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:-

0208 731 4600
Mon-Fri Office Hours (Instalcom Head Office)

0845 330 8615
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.

Enquiry Confirmation

LSBUD Ref: 12516010

Date of enquiry: 28/03/2018
Time of enquiry: 07:15

Enquirer

Name	Ms Christina Elliott	Phone	01454 662397
Company	Atkins	Mobile	Not Supplied
		Fax	Not Supplied
Address	500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ		
Email	stat.enquiries@atkinsglobal.com		
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details

Scheme/Reference	LM 63792/BRK		
Enquiry type	Initial Enquiry	Work category	Utility Works
Start date	03/04/2018	Work type	Single excavation site
End date	03/07/2018	Site size	38017 metres square
Searched location	XY= 507933, 176981	Work type buffer*	25 metres
Confirmed location	507944 176981		

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

Site Map

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

Enquiry Confirmation

LSBUD Ref: 12516010

Date of enquiry: 28/03/2018
Time of enquiry: 07:15

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**
ESP Utilities Group	01372227560	01372227560	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	Gigaclear PLC	Redundant Pipelines - LPDA
BOC Limited (A Member of the Linde Group)	Gtt	RWEnpower (Little Barford and South Haven)
BP Exploration Operating Company Limited	Humbly Grove Energy	SABIC UK Petrochemicals
BPA	IGas Energy	Scottish Power Generation
Carrington Gas Pipeline	INEOS FPS Pipelines	Seabank Power Ltd
CATS Pipeline c/o Wood Group PSN	INEOS Manufacturing (Scotland and TSEP)	SGN
Cemex	INOVYN Enterprises Limited	Shell (St Fergus to Mossmorran)
Centrica Storage Ltd	Intergen (Coryton Energy or Spalding Energy)	Shell Pipelines
CLH Pipeline System Ltd	Mainline Pipelines Limited	SSE (Peterhead Power Station)
Concept Solutions People Ltd	Manchester Jetline Limited	Tata Communications (c/o JSM Construction Ltd)
ConocoPhillips (UK) Ltd	Manx Cable Company	Total (Colnbrook & Colwick Pipelines)
DIO (MOD Abandoned Pipelines)	Marchwood Power Ltd (Gas Pipeline)	Total Finaline Pipelines
E.ON UK CHP Limited	Melbourn Solar Limited	Transmission Capital
EirGrid	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	UK Power Networks
Electricity North West Limited	Northumbrian Water Group	Uniper UK Ltd
ENI & Himor c/o Penspen Ltd	NPower CHP Pipelines	Vattenfall
EnQuest NNS Limited	Oikos Storage Limited	Veolia ES SELCHP Limited
EP Langage Limited	Ørsted	Western Power Distribution
ESSAR	Perenco UK Limited (Purbeck Southampton Pipeline)	Westminster City Council
Esso Petroleum Company Limited	Petroineos	Wingas Storage UK Ltd
Fulcrum Pipelines Limited	Phillips 66	Zayo Group UK Ltd c/o JSM Group Ltd
Gamma	Premier Transmission Ltd (SNIP)	
Gateshead Energy Company	Prysmian Cables & Systems Ltd (c/o Western Link)	

CHECKED

Underground Services Team
National Records Centre
Audax Road
YORK

YO30 4GS
Tel:

NRSWA Asset Enquiries

Date: 18 April 2018

GM1

Your Reference **2018_21252**
Our Reference: **WES180466**

Dear NRSWA,

Re: Underground Services Search: **OP Bath Road, Harlington, Hayes**

Please find information available as per the checklist.

The information contained herein is based on Network Rail's records and, where appropriate, third parties such as utility companies. The search enclosed does not cover a search of local council records. Also, schematic Signal and Telecom (S&T) cables plans are not provided as part of the search results, therefore you must assume S&T cables are present until proven otherwise.

Although at the date of this letter the information is as up to date as possible, it is **NOT** a statement of validity, accuracy or completeness as to any of the enclosed search information and must not be relied on as such.

Your risk assessment **MUST** take into account:

- That the information supplied, including the services shown on the map from the Rail Infrastructure Network Model (RINM), does not provide any guarantee as to the accuracy of the actual location of services on site and **MUST** be considered as for guidance purposes only.
- That new/unrecorded services are likely to be present
- That the enclosed Underground Services search information has been collated only for the ELR and Mileage boundaries as stated on the original request form

Included in your underground services search is a list of local engineers and managers you **MUST** contact before any ground disturbance is carried out, to check whether further information is held locally.

Further guidance can be obtained from the Health and Safety Executive publication HSG47 "Avoiding Danger from Underground Services" and the Network Rail Publication NR/L2/INI/CP1030.

Should you become aware of any additional underground services or assets within the locality during your investigations and/or works, including redundant assets, please identify them as a matter of urgency to the site manager. Records of the location of these assets should be kept for onward transmission and entry into the Hazard Directory.

Yours sincerely

Gareth Milne

Distribution Administrator

UNDERGROUND SERVICES INFORMATION CHECKLIST

YOUR REF	2018_21252	OUR REF	WES180466
LOCATION	**OP** Bath Road, Harlington, Hayes	ELR	HLL
MILEAGE FROM	13.1390	MILEAGE TO	13.1560

Utility Company/Internal Source	Category	Enc	Notes
Site Map	GIS Systems	Yes	
Hazard Directory	Hazard	Yes	
Civils WES	NRG	Yes	
eB	NRG	No	NIL RETURN - see below

NIL RETURN: After interrogating the information made available to us, no records containing underground services information have been returned for this worksite.

However, reference must be made to the guidelines supplied with this underground services search, which contain important information on safe working practices.

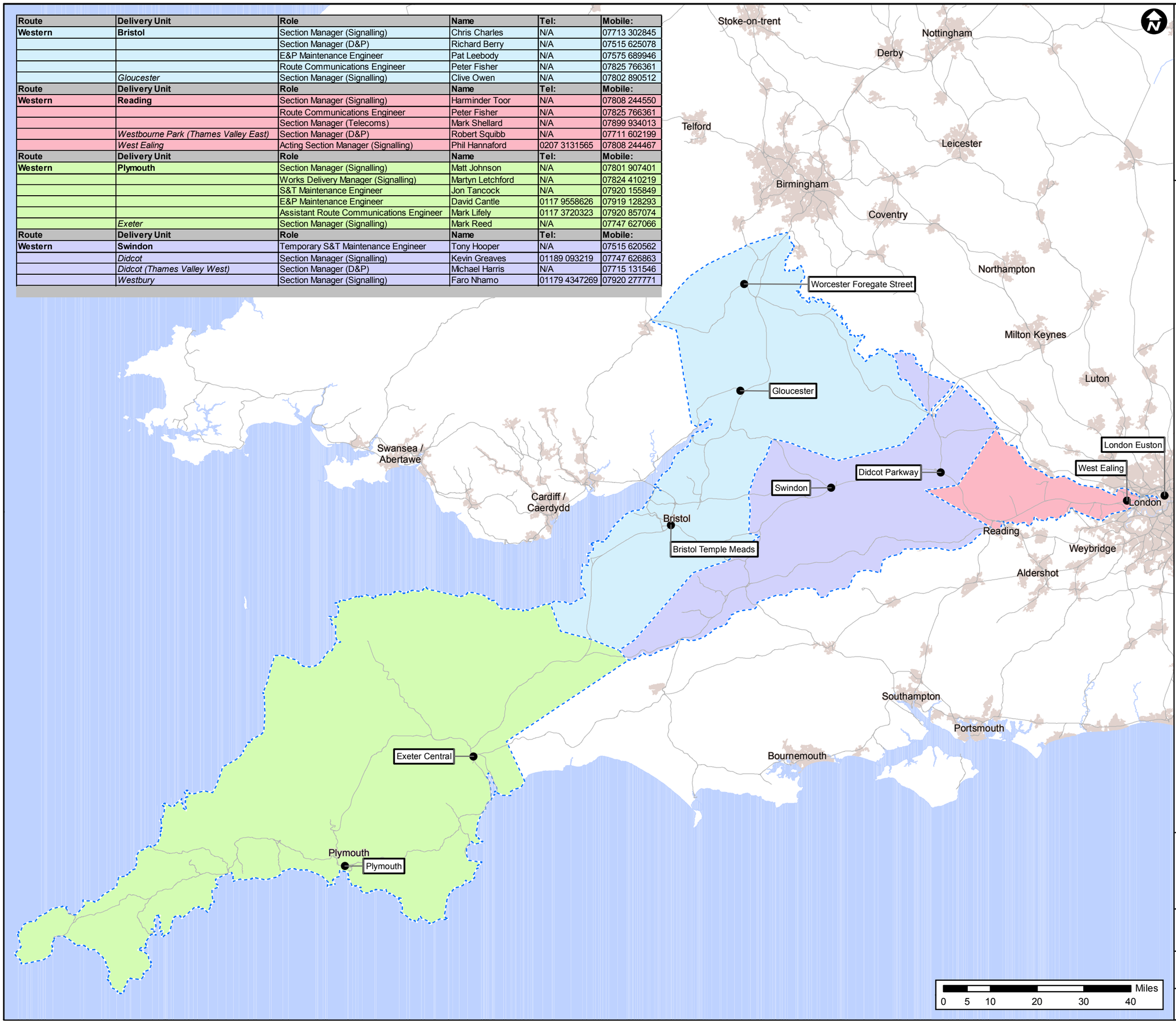
Upon receipt can you please check that the information provided agrees with this listing and if there are any discrepancies please contact the Underground Services Team at:

National Records Centre, Audax Road, York. YO30 4GS

buriedservicesnst@networkrail.co.uk

Checklist printed on: 18/04/18

Route	Delivery Unit	Role	Name	Tel:	Mobile:
Western	**Bristol**	Section Manager (Signalling)	Chris Charles	N/A	07713 302845
		Section Manager (D&P)	Richard Berry	N/A	07515 625078
		E&P Maintenance Engineer	Pat Leebody	N/A	07575 689946
		Route Communications Engineer	Peter Fisher	N/A	07825 766361
	Gloucester	Section Manager (Signalling)	Clive Owen	N/A	07802 890512
Route	**Delivery Unit**	**Role**	**Name**	**Tel:**	**Mobile:**
Western	**Reading**	Section Manager (Signalling)	Harminder Toor	N/A	07808 244550
		Route Communications Engineer	Peter Fisher	N/A	07825 766361
		Section Manager (Telecoms)	Mark Shellard	N/A	07899 934013
	Westbourne Park (Thames Valley East)	Section Manager (D&P)	Robert Squibb	N/A	07711 602199
	West Ealing	Acting Section Manager (Signalling)	Phil Hannaford	0207 3131565	07808 244467
Route	**Delivery Unit**	**Role**	**Name**	**Tel:**	**Mobile:**
Western	**Plymouth**	Section Manager (Signalling)	Matt Johnson	N/A	07801 907401
		Works Delivery Manager (Signalling)	Martyn Letchford	N/A	07824 410219
		S&T Maintenance Engineer	Jon Tancock	N/A	07920 155849
		E&P Maintenance Engineer	David Cantle	0117 9558626	07919 128293
		Assistant Route Communications Engineer	Mark Lifely	0117 3720323	07920 857074
	Exeter	Section Manager (Signalling)	Mark Reed	N/A	07747 627066
Route	**Delivery Unit**	**Role**	**Name**	**Tel:**	**Mobile:**
Western	**Swindon**	Temporary S&T Maintenance Engineer	Tony Hooper	N/A	07515 620562
	Didcot	Section Manager (Signalling)	Kevin Greaves	01189 093219	07747 626863
	Didcot (Thames Valley West)	Section Manager (D&P)	Michael Harris	N/A	07715 131546
	Westbury	Section Manager (Signalling)	Faro Nhamo	01179 4347269	07920 277771



NetworkRail

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LEGEND

- Stations
- Rail Network
- IMDM Boundaries
- Urban Areas

IMDM Boundaries

- IMDM Bristol
- IMDM Plymouth
- IMDM Reading
- IMDM Swindon

Local Contacts List - Western IMDMs

Client: Buried Services
Job No: 10104 108 [Internal Use Only]

Scale : 1:1,200,000

Date : 07/06/2017

Produced By: Data Services - AIS
GeospatialReportingAnalysis@NetworkRail.co.uk

GEO-RINM

This material from the Rail Infrastructure Network Model (RINM) is a guide only and although every effort will be made to ensure that the information is correct you should be aware that the information may be incomplete, inaccurate or out of date. Network Rail shall not be liable for any loss or damage, which may arise from the use of any information, contained.

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- **Infrastructure Features**
  - Tunnel Bore
- **Infrastructure Network Model**
  - Track Link
- **OS MasterMap**
  - Points
    - General Feature, Positioned...
    - General Feature, Positioned...
    - Height Control, Bench Mark
    - Historic Interest, Structure
    - Inland Water, Culvert
    - Political Or Administrative, Boundary...
    - Rail, Structure
    - Roadside, Structure
    - Structure,
    - Structure, Triangulation Point Or Pillar
    - Terrain And Height, Spot Height
  - Symbols
    - Bench Mark
    - Boundary Half Mereing
    - Direction of Flow
    - Switch
    - Road Related Flow
  - Line Features
    - Building
    - Building
    - Building Overhead
    - General Feature Edge
    - General Feature

- General Feature Underground
- Top of Slope
- Bottom of Slope
- Bottom of Slope
- Narrow Gauge Railway
- Standard Gauge Railway
- Overhead Construction
- Validate General Feature
- Rail
- Mean High Water
- Mean High Water
- Mean Low Water
- Mean Low Water

Boundaries

- Political Or Administrative, County
- Political Or Administrative, District
- Political Or Administrative, Electoral
- Political Or Administrative, Parish
- Political Or Administrative, Parliamentary

Buried Services - Network Rail

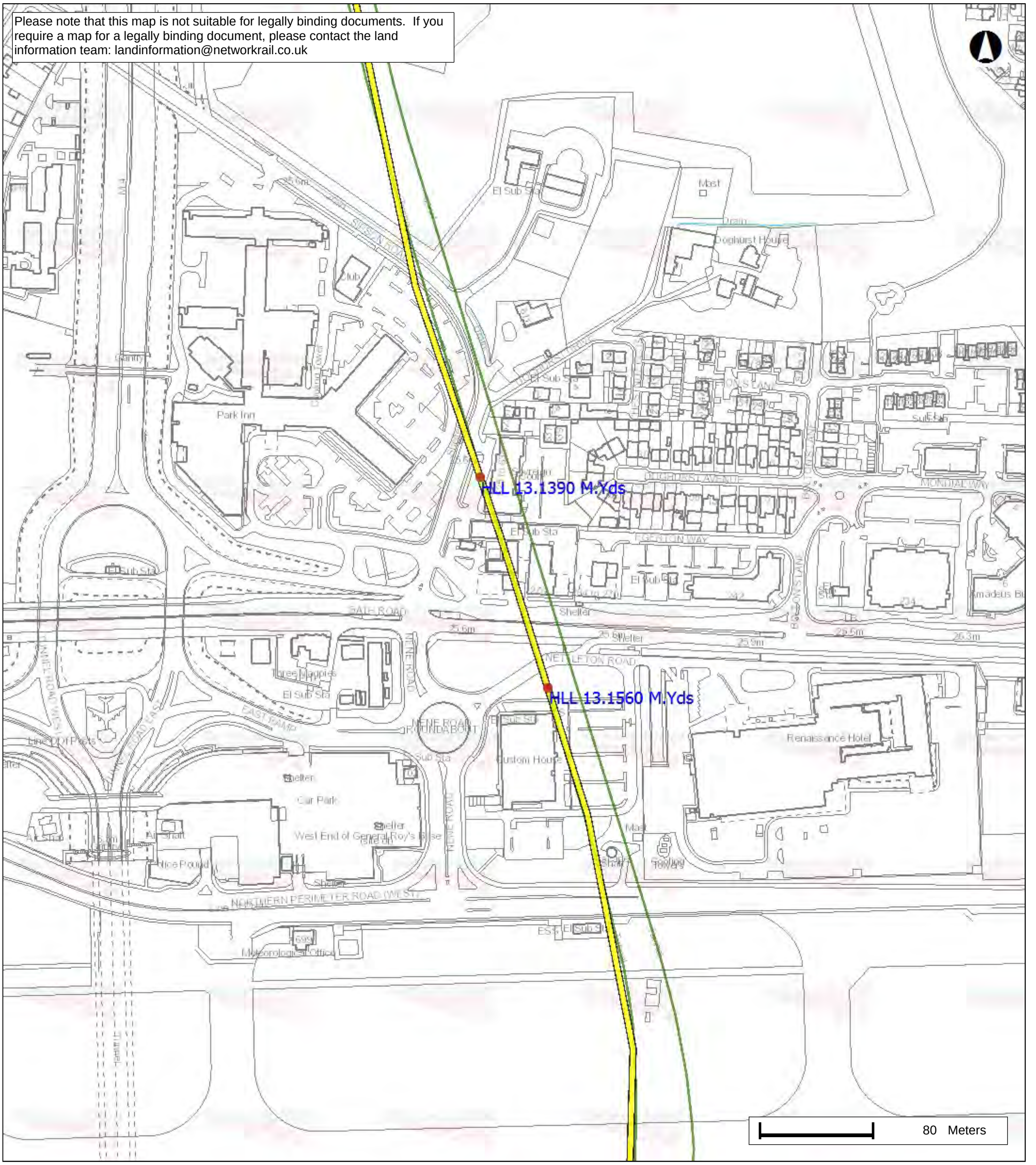
- Historic Cable Route

Land Information

Company Ownership

- Freehold Ownership
- Leasehold Ownership
- Prohibitive Interest
- Bridge (Rail over Rail)
- Bridge (Rail over River)
- Bridge (Rail over Road)
- Bridge (Road over Rail)
- Level Crossing
- Tunnel

Please note that this map is not suitable for legally binding documents. If you require a map for a legally binding document, please contact the land information team: landinformation@networkrail.co.uk



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NetworkRail

Legend

- Tunnel Bore
- Track Link

Points

- General Feature, Positioned Coniferous Tree
- General Feature, Positioned Nonconiferous Tree
- Height Control, Bench Mark
- Historic Interest, Structure
- Inland Water, Culvert
- Political Or Administrative, Boun Post Or Stone
- Rail, Structure
- Roadside, Structure
- Structure,
- Structure, Triangulation Point Or
- Terrain And Height, Spot Height

Symbols

- Bench Mark
- Boundary Half Mereing
- Direction of Flow
- Switch
- Road Related Flow

Line Features

- Building
- Building
- Building Overhead
- General Feature Edge
- General Feature
- General Feature Underground
- Top of Slope
- Top of Slope
- Bottom of Slope
- Bottom of Slope
- Narrow Gauge Railway
- Standard Gauge Railway
- Overhead Construction
- Validate General Feature
- Rail
- Mean High Water
- Mean High Water
- Mean Low Water
- Mean Low Water

Boundaries

- Political Or Administrative, Coun
- Political Or Administrative, Distri
- Political Or Administrative, Elect
- Political Or Administrative, Paris
- Political Or Administrative, Parliamentary
- Historic Cable Route

Company Ownership

- Freehold Ownership
- Leasehold Ownership
- Bridge (Rail over Rail)
- Bridge (Rail over River)
- Bridge (Rail over Road)
- Bridge (Road over Rail)
- Level Crossing
- Tunnel

WES180466

Bath Road, Harlington, Hayes

Scale	1 : 2,500
Plot Date	18/04/18 08:13
Printed By	

Output created from GeoRINM Viewer

National

Hazard

Directory

Terms and Conditions

The National Hazard Directory (NHD) is issued by Network Rail to provide information on those hazards recorded as present on Network Rail's infrastructure. Its' purpose is to alert users to the typical hazards they may come across whilst working on Network Rail's Infrastructure. The National Hazard Directory is maintained by Network Rail to provide its employees and contractors with information on known hazards present on the infrastructure in order to assist in the identification of the associated risks working 'on or near the line'.

The records are updated regularly and therefore Network Rail believe that the contents are reasonably accurate at the time of issue, but some of the information can vary in age and accuracy so for that reason Network Rail will give no warranty as to the suitability of its use. It is recommended that all searches (in particular for buried services) should be conducted together with a site specific risk assessment/site visit, taking into account the requirements of the appropriate track safety rules, rule books/industry standards and so on. Network Rail will accept no liability in respect of the content or subsequent use of the National Hazard Directory or any of the information contained within.

Users of the Directory must note that when working on or near the line that the appropriate requirements of the Rule Book, especially the provisions of the track safety rules, must be applied as appropriate to the activity concerned.

OnTrac Ltd does not warrant the use of the Network Rail National Hazard Directory or any of the information contained within and no representations or warranties are made as to completeness or accuracy of the data. The data should be used for reference purposes only. Accordingly, OnTrac Ltd will accept no responsibility for loss of profit or for any indirect, incidental or consequential damages.

National Hazard Directory

Customised Report

Search Criteria: ELR(s) = HLL; Mileage From = 13.1390; Mileage To = 13.1560
Date: 18/04/2018

4 Hazards found.

ELR	ELR Name	Mileage From	Mileage To	Hazard Code	Hazard Description	Local Name	Track ID	Free Text
HLL	HEATHROW LINK LINE	11.0085	16.0998	HEO	25Kv Overhead Electrification	Airport Jn to Heathrow Terminal 4	All/Multiple Tracks	TQ095795-176 OLE 25Kv for whole of HLL Line. Down, Up and Single also platforms 1 and 2 of Terminal 4 and plats 3 and 4 of Terminal. 5..ECR is now at Didcot. Contact details: Internal: 085 41051/External: 0330 8541051/BT: 01235 818490/Emergency number: 170.
HLL	HEATHROW LINK LINE	11.0088	14.1642	HEO	25Kv Overhead Electrification	Heathrow Terminal 4 to Heathrow Terminal 5.	All/Multiple Tracks	TQ095795-176 OLE 25Kv for whole of HLL Line. Down and Up also platforms 3 and 4. ECR is now at Didcot. Contact details: Internal: 085 41051/External: 0330 8541051/BT: 01235 818490/Emergency number: 170.
HLL	HEATHROW LINK LINE	11.0088	16.0998	HBT	Buried Telecommunication Cables	Heathrow Line	All/Multiple Tracks	@Note: There could be buried telecoms cables throughout this ELR. If details of cable location are known this cable MUST be identified first before any ground penetration work is carried out.@
HLL	HEATHROW LINK LINE	12.0660	16.0704	HWR	Red Zone Working Prohibited	Heathrow Tunnels	All/Multiple Tracks	All lines banned. Tunnels

National Hazard Directory

Customised Report

Search Criteria: ELR(s) = HLL2; Mileage From = 13.1402; Mileage To = 13.1566
Date: 18/04/2018

0 Hazards found.

ELR	ELR Name	Mileage From	Mileage To	Hazard Code	Hazard Description	Local Name	Track ID	Free Text

Milne Gareth

From: Morris Lee
Sent: 09 April 2018 13:19
To: OP Buried Services Enquiries
Subject: WES180466-Response

Thank you for your recent enquiry for buried services records from the NRG.

In reference to ****OP** Bath Road, Harlington, Hayes**

No records have been found

Kind regards,
National Records Group

The information contained in these records is indicative only and should not be relied on for any purpose. No warranty or guarantee is given as to its accuracy or completeness and no liability is accepted by Network Rail for any errors or omissions or for the consequences of reliance on this information for any purpose. The actual position of infrastructure, plant, equipment and boundaries must be verified on site and the position of any underground cables or service pipes verified by cable detector or other suitable means. This information is confidential and should not be divulged to any other person or used for a purpose other than the purpose for which it was requested. The document may not be reproduced, stored in a retrieval system or transmitted in any form or by any means without the permission of Network Rail.

CHECKED

Our Ref: Ref shown on map

Date of issue: shown on map

email: nnhc@openreach.co.uk

Dear Customer,

NR & SW ACT 1991 – PROPOSED WORKS AT: ****SITE LOCATION****

Prior to commencement of work: For free onsite guidance and accurate up to date location of BT Apparatus please contact our Plant Protection Service by the following methods:-

Email the Click Before You Dig Team CBYD@openreach.co.uk
Visit the Click Before You Dig Website www.openreach.co.uk/cbyd

Thank you for your request of **/**/** describing the above proposals.

Enclosed are copies of our drawings marked up to show the approximate locations of BT apparatus in the immediate vicinity of your works. It is intended for general guidance only. No guarantee is given of its accuracy.

The drawings are valid for 90 days from the date of issue and should not be relied upon after this time period has expired.

When planning excavation work or other works near to BT apparatus, please be mindful our apparatus may exist at various depths and may deviate from the marked route.

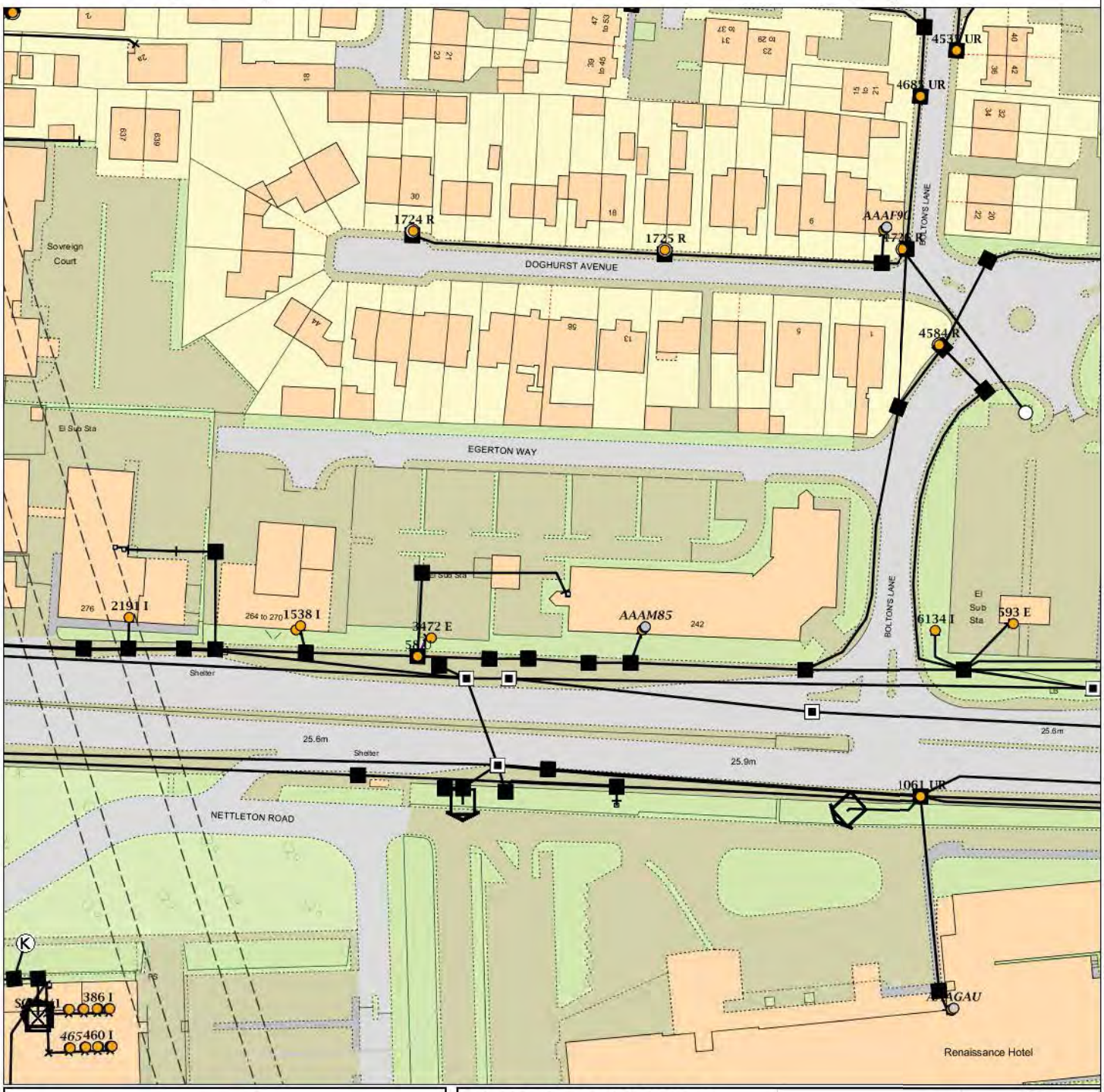
To avoid damage it is recommended that mechanical excavators or borers are not used within 600mm of BT apparatus. If scaffolding is erected, please ensure that our equipment is not enclosed, blocked, covered or otherwise obstructed by the scaffolding.

In the event of BT apparatus being in the area of your works we recommend that your plant/vehicle crossing is either resited, or apply for a budget estimate by submitting detailed plans to our Network Relocation Team at https://www.ournetwork.openreach.co.uk/altering-our-network.aspx

Yours faithfully,

Jason Carrington
NNHC & MBE Manager

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 cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

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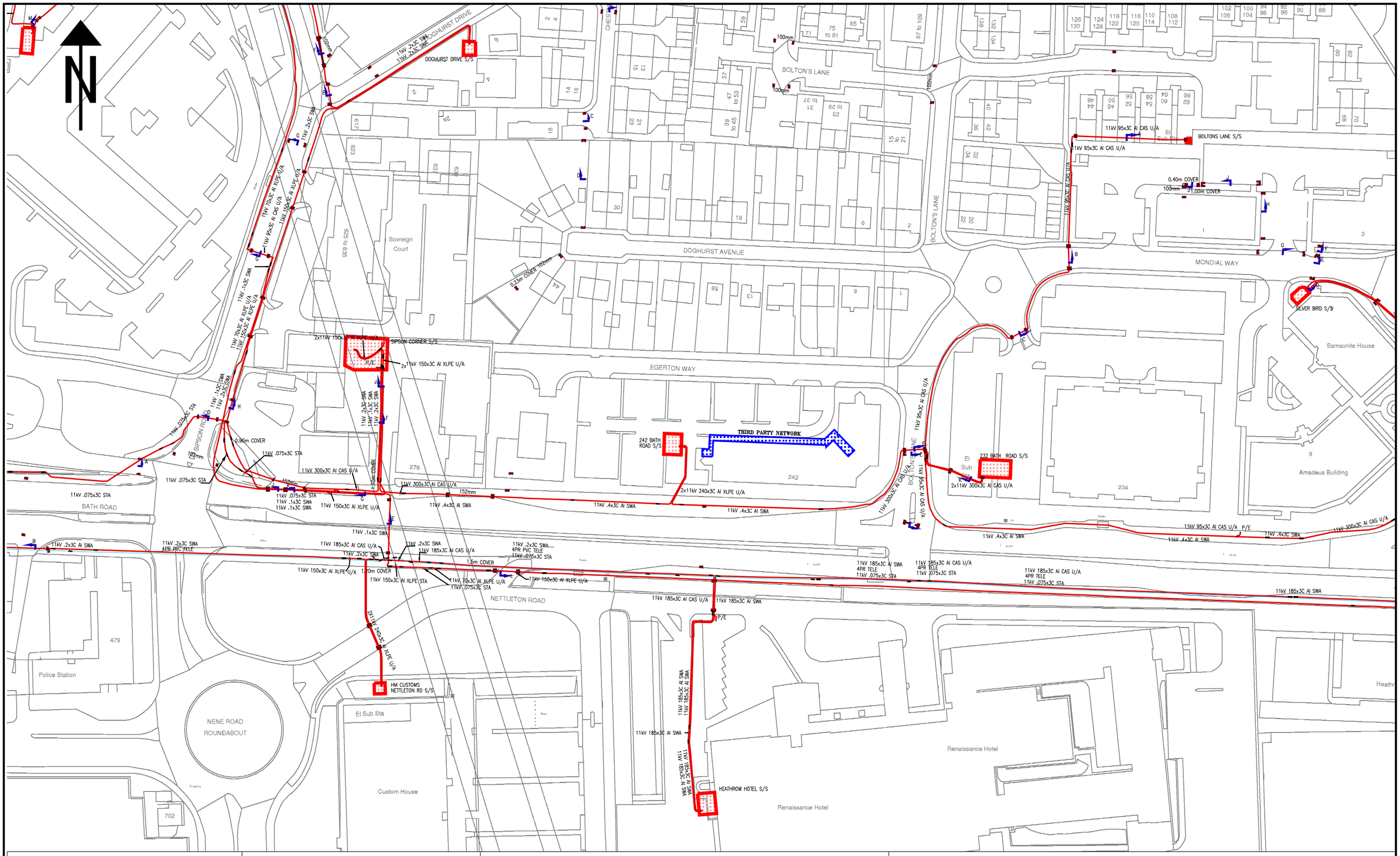
KEY TO BT SYMBOLS

DP	Pole
Planned DP	Planned Pole
PCP	Joint Box
Planned PCP	Change Of State
Built	Split Coupling
Planned	Duct Tee
Inferred	Planned Box
Building	Manhole
Kiosk	Planned Manhole
Hatchings	Cabinet
	Planned Cabinet

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

BT Ref : CCS10134L
Map Reference : (centre) TQ0793376985
Easting/Northing : (centre) 507933,176985
Issued : 29/03/2018 10:14:00

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: nnhc@openreach.co.uk



NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID				
	services	l.v.	h.v.	e.h.v.
FOOTPATH	0.40m	0.45m	0.60m	0.75m
ROAD CROSSING	0.60m	0.60m	0.75m	0.90m

l.v./services – up to 1000V.
h.v. – over 1000V. to 11,000V.
e.h.v. – 22,000V. to 132,000V.

WARNING

There may have been subsequent alterations to the surface levels. Trial holes must be taken to determine positions and depth of cables. HS (G) 47 Booklet from the Health and Safety Executive – Avoiding Danger from Buried Cables – should be consulted before commencing excavation work. (available from the HSE)

WHEN WORKING IN THE VICINITY OF OVERHEAD LINES THE HEALTH AND SAFETY GUIDANCE NOTE GS6 SHOULD BE CONSULTED. (AVAILABLE FROM THE HSE)

BASED UPON THE ORDNANCE SURVEY MAP WITH THE SANCTION OF THE CONTROLLER OF H.M. STATIONERY OFFICE. CROWN COPYRIGHT RESERVED.

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Template: SIAS NRSWA COL A3 plot

Southern Electric Power Distribution plc.
Registered in England No. 04094290
Registered Office: No. 1 Forbury Place,
43 Forbury Road, Reading, RG1 3JH

UNCONTROLLED COPY

Subject to Revision Master held at

Scottish & Southern Electricity Networks

H.V. MAINS RECORD

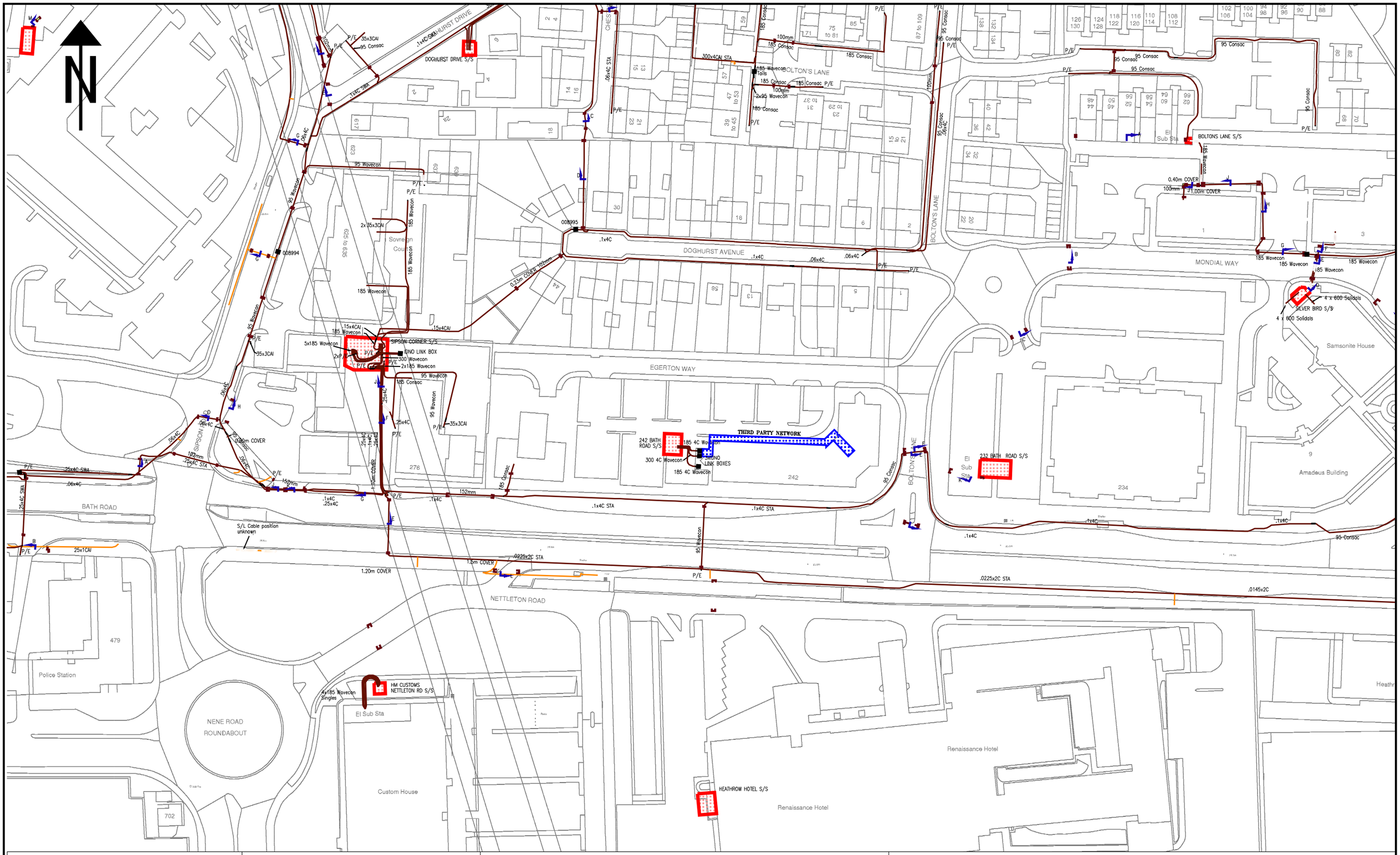
WEST LONDON
020-8606-6400

CHECKED

Grid Ref: TQ07937698

Scale: 1:1250

Date: 29/03/2018



NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID				
	services	l.v.	h.v.	e.h.v.
FOOTPATH	0.40m	0.45m	0.60m	0.75m
ROAD CROSSING	0.60m	0.60m	0.75m	0.90m

l.v./services – up to 1000V.
h.v. – over 1000V. to 11,000V.
e.h.v. – 22,000V. to 132,000V.

WARNING

There may have been subsequent alterations to the surface levels. Trial holes must be taken to determine positions and depth of cables. HS (G) 47 Booklet from the Health and Safety Executive – Avoiding Danger from Buried Cables – should be consulted before commencing excavation work. (available from the HSE)

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Template: SIAS NRSWA COL A3 plot

Southern Electric Power Distribution plc.
Registered in England No. 04094290
Registered Office: No. 1 Forbury Place,
43 Forbury Road, Reading, RG1 3JH

UNCONTROLLED COPY

Subject to Revision Master held at

Scottish & Southern Electricity Networks

L.V. MAINS RECORD

WEST LONDON
020-8606-6400

Grid Ref: TQ07937698
Scale: 1:1250
Date: 29/03/2018

Watch it!

Safety advice brought to you by
Scottish and Southern Electricity Networks

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

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

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

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

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

Publications

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

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

Note

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

Additional copies of these "Watch it!" leaflets can be obtained from our Asset Data Team office upon request. Tel. 01256 337294, or Fax 01256 337295.

You must read and accept the following safety notes as part of the contract to receive our network plans. You will have the option to print these and issue them to site staff.

Watch it! - Working in the vicinity of underground cables

Our plans show the positions and normal depths for the buried cables and pipes at the time when they were installed. However, alterations to road alignments surface levels and buildings may have occurred subsequently without our knowledge. If you discover plant or cables that are not marked or incorrectly marked, then you are required to contact us as soon as possible to give us the opportunity to amend our plans.

These plans show the equipment owned by Scottish and Southern Electricity Networks. There may be other privately owned plant in the area, which is outside of our control. You should always check with the Local Authority, National Grid Company, Department of the Environment, other Electricity Companies and other utilities before proceeding.

It is not intended that the issue of these plans will absolve either party from their obligation under any of the acts that control digging in the public highways.

Supplies To Properties, etc.

The location of cables supplying individual properties, street lighting, traffic signs, telephone kiosks etc. are not always shown on the plans. You should assume that each property, streetlight etc. will have its own supply cable.

Major Circuits

Where our plans indicate the presence of cables with a voltage exceeding 11,000 volts, you are advised to contact our local depot (telephone number is on the plans), before commencing any excavations within the vicinity of these cables. These major circuits form an extremely important link in Scottish and Southern Electricity Networks' networks, and damaging or modifying these circuits is a major and costly undertaking. Any development should therefore be designed to allow these circuits to remain undisturbed and accessible in their present location.

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

- ✓ **do** make sure you have plans of the underground cables in the area **before** any excavation work starts. Remember that some cables may not be shown on plans. If carrying out emergency work, excavate as though there are buried live cables in the vicinity.
- ✓ **do** use a cable locator to determine the position of existing cables in the work area. The positions should be marked and tests made as work proceeds. **If in doubt, get advice from your supervisor.**
- ✓ **do** ask for a cable to be made dead if it is buried in concrete.
- ✓ **do** watch for signs of cables as work progresses. Note any marker-tape or cable-cover, which may be exposed

- ✓ **do** backfill carefully, using stone-free soil around the cables, replacing marker-tapes and / or covers.
- ✓ **do** notify us immediately if you accidentally damage our cables. Arrange to keep people well clear of a cable that has been damaged until we have confirmed it has been made safe.
- ✓ **do** make sure before starting to demolish a building that all cables have been disconnected. We welcome prior notice of the intention to demolish buildings. This enables us to ensure that the site has been made safe electrically.
- ✓ **don't** operate a bulldozer, scraper, dragline or excavator; unless you are satisfied that there are no buried cables in the working area.
- ✓ **don't** use picks, pins, forks or pointed instruments in soft clay or soil when cables are present. Exercise extreme caution where such instruments are used to free lumps of stone, or break up firmly compacted ground. **Never** throw a fork or sharp instrument into the ground.
- ✓ **don't** dig trial holes over the indicated route of the cable. Excavate alongside instead.
- ✓ **don't** use exposed cables as a convenient step or handhold.
- ✓ **don't** handle or attempt to alter the position of any cable.

Remember that a damaged cable may cause extensive loss of supplies, make expensive repairs necessary and cause serious or even fatal injury.

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

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

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

Watch it! - Working in the vicinity of overhead lines

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

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

Always remember that:

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

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

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

Scottish and Southern Electricity Networks is a trading name of: Scottish and Southern Energy Power Distribution Limited Registered in Scotland No. SC213459; Scottish Hydro Electric Transmission plc Registered in Scotland No. SC213461; Scottish Hydro Electric Power Distribution plc Registered in Scotland No. SC213460 (all having their Registered Offices at Inveralmond House 200 Dunkeld Road Perth PH1 3AQ); and Southern Electric Power Distribution plc Registered in England & Wales No. 04094290 having its Registered Office at 55 Vastern Road Reading Berkshire RG1 8BU which are members of the SSE Group www.ssen.co.uk

GUIDE TO INTERPRETING

MAINS RECORDS PLANS

PRODUCED BY MAPPING SERVICES

INTRODUCTION

The Health & Safety Executive have produced a document entitled ‘Avoiding danger from underground services’. Copies are available from HMSO’s accredited agents and good booksellers, Ref HS(G)47, ISBN 0118854925.

WHEN WORKING IN THE VICINITY OF ELECTRICITY CABLES AND OVERHEAD LINES PLEASE FOLOW THE DO’S & DON’T’S LISTED BELOW.

DO’S

Do Make sure that you have plans of the cables in the area before any excavation work starts. Remember that some cables such as service cables may not be shown on the plans. Cables owned by other companies are not shown, e.g. local authorities, Department of the Environment, National Grid Co. etc.

Do Make sure that you understand the plans that have been supplied to you. For detailed explanation of the symbols used by Scottish & Southern Energy to display the cable information see
Appendices.

Do Use a cable avoidance tool (CAT) to determine the position of the existing cables in the work area. The positions should be clearly marked and further tests made as work proceeds. **If in doubt, get advice from your supervisor.**

Do Hand dig trial holes over the indicated route of the cable, excavate alongside.

Do Ask for a cable to be made dead if it is buried in concrete. Please note that this is likely to be a costly process.

Do Watch for signs of cables as work progresses, such as marker tapes or cable covers which may be exposed.

Do Backfill carefully using stone free soil around cables, replacing marker tapes and covers.

Do Ensure that there is maximum clearance above all cable & joints.

Do Notify Scottish & Southern Energy immediately should accidental damage to cables occur however large or small. Arrange to keep people well clear of the cable that has been damaged. Do not backfill an area where cable damage has occurred.

DON'T'S

Don't Operate a bulldozer, scraper, dragline or excavator unless you are satisfied that there are no buried cables or overhead lines in the working area.

Don't Use picks, forks or pointed instruments in soft clay or soil where cables are present, exercise extreme caution where such instruments are used to free lumps of stone or to break up firmly compacted ground.

Don't Use exposed cables as a convenient step or handhold.

Don't Handle or attempt to alter the position of any cable.

REMEMBER THAT A DAMAGED CABLE MAY CAUSE EXTENSIVE LOSS OF SUPPLIES, MAKE EXPENSIVE REPAIRS NECESSARY AND CAUSE SERIOUS OR EVEN FATAL INJURY.

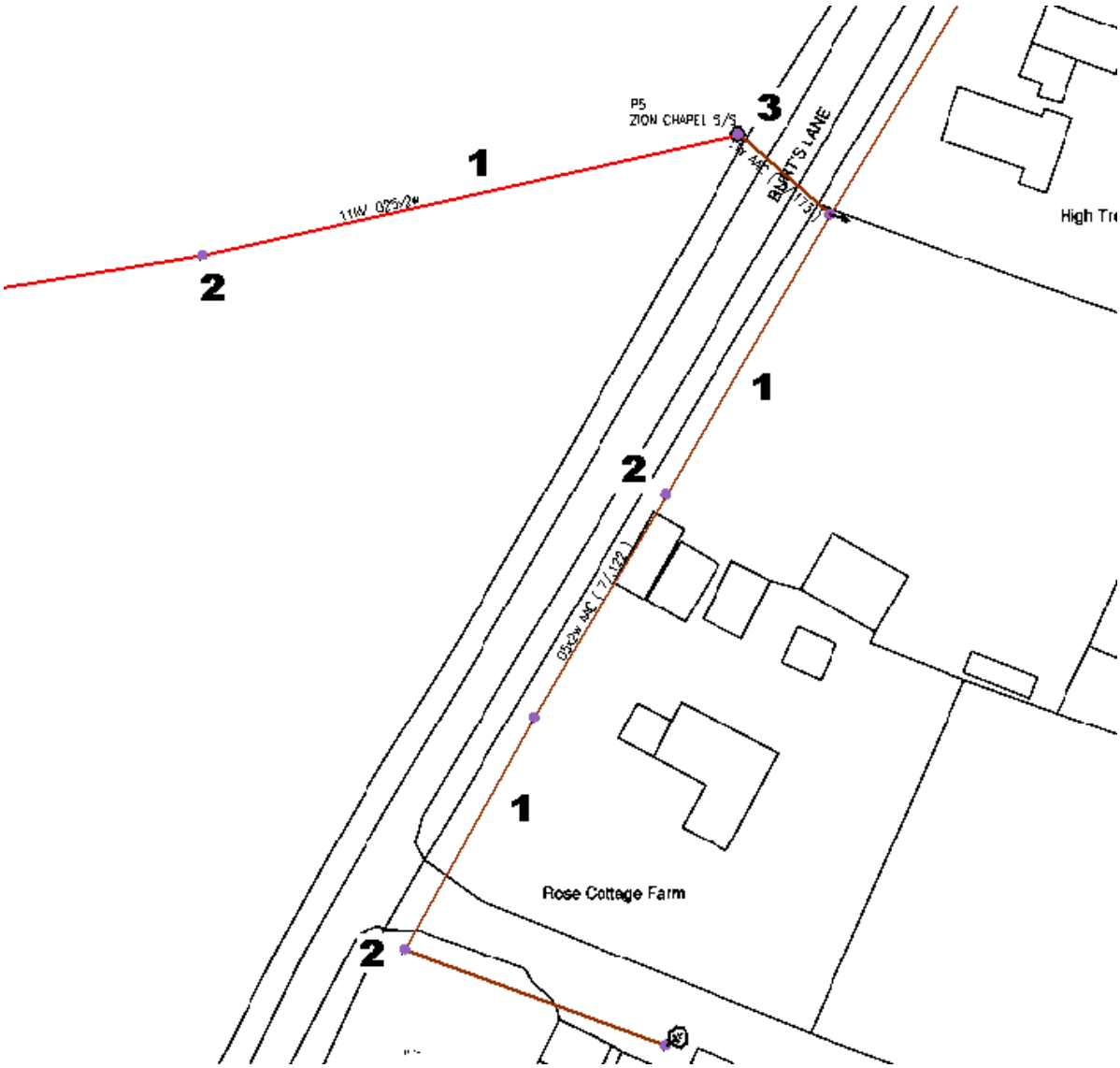
IF IN DOUBT ASK SCOTTISH & SOUTHERN ENERGY.

UNDERSTANDING THE CABLE INFORMATION ON THE PLANS.

AVERAGE DEPTH OF CABLES: Footpaths 0.6 metres
Road Crossings 0.75metres
NB These depths are only approximate, depths may vary. It should also be noted
That surface levels can change subsequent to the cables being laid.

Mains records symbols definitions and examples:

A) Overhead lines & Poles – These are depicted as follows:

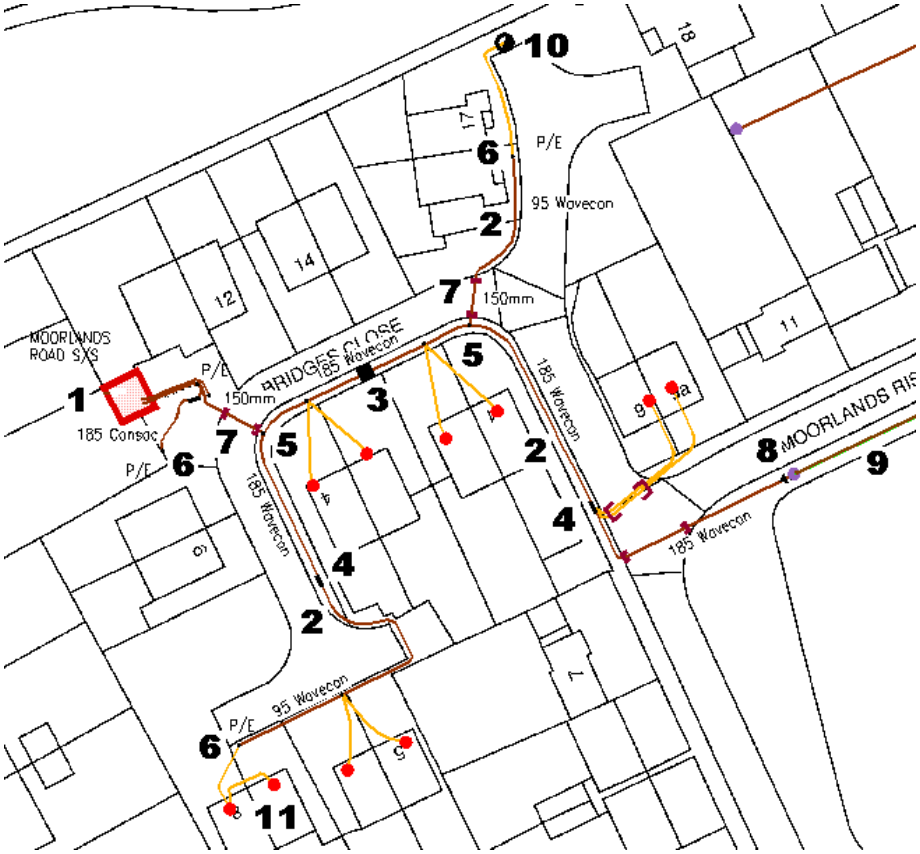


1. Overhead Line – These can be either High Voltage or Low Voltage, colour denotes voltage.

2. Poles.

3. Pole Mounted Transformer.

B) Typical example of Low Voltage cable records:



1. Sub Station

2. Low Voltage Underground cable.

3. Link Boxes: This is a box with a manhole cover marked as belonging to Scottish & Southern Energy containing links. Either two or four cables will lead away from a link box.

4. Straight Joint: This is where two separate cables are joined together.

5. Breech Joint: This is where another cable is attached to the main.

6. Pot End:This is the end of the cable. In certain circumstances service cables to properties can be taken from the pot end. These services may not be shown on the plans.

7. Road crossing duct where a cable is routed under a path or road.

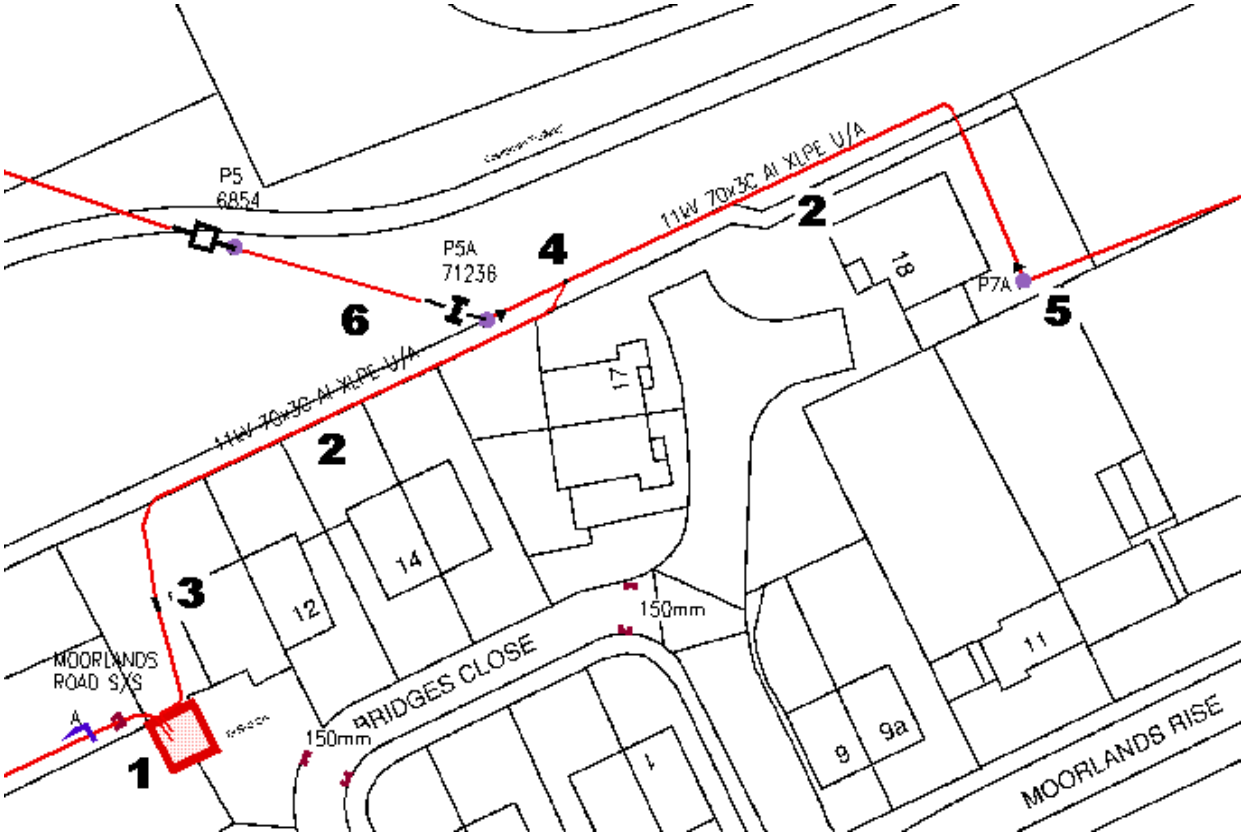
8. Cable terminations/Pole Box: Where underground cables are connected to overhead lines

9. Overhead line.

10. Street Lamps.

11. Services to properties: The service cable to an individual property are not always shown on the mains records that Scottish & Southern Energy supply.
In some cases a service can be looped from an adjacent property.
Some services are laid through ducts from the mains to the meter positon when laid.

C) Typical example of High Voltage cable record.



1. Sub Station

2. High Voltage Underground cable – Colour denotes voltage.

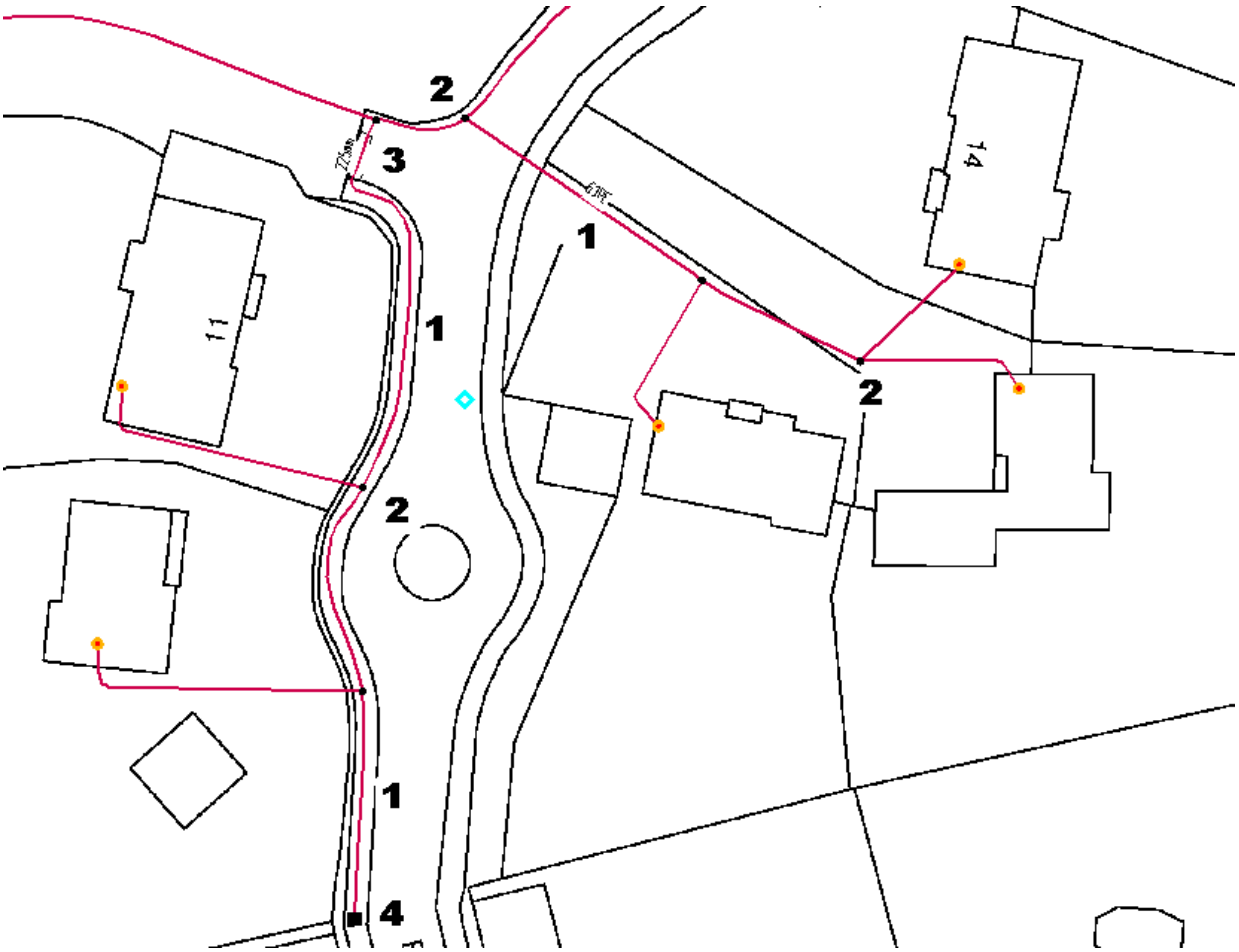
3. Straight Joint: This is where two separate cables are joined together.

4. Breech Joint: This is where another cable is attached to the main.

5. Cable terminations/Pole Box: Where underground cables are connected to overhead lines

6. Overhead Switch.

D) Typical example of Gas pipe record



1. Gas Pipes- Colour denotes pressure.

2. Gas joint

3. Road crossing duct where a pipe is routed under a path or road.

4. Connection Point. Position where network is connected to national gas suppliers network.

Further Notes.

The various sizes of cables and pipes are shown alongside the routes.

IF IN DOUBT ASK SCOTTISH & SOUTHERN ENERGY

GIS ELECTRIC SYMBOLS (SOUTH)

LV UNDERGROUND SERVICE CABLE
LV UNDERGROUND MAINS CABLE
2KV-3.3KV UNDERGROUND CABLE
6.6KV UNDERGROUND CABLE
11KV UNDERGROUND CABLE
22KV UNDERGROUND CABLE
33KV UNDERGROUND CABLE
66KV UNDERGROUND CABLE
132KV UNDERGROUND CABLE
LV OVERHEAD LINE
2-3.3KV OVERHEAD LINE
6.6KV OVERHEAD LINE
11KV OVERHEAD LINE
22KV OVERHEAD LINE
33KV OVERHEAD LINE
66KV OVERHEAD LINE
132KV OVERHEAD LINE
FIBRE OPTIC CABLE
PILOT CABLE
CIRCUIT BREAKER
SWITCH DISCONNECTOR
POLE BOX
STRAIGHT JOINT
TEE JOINT

TRIFURCATING JOINT
P/E POT END JOINT
C/E CAPPED END JOINT
SEALING END JOINT
SERVICE CONNECTOR JOINT
O/H CONNECTOR JOINT
WALL BOX JOINT

POLE
POLE MOUNTED TRANSFORMER

SUBSTATION
LINK BOX
PILLAR

MAJOR PIPELINE
ASSUMED ROUTE

A
CROSS SECTION

DUCTING
FS
FLYING STAY
PME EARTH
NEUTRAL EARTH
OIL/GAS GAUGE
OIL/GAS TANK
BALANCER
REGULATOR

PIT
SCHEMATIC CONNECTOR
SUPPLY LOCATION-PROPERTY
SUPPLY LOCATION-OTHER
SUPPLY LOCATION-STREET FURNITURE

GIS ELECTRIC SYMBOLS (NORTH)

FIBRE OPTIC CABLE

PILOT CABLE

6.6/11kV UNDERGROUND CABLE

33kV UNDERGROUND CABLE

132kV UNDERGROUND CABLE

LOW VOLTAGE UNDERGROUND CABLE

6.6/11kV OVERHEAD LINE

33kV OVERHEAD LINE

132/275kV OVERHEAD LINE

LOW VOLTAGE OVERHEAD LINE

POLES

TOWER

POLE TERMINATION

JOINTS

DUCTING

LINK BOX

PILLAR

SUBSTATION

WATER PIPELINE

OIL PIPELINE

GAS PIPELINE

SWITCH DISCONNECTOR

CIRCUIT BREAKER

SUPPLY POINT

GIS Gas Symbols

Medium Pressure Pipe

Low Pressure Pipe

Gas Ducting

Gas Supply Point

Gas Joint

End Closure

Pressure Reduction Station

Gas Utility Connection Point

Valve

GIS Environmental Guide

Countryside Agency

- Areas of Outstanding Natural Beauty (AONB)
- National Park

Environment Agency

- Borehole
- Water Extraction Point
- Sensitive Waterway
- Source Protection Zone
- Vulnerability Zone

Forestry Commission

- Access
- Ownership

English Heritage/Historic Scotland

- Monuments

SEPA

- Flood Area
- Flood Location

English Nature/Scottish Natural Heritage

- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- RAMSAR
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Ancient Woodland

Areas of Concern

- Contaminated
- Cadmium
- Methane
- Heavy Metal-Unclassified
- Asbestos
- Ordnance
- Mercury
- Restricted Access

Asset location search

Property Searches

Atkins Telecoms
Stats Enquiries Team The Hub
500Park Avenue
BRISTOL
BS32 4RZ

CHECKED

Search address supplied Site at Bath Road, Harlington, Hayes
UB3 5AY

Your reference 63792

Our reference ALS/ALS Standard/2018_3765439

Search date 28 March 2018

Keeping you up-to-date

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

An asset location search provides information on the location of known Thames Water clean and/or wastewater assets, including details of pipe sizes, direction of flow and depth. Please note that information on cover and invert levels will only be provided where the data is available.

Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13

searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk

0845 070 9148

Asset location search

Property Searches

Search address supplied: Site at Bath Road, Harlington, Hayes, UB3 5AY

Dear Sir / Madam

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

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

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

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

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

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

Contact Us

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

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

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

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.

With regard to the fresh water supply, this site falls within the boundary of another water company. For more information, please redirect your enquiry to the following address:

Affinity Water Ltd
Tamblin Way
Hatfield
AL10 9EZ
Tel: 0845 7823333

For your guidance:

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

Payment for this Search

A charge will be added to your suppliers account.

Further contacts:

Waste Water queries

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

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

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

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

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

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

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2018_3765439

The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 507951,176977

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
0907	25.71	24.56
0108	n/a	n/a
1007	n/a	n/a
1005	n/a	n/a
1902	n/a	n/a
1901	25.51	22.26
1101	n/a	n/a
1008	n/a	n/a
1006	n/a	n/a
1001	n/a	n/a
1903	25.51	24.31
1002	n/a	n/a
1003	n/a	n/a
1904	n/a	n/a
1004	n/a	n/a
911A	n/a	n/a
9002	25.91	25.19
9901	25.89	24.74
901F	n/a	n/a
901D	n/a	n/a
901E	n/a	n/a
0101	n/a	n/a
0901	25.74	21.74
0903	25.93	24.83
0902	25.67	21.87
001A	n/a	n/a
0905	25.69	24.76
0904	25.76	24.68
0003	25.73	22.28
0001	25.69	24.77
0002	25.8	25.09
0102	n/a	n/a
0104	n/a	n/a
0103	n/a	n/a
0908	25.63	16.38
0105	n/a	n/a
0005	n/a	n/a
0106	n/a	n/a
0004	n/a	n/a
0906	25.55	22
0006	n/a	n/a
0107	n/a	n/a
9902	26.03	24.55
8902	25.97	17.65
8903	25.95	21.25
8904	25.93	16.66
7904	25.73	24.08
8901	25.92	24.54
7909	25.64	24.48
791A	n/a	n/a
7907	25.63	24.69
801B	n/a	n/a
801A	n/a	n/a
7001	n/a	n/a
7003	25.71	20.63
9001	25.96	24.49
8001	26.19	25.82
9003	26.14	25.43
901C	n/a	n/a
901B	n/a	n/a
901A	n/a	n/a
7002	n/a	n/a
701A	n/a	n/a
7004	n/a	n/a
7108	25.98	20.59
7107	26.03	25.46
7106	26.04	25.22
7110	25.73	20.59
7104	25.96	24.91
7103	25.99	20.85
7901	25.65	23.58
7914	25.66	20.54
7906	25.57	24.57
7102	25.84	25.49
7902	25.54	17.71
7905	25.66	20.54
7903	25.52	17.7
7908	25.8	24.93
7201	25.76	20.98
7101	25.82	24.57

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

ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

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

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

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

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

Sewer Fittings

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

Air Valve

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

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

Control Valve

Drop Pipe

Ancillary

Weir

End Items

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

Outfall

Undefined End

Inlet

Other Symbols

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

Public/Private Pumping Station

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

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

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

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

Proposed

Abandoned Sewer

Notes:

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

2) All measurements on the plans are metric.

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

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

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

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

Terms and Conditions

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

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

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

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

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

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

Ways to pay your bill

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

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

Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

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

The Search Code:

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

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

The Code's core principles

Firms which subscribe to the Search Code will:

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

Complaints

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

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

TPOs Contact Details

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

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

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

Transport for London

Your ref: 63792
Our ref: AD/NRSWA/ENQ/TfL: 48299

4th April 2018

CHECKED

Dear Sir/Madam

Plant Enquiry: Site at Bath Road, Harlington, Hayes

Thank you for your email dated 3rd April 2018.

Our records show traffic control equipment in the vicinity, of the above as detailed on the attached drawings (26/00074).

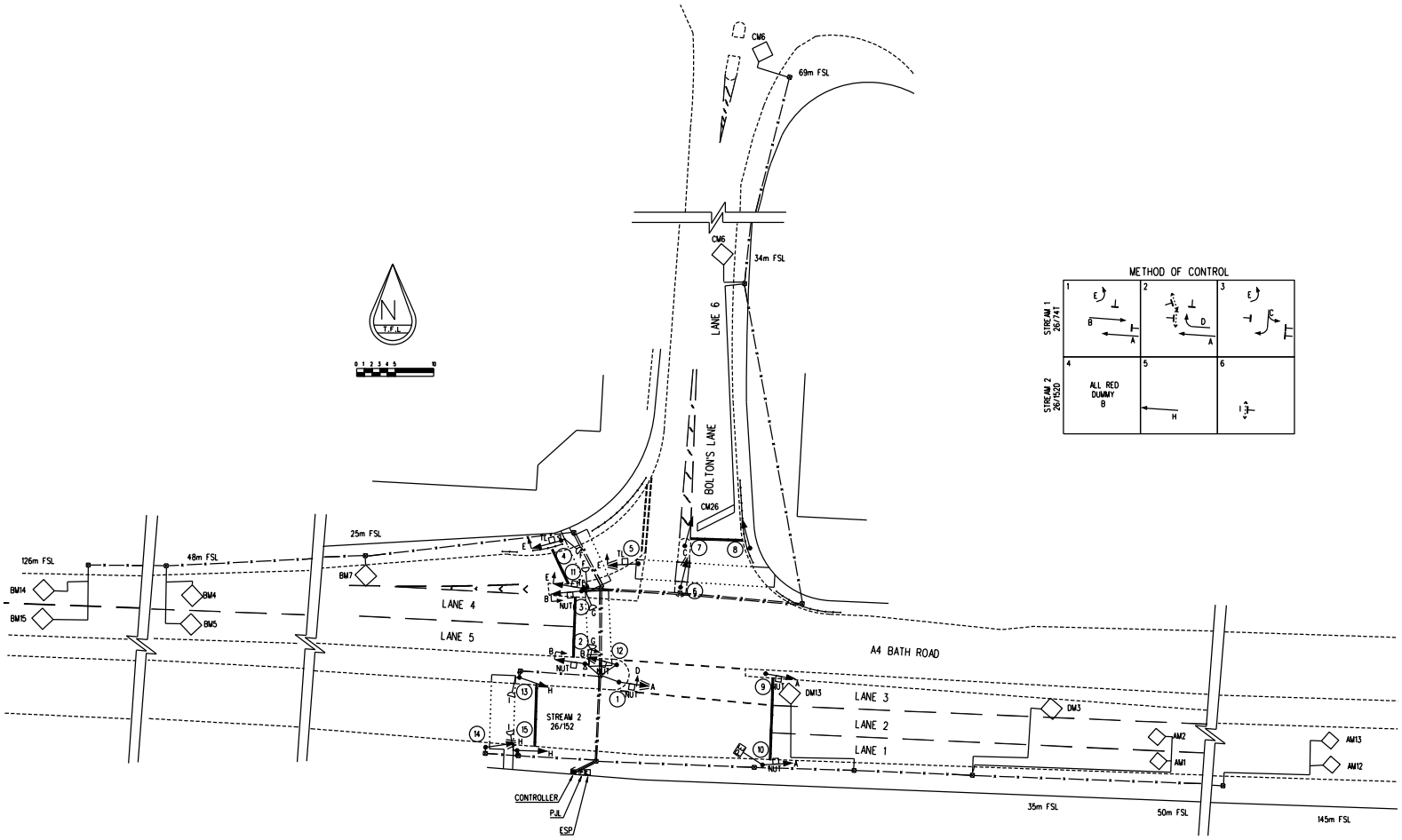
If you suspect your works will affect these installations, should you vary the location of the works, please inform us so that further checks can be made.

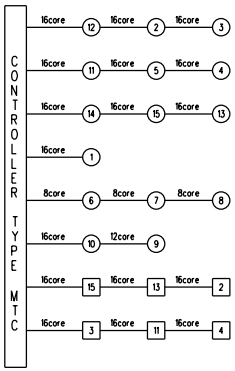
The information relates to traffic control equipment owned by Transport for London, and is believed to be correct.

Yours faithfully

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

No. SLD/26/074/05





CABLE DIAGRAM

MOVA LOOP SIZES			
LOOP NAME	LOOP SIZE (m)	LOOP NAME	LOOP SIZE (m)
AM1	34m FSL	AM11	2.9
AM2	34m FSL	AM12	2.4
DM3	34m FSL	DM13	1.9
BM4	34m FSL	BM14	3.3
BM5	34m FSL	BM15	2.7
CM6	34m FSL	CM16	5.2
BM7	34m FSL	CM26	TOTAL 11.6

LINK	MOVEMENTS ON LINK	STAGE	PHASE
1	LANE 1, 2	1, 2	A
2	LNAE 3	1, 2	A, D
3	LANE 4, 5	1	B
4	LANE 6	3	C

NOTES
1 ALL VEHICLE SIGNALS HAVE BACKING BOARDS
2 ALL POLES INSTALLED DIRECTLY INTO GROUND
3 PUSHBUTTONS MOUNTED AT 45° TO KERB ON POLES 3 & 11
4 ALL PUSHBUTTONS HAVE TACTILE ROTATING CONES
5 HORIZONTAL LOUVRES FITTED TO AMBER & GREEN ASPECTS ON POLES 13, 14 & 15
6 4-IN-LINE BOX SIGNS FITTED ON POLES 2, 3, 4, 5, 11 & 12
7 SIGNALS 13,14 & 15 BAGGED OVER

REV	DATE	DETAILS	CONTRACT
5	14/05/01	POLES 13, 14 & 15 MOVED	STCL 1409 KENO-KLASH
4	FEB 99	POLES 13, 14 & 15 BAGGED-UP	STCL 01409
3	FEB 99	PED PHASE ADDED	STCL 01409
2	NOV 93	MOVA INSTALLED	C288
1	-	-	-

no	date	amendments	by

[redacted]

Street Management

Traffic Technology Services
Minster House
42-58 Alfreda Street
London SW8 4RX
Telephone 020 7243 5000

scheme L B OF HILLINGDON

A4 BATH ROAD /
BOLTON'S LANE

date 04/01 | scale 1:200@A0

No. SLD/26/074/05

Request Status Report F LM / 63792

Site at Bath Road, Harlington, Hayes **UB3 5AY**

OSGR: 507930,176980

Date Requested: 27 Mar 18 **Client Reference:** 160780146_3

Affected Utilities We have received plans/information from the following companies. Please see the enclosed response.

Utility	Category	Date Issued	Late Response Issue Date	Notes
Affinity Water - (Central Region)	Water,	04 Apr 18		
Cadent Gas Ltd	Gas,	04 Apr 18		
Crossrail	Rail,	04 Apr 18		
Environment Agency	Environmental Agency,	04 Apr 18		See response.
ESP Utilities Group	Pipeline,	04 Apr 18		See response.
Instalcom - [CenturyLink, Global Crossing, Fibernet & Fiberspan]	Telecom,	04 Apr 18		
LinesearchbeforeUdig	Pipeline,	04 Apr 18		ESP Utilities Group - identified as affected. See separate response.
Network Rail	Rail,		18 Apr 18	Supplied in Batch F
Openreach - [British Telecommunications]	Telecom,	04 Apr 18		
Scottish and Southern Electricity	Telecom, Gas, Electric, Water, Sewerage,	04 Apr 18		
Thames Water	Water, Sewerage,	04 Apr 18		Sewer only.
Transport for London	Highways,	04 Apr 18		
Utility Assets	Electric,	04 Apr 18		See response.
Verizon	Telecom,	04 Apr 18		Only affected sent.
Virgin Media	Telecom,		06 Apr 18	Supplied in Batch B
Vodafone	Telecom,	04 Apr 18		

Not affected utilities We have received a not affected/no plant present response from the following companies.

Utility	Category	Date Issued	Late Response Issue Date	Notes
C.A. Telecom UK - [Colt Technology Services]	Telecom,		09 Apr 18	Supplied in Batch C
CityFibre	Telecom,	04 Apr 18		Website used.
Energetics	Gas, Electric, Water,	04 Apr 18		
GTC	Telecom, Gas, Electric, Water, Pipeline,	04 Apr 18		
Interoute Vtesse	Telecom,		12 Apr 18	Supplied in Batch E
London Borough Of Hillingdon	Council,	04 Apr 18		Council website used.
London Underground	Rail,	04 Apr 18		
London Underground - Power Distribution	Rail,		10 Apr 18	Supplied in Batch D
Plancast - [Interoute]	Telecom,	04 Apr 18		
SKY Telecommunications Services	Telecom,	04 Apr 18		
Telent - [TeliaSonera]	Telecom,		09 Apr 18	Supplied in Batch C
Trafficmaster	Other,	04 Apr 18		Website used.

Checked and Validated By Kevin Willock

Date 04 Apr 18

Definition of Terms

Affected - Utility supplier is expected to be affected by any work carried out in the area searched as their records indicate their plant is in or close to the area searched. It is recommended to anybody carrying out works in the area that they should consult with the utility company as soon as possible and in any event prior to carrying out any works.

No response received - At the date of sending the report no response has been received from the utility supplier.

Not affected - Utility supplier is not expected to be affected by any work carried out in the area searched as their records indicate their plant is not in or close to the area searched.

ADVISORY NOTICE

SUPPLIER UPDATE: Utility Assets

On 28/03/18, an enquiry was sent to Utility Assets' plant record department. As of the date of issue of this Utilities Report, we have not received a formal response from Utility Assets in regards to owning any equipment on this site. Utility Assets have however advised the following:

"Thank you for recently contacting Utility Assets plant record department. We will check whether we have any plant present at your site and contact you within 5 - 7 working days ONLY if we own any plant in the vicinity.

If we do not reply, we do not have any apparatus in the area of your works. However, PLEASE TAKE CARE when excavating around electricity cables in the event that not all cables present may be accurately shown. We recommend you use detecting equipment to map the site before excavating and fully comply with HSG47. DO NOT assume that a cable is dead if you don't have a record of its presence. The cable must be treated as live unless PROVEN DEAD by the cable owner. In case of emergency please contact your local electricity distribution company.

This is an automated reply from our dedicated asset records email address. If you receive further correspondence from us it will be from asset.manager@utilityassets.co.uk *quoting a site reference number.*

Asset Manager - Utility Assets Ltd"

If a formal response is received within 3 months of the date of this search it will be forwarded onto you as per our usual service. However, without formal communication from Utility Assets it remains unconfirmed that your site will not be affected by their network. Utility Assets will not acknowledge receipt of this enquiry, or any subsequent chases, unless their network will be affected.

Terms and Conditions

Full Terms and Conditions can be found on the following URL:
http://www.landmarkinfo.co.uk/Terms/Show/515

Please note that Utilities Reports have a validity of 3 months from the date of purchase.

If you experience difficulties accessing our Terms and Conditions, please telephone our Customer Service Team on 0844 844 9966.

Verizon
Outside Plant Infrastructure Dept,
Room 3.31
2-6 St Pancras Way
London
NW1 0QG
United Kingdom
Tel: +44 (0) 20 7984 2654
Fax: +44 (0) 20 7984 2632
E-M: osp-team@uk.verizon.com

CHECKED

Dear Sir/Madam,

C2 Plant Enquiry

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

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

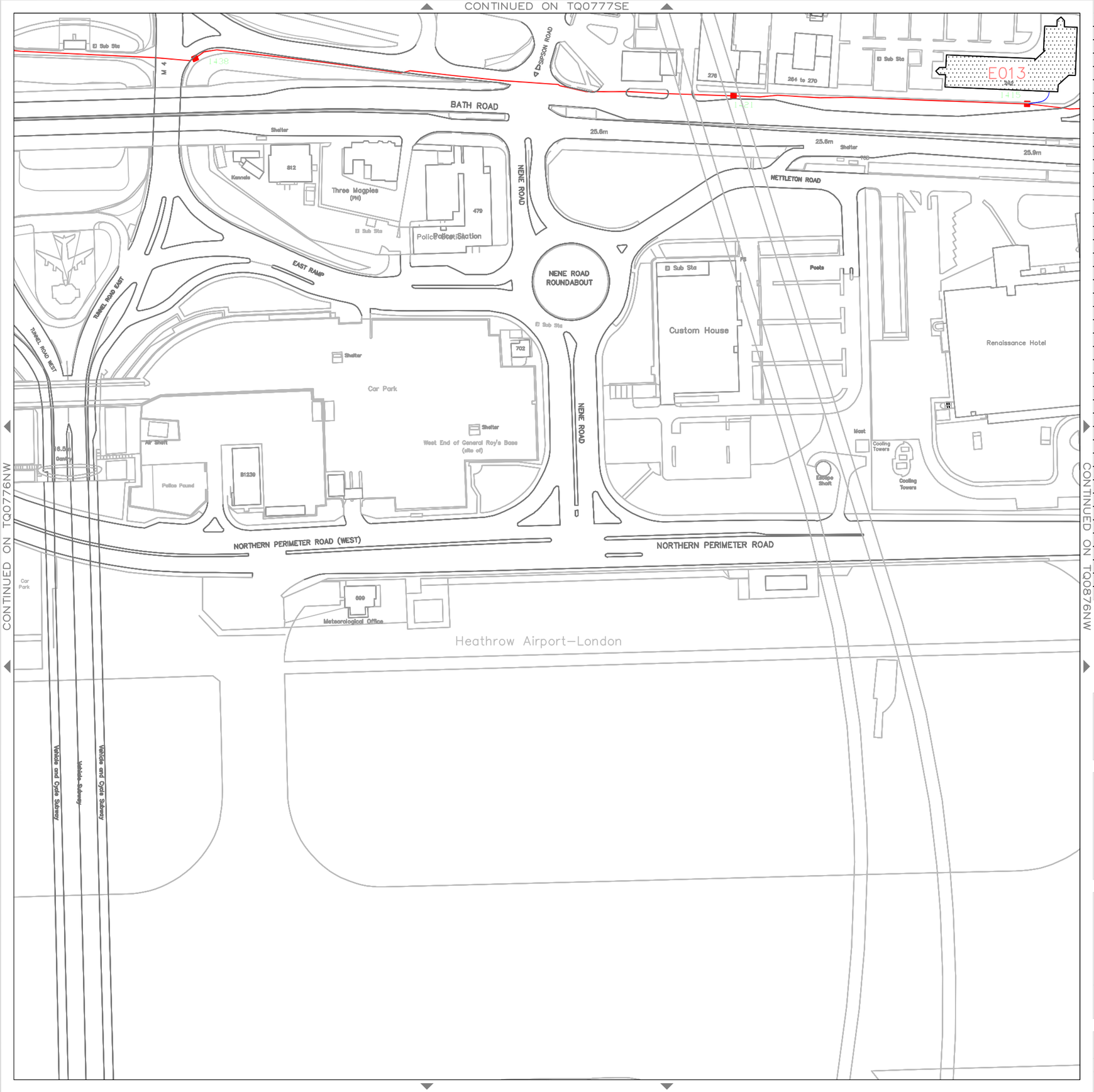
If you have any further queries, please do not hesitate to call us on the above numbers.

Yours faithfully
Plant Protection Officer (GB)

C3 Budget Estimates Controller
Verizon
Room 3.31
2-6 St Pancras Way
Camden
London
NW1 0QG
Tel: +44 (0) 20 7984 2654
Fax: +44 (0) 20 7984 2632

Please Note. To enable us to process you 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

CONTINUED ON TQ0777SE



CONTINUED ON TQ0776NW

CONTINUED ON TQ0876NW

REVISION No.	AMENDMENTS AND ADDITIONS	DRAWN	DATE
A	UPDATED MAP TILE	SDG	12/07/00
B	LATERAL FOR E013c1 RECORDED INFORMATION SUPPLIED BY KELLY'S CLC	GMB	06/03/06

URBAN LANDLINE MAP TILE 500x500m

0m 20m 50m 75m 100m 200m

LEGEND:

- VZB BACKBONE DUCT IN CARRIAGEWAY/FOOTWAY
- VZB LATERAL DUCT IN CARRIAGEWAY/FOOTWAY
- VZB DUCT IN UTILITY TUNNEL
- VZB ACCESS CHAMBERS

verizon business

Basingstoke Road
Reading, BERKS
RG26DA GBR

Tel: +44 118 9055000

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O.S. MAP REFERENCE TQ 0776 NE

DRAWN	DATE	APPROVED	DATE	SCALE	SHEET SIZE	REVISION
GN	APR 96			1:1875	A3	B

CAD FILE No. – M:\WORLDCOM NETWORK\WC–TQ

REVISION No.	AMENDMENTS AND ADDITIONS	DRAWN	DATE
A	UPDATED MAP FILE	SDG	13/07/00
B	LATERAL FOR D750c1 RECORDED	GMB	17/06/02

■ CUSTOMER CHAMBER

URBAN LANDLINE MAP TILE 500x500m

0m 20m 50m 75m 100m 200m

LEGEND:

- VZB BACKBONE DUCT IN CARRIAGEWAY/FOOTWAY
- VZB LATERAL DUCT IN CARRIAGEWAY/FOOTWAY
- VZB DUCT IN UTILITY TUNNEL
- VZB ACCESS CHAMBERS

verizon business

Basingstoke Road
Reading, BERKS
RG26DA GBR

Tel: +44 118 9055000

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BASED UPON THE ORDNANCE SURVEY'S 1:1250 MAP OF 1993 WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, (c) CROWN COPYRIGHT

O.S. MAP REFERENCE TQ 0876 NW

DRAWN	DATE	APPROVED	DATE	SCALE	SHEET SIZE	REVISION
GN	APR 96			1:1875	A3	B

CAD FILE No. – M:\WORLDCOM NETWORK\WC–TQ

CHECKED

ATKINS
The Hub, 500 Park Avenue
Aztec West
Almondsbury
Bristol
BS32 4RZ

Virgin Media
Field Services
Units 1-12
Broad Lane
Mayfair Business Park
Bradford
Yorkshire
BD4 8PW

Tel: 0870 888 3116 Opt 2

Plant Enquiry Ref:	VM.1102315
Letter Date	29.03.2018
Your Ref:	63792
Date:	05.04.2018

Dear Sir/Madam,

Enquiry Location:

Site at Bath Road, Harlington, Hayes UB3 5AY

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

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

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

This initial payment will cover the following: -

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

•Detailed specification of works.

•Detailed breakdown of costs.

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

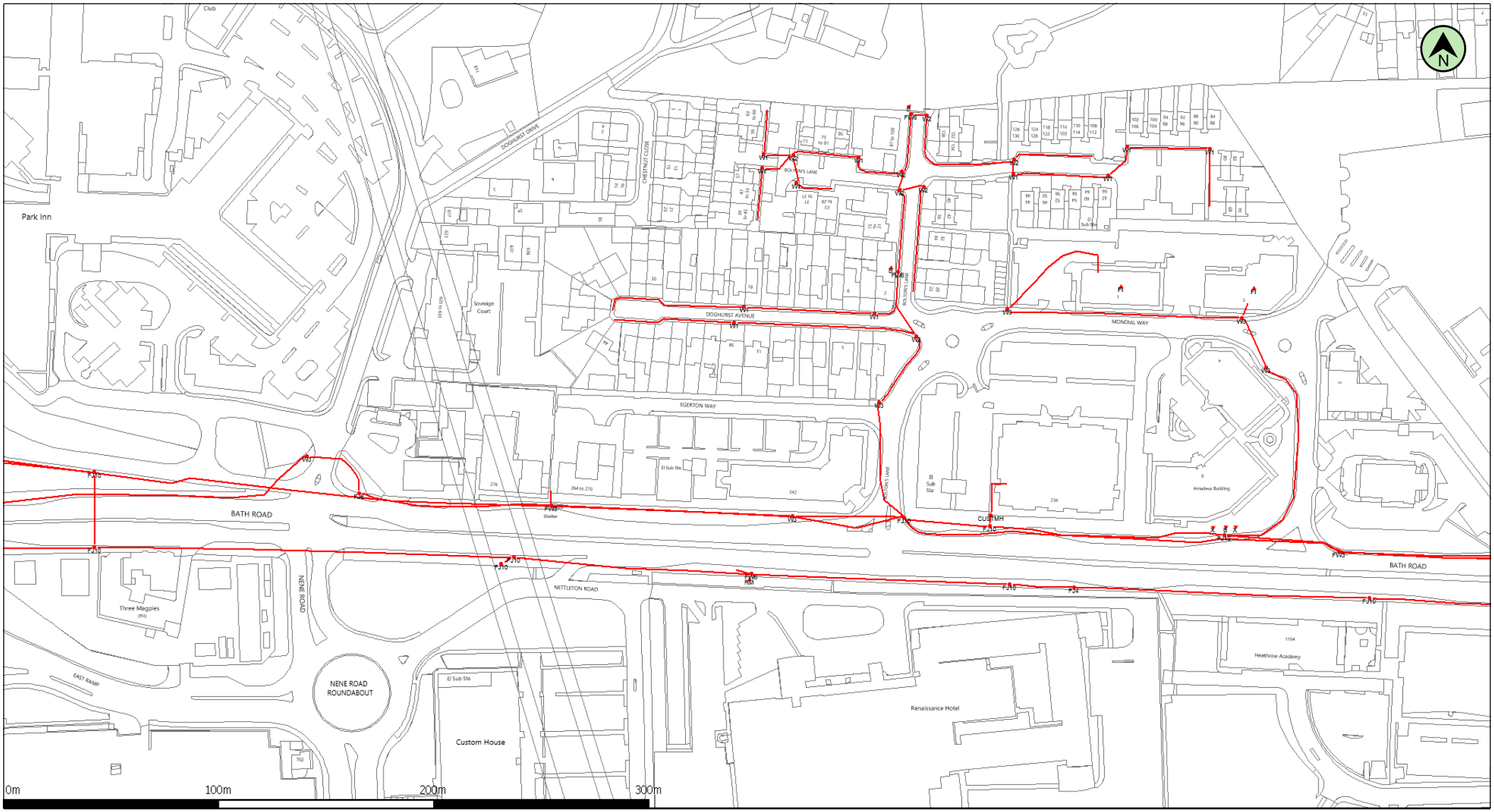
The address to send the cheque is:

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

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

Yours faithfully

National Plant Enquiries Team,



(c) Crown copyright and database rights 2018 Ordnance Survey 100019209 | Date: 05/04/18 | Scale: 1:2496 | Map Centre: 507945,177007 | Data updated: 04/03/18 | Telecoms Plan A4

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

Duct, Trench | Chamber | Cabinet

chilakala.apsar@virginmedia.co.uk

VM.1102315

CHECKED

Utility Solutions GDC Requests

From: Subramanian, Devendran
Sent: 29 March, 2018 9:35 AM
To: Utility Solutions GDC Requests
Subject: RE: Urgent Plant Enquiry - 63792 - Site at Bath Road, Harlington, Hayes - Please respond by 03/04/2018
Attachments: 63792.pdf; Special Requirements.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.

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

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

ATKINS working on behalf of Vodafone: Fixed

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

PLEASE NOTE:

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

Please consider the environment before printing this e-mail

From: Utility Solutions GDC Requests
Sent: 28 March 2018 12:04
To: plantenquiries@catelecomuk.com; plantenquiries@energetics-uk.com; 'Environment agn' <enquiries@environment-agency.gov.uk>; plantenquiries@instalcom.co.uk; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; nrswa@sky.uk; assetrecords@utilityassets.co.uk; osp-team@uk.verizon.com; National Plant Enquiry's <OSM.enquiries@atkinsglobal.com>; safeguarding@crossrail.co.uk; publiclighting@hillingdon.gov.uk; telenttelia.plantenquiries@telent.com; lulhvpowerassets@tfl.gov.uk
Subject: Urgent Plant Enquiry - 63792 - Site at Bath Road, Harlington, Hayes - Please respond by 03/04/2018
Importance: High

Urgent- It would be greatly appreciated if you could reply ASAP, where possible by 03/04/2018 Thanks in advance

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Legend

- Access Chamber.Location Active Carriageway Chamber
- Access Chamber.Location Active Footway Chamber
- Underground Route.Route Act. - Owned
- Underground Route.Route Act. - Leased

vodafone

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

Plot Date : 29/03/2018

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

Contents

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10. Jointing chambers 5
11. Notification periods 5
12. Excavation and backfill 5
13. Foam concrete 6
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15. Damage reports 6
16. Appendix A – Street Works Team Contacts for Vodafone 7
17. Appendix B – What constitutes Vodafone Network 8
18. About this Document 13

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 the Vodafone at least 7 working days' notice in writing of the intended date to commence operations.

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

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

12. Excavation and backfill

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

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

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

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

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	Vodafone Damage Claims, Pavilion 4, 1-2 Berkeley Square , 99 Berkeley Street Glasgow G3 7HR	0333 304 0759	utilitiescentre@vodafone.com
Customer Complaints	n/a	0333 304 0762	n/a
Liability Claims Or Damage to Vodafone Apparatus	Vodafone Damage Claims, Pavilion 4, 1-2 Berkeley Square , 99 Berkeley Street Glasgow G3 7HR	0333 304 1104	claims@vodafone.com
Diversionary Works C2	Atkins Global, The Hub, 500 Park Avenue, Aztec West, Bristol, BS32 4RZ	T: 01454 662881	osm.enquiries@atkinsglobal.com
Diversionary Works C3/C4 Escalations	Smale House, Floor 2E, 114 Great Suffolk Street, London, SE1 OSL	02075281485	c3requests@vodafone.com
Emergencies 24 Hour – Defects & Faults	n/a	0333 304 0762	n/a
Plant Enquiries Vodafone inc: Cable & Wireless; Mercury Communications; Thus Plc; Energis; Scottish Telecom; Your Comms; Norweb Comms	Atkins Global, The Hub, 500 Park Avenue, Aztec West, Bristol, BS32 4RZ	T: 01454 662881	osm.enquiries@atkinsglobal.com

17. Appendix B – What constitutes Vodafone Network

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

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

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

Vodafone Limited

Cable & Wireless U.K

Mercury Communications Limited

Energis Communications Limited

Thus plc

Scottish Telecom

Your Communications

Norweb Communications

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

See below as examples:

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

Vodafone Limited

Cable & Wireless U.K

Mercury Communications Limited

Energis Communications Limited

Thus plc, now Thus Group Holdings Limited

Your Communications Group Limited

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

18. About this Document

Content Owner

Changes since last version
Reformatted using the current Vodafone template to include updated Contact Details .

End of Document

Vodafone Limited, Vodafone House, The Connection, Newbury, Berkshire, RG14 2FN, England. Registered in England No. 1471587

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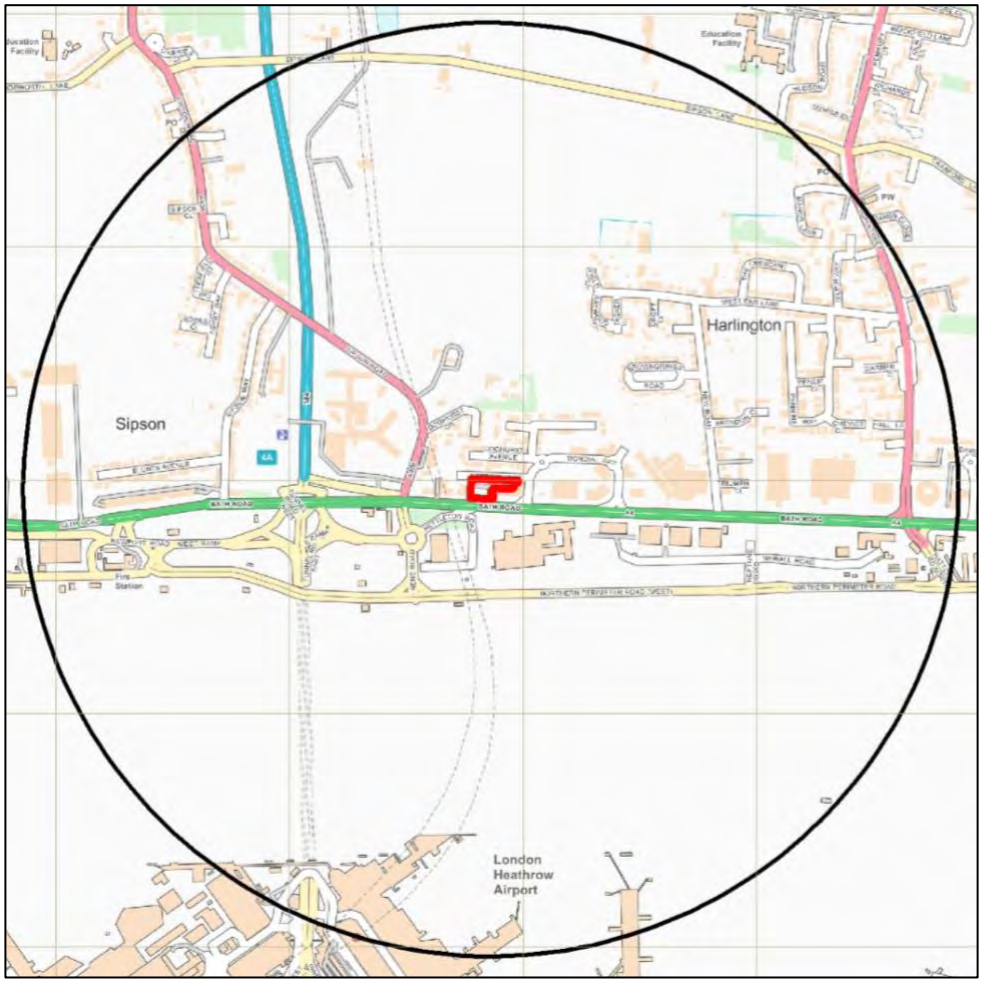
Landmark INFORMATION GROUP

alpha ASSOCIATES
special risks consultancy

PRELIMINARY UNEXPLODED ORDNANCE (UXO) THREAT ASSESSMENT

Meeting the requirements of *CIRIA* C681 'Unexploded Ordnance (UXO) – A guide for the Construction Industry' Risk Management Framework



6 ALPHA PROJECT NUMBER	P6534	**ORIGINATOR**	C. Cole
LANDMARK ORDER NUMBER	160780146_2	**REVIEWED BY**	R. Griffiths (28th March 2018)
CLIENT REFERENCE	RML 6606	**RELEASED BY**	L. Askham (28th March 2018)
SITE	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY		
RATING	**LOW** – No further action is required to address the UXO risk at this Site		

UNEXPLODED ORDNANCE THREAT ASSESSMENT

STUDY SITE

The Study Site is described as "L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY", and it is centred on National Grid Reference 507930, 176980.

THREAT POTENTIAL AND RECOMMENDATIONS

UXO PROBABILITY ASSESSMENT = 2 RATING, INDICATING A LOW PROBABILITY OF UXO ENCOUNTER

The rating scale can be seen on Figure 2 (Probability of UXO Encounter). In accordance with current guidelines (CIRIA C681 Chapter 5), the most appropriate threat rating has been determined at this specific site for UXO threat consideration and has been used for the final assessment and recommendations.

In accordance with CIRIA C681 Chapter 5 on managing UXO risks, *6 Alpha* recommends that **NO FURTHER ACTION** is required to address the UXO risk at this Study Site. Should you have any queries, please contact *Envirocheck*.

Telephone: +44 (0)844 844 9952 Email: customerservice@envirocheck.co.uk

Envirocheck® LANDMARK INFORMATION GROUP®

REPORT SUMMARY

During WWII, the Study Site was situated within *Yiewsley & West Drayton Urban District*, which recorded five High Explosive (HE) bomb strikes per 100 hectares; a very low level of bombing.

Luftwaffe aerial reconnaissance photography associated with the Site did not identify any primary bombing targets within 1,000m. In addition, there were no features located in the vicinity that would have been considered secondary bombing targets.

Air Raid Precaution (ARP) records did not identify HE bomb strikes within the Site. Nonetheless, five HE bomb strikes were identified within 185m of the Site boundary, the closest being 70m north-west.

London County Council (LCC) bomb damage mapping did not cover the Study Site. In addition, an analysis of post-war mapping did not identify any evidence of bomb damage located on-site or in close proximity.

As there was no bombing or bomb damage recorded in the Site's immediate vicinity during WWII, there is no evidence to suggest that further investigation into UXO is warranted.

USING THIS REPORT

This Preliminary Assessment is designed to inform environmental and construction professionals of the potential threat of military related explosives and/or ordnance on, or in, the vicinity of the Study Site.

This assessment is designed to be employed as a site-screening tool to meet with the requirement of Phase One of the *CIRIA UXO Risk Management Framework*; there are two broad prospective outcomes; either the threat level requires a detailed threat & risk assessment; or no further action is required. In the former instance we can provide a report within 14 working days (or more quickly upon application).

Two figures accompany the report, the *Second World War* (WWII) High Explosive (HE) Bomb Density and the final Probability of UXO Encounter. The purpose of this approach is to demonstrate that whilst bomb density statistics give an indication for WWII bombing, they should not be relied upon exclusively to generate a holistic assessment.

For further information, please contact *Envirocheck*: Telephone: +44 (0)844 844 9952

Website: http://www.envirocheck.co.uk Email: customerservice@envirocheck.co.uk

DATA FINDINGS

Threat Source (within 1,000m)		Detail	
		Identified	Comments
	Airfields/Military Facilities	✗	None recorded within 1,000m.
	Ordnance Manufacture/Storage	✗	None recorded within 1,000m.
	WWII Decoy Bombing Sites	✗	None recorded within 1,000m.
	WWII Defensive Features	✗	None recorded within 1,000m.
	WWII *Luftwaffe* Designated Bombing Targets	✗	*Luftwaffe* aerial photography did not identify a primary bombing target within 1,000m.
	Secondary Bombing Targets	✗	None noted within 1,000m.
	WWII Bomb Strikes Within Site Boundary	✗	ARP records did not identify HE bomb strikes on-site.
	WWII Bomb Strikes Near Site Boundary	✓	ARP records identified HE bomb strikes 70m north-west, 85m south, 105m north, 165m south-east and 185m north-north-west.
	WWII Bomb Damage	✗	Official bomb damage mapping was not available.
	Abandoned Bomb Register	✗	The official abandoned bomb list did not identify any abandoned bombs within 1,000m.
	WWII Bombing Density Per 100 Hectares	✓	The Site was located within *Yiewsley & West Drayton Urban District*, which recorded five HE bomb strikes per 100 hectares.

IMPORTANT NOTES

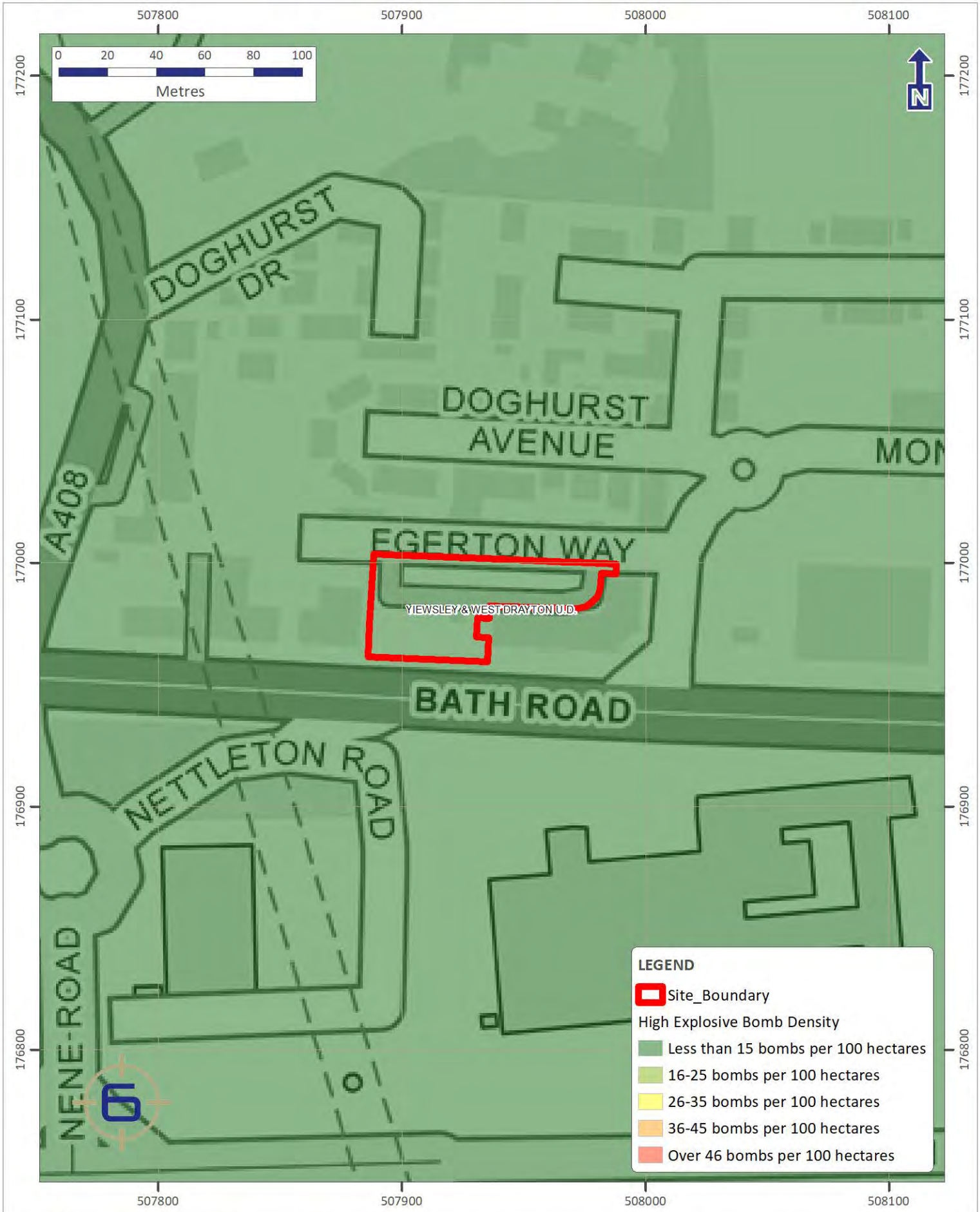
1. The term 'Preliminary UXO Threat Assessment' has been used to describe this report, to fall in line with the *CIRIA* C681 guidelines. Whilst the term 'Risk' can be justifiably used at this stage, the reader should note that the 'Consequence' function of 'Risk' is not considered. Should it be required, this would be addressed in the 'Detailed UXO Threat & Risk Assessment' (Stages 2 and 3).
2. This report is accurate and up to date at the time of writing.
3. The assessment levels have been generated from historical data and third party sources. Where possible *6 Alpha* have sought to verify the accuracy of such data, but cannot be held accountable for inherent errors that may be in third party data sets (e.g. *National Archives* or library sources).
4. *6 Alpha* have exercised all reasonable care, skill and due diligence in producing this service.
5. Whilst every effort has been used to identify all potential UXO/explosive threats, there were a number of private facilities, which may not have released privately recorded information concerning UXO/explosive threats into the public domain. It is therefore possible that some of the aforementioned sites may not be included within the database.

L/A AXIS HOUSE, BATH ROAD, HARLINGTON, HAYES, UB3 5AY

WWII High Explosive Bomb Density

BRITISH NATIONAL GRID

BOMB SEARCH
WWW.6ALPHA.COM



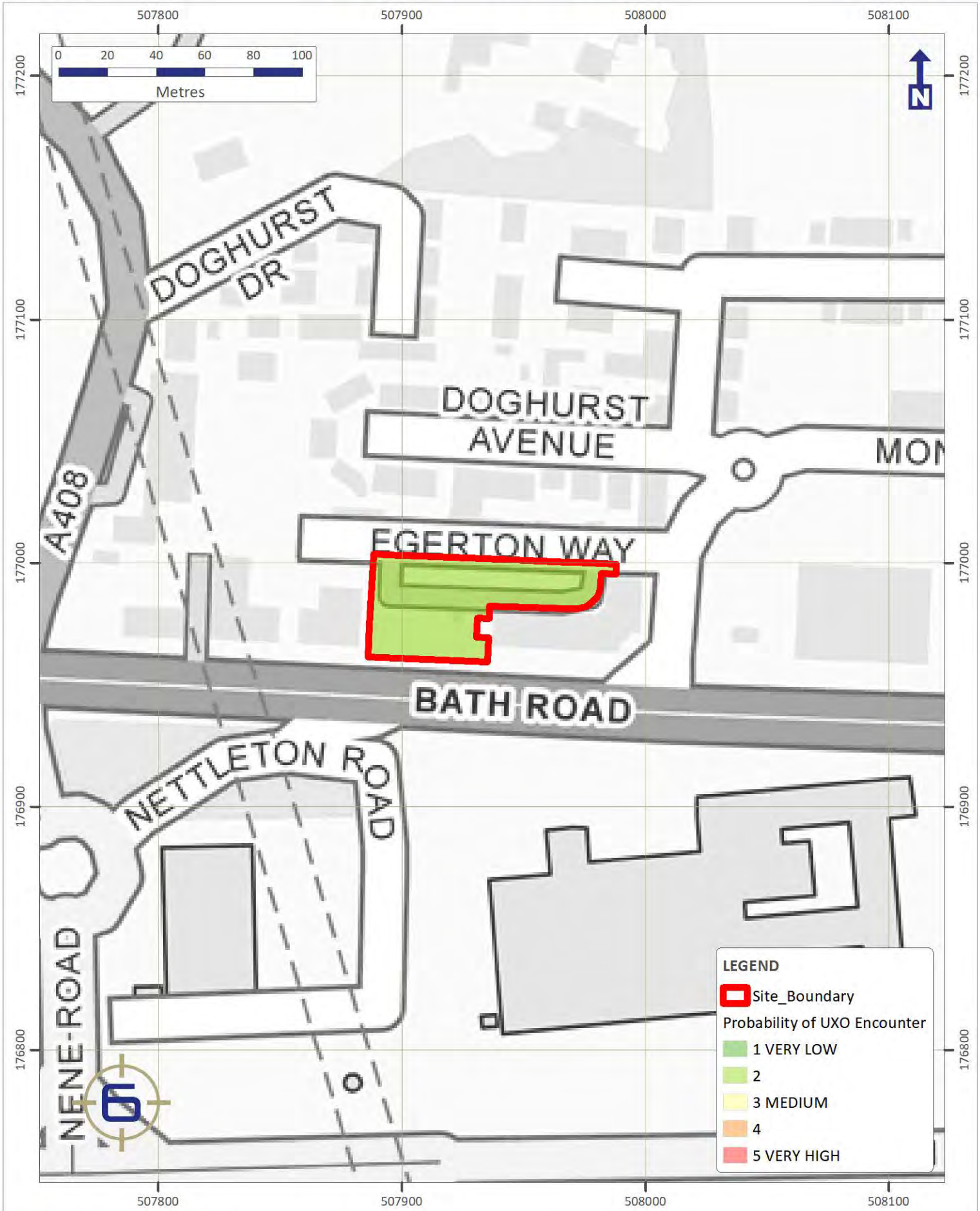
PROJECT NO.	FIGURE	DRAWN	CHECKED	DATE			
P6534	1	CC	RG	27 March 2018	Contains Ordnance Survey data © Crown copyright and database right 2017	Produced by and Copyright to 6 Alpha Associates Ltd. Users noting any errors please notify 6 Alpha.	alpha ASSOCIATES

L/A AXIS HOUSE, BATH ROAD, HARLINGTON, HAYES, UB3 5AY

Probability of UXO Encounter

BRITISH NATIONAL GRID

BOMB SEARCH
WWW.6ALPHA.COM



PROJECT NO.	FIGURE	DRAWN	CHECKED	DATE			
P6534	2	CC	RG	28 March 2018	Contains Ordnance Survey data © Crown copyright and database right 2017	Produced by and Copyright to 6 Alpha Associates Ltd. Users noting any errors please notify 6 Alpha.	alpha ASSOCIATES

Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH1** Sheet 1 of 3

Project No. RML 6606	**Coordinates:**		**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address: L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY		**Date:** 03/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.20 0.30		0.30	D1				
	MADE GROUND (crushed roadstone gravel).									
1	**Superficial Gravel** Firm brown silty CLAY with pockets of orange-brown silt and fine to coarse sub-angular to rounded gravel.		1.50		1.00	D2				
					1.50		CPT	N=31 (3,3/5,8,8,10)		
2	**Taplow Gravel** Dense, becoming medium-dense, fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.				2.00	D3				
					2.50		CPT	N=21 (3,4/4,5,8,4)		
3					3.00	D4				
					3.50		CPT	N=26 (3,5/5,8,7,6)		
4					4.00	D5				
	Weathered London Clay Firm, brown silty CLAY with pockets of orange-brown silt and occasional selenite crystals.		4.20 4.40		4.50		SPT	N=17 (2,2/3,3,5,6)		
5	**London Clay** Stiff to very stiff, grey, fissured, silty CLAY with selenite crystals.				5.00	D6				
6					6.00	D7	SPT	N=18 (2,2/3,4,5,6)		
7					7.00	D8				
					7.50	U1		(55 blows)		
8					8.00	D9				
9					9.00	D10	SPT	N=21 (1,3/4,6,6,5)		
10	Continued on next sheet				10.00	D11				

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Standpipe installed to 7.00m depth.

KEY

D = Disturbed Sample
U = Undisturbed Sample
B = Bulk Sample
W = Water Sample

CPT = Cone Penetration Test
SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
MEXE = Insitu CBR test

AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH1** Sheet 2 of 3

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	London Clay Stiff to very stiff, grey, fissured, silty CLAY with selenite crystals.				10.50	U2		(60 blows)		
11					11.00	D12				
12					12.00	D13	SPT	N=31 (3,6/7,7,9,8)		
13					13.00	D14				
					13.50	U3		(95 blows)		
14					14.00	D15				
15					15.00	D16	SPT	N=35 (4,6/7,8,10,10)		
16					16.00	D17				
					16.50	U4		(70 blows)		
17					17.00	D18				
18					18.00	D19	SPT	N=34 (2,3/6,7,9,12)		
19					19.00	D20				
					19.50	U5		(80 blows)		
20					20.00	D21				

Continued on next sheet

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Standpipe installed to 7.00m depth.

KEY

D = Disturbed Sample
U = Undisturbed Sample
B = Bulk Sample
W = Water Sample

CPT = Cone Penetration Test
SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
MEXE = Insitu CBR test

AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH1** Sheet 3 of 3

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	London Clay Stiff to very stiff, grey, fissured, silty CLAY with selenite crystals.									
21					21.00	D22	SPT	N=38 (3,4/7,10,10,11)		
22					22.00	D23				
					22.50	U6		(85 blows)		
23					23.00	D24				
24					24.00	D25	SPT	N=41 (3,5/8,10,12,11)		
25					25.00	D26				
					25.50	U7		(60 blows)		
26					26.00	D27				
27					27.00	D28	SPT	N=47 (4,6/9,12,12,14)		
28					28.00	D29				
					28.50	U8		(100 blows)		
29					29.00	D30				
30	Borehole terminated at 30.00m depth		30.00		30.00	D31	SPT	N=50 (5,7/10,10,13,17)		

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Standpipe installed to 7.00m depth.

KEY

D = Disturbed Sample
U = Undisturbed Sample
B = Bulk Sample
W = Water Sample

CPT = Cone Penetration Test
SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
MEXE = Insitu CBR test

AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH2** Sheet 1 of 3

Project No.	RML 6606	**Coordinates:**	**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:** 06/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.15							
	MADE GROUND (crushed roadstone gravel).		0.40		0.30	D1				
					0.50	D2				
1	**Superficial Clay** Firm brown silty CLAY with pockets of orange-brown silt and fine to coarse sub-angular to rounded gravel.				1.00	D3				
					1.50		CPT	N=31 (5,6/6,7,9,9)		
2	**Taplow Gravel** Very dense, becoming medium-dense, fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.		1.80		2.00	D4				
					2.50		CPT	N=58 (6,10/10,14,16,18)		
3					3.00	D5				
					3.50		CPT	N=44 (3,6/8,9,12,15)		
4					4.00	D6				
					4.50		CPT	N=35 (4,5/6,8,10,11)		
5					5.00	D7				
6	*becoming sandier and loose at 6.00m depth*				6.00	D8	CPT	N=6 (3,3/1,1,2,2)		
	Weathered London Clay Firm, brown silty CLAY with pockets of orange-brown silt and occasional selenite crystals.		6.20 6.50							
7	**London Clay** Stiff to very stiff, grey, fissured, silty CLAY with selenite crystals.				7.00	D9				
					7.50	U1		(40 blows)		
8					8.00	D10				
9					9.00	D11	SPT	N=21 (2,2/4,5,5,7)		
10	Continued on next sheet				10.00	D12				

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring.

KEY

D = Disturbed Sample
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W = Water Sample

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SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
MEXE = Insitu CBR test

AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH2** Sheet 2 of 3

Project No.	RML 6606	**Coordinates:**	**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:** 06/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	London Clay Stiff to very stiff, grey, fissured, silty CLAY with selenite crystals.				10.50	U2		(60 blows)		
11					11.00	D13				
12					12.00	D14	SPT	N=29 (3,5/5,6,9,9)		
13					13.00	D15				
					13.50	U3		(40 blows)		
14					14.00	D16				
15					15.00	D17	SPT	N=32 (3,4/6,7,8,11)		
16					16.00	D18				
					16.50	U4		(45 blows)		
17					17.00	D19				
18					18.00	D20	SPT	N=36 (2,5/7,7,10,12)		
19					19.00	D21				
					19.50	U5		(45 blows)		
20					20.00	D22				

Continued on next sheet

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring.

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SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH2** Sheet 3 of 3

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	06/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	London Clay Stiff to very stiff, grey, fissured, silty CLAY with selenite crystals.									
21					21.00	D23	SPT	N=39 (4,7/8,9,11,11)		
22					22.00	D24				
					22.50	U6		(60 blows)		
23					23.00	D25				
24					24.00	D26	SPT	N=44 (4,6/9,10,10,15)		
25					25.00	D27				
					25.50	U7		(60 blows)		
26					26.00	D28				
27					27.00	D29	SPT	N=36 (3,5/6,8,10,12)		
28					28.00	D30				
					28.50	U8		(60 blows)		
29					29.00	D31				
30	Borehole terminated at 30.00m depth		30.00		30.00	D32	SPT	N=41 (4,6/9,8,11,13)		

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring.

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SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH3** Sheet 1 of 3

Project No.	RML 6606	**Coordinates:**	**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:** 04/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing: Depth (m)	Sample Type	Test Type	Results	Water Strikes	Well
Paving Block Paving over Sand.		0.20 0.30		0.30	D1				
MADE GROUND (crushed roadstone gravel).				0.50	D2				
Superficial Clay Firm brown silty CLAY with pockets of orange-brown silt and fine to coarse sub-angular to rounded gravel.		1.20		1.00	D3				
				1.50		CPT	N=31 (4,5/7,7,8,9)		
Taplow Gravel Dense, becoming medium-dense, fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.				2.00	D4				
				2.50		CPT	N=23 (4,4/4,6,5,8)		
				3.00	D5				
Weathered London Clay Soft to firm, brown silty CLAY with pockets of orange-brown silt and occasional selenite crystals.		3.40		3.50		CPT	N=19 (3,3/5,5,6,3)		
				4.00	D6				
London Clay Stiff to very stiff. grey, fissured, silty CLAY with selenite crystals.		4.50		4.50		SPT	N=14 (1,2/2,3,4,5)		
				5.00	D7				
				6.00	D8	SPT	N=16 (1,2/2,4,4,6)		
				7.00	D9				
				7.50	U1		(70 blows)		
				8.00	D10				
				9.00	D11	SPT	N=19 (2,2/3,5,5,6)		
				10.00	D12				

Continued on next sheet

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Standpipe installed to 7.00m depth.

KEY

D = Disturbed Sample
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SPT = Standard Penetration Test
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PP = Pocket Penetrometer
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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH3** Sheet 2 of 3

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	04/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	London Clay Stiff to very stiff. grey, fissured, silty CLAY with selenite crystals.				10.50	U2		(65 blows)		
11					11.00	D13				
12					12.00	D14	SPT	N=25 (2,3/5,5,7,8)		
13					13.00	D15				
					13.50	U3		(65 blows)		
14					14.00	D16				
15					15.00	D17	SPT	N=33 (3,3/7,8,8,10)		
16					16.00	D18				
					16.50	U4		(100 blows)		
17					17.00	D19				
18					18.00	D20	SPT	N=37 (3,5/6,9,9,13)		
19					19.00	D21				
					19.50	U5		(70 blows)		
20					20.00	D22				

Continued on next sheet

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Standpipe installed to 7.00m depth.

KEY

D = Disturbed Sample
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W = Water Sample

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SPT = Standard Penetration Test
V = Vane Test
PP = Pocket Penetrometer
MEXE = Insitu CBR test

AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **BH3** Sheet 3 of 3

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Cable Percussion Rig	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	04/04/2018	**Diameter (mm):** 150	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	London Clay Stiff to very stiff. grey, fissured, silty CLAY with selenite crystals.									
21					21.00	D23	SPT	N=40 (3,5/7,9,10,14)		
22					22.00	D24				
					22.50	U6		(85 blows)		
23					23.00	D25				
24					24.00	D26	SPT	N=43 (4,6/9,10,12,12)		
25					25.00	D27				
					25.50	U7		(95 blows)		
26					26.00	D28				
27					27.00	D29	SPT	N=49 (4,8/10,12,13,14)		
28					28.00	D30				
					28.50	U8		(100 blows)		
29					29.00	D31				
30	Borehole terminated at 30.00m depth		30.00		30.00	D32	SPT	N=54 (6,9/11,13,14,16)		

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Standpipe installed to 7.00m depth.

KEY

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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **DIS1** Sheet 1 of 1

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Drive-in-Sampler	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 50	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.10		0.15	D1				
	MADE GROUND (crushed roadstone gravel).		0.55		0.50	D2				
1	**Superficial Clay** Firm brown silty CLAY with pockets of orange-brown silt.				1.00	D3				
	Taplow Gravel Fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.		1.40 1.70		1.50	D4				
2	Borehole terminated at 1.70m depth									
3										
4										
5										
6										
7										
8										
9										
10										

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Borehole terminated at 1.70m depth due to hard driving.

KEY

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U = Undisturbed Sample
B = Bulk Sample
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V = Vane Test
PP = Pocket Penetrometer
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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **DIS2** Sheet 1 of 1

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Drive-in-Sampler	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 50	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.10		0.15	D1				
	MADE GROUND (crushed roadstone gravel).		0.55		0.50	D2				
1	**Superficial Clay** Firm brown silty CLAY with pockets of orange-brown silt.				1.00	D3				
	Taplow Gravel Fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.		1.40 1.70		1.50	D4				
2	Borehole terminated at 1.70m depth									
3										
4										
5										
6										
7										
8										
9										
10										

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Borehole terminated at 1.70m depth due to hard driving.

KEY

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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **DIS3** Sheet 1 of 1

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Drive-in-Sampler	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 50	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.12		0.15	D1				
	MADE GROUND (crushed roadstone gravel).		0.35		0.50	D2				
1	**Superficial Clay** Soft to firm, brown silty CLAY with pockets of orange-brown silt.				1.00	D3				
	Taplow Gravel Fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown, slightly clayey, silty sand.		1.50		1.50	D4				
2	Borehole terminated at 2.00m depth		2.00		2.00	D5				
3										
4										
5										
6										
7										
8										
9										
10										

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Borehole terminated at 2.00m depth due to hard driving.

KEY

D = Disturbed Sample
U = Undisturbed Sample
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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **DIS4** Sheet 1 of 1

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Drive-in-Sampler	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 50	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.18		0.15	D1				
	MADE GROUND (crushed roadstone gravel).		0.55		0.50	D2				
1	**Superficial Clay** Firm brown silty CLAY with pockets of orange-brown silt.				1.00	D3				
	Taplow Gravel Fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.		1.50 1.70		1.50	D4				
2	Borehole terminated at 1.70m depth									
3										
4										
5										
6										
7										
8										
9										
10										

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Borehole terminated at 1.70m depth due to hard driving.

KEY

D = Disturbed Sample
U = Undisturbed Sample
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AGS

Risk Management	Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF	**Borehole Log**	Borehole No. **DIS5** Sheet 1 of 1

Project No.	RML 6606	**Coordinates:**		**Drilling Technique:** Drive-in-Sampler	**Level (m):**
Site Address:	L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY	**Date:**	03/04/2018	**Diameter (mm):** 50	**Scale:** 1:50

	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
	Paving Block Paving over Sand.		0.15		0.15	D1				
	MADE GROUND (crushed roadstone gravel).		0.60		0.50	D2				
1	**Superficial Clay** Firm brown silty CLAY with pockets of orange-brown silt.				1.00	D3				
			1.60		1.50	D4				
2	**Taplow Gravel** Fine to coarse, sub-angular to sub-rounded GRAVEL with a little orange-brown silty sand.		2.00		2.00	D5				
	Borehole terminated at 2.00m depth									
3										
4										
5										
6										
7										
8										
9										
10										

Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Borehole terminated at 2.00m depth due to hard driving.

KEY

D = Disturbed Sample
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AGS