post</p> <p>TK,TC Telephone kiosk, traffic controller, feeder pillar</p> <p>FP</p>	

Symbols used in cross sections

NetMAP system	Scanned image	Description
		Cable laid direct
		Cable laid in duct
		Blocked duct (sometimes used for unidentified cables)
		Single earthenware duct
		Single steel pipe
		Square cable duct
		Group of circular ducts
		Group of circular ducts (Sykes)
		Group of square ducts (Doulton)
		Cable trough
		Bitumen casing (Crompton)
		Bitumen filled iron trough (Trunks)
		Bitumen casing (Tri-case)

section continued on next page

Symbols used in cross sections

NetMAP system	Scanned image	Description
		Protective slab
		Tiles.
		Concrete slabs
		Steel plate
		Plastic tile tape
Timber 		Timber

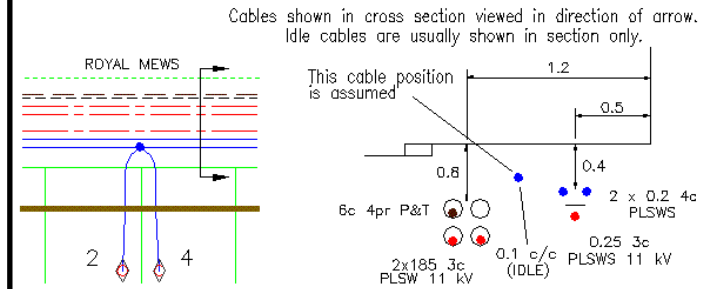
Abbreviations used in cross sections

NetMAP system	Scanned image	Description
EW	E.W.D(s) or EW.	Earthenware ducts
F	F.P or F or F.D	Fibre duct
A	ASB or A	Asbestos
P	P	Plastic or pitch fibre
S	S.P or S	Steel
C	C.I or C or C.I.P	Cast iron
WI	W.I	Wrought iron pipe
F	F or F.D	Fibre duct
PRD	PRD	Plastic Rigiduct
Left blank – means NR	{ D.N.K or D:NR N.R or (N.R)	Depth not known No record
E.V	E.V.P or E.V	Everite pipe
T/T	T/T	Tape Tile
N/A	3/62 or NOV 79	Date cable laid
N/A—destination now only shown in cable attribute	ABCD etc	HV cable destination (See section sheet HV ref)
	Please note: Ducts are assumed to be 4"/100mm earthenware – unless otherwise stated	

Typical plan and cross section representations

Multi-line composite NetMAP/vector representation

All areas – drawn/redrawn using NetMAP GIS

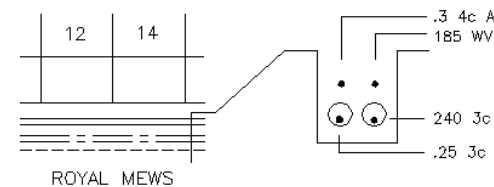


Applies to all composite vector records in both shaded and unshaded areas of the anomalies map.

Multi-line representation - general composite raster (style 1)

All areas

All cables are shown on plan and represented in section.
Sections may be shown in plan view or on a supplementary sheet.

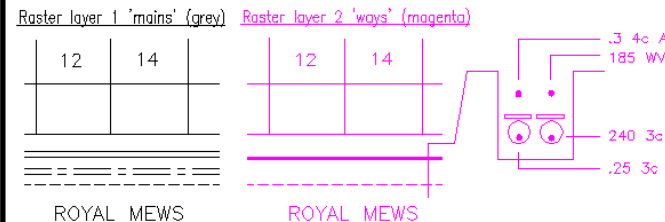


Applies to all composite raster records within the unshaded areas of the anomalies map.
Can also be found in some shaded areas – in particular the ex-North Eastern shaded areas 3 (b) and 3 (c)

Main and ways representation – dual layer raster

Ex Western area Holborn and parts of Ex-South Eastern Area only

All cables are shown on plan and represented in cross section on a separate (ways) sheet.



Applies to area 1(a) of the anomalies map.

Applies to area 2(a) of the anomalies map.

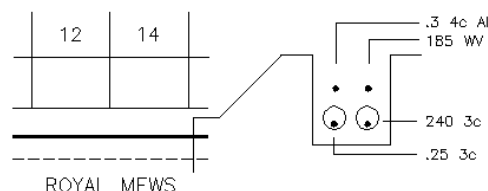
Typical plan and cross section representations

Single line representation - raster or vector data

The City of London only

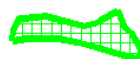
All cables are shown as a single line in plan.
Sections may be written and not drawn.

OR this style may be used.



1-3 way Tricase
2-2½" steel pipes
1-6 way Doulton
.4% (L.V. cable)

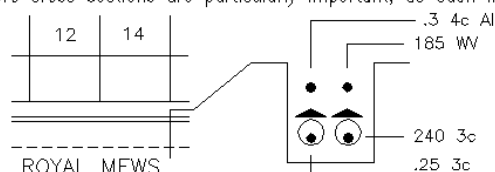
Applies to area 2(b)
on the anomalies map.



Multi-single line representation general (style 1)

Finsbury and Shoreditch only

Only the top cables in a vertical cable run are shown in the plan view. See the example below.
Note that the two lower cables that are in ducts (in this instance), are not shown in plan.
Therefore cross sections are particularly important, as each line represents one or more cables.



Applies to area 2 (c)
of the anomalies map.

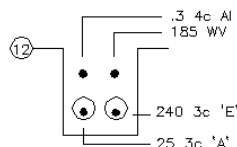
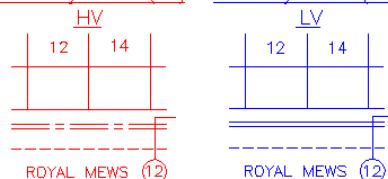


HV and LV map representation – dual layer raster

Ex-North Eastern area only

HV and LV cables are shown on separate raster layers. These layers MUST be read in conjunction with each other. Sections are shown on a combined supplementary section sheet in numerical sequence.

Raster layer 1 HV (red) Raster layer 2 LV (blue) Separate raster section sheet



Applies to area 3(a)
of the anomalies map.

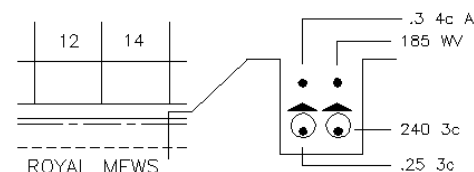


Typical plan and cross section representations

Multi-single line representation general (style 2)

Ex-North Eastern area only

In this area each voltage (HV and LV) is represented as an individual line. For example, three HV cables and four LV cables in the same run will be indicated by a single HV line and a single LV line. Therefore cross sections are particularly important, as each line represents one or more cables of that voltage.



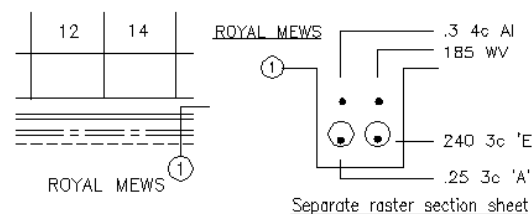
Applies to area 3 (b)
of the anomalies map.



Multi-line representation - composite raster (style 2)

Ex North Eastern area only

All cables are individually shown in plan.
Sections are shown on a supplementary section sheet and recorded under the relevant road name.



Applies to area 3(c)
of the anomalies map.



Important note regarding sections:

It does not follow that if the number of cables shown in the cross section have been located, that all live cables have been found. You may have found an unrecorded cable, or a cable belonging to another authority.

Regional NetMAP Anomalies - general overview:

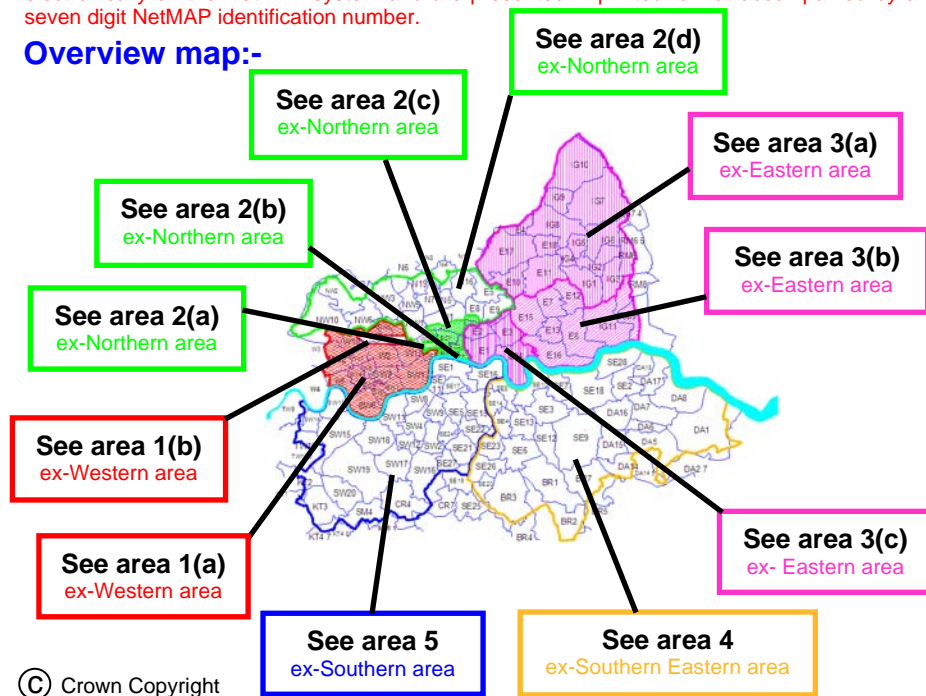
The following pages explain the various major map style anomalies found within the London area. These styles are a legacy from the five individual London Electricity areas which were again formed from seventeen separately organised LEB districts. Areas with significant anomalies are shown in the following pages as cross-hatched areas. Areas with standard composite vector and raster layer information are shown as un-hatched areas.

Cautionary note: - any region or sub-region, either shaded or un-shaded, may contain some local anomalies not mentioned in the following pages – if in doubt, please contact the UK Power Networks Plan Provision team on telephone number 08701 963797.

All regions (1-5) will contain recently created composite vector (NetMAP/AutoCAD) data.

Recent work created using the NetMAP system and previously created using the AutoCAD system (as opposed to raster/scanned data) are recorded in the composite vector style shown on the UK Power Networks London area symbol sheet - see the first example on page 18 of this document. Recent data will be indicated by the existence of multi-coloured cables on the NetMAP system, but this may not be reflected on printed matter produced with a black and white printer. AutoCAD data looks similar to the coloured NetMAP data, but does not hold any cable 'attributes' when selected using the NetMAP system. These cables will be represented individually (multi-line representation). New NetMAP cross sections may be accessed electronically on the NetMAP system and are presented in printed format accompanied by a seven digit NetMAP identification number.

Overview map:-



See following pages for further details.

Region 1 ex-Western area

This region includes Westminster, Kensington, Chelsea, Hammersmith and Fulham. The region is covered by two map layer systems – **region 1(a)** mains and ways dual layer raster, and **region 1(b)** composite raster. The following explains this in greater detail.

Region 1(a) (hatched)

Mains and ways representation:

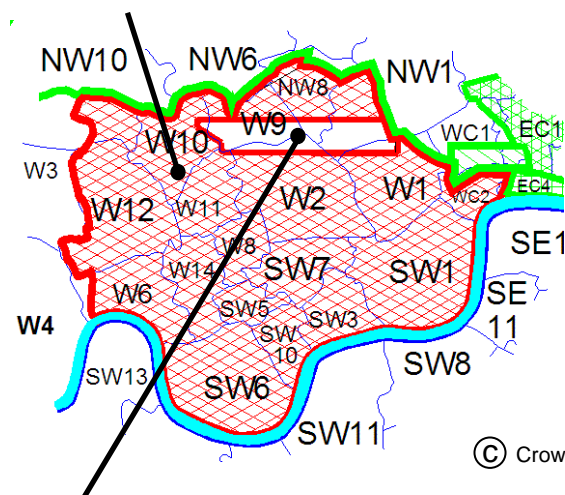
This system consists of two maps layers for the same area.

- The mains map shows all cable routes.
- The ways map shows pipe and duct routes with cross sections.

There are some enlargement sheets, cross sections and jointing details. EHV routes are shown on either the mains or the ways map.

It is important that all these maps are read in conjunction with each other.

Caution: - It is also important to note that the kerb line detail on these maps is a dash/dot line, which on the majority of UK Power Networks Central (London) records would refer to an HV cable route. HV cables are shown as a solid line when laid direct and a dashed line when in a duct.



Region 1(b) (un-hatched)

Composite single layer (style 1) maps:

Whenever possible, all the information is on one map layer. There are some enlargement sheets in the Aberdeen Place area. Please note that the kerb line is shown as a dotted line and HV cables are shown as dash/dot lines.

Region 2 ex-Northern area

This region includes Islington, Hackney, the City of London and parts of Brent, Camden and Ealing. The region is covered by four map layer systems - **Region 2(a)** - mains and ways dual layer raster (Holborn area), **Region 2(b)** - single line representation (City of London), **Region 2(c)** - multi-single line representation (Finsbury and Shoreditch) and **Region 2(d)** - composite multi-line maps (all other areas). This following explains this in greater detail.

Region 2(a) (hatched)

Covers part of WC1 and WC2 (Holborn).

Mains and ways representation:

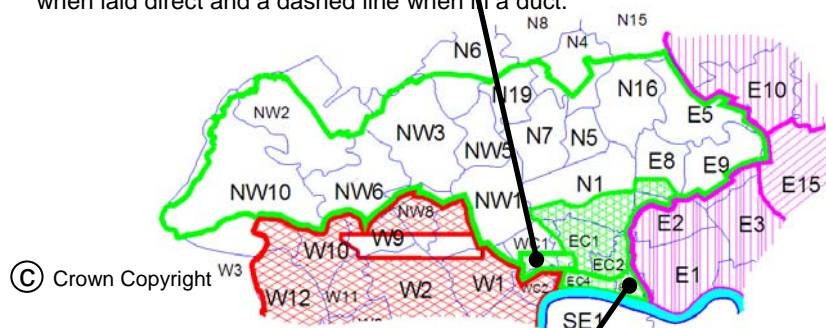
This system consists of two maps layers for the same area.

- i) The mains map shows all cable routes.
- ii) The ways map shows pipe and duct routes with cross sections.

Where needed, extra sheets have been added for enlargements, cross sections and jointing details. EHV routes are shown on the mains map layer.

It is important that all these maps are read in conjunction with each other.

Caution: - It is also important to note that the kerb line detail on these maps is a dash/dot line, which on the majority of UK Power Networks Central (London) records would refer to an HV cable route. HV cables are shown as a solid line when laid direct and a dashed line when in a duct.



Region 2(b) (hatched )

Covers parts of postal areas EC1, EC2 and all of postal areas EC3 and EC4.

Single line representation maps:

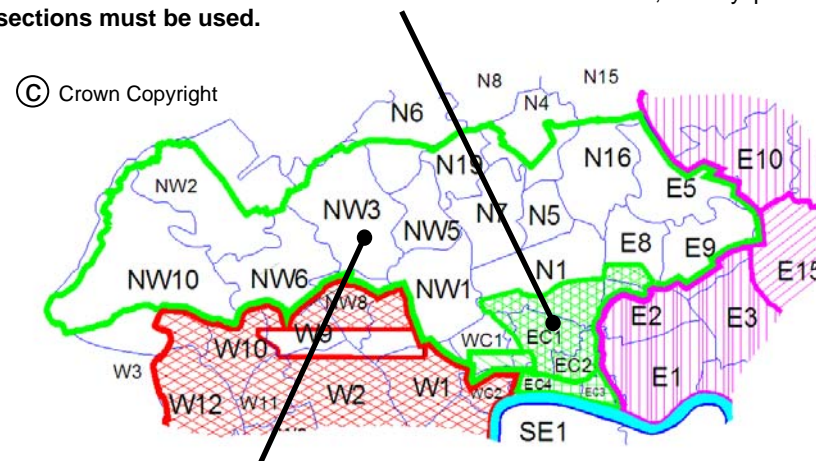
Whenever possible, all the information is on one map layer .One line can represent any number of cables or ducts. It is therefore very important to use cross sections. In some cross sections details may be written and not drawn. In complex and redrawn areas, some detail may be drawn using multi-line representation. There are some enlargement sheets.

Region 2(c) (hatched )

Covers parts of postal areas EC1, EC2, N1, E1, E2 and E8.

Multi-single line representation (style 1) maps:

Whenever possible, all the information is on one map layer. When cables lay immediately above/below each other, it is shown as a single line. For example if six cables lay three on three, only three lines would indicate the six cables. If the cables were laid flat, six separate lines would be shown. It is therefore important not to assume that the lines drawn indicate the number of cables, at any point. **Cross sections must be used.**



Region 2(d) (un-hatched)

Covers all other postal areas in this region

Composite single layer (style 1) maps:

Whenever possible, all the information is on one map layer. There are some enlargement sheets.

Region 3 ex-North Eastern area

This region includes Tower Hamlets, Newham, Redbridge, Waltham Forest, Loughton (Epping) and Barking and Dagenham. This region is covered by three mapping systems.

Region 3(a) (hatched)

Separate HV and LV representation maps:

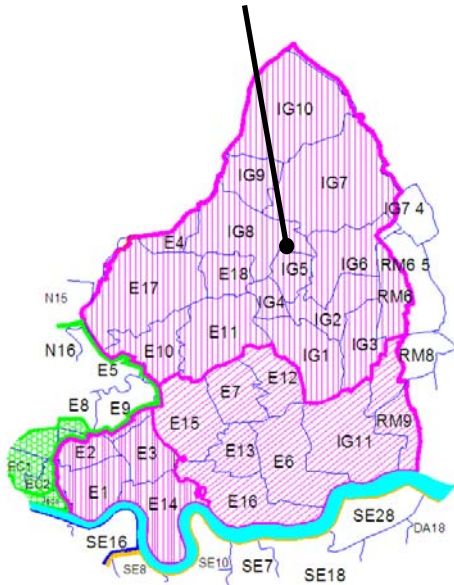
This system consists of two maps layers for the same area.

- The HV map layer showing HV cables and duct routes.
- The LV map layer showing LV cables and duct routes.

Cross sections for both HV and LV cable routes are shown on a separate sheet.

EHV cable routes are shown on the HV map layer.

It is important that all these maps are read in conjunction with each other.

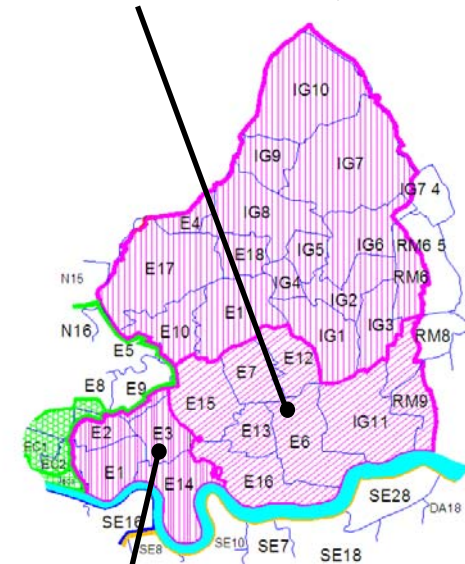


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Region 3(b) (hatched)

A combination of composite single layer (style 1) and multi-single line (style 2):

Whenever possible, all the information is on one map layer. There are some enlargement sheets. There is a combination of map styles used in this area. Some areas may be conventional multi-line line representation with many areas of multi-single line representation. In the multi-line areas each (live) cable is shown individually in plan. In the multi-single line map areas, there is a single line for each voltage type, with a single HV line and a single LV line representing more than one cable run of each voltage (when applicable). Therefore a cable run containing three HV cable and four LV cables will be represented by one HV line and one LV line.



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Region 3(c) (hatched)

A combination of composite single layer (style 2) and multi-single line (style 2):

Whenever possible, all the information is on one map layer. There are some enlargement sheets. In this area (postal code areas E1, E2, E3, E14 and part of E9), the cross sections are listed under each road name. It is therefore extremely important that you have the correct cross sections for the road you are working in.

There is a combination of map styles used in this area. Most areas are composite single layer (style 2) with some areas of multi-single line representation, as described in region 3(b).

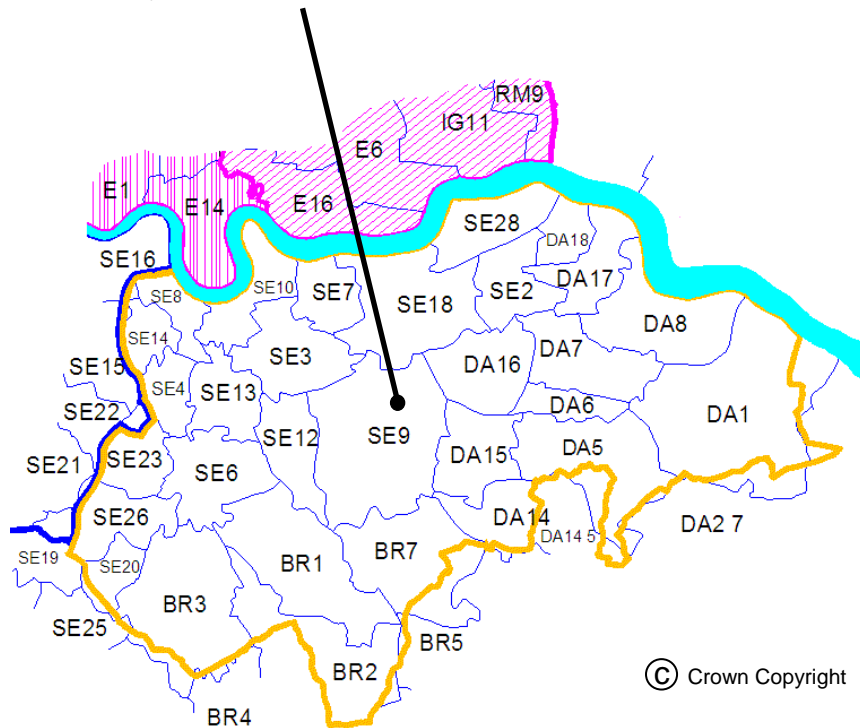
Region 4 ex-South Eastern area

This region includes Lewisham, Greenwich, Bromley, Bexley and Dartford.
Nearly all maps are drawn in one style – single layer composite raster/vector.

Region 4 (un-hatched)

Composite single layer (style 1) with a small number of mains and ways representation maps :

Mainly composite maps - whenever possible, all the information is on one map layer. There are some enlargement and cross section sheets. Some maps do not show single phase services unless they are long and deviating. There are however some maps drawn using the mains and ways style. These are rare, but please be aware that they exist.



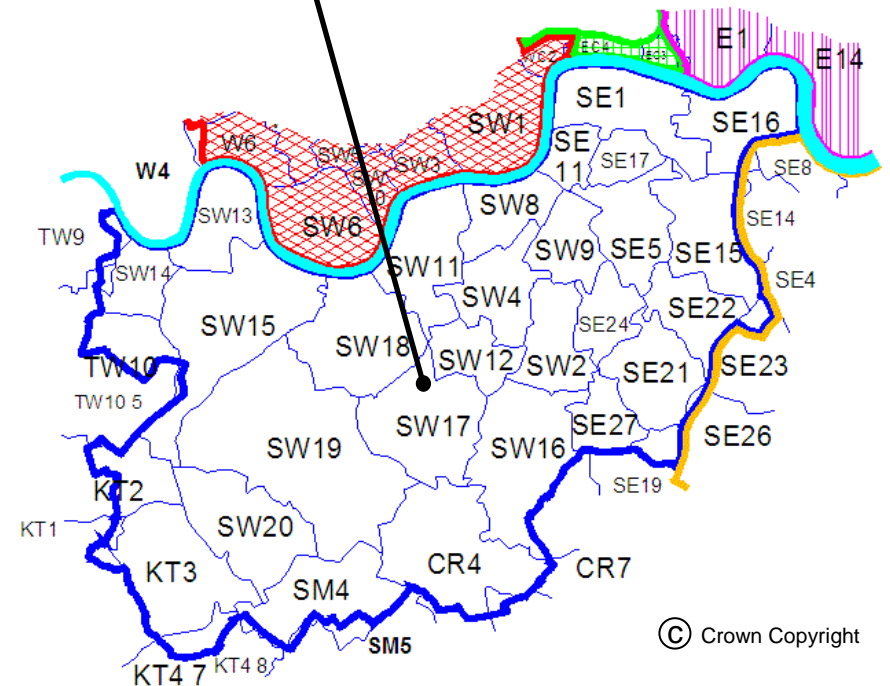
Region 5 ex-Southern area

This region includes Southwark, Lambeth, Wandsworth, Merton, Kingston upon Thames and Richmond upon Thames. All maps are drawn to one style - single layer composite raster/vector.

Region 5 (un-hatched)

Composite single layer (style 1) maps:

Composite maps - whenever possible, all the information is on one map layer. There are some enlargement and cross section sheets. A small number of maps may not show services.






Be Bright

Stay Safe

Stop!
Think before
you dig!



Your life can be lost within seconds if you come into contact with electricity.

Every year, people are killed or seriously injured when they come into contact with high voltage electricity.

This can have a far-reaching and devastating effect on family, friends and colleagues.

Distractions, working long hours, rushing to get the job done, can all impact on how we work and our safety.

Taking time to plan, being prepared and focusing on the way we work can help keep us safe.

WOODEN POLES
CAN CARRY
TELEPHONE AND
ELECTRICITY WIRES.
NEVER ASSUME
THE WIRE IS A
TELEPHONE WIRE



LINES CAN BE
RE-ENERGISED
AT ANY TIME



400,000 VOLTS

ELECTRICITY SYSTEMS CARRY
VOLTAGE UP TO 400,000 VOLTS.
**EVEN 230 VOLTS (DOMESTIC
VOLTAGE) CAN BE LETHAL**

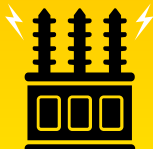
Be Bright

Stay Safe



**RUBBER BOOTS
WILL NOT PROTECT YOU!**

OUR NETWORK DISTRIBUTES ELECTRICITY THROUGH
UNDERGROUND CABLES, PYLONS, OVERHEAD POWER
LINES, SUBSTATIONS AND OTHER EQUIPMENT



National power cut helpline

**POWER CUT?
CALL 105**

OR CALL US 24 HOURS A DAY ON
0800 31 63 105

TAKE NOTICE
OF ANY YELLOW
'**DANGER OF DEATH**'
WARNING SIGNS.
AND STAY WELL
AWAY!



REMEMBER
ELECTRICITY
CAN
JUMP GAPS



**OVERHEAD
POWER LINES**
ARE OFTEN
UNINSULATED
(BARE)



CARRY OBJECTS AND EQUIPMENT
**HORizontally AND AT LOW
LEVEL TO THE GROUND**



**CABLES ARE
OUT OF SIGHT**
ALWAYS REQUEST
CABLE PLANS
BEFORE STARTING
WORK



**TOUCHING ANYTHING IN
CONTACT WITH ELECTRICAL
EQUIPMENT, EVEN THE LOWEST
OF VOLTAGES, CAN BE FATAL**



The electricity network is designed to keep you safe. But how safe are you when you are working?

UK Power Networks is the country's biggest electricity distributor, making sure the lights stay on for more than eight million homes and businesses across London, the South East and the East of England.

The safety of our customers and staff is our top priority.

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 the time to read this simple leaflet and identify the precautions they should be taking.



Keep well away - Electricity can kill



Remember:

- The depth and location of cables and services shown on the plans may have changed because of subsequent site alterations
- Be aware that not all cables and services may be shown on the plans
- Cables do not run in straight lines. Underground cables may be deflected around underground obstacles and can change depth
- Wear Personal Protective Equipment to minimise the harm of electric shock and burns



How can we help?

If you work or live in the UK Power Networks area contact us or look on our website. We provide free information and advice about the precautions and safe working practices to be followed when working close to electrical equipment.

Further advice and guidance is available from the Health and Safety Executive (HSE):

HSG85 - Electricity at Work – Safe Working Practices

GS6 - Avoiding Danger from Overhead Power Lines

HSG47 - Avoiding Danger from Underground Services

What to do in an emergency

If a mains electricity cable is damaged:

- **STOP WORK IMMEDIATELY**
- Notify UK Power Networks: Dial 105
- If you damage a cable, stay calm, keep clear, and call for help
- Call the emergency services if anyone is injured or there is a fire. Anyone who has received an electric 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
- Never remove anything that is stuck or in contact with the cable
- Stay clear - keep everyone away until assistance arrives



To request your **FREE** vehicle cab stickers visit
[www.ukpowernetworks.co.uk/
internet/en/safety/](http://www.ukpowernetworks.co.uk/internet/en/safety/)











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



Be Bright

Stay Safe

You could be in danger when carrying out your everyday trades activities such as digging, construction and demolition.

-  **Contact UK Power Networks or Line Search Before U Dig (LSBUD) in advance of the works to obtain relevant cable plans or to request disconnections. The cable plans will only show the indicative route and not the route into the property**
-  **Ensure the cable plans are shown to and understood by those on site BEFORE starting work**
-  **Confirm the cable location by using a Cable Avoidance Tool (CAT) before digging commences. Once found, mark cable positions with spray paint or similar**
-  **Complete a risk assessment and ensure it covers electrical hazards**
-  **Use spades and shovels with insulated handles in preference to forks and picks**
-  **Look around for anything in the vicinity that would have an electricity service such as street lights, CCTV cameras, or meter boxes and identify where the cables are**
-  **Look for electrical wires, cables and equipment near to where you are going to work and check for warning signs and any other hazards**
-  **Contact UK Power Networks to agree a safe method of work if there is a cable encased in concrete, DO NOT BREAK OPEN**
-  **Make sure everyone on site is aware of the presence and location of electrical cables**
-  **Before demolishing a building make sure supplies are disconnected, preferably well clear of the work area. For guidance on how to arrange a disconnection visit**

NATIONAL POWER CUT HELPLINE

**POWER CUT?
CALL 105**



**ADD THIS NUMBER TO YOUR
TELEPHONE CONTACTS LIST**



Stop! Think before you dig!

#bebrightstaysafe

National power cut helpline



For safety advice about overhead power lines, disconnections and general enquiries, go to:

To request your **FREE** vehicle cab stickers visit

If you are unsure who your network operator is then please visit



GAS

Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:13
To: Utility Reports (Technics Group)
Subject: LSBUD Ref: 23538318 Your Ref: SP21616 DBYD Initial Enquiry
Attachments: 23538318_CadentGas.pdf

Date: 12/10/2021
LinesearchbeforeUdig ref: 23538318
Your ref: SP21616

Dear Sir/Madam,

Please submit a planned works enquiry for your project

We have received a notification from the LinesearchbeforeUdig (LSBUD) platform regarding your initial enquiry to undertake works. As this is an initial enquiry, we haven't undertaken an assessment into the impact and risk posed to our assets. We need more information from you to do so.

You must not start any work until we confirm it is safe to do so after submission of a planned works enquiry.

There are Cadent gas pipes in the area you're planning to work. These pipes may impact and possibly prevent your work for safety or legal reasons.

If your works are proposed to be undertaken in an easement, please note any auto-response from our enquiry system does not constitute written consent and formal, signed written consent which will only be provided following consultation with our plant protection team.

What you need to do

To help develop your initial enquiry into a planned works enquiry, please review our attached plans, which detail the Cadent gas assets in the area along with our key guidance document [Specification for Safe Working in the Vicinity of Cadent Assets](#).

Once you have a plan for review by our engineering teams, please submit a "Planned Works" enquiry via LSBUD. In the meantime, if you want to discuss specifics associated with your initial enquiry please contact us at or on quoting your reference at the top of this letter.

Your responsibilities and obligations

It is your responsibility to ensure that the information you have given us is accurate, therefore you must not undertake any works until a planned works enquiry has been submitted for assessment. You must also share all relevant documents, including the guidance notes, with anyone who carries out work on your behalf.

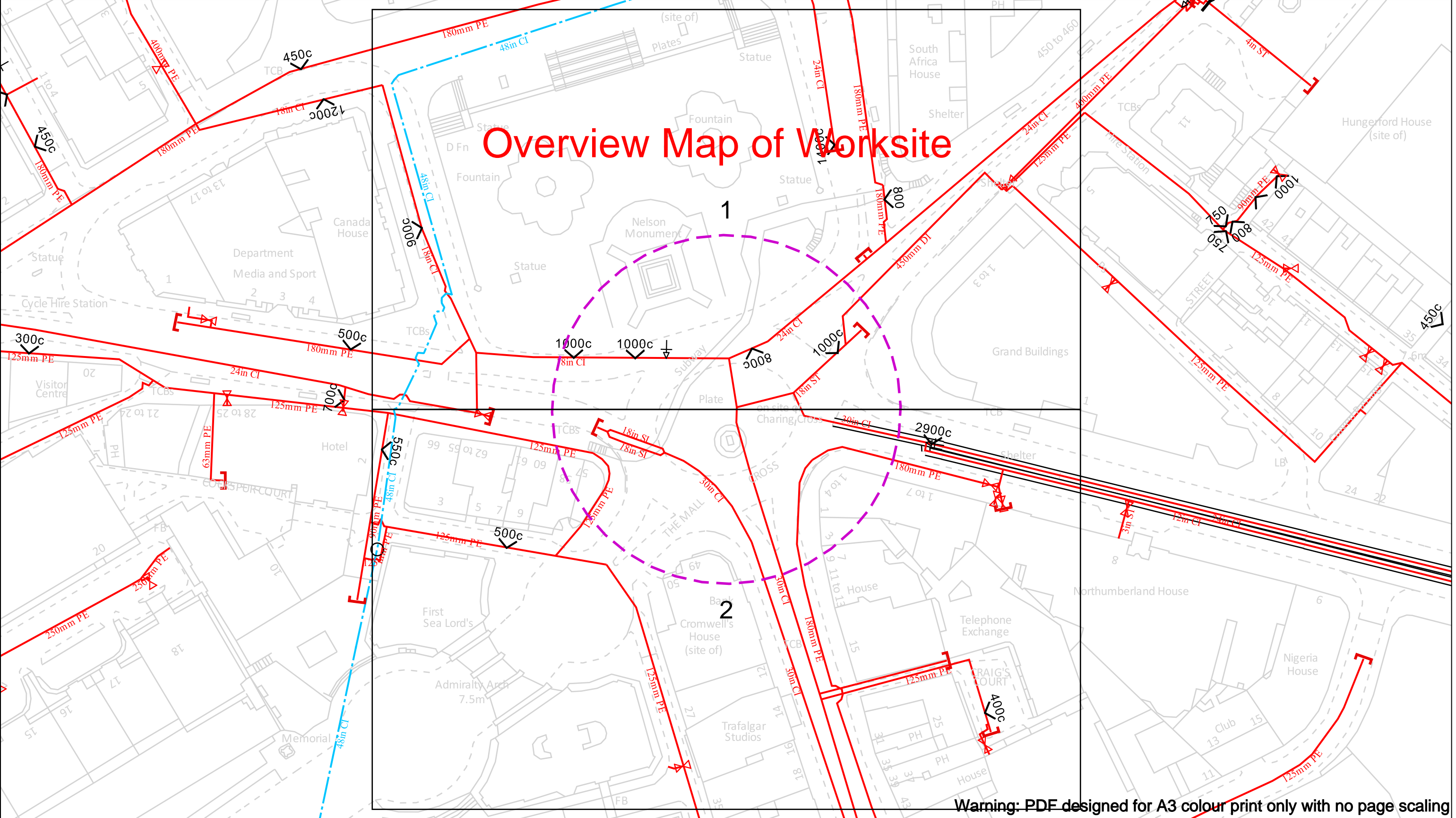
Cadent may have a Deed of Easement on the pipeline, which provides us with a right of access for a number of functions and prevents change to existing ground levels and storage of materials. It also prevents the erection of permanent/temporary buildings, or structures. If necessary Cadent will take action to legally enforce the terms of the easement.

This letter does not constitute any formal agreement or consent for any proposed development work either generally or related to Cadent's easements or other rights, or any planning or building regulations applications.

Cadent Gas Ltd 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.

Kind Regards,
Plant Protection Team





Date Requested: 12/10/2021

Job Reference: 23538318

Site Location: 530036 180381

Requested by:

Mr Stephen Sawyer

Your Scheme/Reference:

SP21616

View extnt: 200m, 115m

IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards 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 Limited or their agents, servants or contractors for any errors 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.

Scale: 1:1025 (When plotted at A3)

In case of an emergency call 0800 111 999

Dig Sites

Area: ----

Line: ----

—— LP Mains

---- MP Mains

---- IP Mains

---- LHP Mains

X Valve

V Depth of cover

O Syphon

⇅ Diameter Change

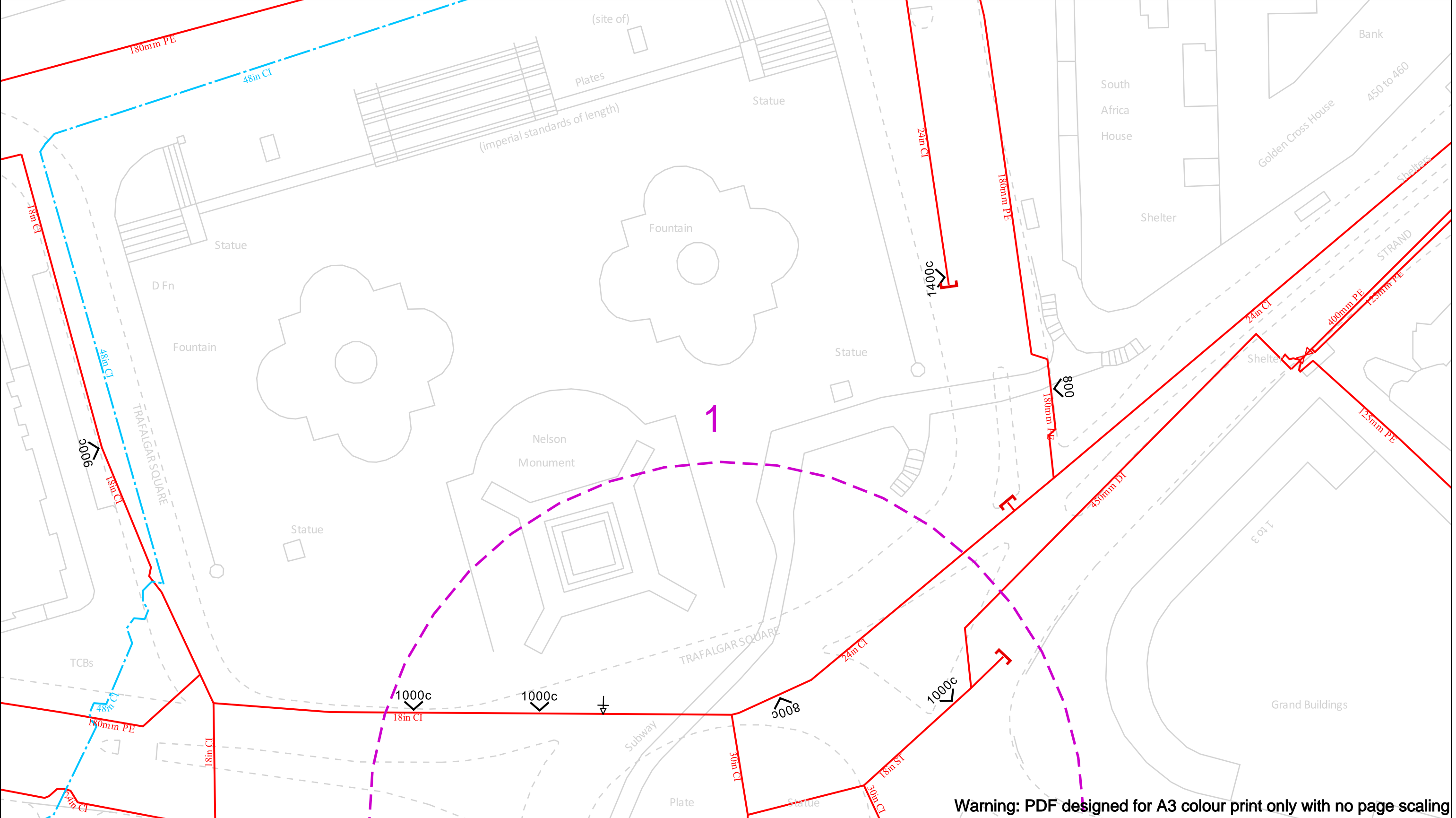
| Material Change

! Out of Standard Service

Cadent

Your Gas Network

Crown Copyright © - This plan is reproduced from or based on the OS map by Cadent Gas Limited, with the sanction of the controller of HM Stationary Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886



Date Requested: 12/10/2021
Job Reference: 23538318
Site Location: 530036 180381
Requested by:
Mr Stephen Sawyer
Your Scheme/Reference: SP21616

Scale: 1:500 (When plotted at A3)

View extent: 200m, 115m

IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards 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 Limited or their agents, servants or contractors for any errors 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.

In case of an emergency call 0800 111 999

50m

Dig Sites

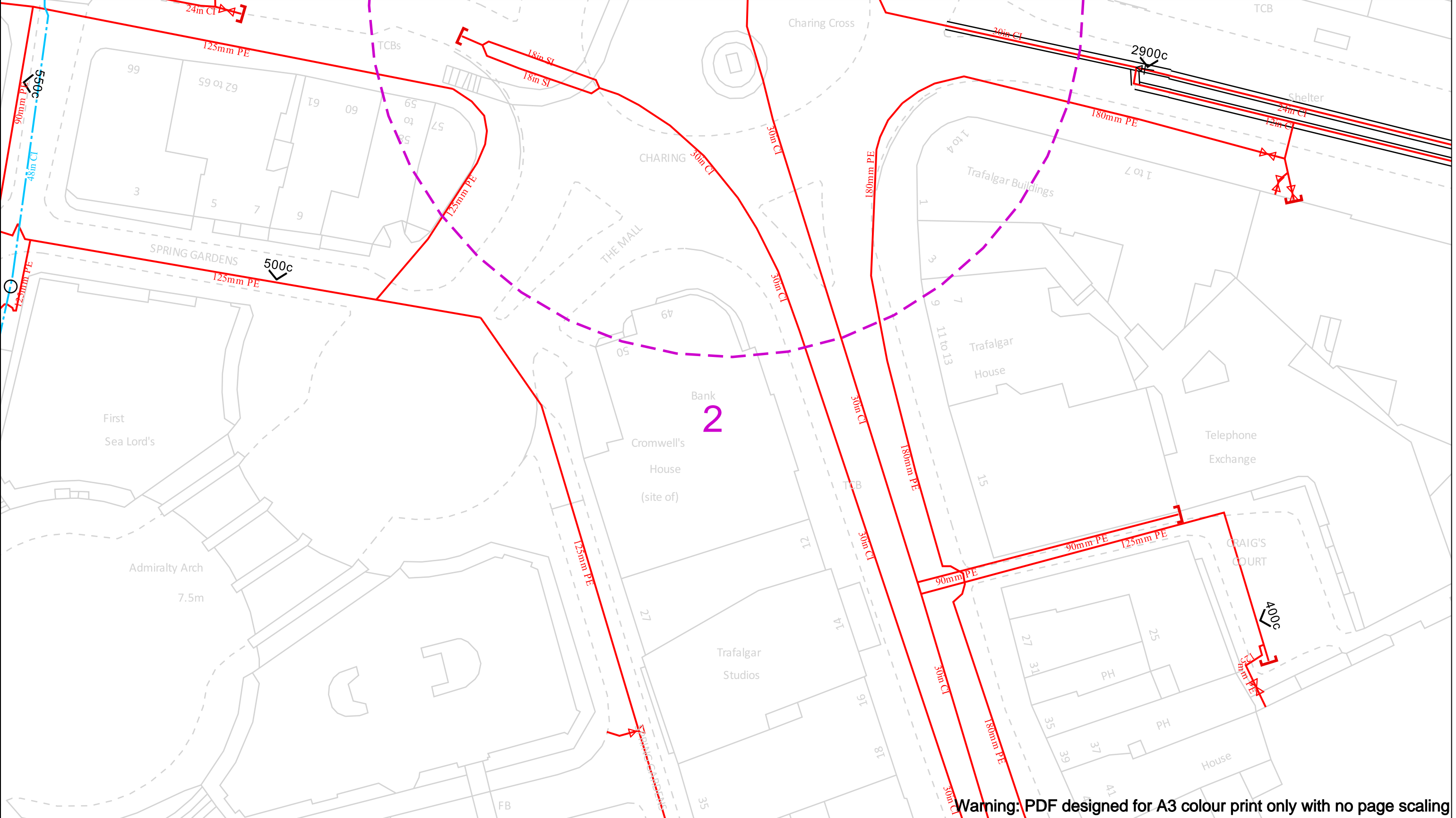
	LP Mains
	MP Mains
	IP Mains
	LHP Mains

Area:

Line:

	Valve
	Depth of cover
	Syphon
	Diameter Change
	Material Change
	Out of Standard Service

Cadent
Your Gas Network



Warning: PDF designed for A3 colour print only with no page scaling

Date Requested: 12/10/2021
Job Reference: 23538318
Site Location: 530036 180381
Requested by:
Mr Stephen Sawyer
Your Scheme/Reference: SP21616

Scale: 1:500 (When plotted at A3)

View extent: 200m, 115m

IMPORTANT NOTICES

This plan shows these pipes owned by Cadent Gas Limited in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GT's or otherwise privately owned may be present in this area. Information with regards 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 Limited or their agents, servants or contractors for any errors 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.

In case of an emergency call 0800 111 999

50m

Dig Sites

	LP Mains
	MP Mains
	IP Mains
	LHP Mains

Area:

Line:

	Valve
	Depth of cover
	Syphon
	Diameter Change
	Material Change
	Out of Standard Service

Cadent
Your Gas Network

Specification for Safe Working in the Vicinity of Cadent Assets

CAD/SP/SSW/22

August 2021



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Cadent contact details



Central admin team

Address:

Phone:

Email:

East of England Operations Plant Protection

Address:

Email:

East Midlands Operations Plant Protection

Address:

Email:

North London Operations Plant Protection

Address:

Email:

North West Operations Plant Protection

Address:

Email:

West Midlands Operations Plant Protection

Address:

Email:

Step by Step Process

Register with LinesearchbeforeUdig (LSBUD)

LSBUD provide a free online enquiry service giving results within minutes from a grid reference, postcode or street name. This allows you to submit enquiries about activities and work that you are planning which may have an impact on the gas network.

www.linesearchbeforeudig.co.uk

Submit an enquiry

Within LSBUD there are 3 enquiry types, initial enquiry, planned works and emergency works. Initial enquires are for information only purposes and will not be escalated for operational site-specific advice, should you wish to carry out works you must submit a planned works enquiry. If your works are of a genuine emergency nature (e.g. burst water main etc.) then you should submit an emergency enquiry.

Review the response, asset location and enclosed guidance

LSBUD will auto-generate a response based on your enquiry details and our assets in the area. The assessment will be based on the selected Work Category and Work Type, if your planned works propose activities to be undertaken within the distances specified within this booklet you must obtain site specific advice from our specialist operational plant protection team.

If your response says that we need to assess your enquiry further, you must not start any work until we confirm it is safe to do so.

If you are advised to proceed with caution, then you must ensure that you utilise the provided asset plans and follow the guidance in this document.

Observe restrictions

In addition to the guidance contained in this booklet, you must ensure that you observe any site-specific advice provided by our specialist operational plant protection teams.

If in doubt contact Cadent using the details in this booklet

Keeping you, your workers and the public safe when working near our pipelines



Disclaimer

This document is provided for use by third parties for safe working in the vicinity of Cadent assets. Where this document is used by any other party it is the responsibility of that party to ensure that this document is correctly applied.

Users should ensure that they are in possession of the latest edition of this document by referring to the Digging Safely webpage on the Cadent website.

Mandatory and non-mandatory requirements

In this document:

- Shall: indicates a mandatory requirement
- Should: indicates best practice and is the preferred option

If an alternative method is used then a suitable and sufficient risk assessment shall be completed to show that the alternative method delivers the same, or better, level of protection.

Introduction

Safe Working in the Vicinity of Cadent Assets: Requirements for Third Parties

This specification is for issue to third parties carrying out work in the vicinity of Cadent gas assets and associated installations. It is provided to ensure that individuals planning and undertaking work take appropriate measures to prevent damage.

Any damage to a gas asset, or its coating, can affect its integrity and can result in failure leading to potentially serious hazardous consequences for individuals located in the vicinity.

It is therefore essential that the safety advice outlined in this document, along with any site-specific advice given by our operatives, is complied with when working near to our assets. If Cadent consider any work to be in breach of the requirements stipulated in this document, then the Cadent Plant Protection Officer will request that work is suspended until the non-compliances have been rectified.

Every reasonable precaution shall be undertaken to avoid personal injury or damage to our apparatus. If we incur any direct or indirect costs as a consequence of your works and we are required to repair or divert any gas apparatus, you'll be recharged in full.

Any damage to our apparatus will be subject to legislative reporting responsibilities to the HSE under Reporting of Injuries, Diseases & Dangerous Occurrences Regulations 2013, Gas Safety Management Regulations 1996 and the Pipelines Safety Regulations 1996.

The requirements in this document are in line with the Institution of Gas Engineers and Managers (IGEM) recommendations IGEM/SR/18 Edition 3 - Safe Working Practices to Ensure the Integrity of Gas Assets and Associated Installations and the HSE's guidance document HS(G)47 Avoiding Danger from Underground Services.

It is the responsibility of the third party to ensure that any work carried out also conforms with the requirements of the Construction and Design Management (CDM) Regulations 2015 and all other relevant health and safety legislation. Reference shall be made to our apparatus within your site Health and Safety file.

1. Scope

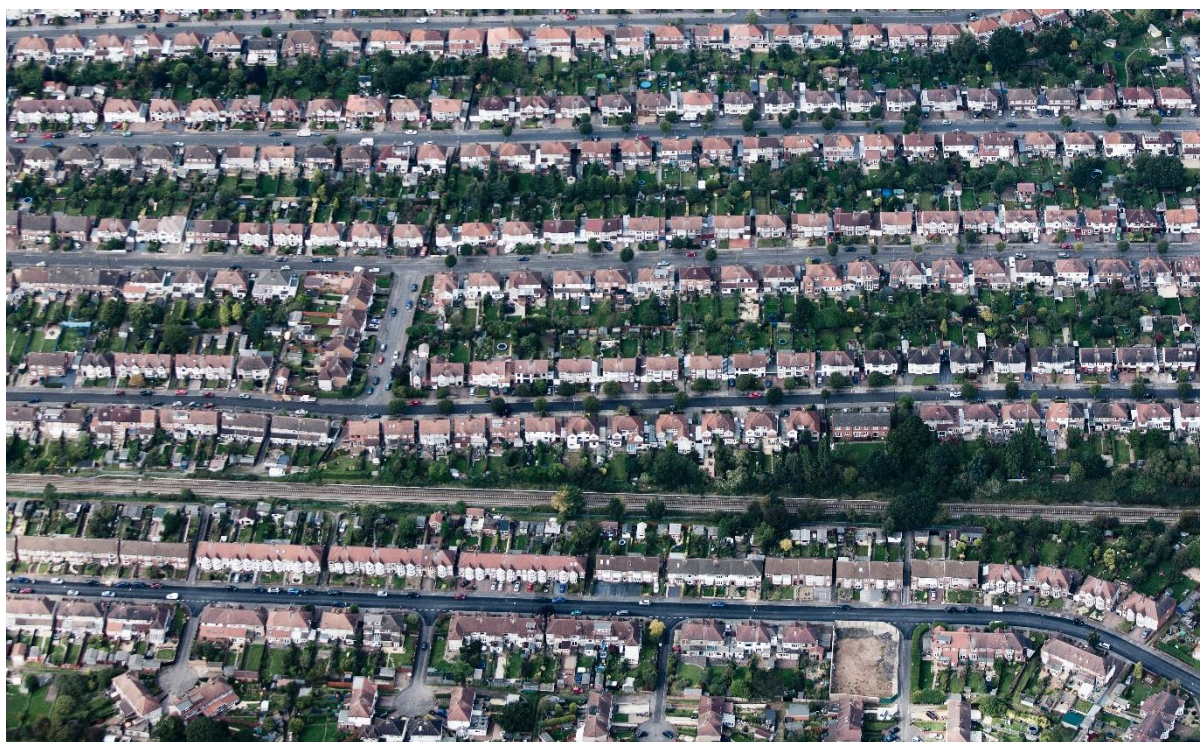
This specification sets out the safety precautions and other conditions associated with working in the vicinity of Cadent assets, located in negotiated easements (see Section 13) and public highways.

Where the guidance in this document cannot be adhered to, then the diversions process shall be followed.

Before contacting our diversions team, you'll need to have your site information and any design proposals available.

Once you have this information, please contact our diversions team

[Visit for more information.](#)



2. Formal Consent

Cadent's assets are either located in an easement agreed with the landowner at the time of installation, or within the highway. As the required arrangements for working in an easement and working in the highway differ, this section describes the specific requirements for these two areas.

Any documents handed to contractors or other individuals undertaking work (e.g. farmers, local authorities etc.), on site by Cadent, shall be signed for and adhered to by the site. All personnel working on site shall be made aware of the potential hazards of working near gas assets and the actions they should follow in case of an emergency.

2.1 Within an easement

The promoter of any works (see Section 13) within an easement shall provide Cadent with details of the proposed works, including a risk assessment and method statement of how the work is intended to be carried out. Work shall not commence in an easement strip until formal written consent has been provided by Cadent. This will include details of Cadent's protection requirements, contact telephone numbers and the emergency telephone number. On acceptance of Cadent's requirements, the promoter of the works shall give Cadent at least 14 days' notice before commencing work on site.

Where clearance to proceed has been granted directly from the system, for example, if your works only affect low pressure assets (operating at less than 75 mbar), but the asset concerned is within an easement, the promoter of the works shall contact the network Plant Protection Office for formal written consent.

In addition to formal written consent, an easement crossing agreement (deed of indemnity) may be required. This shall be discussed with the Cadent Plant Protection Officer prior to the commencement of the works.

The width of an easement is dependent on a number of factors and is mainly dependent on the operating pressure, pipeline material and diameter as these factors influence safe working requirements and building proximity distances. Easement details should be registered at Land Registry however if you are unsure please liaise with your network Plant Protection Officer.

Below is a list of our standard easement widths, however, some easements may vary:

Pressure tier/ Material	Diameter	Easement Width (total)
HP Steel	900mm, 1060mm, 1200mm (36", 42", 48")	24.4m (80')
HP Steel	750mm and 600mm (30" & 24")	18.3m (60')
HP Steel	Up to and including 450mm (18")	12.2m (40')
HP RTP	Determined on a case by case basis	
IP Steel	All sizes	6m plus pipe diameter
IP PE > 5.5 bar	Above 500mm (19")	30m plus pipe diameter
	356mm to 500mm	16m plus pipe diameter
	126mm to 365mm	12m plus pipe diameter
	Up to and including 125mm	12m plus pipe diameter
IP PE <5.5 bar	Above 500mm (19")	26m plus pipe diameter
	356mm to 500mm	8m plus pipe diameter
	126mm to 365mm	8m plus pipe diameter
	Up to and including 125mm	8m plus pipe diameter
AGI's	All sites	3m restrictive width around the installation
MP PE	Above 500mm (19")	12m plus pipe diameter
	356mm to 500mm	6m plus pipe diameter
	126mm to 355mm	5m plus pipe diameter
	Up to and including 125mm	4.5m plus pipe diameter
MP Steel	All sizes	6m plus pipe diameter
MP Iron*	All sizes	6m plus pipe diameter
LP	Above 125mm	3m plus pipe diameter
	Up to and including 125mm	1m plus pipe diameter

2.2 Within a highway

Work shall be notified to Cadent in accordance with the requirements of the New Roads and Street Works Act (NRSWA) and HS(G)47. The promoter of any works within the highway should provide Cadent with details of the proposed works, including a risk assessment and method statement of how the work is intended to be carried out. This shall be submitted at least 14 days before the planned work is to be carried out. If similar works are being carried out at several locations in close proximity, a single risk assessment and method statement should be adequate depending on the nature of the works. Work should not go ahead until formal written consent has been given by Cadent. This will include details of Cadent's protection requirements, contact telephone numbers and the emergency telephone number.



3. Location of Gas Assets

A copy of our plans with your marked-out site is provided in our LSBUD response. Cadent asset records shall be consulted to establish the indicative location of the gas assets in relation to the promoter's work area.

If the marked-out area is incorrect you MUST resubmit your enquiry with the correct area marked out.

Prior to work commencing on site, the gas assets should be located to verify the indicative location from plans.





This should initially be carried out through non-intrusive methods utilising pipe locators where possible. The indicative location should be verified through trial holes. Once located, the gas assets should be marked out at regular intervals using asset location markers with triangular flags (see Appendix A) or other suitable methods.



For assets exceeding 2 bar, the excavation of all trial holes shall be monitored by Cadent. For assets not exceeding 2 bar, monitoring will be at the discretion of the Cadent Plant Protection Officer.

Safe digging practices, in accordance with HSE publication HS(G)47, shall be followed. Direct and consequential damage to gas plant can be dangerous both to employees and to the general public.

We utilise marker posts and surface boxes to denote the location of our apparatus providing access to key parts of our network. Free access shall be maintained to such apparatus during and after your works and these shall not be moved, covered or damaged during the works.

	Low Pressure
	Medium Pressure
	Intermediate Pressure
	High Pressure

4. Temporary and Permanent Protective Measures

No temporary or permanent protective measures, including the installation of concrete slab protection, shall be installed over or near to a Cadent asset without the prior written consent of Cadent. Cadent will need to approve the material, dimensions and method of installation for the proposed protective measure.

The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to Cadent. Where permanent protection is to be installed over an asset, Cadent will normally carry out a coating survey of metallic assets to check that there is no existing damage to the coating, prior to the slab protection being installed. Cadent shall, therefore, be given at least 14 days' notice prior to the laying of any slab protection to arrange for this survey to be carried out.

Generally, due to the need for future access to below 2 bar gas assets, permanent protection is not permitted, however, can be approved at Cadent's discretion.

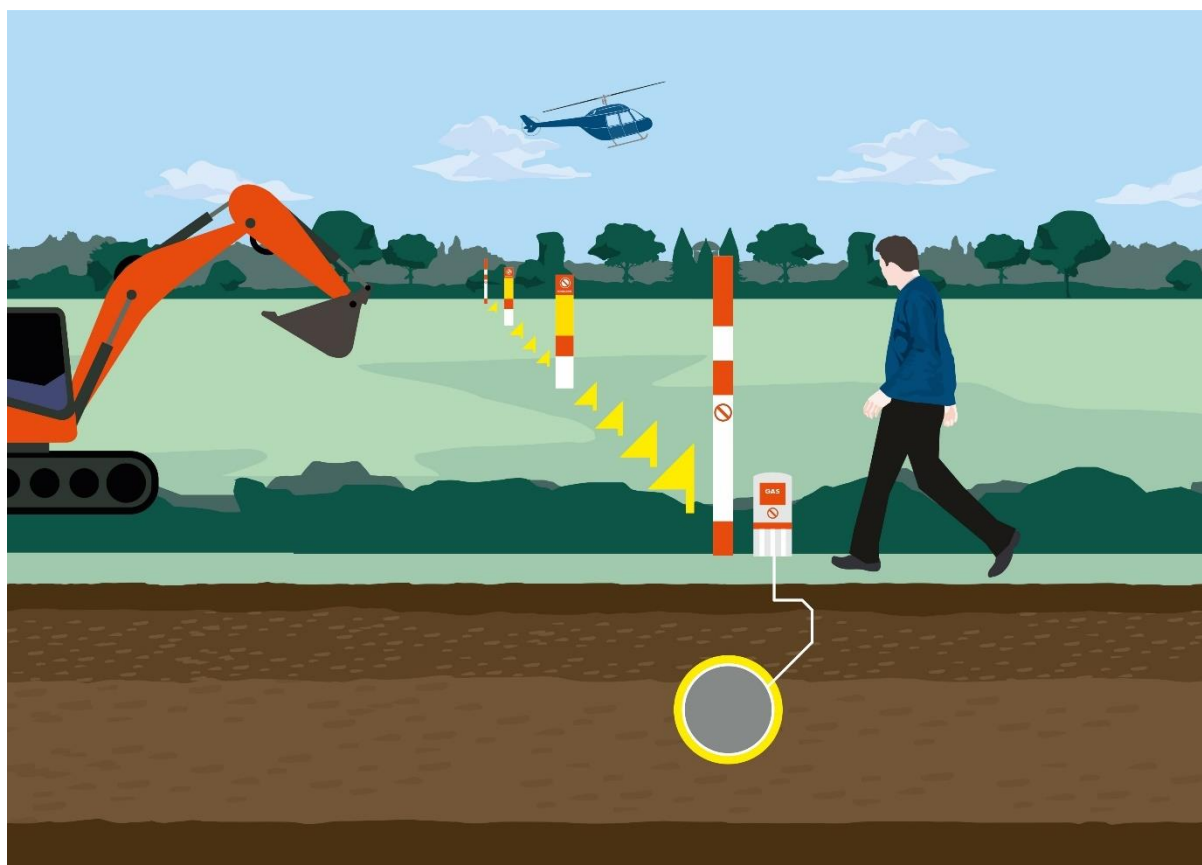
The safety precautions detailed in Sections 5, 6, 7 or 8 of this document should also be observed during the installation of the asset protection.



5. Working in the Vicinity of a High or Intermediate Pressure Gas Asset (Operating at Pressures Greater than 2 bar)

The below information shall only be used as guidance, for all works in the vicinity of High and Intermediate Pressure Pipelines the auto-response from the system will advise not to carry out any works until we have undertaken a technical review of the planned works and provided site specific safe working advice.

Initial enquires are for information only purposes and will not be escalated for operational site-specific advice, should you wish to carry out works you must submit a planned works enquiry for assessment.



5.1 Excavation

Mechanical excavators should not be sited or moved above an asset.

Mechanical excavators, and any other powered mechanical plant, shall not dig on one side of the asset with the cab of the excavator positioned on the other side.

All traffic should be positioned far enough away from the trench to prevent trench wall collapse.

5.1.1 In proximity to an asset in an easement

Following location and marking of assets in agreement with the Cadent Plant Protection Officer, powered mechanical excavation may be used no closer than 3m (see Figure 1). The use of toothed excavator buckets vastly increases the potential for damage to assets, therefore only toothless buckets shall be used.

Any fitting, attachment or connecting pipework on an asset shall be exposed by hand.

If third parties are using any form of trench support system, they shall ensure that none of the components are in contact with the Cadent asset.

Consideration may be given to a relaxation of these limits or lower risk excavation methods by agreement with the Cadent Plant Protection Officer on site.

Where sufficient depth of cover exists and the absence of attachments and projections has been confirmed (e.g. valve spindles, pressure points etc.) and following evidence from hand dug trial holes, light tracked vehicles may be permitted to strip topsoil to a depth of 250mm, using a toothless bucket.

No topsoil or other materials shall be stored within the easement without the written permission of Cadent. No fires are allowed in the easement strip or close to above ground gas installations.

After the completion of the work, the level of cover over an asset should be the same as that prior to work commencing, unless otherwise agreed by Cadent.

No new service shall be laid parallel to an asset within the easement. In special circumstances, and only with formal written agreement from Cadent, this may be relaxed for short excursions where the service shall be laid no closer than 600mm.

Where work is being carried out parallel to an asset, within or just alongside the easement, suitable barriers shall be erected for protection between the works and the asset to prevent encroachment.

5.1.2 In proximity to an asset in the highway

Following locating and marking of assets in agreement with the Cadent Plant Protection Officer, powered mechanical excavation may be used no closer than 3 meters (see Figure 1).

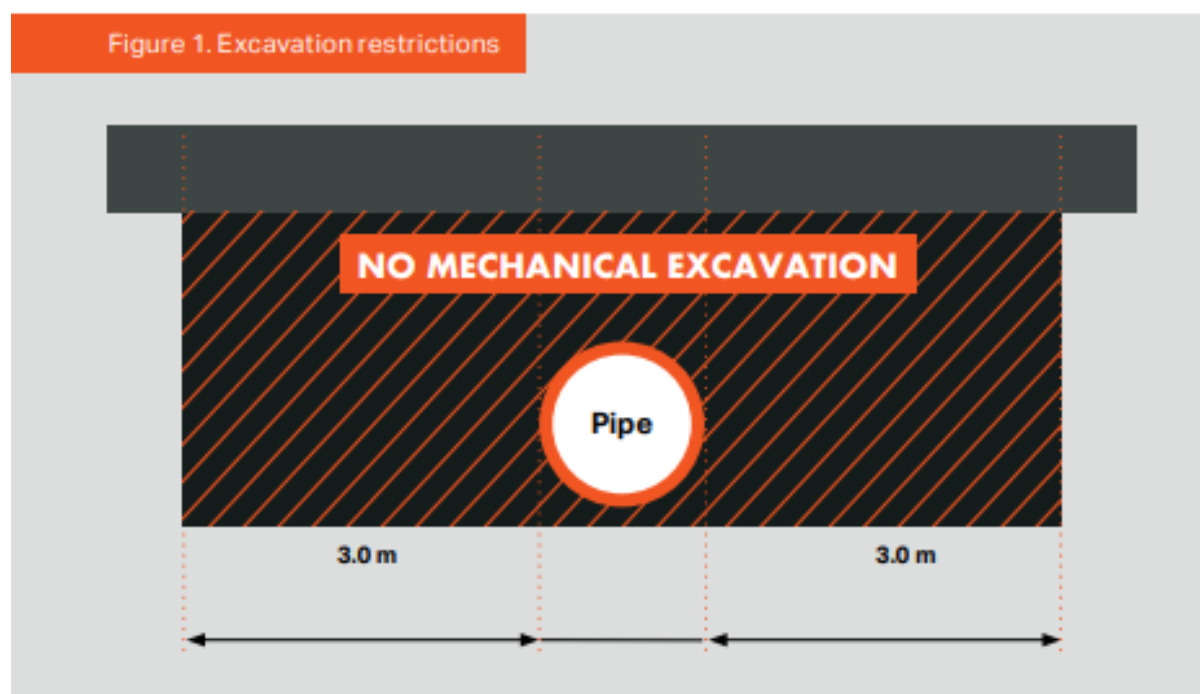
The use of toothed excavator buckets vastly increases the potential for damage to assets, therefore only toothless buckets shall be used.

Any fitting, attachment or connecting pipework shall be exposed by hand.

If third parties are using any form of trench support system, they shall ensure that none of the components are in contact with the Cadent asset.

Removal of the bituminous or concrete highway surface layer by mechanical means is permitted to a depth of 300mm, unless any attachments or projections are present on an asset (e.g. valve spindles, pressure points etc.). The use of chain trenchers is not permitted within 3m of an asset. The Cadent Plant Protection Officer may need to be present to monitor this work. Where the bituminous or concrete highway surface layer extends below 300mm deep, it shall only be removed by handheld power assisted tools under the observation of Cadent.

In special circumstances, consideration may be given to a relaxation of these rules by agreement with the Cadent Plant Protection Officer and only whilst they remain on site.



5.1.3 Crossing over an asset (Open cut)

Where a new service is to cross over an asset, a clearance distance of 600mm between the crown of the asset and underside of the service should be maintained. If this cannot be achieved, the service shall cross below the asset (see Section 5.1.4).

In special circumstances, this distance may be reduced at the discretion of the Cadent Plant Protection Officer on site.

5.1.4 Crossing below an asset (Open cut)

Where a service is to cross below an asset, a clearance distance of 600mm between the crown of the new service and underside of the asset shall be maintained. Where lengths of pipe greater than one metre are to be exposed, the Cadent Plant Protection Officer shall be consulted. Exposed assets should be suitably supported and protected by matting and timber cladding. Any supports shall be removed prior to backfilling.

In special circumstances, this clearance distance may be reduced at the discretion of the Cadent Plant Protection Officer on site.

5.1.5 Cathodic protection

Cathodic protection (CP) is applied to Cadent's buried steel pipe and is a method of protecting assets from corrosion by maintaining an electrical potential between the pipe and anodes placed at strategic points along the asset.

Where a new service is to be laid and similarly protected, the party installing the CP system shall undertake tests to determine whether the new service is interfering with the cathodic protection of Cadent assets.

Should any cathodic protection posts or associated apparatus need to be moved to facilitate third party works, at least 14 days' notice shall be given to Cadent. Cadent will undertake this work and any associated costs will be borne by the third party.

5.1.6 Installation of electrical equipment

Where electrical equipment is being installed close to Cadent's buried steel assets, the effects of a rise of earth potential under fault conditions shall be considered by the third party and a risk assessment and method statement shall be submitted to Cadent for approval, prior to the works commencing.

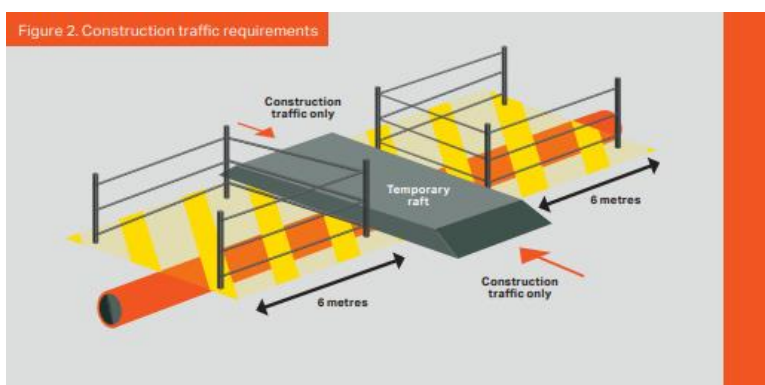
The installation of electrical cables parallel to Cadent assets may induce currents into the asset. This may interfere with the effective operation of the cathodic protection system. In these instances, Cadent will require the promoter of the works to conduct pre and post energisation potential surveys of Cadent's assets. The costs for any stray current mitigation systems required will be borne by the promoter of the works.

5.2 Construction traffic

Where existing roads cannot be used, construction traffic shall only cross an asset at locations agreed with the Cadent Plant Protection Officer. Notices shall be placed directing traffic to the crossing points. Post and wire fencing shall be erected at all crossing points, and the fence should cover the width of the easement and extend a further 6 metres along the length of the easement on both sides (see Figure 2).

Assets shall be protected at all crossing points by a suitable method agreed with the Cadent Plant Protection Officer prior to installation. The promoter of the works shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the protection required.

For larger scale projects or permanent solutions, a protection slab may be required.



5.3 Specific activities

This section details the precautions that need to be taken when carrying out certain prescribed activities in the vicinity of an asset. The promoter of works is required to consult Cadent when intending to undertake one of the listed activities and/or further advice is required on whether the work has the potential to affect the asset. The table below shows, for some specific activities, the prescribed distances where the advice of Cadent shall be sought.

Activity	Distance within which Cadent advice shall be sought
Piling	15m
Surface mineral extraction	100m
Landfilling	100m
Demolition	150m or 400m for structure mass > 10,000 tonnes
Blasting	500m if the MIC is > 200kg 250m if the MIC is > 10kg but ≤ 200kg 100m if the MIC is ≤ 10kg
Deep mining	1000m
Wind turbine	1.5 times mast height

5.3.1 Trenchless techniques

Where trenchless techniques are being considered, a formal risk assessment and method statement shall be produced. This risk assessment and method statement shall be formally agreed with Cadent prior to the commencement of the work. Please provide Cadent with at least 14 days' notice as the Cadent Plant Protection Officer may wish to be present to monitor this work.

5.3.2 Changes to depth of cover

The depth of cover over Cadent's asset shall not be altered. Cadent shall be consulted for any activity proposed that will lead to a change in cover over the asset. Expert advice may need to be sought, which will be determined by the Cadent Plant Protection Officer.

5.3.3 Piling

No piling shall be allowed within 15m of an asset without an assessment of the vibration levels at the asset. The peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec. The promoter of the works should provide Cadent the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought, which can be arranged through Cadent.

5.3.4 Demolition

No demolition should be allowed within 150m of an asset, or 400m for a structure mass greater than 10,000t without an assessment of the vibration levels at the asset. The peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

The promoter of the works should provide Cadent the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought, which can be arranged through Cadent.

5.3.5 Blasting

The Maximum Instantaneous Charge (MIC) dictates the distance at which an assessment of the vibration levels (at the located asset) is required. The measured distances are as follows:

- 500m if the MIC is greater than 200kg
- 250m if the MIC is greater than 10kg but less than 200kg
- 100m if the MIC is 10kg or less

The peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

The promoter of the works should provide Cadent the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance.

The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought, which can be arranged through Cadent.

5.3.6 Surface mineral extraction

An assessment shall be carried out on the effect of surface mineral extraction activity within 100 metres of an asset. Consideration should also be given to extraction around other plant and equipment associated with assets (e.g. cathodic protection ground beds).

Where the mineral extraction extends up to the asset easement, a stable slope angle and stand-off distance between the asset and slope crest shall be determined by Cadent. The easement strip should be clearly marked by a suitable permanent boundary, such as a post and wire fence. Additionally, where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party. The asset easement and slope need to be inspected periodically to identify any signs of developing instability. This may include any change of slope profile including:

- Bulging
- The development of tension cracks on the slope or easement
- Any changes in drainage around the slope

The results of each inspection should be recorded

Where surface mineral extraction activities are planned within 100m of the asset but do not extend up to the asset easement boundary, Cadent shall assess whether this could promote instability in the vicinity of the asset. This may occur where the asset is routed across a natural slope or the excavation is deep. A significant cause of this problem is where the groundwater profile is affected by changes in drainage or the development of lagoons.

Where the extraction technique involves explosives, the provisions of Section 5.3.5 apply.

5.3.7 Deep mining

Assets within 1km of active deep mining may be affected by subsidence resulting from mineral extraction. The determination of protective or remedial measures will normally require expert assistance, which can be arranged through Cadent.

5.3.8 Landfilling

The creation of slopes outside of the asset easements may promote instability within the vicinity of an asset. Cadent should carry out an assessment to determine the effect of any landfilling activity within 100m of an asset. The assessment is particularly important if landfilling operations are taking place on a slope in which an asset is routed.

5.3.9 Pressure testing

Hydrostatic testing of a third-party asset should not be permitted within 8 metres either side of a Cadent asset, to provide protection against the effects of a burst. Where this cannot be achieved, typically where the third-party asset needs to cross a Cadent asset, one of the following precautions would need to be adopted:

- limiting of the design factor of the third-party pipeline to 0.3 at the asset's nominated maximum operating pressure (MOP), and the use of pre-tested pipe
- the use of sleeving
- Cadent conduct risk analysis of pipe failure

In either case, the third party shall submit their site-specific risk assessment and safe system of works for consideration by Cadent.

5.3.10 Seismic surveys

The promoter of works shall advise Cadent of any seismic surveying work in the vicinity of an asset that will result in peak particle velocities in excess of 75mm/sec at the asset.

The promoter of the works should provide Cadent the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

5.3.11 Hot work

Where a Cadent metallic gas asset has been exposed, welding (or other hot works that may involve naked flames) should not be carried out in proximity of the gas asset. This may be reduced if suitable protection and precautions has been agreed with Cadent.

If the gas asset is PE (or a PE asset is contained within a metallic sleeve) welding, or other hot works that may involve naked flames, should not take place within 500mm of the gas asset. This may be reduced if suitable protection and precautions have been agreed with the Cadent Plant Protection Officer to prevent against the effects of sparks, radiant heat transfer etc.

The Cadent Plant Protection Officer shall be present to monitor all welding, burning or other 'hot work' that takes place.

5.3.12 Wind turbines

Wind turbines shall not be sited any closer than 1.5 times the proposed height of the turbine mast away from the nearest edge of a gas asset.

Further guidance can be found from UKOPA's Good Practice Guide 13 (UKOPA/GP/013) - Requirements for the Siting and Installation of Wind Turbines Installations in the Vicinity of Buried Pipelines.

5.3.13 Solar farms

Solar Farms can be built adjacent to gas assets but never within an easement. Advice shall be sought from Cadent at the early stages of design to ensure that electrical interference, security, future access and construction methods can be mutually agreed.

Further guidance can be found from UKOPA's Good Practice Guide 14 (UKOPA/GP/014) - Requirements for the Siting and Installation of Solar Photovoltaic (PV) Installations in the Vicinity of Buried Pipelines.

5.4 Backfilling

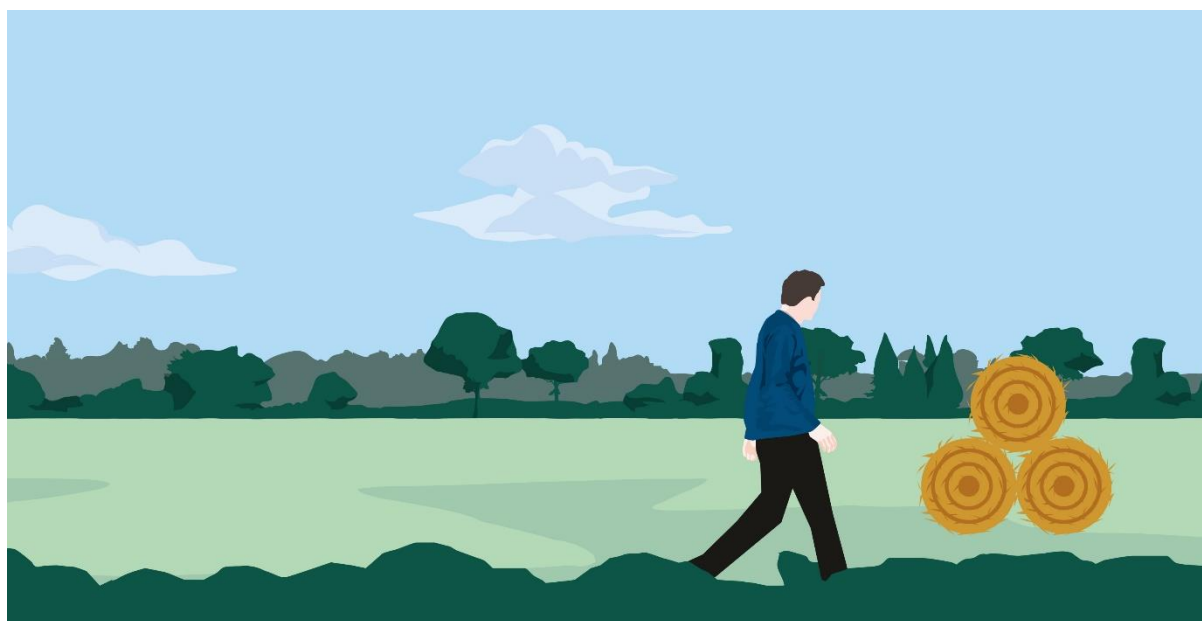
No backfilling should be undertaken without Cadent's agreement to proceed and the Cadent Plant Protection Officer will stipulate the necessary requirements. Some equipment may not be suitable for use over or around an asset due to the adverse effects of excessive compaction and vibration levels. The Cadent Plant Protection Officer will be able to advise on suitable equipment. Third parties undertaking work shall provide Cadent with 48 hours' notice, or shorter only if agreed with Cadent, of the intent to backfill over, under or alongside the asset.

This requirement should also apply to any backfilling operations that:

- are within 3 metres of an asset
- could influence the ground stability

Any damage to an asset or its coating shall be reported to Cadent in order that damage can be assessed, and repairs carried out.

Minor damage to pipe coating and cathodic protection test leads will be repaired by Cadent free of charge. If an asset has been backfilled without the knowledge of the Cadent Plant Protection Officer, the third party shall re-excavate to enable the condition of the asset coating to be assessed.



6. Working in the Vicinity of a Medium Pressure Gas Asset (Operating at Pressures Greater than 75 mbar but not Exceeding 2 bar)

The below information shall only be used as guidance, and where appropriate, will be supplemented by site specific safe working advice from the network Plant Protection Officer.

Initial enquires are for information only purposes and will not be escalated for operational site-specific advice, should you wish to carry out works you must submit a planned works enquiry for assessment.

6.1 Temporary and permanent structures

No temporary or permanent structures are permitted to be installed above, or in close proximity to a gas asset or easement due to the restriction of access this imposes. This includes, but is not limited to, permanent street furniture such as planters and bollards and temporary buildings such as welfare units and other enclosed spaces. The building proximity distances for medium pressure assets is as follows:

Material	Minimum proximity to premises
Cast/Spun Iron	3m
Ductile Iron	30m
Steel	1m
PE (inserted)	1m
PE (non-inserted)	2m for diameters \leq 500mm 5m for diameters $>$ 500mm

Please note that the easement distance may be greater than the building proximity distance. For any proposed structures in the easement, please consult with the Cadent network Plant Protection Officer.

6.2 Excavation

6.2.1 General

Mechanical excavators should not be sited or moved above an asset.

Mechanical excavators and any other powered mechanical plant shall not dig on one side of the asset with the cab of the excavator positioned on the other side. All traffic should be positioned far enough away from the trench to prevent trench wall collapse.

Excavation with a powered mechanical excavator should not be carried out until the asset has been located through vacuum excavation or by hand. No mechanical excavation is permitted within 500mm of a gas asset. Any mechanical excavation should utilise a banksman. Toothless buckets shall be used due to the potential of damage to assets using toothed excavator buckets.

Consideration shall be given to apparatus installed on gas assets including valves, spindles, pressure points etc. Any fitting, attachment or connecting pipework on an asset shall be exposed by hand.

Where concrete is exposed around gas apparatus, it shall not be removed without first consulting with a Cadent Plant Protection Officer as it could be providing protection or anchorage to live apparatus.

Where a third party is using any trench support system, they shall ensure that none of its components are in contact with an asset.

The use of chain trenchers is not permitted within 3m of the confirmed location of an asset.

6.2.2 Working in vicinity of iron pipework

When deep excavation greater than 1.5m in depth is carried out in the vicinity of iron pipework, steps shall be taken to ensure the risk associated with immediate and latent asset failure are considered and, where necessary, excavations are cut back to reduce the shear factor created by ground disturbance likely to result in settlement. This also includes instances where excavations are part of construction works, including basement conversions, underground car parks, shaft construction, etc.

Care should be taken to ensure that any exposed iron pipework is suitably supported at 1m intervals and protected from damage to avoid creating tensions that could lead to joint disturbance or pipe barrel fracture.

Where fittings or existing repairs are uncovered, care shall be taken to ensure that these are not disturbed.

When working near ductile iron pipework, any corrosion identified on the pipeline shall be reported to 0800 111 999 for a first call operative to attend to undertake a hazard assessment.

6.2.3 In proximity to an asset in an easement

Where sufficient depth of cover exists and the absence of attachments and projections has been confirmed (e.g. valve spindles, pressure points etc.), following evidence from hand dug trial holes, light tracked vehicles may be permitted to strip topsoil to a depth of 250mm using a toothless bucket.

No topsoil or other materials shall be stored within the easement without the written permission of Cadent. No fires are allowed in the easement strip or other gas assets.

After the completion of the work, the level of cover over the asset should be the same as that prior to work commencing.

No new service shall be laid parallel to the asset within the easement.

Where work is being carried out parallel to the asset, within or alongside the easement, suitable barriers shall be erected between the works and the asset to prevent encroachment or damage.

6.2.4 In proximity to an asset in the highway

Where sufficient depth of cover exists, and the absence of attachments and projections has been confirmed (e.g. valve spindles, pressure points etc.), following evidence from hand dug trial holes, removal of the bituminous or concrete highway surface layer by mechanical means is permitted to a depth of 300mm. Where the bituminous or concrete highway surface layer extends below 300mm deep, it shall only be removed by handheld power assisted tools.

6.2.5 Crossing over an asset (Open cut)

Where a new service is to cross over a gas asset, a minimum clearance distance of 1.5 times the diameter of the gas asset or 300mm, whichever is greater, shall be maintained. If this cannot be achieved, the service shall cross below the asset, see Section 6.2.6.

6.2.6 Crossing below an asset (Open cut)

Where a service is to cross below a gas asset, a minimum clearance distance of 1.5 times the diameter of the gas asset or 300mm, whichever is greater, between the crown of the new service and underside of the asset shall be maintained. The exposed asset shall be suitably supported and protected by matting and timber cladding. Any supports shall be removed prior to backfilling.



6.2.7 Cathodic protection

Cathodic protection (CP) is applied to some buried steel pipes and is a method of protecting assets from corrosion by maintaining an electrical potential between the asset and anodes placed at strategic points along the asset. Where a new service is to be laid and similarly protected, the party installing the CP system shall liaise with the Cadent Plant Protection Officer and undertake tests to determine whether the new service is interfering with the cathodic protection of the Cadent asset.

Should any cathodic protection posts or associated apparatus need moving to facilitate third party works, at least 14 days' notice shall be given to Cadent. Cadent will undertake this work and any associated costs will be borne by the third party.

6.2.8 Installation of electrical equipment

Where electrical equipment is being installed close to Cadent's buried steel assets, the effects of a rise of earth potential under fault conditions shall be considered by the third party, a risk assessment carried out and this shall be provided to the Cadent Plant Protection Officer for inspection. Equipment shall not be installed if the integrity of Cadent's assets is compromised. In this case, diversion of the affected assets is required.

The installation of electrical cables parallel to Cadent assets may induce currents into the asset. This may interfere with the effective operation of cathodic protection systems. In these instances, Cadent will require the promoter of the works to work with the Cadent Plant Protection Officer to ensure that pre and post energisation potential surveys of Cadent's assets are undertaken. The costs for any stray current mitigation systems required will be borne by the third-party promoter.

6.3 Construction traffic

The promoter of the works shall review the ground conditions, vehicle types and crossing frequency to determine the type and construction of crossing that will be required. Additionally, no undue loads such as spoil heaps, lighting columns, permanent traffic lights or road signs should be allowed over gas assets.

Iron pipes, or pipes that are not already within an existing road (such as those within footways or verges), shall not be crossed by construction vehicles without suitable protection and the consent of the Cadent Plant Protection Officer.

Where existing roads cannot be used, construction traffic should only cross Cadent assets at specific locations, with notices directing traffic to the crossing points erected. All crossing points shall:

- Be at right angles to the asset
- Be fenced denoting the existence of the asset to ensure all traffic uses the crossing point. The fencing shall cover the width of any easements and extend a further 6m along the length of any easements on both sides (see Figure 2).
- Have signs attached to the fence denoting the asset that the crossing point is located over

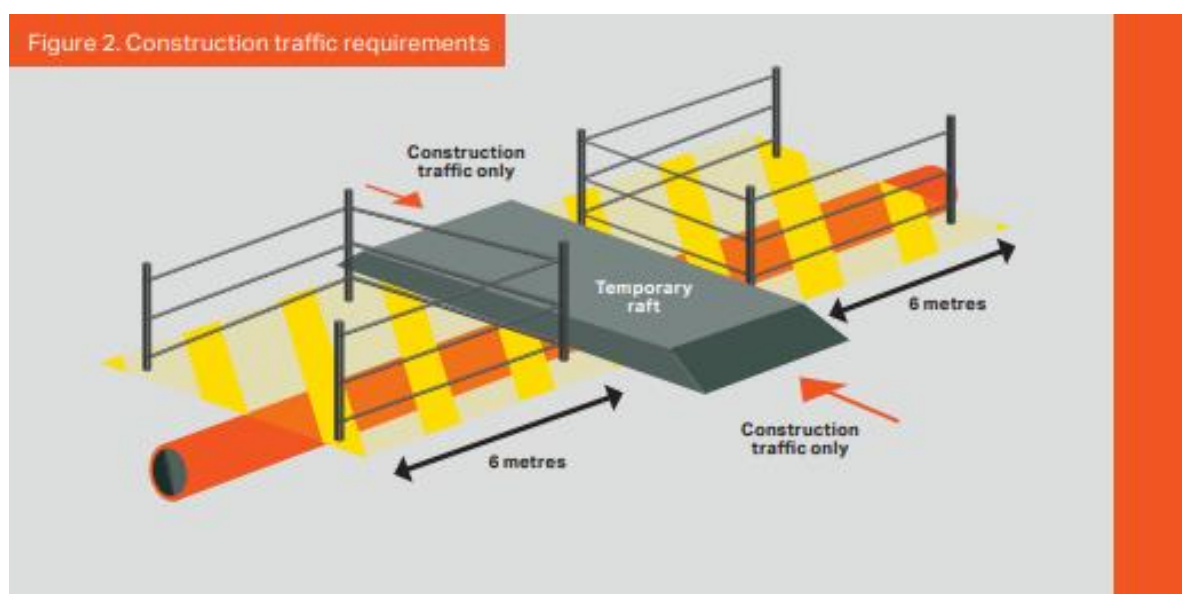
- Be regularly inspected and maintained in good condition

Note: A 5mph speed restriction should be enforced at all crossing points.

Suitable protection methods may include:

- Temporary protection slab
- Free-standing bridges (prefabricated modular steel or pre-cast concrete bridges)
- Proprietary access roadways
- Haul roads (including hardcore, sleepers, steel plates or a combination)

For larger scale projects or permanent crossings, diversion of the asset may be required.



6.4 Specific activities

This section details the precautions that need to be taken when carrying out certain prescribed activities in the vicinity of a Cadent asset. The promoter of works is required to consult Cadent when intending to undertake one of the activities listed below to obtain further site-specific advice on whether the work has the potential to affect the asset. The table below shows, for some specific activities, the prescribed distances where the advice of Cadent shall be sought.

Activity	Distance within which Cadent advice shall be sought
Piling	15m
Surface mineral extraction	100m
Landfilling	100m
Demolition	150m or 400m for structure mass > 10,000 tonnes
Blasting	500m if the MIC is > 200kg 250m if the MIC is > 10kg but ≤ 200kg 100m if the MIC is ≤ 10kg
Deep mining	1000m
Wind turbine	1.5 times mast height

6.4.1 Carriageway construction (including widening & bell mouth construction)

Where it is proposed to carry out carriageway construction over an asset previously located in a footway or verge, you must contact the diversions team to determine if diversion or replacement of the asset is required before commencement of your works.

6.4.2 Trenchless techniques

Where trenchless techniques are being considered, a formal risk assessment and method statement shall be produced and submitted to the Cadent Plant Protection Officer for review prior to commencing work. Please provide Cadent with at least 14 days' notice as we may wish to be present to monitor the work.

6.4.2.1 Tunnelling

Ground movement may occur when tunnelling in soft ground conditions. Ground movement contours from the tunnelling operation shall be calculated and all gas assets within the affected zone should be identified and assessed.

PE assets can tolerate some differential ground movement.

For cast and ductile iron assets, acceptable limits on stress increase and joint disturbances are defined in the performance acceptance criteria for iron mains.

For steel assets, an integrity assessment should be carried out according to the industry standard **IGEM/TD/12 – Pipework stress analysis for gas industry plant**. An expert on Soil/Pipe Interaction Analysis should be consulted when required for the evaluation of ground movement effects on the assets.

For any proposed tunnelling works, you must contact the diversions team to determine if diversion or replacement of the asset is required before commencement of your works, due to the likely impact on our assets.

6.4.3 Changes to depth of cover

The depth of cover over Cadent's asset shall not be altered. Where a change in cover is required, contact your network Plant Protection Officer.

6.4.4 Piling

No piling shall be allowed within 15m of an asset without an assessment of the vibration levels at the asset.

For steel or PE assets, the peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

For iron assets, the peak particle velocity at the asset shall be limited to a maximum level of 25mm/sec.

The promoter of the works should provide the Cadent Plant Protection Officer with the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure the allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made, which may require expert advice.



6.4.5 Demolition

No demolition should be allowed within 150m of an asset for 400m for a structure mass greater than 10,000 tonnes without an assessment of the vibration levels at the asset.

For steel or PE assets, the peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

For iron assets, the peak particle velocity at the asset shall be limited to a maximum level of 25mm/sec.

The promoter of the works should provide the Cadent Plant Protection Officer with the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure the allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought, which can be arranged through Cadent.

6.4.6 Blasting

The Maximum Instantaneous Charge (MIC) dictates the distance at which an assessment of the vibration levels (at the located asset) is required. The measured distances are as follows:

- 500m if the MIC is greater than 200kg
- 250m if the MIC is greater than 10kg but less than 200kg
- 100m if the MIC is 10kg or less

For steel or PE assets, the peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

For iron assets, the peak particle velocity at the asset shall be limited to a maximum level of 25mm/sec.

The promoter of the works should provide the Cadent Plant Protection Officer with the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought, which can be arranged through Cadent.

6.4.7 Surface mineral extraction

An assessment shall be carried out on the effect of surface mineral extraction activity within 100m of a gas asset. Consideration should also be given to extraction around plant and equipment associated with assets (e.g. cathodic protection ground beds).

Where the mineral extraction extends up to the asset easement, a stable slope angle and stand-off distance between the asset and slope crest shall be determined. Where an easement exists, the easement strip shall be clearly marked by a suitable permanent boundary, such as a post and wire fence. Additionally, where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party. The asset easement and slope need to be inspected periodically to identify any signs of developing instability. This may include any change of slope profile including:

- Bulging
- The development of tension cracks on the slope or easement
- Any changes in drainage around the slope

The results of each inspection should be recorded.

Where surface mineral extraction activities are planned within 100m of the asset but do not extend up to the asset easement boundary, an assessment should be made as to whether this could promote instability in the vicinity of the asset. This may occur where the asset is routed across a natural slope or the excavation is deep. A significant cause of this problem is where the groundwater profile is affected by changes in drainage or the development of lagoons.

Where the extraction technique involves explosives, the provisions of Section 6.4.6 apply.

6.4.8 Deep mining

Gas assets within 1km of active deep mining may be affected by subsidence resulting from mineral extraction. The determination of protective or remedial measures will normally require expert assistance, which can be arranged through Cadent.

6.4.9 Landfilling

The creation of slopes outside of the asset easements may promote instability within the vicinity of the asset. Cadent should carry out an assessment to determine the effect of any landfilling activity within 100m of an asset. The assessment is particularly important if landfilling operations are taking place on a slope in which the asset is routed.

6.4.10 Pressure testing

Pressure testing should not be permitted within 8m of an asset unless suitable precautions have been taken against the effects of a pipe failure.

6.4.11 Seismic surveys

The promoter of works shall advise Cadent of any seismic surveying work in the vicinity of PE or steel assets that will result in peak particle velocities in excess of 75mm/sec at the asset or for iron assets that will result in peak particle velocities in excess of 25mm/sec at the asset.

The promoter of the works should provide Cadent the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

6.4.12 Hot work

Where the Cadent's metallic gas assets have been exposed, welding (or other hot works that may involve naked flames) should not be carried out in proximity of the gas asset. This may be reduced if suitable protection and precautions have been agreed with Cadent.

If the gas asset is PE (or a PE asset is contained within a metallic sleeve) welding, or other hot works that may involve naked flames, shall not take place within 500mm of the gas asset. For further advice contact your network Plant Protection Officer.

Protection measures shall be agreed with the Cadent Plant Protection Officer prior to installation to prevent the effects of sparks, radiant heat transfer etc.

Any hot works in proximity to a Cadent gas asset require leakage surveys prior to, during and after the works. If gas is detected, all works shall stop, and the leak immediately reported to the National Gas Emergency Service on 0800 111 999.

The Cadent Plant Protection Officer will determine the need to remain on site to monitor all welding, burning or other 'hot work' that takes place.

6.4.13 Wind turbines

Wind turbines shall not be sited any closer than 1.5 times the proposed height of the turbine mast away from the nearest edge of the asset.

Further guidance can be found from UKOPA's Good Practice Guide 13 (UKOPA/GP/013) - Requirements for the Siting and Installation of Wind Turbines Installations in the Vicinity of Buried Pipelines.

6.4.14 Solar farms

Solar Farms can be built adjacent to gas assets, but never within an easement. Advice shall be sought from Cadent at the early stages of design to ensure that electrical interference, security, future access and construction methods can be mutually agreed.

Interference checks shall be completed by the third party to ensure that the solar installations and associated infrastructure have no negative effect on cathodic protection systems.

Further guidance can be found from UKOPA's Good Practice Guide 14 (UKOPA/GP/014) - Requirements for the Siting and Installation of Solar Photovoltaic (PV) Installations in the Vicinity of Buried Pipelines.

6.4.15 Lifting operations

Where lifting operations are planned to be carried out in the vicinity of medium pressure apparatus a site-specific risk assessment and lift plan is required to be reviewed by the Cadent Plant Protection Officer.

Protection shall be afforded to live apparatus when carrying out the works to prevent impact damage in the event of an uncontrolled failure or drop. Any loads shall be secured using suitable and sufficient lifting accessories to reduce the likelihood of the load being dropped.

Consideration shall be given to the location of lifting equipment and the loads induced into the ground to avoid the potential overloading of buried apparatus. Where the site cannot be laid out to avoid loading gas apparatus, the asset shall be suitably protected with the consent of the Cadent Plant Protection Officer. Alternatively, the asset will require replacement/diversion.

6.5 Backfilling and reinstatement

Reinstatement around Cadent apparatus still poses a risk to the integrity of the asset. A gas asset must not be located within the footway or carriageway construction as this has the potential to cause damage to the apparatus during and post completion of the reinstatement.

No backfilling should be undertaken without Cadent's agreement to proceed. Some equipment may not be suitable for use over or around assets due to the adverse effects of excessive compaction and vibration levels.

A gas asset shall not be encased in concrete or have concrete positioned within 300mm of the asset, or anywhere above an iron gas asset due to the need for future access.

The fine fill material should be firmly packed around the pipe in 100mm layers to achieve a compacted thickness of 75mm and shall be laid to a minimum depth of 150mm above the crown of the asset.

Mechanical compaction equipment shall not be used until a 250mm hand rammed layer has been compacted above the crown of the pipe.

For backfilling and reinstatement in the vicinity of iron apparatus, in addition to the above, the maximum weight of compaction equipment used above the crown of the asset shall not exceed 1.5t/m² and vibratory compaction shall not be used.

Material used in the backfill shall conform to the following requirements:

- Sand shall be well-graded in accordance with BS EN 13242:2002+A1:2007
- It shall not contain any sharp objects, large stones or bricks

- Foamed concrete shall not be used

We will require marker tape to be installed at least 250mm above the crown of the main.

Prior to backfilling, if the asset is coated, Cadent require the opportunity to inspect its condition in order to assess and to carry out any repairs as necessary. Please contact your network Plant Protection office to arrange this. Any damage to the asset or coating shall be reported to the Cadent Plant Protection Officer so that damage can be assessed, and repairs carried out.

Minor (and existing) damage to pipe coating and cathodic protection test leads will be repaired by Cadent free of charge. If the asset has been backfilled without the knowledge of the Cadent Plant Protection Officer, the third party will need to re-excavate to enable the condition of the asset coating to be assessed.

All temporary supports shall be removed prior to backfill but only when the asset is sufficiently supported by bedding material around the pipe.



7. Working in the Vicinity of a Low Pressure Gas Asset (Operating at Pressures up to 75 mbar)

For planned and emergency works in the vicinity of Low Pressure gas assets, the promoter will be advised proceed with caution. The guidance contained within this section must be followed. If it cannot, contact shall be made with the network Plant Protection office for advice.

7.1 Temporary and permanent structures

No temporary or permanent structures are permitted to be installed above, or in close proximity to a gas asset or easement due to the restriction of access this imposes. This includes, but is not limited to, permanent street furniture such as planters and bollards and temporary buildings such as welfare units and other enclosed spaces. The building proximity distances for low pressure assets is as follows:

Material	Minimum proximity to premises
All materials	1m

Please note that the easement distance may be greater than the building proximity distance, for any proposed structures in the easement please consult with the Cadent network Plant Protection Officer.

7.2 Excavation

7.2.1 General

Mechanical excavators should not be sited or moved above an asset.

Mechanical excavators and any other powered mechanical plant shall not dig on one side of an asset with the cab of the excavator positioned on the other side. All traffic should be positioned far enough away from the trench to prevent trench wall collapse.

Excavation with a powered mechanical excavator should not be carried out until gas assets have been located through vacuum excavation or by hand. No mechanical excavation is permitted within 500mm of gas assets. Any mechanical excavation should utilise a banksman. Toothless buckets shall be used due to the potential of damage to assets using toothed excavator buckets.

Consideration shall be given to apparatus installed on gas assets including valves, spindles, pressure points etc. Any fitting, attachment or connecting pipework on the asset shall be exposed by hand.

Where concrete is exposed around gas apparatus this shall not be removed as it could be providing protection or anchorage to the live apparatus.

Where a third party is using any trench support system, they shall ensure that none of its components are in contact with the asset.

The use of chain trenchers to do this is not permitted within 3m of the confirmed location of the asset.

7.2.2 Working in vicinity of iron pipework

When deep excavation greater than 1.5m in depth is carried out in the vicinity of iron pipework, steps shall be taken to ensure the risk associated with immediate and latent asset failure are considered, and where necessary, excavations are cut back to reduce the shear factor created by ground disturbance likely to result in settlement. This also includes instances where excavations are part of construction works including basement conversions, underground car parks, shaft construction, etc.

Care should be taken to ensure that any exposed iron pipework is suitably supported at 1m intervals and is protected from damage to avoid creating tensions that could lead to joint disturbance or pipe barrel fracture.

Where fittings or existing repairs are uncovered care shall be taken to ensure that these are not disturbed.

When working near ductile iron pipework should any corrosion be identified on the pipeline this shall be reported to 0800 111 999 for a first call operative to attend to undertake a hazard assessment.

7.2.3 In proximity to an asset in an easement

Where sufficient depth of cover exists and the absence of attachments and projections has been confirmed (e.g. valve spindles, pressure points etc.), following evidence from hand dug trial holes, light tracked vehicles may be permitted to strip topsoil to a depth of 250mm using a toothless bucket.

No topsoil or other materials shall be stored within the easement without the written permission of Cadent. No fires are allowed in the easement strip or other gas assets.

After the completion of the work, the level of cover over an asset should be the same as that prior to work commencing.

No new service shall be laid parallel to an asset within an easement.

Where work is being carried out parallel to an asset, within or alongside an easement, suitable barriers shall be erected between the works and the asset to prevent encroachment or damage.

7.2.4 In proximity to an asset in the highway

Where sufficient depth of cover exists, and the absence of attachments and projections has been confirmed (e.g. valve spindles, pressure points etc.), following evidence from hand dug trial holes, removal of the bituminous or concrete highway surface layer by

mechanical means is permitted to a depth of 300mm. Where the bituminous or concrete highway surface layer extends below 300mm deep, it shall only be removed by handheld power assisted tools.

7.2.5 Crossing over an asset (Open cut)

Where a new service is to cross over an asset, a minimum clearance distance of 1.5 times the diameter of the gas asset or 300mm, whichever is greater shall be maintained. If this cannot be achieved, the service shall cross below the asset, see Section 7.2.6.

7.2.6 Crossing below an asset (Open cut)

Where a service is to cross below an asset, a minimum clearance distance of 1.5 times the diameter of the gas asset or 300mm, whichever is greater, between the crown of the new service and underside of the asset shall be maintained. The exposed asset shall be suitably supported and protected by matting and timber cladding. Any supports shall be removed prior to backfilling.

7.2.7 Cathodic protection

Cathodic protection (CP) is applied to some buried steel pipes and is a method of protecting assets from corrosion by maintaining an electrical potential between the asset and anodes placed at strategic points along the asset. Where a new service is to be laid and similarly protected, the party installing the CP system shall undertake tests to determine whether the new service is interfering with the cathodic protection of the Cadent asset.

Should any cathodic protection posts or associated apparatus need moving to facilitate third party works, appropriate notice, shall be given to Cadent. Cadent will undertake this work and any associated costs will be borne by the third party.

7.2.8 Installation of electrical equipment

Where electrical equipment is being installed close to Cadent's buried steel assets, the effects of a rise of earth potential under fault conditions shall be considered by the third party and a risk assessment carried out. Equipment shall not be installed if the integrity of Cadent's assets is compromised. In this case, diversion of the affected assets will be required.

The installation of electrical cables parallel to Cadent assets may induce currents into the asset. This may interfere with the effective operation of cathodic protection systems. In these instances, Cadent will require the promoter of the works to conduct pre and post energisation potential surveys of Cadent's assets. The costs for any stray current mitigation systems required will be borne by the third-party promoter.

7.3 Construction traffic

The promoter of the works should review the ground conditions, vehicle types and crossing frequency to determine the type and construction of crossing that will be required. Additionally, no undue loads such as spoil heaps, lighting columns, permanent traffic lights or road signs shall be allowed over gas assets.

Iron pipes, or pipes that are not already within an existing road such as those within footways or verges shall not be crossed by construction vehicles without suitable protection being designed and installed. Consideration shall be given to the requirement for access to low pressure apparatus therefore for large scale, long duration projects, or permanent crossings, the diversions process shall be followed to determine whether the asset requires diversion/replacement in advance of the works taking place.

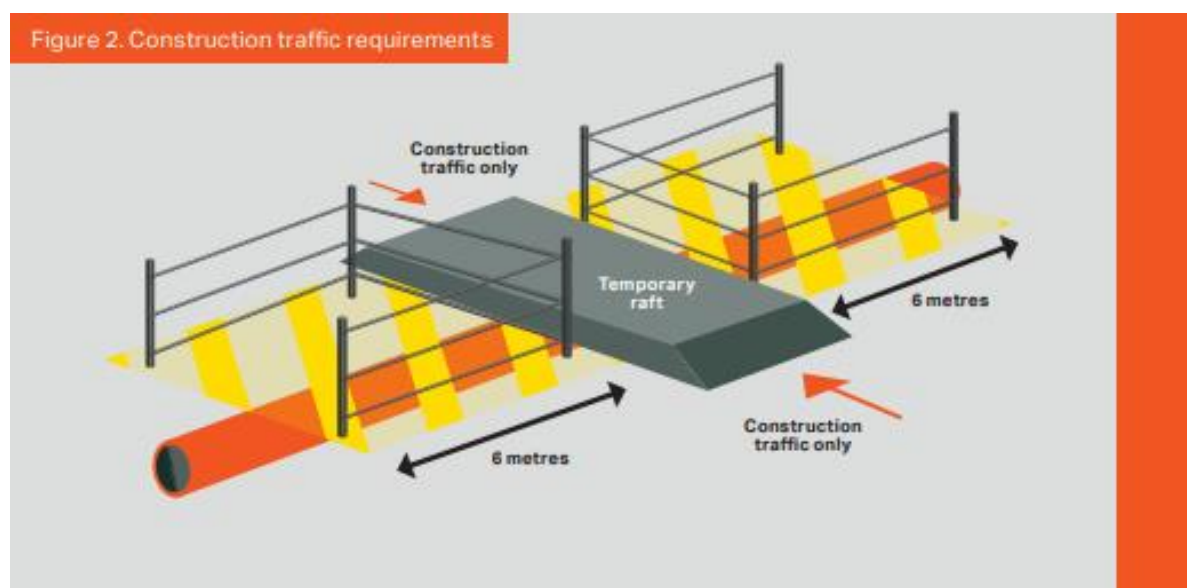
Where existing roads cannot be used, construction traffic should only cross Cadent assets with a minimum depth of cover of 750mm (post crossing construction) at specific locations, with notices directing traffic to the crossing points erected. All crossing points shall:

- Be at right angles to the asset
- Be fenced denoting the existence of the asset to ensure all traffic uses the crossing point. The fencing shall cover the width of any easements and extend a further 6m along the length of any easements on both sides (see Figure 2).
- Have signs attached to the fence denoting the asset that the crossing point is located over
- Be regularly inspected and maintained in good condition

Note: A 5mph speed restriction should be enforced at all crossing points.

Suitable protection methods may include:

- Temporary protection slab
- Free-standing bridges (prefabricated modular steel or pre-cast concrete bridges)
- Proprietary access roadways
- Haul roads (including hardcore, sleepers, steel plates or a combination)



7.4 Specific activities

This section details the precautions that need to be taken when carrying out certain prescribed activities in the vicinity of a Cadent asset. The promoter of works is required to consult Cadent when intending to undertake one of the activities listed below and further advice is required on whether the work has the potential to affect the asset.

7.4.1 Carriageway construction (including widening & bell mouth construction)

Where it is proposed to carry out carriageway construction over an asset previously located in a footway or verge you must contact the diversions team to determine if diversion or replacement of the asset is required before commencement of your works.

7.4.2 Trenchless techniques

Where trenchless techniques are being considered, a formal risk assessment and method statement shall be produced prior to commencing work.

Trial holes shall be undertaken to ensure that sufficient clearance exists between gas assets and the proposed third-party asset (or the pipe to be split if a pipe splitting technique is being used) prior to the works.

If an asset is to be replaced using pipe splitting techniques in the vicinity of iron mains, in addition to the below clauses, an integrity assessment shall be undertaken.

When running parallel to gas assets, the minimum clearance shall be:

- 1m

When crossing gas assets, the minimum clearance shall be:

- 500mm or 1.5 times the diameter of the asset, whichever is greater.

Clearances may need to be increased due to the following factors:

- Ground conditions
- Largest reamer diameter
- Type of reamer used, e.g. hollow, finned, etc.
- Accuracy of equipment being used
- Construction of adjacent services and structures
- Configuration of other underground services crossing or running parallel to the drill path
- Consequences of damage
- Pipe stress increase from potential ground movement

The exposed asset should be suitably supported and be protected by matting and suitable timber cladding to reduce the risk of damage from any broken pipe fragments (if pipe splitting is used). Supports shall be removed prior to backfill but only when the asset is sufficiently supported by bedding material around the pipe.

All lateral crossings shall be exposed around their full circumference with an additional 250mm clearance below. The width of the excavation shall be three times the diameter of the largest reamer or 500mm either side of the largest reamer, whichever is the greatest. These clearances shall be measured from the drill path centre. Each crossing should be manned during the drilling/splitting operation to watch the reamer/splitter pass.

For pipe splitting running parallel to a buried gas asset, trial holes should be undertaken at suitable and frequent locations along the proposed route to confirm sufficient clearance distances exist, and the pipe route is confirmed.

The line of the pipe to be installed/split should be monitored along its length to ensure no variance from its path.

Consideration should be given for a leakage survey to be undertaken before work starts, during the works if safe to do so and following completion. If there is any likelihood of damage to the asset, the operation shall be stopped immediately.

7.4.2.1 Tunnelling

Ground movement may occur when tunnelling in soft ground conditions. Ground movement contours from the tunnelling operation shall be calculated and all gas assets within the affected zone should be identified and assessed.

PE assets can tolerate some differential ground movement.

For cast and ductile iron assets, acceptable limits on stress increase and joint disturbances are defined in the performance acceptance criteria for iron mains.

For steel assets an integrity assessment should be carried out according to the industry standard **IGEM/TD/12 – Pipework stress analysis for gas industry plant**. An expert on Soil/Pipe Interaction Analysis should be sought when required for the evaluation of ground movement effects on the assets.

For any proposed tunnelling works, due to the likely impact on our assets you must contact the diversions team to determine if diversion or replacement of the asset is required before commencement of your works.

7.4.3 Changes to depth of cover

The depth of cover over or around Cadent's iron assets shall not be altered. If a change in the depth of cover is required, you must contact the diversions team to arrange for diversion or replacement of the asset before commencement of your works.

For PE and steel pipes, reductions in depth of cover are only permitted if the below minimum depths of cover can be maintained (following investigation across the affected length):

- In fields and agricultural land 1.1m
- In roads and verges 750mm
- In footpaths 600mm
- In private property 600mm

Substantial increases in depth of cover shall not be permitted.

Where a change in the depth of cover affects attachments and projections such as services and valves, liaison with our diversions team is required to ensure these are appropriately protected or altered.

7.4.4 Piling

No piling shall be allowed within 15m of an asset without an assessment of the vibration levels at the asset.

For steel or PE assets, the peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

For iron assets, the peak particle velocity shall be limited to a maximum level of 25mm/sec.

The promoter of the works should determine the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure the allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made, which may require expert advice.

7.4.5 Demolition

No demolition should be allowed within 150m of an asset for 400m for a structure mass greater than 10,000 tonnes without an assessment of the vibration levels at the asset.

For steel or PE assets, the peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

For iron assets, the peak particle velocity at the asset shall be limited to a maximum level of 25mm/sec.

The promoter of the works should determine the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure the allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought.

Where demolition is proposed you must ensure that the gas supply to the premises has been isolated in a suitable, identified location.

7.4.6 Blasting

The Maximum Instantaneous Charge (MIC) dictates the distance at which an assessment of the vibration levels (at the located asset) is required. The measured distances are as follows:

- 500m if the MIC is greater than 200kg
- 250m if the MIC is greater than 10kg but less than 200kg
- 100m if the MIC is 10kg or less

For steel or PE assets, the peak particle velocity at the asset shall be limited to a maximum level of 75mm/sec.

For iron assets, the peak particle velocity at the asset shall be limited to a maximum level of 25mm/sec.

The promoter of the works should determine the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the asset shall be made. Expert advice may need to be sought.

7.4.7 Surface mineral extraction

An assessment shall be carried out on the effect of surface mineral extraction activity within 100m of an asset. Consideration should also be given to extraction around plant and equipment associated with assets (e.g. cathodic protection ground beds).

Where the mineral extraction extends up to the asset easement, a stable slope angle and stand-off distance between the asset and slope crest shall be determined. Where an easement exists, the easement strip shall be clearly marked by a suitable permanent boundary, such as a post and wire fence. Additionally, where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party. The asset easement and slope need to be inspected periodically to identify any signs of developing instability.

This may include any change of slope profile including:

- Bulging
- The development of tension cracks on the slope or easement
- Any changes in drainage around the slope

The results of each inspection should be recorded.

Where surface mineral extraction activities are planned within 100m of the asset but do not extend up to the asset easement boundary, an assessment should be made as to whether this could promote instability in the vicinity of the asset. This may occur where the asset is routed across a natural slope or the excavation is deep. A significant cause of this problem is where the groundwater profile is affected by changes in drainage or the development of lagoons.

Where the extraction technique involves explosives, the provisions of Section 7.4.6 apply.

7.4.8 Deep mining

Assets routed within 1km of active deep mining may be affected by subsidence resulting from mineral extraction. The determination of protective or remedial measures will normally require expert assistance.

7.4.9 Landfilling

The creation of slopes outside of the asset easements may promote instability within the vicinity of the asset. An assessment shall be carried out by the promoter of the works to determine the effect of any landfilling activity within 100m of an asset. The assessment is particularly important if landfilling operations are taking place on a slope in which the asset is routed.

7.4.10 Pressure testing

Pressure testing should not be permitted within 8m of an asset unless suitable precautions have been taken against the effects of a pipe failure.

7.4.11 Seismic surveys

The promoter of works shall advise Cadent of any seismic surveying work in the vicinity of PE or steel assets that will result in peak particle velocities in excess of 75mm/sec at the asset or for iron assets that will result in peak particle velocities in excess of 25mm/sec at the asset.

The promoter of the works should determine the anticipated vibration levels prior to the work commencing. The ground vibration should be monitored by the promoter to verify the anticipated levels and to ensure allowable peak particle velocity is not exceeded. Alarms should be set at suitable increments to provide a forewarning of limit exceedance. The promoter shall retain records of ground vibration levels for provision of the Cadent Plant Protection Officer on request.

7.4.12 Hot work

Where the Cadent's metallic gas asset has been exposed, welding (or other hot works that may involve naked flames) should not be carried out in proximity of the gas asset.

If the gas asset is PE (or a PE asset is contained within a metallic sleeve) welding, or other hot works that may involve naked flames, shall not take place within 500mm of the gas asset.

Protection measures shall be installed to prevent the effects of sparks, radiant heat transfer etc.

Any hot works in proximity to a Cadent gas asset shall require leakage surveys prior to, during and after the works. If gas is detected, all works shall stop, and the leak immediately reported to the National Gas Emergency Service on 0800 111 999.

7.4.13 Wind turbines

Wind turbines shall not be sited any closer than 1.5 times the proposed height of the turbine mast away from the nearest edge of the asset.

Further guidance can be found from UKOPA's Good Practice Guide 13 (UKOPA/GP/013) - Requirements for the Siting and Installation of Wind Turbines Installations in the Vicinity of Buried Pipelines.

7.4.14 Solar farms

Solar Farms can be built adjacent to assets but never within an easement.

Interference checks shall be completed by the third party to ensure that the solar installations and associated infrastructure have no negative effect on cathodic protection systems.

Further guidance can be found from UKOPA's Good Practice Guide 14 (UKOPA/GP/014) - Requirements for the Siting and Installation of Solar Photovoltaic (PV) Installations in the Vicinity of Buried Pipelines.

7.4.15 Lifting operations

Where lifting operations are planned to be carried out in the vicinity of low pressure apparatus a site-specific risk assessment and lift plan is required.

Protection shall be afforded to live apparatus when carrying out the works to prevent impact damage in the event of an uncontrolled failure or drop. Any loads shall be secured using suitable and sufficient lifting accessories to reduce the likelihood of the load being dropped.

Consideration shall be given to the location of lifting equipment and the loads induced into the ground to avoid the potential overloading of buried apparatus. Where the site cannot be laid out to avoid loading gas apparatus, the asset shall be suitably protected with the consent of the Cadent Plant Protection Officer. Alternatively, the asset will require replacement/diversion.

7.5 Backfilling and reinstatement

Reinstatement around Cadent apparatus still poses a risk to the integrity of the asset. A gas asset must not be located within the footway or carriageway construction as this has the potential to cause damage to the apparatus during and post completion of the reinstatement.

No backfilling should be undertaken without Cadent's agreement to proceed. Some equipment may not be suitable for use over or around assets due to the adverse effects of excessive compaction and vibration levels.

A gas asset shall not be encased in concrete or have concrete positioned within 300mm of the asset or anywhere above an iron gas asset due to the need for future access.

The fine fill material should be firmly packed around the pipe in 100mm layers to achieve a compacted thickness of 75mm and shall be laid to a minimum depth of 150mm above the crown of the asset

Mechanical compaction equipment shall not be used until a 250mm hand rammed layer has been compacted above the crown of the pipe

For backfilling and reinstatement in the vicinity of iron apparatus, in addition to the above, the maximum weight of compaction equipment used above the crown of the pipe shall not exceed 1.5t/m² and vibratory compaction shall not be used.

Material used in the backfill shall conform to the following requirements:

- Sand shall be well-graded in accordance with BS EN 13242:2002+A1:2007
- It shall not contain any sharp objects, large stones or bricks
- Foamed concrete shall not be used

We will require marker tape to be installed at least 250mm above the crown of the pipe. Any damage to the asset or coating shall be reported to the Cadent Plant Protection Office so that damage can be assessed, and repairs carried out.

Minor (and existing) damage to pipe coating and cathodic protection test leads will be repaired by Cadent free of charge. If the asset has been backfilled without the knowledge of the Cadent Plant Protection Officer, the third party will need to re-excavate to enable the condition of the asset coating to be assessed.

All temporary supports shall be removed prior to backfill but only when the asset is sufficiently supported by bedding material around the pipe.

8. Working in the Vicinity of a Pressure Reduction Installation (PRI)

Pressure reduction installations come in a variety of forms:

- Above Ground Installation (AGI) – Sites with exposed pipes surrounded by fencing
- Above Ground Installation (AGI) – District governors often found in large above ground kiosks with vent stacks attached
- Below Ground Installation – District governors with large surface governors for valves and pressure reduction equipment with an above ground control cabinet and vent stack
- Service governor Installations – Small service governors providing gas to a small number of customers in an area often identified by a small green or brick kiosk

Where excavations are to be made within 10 metres of the perimeter of a pressure reduction installation (above or below ground), with the exception of service governor installations, appropriate protection methods should be determined and recorded by the Cadent Plant Protection Officer.

These installations may have magnetic slam shut devices which could operate in the event of high vibration levels being caused by the works. Advice on whether these are present shall be sought from the Cadent Plant Protection Officer and we may need to have an operative, with the competence to reset the plant, on site whilst your works are being undertaken.

Hazardous areas may be present around these installations and no ignition sources are permitted within these zones. Information on the zonings shall be sought from the Cadent Plant Protection Officer prior to commencement of any works on site.

There may be telemetry and pressure recording lines in the vicinity of these installations therefore extreme caution must be exercised when planning and undertaking works in the vicinity of these assets.

In addition to this, the safety advice detailed in either or a combination of Sections 5, 6 or 7 shall be observed when working in the proximity of an AGI.

Access to gas assets shall be maintained at all times.

9. Tree Planting

Before any tree planting is carried out in the vicinity of a Cadent asset or its easement, written consent should be obtained. This approval should be subject to Cadent retaining the right to remove any trees which might become a danger or restrict access to the asset at any time in the future.

The only hardwood plants which can be planted directly across an asset are shallow rooting hedge plants such as Quickthorn, Blackthorn, etc., and these shall only be planted where a hedge is necessary for screening or to indicate a field boundary.

Raspberries, Gooseberries and Blackcurrants shall not be planted within 2m of the outside edge of the pipe.

Dwarf Apple Stocks shall not be planted within 3m of an asset.

Christmas trees (Picea Abies) shall not be planted within 3 metres of an asset. However, permission may be given on the strict understanding that Christmas trees are clear-felled at intervals not exceeding seven years.

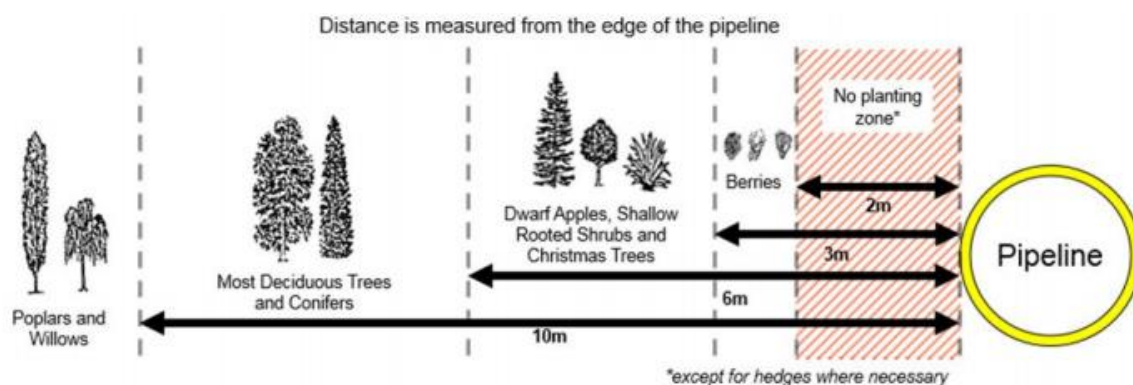
The following trees, and those of similar size which may be deciduous or evergreen, shall not be planted within 6 metres of an asset:

- Ash, Beech, Birch, most Conifers, Elm, Maple, Horse Chestnut, Oak, Sycamore, Apple, Lime and Pear trees.

Dense mass planting shall not be carried out within 10m of the outside edge of the pipe.

Poplar and Willow trees shall not be planted within 10m of the outside edge of the pipe.

For further guidance please refer to NJUG Volume 4.



10. Unidentified Exposed Pipes

An unidentified pipe is one that is not shown on any current or historical records.

Iron and steel water pipes and gas pipelines may appear very similar. If any such pipe is uncovered, it shall be treated as if it were a gas pipe.

If upon checking with all other utilities you believe an unidentified pipe to be a gas pipe, the promoter of the works shall contact with the following information:

- LSBUD enquiry reference
- Site address (please include postcode and grid references)
- Site contact details
- Size of pipe
- Pipe material
- Confirmation that the unidentified pipe is exposed (if not, it will need to be exposed prior to our attendance)
- Confirmation that Cadent and all other asset owners plans, are available for review and inspection
- Photos of the pipe

Please be aware that it can take up to 28 days for us to confirm whether the unidentified exposed pipe is a gas asset or not.

11. Action in case of Damage to an Asset

If you hit a gas asset, whether the damage is visible or not, or in the event of an emergency, call the National Gas Emergency Service immediately on 0800 111 999*.

If the Cadent asset is damaged, even slightly, and even if no gas leak has occurred, then the following precautions shall be taken immediately:

- Shut down all plant and machinery and extinguish any potential sources of ignition.
- Evacuate all personnel from the vicinity of the asset
- Notify Cadent using the free 24-hour emergency telephone number 0800 111 999
- Notify the Cadent responsible person immediately using the contact telephone number provided.
- Ensure no one approaches the asset.
- Do not try to stop any leaking gas.
- Provide assistance as requested by Cadent, or emergency services to safeguard persons and property



12. References

Document reference	Title
HASAWA	The Health and Safety at Work etc Act 1974
CDM	The Construction (Design and Management) Regulations 2015
LOLER	Lifting Operations and Lifting Equipment Regulations 1998
RIDDOR	Reporting of Injuries, Diseases & Dangerous Occurrences Regulations 2013,
GS(M)R	Gas Safety (Management) Regulations 1996
PSR	Pipelines Safety Regulations 1996
NRSAWA	New Roads and Street Works Act 1991
HS(G)47	Avoiding Danger from Underground Services
IGEM/SR/18	Safe Working Practices to Ensure the Integrity of Gas Pipelines and Associated Installations
IGEM/TD/12	Pipework stress analysis for gas industry plant
NJUG Volume 4	Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees
UKOPA/11/0027	Requirements for the Siting of Wind Turbines Close to HP Pipelines
UKOPA/GP/013	Requirements for the Siting and Installation of Wind Turbines Installations in the Vicinity of Buried Pipelines
UKOPA/GP/014	Requirements for the Siting and Installation of Solar Photovoltaic (PV) Installations in the Vicinity of Buried Pipelines

13. Glossary of Terms

Term	Definition
Easement	Easements are negotiated legal entitlements between Cadent and landowners and allow Cadent to lay, operate and maintain assets within the easement strip. Easement strips may vary in width, typically between 6 and 25 metres depending on the diameter and pressure of the pipeline. Consult Cadent for details of the extent of the easement strip where work is intended.
Liquefaction	Liquefaction is a phenomenon in which the strength and stiffness of the soil is reduced by earthquake shaking or other rapid loading. Liquefaction occurs in saturated soils, that is, soils in which the space between individual particles is completely filled with water. When liquefaction occurs, the strength of the soil decreases and the ability of the soil to support assets are reduced.
Promoter of works	The person or persons, firm, company or authority for whom new services, structures or other works in the vicinity of existing Cadent assets and associated installations operating above 7 bar gauge are being undertaken.
Cadent Plant Protection Officer	The person or persons appointed by Cadent with the competencies required to act as the Cadent representative for the purpose of monitoring a particular activity.
Banksman	Another person who assists the machine operator from a position where they can safely see into the excavation and warn the driver of any services or other obstacles. This person should remain outside of the operating radius of the excavator arm and bucket.

Appendix A – Asset Location Markers



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TELECOMS & CABLE

Utility Reports (Technics Group)

From:
Sent: 13 October 2021 11:26
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.
Attachments: Special-Requirements.pdf; SP21616.pdf

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.

Please note that according to our records there is leased and/or third party network within your proposed works. However, because the plant is leased/third party we strongly recommend you contact all other utility providers to gather the extent of services within that area. Unfortunately, we are unable to advise who the plant is leased to or who the third party is.

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 [redacted] 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.

If you require a quote for new development, commercial site connections - please email your requirements and associated plans to and a budget estimate will be returned, within 10 working days of receipt

Plant Enquiries Team

T:
E:

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 (now re-named Vodafone Enterprise UK), Energis Communications Limited, Thus Group Holdings Limited and Your Communications Limited.

ATKINS working on behalf of Vodafone: Fixed



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: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>

Sent: 12 October 2021 16:58

To:

Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX

OS Grid: 530034,180381

Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



Please visit our website www.technicsgroup.com

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Registered Office: Technics House, Merrow Business Park, Guildford, GU4 7WA

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- Legend**
- Access Chamber.Location Active Carriageway Chamber
 - Access Chamber.Location Active Footway Chamber
 - Access Chamber.Location Inactive Carriageway Chamber
 - Underground Route.Route Act. - Owned
 - Underground Route.Route Act. - Leased
 - Underground Route.Route Inact. - Owned



Vodafone Limited (No01471587) registered office is at Vodafone House, The Connection, Newbury, Berkshire, RG142FN

Plot Date : 13/10/2021 Scale : 1:1250

This plan shows apparatus owned by members of the Vodafone Group of companies (including legacy telecommunication companies currently within the group)

Information with regard to such apparatus should always be obtained from Vodafone or its appointed agents.



Special Requirements relating to the External Plant Network of Vodafone

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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.

A National Joint Utilities Group (NJUG) document NJUG Volume 3 Guidelines on the Management of Third Party Cable Ducting provides useful reference material.

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.



- g) **Contractor** - means the individual, firm or company contracted to undertake the work for a Utility or Other Parties.
- h) **Other Parties** - means the Utilities, Highway or Roads Authorities, Developers, Street/Roads Authority Section 50/109 licensees
- i) **Site** - means the location of, or in the vicinity of, the various works.

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 600mm 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 200mm. Where gas mains cross Company Apparatus, the minimum clearance shall be 200mm. 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 200mm. All other undertakers' plant and equipment when running across Company Apparatus shall have a minimum clearance of 100mm.

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 **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.



Other Parties or Contractors are advised to refer to the National Joint Utilities Group publication: NJUG Volume 1- Guidelines on the Positioning and Colour Coding of Underground Utilities' Apparatus

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

Function	Address	Phone	Email Address
Streetworks Team			
Customer Complaints			
Liability Claims Or Damage to Vodafone Apparatus			
Diversionsary Works C2/C3			
Diversionsary Works C4 / Escalations Networks Manager			
Emergencies 24 Hour – Defects & Faults			
Vodafone Plant Enquiries includes: Cable & Wireless; Mercury Comms; Thuis plc; Scottish Telecoms; Your Comms; Norweb Comms; Energis			



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:



Cable & Wireless became Cable & Wireless Worldwide in 2010





Mercury Communications – changed its name to Cable & Wireless in 1996



Energis – was acquired by Cable Wireless in 2005





Thus plc was acquired by Cable & Wireless in 2008



Scottish Telecom

Scottish Telecom demerged from its parent company Scottish Power to become Thus plc in 2002





your communications

Your Communications was integrated into Thus plc in 2006



NORWEB COMMS

Norweb Communications became Your Communications in 2000



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:

Last Saved: 25/01/2021 12:24
Last Saved By:





The apparatus shown here is now owned, maintained and still in operation by Vodafone and includes.

Vodafone
Cable & Wireless
Mercury Communications
Energis
Thus plc
Your Communications
Norweb Communications
Scottish Telecom

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

18. About this Document

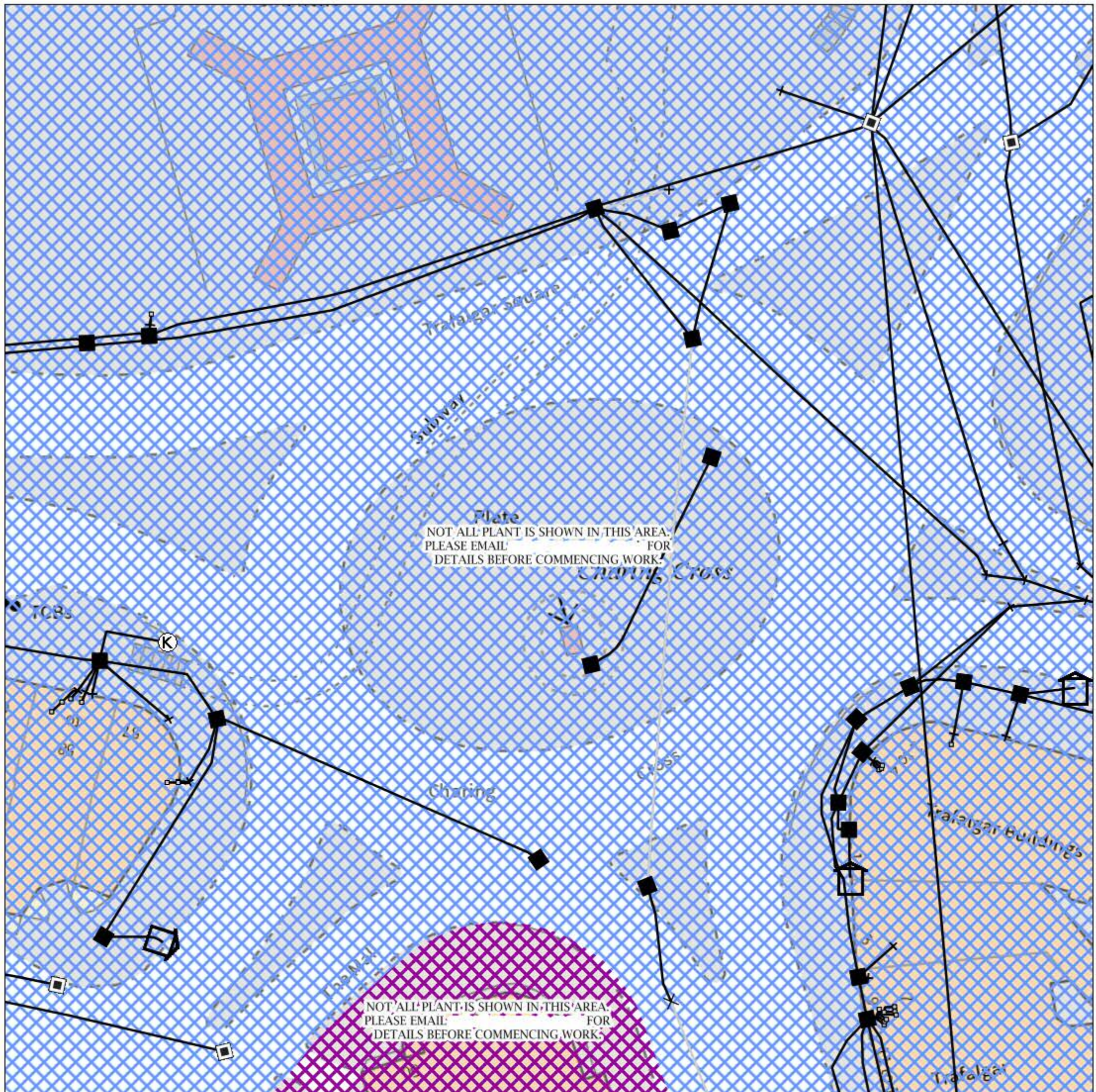
Content Owner

Changes since last version

Reformatted using the current Vodafone template to include updated Contact Details .

End of Document

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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Controller of Her Majesty's Stationary Office
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KEY TO BT SYMBOLS

	Planned	Live	Change Of State	+	Hatchings	
PCP			Split Coupling	×	Built	
Pole			Duct Tee	▲	Planned	
Box			Building		Inferred	
Manhole			Kiosk	(K)	Duct	
Cabinet			Other proposed plant is shown using dashed lines. BT Symbols not listed above may be disregarded. Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.			
	Pending Add	In Place	Pending Remove	Not In Use		
Power Cable						
Power Duct				N/A		

BT Ref : EAT12332D

Map Reference : (centre) TQ3003480381

Easting/Northing : (centre) 530034,180381

Issued : 12/10/2021 12:33:35

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO:

COLT PLANT ENQUIRIES

C.A TELECOM UK LIMITED



Email:

Tel:

Our Reference: P029116

OVERSEEING ORGANISATION AGENT ACHEME REFERENCE

O.O Agent – Technics

Contact – Stephen Sawyer

Title – Charing Cross, Westminster, Greater London, SW1A 2DX.

Scheme Ref – SP21616

16th August 2021

Dear Sir/Madam,

Thank you for your enquiry for the above reference. We can confirm that Colt Technology Services do have apparatus near the above location within the scheme reference and enclose the relevant drawings showing the approximate location of Colt apparatus for purpose of initial plant enquiry. Detailed network location will be presented via Scheme Identification Study Process. All reasonable effort has been made to capture network however image may not reflect unprocessed new build track. Search is based on Overseeing Organisation Agent data supplied; we do not accept responsibility for O.O Agent inaccurate data.

If your proposed works are likely to affect or expose the Colt Technology Services apparatus in anyway please contact Colt Civils Team members below to discuss any plant protection/diversionary measures that may be required, as per the code of Practice Measures necessary where apparatus is affected under NRSWA 1991 Diversionary Works Scheme Identification & Preliminary C2 Enquires. Along with proposed start dates for works to begin.

Clients request for C3 budget costs will trigger the onsite survey to ascertain the requirement's needed to ensure a safe area for the affected COLT network

Colt company policy negates any potentially detrimental effect on the network as well as protecting us from any potential costs and damages.

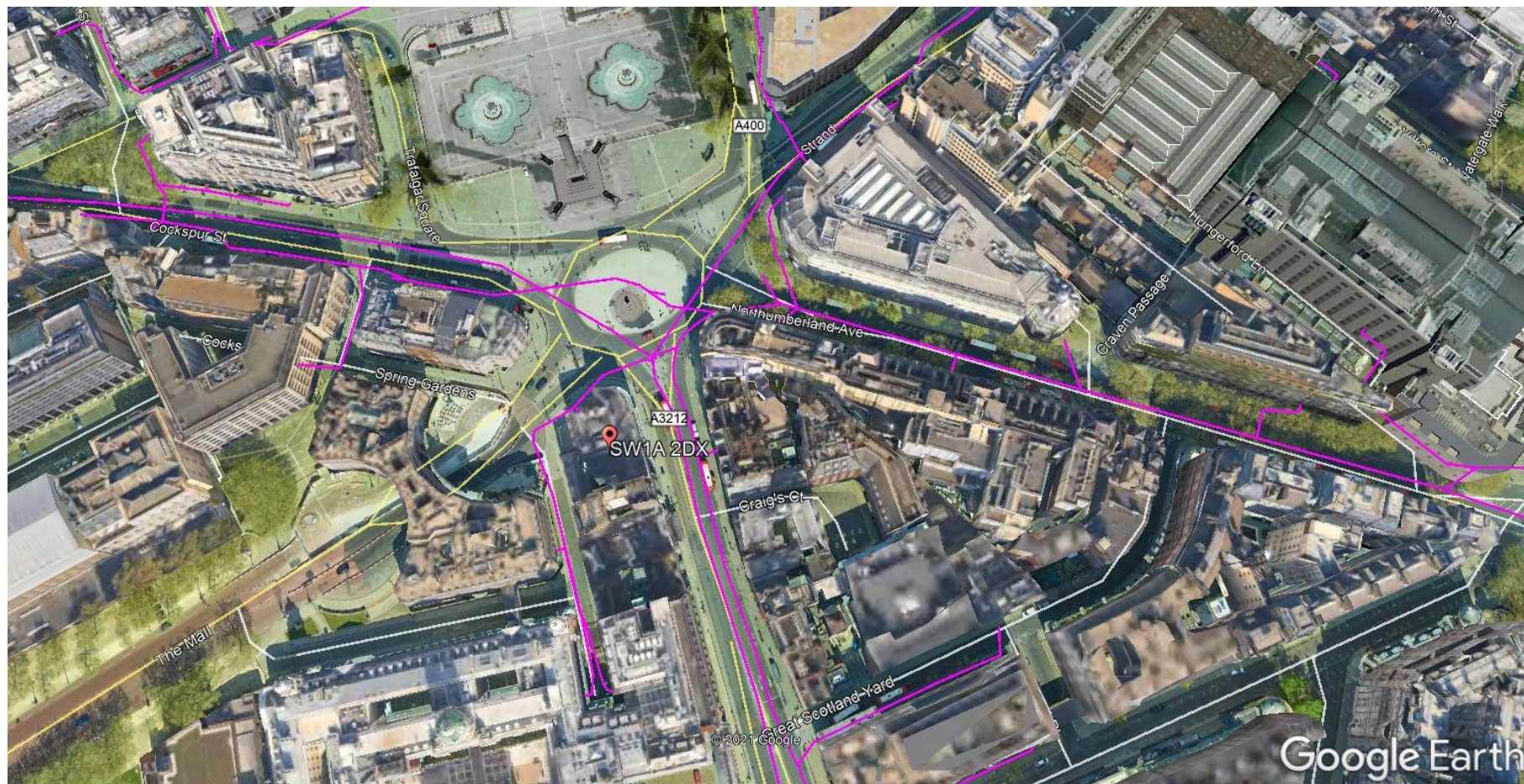
Please note as COLT moves to C3 status we will require an estimated start date for the project to allow for COLT policy lead-time's

Please email with your official C3 Request.

We would remind you that mechanical excavators or borers should never be used within 1500mm of any COLT Technology Service apparatus.

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

Yours sincerely,
Plant Enquiry Team



CONFIDENTIAL

PREPARED BY C.A. TELECOM UK LTD

DATE: 16th August 2021

Our Ref: P029116

UTILITY UNDERTAKER

colt

PLANT ENQUIRY AGENT FOR Colt



MAP IMAGE PERMISSIONS
Centara supplied map
Promap



NOMINAL DEPTH
OF COVER
250mm F/W
550mm C/W

COLT NETWORK LEGEND

Colt
Infrastructure
Network

NRSWA 1991 Diversionary Works

SCHEME & PRELIMINARY INQUIRIES C2
Colt Technology Services External
Infrastructure general location indicated
only for purposes of initial plant enquiry,
detailed network location will be presented
via Scheme Identification Study process. All
reasonable effort has been made to capture
network however image may not reflect
unprocessed new build track.

OVERSEEING ORGANISATION AGENT REFERENCE

O.O Agent – Technics
Contact – Stephen Sawyer
Title – Charing Cross, Westminster,
Greater London, SW1A 2DX.
Scheme Ref – SP21616

Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:12
To: Utility Reports (Technics Group)
Subject: Plant Enquiry Ref Job No. 23538318
Attachments: 23538318_euNetworks Ltd.pdf

12/10/2021

LinesearchbeforeUdig ref: 23538318

Your ref: SP21616

Dear Sir/Madam,

Thank you for contacting us regarding equipment and apparatus operated by euNetworks Fiber UK Limited.

Please find enclosed a copy of our above referenced drawing, marked to show the approximate position of plant owned and operated by euNetworks Fiber UK Limited.

You will be aware that you have a duty to ensure that no damage is caused to this equipment as a result of your proposed works. Please note that this apparatus may contain Fibre Optics and, as such, special care must be taken when excavating this area.

Should you require euNetworks apparatus to be diverted to accommodate your works, please provide a detailed drawing of those works to our Diversionary Works Team

Should you require an estimate to be prepared for euNetworks to service your proposed development, please submit this request for costs along with site drawings (scale 1:500) to the New Developments Team also to the generic email address.

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 letter, please re-apply for updated information.

If you require advice in connection with your search, please contact the relevant number below.

Yours sincerely,

EU Networks

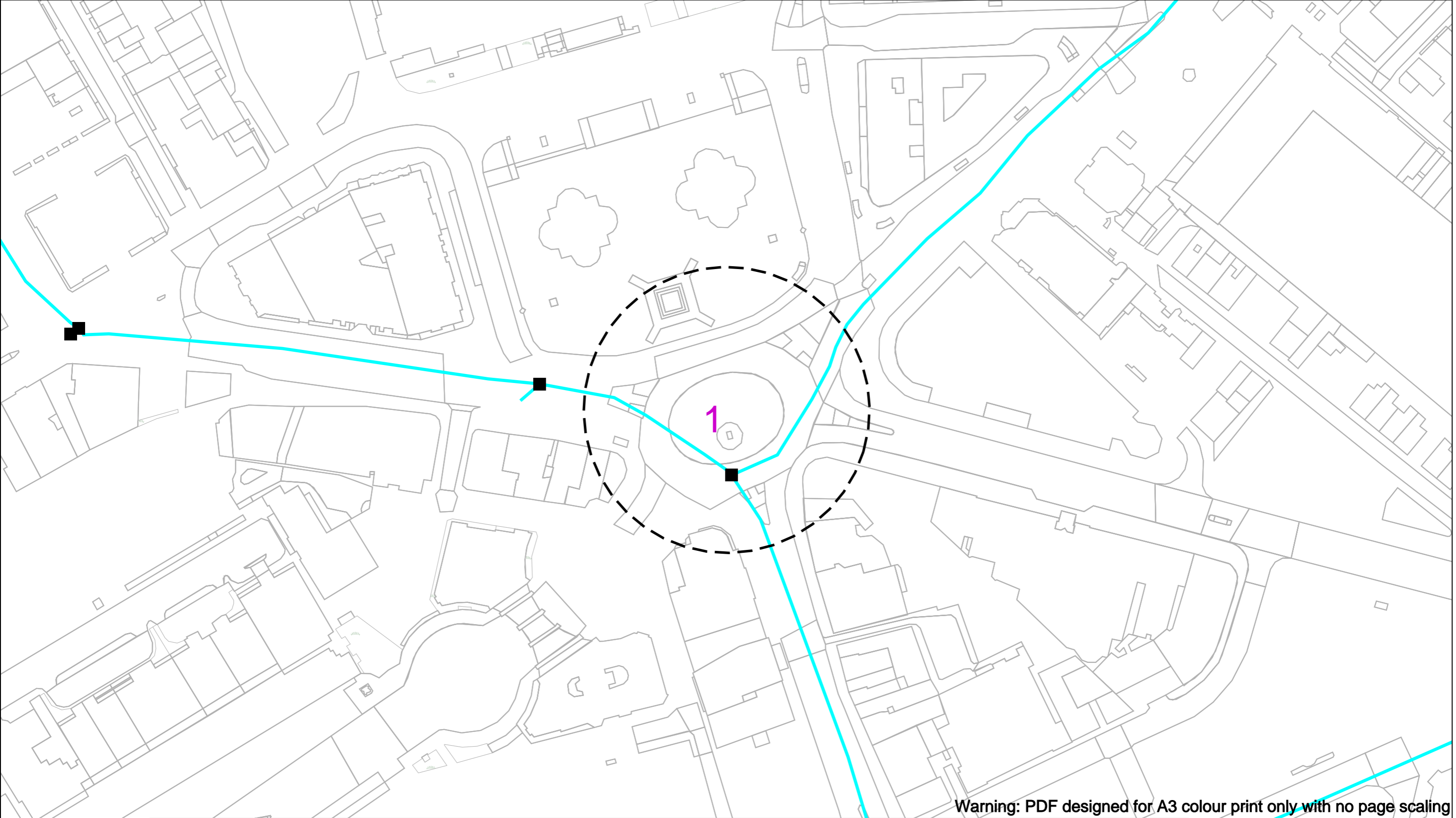
For and on behalf of euNetwork Fiber UK Limited

Telephone:
Email:


LinesearchbeforeUdig:

If you have an enquiry relating to the use of the LinesearchbeforeUdig website, please contact LinesearchbeforeUdig using the following information:

Telephone:
Email:
Website:



Warning: PDF designed for A3 colour print only with no page scaling

	<div><div></div><div>100m</div></div> <div>Dig Sites Line: - - - - Area: </div>	<div> eunetworks</div>
<div>Date Requested: 12/10/2021 Job Reference: 23538318 Site Location: 530036 180381 Requested by: Mr Stephen Sawyer Your Scheme/Reference: SP21616</div>	<div><div>Key</div><div>Duct </div><div>Long Haul (LHN) Duct </div><div>Chamber Location </div></div>	
<div>Scale: 1:1250 (When plotted at A3)</div>	<div>IMPORTANT WARNING The information supplied is given in good faith as a guide to locating underground apparatus. Its accuracy cannot be guaranteed, nor does it include comprehensive information about the existence or location of service pipes or cables to individual premises. The responsibility for locating and avoiding damage to apparatus on site shall be that of the persons proposing to excavate in the street shall be liable to the apparatus owner and any third party who may be affected in any way for any loss or damage caused by their failure to do so.</div> <div>IF IN DOUBT PLEASE ASK!</div>	

Utility Reports (Technics Group)

From:
Sent: 28 July 2021 10:42
To: Utility Reports (Technics Group)
Subject: E07-21-5713 RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.
Attachments: SP21616_Charing Cross, Westminster, London, SW1A 2DX.pdf; Guide To Excavation.pdf

Dear Sir or Madam,

With reference to your enquiry regarding the above noted location, we enclose the drawing(s) indicating the approximate position of services in this area.

We would draw your attention to the fact that while the position of the plant has been shown as accurately as possible, the information is intended as a general guide only and must not be relied upon in the event of any excavations or other work in the vicinity. **We would remind you that the onus remains on you to determine the exact position for example by a hand excavated trial hole.** Instalcom accepts no liability for claims arising from any inaccuracy, omissions or errors contained herein. If you would like to query the location further, please email us accordingly and we can arrange an in depth survey, which will be charged at a cost. Enclosed is a guide to excavation works around existing plant.

Instalcom responds to plant enquiries for Lumen Technologies (formerly CenturyLink Communications UK Limited, Level 3, GLOBAL CROSSING (UK) LTD, GLOBAL CROSSING PEC and FIBERNET UK LTD and FIBRESPAN LTD) simultaneously and therefore you only need send one copy of a 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.

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

Regards



From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX

OS Grid: 530034,180381

Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com

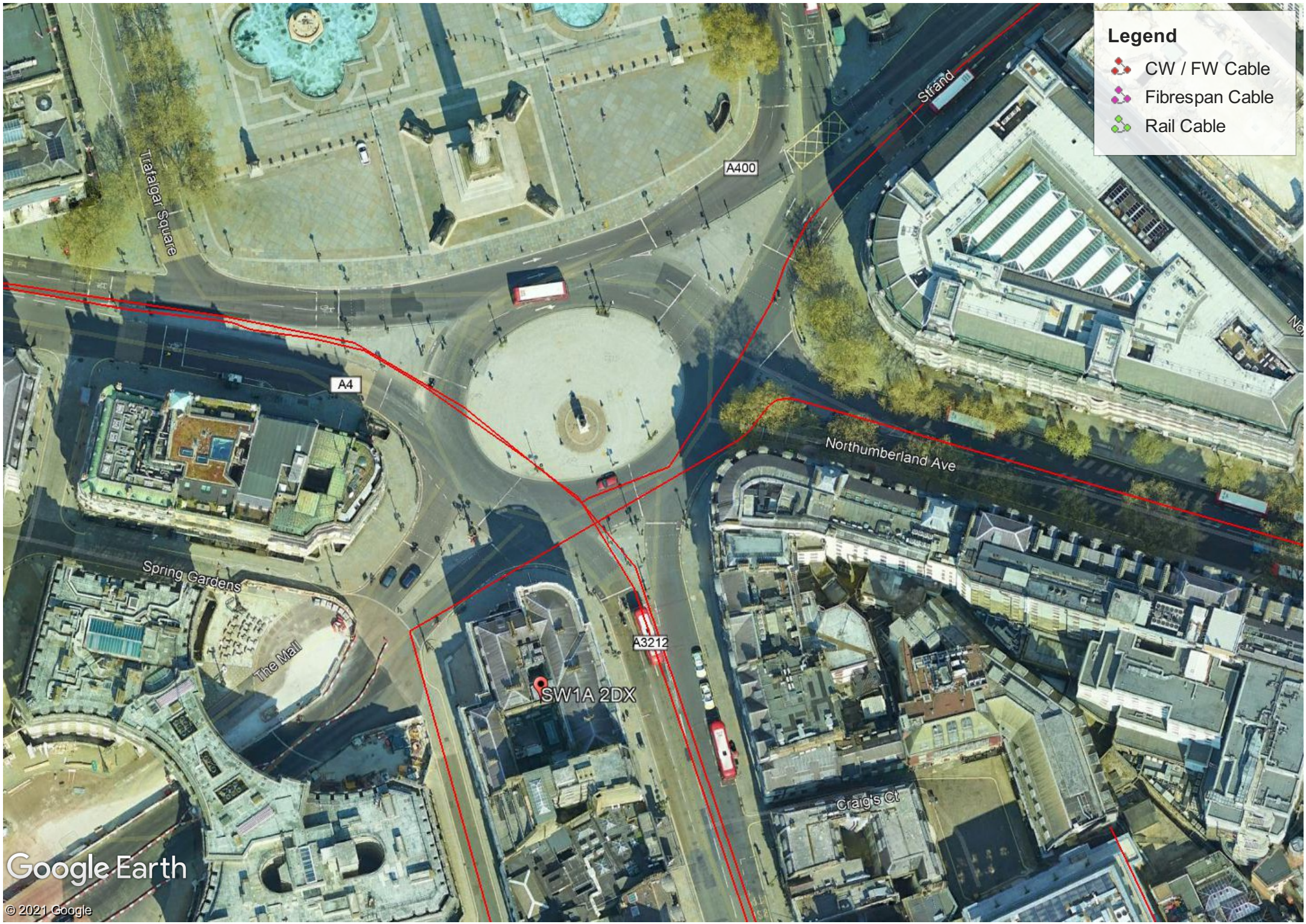


Please visit our website www.technicsgroup.com




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Registered Office: Technics House, Merrow Business Park, Guildford, GU4 7WA

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Legend

-  CW / FW Cable
-  Fibrespan Cable
-  Rail Cable

SPECIAL REQUIREMENTS IN RELATION TO LUMEN TECHNOLOGIES PLANT

1. In this special requirement, the following terms shall have the meanings assigned to it:-
 - a. "Company" means Lumen Technologies.
 - b. "Company Representative" means the staff of Lumen Technologies or its Authorized Representatives and Agents.
 - c. "Apparatus" means all surface or sub-surface equipment and plant including any associated cabling and/or ducting owned leased or rented by Lumen Technologies.
2. Before commencing any work or moving heavy plant or equipment over any portion of the site, the contractor shall confirm details of the Apparatus, owned, leased or rented by the Company, within the site with the Company Representative, who can be contacted at the following point: -
3. Where such details show that the works or the movement of plant or equipment may endanger the Apparatus of the Company the Contractor must give the Company Representative at least 7 days written notice of the date on which it is intended to commence such works of the movement of plant and equipment in order that the presence of any sub-surface apparatus can be indicated by markers to be supplied by the Company and placed by the Contractor under the supervision of a Company Representative. The Contractor shall ensure that all Company Apparatus, particularly surface running cabling is adequately protected from damage and such protective measures shall be approved by the Company Representative.
4. In the event of a Company marker being disturbed for any reason, it shall not be replaced other than in the exact position of its former depth unless the repositioning is carried out at the direction and under the supervision of a Company Representative.
5. The Contractor shall take particular care in relation to the protection of Company Apparatus, where such Apparatus includes the presence within the site of optical fibre cabling. The contractor should particularly note that the damage to such Apparatus is extremely disruptive to the Company network and costly to reinstate. The Contractor shall make every effort to avoid the disturbance of Company Apparatus more than is absolutely necessary for the completion of the works in accordance with the contract.

6. When excavating around, moving or backfilling around Company Apparatus, the Company Representative shall be given adequate notice, which shall not be less than 3 days, of the contractor's intentions in order that he may supervise the works. The Contractor should note that the normal depth of cover for Company Apparatus and ducts are as follows: -

- a. Carriageways 600mm
- b. Footways 350mm
- c. Verges 450mm

These minimum depths of cover should be maintained wherever possible.

Where the minimum depths of cover cannot be maintained, the Contractor shall carry out the instructions of the Company Representative for the protection of Company Apparatus.

Where cables are not in duct and the required depth of cover cannot be maintained, such cables as are affected shall be enclosed and protected in UPVC duct or equivalent materials as supplied by the Company and by the method directed by the Company Representative.

With regard to excavation in the vicinity of Company Apparatus the Contractor should have particular regard to the possibility of reduced cover and the encountering of such Company Apparatus at depths of cover less than that given at **a, b and c above**.

7. All excavation adjacent to Company Apparatus is to be carried out by hand until the exact extent and/or location of Company Apparatus is known. Mechanical borers and/or excavators shall not be used within 1.0m of Company Apparatus without the supervisory presence of a Company Representative, to prevent any movement of Company Apparatus during excavations, complete shuttering shall be used as directed by the Company Representative if:-

- a. Excavation is deeper than the depth of cover of adjacent Company Apparatus.
- b. Excavation is within 1.0m of Company Apparatus in stable ground.
- c. Excavation is within 5.0m of Company Apparatus in unstable ground.

If for the completion of the works, the Contractor intends using any of the following: -

- a. Pile driving equipment within 10.0m of Company Apparatus.
- b. Explosives within 20.0m of Company Apparatus.
- c. Laser equipment within 10.0m of Company Apparatus.

The Contractor shall advise the Company Representative, giving at least 7 working days written notice in order that any special protective measure for the Company Apparatus affected may be arranged.

8. All Company manhole, joint box and /or other access points and chambers within the site shall be kept clear and unobstructed. Access for vehicles, winches, cable drums and/or further equipment required by the Company for the maintenance of it's Apparatus, must be maintained at all reasonable times. 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 under the supervision of a Company Representative 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.

9. The covers to Company chambers and/or Apparatus shall only be lifted by means of appropriate keys obtained from the Company Representative and under the direct supervision of the Company Representative. No employee of the Contractor or of any sub-contractor employed by the Contractor shall enter any chamber and/or Apparatus of the Company unless under the supervision of the Company Representative and in any case not before the mandatory gas check has been carried out in the presence of the Company Representative and such checks have shown it to be safe to enter the chamber and/or Apparatus of the Company.

The Company Representatives shall be given reasonable access to all Company Apparatus and chambers when required.

10. In the event of any damage whatsoever to Company Apparatus, the Contractor shall immediately inform the Company Representative and report the occurrence immediately by contacting the Company as follows:-

Telephone:-

Mon-Fri Office Hours (Instalcom Head Office)

Out of Office Hours / Weekends

11. The above requirements do not relieve the Contractor of any of his obligations under the Contract.

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

Damage to Communications Plant is Expensive – Please Take Care.

Our Ref: 23538318 Your Ref: SP21616

Tuesday, 12 October 2021

Stephen Sawyer
Technics House Merrow Business Park
Guildford
Surrey
GU4 7WA

Dear Stephen Sawyer

Neos Networks - Asset Network Plans

We acknowledge with thanks your request for information on the location of our assets.

We have attached a plan showing the location of Neos Networks apparatus in the proposed work area for your information. If the map provided is missing any required information e.g. a background map, then please email who will provide a more detailed map.

If you're laying your own services, please use the map provided showing our apparatus and follow your safe dig procedures. There is no need to contact us for permission to dig or arrange any supervision.

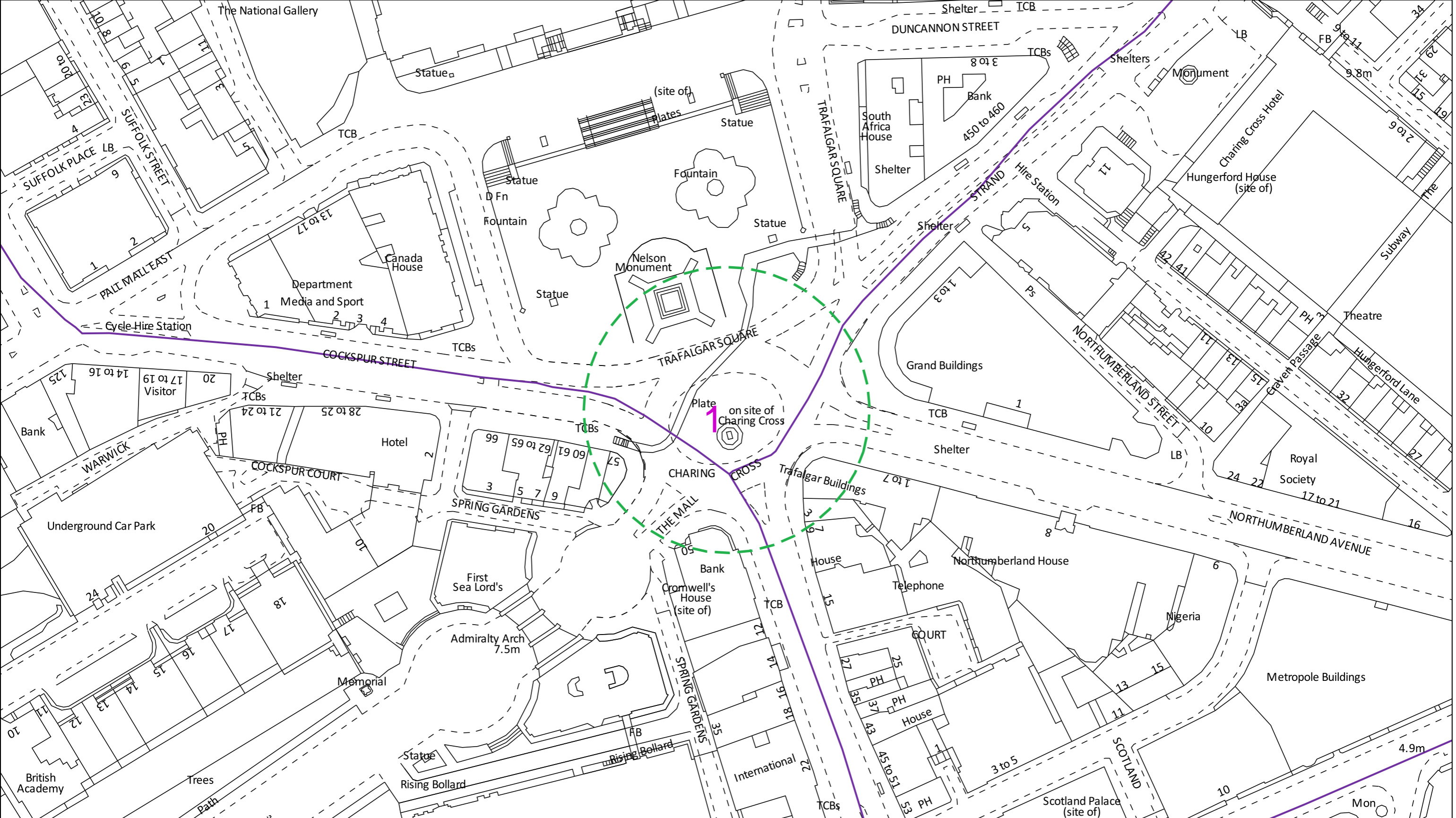
If you have determined your works may impact our existing apparatus, then please contact for a Budget Estimate. For us to provide you with a Budget Estimate we will require the following information in order to progress your query as quickly and as efficiently as possible:

- A covering letter or details on the email
- Plans / maps showing existing & proposed conditions (min 1:500 scale and PDF format if emailed)
- Scheme cost apportionment information with confirmation of who the works principal is (the person or company funding your project)

Neos Networks will respond with a Budget Fee letter (if your scheme falls outside of NRSWA) showing the payment required to prepare a Budget Estimate.

Yours sincerely

Neos Networks Team



0100m

0100m

Dig Sites

Area: ----

Line: ----

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

N

W

E

S

NEOS

NETWORKS

Date Requested: 12/10/2021

Job Reference: 23538318

Site Location: 530036 180381

Requested by:

Mr Stephen Sawyer

Your Scheme/Reference: SP21616

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 Neos Networks. Approximate location only is shown. To determine exact location a trial hole must be dug with a Neos Networks Supervisor present. Neos Networks accept no liability for errors or omissions.

Neos Network Underground Route

Emergency Number: 0345 305 3337

Scale: 1:1250 (When plotted at A3)

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Plans generated by DigSAFE Pro™ software provided by LinesearchbeforeUdig.



28/07/2021

Further to your recent enquiry, the following Sky route(s) may be indirectly affected by your proposed works:

Thus London Westminster Ring

The SKY route(s) is indirectly affected as we only lease telecoms infrastructure from **Vodafone**, who own and are responsible for the maintenance or diversion thereof. For further information or detailed plans for this area, please contact the **Vodafone** Enquiry Team

Please note that if our apparatus is deemed to be affected by your proposal and requires relocation or diversion in any way, you will need to contact SKY to provide estimates as per NRSWA Diversionary Works process.

Regards



NRSWA Department
Sky UK – Technology - Operations

From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>

Sent: 27 July 2021 17:46

To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>

Subject: [EXTERNAL] RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX

OS Grid: 530034,180381

Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



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Dear Sir/Madam,

C2 Plant Enquiry

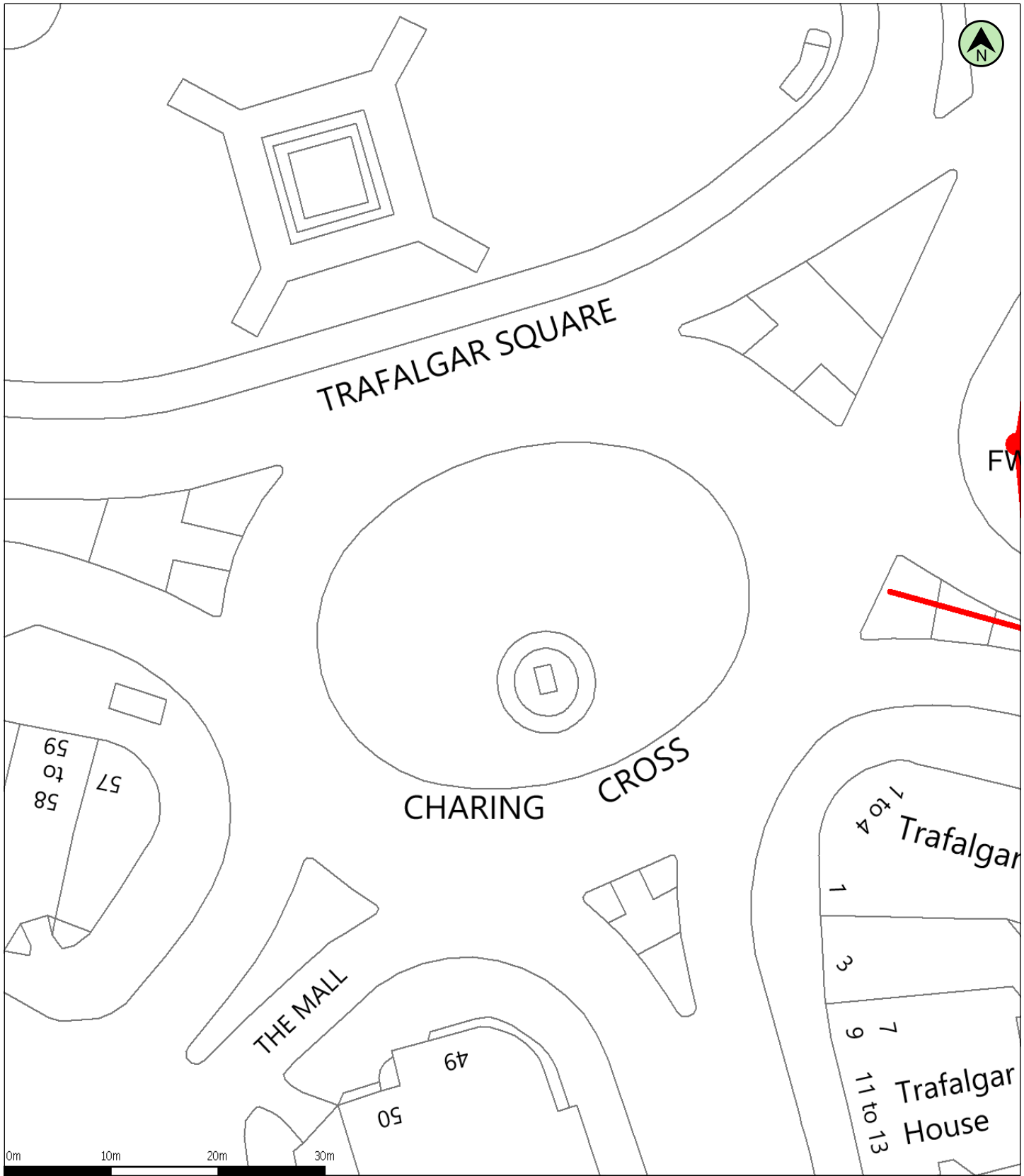
We have reviewed your proposed plan and have enclosed maps of the areas in which Verizon (Formally known as MCI WorldCom, MFS) has apparatus in the area concerned. Please note these maps are for approximate location only. To determine the exact location a trial hole must be dug using extreme caution.

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. 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

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 co-operation



(c) Crown copyright and database rights 2021 Ordnance Survey 100019209
Data updated: 01/10/21

Scale: 1:500
Map Centre: 530034,180381

Date: 12/10/21
Our Ref: 672334 - 1

Telecoms Plan A4

Duct, Trench	Chamber / Pole	Cabinet

utility.reports@technicsgroup.com
SP21616

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 2021 Ordnance Survey 100019209.



Mr Stephen Sawyer
Technics Group
Technics House Merrow Business Park
Guildford Surrey
GU4 7WA

Date: 12/10/2021

Your Reference: SP21616

Our Reference: 23538318

Dear Mr Stephen Sawyer,

ZAYO GROUP LTD UK AFFECTED C2 PRELIMINARY PLANT ENQUIRY

We acknowledge with thanks your request dated 12/10/2021 11:09:32 AM for information on the location of our assets.

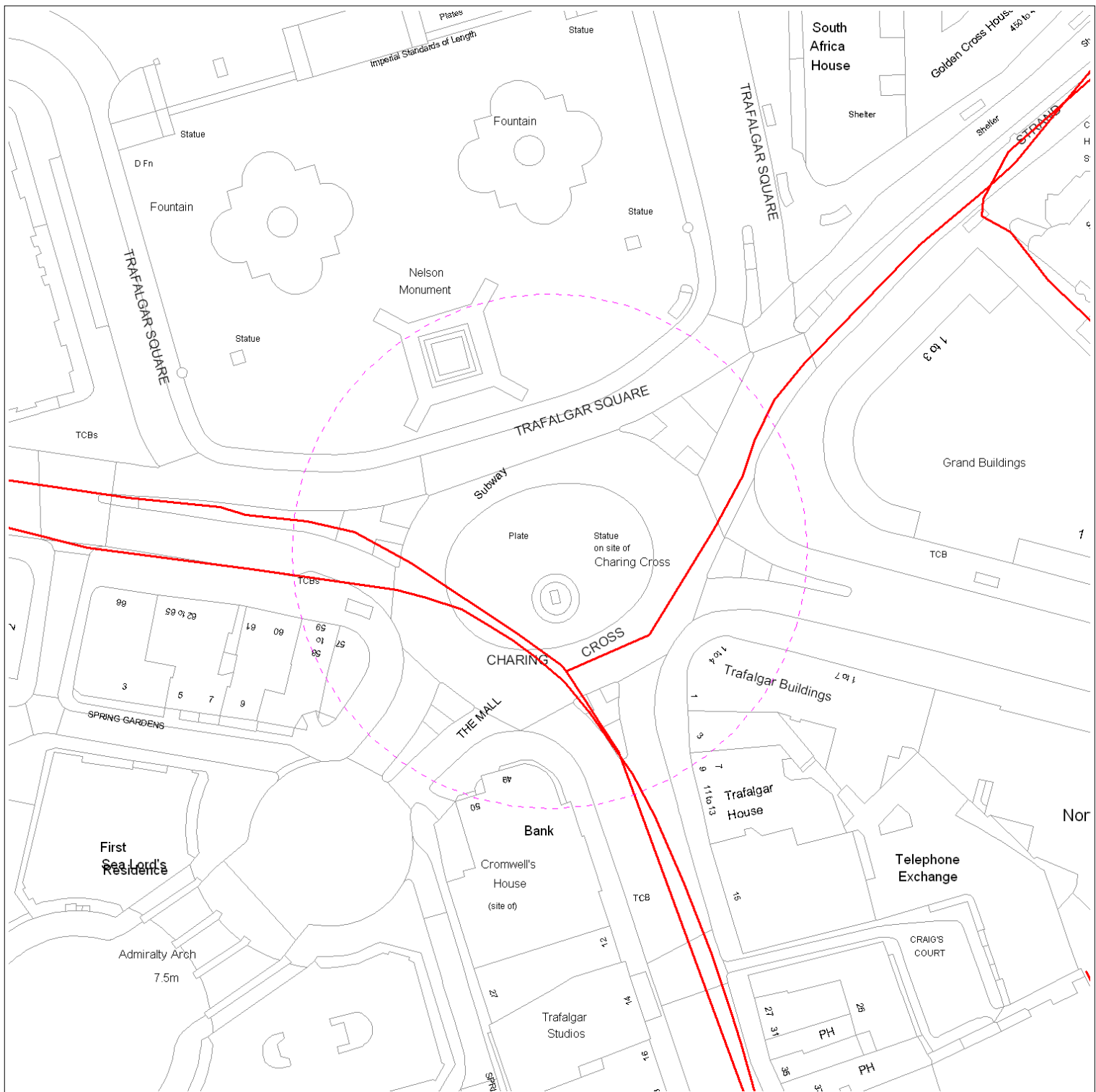
We confirm we have reviewed your proposed plan and have enclosed maps of the area in which Zayo Group UK Ltd have apparatus.

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".

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

Please do not hesitate to contact us for further assistance.

Yours faithfully,








Date Requested: 12/10/2021

Requested by: Stephen Sawyer

Company: Technics Group

Job Reference: 23538318

Your Scheme/Reference: SP21616

 ZAYO DUCT
 or  ZAYO CHAMBER
 Dig Sites: Line  Area 
 Scale on A4 paper: 1:1000

zayo
GROUP

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

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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

All Enquirers should register free of charge for the Zayo plant enquiry service at

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:

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.

TRANSPORTATION

Utility Reports (Technics Group)

From:
Sent: 02 August 2021 12:18
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.
Attachments: SI-N109.pdf

Stephen

Thank you for your enquiry.

Attached is a 1:1250 plan @A4 showing the location of Charing Cross London Underground station (outlined blue) and the alignment of Bakerloo and Jubilee lines in relation to Charing Cross Westminster SW1A 2DX.

Please note:

- the positions of London Underground assets 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
- highways in this area and over our structures are registered as Streets of Special Engineering Difficulty (SED) with the local authority under the New Roads & Street Works Act 1991 – Section 63
- this email 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
- highway works

Kind regards

From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



Please visit our website www.technicsgroup.com

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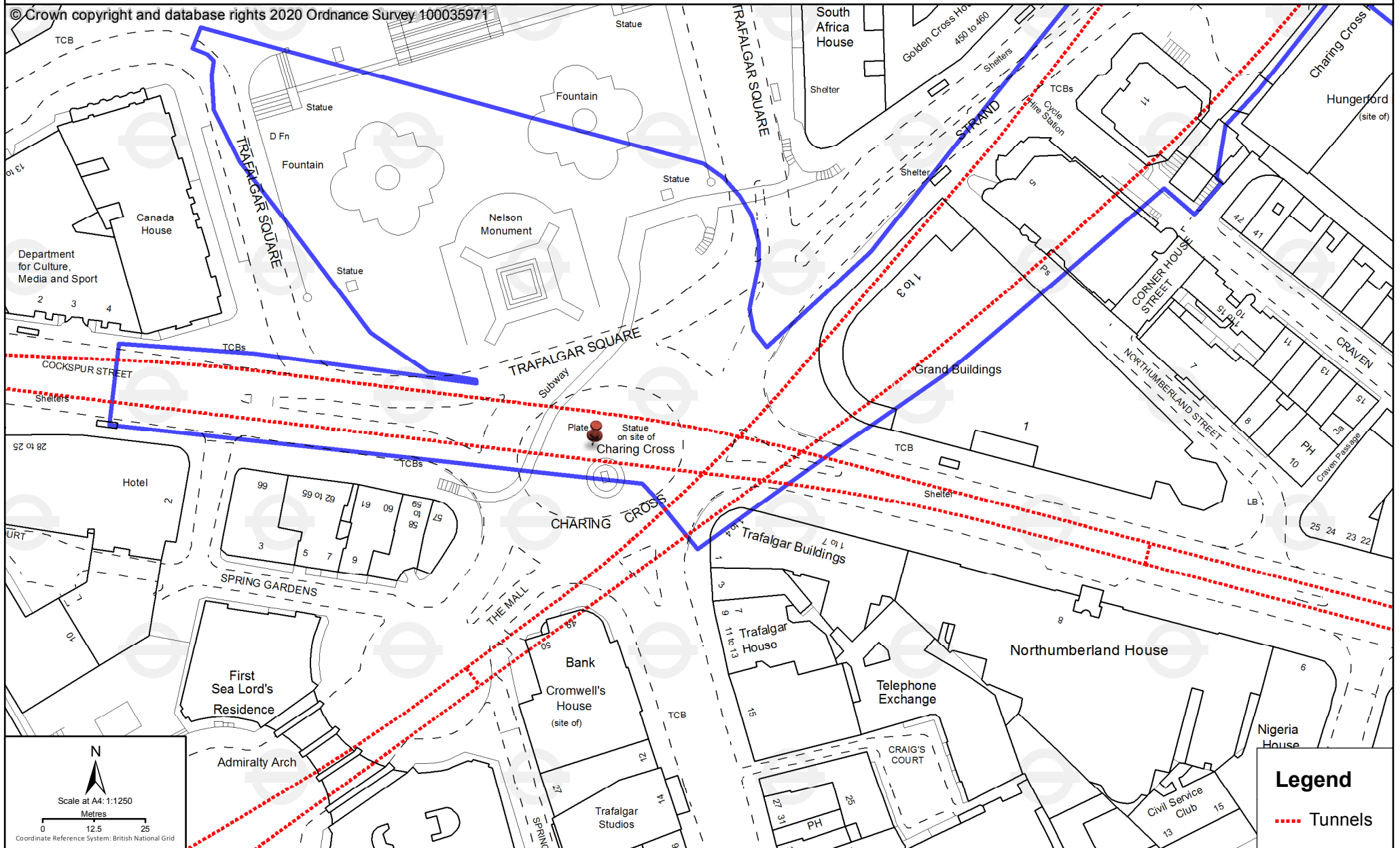
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Technics Group may monitor replies to this email for operational or business reasons

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Charing Cross Westminster SW1A 2DX

Date: August 2021
Author: LUIP-TfL Engineering

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Utility Reports (Technics Group)

From:
Sent: 28 July 2021 11:37
To: Utility Reports (Technics Group)
Subject: NRSWA Request Response - Your Reference SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX
Attachments: R2521_16.pdf; R2537_1.pdf; R2537_1A.pdf; R2537_1B.pdf; R2537_1C.pdf; Map Shot.png

Our Ref: 7SRINCVB
Your Ref: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX
Date: 28 July 2021

Name: Stephen Sawyer
Company Name: Technics Group

Dear Sir/Madam .

We acknowledge receipt of your Letter / New Roads & Street Works Act Enquiry dated **27/07/21** relating to the following enquiry:

Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381

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

Drawing No(s):

R2521_16
R2537_1
R2537_1A
R2537_1B
R2537_1C

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

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 LU HV Power Assets

Title:

Email:

London Underground

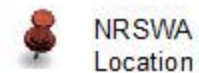
HV Power Assets NRSWA
Power & Electrical

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Legend

Search result :
Road and Track
Cables



Road Cables

Track Cables

Road and Track
Cables



0 0.075 0.15 Km

DATE:

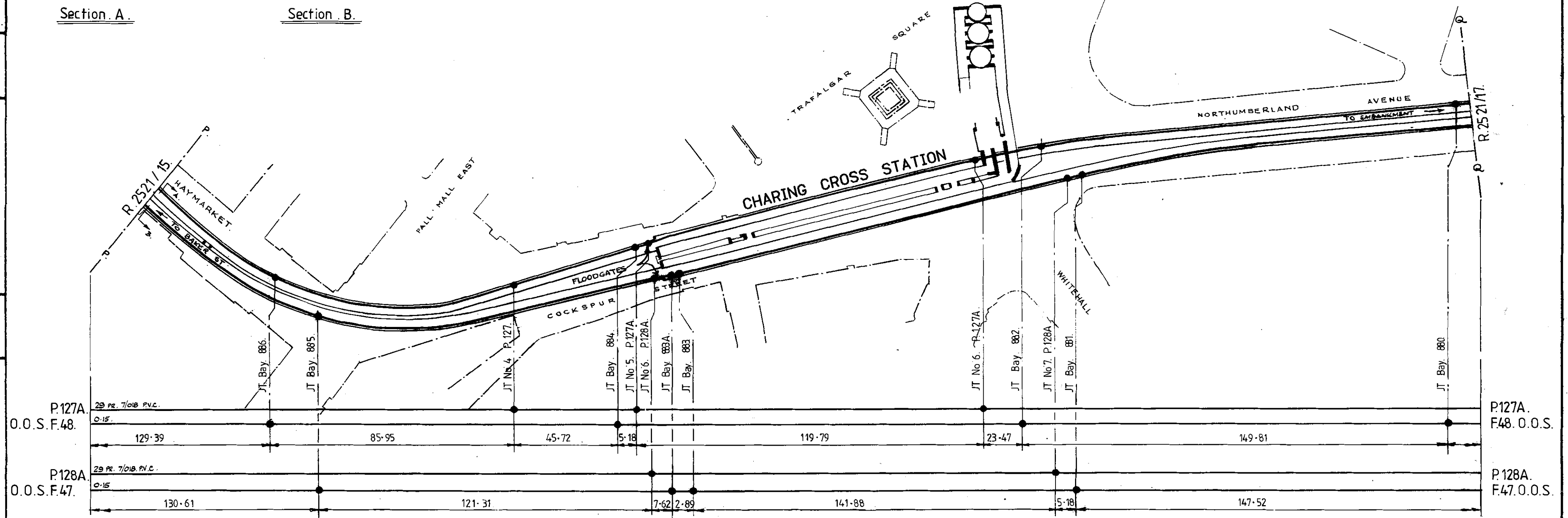
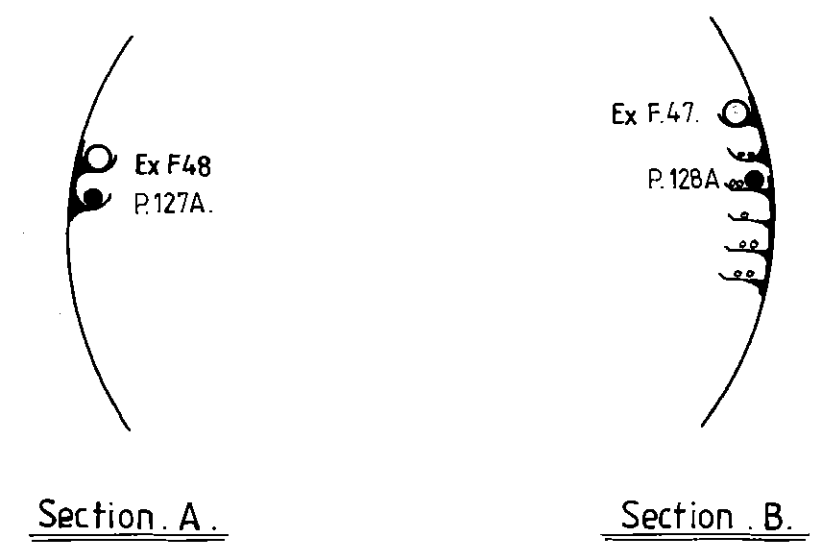
28/07/2021



R.2521/16.

NOTES.

1. All Dimensions in Metres U.O.S.

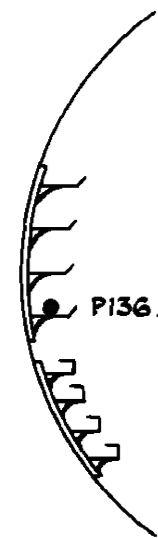


1. 30-10-97. 8/9.	3. 5-12-98. 8/9.	5. 22/3/95. 8/9.	6. 16/1/2002. 8/9.
P127 & P128 added.	P127 and P128 now P127A and P128A.	Drawing updated new title block metric dims.	System Audit. Sept 2001 Update. Note 1 added. New title block.
2. 14-1-98. 8/9.	4. 28-6-98. 8/9.		
F47 - F48 now O.O.S.	'To Embankment' was 'To Charing Cross'.		

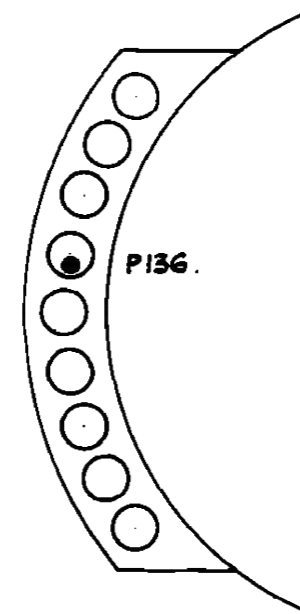
Bakerloo Line.
Kilburn Park - Elephant & Castle.

REDRAWN: B.T.N.
CHECKED: S.M. 10-10-03
APPROVED: DSB 2/4/04
DATE: 16/1/2002
SCALE: 1:1056

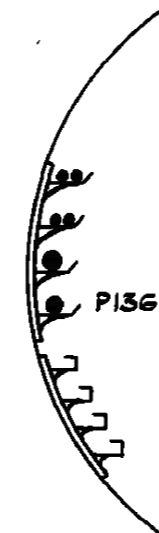
SEEBOARD POWERLINK PROVIDING THE POWER FOR UNDERGROUND
DRAWING No: R.2521/16.
REV. 6



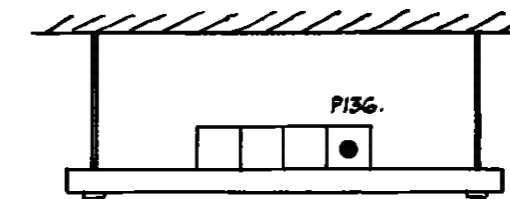
SECTION 'A'.



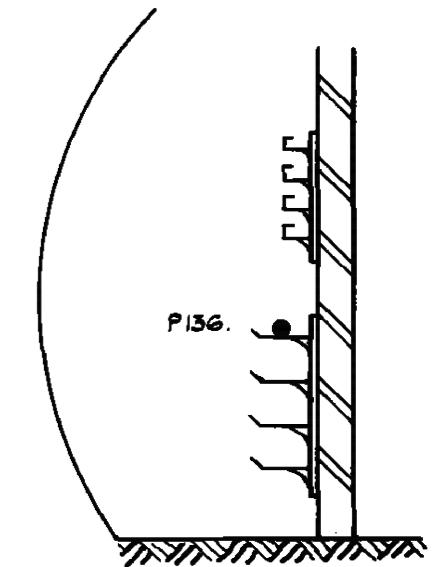
SECTION 'B'.



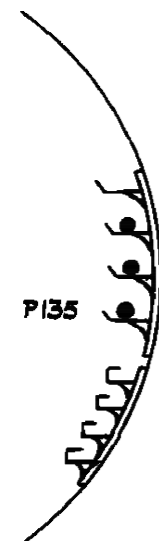
SECTION 'C'.



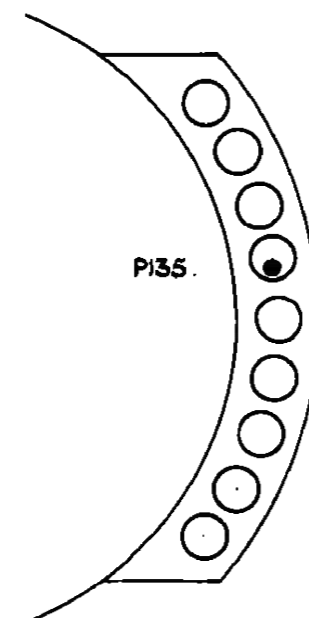
SECTION 'D'.



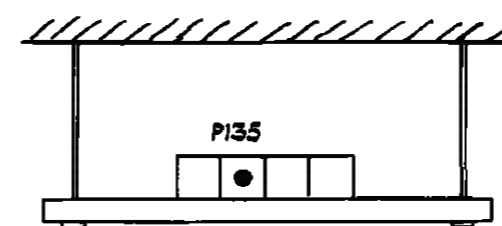
SECTION 'E'.



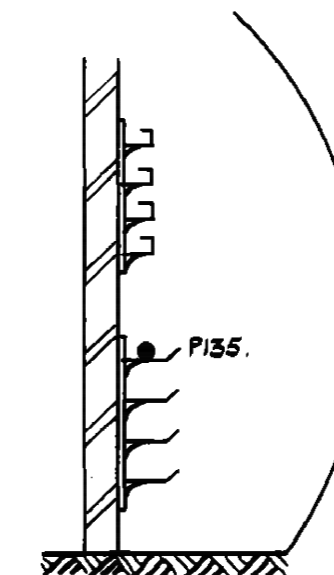
SECTION 'F'.



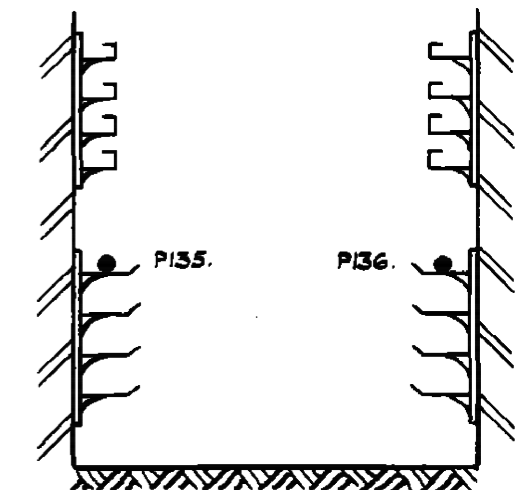
SECTION 'G'.



SECTION 'H'.



SECTION 'J'.

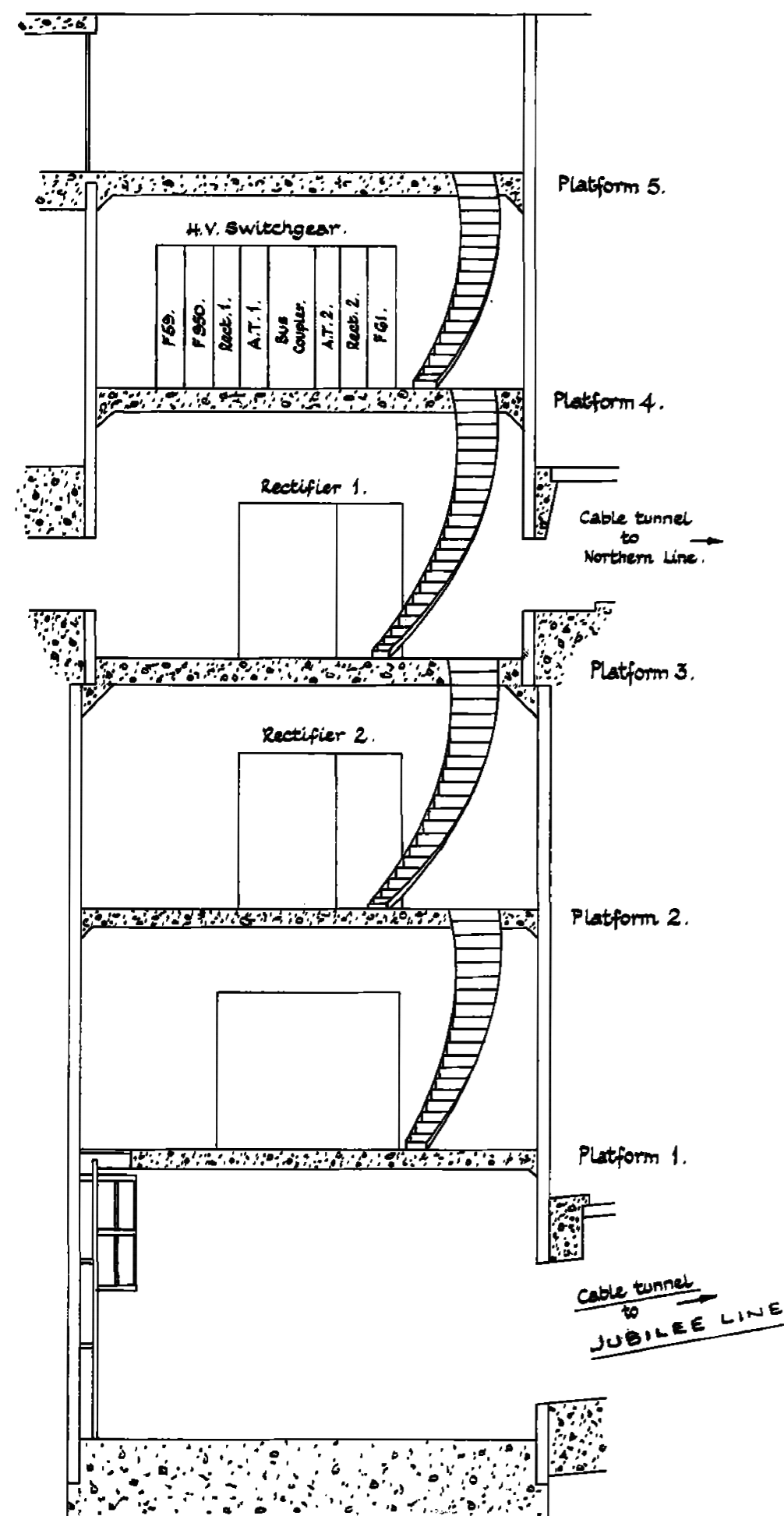


SECTION 'K'.

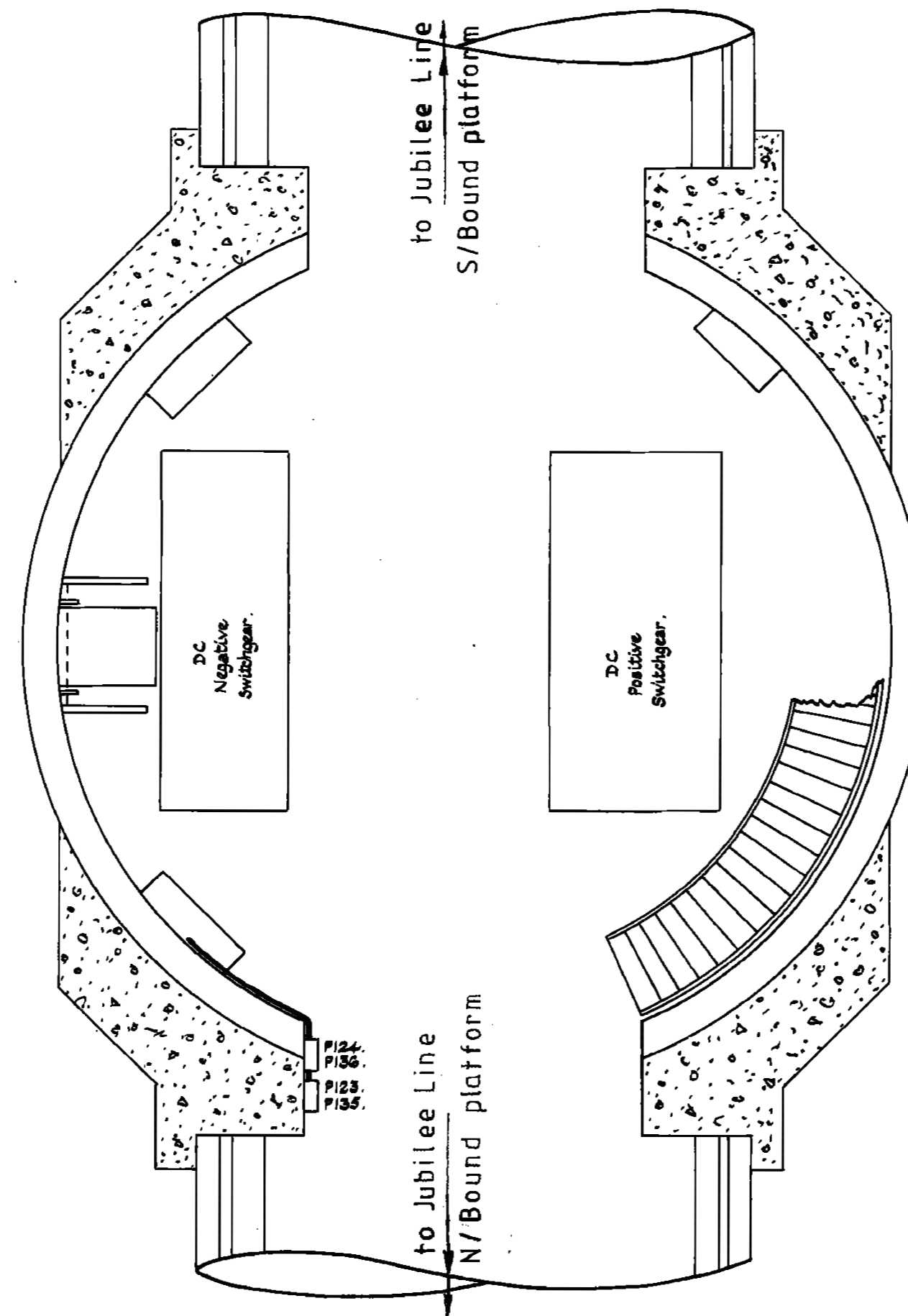
1. 1-5-91	2. 3-11-1992	3. 24/09/07
AMENDED TO JUBILEE LINE.	REPRINTED WITH NEW TITLE BLOCK.	THIS DRAWING PREVIOUSLY KNOWN AS R2537/8A.

JUBILEE LINE. BAKER STREET — CHARING CROSS.

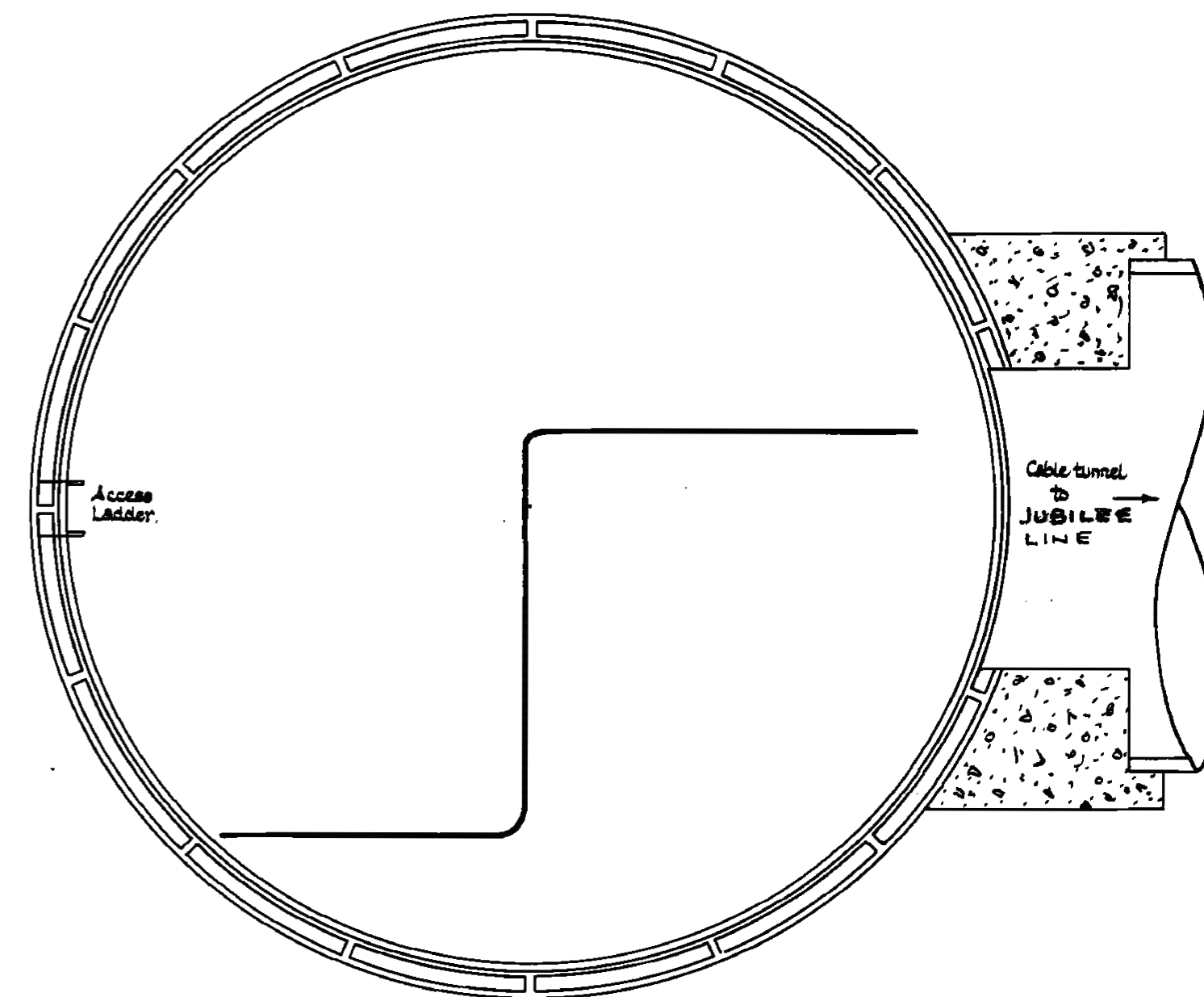
Scale:	
Drawn: R.J.G.	
Checked:	
Approved:	
Date: 7-10-1977.	
Drg No. R 2537 / 1A.	Rev: 3



SECTION THRO' SHAFT. SCALE 1:100.



PLAN - PLATFORM 1. SCALE 1:50.

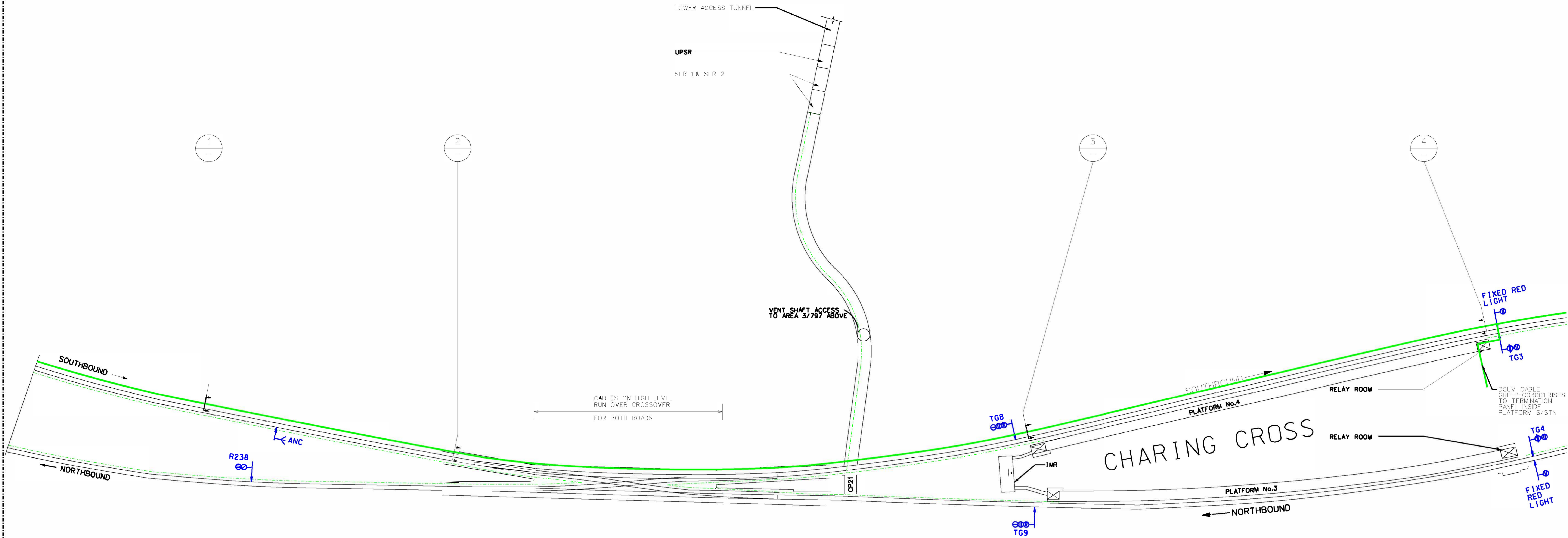
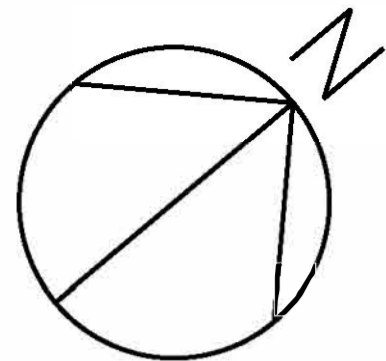


PLAN - BASE OF SHAFT. 1:50.

1. 1-5-91	2. 3-11-92	3. 24/09/07
AMENDED TO JUBILEE LINE.	REPORTED WITH NEW TITUS BLOCK.	THIS DRAWING PREVIOUSLY KNOWN AS R2537/8B.

JUBILEE LINE
BAKER STREET-CHARING X.
CHARING CROSS SUBSTATION.

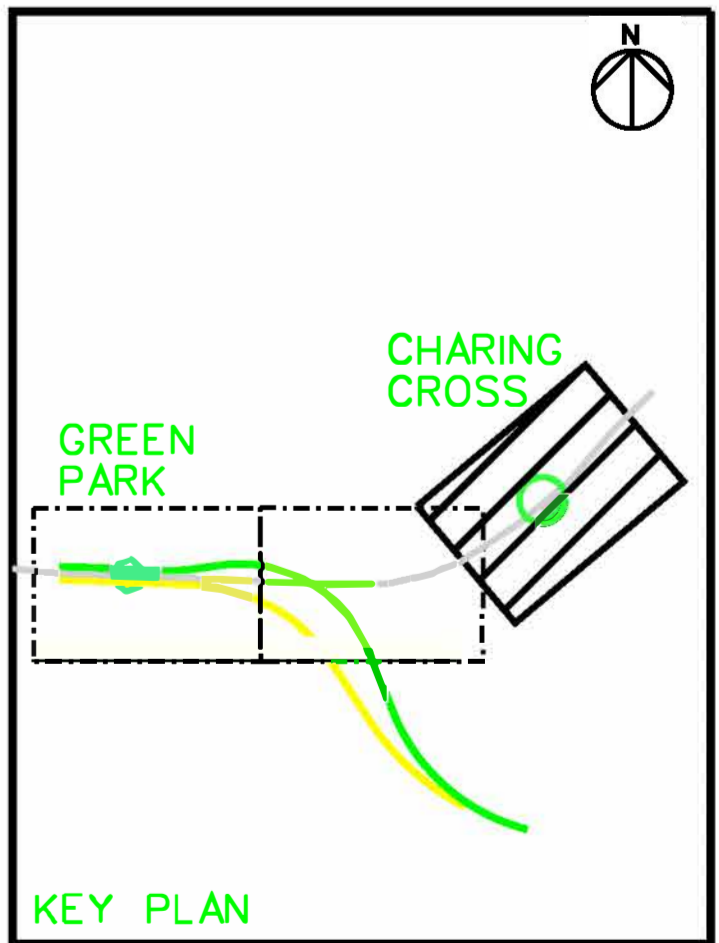
Scale: 1:50 / 1:100	
Drawn: R.J. G.	
Checked:	
Approved:	
Date: 2-11-1977.	
Drg No. R 2537 /1B	Rev: 3



- NOTES:-
1. AT SURFACE STATIONS REDUNDANT C202 AND C204 CABLES ARE PLACED ON BALATA STRAPS.
 2. C202 ATP LEAKY FEEDER MOUNTED ON STAND OFF BRACKET IN CENTRE RUN.
 3. DIMENSION NOTATION :---/---/--- THE FIRST DIGITS REFER TO THE HORIZONTAL POSITION TAKEN FROM ZERO (TOP OF RAMP). THE SECOND DIGITS REFER TO THE VERTICAL POSITION OF THE POST ROUTE TAKEN FROM THE INSIDE OF THE RUNNING RAIL. ALL DIMENSIONS ARE IN METRES.
 4. EXISTING SOUTHBOUND LINE (SB) HAS BECOME JUBILEE LINE EASTBOUND (EB).
 5. EXISTING NORTHBOUND LINE (NB) HAS BECOME JUBILEE LINE WESTBOUND (WB).
 6. MINIMUM SEPERATION BETWEEN C202 AND C204 LF IS 250mm.
 7. WHERE C202 OR C204 LF CABLES ARE ALLOCATED TO FULL BRACKETS THE LF IS PLACED IN STAND-OFF CLIPS.

- KEY:-
- OFB JOINT BOX
 - NEW CABLE ROUTE(S)
 - EXISTING CABLE ROUTE(S)
 - BRACKET - SPARE CAPACITY INDICATOR (SEE NOTE 6)
 - AIR MAIN (NO CAPACITY).
 - NO CAPACITY (100% FULL).
 - 50% CAPACITY.
 - 100% CAPACITY - SEE NOTE 5.
 - BRACKET POST OR CLEAT TYPE/IDENTIFICATION NUMBER.

- LEGEND:-
- C202 - CONTRACT 202 CABLES.
 - C203 DCUV - CONTRACT 203 DC UNDERVOLTAGE CABLES.
 - C203 PILOTS - CONTRACT 203 PILOT CABLES.
 - C203 1KV - CONTRACT 203 1kv SC CABLES.
 - C204 - CONTRACT 204 CABLES.
 - CER - COMMUNICATIONS EQUIPMENT ROOM.
 - S/S - SUBSTATION.
 - LF - LEAKY FEEDER LINE.
 - MC - MULTICORE CABLE.
 - LL - LOW LOSS COAX CABLE.
 - OFB - OPTICAL FIBRE BACKBONE.
 - PEP - PLATFORM EMERGENCY PLUNGER.
 - PIT - PLATFORM TO TRAIN (CCTV).
 - SCC - SERVICE CONTROL CENTRE.
 - SER - SIGNALLING EQUIPMENT ROOM.
 - (EB) - EASTBOUND LINE (FUTURE).
 - (WB) - WESTBOUND LINE (FUTURE).



1:500 METRIC
10m 0 50m

THIS DRAWING PREVIOUSLY
KNOWN AS:
203/B/35/32/203

Confirmation of all survey data must be obtained from the Survey Section of the J.L.E.P.O.
All elevations refer to J.L.E. Project Datum which is 100 metres below O.D. Newlyn
All measurements are in metres unless otherwise stated
All dimensions to be checked on site

Where applicable, mapping is based upon
Ordnance Survey 1:50,000 (OS) mapping
of 1962, with permission of the Controller
of Maps.
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Rev.	Date	Description	By	Chkd	App	App
B	24/09/07	PREVIOUSLY KNOWN AS R2537/1D	SB	MJM		
A	04/03/07	DRAWING RENUMBERED & TITLE CHANGED				
-	31/07/98	AS FITTED	PCCo			

Jubilee Line Extension Project				Ref: H14/W/35/32/203		Approved:	
CEGELEC PROJECTS LIMITED				Checked:		Approved:	
Title: JUBILEE LINE FINCHLEY ROAD --- CHARING CROSS				Drawing No: R2537/1C		Rev: B	
Scale:	Date:	Drawn:	Drawn:	Drawn:	Drawn:		
1:500	01-04-98	PCCo	t3532203				

Your Ref: SP21616

Our Ref: AD/NRS46197WA/ENQ/TFL: 61738

30th July 2021

Dear Sir/Madam

Plant Enquiry: Charing Cross, Westminster, London, SW1A 2DX

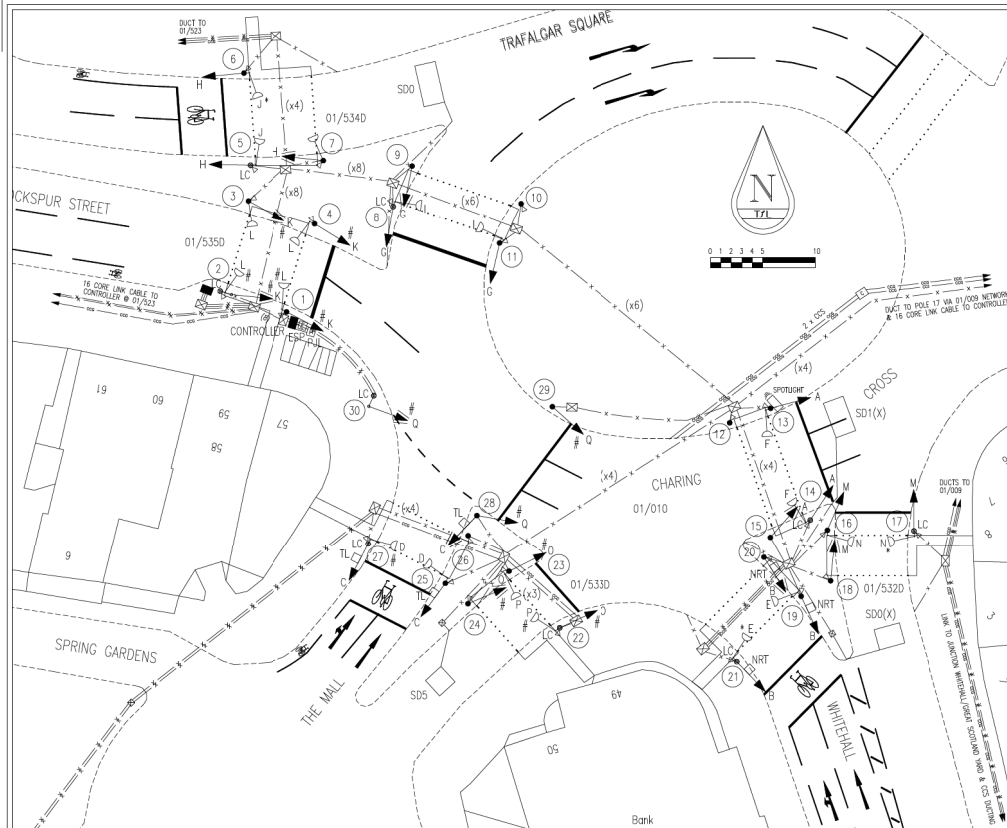
Thank you for your email dated 27th July 2021

Our records show traffic control equipment in the vicinity, of the above as detailed the attached drawings (01/09,529,530&531,10,532,533,534&535,016502).

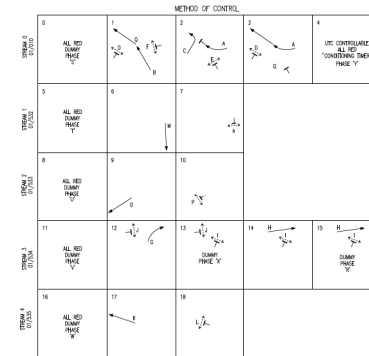
If you suspect your works will affect these installations, should you vary the location of the works, please inform us so that further checks can be made.

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

Yours faithfully

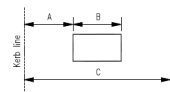


- NOTES
1. EXISTING DUCT, CONDITION UNKNOWN
 2. EXISTING DRAUGHTS
 3. CONGESTION CHANGING DUCTS
 4. PUSHBUTTONS MOUNTED AT 45° TO KERB ON ALL POLES
 5. PUSHBUTTON UNITS ARE FITTED TO LAMP COLUMNS 2, 5, 8, 14, 17, 21, 22 & 27
 6. TACTILE ROTATING CONES FITTED TO PUSHBUTTONS ON POLES 1,3,6,7,10,12,14,17,18,20,21,22,24,26 & 27
 7. POLES 10 & 26 ARE 2.0m POLES
 8. HORIZONTAL LOUVRES FITTED TO AMBER & GREEN ASPECTS ON POLES 1,2,3,4,22,23,24,28,29 & 30
 9. # VERTICAL LOUVRES FITTED TO GREEN MAN ASPECT ON POLES 6, 17 & 21
 10. # HORIZONTAL LOUVRES FITTED TO GREEN MAN ASPECT ON POLES 1, 2, 22 & 27
 11. # 4-IN-1 INF ROW SIGNS FITTED ON POLES 19, 20, 21, 25, 27 & 29
 12. LAMP COLUMNS 1, 3, 17, 18 & 19 ARE MARKED WITH SIGNAL HEADS CONNECTED TO TYPE 'C' FEEDER PILLAR @ 01/010
 13. LAMP COLUMN/SIGNAL POLE 30 IS CONNECTED TO TYPE 'C' FEEDER PILLAR @ 01/010
 14. ALL OTHER LAMP COLUMNS ARE FED TO @ 01/010
 15. POLES ARE BLACK IN COLOUR
 16. CORE LINK CABLES PROVIDED FROM CONTROLLER AT 01/010 TO CONTROLLERS AT 01/009 & 01/523

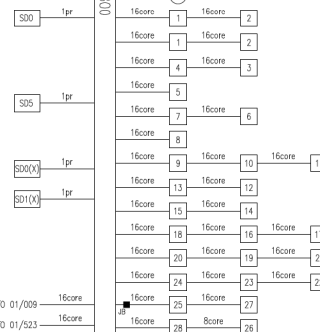


DETECTOR NAME	NUMBER	QDU NUMBER	LOOP DIMENSION & POSITION (METRES)			DISTANCE TO STOPLINE (METRES)	BUS DETECTOR CONNECTION		REFERENCE POINT	DISTANCE TO LOOP LEADING EDGE	PROPOSED OR EXISTING
			A	B	C		SERIES	PARALLEL			
01/009V	SD0	01/010	1.5	4.0	7.5	40.0	-	-	CENTRAL WHITE BLIND SIDE	2.0m U/S	EXISTING
01/466B	SD5	01/010	2.0	2.0	6.3	170.0	-	-	CENTRAL WHITE BLIND SIDE	8.0m U/S	EXISTING
01/010A	SD0(X)	01/535	2.5	2.5	7.0	107.0	-	-	CENTRAL WHITE BLIND SIDE	3.0m U/S	EXISTING
01/483B	SD1(X)	01/535	1.5	3.5	-	4.4	-	-	CENTRAL WHITE BLIND SIDE	4.4m U/S	EXISTING

* DISTANCE FROM R/HAND KERB



LINK CABLE TO 01/009 16core
LINK CABLE TO 01/523 16core



13	22.02.21	SCOOT LOOPS SD1, SD4, SD6, SD2 (SD3) & SD3 (SD5) REMOVED AS NO LONGER REQUIRED ON SITE	TFL-NPO/MS
12	28.01.20	SCOOT LOOPS SD2 & SD3 REMOVED AS NO LONGER REQUIRED BY UTC	TFL/TSO-MH
11	01.01.16	ROAD MARKING UPDATED FROM PI	TELENT J
10	15.08.12	POST GAMES DE-ACTIVATION	TFL-TO THANC
09	21.07.12	GAMES TIME ACTIVATION	TFL-TO THANC
08	19.11.10	SIT REMOVED FROM SCHEMATIC	TFL/SDS - E&B
07	10.08.09	SCOOT LOOPS ADDED AND DUCTING AMENDED	TFL - G&H (D&V)
06	23.06.08	'I' BRACKETS REMOVED FROM POLES 3 & 7 TO PREVENT VEHICLE STRIKES - SER82778	FCC - PD
05	27.02.05	ADDED POLES 28, 29 & 30. NEW FILE 26. CONTROLLER WOODS.	SERD NO. 450103587 (RM)
04	03.09.02	NEW INSTALLATION	TSUK LTD RS
03	04.04.90	NEW METHOD OF CONTROL. PED FACILITY ADDED	SERD TO458
02	24.01.88	NEW TSDO CONTROLLER INSTALLED	SERD TO139
01	15.10.84	W.I. COMMISSION	NCA TQ216
REV	DATE	DETAILS	CONTRACT

Transport for London
Surface Transport

TFL Engineering
Water House
45-49, Victoria Street
LONDON W1E 5SL
Telephone 020 7222 5600

STANDARD

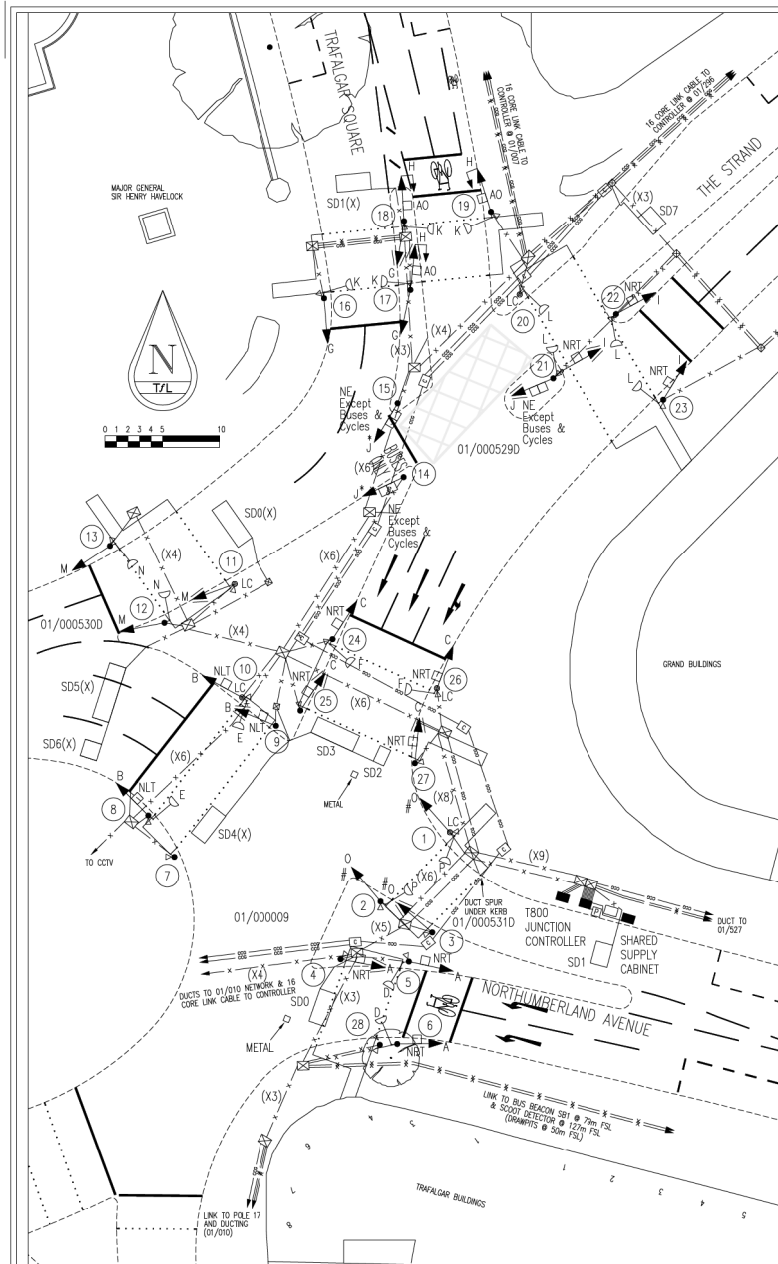
scheme CITY OF WESTMINSTER

THE MALL / A3212 WHITEHALL /
A4 TRAFALGAR SQUARE /
CHARING CROSS / COCKSPUR ST
TRAFFIC SIGNALS LAYOUT

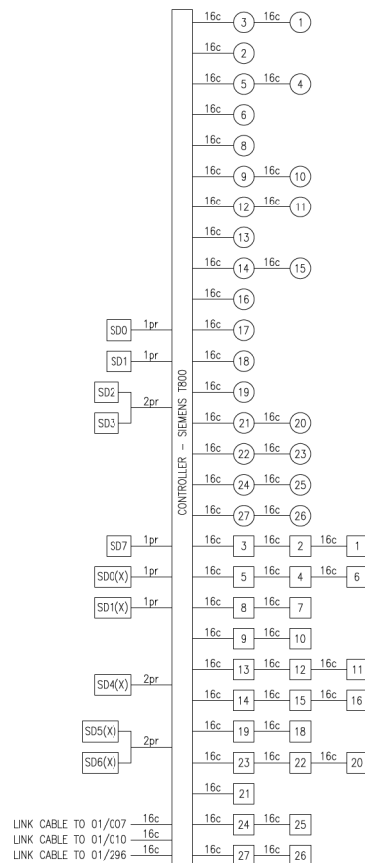
date OCT 84 scale 1:200 @ A1

No. SLD/01/010,5320,5330,5340&5350/13

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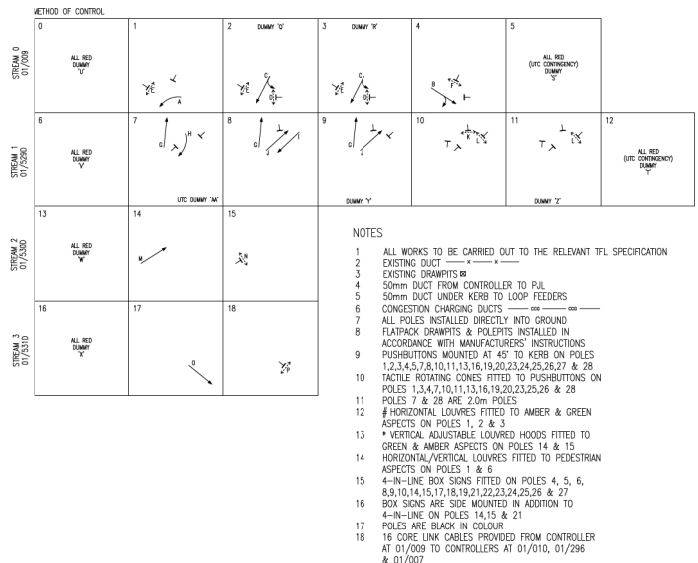


SCHEME PLAN
SCALE 1:200



LINK CABLE TO 01/007
LINK CABLE TO 01/010
LINK CABLE TO 01/296

OTU NUMBER: 01/009							
LOOP NUMBER	LOOP DIMENSION & POSITION (METRES)			DISTANCE TO STOPLINE (METRES)	BUS DETECTOR CONNECTION		REFERENCE POINT
	A	B	C		SERIES	PARALLEL	
SD0	2.0	3.0	7.0	23.4	—	—	EDGE OF CENTRAL REFUGE—
SD1	2.0	2.0	5.2	119.0	—	—	EDGE OF CENTRAL REFUGE—
SD2	2.0	1.0	10.6	40.0	—	—	EDGE OF CENTRAL REFUGE—
SD3	5.0	4.0	10.6	40.0	—	—	EDGE OF CENTRAL REFUGE—
SD7	2.0	2.0	5.6	77.0	—	—	EDGE OF CENTRAL REFUGE—
OTU NUMBER: 01/531							
LOOP NUMBER	LOOP DIMENSION & POSITION (METRES)			DISTANCE TO STOPLINE (METRES)	BUS DETECTOR CONNECTION		REFERENCE POINT
	A	B	C		SERIES	PARALLEL	
SD0(X)	2.0	4.0	7.9	19.6	—	—	EDGE OF CENTRAL REFUGE—
SD1(X)	2.0	3.0	14.4	48.0	—	—	EDGE OF CENTRAL REFUGE—
SD4(X)	8.5	3.0	13.6	40.0	—	—	EDGE OF CENTRAL REFUGE—
SD5(X)	2.0	5.0	11.6	9.0	—	—	EDGE OF CENTRAL REFUGE—
SD6(X)	9.0	1.5	11.6	9.0	—	—	EDGE OF CENTRAL REFUGE—



- NOTES
- ALL WORKS TO BE CARRIED OUT TO THE RELEVANT TFL SPECIFICATION
 - EXISTING DUCT
 - EXISTING DRAUGHTS
 - 50mm DUCT FROM CONTROLLER TO PUL
 - 50mm DUCT UNDER KERB TO LOOP FEEDERS
 - CONGESTION CHARGING DUCTS
 - ALL POLES INSTALLED DIRECTLY INTO GROUND
 - FLATPACK DRAWINGS & POLETS INSTALLED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS
 - PUSHBUTTONS MOUNTED AT 45° TO KERB ON POLES 1,2,3,4,5,7,8,10,11,13,16,19,20,23,25,26,27 & 28
 - POLES 1,3,4,7,10,11,13,16,19,20,23,25,26 & 28 ARE 2.0m POLES
 - # HORIZONTAL LOUVRES FITTED TO AMBER & GREEN ASPECTS ON POLES 1, 2 & 3
 - * VERTICAL ADJUSTABLE LOUVER HOODS FITTED TO GREEN & AMBER ASPECTS ON POLES 14 & 15
 - HORIZONTAL/VERTICAL LOUVRES FITTED TO PEDESTRIAN ASPECTS ON POLES 1 & 6
 - 4-IN-LINE BOX SIGNS FITTED ON POLES 4, 5, 6, 8,9,10,14,15,17,18,19,21,22,23,24,25,26 & 27
 - BOX SIGNS ARE SIDE MOUNTED IN ADDITION TO 4-IN-LINE ON POLES 14,15 & 21
 - 16 CORE LINK CABLES PROVIDED FROM CONTROLLER AT 01/009 TO CONTROLLERS AT 01/010, 01/296 & 01/007

REV	DATE	DETAILS	CONTRACT
09	22.02.21	SCOOT LOOPS SD4, SD5, SD6, SD2 (S31), SD3 (S31) & SD7 (S31) REMOVED AS NO LONGER REQUIRED ON SITE Site Checked - ENG: TFL-NP/MS DATE: 01.01.16	TFL - NP/MS
08	01.01.16	INSTALLATION AS PER PL AUDIT - ROAD MARKINGS AMENDED Site Checked - ENG: TFL - NP/MS DATE: 01.01.16	IF - TELENT
07	05.07.12	NEW FROM INCLUDING METHOD OF CONTROL CHANGE	TFL TO TFL MBY
06	20.06.09	NEW FROM METHOD OF CONTROL AMENDED: THE UPDATE TO THIS SD WAS CARRIED OUT BEFORE THE PREVIOUS ISSUE (Issue 5)	PCL - PAC (ORN)
05	10.08.09	SCOOT LOOPS ADDED AND DUCTING AMENDED	PCL - GGH (ORN)
04	03.09.02	NEW INSTALLATION	STUK LTD (J)
03	01.09.89	SECONDARY SIGNAL ADDED TO POLE 9	RCA T0216
02	24.01.88	NEW T200 CONTROLLER INSTALLED	SERCO T0130
01	19.10.84	H.T. CONVERSION	SERCO T0477

Transport for London
Surface Transport

TFL Engineering
Weston House
45-50 Victoria Street
London W1D 6LE
Telephone 020 7222 5500

scheme CITY OF WESTMINSTER
TRAFALGAR SQUARE/STRAND/
NORTHUMBERLAND AVENUE

TRAFFIC SIGNALS LAYOUT

date SEP 02 scale 1:200 @A1

No. SLD/01/000009,000529D,
000530D&000531D/09

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NOT AFFECTED

WATER

Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:35
To: Utility Reports (Technics Group)
Subject: GTC Plant Enquiry - Ref- 2093171
Attachments: 2093171.png

GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 2093171

Your Enquiry Ref: SP21616

Dear Utility,

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
- Open 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,

NOTE:

VAT Number: GB688 8971 40. Registered No: 029431.

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Thank you

Utility Reports (Technics Group)

From:
Sent: 30 July 2021 15:44
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Leep Electricity Networks Ltd & Leep Utilities have no apparatus in this area.

Regards
Diane



Leep Holdings (Utilities) Limited : Registered in England & Wales : Company Number 06729159 : Registered Office: T

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From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



Please visit our website www.technicsgroup.com

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Registered Office: Technics House, Merrow Business Park, Guildford, GU4 7WA

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Enquirer

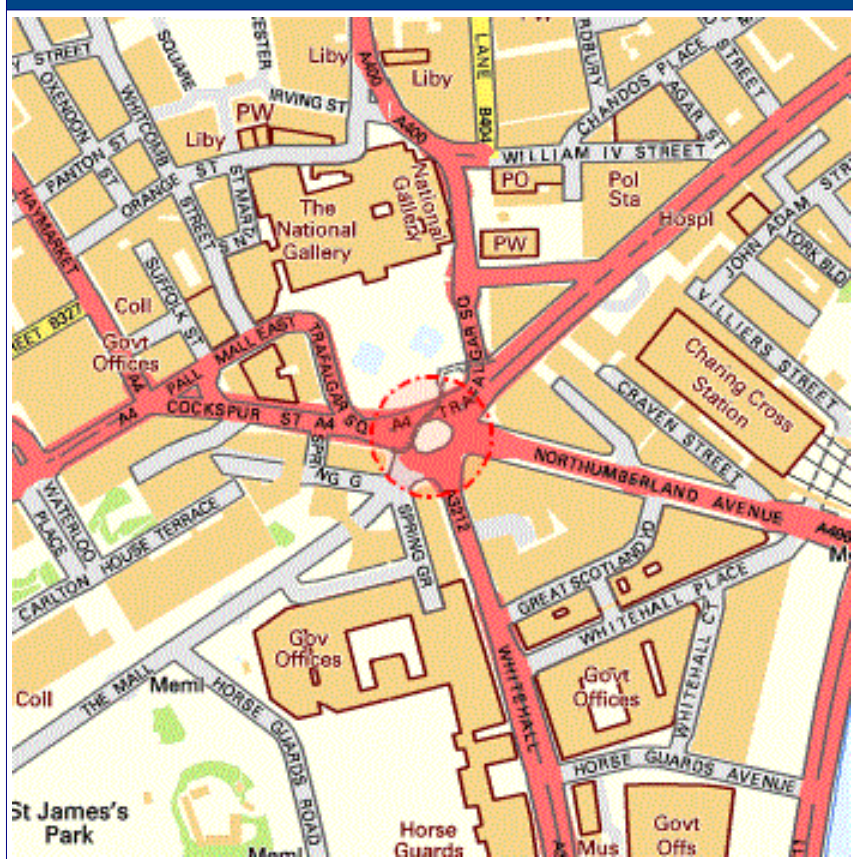
Name	Mr Stephen Sawyer	Phone	01483230080
Company	Technics Group	Mobile	Not Supplied
Address	Technics House Merrow Business Park Guildford Surrey GU4 7WA		
Email	utility.reports@technicsgroup.com		

Enquiry Details

Scheme/Reference	SP21616		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	30/11/2021	Work type	Commercial/industrial
End date	30/11/2021	Site size	100 metres diameter
Searched location	XY= 530034, 180381	Work type buffer*	75 metres
Confirmed location	530036 180381		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

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

Site Map



Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lineasearchbeforeudig.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.

Notes. Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.

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 LineasearchbeforeUdig 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.

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members			
Asset Owner	Phone/Email	Emergency Only	Status
Cadent Gas			Await response
EUNetworks Fiber UK Limited			Await response
Neos Networks			Await response
UK Power Networks			Await response
Zayo Group UK Ltd c/o JSM Group Ltd			Await response

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.

List of not affected LSBUD members		
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
Box Broadband	BP Exploration Operating Company Limited	BPA
Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN	Cemex
Centrica Storage Ltd	CNG Services Ltd	Concept Solutions People Ltd
ConocoPhillips (UK) Teesside Operator Ltd	D.S.Smith	Diamond Transmission Corporation
DIO (MOD Abandoned Pipelines)	DIO (MOD Live Pipelines)	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESP Utilities Group
ESSAR	Esso Petroleum Company Limited	EXA Infrastructure
Exolum Pipeline System	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Harbour Energy	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN ChlorVinyls Limited	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Jurassic Fibre Ltd	Last Mile	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Murphy Utility Assets	National Grid Electricity Transmission
National Grid Gas Transmission	Northumbrian Water Group	NPower CHP Pipelines
NTT Global Data Centers EMEA UK Ltd	NYnet Ltd	Oikos Storage Limited
Ørsted	Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)
Petroineos	Phillips 66	Portsmouth Water
Premier Transmission Ltd (SNIP)	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	Scottish and Southern Electricity Networks
Scottish Power Generation	Seabank Power Ltd	SES Water
SGN	Shell	Shell NOP
SSE Generation Ltd	SSE Transmission	SSE Utility Solutions Limited

Tata Communications (c/o JSM Construction Ltd)	Total Colnbrook Pipelines	Total Finaline Pipelines
Transmission Capital	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	

GAS

Utility Reports (Technics Group)

From:
Sent: 28 July 2021 08:04
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Hi

With regards to your request for details of existing services, we can confirm that based on the details provided to us, we have no buried plant or equipment in the identified area.

Thanks

From: Utility Reports (Technics Group) [mailto:Utility.Reports@technicsgroup.com]
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: [EXTERNAL] RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



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Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:35
To: Utility Reports (Technics Group)
Subject: GTC Plant Enquiry - Ref- 2093171
Attachments: 2093171.png

GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 2093171

Your Enquiry Ref: SP21616

Dear Utility,

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
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- Quadrant Pipelines Limited
- Electricity Network Company Limited
- Independent Power Networks Limited
- Independent Water Networks Limited
- Open 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,

NOTE:

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Thank you

Utility Reports (Technics Group)

From:
Sent: 30 July 2021 15:44
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Leep Electricity Networks Ltd & Leep Utilities have no apparatus in this area.

Regards
Diane



Leep Holdings (Utilities) Limited : Registered in England & Wales : Company Number 06729159 : Registered Office: T

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Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

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Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
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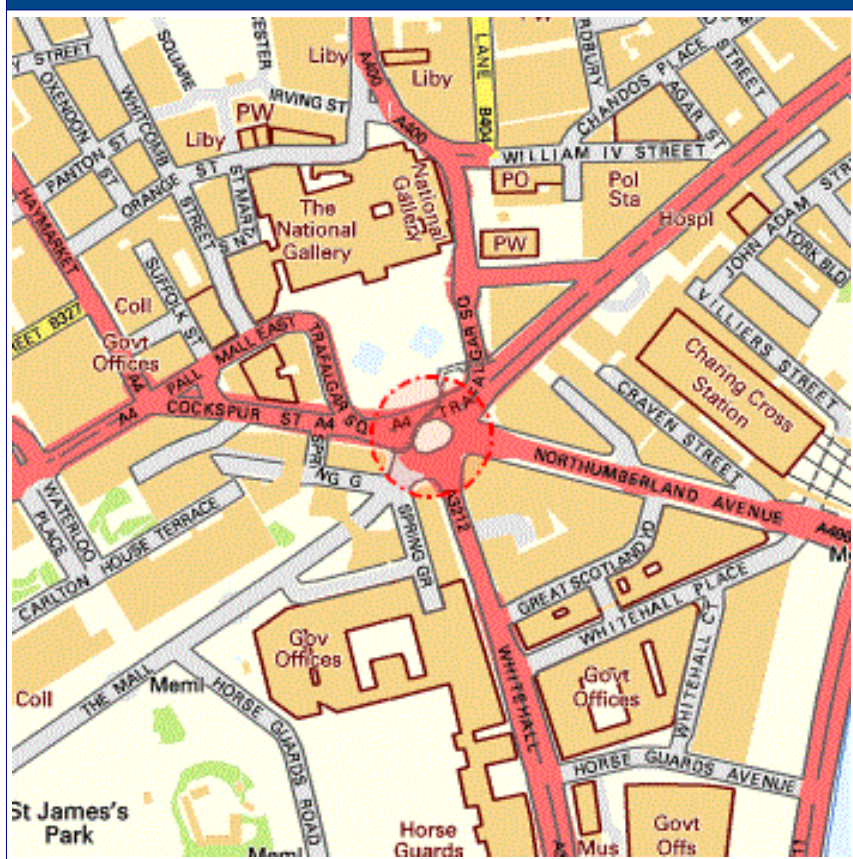
Enquirer

Name	Mr Stephen Sawyer	Phone	01483230080
Company	Technics Group	Mobile	Not Supplied
Address	Technics House Merrow Business Park Guildford Surrey GU4 7WA		
Email	utility.reports@technicsgroup.com		

Enquiry Details

Scheme/Reference	SP21616		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	30/11/2021	Work type	Commercial/industrial
End date	30/11/2021	Site size	100 metres diameter
Searched location	XY= 530034, 180381	Work type buffer*	75 metres
Confirmed location	530036 180381		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

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

Site Map


Asset Owners

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LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members			
Asset Owner	Phone/Email	Emergency Only	Status
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EUNetworks Fiber UK Limited			Await response
Neos Networks			Await response
UK Power Networks			Await response
Zayo Group UK Ltd c/o JSM Group Ltd			Await response

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List of not affected LSBUD members		
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Box Broadband	BP Exploration Operating Company Limited	BPA
Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN	Cemex
Centrica Storage Ltd	CNG Services Ltd	Concept Solutions People Ltd
ConocoPhillips (UK) Teesside Operator Ltd	D.S.Smith	Diamond Transmission Corporation
DIO (MOD Abandoned Pipelines)	DIO (MOD Live Pipelines)	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESP Utilities Group
ESSAR	Esso Petroleum Company Limited	EXA Infrastructure
Exolum Pipeline System	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Harbour Energy	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN ChlorVinyls Limited	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Jurassic Fibre Ltd	Last Mile	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Murphy Utility Assets	National Grid Electricity Transmission
National Grid Gas Transmission	Northumbrian Water Group	NPower CHP Pipelines
NTT Global Data Centers EMEA UK Ltd	NYnet Ltd	Oikos Storage Limited
Ørsted	Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)
Petroineos	Phillips 66	Portsmouth Water
Premier Transmission Ltd (SNIP)	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	Scottish and Southern Electricity Networks
Scottish Power Generation	Seabank Power Ltd	SES Water
SGN	Shell	Shell NOP
SSE Generation Ltd	SSE Transmission	SSE Utility Solutions Limited

Tata Communications (c/o JSM Construction Ltd)	Total Colnbrook Pipelines	Total Finaline Pipelines
Transmission Capital	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	

ELECTRICITY

Utility Reports (Technics Group)

From:
Sent: 28 July 2021 13:29
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Hello,

We can confirm we do not have anything in this area at present.

Thank you for your email.

Please do not hesitate to contact me with any queries



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From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX

OS Grid: 530034,180381

Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

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We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

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Utility Reports (Technics Group)

From:
Sent: 30 July 2021 09:20
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Hello,

Thank you for your email.
I can confirm we have no assets in the area.

Kind regards,

From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: [EXTERNAL] RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



Please visit our website www.technicsgroup.com

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Registered Office: Technics House, Merrow Business Park, Guildford, GU4 7WA

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Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:35
To: Utility Reports (Technics Group)
Subject: GTC Plant Enquiry - Ref- 2093171
Attachments: 2093171.png

GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 2093171
Your Enquiry Ref: SP21616

Dear Utility,

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
- Open 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,

NOTE:

VAT Number: GB688 8971 40. Registered No: 029431.

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Thank you

Utility Reports (Technics Group)

From:
Sent: 30 July 2021 15:44
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Leep Electricity Networks Ltd & Leep Utilities have no apparatus in this area.

Regards
Diane



Leep Holdings (Utilities) Limited : Registered in England & Wales : Company Number 06729159 : Registered Office: T

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From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

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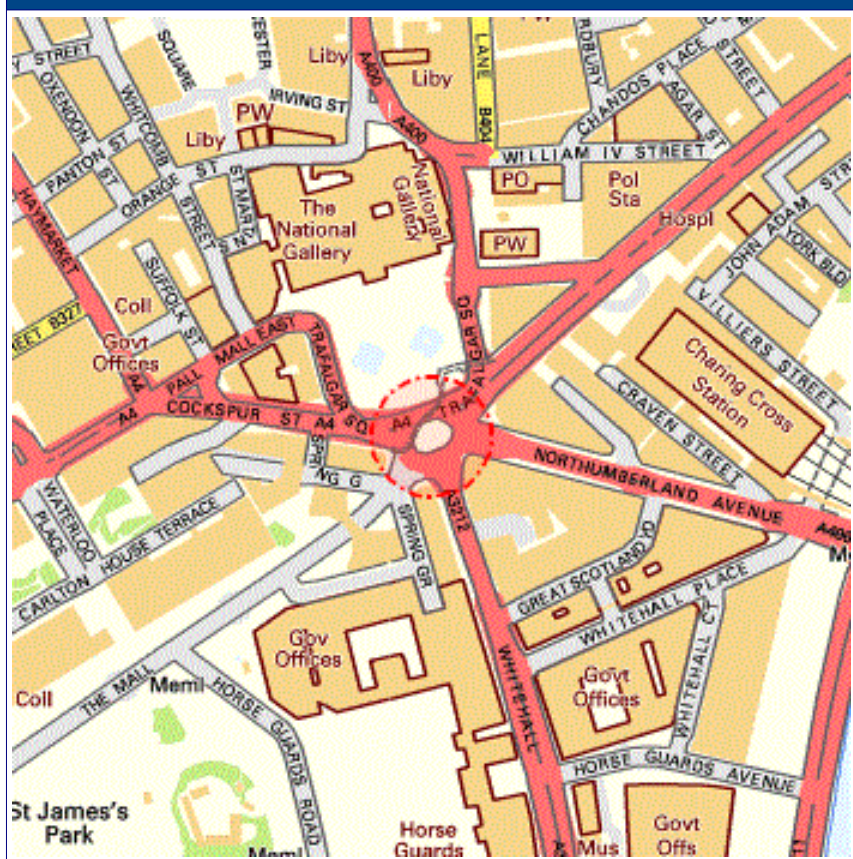
Enquirer

Name	Mr Stephen Sawyer	Phone	01483230080
Company	Technics Group	Mobile	Not Supplied
Address	Technics House Merrow Business Park Guildford Surrey GU4 7WA		
Email	utility.reports@technicsgroup.com		

Enquiry Details

Scheme/Reference	SP21616		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	30/11/2021	Work type	Commercial/industrial
End date	30/11/2021	Site size	100 metres diameter
Searched location	XY= 530034, 180381	Work type buffer*	75 metres
Confirmed location	530036 180381		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

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

Site Map


Asset Owners

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

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EUNetworks Fiber UK Limited			Await response
Neos Networks			Await response
UK Power Networks			Await response
Zayo Group UK Ltd c/o JSM Group Ltd			Await response

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Box Broadband	BP Exploration Operating Company Limited	BPA
Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN	Cemex
Centrica Storage Ltd	CNG Services Ltd	Concept Solutions People Ltd
ConocoPhillips (UK) Teesside Operator Ltd	D.S.Smith	Diamond Transmission Corporation
DIO (MOD Abandoned Pipelines)	DIO (MOD Live Pipelines)	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	ENI & Himor c/o Penspen Ltd
EnQuest NNS Limited	EP Langage Limited	ESP Utilities Group
ESSAR	Esso Petroleum Company Limited	EXA Infrastructure
Exolum Pipeline System	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Harbour Energy	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN ChlorVinyls Limited	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Jurassic Fibre Ltd	Last Mile	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Murphy Utility Assets	National Grid Electricity Transmission
National Grid Gas Transmission	Northumbrian Water Group	NPower CHP Pipelines
NTT Global Data Centers EMEA UK Ltd	NYnet Ltd	Oikos Storage Limited
Ørsted	Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)
Petroineos	Phillips 66	Portsmouth Water
Premier Transmission Ltd (SNIP)	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	Scottish and Southern Electricity Networks
Scottish Power Generation	Seabank Power Ltd	SES Water
SGN	Shell	Shell NOP
SSE Generation Ltd	SSE Transmission	SSE Utility Solutions Limited

Tata Communications (c/o JSM Construction Ltd)	Total Colnbrook Pipelines	Total Finaline Pipelines
Transmission Capital	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	

DISTRICT ENERGY

Utility Reports (Technics Group)

From:
Sent: 04 August 2021 12:39
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

To whom it may concern

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

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

Kind regards

From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: ⚠ RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX
OS Grid: 530034,180381
Our Reference: SP21616

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Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:35
To: Utility Reports (Technics Group)
Subject: GTC Plant Enquiry - Ref- 2093171
Attachments: 2093171.png

GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 2093171

Your Enquiry Ref: SP21616

Dear Utility,

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.

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Your sincerely,

NOTE:

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Thank you

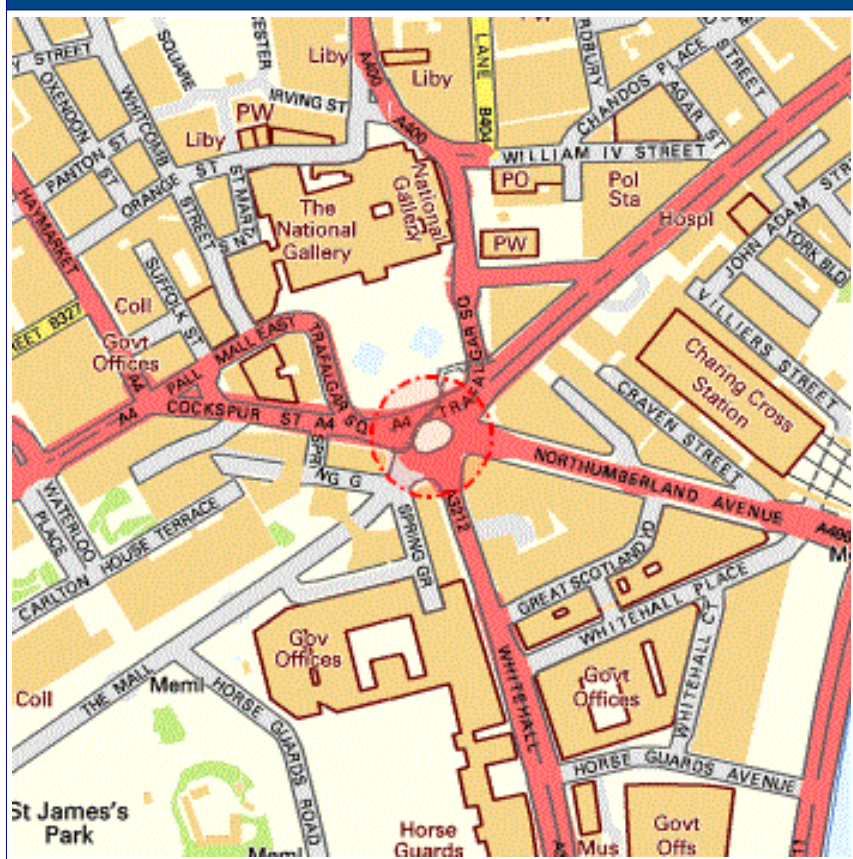
Enquirer

Name	Mr Stephen Sawyer	Phone	01483230080
Company	Technics Group	Mobile	Not Supplied
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Enquiry type	Initial Enquiry	Work category	Development Projects
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Site Map


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VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	

TELECOMS & CABLE

Utility Reports (Technics Group)

From:
Sent: 12 October 2021 12:34
To: Utility Reports (Technics Group)
Subject: CityFibre Plant Enquiry, issued on 10/12/21 11:33 AM. Reference b59eda00-229e-4d8e-99bc-4bd8bfd5acf8.
Attachments: eMap.pdf

You recently requested information pertaining to the above location and in relation to CityFibre Holdings Ltd plant.

Reference b59eda00-229e-4d8e-99bc-4bd8bfd5acf8

User: User

Title: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Comment:

Please find attached a plan of the area of your interest that may contain plant which may be affected by your proposed works.

The validity of this response is 6 weeks, after such time a new enquiry would need to be made.

Please see the points of contact below if they are required:

Please quote the Reference ID in the subject line in any correspondence.

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Our Full Fibre network is expanding fast. Check if you can get connected, and register for updates at

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LEGEND



EXISTING PLANT



EXISTING PLANT

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This plan must not be solely relied upon in the event of
excavation or other works being carried out in the vicinity
of Cityfibre plant.
No liability of any kind is accepted by Cityfibre, its agents or
servants for any error, omission, discrepancy or
deviation. This information is valid for the date printed.

Project

Plant Enquiry

Drawing

Existing Plant

Drawn by:

smallworld

Date: 12/10/2021

Drawing No.

CFH_EP_000001

Revision

001

Scale: 1:1000

A4



Utility Reports (Technics Group)

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Sent: 12 October 2021 12:35
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Attachments: 2093171.png

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Thank you

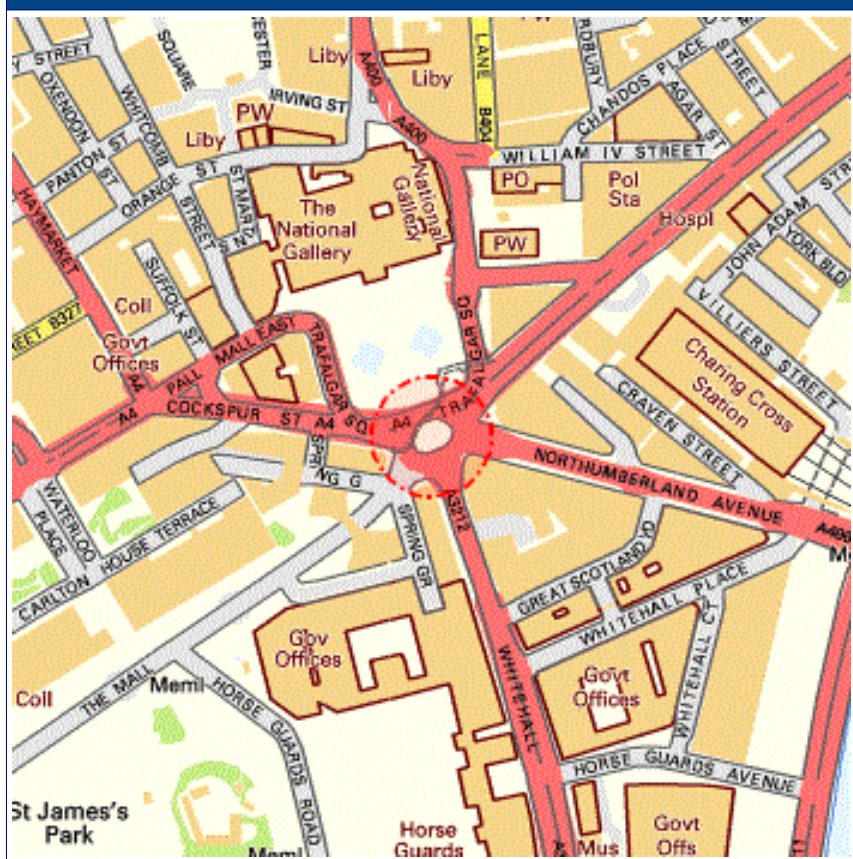
Enquirer

Name	Mr Stephen Sawyer	Phone	01483230080
Company	Technics Group	Mobile	Not Supplied
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Exolum Pipeline System	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Harbour Energy	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN ChlorVinyls Limited	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Jurassic Fibre Ltd	Last Mile	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Murphy Utility Assets	National Grid Electricity Transmission
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VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	

Utility Reports (Technics Group)

From:
Sent: 28 July 2021 11:24
To: Utility Reports (Technics Group)
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Turner & Townsend Confidential

Dear Sir/Madam

Turner & Townsend Project Management are appointed on behalf of MBNL to conduct Plant (apparatus) Searches in accordance with the relevant NRSWA Act 1991- Diversionary Works legislation. These searches considered plant belonging to EE (T-Mobile and Orange sites) and the HG3 mobile telecommunication networks.

Further to your plant enquiry please see the response below to the NRSWA request submitted:

MBNL do not have any plant that would be affected by the proposed work. Should you have any further queries please use the contact details below.

PS: Please can you send all future Plant enquiries for EE or H3G to this email address:

Thank you.

Kind regards,

MBNL SHQE Team

Turner & Townsend
Turner & Townsend Europe Limited

From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Sent: 27 July 2021 17:46
To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>
Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

"Don't get caught out" - This email has come from an external source. Do not click on any links or open any attachments unless you are expecting them.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX

OS Grid: 530034,180381

Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

As part of this survey we are required to indicate positions and descriptions of all main statutory services and wayleaves on site and in the adjoining roads where applicable.

We therefore request that you supply us with relevant plan information at your earliest convenience.

Thanking you in advance of your co-operation.

Yours faithfully

Stephen Sawyer
Technical Report Manager
For and on behalf of Technics Group

DDI: 01483 934 547
T: 01483 230 080
E: utility.reports@technicsgroup.com



Please visit our website www.technicsgroup.com

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Registered Office: Technics House, Merrow Business Park, Guildford, GU4 7WA

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Turner & Townsend Limited

For further information and registration details visit our website

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TRANSPORTATION

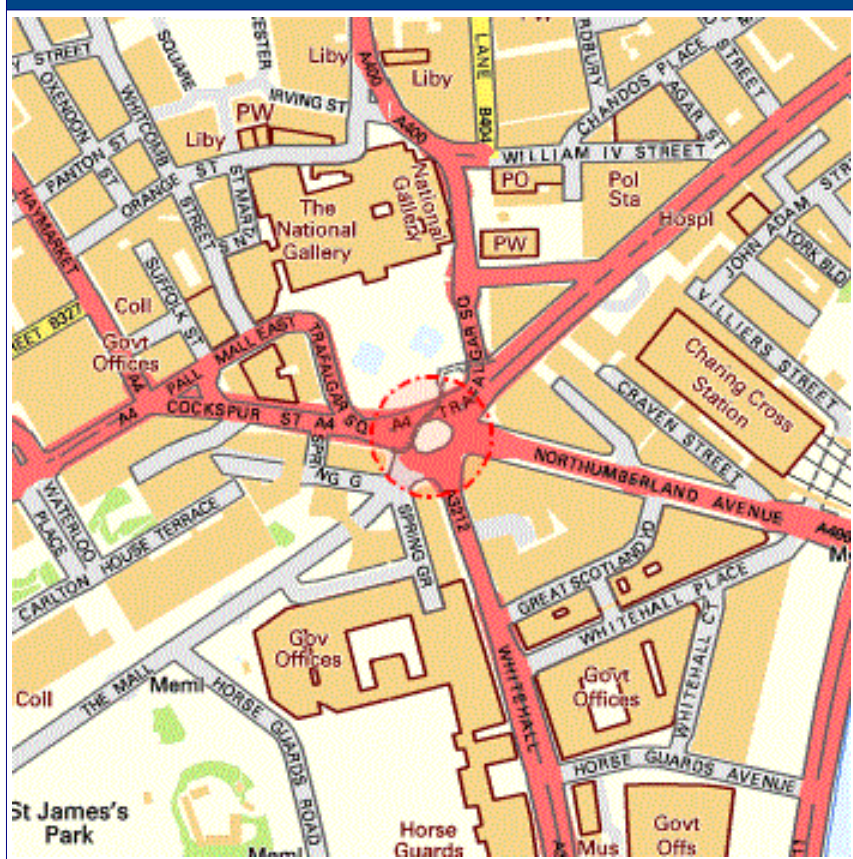
Enquirer

Name	Mr Stephen Sawyer	Phone	01483230080
Company	Technics Group	Mobile	Not Supplied
Address	Technics House Merrow Business Park Guildford Surrey GU4 7WA		
Email	utility.reports@technicsgroup.com		

Enquiry Details

Scheme/Reference	SP21616		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	30/11/2021	Work type	Commercial/industrial
End date	30/11/2021	Site size	100 metres diameter
Searched location	XY= 530034, 180381	Work type buffer*	75 metres
Confirmed location	530036 180381		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works			

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

Site Map


Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.lineasearchbeforeudig.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.

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Utility Reports (Technics Group)

From:

Sent: 28 July 2021 07:11

To: Utility Reports (Technics Group)

Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

OFFICIAL

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.

Contact details can be found in the following link:

If you require any further clarification on any of the information please contact



At Network Rail we work flexibly – so whilst it suits me to email now, I do not expect a response or action outside of your own working hours

From: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>

Sent: 27 July 2021 17:46

To: Utility Reports (Technics Group) <Utility.Reports@technicsgroup.com>

Subject: RE: SP21616_Charing Cross, Westminster, Greater London, SW1A 2DX. Plant Location request.

Re: NRSWA91 Plant Location Request. SP21616

RE: Charing Cross, Westminster, Greater London, SW1A 2DX

OS Grid: 530034,180381

Our Reference: SP21616

Our Company is currently undertaking a utility survey of the site indicated by the co-ordinates detailed above and the area highlighted on the attached plan/map.

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Thanking you in advance of your co-operation.

Yours faithfully

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For and on behalf of Technics Group

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Network Rail Infrastructure Limited

OIL & FUEL

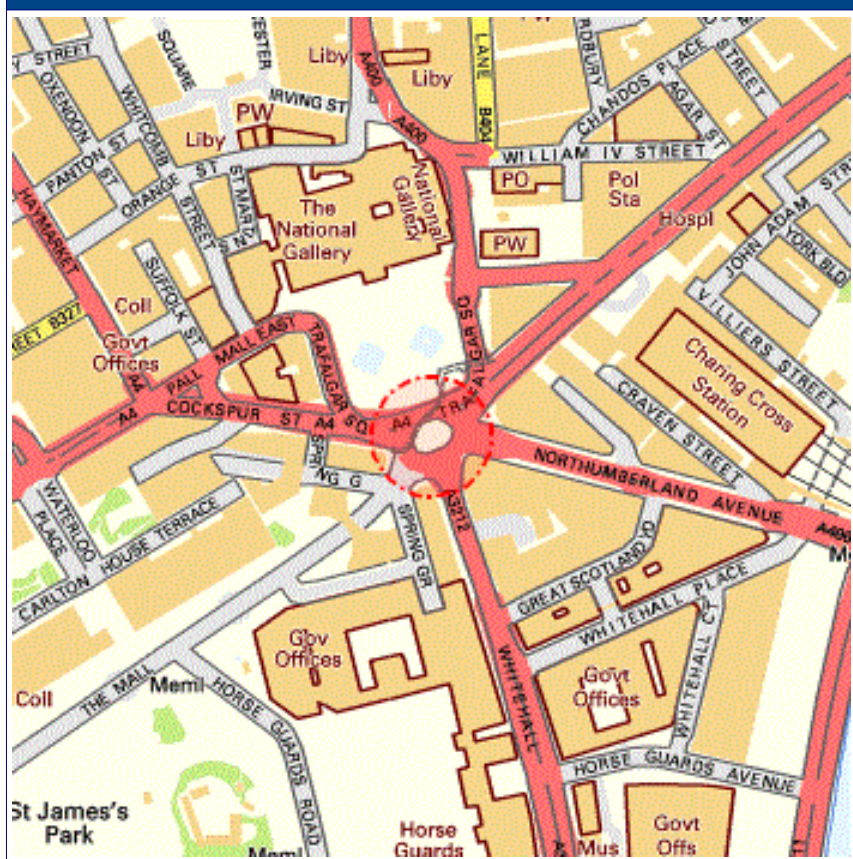
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The Services We Offer

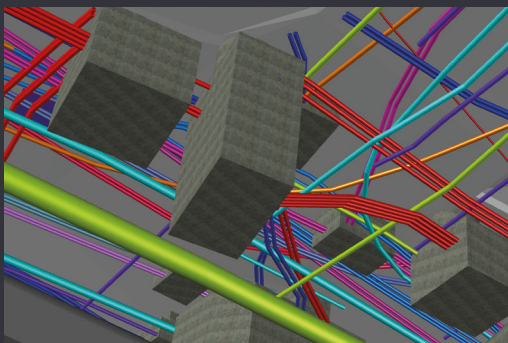
We've developed a **one-stop solution**, with a proactive team that enjoys the challenge of getting the right data first time. From topographic and measured building surveys to utility detection and vacuum excavation... the team at Technics can do it all saving you the hassle of having to deal with multiple suppliers.



Topographic and Measured Building Surveys

Our Land and Building Surveys provide the digital data needed to identify the critical features on site that may impact on the feasibility and planning of a project.

A typical land survey will include the footprint of the existing buildings and structures, ground surfaces, boundary details, service covers, trees and drainage details. And our measured building surveys present the structure, internal and external features and services of buildings.



Utility Surveys

Our Utility Surveys identify assets beneath the surface, in particular the position and depth of utilities, structures and potential hazards that could impact on planned construction projects. Using Electro-Magnetic locators and Ground Penetrating Radar, we can accurately interpret data from the subsurface environment, compliant to PAS 128.

Detecting utilities in advance can help to minimise risks and in turn save money for the lifecycle of your project.



Vacuum Excavation

To complement our utility mapping solutions, we also offer a Vacuum Excavation service. This technology provides a low impact, non-destructive solution for visual inspection of the exact positions of buried services using the safest technology compliant to PAS 128.

The ultimate verification process to determine the utility type, depth, and size with a 3D deliverable of the results.



Ground Investigation Surveys

Our site investigations and reports on the ground conditions of your sites, allow you to appropriately manage risks due to geology and contamination.

We can provide analysis of geology, soil consistency, strength and structure to deliver expert recommendations for your project. We can also quantify groundwater and contamination levels to help with planning and design works.



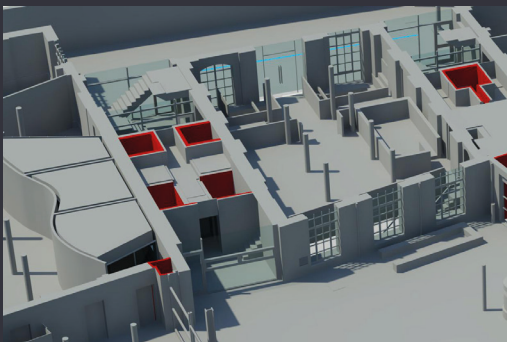
Technics



Permit to Dig

Our Permit to Dig service is a formal management system used to control the high risks involved with excavation works, protecting both the workforce and utilities on site.

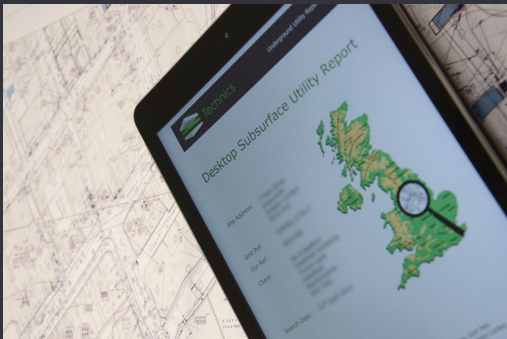
By using our bespoke Permit to Dig system, we can manage these risks, ensuring all processes and procedures are in place to minimise any risks and avoid delay to your projects.



BIM Surveys

Our team of experts can capture data in 3D, both traditionally and with laser scanners, and then produce detailed 3D models of the built environment tailored to the requirements of your project.

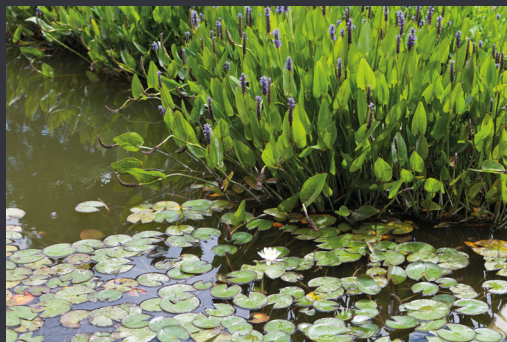
With our specialist range of services, we can provide support in understanding the value of using valid and accurate data, geometry and information in a format that you can use throughout the asset lifecycle.



Desktop Utility Reports

The Technics Desktop Utility Report, plays a vital role in planning for any excavation project. This desk-based study is the first step in identifying underground utilities via the collation and analysis of existing utility records.

Failing to gather this information to help plan proposed excavation work can lead to potential accidents, lawsuits, time-overruns and expensive rescheduling exercises.



Ecological Surveys

Our Ecological Surveys can help you determine the impact your planned project may have on the environment around it. We can evaluate a proposed area and identify any plants, species and habitats that may be impacted negatively by the development.

The findings from these surveys can then be used as part of your planning submission, helping you to avoid unnecessary delays with your application.

To discuss your project with our team of experts, please call our offices on **01483 230 080** or email **enquiries@technicsgroup.com**